



**US Army Corps
of Engineers®**

ENGINEERING AND CONSTRUCTION BULLETIN

No. 2021-12

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SUBJECT: Achieving Certification under LEED Version 4

CATEGORY: Information and Guidance

1. **References:** See Attachment 1

2. **Purpose:** This ECB lays out an optimized approach for achieving Leadership in Energy and Environmental Design (LEED, ref. d) certification of USACE-constructed high performance sustainable buildings (HPSB) using systematic decision-making, available alternative strategies, and process improvements. The intent is to help project delivery teams focus on achieving LEED credits that correlate with project energy and water efficiency, climate adaptation, mission assurance and resiliency requirements while delivering healthy buildings to enhance productivity and minimize environmental impact.

3. **Applicability:** Military facilities, especially those built on military installations, face unique challenges using products and systems that were developed for a more commercial context. This guidance is intended to assist project delivery teams who are seeking to achieve third-party sustainability certification of military buildings under version 4 (or later) of the LEED system.

4. **Background:** The Department of Defense Sustainable Buildings Policy memorandum, dated 10 November 2013, requires projects to comply with UFC 1-200-02 High Performance Sustainable Building Requirements (ref. c) as the DoD standard for meeting all legislative and executive sustainability requirements. It also compels the services to use an approved third-party certification system to validate compliance with UFC requirements. The latest derivative service policies can be found on the Tri-Services Sustainability Program website (ref. a), which may include the use of the LEED system depending on the client service. All projects registered for LEED certification since 1 November 2016 fall under v4. For various reasons, military building projects have had difficulties achieving LEED Silver certified ratings using v4. These reasons range from IT issues (e.g., blocked macros and online data exchange conduits) to conflicts between LEED requirements and current DoD/Army/USACE policy and practice. To increase the number of USACE LEED Silver certification ratings, guidance is needed to assist field personnel in maximizing LEED point accrual and satisfying documentation requirements.

5. **Registration:** When creating or editing projects in LEED-Online, teams must include the email address ArmyLEED@usace.army.mil as a “team member” for leadership visibility.

6. **Integrative Process:** Integrative Process is a new credit introduced in LEED v4, and even though USACE has a multidisciplinary team approach to designing and constructing buildings, PDTs won’t be able to earn this credit unless they follow the LEED documentation requirements from the start of the project. This credit begins in pre-design and continues throughout the design process to capitalize on the beneficial interrelationships and synergies between systems and components to produce better design solutions through early collaboration. Review the LEED Integrative Process credit guidance and plan for success (ref. e.). Incorporate the LEED

Integrative Process credit requirements into the Project Management Plan (PMP) at the beginning of the project. Coordinate the LEED requirements with the appropriate PMP components: Communications Plan, Quality Management Plan, Change Management Plan, Statement of Requirements, etc. The LEED Integrative Process Worksheet is available at <https://www.usgbc.org/resources/integrative-process-worksheet>. Note the LEED Integrative Process credit process differs from UFC 1-200-02 (ref c) and the LCCA ECB (ref. m).

7. Life Cycle Cost Analysis (LCCA): Project Delivery Teams must demonstrate their facilities are cost-effective and efficient by conducting proper LCCA according to ECB 2020-8 Execution and Documentation Requirements for Life Cycle Cost Analysis (ref. m) and UFC 1-200-02 (ref c). In accordance with Federal law, policies require Project Delivery Teams to demonstrate their facilities are cost-effective and efficient by conducting proper LCCA on at least three alternative architectural whole-building design solutions to determine thermal envelope performance needed for the energy/load calculations and then three primary mechanical systems meeting the calculated loads. If technologies other than LEDs are used for lighting, an LCCA must be performed on the lighting systems as well.

a. After selecting the optimized building envelope and mechanical solution, determine the LEED points for Energy Optimization by filling out the LEED template with the required data from the energy model and installation utility rates.

b. If the process above does not result in the number of points needed, the PDT may evaluate the alternative of using the LEED v4.1 credit Building Life-Cycle Impact Reduction (Option 2 Whole-Building Life-Cycle Assessment) which addresses the life cycle *environmental impact* reduction of materials.

8. DoD LEED Prerequisite and Credit Waivers: Project teams must integrate all waivers granted to DoD by the USGBC into their project documentation. (See waivers at <https://www.wbdg.org/ffc/dod/tri-services-sustainability-program/usgbc-leed>). Also, there may be opportunities to negotiate new credit waivers that cater to installation circumstances where further conflicts exist.

9. Using the official version of ASHRAE 90.1: Current Federal policy requires PDTs to use the version of ASHRAE Standard 90.1 that the Department of Energy rules is cost-effective and reasonable. The latest ruling adopted the ASHRAE 90.1-2013 version (ref. n). LEED Interpretation 10481 (<https://www.usgbc.org/leedaddenda/10481>) allows for the use of 2013 in lieu of the version specified in LEED and provides a table of figures to add to the results of the calculations to reconcile the differences. A similar interpretation for the corresponding LEED v4.1 pilot credit has yet to be issued.

10. Strategic Substitution of LEED v4.1 Credits: Since early 2019, the USGBC provided the option of substituting any of the *final* LEED v4.1 prerequisites or credits for their LEED v4 counterparts; see LEED Credit Substitution Guidance, ref. o. (Additionally, up to four LEED v4.1 *Pilot* Credits are available for use in the Innovation Credit section of LEED v4. Three recommended for consideration are shown in Attachment 3.) Look for the <↔> icon in Attachment 3 for recommended substitutions for consideration by the teams. Because LEED v4.1 is currently a pilot program that continues to be refined, the USGBC periodically issues

addenda. The latest addenda was posted in December 2020 (ref. p). Subsequent addenda may be reviewed for further opportunities on the USGBC website.

11. Sustainability Leadership Roles: Leadership roles and responsibilities should be clearly defined from the project outset and maintained throughout each phase of the project to ensure continuity and timely submissions. A master planning/installation lead should be identified during project planning phase and documented in the Project Management Plan, or otherwise as early as possible in the project, to ensure that key planning phase requirements are met and that subsequent phase efforts are initiated properly. Eighteen of the LEED v4 credits require local information or collaboration from the installation lead for their points to be earned. The geographic district or division sustainability lead must be included to review project documents and provide advice (see LEED Implementation Guide, ref. q). These leads will ensure correct interpretation of LEED requirements by the team, provide guidance and assistance the PDT members in developing suitable and complete documentation, ensure LEED requirements are incorporated in the work, and confirm that all LEED documentation is complete and correct.

12. Guidance: Significant LEED procedural tasks are outlined in Attachment 2, and individual point guidance and an overall checklist to capture pertinent details are included in Attachments 3 and 4. If, despite this assistance, it is determined that LEED Silver certification cannot be reached, the waiver process for the requirement is described in Attachment 5.

13. Training: Almost a thousand LEED and sustainability related trainings are available to Army employees at no cost through the Army's USGBC Gold membership, ID number F6638ITJKITARAO, on the [USGBC.org](https://www.usgbc.org) website (ref. w). Instructions how to link existing or new USGBC.org accounts to the Army account are included in Attachment 6.

14. Update: New Executive Orders, DoD and Army policies regarding sustainability and carbon footprint considerations are expected with the new administration. Implementation guidance will be updated and announced via subsequent bulletins accordingly.

15. Point of Contact: HQUSACE point of contact for this ECB is Scott Wick, CECW-EC, scott.c.wick@usace.army.mil or phone (202) 761-7419.

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Enclosures:

Attachment 1 – References & Resources
Attachment 2 – LEED v4 Process Guidance
Attachment 3 – LEED v4 Point-by-Point Guidance
Attachment 4 – Checklist for Success
Attachment 5 – Waiver Processes
Attachment 6 – Accessing Education @USGBC

Attachment 1 – References & Resources

References and additional resources:

- a. Tri-Services Sustainability Program webpage, Whole Building Design Guide.
<https://www.wbdg.org/ffc/dod/tri-services-sustainability-program>
- b. Council on Environmental Quality, Guiding Principles for Sustainable Federal Buildings and Associated Instructions (December 2020).
https://www.sustainability.gov/pdfs/guiding_principles_for_sustainable_federal_buildings.pdf
- c. Unified Facilities Criteria (UFC) 1-200-02, High Performance and Sustainable Building Requirements (01 December 2020). <https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-1-200-02>
- d. Leadership in Energy and Environmental Design Rating System, Version 4 (LEED v4).
<https://www.usgbc.org/leed/v4>
- e. LEED Integrative Process <https://www.usgbc.org/credits/new-construction-core-and-shell-schools-new-construction-retail-new-construction-healthca-21?view=guide>
- f. LEED Resilient Design Pilot Credits policy brief:
<https://www.usgbc.org/sites/default/files/LEED-Resilient-Design-Pilot-Credits-Brief-FINAL.pdf>
- g. Leadership in Energy and Environmental Design Rating System, Version 4.1 Pilot Credits.
<https://www.usgbc.org/pilotcredits?Version=%22v4.1%22&Rating+System=%22New+Construction%22>
- h. Army Directive 2020-03 Installation Energy and Water Resilience Policy (31 Mar 2020).
https://www.asaie.army.mil/Public/ES/doc/ARN21644_AD2020-03_Web_Final.pdf
- i. Army Installations Strategy, Supporting the Army in Multiple Domains (December 2020).
[https://www.asaie.army.mil/Public/SI/doc/Army_Installations_Strategy_\(AIS\)_FINAL_Signed.pdf](https://www.asaie.army.mil/Public/SI/doc/Army_Installations_Strategy_(AIS)_FINAL_Signed.pdf)
- j. UFC 2-100-01, Installation Master Planning (30 September 2020).
<https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-2-100-01>
- k. UFC 3-210-10, Low Impact Development, with change 3 (01 March 2020).
<https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-3-210-10>
- l. UFGS 01 33 29, Sustainability Reporting (01 February 2017).
<https://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/ufgs-01-33-29>
- m. ECB 2020-8 Execution and Documentation Requirements for Life Cycle Cost Analyses (07 Jul 2020). <https://www.wbdg.org/ffc/dod/engineering-and-construction-bulletins-ecb/usace-ecb-2020-8>
- n. Title 10: Energy, Part 433—Energy Efficiency Standards for the Design and Construction of New Federal Commercial and Multi-Family High-Rise Residential Buildings, Subpart A—

Energy Efficiency Performance. https://www.ecfr.gov/cgi-bin/text-idx?SID=e19b090dd9dcee34ac43130a0ed34a5a&mc=true&node=se10.3.433_1100&rgn=div8

o. LEED Credit Substitution Guidance <https://www.usgbc.org/sites/default/files/2020-04/Credit%20Substitution%20Guidance%20for%20v4.1.pdf>

p. LEED Addenda Update: November 2020 <https://www.usgbc.org/articles/leed-addenda-update-november-2020>

q. USACE Army LEED Implementation Guide, 2014.
https://www.wbdg.org/FFC/ARMYCOE/SDP/USACE_ArmyLEEDImplementationGuide-v4.pdf

r. Army Climate Resilience Handbook (August 2020)
https://www.g8.army.mil/digital_library/references/resources/20200900_Army_Climate_Resilience_Handbook.pdf

s. DoD Climate Assessment Tool (DCAT) (CAC Enabled only), CONUS (+AK, HI) Installations DCAT: https://corpsmapr.usace.army.mil/cm_apex/f?p=118; ROW (Rest of the World) Installations DCAT: https://corpsmapr.usace.army.mil/cm_apex/f?p=119

t. Army Directive AD 2020-08, U.S. Army Installation Policy to Address Threats Caused by Changing Climate and Extreme Weather (11 Sep 2020).
<https://api.army.mil/e2/c/downloads/2020/09/14/a6aa8a40/ad-2020-08-u-s-army-installation-policy-to-address-threats-caused-by-changing-climate-and-extreme-weather.pdf>




u. Engineering Pamphlet EP 1100-1-5, Global Changes, USACE Guide to Resilience Practices (1 Dec 2020). Pay attention to 3.3 USACE Resilience Practices in Military Programs, 2.2.8 Sustainable Buildings.
<https://www.publications.usace.army.mil/Portals/76/Users/182/86/2486/EP%201100-1-5a.pdf>
















v. Study of maintenance of High Performance Sustainable Buildings (HPSB) <https://erdc-library.erdc.dren.mil/jspui/handle/11681/40080>













w. United States Green Building Council (USGBC) Education
<https://www.usgbc.org/education-listing/?Course-Subscription=%5B%22Subscription%22%5D>

Attachment 2 – LEED v4 Process Guidance

This attachment provides guidance for Project Managers to provide sustainability oversight for the project. Project Managers should remain actively involved in the documentation and submittal process throughout the project life cycle to ensure continuity. Primary and secondary phase leads are indicated by their corresponding icons. Project Managers must track and enter the LEED project data in P2 and keep it current from inception to final certification.

RESPONSIBILITY KEY	
	Master Planning Team/Installation Lead
	Design Team Lead
	Construction Team/Contractor Lead

1.  Project Start: Identify LEED AP, team members, roles, collaboration and documentation methods.
2.   Project Start: Establish project purpose and scope. Determine applicability of UFC 1-200-02 *High Performance and Sustainable Building Requirements* (ref. c.) Determine version of ASHRAE 90.1 currently in effect for Army projects (Ref. n.)
3.   Project Start: Identify any special requirements or goals such as Net Zero.
4.  Consider LEED specialty options for unique needs based on specific building types (i.e., LEED BD+C: Data Centers, Healthcare, Schools, or Warehouses and Distribution Centers).²
5.   Project Start: Decide who submits LEED design and construction credits (see LEED Scorecard Guide below) depending on if project is design/build (D/B) or design/bid/build (D/B/B). Register project with the Green Building Certification Institute (GBCI) using rules established in the LEED Implementation Guide (Ref. q).
6.  Project Start: Become familiar with Attachment 3 *LEED v4 Point-by-Point Guidance* and requirements for USACE ECB 2020-8 *LCCA*³ and the LEED Integrative Process (IP) Credit.⁴ Begin capturing required IP documentation starting at pre-design, and throughout the project to earn the IP credit.
7.   Identify projections for potential climate related threats and vulnerabilities using the CAC-enabled DCAT tool⁵ (Ref. s).
8.   Discuss climate threat/vulnerability implications with the installation lead and come to agreement on climate factors affecting the project. Strategize on resilience, regional difficulties, low impact development, water and energy assurance, and community-scale opportunities (e.g., solar farms or gray water systems) (Ref. h, r, t, u).
9.   Design team meets with Installation planners to identify installation priorities and strategize approaches for resilient design (refer to Attachment 4, Checklists for Success, Checklist 1).

10.   Consider location-specific LEED Resilience pilot credits to maximize LEED point accumulation for the project while proactively ensuring mission continuity in the face of natural disasters and disturbances.
11.  PDT uses LEED v4 Point-by-Point Guidance (Attachment 3) to guide the collaboration between team members (Master Planning, Design, Construction, Operations & Maintenance).
12.  PDT uses LEED v4 Point-by-Point Guidance to select which LEED v4 credits to substitute with the LEED v4.1 version of the credit.⁶
13.  Use this LEED v4 Point-by-Point Guidance to understand which credits are supported by federal requirements and available waivers negotiated between the DoD and USGBC.
14.  Prioritize credits that support the LCCA process per ECB 2020-8 (credits related to building envelope, mechanical systems, lighting/daylighting, and water) (Ref. m).
15.   Consider location specific LEED Regional Priority credits to maximize LEED point accumulation for the project while benefiting the project region.
16.  PDT considers up to 5 LEED Innovation Credits (incl. Innovation, Pilot, and Exemplary Performance) to maximize point accumulation
17.   Review the Checklist for Success in Attachment 4 with all appropriate stakeholders.
18.  If the minimum points required are unattainable, revisit integrative process to pick up additional points that may be possible. If still unachievable, document reasons all missed points cannot be obtained and advise installation lead that they must submit an SDD Policy waiver request to HQDA in accordance with the current SDD Policy. Include documentation in the Design Analysis in the official project file.

Attachment 3 – LEED v4 Point-by-Point Guidance

This table provides guidance for each point available in LEED v4/4.1. Credits related to Federal legislation or executive policies must be prioritized and obtained if applicable to the project. Also take note of waivers and credit interpretations that may reconcile the differences between Federal or military construction project environment and the private sector context that the LEED system was developed for. The next column indicates point categories where a project will likely find the 4.1 version more readily obtainable. Substitution is not mandatory. The team must evaluate the differences and select the best suited for their project. Key stakeholders and submission leads are indicated next. The points shown in the blue cells represent the most commonly achieved. It is recommended that the teams start by evaluating these points, and then seek to add additional cost-effective points from other categories achievable based on their project specifics. Prioritize Design phase points over Construction phase points to reduce the risk of failure.

KEY	
The credit is supported by federal or Army policy	
Indicates there is an Army wide waiver available	
Substitute v4.1 credit (recommendation)	
Master Planning Team/Customer is in control of the strategies deployed and must be involved in the earliest planning phases.	
Design Team is responsible for strategy and/or engaging with other teams.	
Construction Team/Contractor has responsibility to follow strategies designed to achieve the credit	
Operations and Maintenance Team/Customer should be consulted before deploying strategies/technologies to verify maintainability.	
Who submits the credit? Design Team(D), Construction Team(C)	D or C
Achievable Baseline based on historical tendencies and credit substitutions	#

Y	?	N												
			Credit	Integrative Process								D	1	1

0	0	0	Location and Transportation											16
			Credit	LEED for Neighborhood Development Location								D	0	16
			Credit	Sensitive Land Protection								D	1	1
			Credit	High Priority Site								D	0	2
			Credit	Surrounding Density and Diverse Uses								D	1	5
			Credit	Access to Quality Transit								D	0	5
			Credit	Bicycle Facilities								D	0	1
			Credit	Reduced Parking Footprint								D	0	1
			Credit	Green Vehicles								D	0	1

0	0	0	Sustainable Sites										10		
Y			Prereq	Construction Activity Pollution Prevention									C		Required
			Credit	Site Assessment									D	1	1
			Credit	Site Development - Protect or Restore Habitat									D	0	2
			Credit	Open Space									D	0	1
			Credit	Rainwater Management									D	3	3
			Credit	Heat Island Reduction									D	2	2
			Credit	Light Pollution Reduction									D	1	1

0	0	0	Water Efficiency										11
Y		Prereq	Outdoor Water Use Reduction					A		X	D		Required
Y		Prereq	Indoor Water Use Reduction					A		X	D		Required
Y		Prereq	Building-Level Water Metering					A		X	D		Required
		Credit	Outdoor Water Use Reduction					A		X	D	2	2
		Credit	Indoor Water Use Reduction					A		X	D	3	6
		Credit	Cooling Tower Water Use (Process Water Use in v4.1)					A		X	D	0	2
		Credit	Water Metering					A		X	D	1	1

0	0	0	Energy and Atmosphere										33
Y		Prereq	Fundamental Commissioning and Verification					A		X	D		Required
Y		Prereq	Minimum Energy Performance					A		X	D		Required
Y		Prereq	Building-Level Energy Metering					A		X	D		Required
Y		Prereq	Fundamental Refrigerant Management					A		X	C		Required
		Credit	Enhanced Commissioning					A		X	C	5	6
		Credit	Optimize Energy Performance					A		X	D	5	18
		Credit	Advanced Energy Metering					A		X	D	1	1
		Credit	Demand Response (Grid Harmonization in v4.1)					A		X	C	0	2
		Credit	Renewable Energy Production					A		X	D	0	3
		Credit	Enhanced Refrigerant Management					A		X	D	1	1
		Credit	Green Power and Carbon Offsets (Renewable Energy in v4.1)					A		X	C	0	2

0	0	0	Materials and Resources										13
Y		Prereq	Storage and Collection of Recyclables								D		Required
Y		Prereq	Construction and Demolition Waste Management Planning								C		Required
		Credit	Building Life-Cycle Impact Reduction					A			D	1	5
		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations								C	2	2
		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials								C	2	2
		Credit	Building Product Disclosure and Optimization - Material Ingredients								C	1	2
		Credit	Construction and Demolition Waste Management								C	2	2

0	0	0	Indoor Environmental Quality										16
Y		Prereq	Minimum Indoor Air Quality Performance					A		X	D		Required
Y		Prereq	Environmental Tobacco Smoke Control					A			D		Required
		Credit	Enhanced Indoor Air Quality Strategies					A		X	D	1	2
		Credit	Low-Emitting Materials					A			C	3	3
		Credit	Construction Indoor Air Quality Management Plan					A			C	1	1
		Credit	Indoor Air Quality Assessment					A		X	C	1	2
		Credit	Thermal Comfort					A		X	D	1	1
		Credit	Interior Lighting					A		X	D	1	2
		Credit	Daylight					A			D	1	3
		Credit	Quality Views					A			D	0	1
		Credit	Acoustic Performance					A			D	0	1

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0	0	0	Innovation/Pilot/Exemplary Performance										6
		Credit	Innovation: Green Building Education?					A			D	1	1
		Credit	Innovation: Design for Enhanced Resilience?					A			D	1	1
		Credit	Innovation: Assessment and Planning for Resilience?					A			D	0	1
		Credit	Innovation: Passive Survivability and Back-Up Power During Disruptions?					A			D	0	1
		Credit	Other Innovation or pilot credit or exemplary performance					A			D	0	1
		Credit	LEED Accredited Professional					A			C	1	1

0	0	0	Regional Priority										4
		Credit	Regional Priority: Specific Credit					A				1	1
		Credit	Regional Priority: Specific Credit					A				1	1
		Credit	Regional Priority: Specific Credit					A				0	1
		Credit	Regional Priority: Specific Credit					A				0	1

TOTALS

Possible Points:

50

110

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

Attachment 4 – Checklist for Success

The LEED certification system is process and documentation intensive and adds a significant amount of workload and “soft costs” to projects. This checklist is a tool to help Project Managers and teams avoid missing key activities that can cost them points.

Pre-check 1: Conversation Starters with Installation Planner/Installation Lead

- ☐ Is there an installation-scale strategy toward net-zero energy and water goals?
- ☐ Where does the project fit into the Area Development Plan?
- ☐ Is there a community approach to Low Impact Development (LID) (ref. k)?
- ☐ Is there an Installation Design Guide (IDG) to follow?
- ☐ Is the project within a LEED for Neighborhood Development effort?
- ☐ Is the project in a Historic District? If so, what are the project constraints?
- ☐ Transit: What shared transit is available to building occupants, end users, or the public?
- ☐ Local Energy Manager: What are the utilities provided and their current rates for LCCA calculations?
- ☐ Are there any Installation limitations or requirements that may compromise the ability to earn points under the LEED system or comply with the Army SDD Policy?
- ☐ Are any SDD Policy Waivers in process, submitted, or granted? (As a reminder, local installations do not have the authority to overrule legislation or Army policy. They must seek a waiver if necessary. Otherwise, design teams are to design per policy.)

Pre-check 2: Discussion Objectives with Operations and Maintenance Teams (O+M)

- ☐ Invite O&M team to planning and design charrettes and project reviews. Encourage their participation early in the project when they have an opportunity to provide constructive input.
- ☐ Verify that the strategies deployed do not include systems or equipment that has record of maintainability issues to the extent that it becomes cost-ineffective. Some common maintainability issues: proprietary equipment, availability of spare parts, etc. (ref. v).
- ☐ Verify that all costs associated with systems or equipment are included in LCCA. Reject unrealistic O&M costs or activities, e.g. do not include periodic washing of solar panels as a required on-going maintenance activity. It is not required, and generally not done.
- ☐ Engage O&M team in building commissioning and operations training.
- ☐ Are there any O&M limitations or requirements that may compromise the ability to earn points under the LEED system or comply with the Army SDD Policy?
- ☐ Are any SDD Policy Waivers in process, submitted, or granted? [As a reminder, local DPWs do not have the authority to overrule legislation or Army policy. They must seek a waiver if necessary. Otherwise, design teams are to design per policy.]

Location & Transportation Credits

- ☐ What existing or planned bicycle networks are near the site; can they be extended to be within 200 yards of the bicycle storage OR a functional entry (any opening on building for pedestrian entrance)? Is that bicycle network connected to transit, ten diverse uses, school or employment center? Lastly, can the storage be located within 200' of the building? Evaluate **Bicycle Storage** credit requirements.

- ☐ What existing or planned transit systems are within ¼ or ½ mile? There are different LEED requirements based on the distance. Will there be project-sponsored transit for the occupants of the building and their visitors? **Quality Transit**
- ☐ Will you plan for reserved carshare parking spots? **Reduced Parking Footprint**
- ☐ Is the project at least 100 ft away from sensitive land (farmland, habitats, water bodies, wetlands) or on previously developed land? **Sensitive Land Protect**
- ☐ What is the project Walk Score® and surrounding density within ¼ mile of the site? How many diverse uses are there around the project? **Surrounding Density/Diverse Uses**
- ☐ Will there be any electric vehicle equipment or EV ready parking spaces? **Electric/Green vehicles**
- ☐ Economically disadvantaged community location or brownfield? Will this project involve and equity plan or affordable housing? **High Priority Site**

Sustainable Site Credits

- ☐ Is the following information available: Contour mapping, unique topographic features, or slope stability risks? How about hydrology, climate, vegetation, species, soil, and human use? **Site Assessment**
- ☐ Are there any regional or local rainwater management strategies already set in place or will the project solely be responsible for retaining between 80% and 90% of rainfall? Any guidance on this? Installation guide? **Rainwater Management** (also factors into meeting LID requirements)
- ☐ Will the site allow for outdoor space that at least 30% of the total site area, including building footprint? This outdoor space will need to be 25% vegetated with 2 or more species, and include a social area, garden, habitat area, or recreational area. **Open Space**
- ☐ Is there any restriction on restoring a portion of the site by soil restoration and vegetation and preserving 40% of greenfield on site (if it exists.) **Protect and Restore Habitat**

Energy & Atmosphere

- ☐ Are there any regional or local renewable/green energy strategies already set in place? **Renewable Energy, Green Power and Carbon Offsets**

Water Efficiency

- ☐ Are there any regional or local strategies for outdoor water efficiency already set in place? **Outdoor Water Use Reduction**

Attachment 5 – Waiver Processes

The credibility of USACE suffers if a project fails to meet a requirement without any justification or reason documented. Even if the cause is not under USACE control, USACE must provide support to the appropriate installation representative(s) if they need to obtain a waiver. If a requirement truly cannot be met, the required waiver need not be in hand for the project to continue. The project file must include documentation that the need for a waiver was identified to the installation lead, and copies of related documentation included as attachments to the Design Analysis in the Project File. USACE, as a service provider and execution agent, must provide the technical analysis and other required information for inclusion in the waiver request.

There are two types of waivers to be considered with separate processes:

1. Waiver of a UFC/Code requirement
2. Waiver of an Army SDD Policy requirement, e.g. achievement of LEED Silver

If the origin of a requirement that cannot be met is a UFC or Code requirement, then the USACE team must submit a waiver to the Chief, Engineering and Construction Division at Headquarters, USACE as the designated Army Code official. Waivers must be submitted here:

<https://usace.dps.mil/sites/KMP-FPE/SitePages/WERRequests.aspx>

If Third Party Certification, or any other requirement of the Army SDD Policy, cannot be met a waiver to the Army SDD Policy is required.

Installations//facilities/end users that have a mission, security, or health, safety, and welfare requirement or circumstance that conflicts with an SDD Policy requirement or otherwise limits the LEED points available to reach the required minimum must submit a waiver request memorandum up through their respective chain of command to the DASA(IHP), signed by the local commander (Garrison Commander for Active Component, Readiness Division Regional Engineer/Director, Public Works for the USAR, and The Adjutant General (TAG) for the ARNG.)

The signed request memorandum must include the DA Form 5 coversheet. The Form 5 must include the DASA(E&S) in the Staff Coordination block (9). The DASA(E&S) will review of the submitted packet for completeness, conduct a coordinated review with the DCS G9, and forward to DASA(IHP) for approval with their concurrence/non-concurrence. (A fillable Form 5 is available here:

https://armypubs.army.mil/ProductMaps/PubForm/Details.aspx?PUB_ID=1020703)

The local command memorandum should include the following:

(1) A clear and concise description of the issue and a justification why the project cannot obtain any other additional points needed to reach the Silver level among all the points available under the applicable LEED system. The cost and/or schedule impact of any identified mitigation measures are to be addressed, including any circumstances that make such measures unviable or impracticable. A CC: line of the memorandum should include the Chief, Engineering & Construction Division at USACE Headquarters and the servicing District. Include USACE COS, ACOM, ASCC, and/or DRU, if applicable.

As an attachment, the memorandum should include a concurring statement and technical analysis from the USACE Project Manager (PM)/Project Delivery Team (PDT). The analysis must include the current LEED checklist showing points expected and possible, and those deemed unachievable. The reason behind each point deemed unachievable must be noted. Further, the statement must verify that no cost-effective alternative building envelope design or primary mechanical system considered during the life cycle cost analysis process would have been more likely to achieve the required certification level. A Point of Contact to obtain electronic copies of the project's LCCA and Energy Model results must be included. The contact information for the PM should also be included (if different) as available to direct any technical questions to the appropriate subject matter expert and facilitate the response.

DASA(E&S) staff have indicated that cost is not a sufficient reason for a waiver, although it may be considered if a request for adequate funding was made and denied. The waiver request should occur as soon as the problem is identified and, if possible, before the 35% design level and budget lock. Projects are not to be delayed, put on hold, or otherwise wait for approval of a waiver if compliance with the SDD Policy requirement is truly untenable.

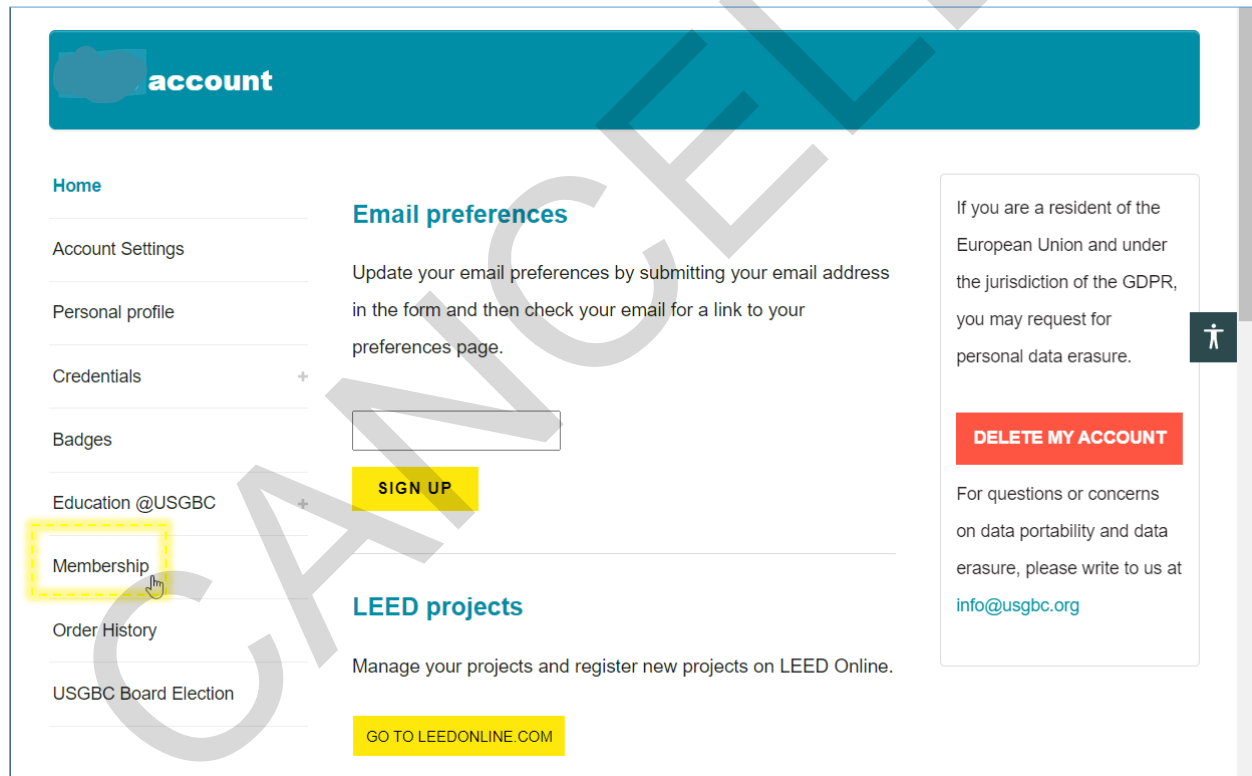
Attachment 6 – Accessing Education @USGBC

Instructions for Linking Existing or New USGBC.org Accounts to the U.S. Army's Gold Membership

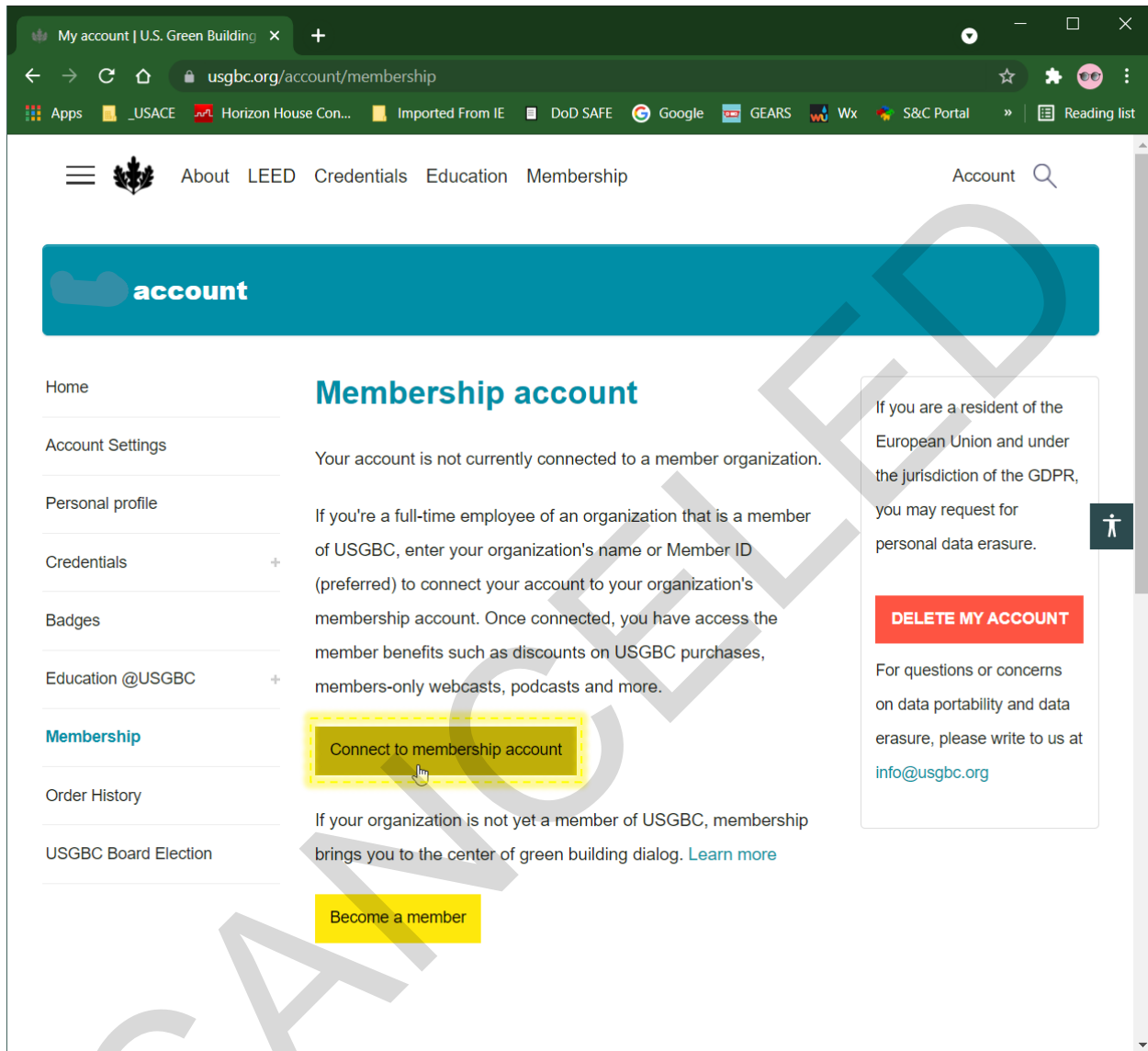
These are the instructions for linking an existing USGBC.org account with the U.S. Army's Gold membership account. To link to the U.S. Army during the creation of a new account, skip to the last section.

1 Existing Accounts:

Step 1: Log on at USGBC.org with your existing account and click on Membership on the left:

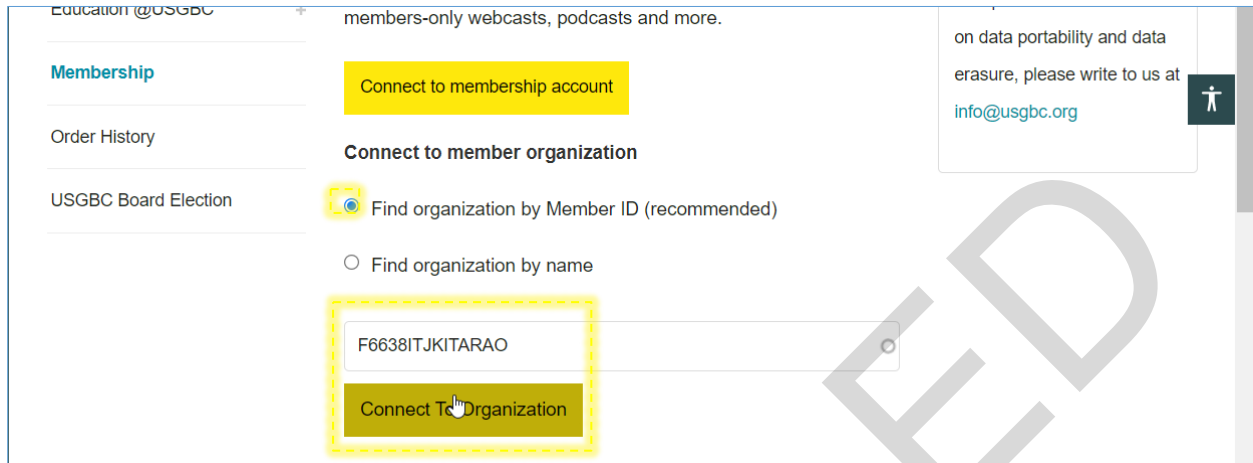


Step 2: Click on the yellow “Connect to membership account” button.



Continued...

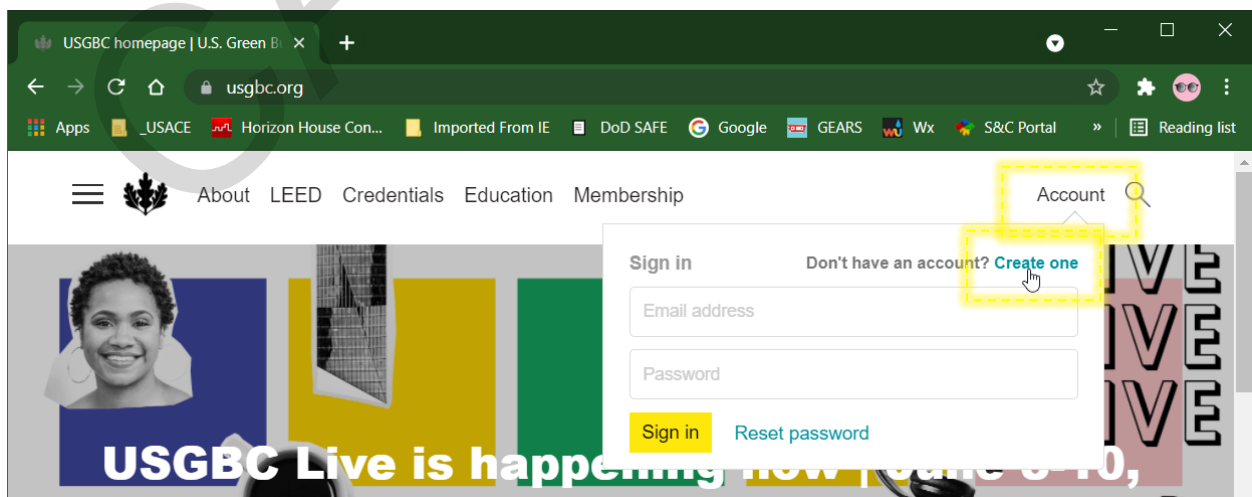
Step 3: Click to Find Organization by Member ID and enter F6638ITJKITARAO. “U.S. Army” should appear as a drop-down pick list. Click on it. Then click on the yellow “Connect to organization” button.

A screenshot of the USGBC website's membership section. On the left is a sidebar with links: 'Membership', 'Order History', and 'USGBC Board Election'. The main content area has a yellow button 'Connect to membership account' and a section 'Connect to member organization'. Under this section, 'Find organization by Member ID (recommended)' is selected with a radio button. Below it is a text input field containing 'F6638ITJKITARAO' and a yellow button 'Connect To Organization'. A large, semi-transparent 'DRAFT' watermark is visible across the center of the page.

The system will then confirm your employment status with the U.S. Army's USGBC Primary Contact. **IMPORTANT:** If your account email is not your usace.army.mil or mail.mil email address, then email the Primary Contact at the address shown from your Army/USACE account and identify the email address you are registered under so they can validate that you are an Army member. Once your account is connected to the U.S. Army membership, you can enjoy discounts and take advantage of a wealth of online training opportunities earning CEUs on the left under “Education @USGBC” ■

2 Creating a New USGBC Account:

Step 1: Go to the usgbc.org website and move your cursor over “Account” on the upper right. Then click on “Create One”

A screenshot of the USGBC homepage in a web browser. The browser's address bar shows 'usgbc.org'. The website's navigation bar includes links for 'About', 'LEED', 'Credentials', 'Education', and 'Membership'. On the right side of the navigation bar, the 'Account' link is highlighted with a yellow dashed box. Below the navigation bar is a large banner featuring a woman's portrait and the text 'USGBC Live is happening now'. Overlaid on the right side of the banner is a 'Sign in' form with fields for 'Email address' and 'Password', and buttons for 'Sign in' and 'Reset password'. A link that says 'Don't have an account? Create one' is also present, with 'Create one' being the focus of the yellow dashed box.

Step 2: Fill out the pop-up form, selecting “Find organization by Member ID” and typing “F6638ITJKITARAO” into the text box below it.

Step 3: “U.S. Army” will then drop down. Click on it.

Next, agree to all the legal disclaimers to behave yourself and prove you are human.

Step 4: Scroll down and click on the yellow Create Account button.

Step 5: Go into your email and click the link to validate your email address once you receive their confirmation email.

Step 6: If your account is registered under a non-Army or USACE email address, go into your Army/USACE email account and email the Army’s USGBC Primary Contact shown on the Membership page. (At the time of writing this, it was Eric Mucklow at eric.mucklow@usace.army.mil)

Once your account is connected to the U.S. Army membership, you can enjoy discounts and take advantage of a wealth of online training opportunities on the left under “Education @USGBC” – CEUs are available for most trainings.

The screenshot shows a web browser window with the URL [usgbc.org/registration/create...](https://www.usgbc.org/registration/create...). The form is titled "Create a USGBC account | U.S. G...". It contains several input fields: "First Name" (George P.), "Last Name" (Burdell), "Email" (george.p.burdell@usace.army.mil), and "Password" (masked with dots). Below the password field are five green checkmarks indicating password requirements: "A lowercase letter", "A capital (uppercase) letter", "A special character. Allowed special chars are [!\"#\$%&*'()]{@#~?><.,|=+~}", "A number", and "Minimum 8 characters". There is a "Phone" field with the value "(555) 867-5309" and a "Country" dropdown menu set to "United States". A section titled "Connect to member organization (Optional)" contains two radio buttons: "Find organization by Member ID (recommended)" (selected) and "Find organization by name". Below these is a text box containing the Member ID "F6638ITJKITARAO". A "Terms & Conditions" section has three checked checkboxes: "Yes, I have read and agree to abide by the Terms of Use", "Yes, I have read and agree to abide by the Privacy Policy", and "Yes, I have read and agree to abide by the Cookie Policy". At the bottom is a "Captcha" field. A large, semi-transparent "DRAFT" watermark is overlaid diagonally across the form.

③ *Creating a New USGBC Account:*

To view the listing of almost a thousand virtual course offerings once your account is linked, visit this link: <https://www.usgbc.org/education-listing?Course-Subscription=%5B%22Subscription%22%5D>

Essayons!