LEED V5

RATING SYSTEM

BUILDING DESIGN AND CONSTRUCTION: NEW CONSTRUCTION

SECOND PUBLIC COMMENT DRAFT
SEPTEMBER 2024

SCORECARD

LEED v5 for Design and Construction: New Construction				Decarbonization	Quality of Life	Ecosystem Conservation & Restoration
Integrative Process, Planning & Assessments			**1**			
	Prereq	Climate Resilience Assessment	Required		*	
	Prereq	Human Impact Assessment	Required		*	
	Prereq	Carbon Assessment	Required	*		
	Credit	Integrative Design Process	1	*	*	*
Location & Transportation			**15**			
	Credit	Sensitive Land Protection	1			*
	Credit	Equitable Development	2		*	
	Credit	Compact and Connected Development	6	*	*	*
	Credit	Transportation Demand Management	4	*	*	
	Credit	Electric Vehicles	2	*		
Sustainable Sites			**11**			
	Prereq	Minimize Site Disturbance	Required			*
	Credit	Biodiverse Habitat	2			*
	Credit	Accessible Outdoor Space	1		*	*
	Credit	Rainwater Management	3			*
	Credit	Enhanced Resilient Site Design	2		*	*
	Credit	Heat Island Reduction	2	*	*	*
	Credit	Light Pollution Reduction	1			*
Water Efficiency			**9**			
	Prereq	Water Metering and Reporting	Required			*
	Prereq	Minimum Water Efficiency	Required	*		*
	Credit	Water Metering and Leak Detection	1	*	*	*
	Credit	Enhanced Water Efficiency	8	*		*
Energy & Atmosphere			**33**			
	Prereq	Operational Carbon Projection and Decarbonization Plan	Required	*		
	Prereq	Minimum Energy Efficiency	Required	*		
	Prereq	Fundamental Commissioning	Required	*		
	Prereq	Energy Metering and Reporting	Required	*		
	Prereq	Fundamental Refrigerant Management	Required	*		
	Credit	Electrification	5	*		
	Credit	Reduce Peak Thermal Loads	5	*		
	Credit	Enhanced Energy Efficiency	10	*		
	Credit	Renewable Energy	5	*		
	Credit	Enhanced Commissioning	4	*		
	Credit	Grid Interactive	2	*		
	Credit	Enhanced Refrigerant Management	2	*		
Materials & Resources			**18**			
	Prereq	Planning for Zero Waste Operations	Required	*		*
	Prereq	Assess and Quantify Embodied Carbon	Required	*		
	Credit	Building and Materials Reuse	3	*		*
	Credit	Reduce Embodied Carbon	6	*		
	Credit	Low-Emitting Materials	2		*	
	Credit	Building Product Disclosure and Optimization	5		*	*
	Credit	Construction and Demolition Waste Diversion	2	*		*
Indoor Environmental Quality			**13**			
	Prereq	Construction Management Plan	Required		*	
	Prereq	Fundamental Air Quality	Required		*	
	Prereq	No Smoking or Vehicle Idling	Required		*	*
	Credit	Enhanced Air Quality	1		*	
	Credit	Occupant Experience	7		*	
	Credit	Accessibility and Inclusion	1		*	
	Credit	Resilient Spaces	2		*	
	Credit	Air Quality Testing and Monitoring	2		*	
Project Priorities & Innovation			**10**			
	Credit	Project Priorities	9			
	Credit	LEED Accredited Professional	1			
Total		**Possible Points:**	**110**			

INTEGRATIVE PROCESS, PLANNING, AND ASSESSMENTS (IP)

IP Prerequisite: Climate Resilience Assessment

Required

Intent

To promote comprehensive assessment of observed, projected, and future natural hazards for climate resilience, aiming to enhance awareness of hazards, increase transparency of risks, reduce vulnerabilities, and ensure long-term safety and sustainability.

Requirements

IPp: Climate Resilience Assessment Achievement Pathways	Points
New Construction	N/A
Climate and Natural Hazard Assessment	

Complete a climate and natural hazard assessment

As part of the assessment, identify observed, projected, and future natural hazards that could potentially affect the project site and building function. Address site-specific natural hazards, including, but are not limited to, drought, extreme heat, extreme cold, flooding, hurricane and high winds, hail, landslide, sea level rise and storm surge, tornado, tsunami, wildfire and smoke, winter storm, and other relevant hazards (specify).

Identify two priority hazards, at minimum, to address through proposed design strategies. For each priority hazard, the project team must assess and specify the following:

- IPCC emissions scenario used, specifying the Shared Socioeconomic Pathways
- Projected service life of the LEED project (e.g., FY2050 or 100 years)
- Hazard level
- Hazard risk rating
- Exposure, sensitivity, adaptive capacity, vulnerability, and overall risk levels
- Potential impact on the project site and building function
- Potential impact on the project site during construction

Where possible, use the information from the assessment to inform the planning, design, operations and maintenance of the project and describe how project-specific strategies were considered.

Impact area alignment

☐ Decarbonization ■ Quality of Life ☐ Ecological Conservation and Restoration

IP Prerequisite: Human Impact Assessment
Required

Intent

To ensure that project development is guided by a thorough understanding of the social context of the local community, workforce, and supply chain, helping to address potential social inequities.

Requirements

IPp: Human Impact Assessment Achievement Pathways	Points
New Construction	N/A
Human Impact Assessment	

Complete a human impact assessment that includes information from the following categories:

- *Demographics.* For example, race and ethnicity, gender, age, income, employment rate, population density, education levels, household types, identification of nearby vulnerable populations
- *Local Infrastructure and Land Use.* For example, adjacent transportation and pedestrian infrastructure, adjacent diverse uses, relevant local or regional sustainability goals/commitments, applicable accessibility code(s)
- *Human Use and Health Impacts.* For example, housing affordability and availability, availability of social services (e.g., healthcare, education, social support networks), community safety and, local community groups, supply chain and construction workforce protections
- *Occupant Experience.* For example, opportunity for daylight, views, and operable windows, environmental conditions of air and water, adjacent soundscapes, lighting, and wind patterns within the context of surrounding buildings (microclimate, solarscape, neighboring structures)
- *Other (Specify)*

Where possible, use the information from the assessment to inform the planning, design, operations and maintenance of the project and describe how project-specific strategies were considered.

Impact area alignment

☐ Decarbonization ■ Quality of Life ☐ Ecological Conservation and Restoration

IP Prerequisite: Carbon Assessment

Required

Intent

To understand and reduce long-term direct and indirect carbon emissions including on-site combustion, grid-supplied electricity, refrigerants, and embodied carbon.

Requirements

IPp: Carbon Assessment Process Achievement Pathways	Points
New Construction	N/A
Carbon Assessment	

Develop a 25-year projected carbon assessment for the project. The assessment will utilize the data from the following prerequisites:

- EA Prerequisite: Operational Carbon Projection and Decarbonization Plan
- EA Prerequisite: Fundamental Refrigerant Management
- MR Prerequisite: Assess and Quantify Embodied Carbon
- Optional: LT Credit: Transportation Demand Management

Impact area alignment

☑ Decarbonization ☐ Quality of Life ☐ Ecological Conservation and Restoration

IP Credit: Integrative Design Process
1 point

Intent

To support high-performance, cost-effective, and cross-functional project outcomes through an early analysis and planning of the interrelationships among systems. To provide a holistic framework for project teams to collaboratively address decarbonization, quality of life, and ecosystem conservation and restoration across the entire LEED rating system.

Requirements

IPc: Integrative Design Process Achievement Pathways	Points
New Construction	1
Integrative Design Process	1

Beginning in pre-design and continuing throughout early occupancy, identify and apply opportunities to achieve synergies across disciplines and building systems through the following initiatives:

- *Integrated Team.* Assemble and convene an interdisciplinary project team with diverse perspectives. Ensure the process is an equitable, team effort through organized facilitation.
- *Design Charette.* During pre-design or early in design, conduct a charette with the owner or owner's representative and participants representing at least four key perspectives (e.g. architect, contractor, energy modeler, community engagement representatives).
- *LEED Goal Setting.* Work as a team to define a set of specific and measurable project goals that address the LEED v5 impact areas of decarbonization, quality of life, and ecosystem conservation and restoration. Incorporate these goals into the owner's project requirements (OPR).

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

LOCATION AND TRANSPORTATION (LT)

LT Credit: Sensitive Land Protection
1 point

Intent

To cultivate community resilience by avoiding the development of environmentally sensitive lands that provide critical ecosystem services and reduce the environmental impact from the location of a building on a site.

Requirements

LTc: Sensitive Land Protection Achievement Pathways	Points
New Construction	1
Option 1. Previously Developed Sites	1
OR	
Option 2. Non-Previously Developed Sites	1

Option 1. Previously Developed Sites (1 point)
Locate the development footprint on land that has been *previously developed.*

OR

Option 2: Non-Previously Developed Sites (1 point)
Locate the development footprint on land that does not meet the following criteria for sensitive land:

- *Prime farmland.* Prime farmland, unique farmland, or farmland of statewide or local importance as defined by the U.S. Code of Federal Regulations, Title 7, Volume 6, Parts 400 to 699, Section 657.5 (or local equivalent for projects outside the U.S.) and identified in a state Natural Resources Conservation Service soil survey (NRCS) (or local equivalent for projects outside the U.S.).
- *Floodplains*. A flood hazard area shown on a legally adopted flood hazard map or otherwise legally designated by the local jurisdiction or the state. For projects in places without legally adopted flood hazard maps or legal designations, locate on a site that is entirely outside any floodplain subject to a 1% or greater chance of flooding in any given year (100-year floodplain).
- *Notable habitat*. Land identified as habitat for one or more of the following:
    - Species listed as threatened or endangered under the U.S. Endangered Species Act or the state's endangered species act; or
    - Species or ecological communities classified by NatureServe as GH (possibly extinct), G1 (critically imperiled), or G2 (imperiled); or
    - Species listed as threatened or endangered specifies under local equivalent standards (for projects outside the U.S.) that are not covered by NatureServe data.
- *Water bodies.* Areas on or within 100 feet (30 meters) of a water body, except for minor improvements.
- *Wetlands.* Areas on or within 50 feet (15 meters) of a wetland, except for minor improvements.
- *Steep slopes.* Protect 40% of the steep slope area on the site (if such areas exist) from all development and construction activity.
    - For unstable, undeveloped slopes between 15% and 25%, protect 40% from all development.
    - For unstable, undeveloped slopes steeper than 25%, protect from all development and construction activity 60% of the steep slope area on the site.

Impact area alignment

Decarbonization | Quality of Life | Ecological Conservation and Restoration

LT Credit: Equitable Development
1 – 2 points

Intent

To support the economic and social vitality of communities, provide opportunities for community members to live and work in close proximity, encourage project location in areas with development challenges, and promote the ecological, cultural, and health of the surrounding area.

Requirements

LTc: Equitable Development Achievement Pathways	Points
New Construction	1-2
Option 1. Priority Sites	1-2
Path 1. Brownfield Remediation	2
OR	
Path 2. Historic Location	1
AND/OR	
Option 2. Housing and Jobs Proximity	1-2
Path 1. Support Local Economy	1
OR	
Path 2. Location Efficient Affordable Housing	2
OR	
Option 3. Equitable Construction	2
Schools	1-2
NC Options 1, 2, and/or 3	1-2
OR	
Option 4. Equitable Access to Resources	2
Path 1. Public Use Spaces	1
AND/OR	
Path 2. Community Partnership	1
Data Centers, Warehouses, and Distribution Centers	1-2
NC Options 1, 2, and/or 3	1-2
AND	
Sensitive Project Location	

Option 1. Priority Sites (1 – 2 points)

Path 1. Brownfield Remediation (2 points)
Locate on a brownfield where soil or groundwater contamination has been identified, and where the local, state, or national authority (whichever has jurisdiction) requires its remediation. In cases of voluntary remediation by the project team, provide confirmation by the local, state, or national authority (whichever has jurisdiction) to verify that the site is a brownfield. Perform remediation to the satisfaction of the relevant authority.

OR

Path 2. Historic Location (1 point)
Locate the project in a historic district, identified by the local government, based on a growth management plan or policy.

AND/OR

Option 2. Housing and Jobs Proximity (1 – 2 points)

Path 1. Support Local Economy (1 point)

Employ individuals that live within the administrative district of the project site for 15% of the construction jobs created by the LEED project.

OR

Path 2. Location Efficient Affordable Housing (2 points)
For residential or mixed-use projects, include a proportion of new rental and/or for-sale affordable dwelling units priced for households earning less than the area median income (AMI). Rental units must be maintained at affordable levels for a minimum of 15 years. Existing dwelling units are exempt from requirement calculations. Meet or exceed the minimum thresholds in Table 1. Projects must meet or exceed the requirements mandated through inclusionary zoning by their local jurisdictions. Additionally, the project must achieve one of the requirements below:

- Meet the requirements of Compact and Connected Development, Option 2. Access to Transit for 2 points.
- Meet the requirements of Compact and Connected Development, Option 3. Walkable Location for 2 points.
- Locate the project in a community where the *jobs-housing ratio* exceeds 1.2 within a ½-mile (800-meter) walking distance.

Table 1. Minimum Affordable Units

Unit Type	Requirements
Rental Dwelling Units	Rental units, at least 10% of the project's total residential floor area, priced for up to 60% AMI.
For-Sale Dwelling Units	For-sale units at least 10% of the project's total residential floor area, priced for up to 80% AMI.

OR

Option 3. Equitable Construction (2 points)
Provide access to workforce development training for construction workers through one of the following:

- *Job-Related Skills training* through on-the-job training in a Department of Labor registered apprenticeship program (or local equivalent for projects located outside U.S.) demonstrating that 15% or more of total project construction hours were performed by participants enrolled in registered apprenticeship programs.
- *Life-Skills training* programs for construction workers, conducted by an organization or government entity on the construction site, including topics such as financial literacy, debt management, first-time home buying, or entrepreneurship training, demonstrating scheduling of one course per month for the duration of construction.

Schools (1 – 2 points)

Meet NC Options 1, 2, and/or 3 above. **(1 – 2 points)**

OR

Option 4. Equitable Access to Resources (2 points)

Path 1. Public Use Spaces (1 point)
In collaboration with the school authorities, ensure that at least three of the following types of spaces in the school are accessible to and available for shared use by the public:

- Auditorium,
- Gymnasium,
- Cafeteria,
- One or more classrooms,
- Playing fields and stadiums,

- Joint parking.

Provide access to toilets in joint-use areas after normal school hours.

AND/OR

Path 2. Community Partnership (1 point)
In collaboration with the school authorities, contract with the community or other organizations to provide at least two types of dedicated-use spaces in the building, such as the following:

- Commercial office,
- Health clinic,
- Community service centers (provided by state or local offices),
- Library or media center,
- Parking lot,
- One or more commercial businesses.

Provide access to toilets in joint-use areas after normal school hours.

Data Centers, Warehouses and Distribution Centers (1 – 2 points)

Meet NC Options 1, 2, and/or 3 above. (1 – 2 points)

AND

Sensitive Project Location
Locate the project building at a minimum of 300 feet (90 meters) distance from the property lines of the nearest sensitive receptors (e.g, residential areas, schools, daycare centers, places of worship, hospitals, community centers, and public parks).

Impact area alignment

☐ Decarbonization ■ Quality of Life ☐ Ecological Conservation and Restoration

LT Credit: Compact and Connected Development
1 – 6 points

Intent

To conserve land and ecosystem resources by encouraging development in areas with existing infrastructure. To promote livability, walkability, and transportation efficiency, including reduced vehicle distance traveled and associated emissions.

Requirements

LTc: Compact and Connected Development Achievement Pathways	Points
New Construction	1-6
Option 1. Surrounding Density	1-2
AND/OR	
Option 2. Access to Transit	1-4
Path 1. Public Transit Service	1-4
OR	
Path 2. Project-Sponsored Transit Service	1-2
AND/OR	
Option 3. Walkable Location	1-3
Schools	1-6
NC Options 1, 2, and/or 3	1-6
AND/OR	
Option 4. Surrounding Density and Development	1-2
Path 1. Surrounding Density	1-2
AND/OR	
Path 2. Connected Site	1-2
AND/OR	
Option 5. Access to Transit or Pedestrian Access	1-4
Path 1. Access to Transit	1-4
OR	
Path 2. Pedestrian Access	1-2
Data Centers, Warehouses, and Distribution Centers	1-6
NC Options 1, 2, and/or 3	1-6
AND/OR	
Option 6. Surrounding Development and Resources	1-2
Path 1. Development and Adjacency	1-2
OR	
Path 2. Transportation Resources	1-2
Healthcare	1-6
NC Options 1, 2, and/or 3	1-6
AND/OR	
Option 7. Surrounding Density	1

Option 1. Surrounding Density (1 – 2 points)

Locate on a site where the surrounding *existing* density within a ¼-mile (400-meter) offset of the project boundary meets the values in Table 1. Use either the "separate residential and nonresidential densities" or the "combined density" values.

Table 1. Points for average existing density within 1/4-mile (400 meters)

Combined Density		Separate Density			Points
Square feet per acre of buildable land	Square meters per hectare of buildable land	Residential density (DU/acre)	Residential density (DU/hectare)	Nonresidential density (FAR)	

22,000	5,050	7	17.5	0.5	1
35,000	8,035	12	30	0.8	2

DU = dwelling unit; FAR = floor area ratio

AND/OR

Option 2. Access to Transit (1 – 4 points)

Path 1. Public Transit Service (1 – 4 points
Locate any *functional entry* of the project within either:

- ¼-mile (400-meter) *walking distance* of existing or planned *bus*, *streetcar*, or *informal transit stops,* or
- ½-mile (800-meter) walking distance of existing or planned *bus rapid transit* stops, passenger rail stations (i.e. light, heavy, or commuter rail) or commuter ferry terminals.

The transit service at those stops and stations in aggregate must meet the minimums listed in Table 2.

Both weekday and weekend trip minimums must be met.

- For each qualifying transit route, only trips in one direction are counted towards the threshold.
- If service varies by day:
    - For weekday trips, count the weekday with the lowest number of trips.
    - For weekend trips, only count the weekend day with the highest number of trips.
- If a qualifying transit route has multiple stops within the required walking distance, only trips from one stop are counted towards the threshold.
- Planned stops and stations may count if they are sited, funded, and under construction by the date of the certificate of occupancy and are complete within 24 months of that date.

Table 2. Minimum Daily Public Transit Service

Weekday Trips	Weekend Trips	Points
72	30	1
132	78	2
160	120	3
360	216	4

OR

Path 2. Project-Sponsored Transit Service (1 – 2 points)
Commit to providing year-round transit service (e.g. vans, shuttles, buses) for regular occupants and visitors that meets the minimums listed in Table 3. Service must provide transportation between the project site and external destinations, such as residential areas and public transportation stations, and be guaranteed for at least 3 years from the project's certificate of occupancy.

Provide *at least* one accessible transit stop shelter within a ¼-mile (400-meter) walking distance from a functional entry of the project.

- For each qualifying transit route, total trips (inbound and outbound) are counted towards the threshold.

- If a qualifying transit route has multiple stops within the required walking distance, only trips from one stop are counted towards the threshold.

Table 3. Minimum daily project-sponsored transit service

Total Daily Trips	Points
Providing shuttles	1
30	2

AND/OR

Option 3. Walkable Location (1 – 3 points)
Locate on a site that meets the location-efficiency requirements in Table 4 via Walk Score® or proximity to *existing and publicly available* uses (see Appendix 1) within a ½-mile (800-meter) walking distance from any functional entry.

Table 4. Points for location-efficiency

Walk Score®	Proximity to Uses	Points
60 - 69	4 - 7	1
70 or more	8 - 10	2
80 or more	≥ 11	3

The following restrictions apply.
- A use may be counted as only one type (e.g., a retail store may be counted only once even if it sells products in several categories).
- No more than two uses in each use type may be counted (e.g., if five restaurants are within walking distance, only two may be counted).
- The counted uses must represent at least three of the five categories.

Schools (1 – 6 points)

Meet NC Options 1, 2, and/or 3 above. (1 – 6 points)

AND/OR

Option 4. Surrounding Density and Development (1 – 2 points)

Path 1. Surrounding Density (1 – 2 points)
Meet Option 1. Surrounding Density requirements in New Construction.

AND/OR

Path 2. Connected Site (1 – 2 points)
Locate the project on a previously developed site that also meets one of the connected site conditions listed below:
- Adjacent site: *At least* a contiguous 25% of the project boundary must border parcels that are previously developed sites.
- Infill site: *At least* 75% of the project boundary must border parcels that are previously developed sites.
- Bordering rights-of-way do not constitute previously developed land; it is the status of the property on the other side of the right-of-way that contributes to the calculation. Any part of the boundary that borders a water body is excluded from the calculation.

Table 6. Points for Connected Site

Type of site	Points
Adjacent	1
Infill	2

AND/OR

Option 5. Access to Transit or Pedestrian Access (1 – 4 points)

Path 1. Access to Transit (1 – 4 points)
Meet Option 2. Access to Transit listed above.

OR

Path 2. Pedestrian Access (1 – 2 points)
Locate the project with an *attendance boundary* where dwelling units are:

- Within 3/4-mile (1200-meter) walking distance for grades 8 and below, or ages 14 and below, of a *functional entry of a school building*.
- Within 1 1/2-mile (2400-meter) walking distance for grades 9 and above or ages 15 and above of a *functional entry of a school building*.

Provide pedestrian access to the site from all residential areas in the attendance boundary.

Points are awarded according to Table 7.

Table 7. Points for Dwelling Units Within Walking Distance

Percentage of Dwelling Units in Attendance Boundary	Points
50%	1
60%	2

Data Centers, Warehouses and Distribution Centers (1 – 6 points)
Meet NC Options 1, 2, and/or 3 above. (1 – 6 points)

AND/OR

Option 6. Surrounding Development and Resources (1 – 2 points)

Path 1. Development and Adjacency (1 – 2 points)

Locate the project on a site that meets one of the site conditions listed in Table 8.

- To qualify as an adjacent site, *at least* a contiguous 25% of the project boundary must border parcels that are previously developed sites.
- Bordering rights-of-way do not constitute previously developed land; it is the status of the property on the other side of the right-of-way that contributes to the calculation. Any part of the boundary that borders a water body is excluded from the calculation.

Table 8. Points for Development and Adjacency

Type of site	Points
Previously developed site that was used for industrial or commercial purposes	1

Previously developed *and* adjacent site with bordering parcels currently used for industrial or commercial purposes	2

OR

Path 2. Transportation Resources (1 – 2 points)
Locate the project on a site that has two of the following transportation resources for 1 point or all four of the following transportation resources for 2 points:

- The site is within a 10 mile (16 kilometer) driving distance of a main logistics hub.
- The site is within a 1 mile (1600-meter) driving distance of an on-off ramp to a highway.
- The site is within a 1 mile (1600-meter) driving distance of an access point to an active freight rail line.
- The site is served by an active freight rail spur.

A planned transportation resource must be sited, funded, and under construction by the date of the certificate of occupancy and complete within 24 months of that date.

Healthcare (1 – 6 points)

Meet NC Options 1, 2, and/or 3 above.

AND/OR

Option 7. Surrounding Density (1 point)
Locate on a site where the surrounding existing density within a ¼-mile (400-meter) offset of the project boundary meets one of the following:

- At least 7 dwelling units per acre (17.5 DU per hectare) with a 0.5 floor-area ratio. The counted density must be existing density, not zoned density.
- At least 22,000 square feet per acre (5 050 square meters per hectare) of buildable land.

For previously developed existing rural healthcare campus sites, achieve a minimum development density of 30,000 square feet per acre (6,890 square meters per hectare).

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

LT Credit: Transportation Demand Management
1 – 4 points

Intent

To reduce pollution and land development effects from automobile use through encouraging alternative transportation networks. To promote more livable and healthy communities through reduced vehicle miles traveled and associated emissions.

Requirements

LTc: Transportation Demand Management Achievement Pathways	Points
New Construction	1-4
Transportation Demand Assessment	
AND	
Option 1. Parking	1-3
Path 1. Reduce Parking	1-3
AND/OR	
Path 2. Parking Fee	2
AND/OR	
Option 2. Active Travel Facilities	1-3
Path 1. Bicycle Network and Storage	1
AND/OR	
Path 2. Shower and Changing Facilities	1
AND/OR	
Path 3. Bicycle Maintenance	1

Transportation Demand Assessment

Assess the number of vehicle miles traveled (VMT) and carbon emissions associated with the regular building occupants travel to and from the project building as outlined below:

- Estimate the Annual Vehicle Miles Traveled (VMT).
- Estimate Annual Baseline Case for Carbon Emissions (Scenario 1).
- Assess Low-Carbon Transportation Options.
- Estimate Annual Proposed Case for Carbon Emissions (Scenario 2).
- Estimate the total reduction of carbon emissions between Scenario 1 and Scenario 2.

Projects that participate in a local or regional government mandated Transportation Demand Management (TDM) program satisfy the Transportation Demand Assessment requirement. Residential affordable housing projects in an infill location or office, mixed-use, residential, or retail projects located within a Transit Priority Area, or within ½-mile (800-meter) walking distance of an existing or planned major transit stop, are exempt from the above requirements.

AND

Implement one or more of the following for up to a total of 4 points.

Option 1. Parking (1 – 3 points)

Path 1. Reduce Parking (1 – 3 points)

Provide a reduction in parking capacity, using the base ratios for parking spaces, by building type, found in Appendix 4. Table 1. Base Ratios for Parking. Alternatively, projects may demonstrate baseline and reduced parking capacity using calculations for the most appropriate land use found in the Institute of Transportation Engineers (ITE) Parking Generation Manual, 6th Edition or a comparable resource applied by a qualified transportation engineer or planner. Points are awarded according to Table 1.

Table 1. Points for percentage of reduced parking capacity

Reduced parking percentage	Points
30% reduction from base ratios	1
60% reduction from base ratios	2
100% reduction from base ratios (no parking)	3

AND/OR

Path 2. Parking Fee (2 points)
Implement a daily, monthly, or annual parking fee at a cost equal to or greater than the local market rate for public or private parking.

AND/OR

Option 2. Active Travel Facilities (1 – 3 points)

Path 1. Bicycle Network and Storage (1 point)

Bicycle Network
Design or locate the project such that a functional entry and/or bicycle storage is within a 600-feet (180-meter) walking distance or bicycling distance of a bicycle network that meets the following criteria:

- Is a *contiguous network* that spans a distance of at least 3-miles (4800-meters) from the project boundary.
- Consists of bicycle paths, lanes or multi-use trails, or streets with a maximum speed limit of 25 mph (40 kph). Sidewalks where local code permits bicycles are acceptable.

Planned bicycle trails or lanes may be counted if they are fully funded by the date of the certificate of occupancy and are scheduled for completion within three years of that date.

Schools projects: Provide dedicated bicycle lanes that extend from the student bike-parking location to *at least* the end of the school property without any barriers (e.g., fences on school property).

AND

Bicycle Storage
Provide *short-term bicycle storage* within 600 feet (180 meters) walking distance to any main entrance, but no fewer than four storage spaces per building.

Provide *long-term bicycle* storage within 300 feet (90 meters) walking distance from any functional entry, but no fewer than four storage spaces per building, in addition to the short-term bicycle storage spaces.

Points are awarded according to Table 2 below.

Shared micromobility storage, bicycle sharing stations, and/or publicly available bicycle parking may be counted for up to 50% of the required short-term *and* long-term storage space if it meets the maximum allowable walking distance, is not double counted (i.e., the short-term and the long-term storage spaces are counted separately), and the storage location is communicated to the building occupants and visitors.

Table 2. Number of spaces required for short- and long-term bicycle storage

<table>
<tr><th></th><th>Commercial, Institutional, Schools, Healthcare</th><th>Residential</th><th>Mixed-Use</th><th>Retail</th></tr>
<tr><td>Short-term Storage</td><td colspan="2">At least 2.5% of all peak visitors but no fewer than four spaces per building</td><td rowspan="2">Meet the storage requirements for the nonresidential and residential portions of the project separately</td><td>At least two short-term bicycle storage spaces for every 5,000 square feet (465 square meters), but no fewer than two storage spaces per building</td></tr>
<tr><td>Long-term Storage</td><td>At least 5% of all regular building occupants but no fewer than four storage spaces per building, in addition to short-term storage</td><td>At least 15% of all regular building occupants but no less than one storage space per three dwelling unit, in addition to short-term storage spaces</td><td>At least 5% of regular building occupants, but no fewer than two storage spaces per building in addition to the short-term bicycle storage spaces</td></tr>
<tr><td colspan="5">Schools projects can exclude students grade 3 and younger from regular building occupant count for long-term storage.
Healthcare projects can exclude patients from regular building occupant count for long-term storage.</td></tr>
</table>

AND/OR

Path 2. Shower and Changing Facilities (1 point)
Provide access to on-site showers with changing facilities for 1% of all regular building occupants. Off-site showers and changing facilities are acceptable if they meet the needs of all occupants and are within a 1/4-mile (400-meters) walking distance.

Large occupancy projects:
Provide at least one on-site shower with changing facility for the first 100 regular building occupants and one additional shower for every 150 regular building occupants thereafter up to 999 regular building occupants. After that provide:

- One additional shower for every 500 regular building occupants, for the additional 1,000 – 4,999 regular building occupants
- One additional shower for every 1,000 regular building occupants, for the additional 5,000 + regular building occupants.

AND/OR

Path 3. Bicycle Maintenance (1 point)
Provide a permanently-secured bicycle repair station that includes a complete set of tools and air pump securely fastened to the repair stand in the area dedicated to long-term bicycle storage.

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LT Credit: Electric Vehicles
1 – 2 points

Intent

To encourage the use of electric vehicles and infrastructure. To help reduce the negative health effects on communities by lowering greenhouse gas emissions and other pollutants emitted from conventionally-fueled cars and trucks.

Requirements

LTc: Electric Vehicles Achievement Pathways	Points
New Construction	1-2
Option 1: Electric Vehicle Supply Equipment	1-2
AND/OR	
Option 2: Electric Vehicle Readiness	1

Option 1. Electric Vehicle Supply Equipment (1 – 2 points)

Install electric vehicle supply equipment (EVSE) meeting the thresholds listed in Table 1.

EVSE must meet the following criteria:

- Provide Level 2 or Level 3 charging capacity per the manufacturer's requirements and the requirements of the National Electrical Code (NFPA 70).
- 208 – 240 volts or greater for each required space.
- Meet the connected functionality criteria for ENERGY STAR certified EVSE and be capable of responding to time-of-use market signals (e.g. price).
- At least one EV charging station must be an accessible parking space at least 9-feet (2.5-meters) wide with a 5-feet (1.5-meters) access aisle and have charging station accessibility features for use by persons with mobility, ambulatory and visual limitations.

Table 1. Points for installed EVSE (% of total parking spaces)

Commercial Minimum EVSE Parking	Points
5% or *at least* 2 spaces*, whichever is greater	1
10% or *at least* 4 spaces*, whichever is greater	2
Residential Minimum EVSE Parking	**Points**
10% or at least 5 spaces*, whichever is greater	1
15% or at least 10 spaces*, whichever is greater	2

AND/OR

Option 2. Electric Vehicle Readiness (1 point)
Make the minimum number of total parking spaces used by the project electric vehicle ready (EV-ready) as specified in Table 2 EV-Ready parking spaces must provide a full circuit installation including 208/240V, 40-amp panel capacity, and conduit (raceway) with wiring that terminates in a junction box or charging outlet.

Any space with an installed EVSE counted for credit under Option 1 may not be counted for credit as an EV-ready space under Option 2.

Table 2. Points for EV-Ready Parking (% of total parking spaces)

Commercial	Residential	Points

At least 10% or at least 10 spaces, whichever is greater	At least 20% or at least 20 spaces, whichever is greater	1

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SUSTAINABLE SITES (SS)

SS Prerequisite: Minimize Site Disturbance
Required

Intent

To limit site disturbance from construction activities and preserve existing native vegetation, healthy soils, and wildlife habitats.

Requirements

SSp: Minimize Site Disturbance Achievement Pathways	Points
New Construction	N/A
Erosion and Sedimentation Control Plan	
AND	
Site Assessment	

Minimize site disturbance by designing and constructing the project site to meet the following requirements:

Erosion and Sedimentation Control Plan: Create and implement an erosion and sedimentation control plan for all construction activities associated with the project. The plan must conform to the erosion and sedimentation requirements of the 2022 U.S. Environmental Protection Agency (EPA) Construction General Permit (CGP) or EU Taxonomy: DNSH, Pollution Prevention, Item 4 Noise and Dust, or local equivalent. Projects must apply the CGP regardless of size.

The erosion and sedimentation control plan must also include implementation of the following measures:

- Establishment of construction exclusion zones demarcated by physical barriers and stormwater controls to protect any identified critical habitat for threatened or endangered species and from discharges and discharge-related activities.
- Site inspections for all controls and management practices at least once every seven calendar days, or once every 14 calendar days and within 24 hours of the occurrence of a storm event that produces 0.25 inches (6 millimeters) or more of rain within a 24-hour period. Dewatering inspections must occur once per day on which the discharge of dewatering occurs.
- Immediate corrective actions to repair or replace the controls when failing.

AND

Site Assessment: Collect information about the site in a pre-construction survey or assessment that informs design of the site to address the following items, as applicable to the project. The survey or assessment should demonstrate the relationships between the site features and topics listed below and how these features influenced the project design.

- *Special-Status Vegetation.* Conserve 100% of *Special-Status vegetation* located on-site as defined by local, state, or federal entities.
- *Healthy Habitat.* Identify *healthy plant communities* and implement strategies to minimize damage to these areas during construction and ongoing project activities. Establish exclusion zones demarcated by physical barriers to minimize intrusion or disturbance of identified healthy plant communities during construction activities.
- *Invasive Vegetation.* Indicate locations of existing invasive vegetation species on site and address removal and control of invasive species before and during construction. Include only native and adapted vegetation that is not currently listed as invasive.

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SS Credit: Biodiverse Habitat

1 – 2 points

Intent

To conserve existing natural areas, enhance biodiversity, restore damaged areas, and provide thriving habitats for local wildlife.

Requirements

SSc: Biodiverse Habitat Achievement Pathways	Points
New Construction	1-2
Option 1. Preserve and Restore Habitat	1-2
Path 1. Greenfield Sites	1
OR	
Path 2. Previously Disturbed Sites	1-2
AND/OR	
Option 2. Bird-friendly Glass	1

Option 1. Preserve and Restore Habitat (1 – 2 points)

Path 1. Greenfield Sites (1 point)
Preserve 40% of the greenfield area on the site, by protecting these areas from all development and construction activity.

OR

Path 2. Previously Disturbed Sites (1 – 2 points)
Meet the requirements of Path 1. Greenfield Sites, if such areas exist.

AND

Restore *previously disturbed* areas of the site (if such areas exist) and follow soil restoration and vegetation restoration requirements below. Dedicated athletic fields that are solely for athletic uses are exempted from counting toward the total site area. These areas may not count toward the protected greenfield or restored habitat areas. Points are awarded according to Table 1.

Table 1. Points for percentage of area restored

Restored Area	Zero Lot Line	Points
20% of previously disturbed area	10%	1
40% of previously disturbed area	20%	2

Soil Restoration
Restore all soils on-site disturbed by previous development and from current construction activities that will serve as final vegetated area. Any imported soils must be reused in a way comparable to their original function and may not include the following:

- Soils defined regionally by the Natural Resources Conservation Service web soil survey (or local equivalent for projects outside the U.S.) as prime farmland, unique farmland, or farmland of statewide or local importance.
- Soils from other greenfield sites.
- Sphagnum peat moss or organic amendments that contain sphagnum peat.

Engineered growing medium for vegetated roofs are exempt from the Soil Restoration requirements.

Vegetation Restoration
Plant native and adapted vegetation that is not currently listed as invasive and includes the following:

- At least 10 species native or adapted to the project's EPA Level III ecoregion (or local equivalent for projects outside of the U.S.).
- Minimum of two of the following categories: trees, shrubs, and ground cover. Zero Lot Line projects are exempt from this requirement.
- At least 110 square feet (10 square meters) consisting of native flowering plants appropriate for local pollinators. Plants must be in groupings of at least 10 square feet (1 square meter). Designate the pollinator habitat area with signage.

AND/OR

Option 2. Bird-Friendly Glass (1 points)
Glass used below specified heights, on the exterior of the building and site, must have a maximum threat factor of 30, as defined in the American Bird Conservancy's (ABC) Threat Factor Database.

This applies to all glass, including spandrel glass, when located:

- Below 50 feet (15 meters) measured from grade at all points.
- Below 20 feet (6 meters) measured from the finished grade of a green roof.
- Glass in guardrails and wind shields when located at any distance from grade or roof.

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SS Credit: Accessible Outdoor Space
1 point

Intent

To create outdoor open space that encourages interaction with the environment, social and physical activities, and passive recreation, and incorporates elements that celebrate the community served.

Requirements

SSc: Accessible Outdoor Space Achievement Pathways	Points
New Construction	1
Sufficient Outdoor Space Area	1
AND	
Urban Outdoor Space	
AND	
Community Outdoor Space	

Comply with the following requirements for 1 point:

Sufficient Outdoor Space Area
Provide barrier-free and physically accessible outdoor space for persons with limited mobility that is greater than or equal to 30% of the total site area (including building footprint). At least 25% of the required outdoor space must be vegetated and planted with two or more types of vegetation or have *overhead vegetated canopy*.

AND

Urban Outdoor Space
Include one or more of the following elements:

- Biophilic space: area that meets the vegetation restoration requirements of *SSc: Biodiverse Habitat* and includes elements of human interaction, such as observational platforms or paths.
- Garden: space dedicated to community gardens or urban food production.
- Recreational area: recreation-oriented paving or landscape area that encourages physical activity, such as courts, fields, track, play space or swimming pools.
- Social area: pedestrian-oriented paving or landscape area that accommodates outdoor social activities and includes seating for 5% of occupants.

AND

Community Outdoor Space
Include one or more of the following elements:

- Community: Publicly accessible during daylight hours and open to all members of the community.
- Cultural: Include at least two art installations or sculptures by local artists.
- Acoustics: Include elements that provide positive *soundscapes* if located within 0.25-mile (400 meters) of a significant noise source, such as but not limited to, a roadway, airport, or rail line.

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SS CREDIT: RAINWATER MANAGEMENT
1 – 3 points

Intent

To reduce runoff volume and improve water quality by replicating the natural hydrology and water balance of the site, based on historical conditions and undeveloped ecosystems in the region to avoid contributing to flooding downstream in frontline communities.

Requirements

SSc: Rainwater Management Achievement Pathways	Points
New Construction	1-3
Option 1. Percentile of Rainfall Events	1-3
OR	
Option 2. Natural Land Cover Conditions	3

Option 1. Percentile of Rainfall Events (1 – 3 points)
In a manner best replicating *natural site hydrology* processes, retain the runoff from the associated percentile of regional or local rainfall events *on-site*. The percentile event volume must be retained (e.g. infiltrated, evapotranspiration, or collected and reused) using *low-impact development (LID*) and *green infrastructure (GI) practices*. GI and LID strategies can be either structural or non-structural.

For projects that collect and reuse a portion of the chosen percentile event volume to meet the needs of one or more end-uses for the building and grounds, one additional point can be earned. Eligible end-uses include irrigation, flush fixtures, makeup water systems, such as cooling towers or boilers, or other process water demand. Collecting and reusing rainwater within the project can also contribute to points earned in the Water Efficiency Credit Category. Points are awarded according to Table 1.

Table 1. Points for percentile of regional or local rainfall events retained

All Projects	Zero Lot Line Projects	Points	Total Points for Water Reuse
80th Percentile	70th Percentile	1	2
85th Percentile	75th Percentile	2	3
90th Percentile	80th Percentile	3	Exemplary Performance

OR

Option 2. Natural Land Cover Conditions (3 points)
Calculate the difference between the projected runoff volume under the proposed design conditions and the runoff volume under natural land cover conditions that existed prior to any disturbance. Retain (e.g. infiltrate, evapotranspiration, or collect and reuse) on site the increase in runoff volume using LID and GI practices.

For Zero Lot Line Projects Only:
Project teams may combine onsite and offsite strategies to retain runoff from the associated percentile regional or local rainfall event for points, according to Table 1. Engage with local or regional authorities to coordinate offsite rainwater management strategies that meet the credit's intent, such as participating in community-wide rainwater management programs.

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SS Credit: Enhanced Resilient Site Design
2 points

Intent

Reduce the risk of catastrophic impacts from natural and climate events on-site and in adjacent landscapes by designing, building, and maintaining sites to be more resilient to observed, projected, and future climate and natural hazards.

Requirements

SSc: Enhanced Resilient Site Design Achievement Pathways	Points
New Construction	2
Integrate Requirements for Two High Priority Hazards	2

Design and construct the site and site structures to meet the following best practices for at least 2 of the highest priority hazards identified for compliance with *IPp: Climate Resilience Assessment*.

Drought: Comply with *WEc: Outdoor Water Use Reduction* requirements. Specify native and/or drought-tolerant adapted/appropriate plantings. Makeup water for any created water features must comply with SITES C3.4, or local equivalent.

AND/OR

Extreme Heat: Integrate two or more additional elements from the following list:
- Provide shaded external spaces adjacent to buildings for use during extreme heat events.
- Provide evaporative cooling solutions (fountains, misters, water features, etc.).
- Orient buildings and massing to self-shade in summer and extreme heat conditions.
- Provide outdoor cooling stations with emergency backup power.
- Demonstrate proximity to an emergency cooling station within one-quarter mile.
- Use paving materials with an initial solar reflectance (SR) value of at least 0.33
- Use an open-grid pavement system (at least 50% unbound)

AND/OR

Flooding: Integrate two or more of the following strategies, in accordance with ASCE 24 and FEMA 543 standards, or local equivalent:
- Critical Utilities
  - Locate critical utilities in new construction above the Design Flood Elevation (DFE), plus freeboard as recommended.
  - In retrofits, locate critical utilities inside protective floodproofed enclosures to prevent water intrusion.
  - Design new potable water systems to resist flood damage, infiltration of floodwaters, and discharge of effluent.
  - Elevate onsite wellheads above surrounding landscape to allow contaminated surface water to drain away.
  - Design new sewage systems to avoid infiltration and backup from rising floodwaters.
  - Design and anchor plumbing conduits, water supply lines, gas lines and electric cables that must extend below the DFE to resist the effects of flooding.
  - Design and anchor rainwater storage tanks to resist flood forces.
- All structural materials, finish materials, and connectors used below DFE must be flood resistant.
- Certify the project under a qualifying flood-resilient design standard(s).

AND/OR

Hail: Design and construct the site and site structures according to FORTIFIED Commercial High Wind and Hail Specific Design Requirements for Hail, or local equivalent.

AND/OR

Hurricanes and High Winds: Design and construct the site and site structures according to FORTIFIED Commercial Wind standards, or local equivalent. For projects in high-wind areas, design and construct the site and site structures to comply with wind design measures per ASCE/SEI 7-10 in specified FEMA zones, or a local equivalent. Backup Power is required in hurricane-prone regions. Install electrical connections with a transfer switch or docking station (storm switch) to support connection of backup power for critical mechanical and electrical systems. Create windbreaks using landscape forms, vegetation, and other locally appropriate natural systems.

AND/OR

Sea Level Rise:
Design and construct the site to accommodate flooding based on sea level rise and storm surge projections for the design service life of the project. In addition, meet two or more of the following:

- Incorporate elevated foundations to minimize projected flood damage to buildings.
- Use materials resistant to projected water damage for construction.
- Apply sealants and coatings to prevent projected water infiltration into structures.
- Install flood barriers to block projected floodwaters from entering buildings.
- Design green infrastructure solutions to manage projected storm surge and stormwater runoff effectively.
- Ensure backup power systems are in place to maintain critical functions during projected flooding events.
- Develop integrated drainage systems to manage projected excess flooding efficiently.
- Engage in community-level planning, partnerships, and/or design workshops to coordinate flood mitigation efforts effectively and equitably address the needs of populations vulnerable to projected flooding.
- Retrofit existing structures to enhance their resilience to future flood risks.

AND/OR

Tsunami: Mitigate the impact of tsunami through site planning strategies as described in Designing for Tsunamis (US National Tsunami Hazard Mitigation Program), or local equivalent. Additionally, incorporate the following elements from the TsunamiReady Guidelines, or local equivalent:

- Install tsunami danger area and evacuation route signage.
- Install Public Alert-notified NOAA Weather Radio (NWR) receivers in critical facilities and public venues, or local equivalent.

AND/OR

Wildfire: Follow wildfire management practices pertaining to wildland-urban interface design, vegetation management, debris disposal, and fire safety for equipment referenced in the NWCG Standards for Mitigation 2023, or a local equivalent. Design and construct the site and site structures in compliance with the SITES v2 Rating System Credit 4.11: Reduce the risk of catastrophic wildfire, or local equivalent. Reduce fuel using the Zone Concept (firewise.org ‘Safer from the Start’ Appendix E), or local equivalent.

AND/OR

Winter Storms: Meet two or more of the following:

- Provide adequate ingress/egress for vehicles and snow removal equipment.
- Provide a snow-removal plan, including compatible road material, areas for accumulated snow, and roof snow removal.
- Ensure safe walking surfaces to exterior parking areas, considering heated sidewalks with renewable energy sources.
- Specify native or adapted planting with a capacity for heavy snow loads.


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SS Credit: Heat Island Reduction
1 – 2 points

Intent

To mitigate disparate impacts on microclimates and habitats caused by heat islands and extreme heat events.

Requirements

SSc: Heat Island Reduction Achievement Pathways	Points
New Construction	1-2
Option 1. Nonroof and Roof	1
AND/OR	
Option 2. Parking Under Cover	1
AND/OR	
Option 3. Tree Equity	1

Choose one of the following options:

Option 1. Nonroof and Roof (1 point)
Meet the following criteria for nonroof and roof weighted average approach:

Equation 1. Weighted nonroof and roof calculation

$$\frac{\text{Area of Nonroof Measures}}{0.5} + \frac{\text{Area of High-Reflectance Roof}}{0.75} + \frac{\text{Area of Vegetated Roof}}{0.75} \geq \text{Total Site Paving Area} + \text{Total Roof Area}$$

Use any combination of nonroof, high-reflectance roof, and vegetative roof strategies so that the weighted sum of site design strategies is greater than or equal to the sum of the total pavement and roof areas. Each surface may only be counted once, even if it is addressed through multiple strategies.

Nonroof Measures

- Provide shade over pavement areas, measure in plan view at noon, with existing or new plants, assuming 10 year canopy width, or vegetated structures. Planting or vegetated structures must be in place at the time of occupancy permit.
- Structures covered by energy generation systems, such as solar thermal collectors, photovoltaics, and wind turbines.
- Architectural devices or structures. If the device or structure is a roof, it shall have an aged *solar reflectance (SR)* value of at least 0.28 as measured in accordance with ANSI/CRRC S100. If the device or structure is not a roof, or if aged solar reflectance information is not available, it shall have at installation an initial SR of at least 0.33 as measured in accordance with ANSI/CRRC S100.
- Paving materials with an initial *solar reflectance (SR)* value of at least 0.33.
- *Open-grid pavement system* (at least 50% unbound).

High-Reflectance Roof
Use roofing materials that have an aged SRI equal to or greater than the values in Table 1. If aged SRI is not available, the roofing material shall have an initial SRI equal to or greater than the values in Table 1.

Table 1. Minimum solar reflectance index value, by roof slope

	Slope	Initial SRI	Aged SRI

Low-Sloped Roof	≤ 2:12	82	64
Steep-Sloped Roof	> 2:12	39	32

Roof area that consists of functional, usable spaces (e.g. helipads, recreation courts, swimming pools, and similar amenity areas) may meet the requirements of nonroof measures. Applicable roof area excludes roof area covered by mechanical equipment, solar energy panels, skylights, and any other appurtenances.

Vegetated Roof
Install a vegetated roof using native or adapted plant species.

AND/OR

Option 2. Parking Under Cover (1 point)
Place 100% of *parking spaces under cover*. Any roof used to shade or cover parking must meet at least one of the following criteria:

- Have an aged SRI of at least 32.If aged value information is not available, use materials with an initial SRI of at least 39 at installation.
- Be a vegetated roof
- Be covered by energy generation systems, such as solar thermal collectors, photovoltaics, and wind turbines.

The credit calculations must include all existing and new off-street parking spaces that are subsidized, leased, or owned by the project, including parking that is outside the project boundary but is used by the project. On-street parking in public rights-of-way is excluded from these calculations.

AND/OR

Option 3. Tree Equity (1 point)
For all U.S. projects only, evaluate the American Forests Tree Equity score for the site location. For projects in areas ranked “High Priority” and “Highest Priority”, utilize the results of the evaluation to inform an increase in on-site canopy cover from the existing condition. Projects with no exterior work are exempt from this requirement.

For international projects, refer to the *Prerequisite: Human Impact Assessment* and evaluate the tree cover on-site and in the surrounding community, either by utilizing a local tree census or conducting a site assessment. Analyze the project’s local community composition to identify any neighboring underserved and/or disadvantaged populations with lower tree canopy presence. Utilize the results of the evaluation to inform an increase in on-site canopy cover from the existing condition to provide shade to neighboring underserved and/or disadvantaged areas. Projects with no exterior work are exempt from this requirement.

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SS Credit: Light Pollution Reduction
1 point

Intent

To increase night sky access, improve nighttime visibility, and reduce the consequences of development for wildlife and people.

Requirements

SSc: Light Pollution Reduction Achievement Pathways	Points
New Construction	1
Uplight	1
AND	
Light Trespass	
And	
Internally Illuminated Exterior Signage	

Meet the following uplight, light trespass, and internally illuminated exterior signage requirements for exterior luminaires.

Uplight

Do not exceed the following uplight ratings, based on the specific light source installed in the luminaire, as defined in Table 1. All installed lighting in Model Lighting Ordinance (MLO) Lighting Zones 3 and 4 must be automatically turned off when daylight is available.

Table 1. Maximum uplight ratings for luminaires

MLO Lighting Zone	Luminaire Uplight Rating
LZ0	U0
LZ1	U0
LZ2	U0
LZ3	U3
LZ4	U4

AND

Light Trespass

Do not exceed the following luminaire backlight and glare ratings (based on the specific light source installed in the luminaire), as defined in IES TM-15-11, Addendum A, based on the mounting location and distance from the lighting boundary.

Table 2. Maximum Backlight and Glare Ratings

	MLO Lighting Zone				
Luminaire mounting	LZ0	LZ1	LZ2	LZ3	LZ4
	Allowed Backlight Ratings				
> 2 mounting heights from lighting boundary	B1	B3	B4	B5	B5
1 to 2 mounting heights from lighting boundary and properly oriented	B1	B2	B3	B4	B4
0.5 to 1 mounting height to lighting boundary and properly oriented	B0	B1	B2	B3	B3

< 0.5 mounting height to lighting boundary and properly oriented	B0	B0	B0	B1	B2
	Allowed Glare Ratings				
Building-mounted > 2 mounting heights from any lighting boundary	G0	G1	G2	G3	G4
Building-mounted 1–2 mounting heights from any lighting boundary	G0	G0	G1	G1	G2
Building-mounted 0.5 to 1 mounting heights from any lighting boundary	G0	G0	G0	G1	G1
Building-mounted < 0.5 mounting heights from any lighting boundary	G0	G0	G0	G0	G1
All other luminaires	G0	G1	G2	G3	G4

AND

Internally Illuminated Exterior Signage
Do not exceed the maximum luminance level of internally illuminated signage during nighttime hours according to Table 3.

Table 3. Maximum nighttime luminance levels

MLO Lighting Zone	Signage Light Output
LZ0	50 cd/m2
LZ1	50 cd/m2
LZ2	100 cd/m2
LZ3	200 cd/m2
LZ4	350 cd/m2

Exemptions to Uplight and Light Trespass Requirements
The following exterior lighting is exempt from the requirements, provided it is controlled separately from the nonexempt lighting:

- Specialized signal, directional, and marker lighting for transportation.
- Lighting that is used solely for façade and landscape lighting in MLO lighting zones 3 and 4, and is automatically turned off from midnight until 6 a.m.
- Lighting for theatrical purposes for stage, film, and video performances.
- Government-mandated roadway lighting.
- Hospital emergency departments, including associated helipads.
- Lighting for the national flag in lighting zones 2, 3, or 4.
- Internally illuminated signage

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WATER EFFICIENCY (WE)

WE Prerequisite: Water Metering and Reporting

Required

Intent

To conserve potable water resources, support water management, and identify opportunities for additional water savings by tracking water consumption.

Requirements

WEp: Water Metering and Reporting Achievement Pathways	Points
New Construction	N/A
Water Metering	

Install (or utilize existing) permanent water meters to monitor, record, and report the total water consumption for potable and alternative water sources for the building and associated grounds. Report whole-project use for each type of water source supplied to the building and associated grounds, with the following additional provisions:

- The facility manager and/or tenant(s) must be able to access the meter data.
- Meter alternative water sources separately from municipally supplied potable water.
- Commit to sharing with USGBC the resulting whole-project water usage data at least annually.

The requirements may be applied to the project scope of work and exclude future tenant utility services and submeters that will be installed in the tenant scope of work.

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WE Prerequisite: Minimum Water Efficiency
Required

Intent

To reduce potable water consumption and the associated energy consumption and carbon emissions required to treat and distribute water, and to preserve potable water resources through an efficiency first approach.

Requirements

WEp: Minimum Water Efficiency Achievement Pathways	Points
New Construction	N/A
Minimum Fixture and Fittings Efficiency	
Option 1. Prescriptive Path – Maximum Flush and Flow Rates	
OR	
Option 2. Performance Path – Calculated Reduction	
AND	
Minimum Equipment Water Efficiency	
AND	
Minimum Outdoor Water Use Efficiency	
Option 1. No Irrigation	
OR	
Option 2. Efficient Irrigation	

Meet all minimum water efficiency requirements outlined below.

Minimum Fixture and Fittings Efficiency
Meet the minimum water efficiency requirements for fixtures and fittings outlined below.

Projects located where standard supply pressure is different than the LEED baseline supply pressure may calculate the water consumption of flow fixtures and fittings at the local standard supply pressure.

Option 1. Prescriptive Path – Maximum Flush and Flow Rates
For all new and existing fixtures and fittings within the project boundary, do not exceed the maximum flush and flow rates listed in Table 1.

Table 1. Maximum installed flush or flow rates for prescriptive path

Fixture or Fitting	Maximum installed flush or flow rate (IP)	Maximum installed flush or flow rate (SI)
Toilet (water closet)*	1.28 gpf**	4.8 lpf**
Urinal*	0.50 gpf	1.9 lpf
Public lavatory (restroom) faucet	0.50 gpm	1.9 lpm
Private lavatory faucets*	1.50 gpm	5.7 lpm
Kitchen faucet	1.8 gpm	6.8 lpm
Showerhead*	2.00 gpm	7.6 lpm

**The WaterSense label is available for this fixture type. WaterSense labeled fixtures are recommended for projects located in the U.S. and Canada.*
*** For dual-flush toilets, the full-flush volume shall be equal to or less than 1.28 gpf / 4.8 lpf; A weighted average cannot be used.*

OR

Option 2. Performance Path – Calculated Reduction
For all the new and existing fixtures and fittings within the project boundary, reduce aggregate water consumption by 20% from the baseline listed in Table 2.

Table 2. Baseline water consumption of fixtures and fittings

Fixture or Fitting	Baseline installed flush or flow rate (IP)	Baseline installed flush or flow rate (SI)
Toilet (water closet)*	1.6 gpf**	6.0 lpf
Urinal*	1.0 gpf	3.8 lpf
Public lavatory (restroom) faucet	0.50 gpm at 60 psi	1.9 lpm at 415 kPa
Private lavatory faucets*	2.2 gpm at 60 psi	8.3 lpm at 415 kPa
Kitchen faucet	2.2 gpm at 60 psi	8.3 lpm at 415 kPa
Showerhead*	2.5 gpm at 80 psi per shower stall	9.5 lpm at 550 kPa per shower stall

**The WaterSense label is available for this fixture type. WaterSense labeled fixtures are recommended for projects located in the U.S. and Canada.*
***For dual-flush toilets, the full-flush volume shall be equal to or less than 1.28 gpf / 4.8 lpf; A weighted average cannot be used.*

AND

Minimum Equipment Water Efficiency
Newly installed appliances, equipment, and processes within the project boundary must meet the requirements listed in Tables 3 and 4 below. Existing appliances and equipment can be excluded.

Table 3. Standards for appliances

Appliance		Requirement	
Residential clothes washer		ENERGY STAR or performance equivalent	
Commercial clothes washer		ENERGY STAR for commercial clothes washers with ≤ 8.0 cubic feet (227 liters) capacity or performance equivalent	
Residential dishwashers (standard and compact)		ENERGY STAR or performance equivalent	
Pre-rinse spray valves		≤ 1.3 gpm (4.9 lpm)	
Ice machine		ENERGY STAR or performance equivalent and use either air-cooled or closed-loop cooling, such as chilled or condenser water system	
Commercial Kitchen Equipment		**Requirement (IP)**	**Requirement (SI)**
Dishwasher	Undercounter	≤ 1.6 gal/rack	≤ 6.0 liters/rack
	Stationary, single tank, door	≤ 1.4 gal/rack	≤ 5.3 liters/rack
	Single tank, conveyor	≤ 1.0 gal/rack	≤ 3.8 liters/rack
	Multiple tank, conveyor	≤ 0.9 gal/rack	≤ 3.4 liters/rack
	Flight machine	≤ 180 gal/hour	≤ 680 liters/hour
Food Steamer	Boilerless / Connectionless	≤ 2 gal/hr/pan	≤ 7.5 liters/hr/pan
	Steam Generator	≤ 5 gal/hr/pan	≤ 19 liters/hr/pan
Combination Oven	Countertop or stand	≤ 1.5 gal/pan	≤ 5.7 liters/pan
	Roll-in	≤ 1.5 gal/pan	≤ 5.7 liters/pan

Table 4. Standards for processes

Process	Requirement
Heat rejection and cooling	No once-through cooling with potable water for any equipment or appliances that reject heat.
Cooling towers and evaporative condensers	Equip with: • Makeup water meters, • Conductivity controllers and overflow alarms, and • Efficient drift eliminators that reduce drift to max of 0.001% of recirculated water volume for counterflow towers and 0.002% of recirculated water flow for cross-flow towers.
Discharge water temperature tempering	Where local requirements discharge temperature of fluids into drainage system, use tempering device that runs water only when equipment discharges hot water. OR Provide thermal recovery heat exchanger that cools drained discharge water below code-required maximum discharge temperatures while simultaneously preheating inlet makeup water. OR If fluid is steam condensate, return it to boiler.
Venturi-type flow-through vacuum generators or aspirators	Use no device that generates vacuum by means of water flow through device into drain.

AND

Minimum Outdoor Water Use Efficiency

Option 1. No Irrigation
Show that the landscape does not require a permanent irrigation system beyond a maximum two-year establishment period.

OR

Option 2. Efficient Irrigation
Reduce the project's landscape water requirement by at least 30% from the calculated baseline for the site's annual Theoretical Irrigation Requirement (TIR). Reductions must be achieved through plant species selection and irrigation system efficiency, as calculated by the TIR methodology outlined by the U.S. Environmental Protection Agency (EPA).

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

WE Credit: Water Metering and Leak Detection
1 point

Intent

To conserve potable water resources, support water management, limit potential material waste due to water leak damages, and identify opportunities for additional water savings by tracking water consumption.

Requirements

WEc: Water Metering and Leak Detection Achievement Pathways	Points
New Construction	1
Option 1. Submeters	1
OR	
Option 2. Leak Detection Sensors	1

Option 1. Submeters (1 point)
Install permanent water meters for each applicable subsystem defined below:

- Indoor plumbing fixtures and fittings. Meter systems serving at least 80% of indoor fixtures and fittings described in *WEp: Minimum Water Efficiency.* Fixtures and fittings not addressed in the prerequisite, including janitor sinks, water coolers and bottle fillers, may be included or excluded from the indoor plumbing fixtures subsystem at the project team's discretion.
- Irrigation system.
- Each makeup water system (e.g., cold water inlet for domestic hot water, swimming pools, chilled water systems, process water systems).
- Commercial kitchen (if the kitchen serves at least 100 meals per day of operation).
- Laundry (if the project includes commercial laundry equipment that processes at least 120,000 lbs. (57,606 kg) of laundry per year or if the project includes a public laundry room).

The facility manager and/or tenant(s) must be able to access the submeter data in real-time via local network, BMS, cloud service, app, or online database. All submeters must be capable of recording data at least hourly.

Healthcare Projects Only
In addition to the requirements above, install water meters in any five of the following:

- Purified water systems (reverse-osmosis, de-ionized)
- Filter backwash water
- Water use in the dietary department
- Water use in laundry
- Water use in laboratory
- Water use in central sterile and processing department
- Water use in physiotherapy and hydrotherapy and treatment areas
- Water use in surgical suite
- Closed-looped hydronic system makeup water
- Cold-water makeup for domestic hot water systems

If a Healthcare project does not include five of the additional subsystems listed above within the project scope, the project may alternatively submeter all water subsystems that are applicable to the project scope.

Residential Only

Install a permanent water meter for each residential dwelling unit that measures the total potable water use for the unit. These meters need not to be utility-owned/utility-grade.

OR

Option 2. Leak Detection Sensors (1 point)
Install permanent water flow meter or sensors for each applicable subsystem defined below:

- Project irrigation system at the point of entry, if irrigation is included in the project scope.
- At least 50% of the project flush fixtures. Water sensors can be installed on each flush fixture or for a group of flush fixtures (e.g., one per restroom facility).
- Each makeup water system (e.g., cold water inlet for domestic hot water, swimming pools, chilled water systems, process water systems).

The leak detection system should be able to identify a leak triggered by abnormal flow rate above normal range, or physically detect a water leak, and initiate an alarm upon a leak detection.

The facility manager and/or tenant(s) must be able to access the sensor data in real-time via local network, BMS, cloud service, app, or online database.

Develop an action plan that addresses how the building manager or tenant will have access to data in real-time; and how the building manager and/or tenant(s) will address and remedy any detected leak.

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

WE Credit: Enhanced Water Efficiency
1 – 8 points

Intent

To reduce potable water consumption and the associated energy consumption and carbon emissions required to treat and distribute water, and to reward use of alternative water sources that preserve potable water resources.

Requirements

WEc: Enhanced Water Efficiency Achievement Pathways	Points
New Construction	1-8
Option 1. Whole Project Water Use	1-8
OR	
Option 2. Fixture and Fittings – Calculated Reduction	1-3
AND/OR	
Option 3. Appliance and Process Water	1-2
AND/OR	
Option 4. Outdoor Water Use	1-2
Path 1. No Irrigation	2
OR	
Path 2. Efficient Irrigation	1-2
AND/OR	
Option 5. Optimize Process Water Use	1-2
Path 1. Limit Cooling Tower Cycles	1-2
OR	
Path 2. Optimize Water Use for Cooling	1-2
OR	
Path 3. Process Water Use	1-2
AND/OR	
Option 6. Water Reuse	1-2
Path 1. Reuse-Ready System	1
OR	
Path 2. Alternative Water Sources	2

Implement a combination of the strategies below for a maximum of 8 points. Projects may either attempt Option 1 or any combination of Options 2 – 6 below.

Option 1. Whole Project Water Use (1 – 8 points)
To pursue this pathway, project teams must develop a water use baseline and create a proposed use model. Points are achieved based on reductions from the baseline in Table 1.

Table 1. Points for reducing overall project water use

Percent reduction	Points	Total Points for Alternative Water
30%	1	2
35%	2	3
40%	3	4
45%	4	5
50%	5	6
55%	6	7
60%	7	8
65%	8	Exemplary Performance

OR

Option 2. Fixture and Fittings – Calculated Reduction (1 – 3 points)
Further reduce fixture and fitting water use from the calculated baseline in *WEp: Minimum Water Efficiency, Minimum Fixture and Fittings Efficiency, Path 2. Performance Path – Calculated Reduction.* Additional potable water savings can be earned above the prerequisite level using alternative water sources. Points are awarded according to Table 2.

Table 2. Points for Reducing Indoor Water Use

Percentage reduction	Points
30%	1
35%	2
40%	3

AND/OR

Option 3. Appliance and Process Water (1 – 2 points)
Newly installed equipment within the project boundary must meet the minimum requirements in Table 3, 4, 5, and/or 6. 1 point is awarded for meeting all applicable requirements in any one table for a maximum of 2 points. All applicable newly installed equipment listed in each table must meet the standard. Existing appliances and equipment can be excluded.

Table 3: Compliant commercial washing machines
To use Table 3, the project must process at least 120,000 lbs. (57,606 kg) of laundry per year.

Washing Machine	Requirement (IP units)	Requirement (SI units)
On-premise, minimum capacity 2400 lbs. (10,886 kg) per 8-hour shift	Maximum 1.8 gals per pound*	Maximum 7 liters per 0.45 kg*

*Based on equal quantities of heavy, medium, and light soil laundry.

Table 4: Standards for Compliant Commercial Kitchen Equipment
To use Table 4, the project must serve at least 100 meals per day of operation.

Commercial Kitchen Equipment		Requirement (IP)	Requirement (SI)
Dishwasher	Undercounter	ENERGY STAR	ENERGY STAR or performance equivalent
	Stationary, single tank, door	ENERGY STAR	ENERGY STAR or performance equivalent
	Single tank, conveyor	ENERGY STAR	ENERGY STAR or performance equivalent
	Multiple tank, conveyor	ENERGY STAR	ENERGY STAR or performance equivalent
	Flight machine	ENERGY STAR	ENERGY STAR or performance equivalent
Food Steamer	Boilerless / Connectionless	≤ 1.7 gal/hr/pan including condensate cooling water	≤ 6.4 liters/hr/pan including condensate cooling water
	Steam Generator	≤ 2.2 gal/hr/pan including condensate cooling water	≤ 8.3 liters/hr/pan including condensate cooling water
Combination Oven	Countertop or stand	ENERGY STAR	ENERGY STAR or performance equivalent
	Roll-in	ENERGY STAR	ENERGY STAR or performance equivalent
Food Waste Disposer	Disposer	3-8 gpm, full load condition; 10-minute automatic shutoff or 1 gpm, no-load condition	11-30 lpm, full load condition; 10-minute automatic shutoff or 3.8 lpm, no-load condition

	Scrap collector	Maximum 2 gpm makeup water	Maximum 7.6 lpm makeup water
	Pulper	Maximum 2 gpm makeup water	Maximum 7.6 lpm makeup water
	Strainer basket	No additional water usage	No additional water usage

Table 5: Compliant laboratory and medical equipment

Lab Equipment	Requirement (IP units)	Requirement (SI units)
Reverse-Osmosis Water Purifier	75% recovery	
Steam Sterilizer	For 60-in sterilizer: 6.3 gal/U.S. tray For 48-in sterilizer: 7.5 gal/U.S. tray	For 1520-mm sterilizer: 28.5 liters/DIN tray For 1220-mm sterilizer: 28.35 liters/DIN tray
Sterile Process Washer	0.35 gal/U.S. tray	1.3 liters/DIN tray
X-ray Processor, 150 mm or more in any dimension	Film processor water recycling unit	
Digital Imager, all sizes	No water use	

Table 6: Compliant Municipal Steam Systems

To use Table 6, the project must be connected to a municipal or district steam system that does not allow the return of steam condensate.

Steam system	Requirement
Steam Condensate Disposal	Cool municipally supplied steam condensate (no return) to drainage system with heat recovery system or reclaimed water
OR	
Reclaim and Use Steam Condensate	100% recovery and reuse

AND/OR

Option 4. Outdoor Water Use (1 – 2 points)

Path 1. No Irrigation (2 points)

Show that the landscape does not require a permanent irrigation system beyond a maximum two-year establishment period.

OR

Path 2. Efficient Irrigation (1 – 2 points)

Reduce the project's theoretical irrigation requirement (TIR) by at least 50% from the calculated baseline. Points are awarded according to Table 7.

Table 7. Points for Reducing Outdoor Water Use

Percentage reduction	Points
50%	1
100%	2

AND/OR

Option 5. Optimize Process Water Use (1 – 2 points)

Path 1. Limit Cooling Tower Cycles (1 – 2 points)

For cooling towers and evaporative condensers, conduct a one-time potable water analysis, measuring at least the five control parameters listed in Table 8.

Table 8. Maximum Concentrations for Parameters in Condenser Water

Parameter	Maximum level
Ca (as $CaCO_3$)	600 ppm
Total alkalinity	500 ppm
SiO_2	150 ppm
Cl^-	300 ppm
Conductivity	3300 µS/cm

ppm = parts per million
µS/cm = micro siemens per centimeter

Calculate the maximum number of cooling tower cycles by dividing the maximum allowed concentration level of each parameter by the actual concentration level of each parameter found in the potable makeup water analysis. Limit cooling tower cycles to avoid exceeding maximum values for any of these parameters.

The materials of construction for the water system that come in contact with the cooling tower water shall be of the type that can operate and be maintained within the cycles established in Table 9. Points are awarded according to Table 9.

Table 9. Points for Cooling Tower Cycles

Cooling Tower Cycles	Points
Maximum number of cycles achieved without exceeding any maximum concentration levels or affecting operation of condenser water system.	1
Meet the maximum calculated number of cycles to earn 1 point, and increase the number of cycles by a minimum of 25% by increasing the level of treatment and/or maintenance in condenser or make-up water systems. OR Meet the maximum calculated number of cycles to earn 1 point and use a minimum 20% alternative water.	2

Projects whose cooling is provided by district cooling systems are eligible to achieve Path 1 if the district cooling system complies with the above requirements.

OR

Path 2. Optimize Water Use for Cooling (1 – 2 points)
To be eligible for Option 2, the baseline system designated for the building using ASHRAE 90.1-2019 or 90.1-2022 Appendix G Table G3.1.1-3 must include a cooling tower (systems 7, 8, 11, 12, and 13).

Achieve increasing levels of cooling tower water efficiency beyond a water-cooled chiller system with axial variable-speed fan cooling towers having a maximum drift of 0.002% of recirculated water volume and three cooling tower cycles. Points are awarded according to Table 10.

Table 10. Points for Reducing Annual Water Use Compared to Water-Cooled Chiller System

Percentage Reduction	Points
25%	1
50%	2

Projects whose cooling is provided by district cooling systems are eligible to achieve Path 2 if the district cooling system complies with the above requirements.

OR

Path 3. Process Water Use (1 – 2 points)
Demonstrate that the project is using minimum 20% alternative water to meet process water demand for 1 point or using minimum 30% alternative water to meet process water demand for 2 points. Ensure that alternative water is of sufficient quality for its intended end use.

Process water uses eligible for achievement of Path 3 must represent at least 10% of total building regulated water use and may not include water used for cooling.

AND/OR

Option 6. Water Reuse (1 – 2 points)

Path 1. Reuse-Ready System (1 point)
Install a water supply system to allow the supply of reclaimed or alternative water to one or more of the following end-uses. Space shall be provided for treatment equipment as applicable to end uses.

OR

Path 2. Alternative Water Sources (2 points)
Incorporate one of the following water reuse strategies for indoor, outdoor, and/or process water that meets the needs of one or more end-uses for the building and grounds:

- Onsite water reuse system
- Municipally supplied reclaimed water

Eligible end-uses for Option 1 and 2 include irrigation, flush fixtures, makeup water systems, such as cooling towers or boilers, or other process water demand.

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

ENERGY AND ATMOSPHERE (EA)

EA Prerequisite: Operational Carbon Projection and Decarbonization Plan

Required

Intent

To enable building stakeholders to visualize how their current design decisions will impact their project's long-term operational carbon emissions and to ensure that stakeholders are planning for low carbon outcomes from the project's inception.

Requirements

EAp: Operational Carbon Projection and Decarbonization Plan Achievement Pathways	Points
New Construction	N/A
Design Analysis	
AND	
Site Energy Prediction	
AND	
Review Carbon Projection	
AND	
Decarbonization Plan	
Path 1. Design for Electrification	
OR	
Path 2. Plan for Decarbonization	

Comply with the following requirements:

Design Analysis
Analyze efficiency, peak load reduction and decarbonization measures during the early stages of the design process and account for the results in design decision-making using at least one of the following methodologies:

1. Simplified energy modeling
2. Analysis from similar projects
3. Analysis from published data

AND

Site Energy Prediction
Predict the amount of each type of energy the project will use annually in terms of site energy and submit the data to USGBC.

AND

Review Carbon Projection
Using the annual energy use data submitted, the project's current grid data, and location, USGBC will generate a "business as usual" (BAU) projection of the project's carbon emissions from energy use from the present through 2050.

Projects subject to a carbon-based building performance standard (BPS) must create an ordinance-specific BAU with a carbon projection based on the electrical coefficients as defined in the ordinance and

with an overlay showing the caps applicable to the project. If applicable, calculate the assessed annual fines or fees that will apply for exceeding the caps, and the cumulative fines or fees over a 25-year period.

The building owner or owner's representative shall attest that they have reviewed the BAU carbon projections and fee projection.

AND

Decarbonization Plan

Path 1. Design for Electrification
Earn 4 or 5 points in *EAc: Electrification.*

OR

Path 2. Plan for Decarbonization
Create a plan detailing how decarbonization could be achieved by 2050. The building owner or owner's representative shall attest that they have reviewed the Decarbonization Plan.

- The plan shall be a narrative no more than two (2) pages in length.
- The narrative shall describe the retrofits to be made, with the approximate timeline and cost of each of the retrofit measures.
- Equipment and/or building materials that will be discarded due to the required retrofits should be described along with new equipment to be purchased.
- Electrification "readiness" strategies incorporated into the initial design should be described along with a rough estimate of the avoided cost, avoided disruption, and avoided materials waste afforded by each readiness measure. Some common readiness strategies include oversizing electrical panels and/or service or installing conduit for future loads, enhanced envelope, or heating distribution systems that can accommodate the lower temperatures of future heat pumps

Impact area alignment

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EA Prerequisite: Minimum Energy Efficiency
Required

Intent

To promote resilience and reduce the environmental and economic harms of excessive energy use and greenhouse gas emissions by achieving a minimum level of energy efficiency.

Requirements

EAp: Minimum Energy Efficiency Achievement Pathways	Points
New Construction	N/A
Option 1. ASHRAE 90.1-2019	
OR	
Option 2. ASHRAE 90.1-2022	

Projects registering before January 1, 2028, may comply with either Option 1 or Option 2.

Projects registering on or after January 1, 2028 must comply Option 2.

Option 1. ASHRAE 90.1-2019
Comply with ANSI/ASHRAE/IES Standard 90.1-2019 with addendum cr. Use any applicable compliance path in ASHRAE 90.1 Section 4.2.

For projects applying the Normative Appendix G, "Performance Rating Method" compliance path, the future source energy metric may be used in place of 'Cost:'

- Replace all references to "cost" with "future source energy." Use an electric site-to-source energy conversion factor of 2.0 based on future projections for the U.S. A lower national average value may be used as applicable for projects outside of the U.S.
- Replace 90.1 Table 4.2.1.1 Building Performance Factors (BPFs) with the BPFs derived for the future source energy metric in Table 1.

Table 1. 90.1-2019-equivalent building performance factors for a future source energy metric

	Climate Zone																		
Building Type	**0A**	**0B**	**1A**	**1B**	**2A**	**2B**	**3A**	**3B**	**3C**	**4A**	**4B**	**4C**	**5A**	**5B**	**5C**	**6A**	**6B**	**7**	**8**
Multifamily	0.74	0.69	0.73	0.70	0.73	0.70	0.71	0.70	0.63	0.70	0.71	0.69	0.68	0.70	0.70	0.68	0.68	0.68	0.74
Healthcare/hospital	0.72	0.72	0.73	0.73	0.74	0.71	0.72	0.74	0.71	0.72	0.73	0.71	0.74	0.73	0.80	0.73	0.77	0.78	0.79
Hotel/motel	0.72	0.71	0.72	0.71	0.71	0.70	0.71	0.73	0.72	0.71	0.73	0.73	0.71	0.73	0.74	0.70	0.72	0.70	0.70
Office	0.62	0.63	0.61	0.62	0.58	0.60	0.57	0.62	0.55	0.55	0.61	0.57	0.58	0.61	0.59	0.58	0.60	0.54	0.58
Restaurant	0.65	0.62	0.63	0.61	0.62	0.58	0.63	0.63	0.63	0.67	0.66	0.66	0.70	0.70	0.68	0.73	0.72	0.74	0.77
Retail	0.57	0.54	0.53	0.53	0.48	0.47	0.47	0.47	0.47	0.52	0.50	0.56	0.57	0.53	0.59	0.58	0.56	0.53	0.60
School	0.57	0.57	0.58	0.57	0.55	0.54	0.57	0.51	0.49	0.48	0.51	0.52	0.51	0.53	0.51	0.53	0.50	0.51	0.58
Warehouse	0.28	0.30	0.24	0.27	0.23	0.24	0.27	0.23	0.20	0.33	0.26	0.28	0.40	0.32	0.29	0.44	0.38	0.40	0.44
All others	0.65	0.62	0.64	0.62	0.57	0.54	0.57	0.56	0.58	0.59	0.57	0.60	0.60	0.59	0.65	0.62	0.62	0.61	0.64

OR

Option 2. ASHRAE 90.1-2022
Comply with ANSI/ASHRAE/IES Standard 90.1-2022. Use any applicable compliance path in ASHRAE 90.1 Section 4.2.

For projects applying the Normative Appendix G, “Performance Rating Method” compliance path, one of the following metrics may be used in place of ‘Cost:’

- Future source energy
  - Replace all references to “cost” with “future source energy.” Use an electric site-to-source energy conversion factor of 2.0 based on future projections for the U.S. A lower national average value may be used as applicable for projects outside of the U.S.
  - Replace 90.1 Table 4.2.1.1 Building Performance Factors (BPFs) with the BPFs derived for the future source energy metric in Table 2
- Site energy or source energy documented using ASHRAE 90.1-2022 Informative Appendix I.

Table 2. 90.1-2022-equivalent Building Performance Factors for a future source energy metric

	Climate Zone																		
Building Type	**0A**	**0B**	**1A**	**1B**	**2A**	**2B**	**3A**	**3B**	**3C**	**4A**	**4B**	**4C**	**5A**	**5B**	**5C**	**6A**	**6B**	**7**	**8**
Multifamily	0.64	0.59	0.62	0.60	0.61	0.59	0.61	0.60	0.49	0.57	0.59	0.56	0.55	0.57	0.57	0.55	0.55	0.55	0.60
Healthcare/hospital	0.64	0.64	0.66	0.65	0.66	0.63	0.64	0.65	0.63	0.64	0.65	0.62	0.64	0.62	0.69	0.63	0.68	0.69	0.70
Hotel/motel	0.65	0.63	0.64	0.63	0.62	0.61	0.62	0.63	0.62	0.59	0.60	0.60	0.57	0.58	0.59	0.56	0.58	0.56	0.56
Office	0.54	0.54	0.53	0.54	0.49	0.52	0.49	0.52	0.45	0.46	0.52	0.47	0.48	0.51	0.48	0.48	0.50	0.45	0.49
Restaurant	0.61	0.58	0.58	0.57	0.57	0.54	0.58	0.59	0.57	0.62	0.61	0.61	0.65	0.64	0.63	0.67	0.66	0.69	0.72
Retail	0.47	0.45	0.44	0.44	0.40	0.39	0.37	0.39	0.36	0.40	0.41	0.42	0.45	0.43	0.46	0.44	0.43	0.42	0.46
School	0.52	0.53	0.53	0.53	0.51	0.51	0.53	0.48	0.46	0.43	0.48	0.47	0.45	0.49	0.46	0.46	0.44	0.44	0.48
Warehouse	0.25	0.25	0.21	0.24	0.20	0.21	0.24	0.20	0.17	0.30	0.22	0.25	0.36	0.28	0.25	0.40	0.34	0.36	0.40
All others	0.58	0.56	0.56	0.56	0.50	0.47	0.49	0.48	0.48	0.49	0.49	0.50	0.51	0.50	0.55	0.52	0.52	0.52	0.55

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EA Prerequisite: Fundamental Commissioning
Required

Intent

To improve energy performance and limit greenhouse gas emissions by verifying that systems are operating per the owner's project requirements.

Requirements

EAp: Fundamental Commissioning Achievement Pathways	Points
New Construction	N/A
Comply with Commissioning Requirements	

Comply with ANSI/ASHRAE/IES Standard 90.1 commissioning requirements for building systems, controls, and the building envelope, with the following additional provisions:

- All projects shall provide fundamental commissioning. Section 4.2.5.2 exceptions shall not apply.
- The referenced version of Standard 90.1 with errata shall be:
    - 2019 or later for projects registered before January 1, 2028.
    - 2022 or later for projects registered on or after January 1, 2028.
- By the end of the design development phase, the owner shall designate a commissioning provider (CxP) with experience completing commissioning on at least two projects of equal or larger scope and complexity.
- In addition to the requirements of the applicable version of ASHRAE 90.1, the CxP shall:
    - In pre-design or as early as possible, assist in the development of the Owner's Project Requirements (OPR),reviewing and updating the OPR through design and construction. OPR must include HVAC, service water heating, power, lighting, other equipment (include on-site renewable energy), and envelope.
    - During construction, review submittals and substitutions for design deviations that impact the OPR, attend milestone meetings at 50% and 100% completion, and perform a sample review (minimum 10%) of completed contractor documentation for QA/QC. For envelope, include testing in the commissioning documents and witness a sample of tests.
    - Occupancy/Operations phase: Develop an on-going commissioning plan.

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EA Prerequisite: Energy Metering and Reporting
Required

Intent

To support energy management practices and facilitate identification of ongoing opportunities for energy and greenhouse gas emissions savings by tracking and reporting building energy use and demand.

Requirements

EAp: Energy Metering and Reporting Achievement Pathways	Points
New Construction	N/A
Energy Monitoring and Recording	
AND	
Report Energy Data	

Comply with the following requirements:

Energy Monitoring and Recording
Install (or utilize existing) devices to monitor and record energy use per ANSI/ASHRAE/IES Standard 90.1. The version of Standard 90.1 shall be:

- 2019 or later for projects registered before January 1, 2028.
- 2022 or later for projects registered on or after January 1, 2028.

- Install (or utilize existing) devices to monitor and record energy use for the following, meeting the same monitoring and reporting requirements as required in ASHRAE for electrical end-uses:
  - On-site renewable electricity generation.
- Major renovations and buildings eligible for exceptions to ASHRAE 90.1-2019 Section 10.4.6 or 90.1-2022 Section 10.4.7 must install measurement devices capable of monitoring whole-building energy use for each building energy source and building peak electricity demand at least monthly.

AND

Report Energy Data
Commit to reporting the following data to USGBC at least annually: monthly energy data for 12 consecutive months of total energy consumption for each energy source, on-site renewable energy generation, and peak electrical demand. This commitment must carry forward for five years or until the building changes ownership or lessee.

Impact area alignment

☑ Decarbonization ☐ Quality of Life ☐ Ecological Conservation and Restoration

EA Prerequisite: Fundamental Refrigerant Management
Required

Intent

To reduce greenhouse gas emissions from refrigerants by accelerating the phase-out of refrigerants with high global warming potential and by reducing refrigerant leakage.

Requirements

EAp: Fundamental Refrigerant Management Achievement Pathways	Points
New Construction	N/A
Option 1. No Refrigerants	
OR	
Option 2. Refrigerants	

Option 1. No Refrigerants
Do not use refrigerants in the project.

OR

Option 2. Refrigerants
Meet the following requirements:

- Complete refrigerant inventory. Complete an inventory of the refrigerant-containing equipment installed within the project scope of work and any existing equipment owned by the building owner. The inventory shall include the refrigerant type, global warming potential (GWP), amounts of refrigerants contained in each, and the total GWP of all refrigerants.
- Do not use hydrochlorofluorocarbon (HCFC) refrigerants in new equipment.
- Evaluate available alternatives during the design process for any refrigerants with GWP > 700.
- Leak check and repair. Prior to substantial completion, check both new and existing refrigerant-containing equipment for refrigerant leaks and repair all identified leaks. For systems with field-assembled joints, perform a leak check, vacuum check, and pressure check prior to charging with refrigerant.

Impact area alignment

 Decarbonization  Quality of Life  Ecological Conservation and Restoration

EA Credit: Electrification

1 – 5 points: 5 points are required for LEED Platinum projects

Intent

To encourage buildings to be designed so they do not depend on burning fuel on-site, leading to better indoor and outdoor air quality and to low carbon operations as the grid decarbonizes.

Requirements

EAc: Electrification Achievement Pathways	Points
New Construction	1-5
Option 1. No On-Site Combustion	5
OR	
Option 2. No On-Site Combustion Except at Low Temperatures	1-4
Path 1. Space Heating	2
AND/OR	
Path 2. Service Water Heating	1
AND/OR	
Path 3. Cooking and Other Process Loads	1

Option 1. No On-Site Combustion (5 points)
Design and operate the project from start-up with no on-site combustion except for emergency support systems.

Combined weighted average equipment efficiency for space heating and service water heating must be at least 1.8 COP.

The following equipment may be excluded from the COP determination:

- Space heating equipment in climate zones 0 through 2.
- Supplemental or auxiliary heating equipment designed only for operation at outside air dry-bulb temperatures (DBT) below 20°F (-6.5 °C).
- SWH equipment in non-residential spaces complying with the point-of-use water heater criteria in ASHRAE 90.1-2022 Section 11.5.2.3.3, W05, without exceptions.

OR

Option 2. No On-Site Combustion Except at Low Temperatures (1 – 4 points)
Pursue any combination of the following paths for a maximum of 4 points:

Path 1. Space Heating (2 points)
Design space heating to be capable of operating without on-site combustion at outside air (OSA) temperatures above 20°F (-6.5 °C). Projects in climate zones 3 and above must have a weighted average space heating equipment efficiency of at least 1.8 COP.

The following equipment may be excluded from the COP determination:

- Supplemental or auxiliary heating equipment designed only for operation at outside air dry bulb temperatures (DBT) below 20°F (-6.5 °C).

AND/OR

Path 2. Service Water Heating (1 point)
Design service water heating systems to be capable of operating without on-site combustion at outside air temperatures above 20°F (-6.5 °C). Projects with total service water heating capacity

exceeding 34,000 Btu/h (10 kW) must have a weighted average service hot water equipment efficiency of at least 1.8 COP OR domestic hot water solar fraction of at least 0.4.
The following equipment may be excluded from the COP determination:

- SWH equipment in non-residential spaces complying with the point-of-use water heater criteria in ASHRAE 90.1-2022 Section 11.5.2.3.3, W05, without exceptions.
- Supplemental or auxiliary heating equipment designed only for operation at outside air dry bulb temperatures (DBT) below 20°F (-6.5 °C).

AND/OR

Path 3. Cooking and Other Process Loads (1 point)
Design cooking, laundry, process equipment, and on-site power generation except emergency support systems to be capable of operating without on-site combustion (projects that do not have these systems automatically earn this point).

The following equipment may be excluded:

- Process heating equipment designed for operation at outside air dry-bulb temperatures (DBT) below 20°F (-6.5 °C).

Equipment efficiency (for Options 1 and 2)

- Equipment efficiencies at rated conditions. For equipment with multiple rated conditions, use the rating closest to 17°F (-9°C) OA db, 32°F (0°C) entering liquid temperature, or 44 °F (6°C) heating source leaving liquid temperature.
- Annual average COP calculated with an energy simulation.

District Energy. See additional guidance/requirements.

Fuel cells. Fuel cells using fossil fuel are ineligible for credit.

Impact area alignment

☒ Decarbonization ☐ Quality of Life ☐ Ecological Conservation and Restoration

EA Credit: Reduce Peak Thermal Loads
1 – 5 points

Intent

To minimize demand on grid resources and improve the resiliency of buildings.

Requirements

EAc: Reduce Peak Thermal Loads Achievement Pathways	Points
New Construction	1-5
Option 1. Infiltration and Balanced Ventilation	1-2
AND/OR	
Option 2. Ventilation Energy Recovery	1
AND/OR	
Option 3. Thermal Bridging	1
AND/OR	
Option 4. Peak Thermal Load Reductions	1-3
Path 1. Peak Load Intensity	1-3
OR	
Path 2. ASHRAE 90.1 Trade-Off Methods	1-3
OR	
Path 3. Energy Simulation	1-3

Comply with any combination of Options 1 – 4 for a maximum of 5 points.

For all options, the building envelope must meet the requirements of ASHRAE 90.1 Section 5.5 *Prescriptive Building Envelope Compliance Path* or ASHRAE 90.1 Section 5.6 *Building Envelope Trade-Off Compliance Path* per the version of ASHRAE 90.1 referenced in *EAp: Minimum Energy Efficiency*. Building envelope efficiency shall not be traded off with other building systems.

Option 1. Infiltration and Balanced Ventilation (1 – 2 points)
Comply with both of the following:

Balanced Ventilation. Design the supply and exhaust airflows within 10% of each other and include a Test, Adjusting, and Balance (TAB) report demonstrating balanced ventilation in the commissioning scope.
AND

1. **Infiltration**. Use an air leakage test to demonstrate a measured air leakage of the building envelope less than or equal to Table 1, below. Buildings smaller than 25,000 square feet (2,322 square meters) must use a whole building air leakage test.

    - Complete air leakage testing using ASTM E779, ANSI/RESNET/ICC 380, ASTM E3158, ASTM E1827, or equivalent.
    - For buildings greater than 5,000 ft2 (465 m2), maximum air leakage is determined per ft2 or m2 of building envelope area (including exterior walls, roofs, and base floor/slab)
    - For projects that include both new construction and major renovation, use the weighted average maximum air leakage.

Table 1. Caps on Air Leakage Rates

Building Conditioned Floor Area (CFA)	Pressure Test Conditions Across the Building Envelope	Maximum Air Leakage[1]	
		New Construction	Major Renovation

≥ 5,000 ft^2 (465 m^2)	At pressure difference of 50 Pascal (0.2 in H2O)	0.13 cfm/ft^2 (0.65 L/s*m^2) [1]	0.20 cfm/ft2 (1.0 L/s*m^2) [1]
	At pressure difference of 75 Pascal (0.3 in H2O)	0.18 cfm/ft^2 (0.90 L/s*m^2) [1]	0.27 cfm/ft2 (1.35 L/s*m^2) [1]
< 5,000 ft^2 (465 m^2)	At 50 Pascal (0.2 in in H20)	1 ACH	1.5 ACH
	At 75 Pascal (0.3 in H_2O)	1.35 ACH	2 ACH

OR

Residential (2 points)
Compartmentalize each residential dwelling unit to minimize leakage between units. Perform a blower door test of residential dwelling units, following the procedures in ANSI/RESNET/ICC 380 or equivalent. For each unit tested, demonstrate a maximum leakage of *enclosure area* that is no more than 1.5 times the thresholds identified in Table 1 (enclosure area refers to all surfaces enclosing the dwelling unit, including exterior and party walls, floors, and ceilings). Demonstrate a weighted average leakage of enclosure area for the building including dwelling units that complies with the caps in the limits identified in Table 1.

AND/OR

Option 2. Ventilation Energy Recovery (1 point)
Each fan system supplying outdoor air must have an energy or heat recovery system with a minimum 70% enthalpy recovery ratio or a minimum of 75% sensible heat recovery ratio. Provisions must be made to bypass or control the energy recovery system during moderate outside air conditions.

In aggregate, fan systems supplying less than 15% of the project's total outdoor air can be excluded.

AND/OR

Option 3. Thermal Bridging (1 point)
Comply with the prescriptive thermal bridging requirements of ASHRAE 90.1-2022, Section 5.5.5(a), including all applicable requirements of Sections 5.5.5.1 through 5.5.5.5, without applying exceptions for projects in climate zones 0 through 3.

AND/OR

Option 4. Peak Thermal Load Reductions (1 – 3 points)
Comply with the following:

- Ventilation loads must be included in the determination of peak coincident loads
- Measure building envelope air leakage using air leakage testing and use the measured air leakage to calculate the peak loads for Path 1, Path 2 (envelope), and Path 3. (Meeting the leakage rates in Option 1 is not required to pursue this option).
- Demonstrate balanced ventilation meeting the criteria in Option 1 above.

AND

Path 1. Peak Load Intensity (1 – 3 points)
Limit the sum of peak heating load and peak cooling load per unit of treated floor area to be less than or equal to the thresholds specified in Table 2 below. Calculate peak loads using one of the following:

- WUFI Passive Design Tool, following the Passive House Institute US (PHIUS) protocol.
- Passive House Planning Package (PHPP), following the Passive House Institute (PHI) protocol to determine maximum heating load and maximum cooling load.

Table 2. Points for meeting caps on the sum of peak heating and cooling loads

Points	New Construction	Major Renovation
1	16 Btu-h/ft^2 (50 W/m^2)	20 Btu-h/ft^2 (63 W/m^2)
2	12 Btu-h/ft^2 (38 W/m^2)	15 Btu-h/ft^2 (47 W/m^2)
3	8 Btu-h/ft^2 (25 W/m^2)	10 Btu-h/ft^2 (32 W/m^2)

OR

Path 2. ASHRAE 90.1 Trade-Off Methods (1 – 3 points)
Comply with Envelope and/or HVAC improvements for a maximum of 3 points

Envelope loads (1 – 2 points)
Demonstrate a percent improvement in the sum of system peak heating loads and system peak cooling loads associated with the *proposed envelope performance factor* compared to the *base envelope performance factor* determined in accordance with the ASHRAE 90.1-2022 Building Envelope Trade-off Option (Normative Appendix C). Points are awarded according to Table 3.

Table 3. Points for Percentage Improvement in Peak Thermal Loads from Envelope

Points	Percent Improvement
1	10%
2	20%

AND/OR

Ventilation Loads (1 point)
Demonstrate a minimum 10% improvement in the sum of building peak coincident heating loads and building peak coincident cooling loads for the Total System Performance Ratio (TSPR) *proposed building design* versus the product of the *TSPR reference building design* and the ASHRAE 90.1-2022 Table L5-4 *Mechanical Performance Factors (MPF)* for the project's location and climate zone determined in accordance with the ASHRAE 90.1-2022 Mechanical System Performance Rating Method (Normative Appendix L).

OR

Path 3. Energy Simulation (1 – 3 points)
Demonstrate a Performance Index (PI) calculated per ASHRAE 90.1-2019 or later Normative Appendix G Performance Rating Method, replacing all references to "cost" with "the sum of building peak coincident heating loads and building peak coincident cooling loads."

Points are awarded according to Table 4.

Table 4. Points for Performance Index for Peak Heating and Cooling Loads:

Performance Index	Points
0.5	1
0.4	2
0.3	3

Impact area alignment

☒ Decarbonization ☐ Quality of Life ☐ Ecological Conservation and Restoration

EA Credit: Enhanced Energy Efficiency

1 – 10 points: 8 points are required for LEED Platinum projects

Intent

To design buildings that minimize energy use to reduce the environmental damage caused by resource extraction, air pollution, and greenhouse gas emissions and facilitate the transition to a clean energy future.

Requirements

EAc: Enhanced Energy Efficiency Achievement Pathways	Points
New Construction	1-10
Option 1. Prescriptive Path	1-10
Path 1. Regulated Loads	1-7
Case 1. ASHRAE 90.1-2019	1-5
OR	
Case 2. ASHRAE 90.1-2022	4-7
AND/OR	
Path 2. Plug and Process Loads (PPL)	1-4
Case 1. Plug Load Management	1-4
OR	
Case 2. Efficient Plug and Process Load Equipment	1-4
OR	
Case 3. Plug and Process Load Exceptional Calculation	1-4
OR	
Option 2. Energy Simulation	1-10
Path 1. Percentage Reduction Excluding On-Site Renewable Contribution	1-10
OR	
Path 2. Percentage Reduction Including On-Site Renewable Contribution	1-10

Option 1. Prescriptive Path (1 – 10 points)

Path 1. Regulated Loads (1 – 7 points)
Points are awarded according to Table 1 below, using either Case 1 or Case 2.

Case 1. ASHRAE 90.1-2019 (1 – 5 points)
(Available only to projects registered before January 1, 2028)

- Comply with the provisions of ASHRAE 90.1-2019 Sections 5 through 10.
- Implement "Additional Efficiency Requirements credits" calculated per ASHRAE 90.1-2022, Section 11 from the list of eligible measures referenced below. Where ASHRAE 90.1-2022 Section 11 references the prescriptive requirements of ASHRAE 90.1-2022 Sections 5 to 10, such as lighting power density or equipment efficiency, replace those references with the matching prescriptive values in ASHRAE 90.1-2019.

OR

Case 2. ASHRAE 90.1-2022 (4 – 7 points)

- Comply with the provisions of ASHRAE 90.1-2022, Sections 5 through 11.Implement incremental ASHRAE 90.1 2022, Section 11 credits, above the minimum required from the list of eligible measures below.

  Eligible measures from ASHRAE 90.1-2022 section 11.5.2 for LEED points:
  - HVAC measures (H01 to H07)

- Service Water Heating measures (W01 to W09)
- Lighting measures (L01 to L06)
- G07 Building Mass / Night Flush

Table 1. Points for ASHRAE 90.1-2022 Section 11 credits

Points	Case 1. ASHRAE 90.1-2019	Case 2. ASHRAE 90.1-2022
1	25 Credits	NA
2	50 Credits	
3	75 Credits	
4	100 Credits	Min required by 90.1-2022
5	125 Credits	Min required by 90.1-2022 plus 25 credits
6	N/A	Min required by 90.1-2022 plus 50 credits
7	N/A	Min required by 90.1-2022 plus 75 credits

AND/OR

Path 2. Plug and Process Loads (PPL) (1 – 4 points)

Case 1. Plug Load Management (1 – 4 points)
Implement the following:

- Provide a plug load dashboard that is accessible through an application to all regular occupants of the building, provided that tenants can opt out of displaying their plug loads to other tenants.
- For building types and/or tenant types with IT departments, implement policies for PCs, monitors, and visual displays to be controlled off when not in use, except during scheduled maintenance periods.

AND/OR

Case 2. Efficient Plug and Process Load Equipment (1 – 4 points)

- Install or reuse eligible plug and process equipment meeting the criteria in Table 2 for 90% of applicable equipment by quantity or rated load. Either include or exclude all eligible equipment reused in the project from the calculations.
  - For one Table 2 equipment category (1 point)
  - For two Table 2 equipment categories (2 points)
  - For three or more Table 2 equipment categories (3 points)

OR

- Process-intensive buildings. Install or reuse eligible plug and process equipment meeting the criteria in Table 2 for at least 90% of total applicable equipment rated load. Rated load of compliant equipment must total at least:
  - 0.5 Watt/ft^2 (5.4 W/m^2) (3 points)
  - 1.0 Watt/ft^2 (10.8 W/m^2) (4 points)

Table 2. Plug, Process, Refrigeration, and Conveyance Equipment criteria

Equipment Category	Applicable Equipment	Criteria
ENERGY STAR Products - Plug loads and small appliances	• Office equipment • Appliances • Electronics • Other (i.e. Vending Machines, pool pumps, water coolers)	ENERGY STAR rated or approved equivalent with at least 0.1 W/ft2 (1.1 W/m2) of total rated load
ENERGY STAR Products - Process Loads	• Commercial Food Service Equipment • Data Center / server equipment • Commercial laundry equipment • Electric vehicle chargers (EVSE) • Other (i.e. laboratory grade refrigerators and freezers	ENERGY STAR rated or approved equivalent with at least 0.1 W/ft2 (1.1 W/m2) of total rated load
People Conveyance	• Elevators • Escalators • Moving Walkways	ISO 25745. At least Class A-rated
Data Center Electrical System	Electrical System Design	ASHRAE 90.4-2022. Design electrical loss component (ELC) is at least 20% lower than the maximum design electrical loss.
Refrigeration Systems	Referenced in ASHRAE 90.1-Section 6.8 Tables AND not ENERGY STAR eligible	10% improvement beyond ASHRAE 90.1 Section 6.8 Tables
	Refrigerated Warehouse	California Title 24-2022 Section 120.6 Refrigerated warehouse requirements
Airport Equipment	Baggage handling equipment	Individual Carrier Systems (ICS) with variable frequency drive
	Aircraft + jetway air conditioning	Preconditioned Air (PCA) Systems with efficiencies meeting ASHRAE 90.1 prescriptive efficiencies for HVAC equipment

OR

Case 3. Plug and Process Load Exceptional Calculation (1 – 4 points)
Using the ASHRAE 90.1 Section G2.5 exceptional calculation method, demonstrate a minimum percentage improvement in total project plug and process, refrigeration, and conveyance loads. Points are awarded according to Table 4.

Table 4. Points for Percent improvement in Plug and Process Loads

Percent improvement	Points
10%	1
20%	2
30%	3
40%	4

OR

Option 2. Energy Simulation (1 – 10 points)
Demonstrate an improvement in future source energy calculated per ASHRAE Standard 90.1 Normative Appendix G “Performance Rating Method” with the following additional provisions:

- Use the ASHRAE 90.1 version applied for *EAp: Minimum Energy Efficiency*
- Replace ASHRAE 90.1-2019 or 90.1-2022 Table 4.2.1.1 Building Performance Factors (BPF) with Table 6 below. For major renovation building area, multiply the BPF by 1.05.
- Replace all references to “cost” with “future source energy.” Use an electric site-to-source energy conversion factor of 2.0 based on future projections for the U.S. A lower national average value may be used as applicable for projects outside of the U.S.
- Model energy efficiency measures for plug and process loads using Section G2.5 Exceptional Calculation Method or approved calculations in the LEED reference guidance.

- Calculate the Performance Index and percentage improvement with and without the plug and process savings.
- Calculate the Performance Index and Performance Index Target as follows:
  - PI_{nre} = PBP_{nre} / BBP
  - PI = PBP / BBP
  - PI_t = [BBUE – (BPF x BBRE)] / BBP
    Where
    - PI_{nre} = Performance index for future source energy excluding on-site renewable contribution
    - PI = Performance index for future source energy including on-site renewable contribution
    - PIt = Performance index target for future source energy use
    - BBP = baseline building performance for baseline building future source energy use
    - BBUE = baseline building unregulated future source energy use
    - BBRE = baseline building regulated future source energy use
    - PBP_{nre} = *proposed building performance* without any credit for reduced annual future source energy from *on-site renewable energy* generation *systems*
    - PBP = *proposed building performance*, including the reduced annual future source energy associated with all *on-site renewable energy* generation *systems*

Points are awarded according to Table 5, using either Path 1 or Path 2.

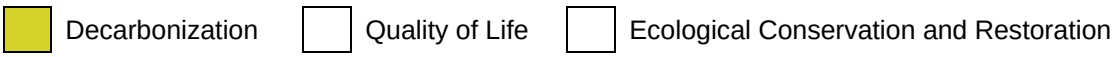
Table 5. Points for Percentage Improvement in PI below PI_T

Path 1. Percentage Reduction excluding On-Site Renewable Contribution (100% - PI_{nre} / PI_t)	or	Path 2. Percentage Reduction including On-Site Renewable Contribution (100% - PI / PI_t)	Points
3%		10%	1
6%		20%	2
9%		30%	3
12%		40%	4
15%		50%	5
18%		60%	6
21%		70%	7
24%		80%	8
27%		90%	9
30%		100%	10

Table 6. 90.1-2019-equivalent Building Performance Factors for a future source energy metric

	Climate Zone																		
Building Type	**0A**	**0B**	**1A**	**1B**	**2A**	**2B**	**3A**	**3B**	**3C**	**4A**	**4B**	**4C**	**5A**	**5B**	**5C**	**6A**	**6B**	**7**	**8**
Multifamily	0.74	0.69	0.73	0.70	0.73	0.70	0.71	0.70	0.63	0.70	0.71	0.69	0.68	0.70	0.70	0.68	0.68	0.68	0.74
Healthcare/hospital	0.72	0.72	0.73	0.73	0.74	0.71	0.72	0.74	0.71	0.72	0.73	0.71	0.74	0.73	0.80	0.73	0.77	0.78	0.79
Hotel/motel	0.72	0.71	0.72	0.71	0.71	0.70	0.71	0.73	0.72	0.71	0.73	0.73	0.71	0.73	0.74	0.70	0.72	0.70	0.70
Office	0.62	0.63	0.61	0.62	0.58	0.60	0.57	0.62	0.55	0.55	0.61	0.57	0.58	0.61	0.59	0.58	0.60	0.54	0.58
Restaurant	0.65	0.62	0.63	0.61	0.62	0.58	0.63	0.63	0.63	0.67	0.66	0.66	0.70	0.70	0.68	0.73	0.72	0.74	0.77
Retail	0.57	0.54	0.53	0.53	0.48	0.47	0.47	0.47	0.47	0.52	0.50	0.56	0.57	0.53	0.59	0.58	0.56	0.53	0.60
School	0.57	0.57	0.58	0.57	0.55	0.54	0.57	0.51	0.49	0.48	0.51	0.52	0.51	0.53	0.51	0.53	0.50	0.51	0.58
Warehouse	0.28	0.30	0.24	0.27	0.23	0.24	0.27	0.23	0.20	0.33	0.26	0.28	0.40	0.32	0.29	0.44	0.38	0.40	0.44
All others	0.65	0.62	0.64	0.62	0.57	0.54	0.57	0.56	0.58	0.59	0.57	0.60	0.60	0.59	0.65	0.62	0.62	0.61	0.64

Impact area alignment



EA Credit: Renewable Energy

1 – 5 points: 100% of site energy use from any combination of Tier 1, Tier 2, and Tier 3 renewable energy is required for LEED Platinum projects

Intent

To encourage and recognize the use of renewable energy to reduce environmental and economic impacts associated with fossil fuel energy use and increase the supply of new renewable energy within the electrical grid, fostering a just transition to a green economy.

Requirements

EAc: Renewable Energy Achievement Pathways	Points
New Construction	1-5
Renewable Energy Supply or Procurement	1-5

Supply or procure renewable energy meeting the Renewable Energy Criteria referenced below. Points are rewarded according to Table 1.

Points documented for Tier 1, Tier 2, and/or Tier 3 renewable energy may be added together up to a maximum of 5 points:

Table 1. Points for Renewable Energy Procurement

Points	Tier 1			Tier 2	Tier 3
	Minimum Rated Capacity[1]	**or**	**Percent of Annual Site Energy**	**Percent of Annual Site Energy**	**Percent of Annual Site Energy**
1	A * 1 W / ft^2 (A * 10.8 W/m^2)	or	5%	20%	50%
2	A * 2 W / ft^2 (A * 21.6 W/m^2)	or	10%	40%	100%
3			20%	60%	
4			35%	80%	
5			100% Tier 1 and/or Tier 2 renewable energy		

A = the sum of gross floor area of all floors up to the three largest floors.

Renewable Energy Criteria

Renewable Energy Classifications

- Tier 1. On-site renewable energy generation or equity project.
  - The renewable generation equipment may be located:
    - On the project site
    - On the campus on which a project is located
    - On the site of an equity project, provided that the renewable power system is provided, installed, and commissioned at no cost to the equity entity, that the ownership of the renewable power system is transferred to the equity entity, and that the rights to the power provided be given to the equity entity

- Tier 2. New off-site renewable electricity
  - Off-site renewable electricity produced by new generation asset(s):
    - Contracted to be operational within two years of building occupancy, OR
    - Contracted no more than five years after commercial operations date (COD).

- Tier 3. Off-site renewable energy
  - Off-site renewable electricity that is Green-e Energy certified or equivalent
  - Renewable fuels that are Green-e certified or equivalent

Renewable Energy Contract Length

- Contract length shall be ten years or prorated across ten years for shorter contract lengths.

Renewable Energy Environmental Attributes

- Ownership. All environmental attributes (Energy Attribute Certificates (EACs) or Renewable Energy Certificates (RECs)) associated with renewable energy generation must be retired on behalf of the LEED project for the renewable energy procurement to contribute to credit achievement.
- Project energy source. Renewable electricity generation and EAC / REC procurement can only be applied to project electricity use or district energy use up to 100% of annual electricity plus district energy use. Renewable fuels can only be applied to project fuel use or district heat up to 100% of annual fuel plus district heat use.
- Vintage. EACs credited to the project must be generated no earlier than 18 months before the LEED project's initial submission date.
- Location. Tier 2 and Tier 3 renewable assets must be in the same country or region where the LEED project is located.
- Tier 2 bulk purchase. Green-e Energy certification or equivalent is required for a one-time purchase or annual purchase of EACs or renewable power totaling more than 100% of the project's annual electricity use.

Impact area alignment

 Decarbonization  Quality of Life  Ecological Conservation and Restoration

EA Credit: Enhanced Commissioning
1 – 4 points

Intent

To further ensure that the building systems function as designed, and that they continue to maintain energy performance over time.

Requirements

EAc: Enhanced Commissioning Achievement Pathways	Points
New Construction	1-4
Option 1. Enhanced Commissioning	1-3
Path 1. Enhanced Commissioning for MEP Systems	2
AND/OR	
Path 2. Enhanced Commissioning for Building Enclosure	1
AND/OR	
Option 2. Monitoring-Based Commissioning (MBCx)	1-2
Path 1. Basic Software	1
OR	
Path 2. Enhanced Software	2

Option 1. Enhanced Commissioning (1 – 3 points)
Owner must designate an independent Commissioning Provider (CxP) during predesign or very early in the design phase.

Path 1. Enhanced Commissioning for MEP Systems (2 points)

- Comply with ANSI/ASHRAE/IES Standard 202-2024 Commissioning Process for mechanical, electrical, plumbing, control, data center, process, building monitoring, and renewable energy systems.
- Comply with the following additional requirements:
    - During the design phase, attend at least two coordination/design meetings to discuss review comments and commissioning.
    - During occupancy, review the training materials to confirm that they meet the training plan, and confirm that the training occurred.

AND/OR

Path 2. Enhanced Commissioning for Building Enclosure (1 point)

- Comply with all tasks and deliverables referenced with ASTM E2947-21a Standard Guide for Building Enclosure Commissioning, except Section 7.2.4 and 7.4.3.
- Comply with the following field testing requirements:
    - Building air leakage testing, as per ASTM E783, ASTM E779, or ASTM E1186.
    - Water penetration testing, as per ASTM E71105 or AAMA 501.2.
    - Infrared imaging, as per ASTM C1153 or ASTM C1060.
- During occupancy, review the training materials to confirm that they meet the training requirements provided in the Building Enclosure Commissioning (BECx) plan or specification, and confirm that the training occurred.

AND / OR

Option 2. Monitoring-Based Commissioning (MBCx) (1 – 2 points)

Path 1. Basic Software (1 point)

Process and Communications. Commit to implementing MBCx for a minimum of three years, through a contract with a MBCx provider or qualified MBCxP staff person MBCx shall commence no later than building occupancy and shall be fully coordinated between the commissioning provider, facilities management, and the monitoring-based commissioning provider (MBCxP).

Develop a monitoring-based commissioning plan summarizing the process including all of the following:

- Roles and responsibilities.
- Software technology description, including frequency and duration for trend monitoring.
- Review and reporting criteria, including:
  - Training of facilities staff.
  - Expeditious communication of major anomalies or faults identified to facilities staff.
  - At least quarterly, MBCxP summary of anomalies and faults detected and communication with facilities staff to discuss and prioritize issues.
  - At least annually, MBCxP summary reporting of trends, benchmarks, faults, energy savings opportunities, corrective actions taken, and planned actions.
  - At least two MBCxP reviews of building systems, equipment, and operational controls.

Energy Information System (EIS). Provide a remotely accessible platform with software functionality to perform smart analytics and visually present all metered data referenced in *EAp: Metering and Reporting*. Include the following functionality:

- Annual energy benchmarking of energy use intensities
- Comparison of energy consumption to the prior interval annually, monthly, and for electric interval meters – daily and hourly.
- For electric interval data, hourly "loadshape" with comparisons
- Visualization and reporting of hourly electric sub-metered data.

In addition, provide hourly monitoring and visualization of electric energy use for:

- Elevators, escalators, and/or moving walkways.
- Commercial kitchen equipment in spaces with more than 10 kW of rated capacity.
- Process equipment in spaces with more than 10 kW of rated capacity.

OR

Path 2. Enhanced Software (2 points)
Comply with Path 1 AND provide the following enhanced monitoring and software technology functionality:

- Fault Detection and Diagnostics (FDD) for projects with large HVAC or refrigeration capacity. For total project installed capacity of cooling, heating, or refrigeration systems exceeding 7,200 kBtu/h (600 tons or 2110 kW), provide a remotely accessible FDD system that addresses at least 60% weighted by capacity of:
  - Air handling equipment AND
  - Large hydronic or commercial refrigeration equipment (chillers, boilers, etc.)

  The FDD system must include the following functionality:
  - Perform smart analytics and visually present fault detection and diagnostics data.
  - Direct link from reported fault to view relevant trend data.
  - Fault sorting and filtering.
  - Exporting of fault reports (summary reports and detailed individual faults).
  - Data historian capable of storing critical trend data for at least three years.
- Energy Information System:
  - For major renovations and buildings less than 25,000 ft^2, comply with ASHRAE 90.1 Section 8.4.3 requirements for measurement devices in new buildings, without

exceptions. Include visualization of this data per Path 1 requirements above and provide automated reporting of energy use anomalies.

- For all other buildings, include the following additional functionality for the Energy Information System:
  - Automated reporting of energy use anomalies
  - Normalization of energy consumption
  - Greenhouse gas emissions reporting

Impact area alignment

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EA Credit: Grid-Interactive

1 – 2 points

Intent

To enhance power resiliency and position buildings as active partners contributing to grid decarbonization, reliability, and power affordability through integrated management of building loads in response to variable grid conditions.

Requirements

EAc: Grid-Interactive Achievement Pathways	Points
New Construction	1-2
Option 1. Energy Storage	1-2
AND/OR	
Option 2. Demand Response Program	1
AND/OR	
Option 3. Automated Demand Side Management	1
Path 1. System Level Controls	1
OR	
Path 2. Building Automation System	1
Option 4. Power Resiliency	1

All projects must evaluate grid-interactive measures concerning the current and forecasted grid context, location, building type, and ownership structure and account for the results in decision-making.

Interval recording meters and equipment capable of accepting an external signal must also be provided.

Option 1. Energy Storage (1 – 2 points)
Provide on-site electric storage and/or thermal storage meeting the criteria in Table 1 below.

Include automatic load management controls capable of storing the electric or thermal energy during off-peak periods or periods with low grid carbon intensity and using stored energy during on-peak periods or periods of high grid carbon intensity.

Table 1. Peak Storage Capacity Relative to Peak Demand

Storage	1 point	2 points
Electric Storage Capacity Relative to peak electric demand	0.2 kWh / kW	0.4 kWh / kW
Thermal Storage Capacity Relative to peak coincident thermal demand (heating + cooling + service water heating + process heat)	1.0 kWh / kW or Btu / Btu/h or ton-hrs / ton	2.0 kWh / kWor Btu / Btu/h or ton-hrs / ton

AND/OR

Option 2. Demand Response Program (1 point)
Enroll in a minimum one-year demand response (DR) contract with a qualified DR program provider, with the intention of multiyear renewal.

On-site electricity generation and fuel combustion cannot be used to meet the demand-side management criteria.

AND/OR

Option 3. Automated Demand Side Management (1 point)

On-site electricity generation and fuel combustion cannot be used to meet the demand-side management criteria.

Path 1. System-Level Controls (1 point)
Provide automated demand response (ADR) controls for at least two of the following systems installed within the project scope of work:

- HVAC systems (50% of rated capacity)
- Lighting systems (50% of power)
- Automatic receptacle controls
- Service water heating (90% of capacity)
- Electric vehicle supply equipment (EVSE)

OR

Path 2. Building Automation System (1 point)
Develop a plan for shedding at least 10% of the project's peak electricity demand for a minimum of one hour. The plan must address both winter and summer peaks considering electrified grid projections.

- Have in place a control system that automatically sheds electricity demand in response to triggers denoting strain on the grid or high grid emissions. For example:
  - Signal from a demand response (DR) program provider
  - Data obtained through an API indicating high grid emissions.
  - Peak demand tariff period when the grid is operating in the highest demand window.
  - Time-of-use rate when pricing is highest.

AND/OR

Option 4. Power Resiliency (1 point)
Identify critical equipment that requires continuous operation. Design the project to be able to island and operate independently from the grid to power the critical loads with the project's onsite renewable and energy storage systems for at least three days.

Impact area alignment

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EA Credit: Enhanced Refrigerant Management
1 – 2 points

Intent

To reduce greenhouse gas emissions by accelerating the use of refrigerants with low global warming potential (GWP) and promoting better refrigerant management practices.

Requirements

EAc: Enhanced Refrigerant Management Achievement Pathways	Points
New Construction	1-2
Option 1. No Refrigerants or Low GWP	1-2
Path 1. No Refrigerants	1
OR	
Path 2. Low GWP Refrigerants	1-2
AND/OR	
Option 2. Limit Refrigerant Leakage	1
Retail	1-2
NC Option 1 or 2	1
AND/OR	
Option 3. GreenChill Certification for Food Retailers	1-2

Option 1. No Refrigerants or Low GWP (1 – 2 points)

Path 1. No Refrigerants (1 point)
Do not use refrigerant-containing equipment in the project.

OR

Path 2. Low GWP Refrigerants (1 – 2 points)
The maximum total weighted average refrigerant GWP in all new refrigerant-containing equipment is less than or equal to 80% (1 point) or 50% (2 points) of the of the total weighted average GWP of refrigerants meeting the benchmarks in Table 1.

Table 1. Refrigerant GWP benchmarks

GWP benchmark[1]	Equipment and Systems
1400	Heat pump service hot water heaters
700	HVAC
	Data centers, computer room air conditioning, and information technology equipment cooling
	Process chiller equipment or ice rink refrigeration equipment
300	All other process refrigeration for retail, industrial, or cold storage

AND/OR

Option 2. Limit Refrigerant Leakage (1 point)
Design, construct, and operate the project refrigerant-using equipment to minimize refrigerant leakage.

- Design**.**
    - Refrigerant-using equipment shall be self-contained, with no field-installed piping:
        - For equipment with refrigerants > 700 GWP AND
        - For at least 80% of the total GWP of refrigerants used in the project

- Specify an “automatic leak detection” system in fully enclosed spaces with equipment that has an overall refrigerant charge exceeding 100 tCO2e.

- Installation.
  - Field-installed refrigerant piping shall use brazed or press type fittings.

- Operation. Have in place a refrigerant maintenance plan and designate a responsible oversight party The plan shall include standards for record-keeping and protocols for:
  - Updating the refrigerant inventory
  - Tracking and recording refrigerant charge and leakage rates for all refrigerant using equipment
  - Ensuring that installation, maintenance, and removal of refrigeration-containing equipment is performed by appropriately certified refrigeration personnel, including in tenant spaces
  - Annual audit and calibration of automatic leak detection systems
  - For equipment without automatic leak detection systems, check pressure loss and leaks at least as frequently as follows at the following minimum intervals for equipment containing refrigerant with total GWP as follows: every 24 months for 50 tCO2e or less; every 12 months for 50 to 500 tCO2e; every 3 months for more than 500 tCO2e
  - Maximum time frame for repairing leaks identified.
  - More frequent leakage testing and repair to be twice as frequent if the total annual refrigerant recharge/leakage exceeds 1%

Retail (1 – 2 points)

Meet NC Option 1 and/or Option 2 above, and/or Option 3 below, for a maximum of 2 points.

AND/OR

Option 3. GreenChill Certification for Food Retailers (1 – 2 points)
Available to projects where food retailing constitutes more than 20% of the project’s gross area.

Demonstrate achievement of EPA’s GreenChill Certification for projects in the U.S. For international projects, comply with the relevant GreenChill requirements for the certification level.

- GreenChill Silver Certification (1 point)
- GreenChill Gold or Platinum Certification (2 points)

District Energy. See additional guidance/requirements.

Impact area alignment

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MATERIALS AND RESOURCES (MR)

MR Prerequisite: Planning for Zero Waste Operations
Required

Intent

To reduce the amount of waste that is generated by building occupants and hauled to and disposed of in landfills and incinerators through reduction, reuse, and recycling service and education, and to conserve natural resources for future generations. To set the building up for success in pursuing zero waste operations.

Requirements

MRp: Planning for Zero Waste Operations Achievement Pathways	Points
New Construction	N/A
Storage and Collection of Recyclables	
AND	
Zero Waste Operations Planning	

Comply with the following requirements:

Storage and Collection of Recyclables:
Provide dedicated areas accessible to waste haulers, janitorial staff, and building occupants for the collection and storage of recyclable materials for the entire building.

- Collection and storage areas may be separate locations.
- Recyclable materials must include organics/food waste, mixed paper, corrugated cardboard, glass, plastics, and metals.
    - Mixed recyclables are acceptable for paper, corrugated cardboard, glass, plastics, and metals if required by local conditions.
    - Space for the storage of organics/food waste recycling is required even if service is not available at the time of building occupancy.
- Take appropriate measures for the safe collection, storage, and disposal of batteries, mercury-containing lamps, and electronic waste.

Zero Waste Operations Planning
Include design details, maintenance manuals, and/or other resources from the design and construction team that help facilitate building occupants and operators to meet high performance waste prevention and recycling goals once in operation.

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

MR Prerequisite: Assess and Quantify Embodied Carbon
Required

Intent

To assess and quantify the embodied carbon impacts of the structure, enclosure, and hardscape of a project and identify the largest opportunities for reductions on the project.

Requirements

MRp: Assess and Quantify Embodied Carbon Achievement Pathways	Points
New Construction	N/A
Embodied Carbon	
AND	
High-Priority Embodied Carbon Sources	

Comply with the following requirements:

Embodied Carbon

- Quantify the embodied carbon impacts (Global Warming Potential or GWP) of the structure, enclosure, and hardscape materials for the project. At a minimum include: asphalt, concrete, masonry, structural steel, insulation, aluminum extrusions, structural wood and composites, cladding, and glass.
- Quantify the cradle-to-gate (A1 through A3) embodied carbon emissions for each material, defined as the product's GWP/unit times the amount of material used.
    - Alternatively, projects using life-cycle assessment or embodied carbon software tools may report A1-A3 results from their tool.
- The results of this embodied carbon quantification become the baseline value used to demonstrate reductions and earn points in *MRc: Reduce Embodied Carbon*.

AND

High-Priority Embodied Carbon Sources

Identify the top three sources of embodied carbon on the project and describe how project-specific strategies were considered to reduce the impacts of these hotspots.

Impact area alignment

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MR Credit: Building and Materials Reuse
1 – 3 points

Intent

To incorporate reused materials into new building design, thereby reducing embodied carbon, keeping materials in circularity, reducing demand for virgin material sourcing, preserving resources and histories, and increasing demand for reused materials.

Requirements

MRc: Building and Materials Reuse Achievement Pathways	Points
New Construction	1-3
Option 1. Building Reuse	1-3
AND/OR	
Option 2. Materials Reuse	1-2

Option 1. Building Reuse (1 – 3 points)
Maintain the existing building structure, including floor decking, roof decking, and enclosure. Calculate reuse of the existing project area according to Table 1.

Portions of buildings deemed structurally unsound or hazardous are excluded from the credit calculations.

Table 1. Points for Reuse of Existing Building Structure and enclosure Elements

Percentage of Existing Structure and Enclosure Reuse by Project Area	Points
20%	1
35%	2
50%	3

AND/OR

Option 2. Materials Reuse (1 – 2 points)

- Survey and identify opportunities for materials reuse and/or procurement of reused materials from off-site.
- Reuse materials by keeping them in place or acquiring them from applicable salvage sources or reuse markets and incorporating the materials into the new project design. Specific targeted materials are valued higher because they have high impacts (embodied carbon or pollution), are hard to recycle, and significant amounts of these materials end up in landfill.
- For projects with deconstruction or demolition in scope, conduct a salvage assessment prior to deconstruction or demolition activities and identify materials that can be retained onsite or diverted off-site to reuse markets.
    - Salvaged materials sent for off-site reuse contribute to *MRc: Construction and Demolition Waste Diversion*. Materials retained on-site contribute to this credit option.

Calculate the percent reused per material type according to Equation 1.

Points are achieved according to Table 2.

Equation 1. Reuse % per Material Type
Reuse % per Material Type = Amount of Material Type Reused / Total Amount of Material Type in New Construction Scope

Table 2. Points for incorporating reused materials

Reuse Materials Threshold	Points
Reuse at least 15% of 1 targeted material type OR	1 point

Reuse at least 15% of 2 other material types OR Reuse an equivalent weighted average of targeted and other material types	
Reuse at least 30% of 1 targeted material type OR Reuse at least 15% of 2 targeted material types OR Reuse at least 15% of 4 other material types OR Reuse an equivalent weighted average of targeted and other material types	2 points

Table 3. Reuse Material Types and Correlating Units*

Material Type	Unit
Targeted Materials	
Carpeting	Surface Area
Ceilings	Surface Area
Furniture (ancillary and systems)	Pieces, weight, volume, or floor area
Interior walls	Linear or Surface Area
Other Materials	
Dimensional lumber	Board Foot or Linear
Doors	Count
Casework	Linear
Floor Covering Materials (not including carpet)	Surface Area
Lighting fixtures	Count
Plumbing fixtures	Count
Mechanical equipment	Count
Door hardware	Count
Project defined other	Project defined

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

MR Credit: Reduce Embodied Carbon

1 – 6 points: A 20% reduction in embodied carbon is required for LEED Platinum projects.

Intent

To track and reduce embodied carbon of major structural, enclosure, and hardscape materials from construction processes on new construction and renovation projects.

Requirements

MRc: Reduce Embodied Carbon Achievement Pathways	Points
New Construction	1-6
Option 1. Whole Building Life-Cycle Assessment	1-6
AND/OR	
Option 2. Environmental Product Declaration (EPD) Analysis: Project-Average Approach	1-3
AND/OR	
Option 3. Environmental Product Declaration (EPD) Analysis by Materials	1-2
AND/OR	
Option 4: Track Carbon Emissions from Construction Activities	1-2

Quantify the reduction of embodied carbon of major structure, enclosure, and hardscape materials. All ancillary structures, such as parking structures or outbuildings within the LEED project boundary, must be included in the calculations.

Both baseline projects and final results may use as-designed or as-constructed final quantities provided that quantities did not change more than 10% from design through construction. Results must be based on embodied carbon intensities of materials as-constructed.

Points are awarded according to Table 1 below for reductions in embodied carbon. Projects may earn up to 6 points total.

Table 1. Points for embodied carbon reductions in Options 1-3

	Option 1. Whole Building Life-Cycle Assessment	Option 2. EPD Analysis: Project-Average Approach	Option 3. EPD Analysis by Material Category
Meet Baseline or Industry Average	2	1	3 material categories for 1 point or 5+ material categories for 2 points
10% Reduction in GWP	3	-	-
20% Reduction in GWP	4	2	-
30% Reduction in GWP	5	-	-
40%+ Reduction in GWP	6	3	-

Option 1. Whole Building Life-Cycle Assessment (1 – 6 points)

Conduct a cradle-to-grave (modules A-C, excluding operating energy and operating water-related energy) whole building life-cycle assessment (WBLCA) of the project's structure, enclosure, and hardscape materials. Compare results to the baseline developed for the *MRp: Assess & Quantify Embodied Carbon* and earn points according to Table 1. The baseline and proposed projects must be of comparable size, function, orientation, and operating energy performance.

Include results for the following impact categories in the WBLCA report:

- Global warming potential (GWP) (greenhouse gasses), in kg CO2e.

- Depletion of the stratospheric ozone layer, in kg CFC-11e.
- Acidification of land and water sources, in moles H+ or kg SO2e.
- Eutrophication, in kg nitrogen eq or kg phosphate eq.
- Formation of tropospheric ozone, in kg NOx, kg O3 eq, or kg ethene.
- Depletion of nonrenewable energy resources, in MJ using CML / depletion of fossil fuels in TRACI.

AND/OR

Option 2. Environmental Product Declaration (EPD) Analysis: Project-Average Approach (1 – 3 points)
Earn points for reducing embodied carbon by comparing the project's total embodied carbon to the baseline developed in the *MRp: Assess and Quantify Embodied Carbon*. Points are awarded according to Table 1. Industry averages for material categories are defined by the U.S. EPA, the most recent Carbon Leadership Forum (CLF) Material Baselines report, or similarly robust and widely recognized publications, and industry-wide EPDs applicable to the project region.

Projects must track the GWP/unit of the materials installed, reconciling the design-phase embodied carbon intensities if materials or GWP values have changed. The reconciliation of material quantities is not necessary unless quantities have changed more than 10% from design through construction. Projects must use project-specific material quantities and identify product-specific or facility-specific Type III EPDs for covered materials to demonstrate reductions. Biogenic carbon may only be included for calculations that include C-stage emissions.

AND/OR

Option 3. Environmental Product Declaration (EPD) Analysis by Materials (1 – 2 points)
Earn points according to Table 1 by demonstrating that structural, enclosure, and hardscape materials for targeted materials that have lower-embodied carbon impacts than industry benchmarks as demonstrated by product-specific Type III EPDs. Track the GWP per unit of the materials installed, reconciling the design-phase embodied carbon intensities if materials or GWP values have changed. The reconciliation of material quantities is not necessary unless quantities have changed more than 10% from design through construction.

A weighted-average approach can be used to calculate average embodied carbon intensity values within a product category.

Industry averages for embodied carbon intensity values are defined by the U.S. EPA, the most recent CLF Material Baselines report, or similarly robust and widely recognized publications and industry-wide EPDs applicable to the project region.

AND/OR

Option 4. Track Carbon Emissions from Construction Activities (1 – 2 points)
Earn points for tracking carbon emissions during construction activities according to Table 2.

Table 2. Points for Tracking Emissions During Construction Activities

Pathway	Type of Construction-Phase Emissions to Track	LCA Modules	Points
Path 1	Track all fuel and utility usage for contractor jobsite operations	A5	1
Path 2	Track all fuel and utility usage for contractor and subcontractor jobsite operations	A5	2

Impact area alignment

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MR Credit: Low-Emitting Materials
1 – 2 points

Intent

To reduce concentrations of chemical contaminants that can damage air quality and the environment. To protect human health and comfort of installers and building occupants.

Requirements

MRc: Low-Emitting Materials Achievement Pathways	Points
New Construction	1-2
Low-Emitting Material Criteria	1-2

Specify and install permanently installed products, paints, coatings, adhesives, sealants, flooring, walls, ceilings, insulation, furniture, and/or composite wood products that meet the low-emitting criteria. Points are awarded according to Table 1 below.

Table 1. Thresholds for Low-Emitting Materials

Pathway	Product Categories	Threshold	Points
Path 1	Achieve all three categories: ▪ Paints and Coatings ▪ Flooring ▪ Ceilings	>90% of all products in each product category	1
Path 2	Achieve Path 1 plus any two of these additional categories: • Adhesives and Sealants • Walls • Insulation • Composite Wood	>80% of each additional product category	2
Path 3	Achieve Path 1 plus the Furniture category	>80% of the Furniture product category	2

Product categories:
The following products and materials are not applicable to the Low-Emitting Materials product categories: structural elements, equipment related to fire suppression, HVAC (including ductwork), plumbing, electrical, conveying and communications systems, poured concrete, structural framing, structural insulated panels (SIPs), and water-resistive barriers (material installed on a substrate to prevent bulk water intrusion).

Paints and Coatings
- Paints and coatings, by volume, cost, or surface area, must meet the VOC emissions evaluation criteria.
- The paints and coatings product category includes all interior paints and coatings wet-applied on-site.
- Exclude foamed-in place and sprayed insulation (include in Insulation category).

Adhesives and Sealants
- Adhesives and sealants, by volume or cost, must meet the VOC emissions evaluation criteria.
- The adhesives and sealants product category includes all interior adhesives and sealants wet-applied on-site, including those used to install air or vapor barrier membranes and floor setting materials.

Flooring

- Non-structural flooring materials, by surface area or cost, must meet the VOC emissions evaluation criteria.
- The flooring product category includes all types of hard and soft surface flooring finishes (e.g. carpet, ceramic tile, vinyl, rubber, engineered wood, solid wood, stone, laminate), raised flooring systems, entryway ("walk-off") systems, area rugs, wood subflooring, underlayments, sandwich panels, and air barrier membranes and vapor barrier/vapor retarder membranes (if used inside an air barrier membrane).
- Exclude poured concrete, composite wood subflooring (include in the composite wood category, if applicable), and wet-applied products applied on the floor.

Walls

- Non-structural wall materials, by surface area or cost, must meet the VOC emissions evaluation criteria.
- The walls product category includes all finish wall treatments (wall coverings, wall tile), finish carpentry (millwork, paneling, railings, trim/mouldings), gypsum wallboard, wall base/skirting, interior and exterior doors, non-structural wall framing, and non-structural sandwich panels.
- Exclude wet-applied products applied on the wall, case goods, cabinetry (include in the furniture category), countertops (include in the furniture category), bathroom accessories, door hardware, and curtain wall and storefront systems.

Ceilings

- Non-structural ceilings materials, by surface area or cost, must meet the VOC emissions evaluation criteria.
- The ceilings product category includes all types of ceiling finishes (ceiling panels, ceiling tile), suspension grids, surface ceiling structures (such as gypsum wallboard or plaster), suspended systems (including canopies and clouds), and non-structural sandwich panels.
- Exclude wet-applied products applied on the ceiling and corrugated metal decking.

Insulation

- Insulation products, by surface area or cost, must meet the VOC emissions evaluation criteria.
- The insulation product category includes all thermal and acoustic boards, batts (faced and unfaced), rolls, blankets, sound attenuation fire blankets, foamed-in place, loose-fill, blown, and sprayed insulation.
- Exclude insulation installed outside an air barrier membrane.

Furniture

- Furniture in the project scope of work, by cost, area, or number of units, must meet the furniture emissions evaluation criteria or VOC emissions evaluation criteria.
- The furniture product category includes all permanently-installed office furniture, cubicles/systems furniture, seating, desks, tables, filing/storage, specialty items, beds, case goods, casework, countertops, moveable/demountable partitions, bathroom/toilet partitions, shelving, lockers, retail fixtures (including slatwall), window treatments, and furnishing items (such as non-fixed area rugs, cubicle curtains, and mattresses,) purchased for the project.
- A custom item in the furniture category is considered to meet the low-emitting criteria if all components of the finished piece, applied on- or off-site, are declared under the furniture category and meet the VOC emissions evaluation criteria. Alternatively, a custom piece meets the criteria if the finished piece, as a whole, meets the furniture emissions evaluation or VOC emissions evaluation criteria.
- Exclude office and bathroom accessories, art, recreational items (such as game tables), cabinet and drawer hardware, and planters from the credit.

Composite Wood

- Composite wood products, by surface area or cost, must meet the formaldehyde emissions evaluation criteria.
- The composite wood product category includes all particleboard, medium density fiberboard (both medium density and thin), hardwood plywood with veneer, composite or combination core, and wood structural panels or structural wood products.

Low-Emitting Criteria

1. VOC emissions evaluation criteria
   - *Third-party Certification:* Product has a qualifying third-party certification, valid at the time of product purchase, that demonstrates testing and compliance according to the California Department of Public Health (CDPH) Standard Method v1.2–2017 using the private office scenario. Products used in classrooms may be modeled using the schools or private office scenario.

   OR
   - *Qualified Independent Laboratory Report*: Product has a qualifying laboratory report (or summary) demonstrating the product has been tested no more than three years prior to the product's purchase, according to the California Department of Public Health (CDPH) Standard Method v1.2–2017. Products may use the private office scenario and must meets the VOC limits in Table 4-1 of the private office scenario. Products used in classrooms may be modeled using the schools or private office scenario.

   OR
   - Product is inherently *non-emitting*, *salvaged*, or *reused*.

2. Furniture Emissions Evaluation
   Product has a qualifying third-party certification, valid at the time of product purchase, that demonstrates testing according to ANSI/BIFMA Standard Method M7.1–2011 (R2021) and complies with specific sections of ANSI/BIFMA e3-2014 or e3-2024 Furniture Sustainability Standard. Statements of product compliance must include the exposure scenario(s).
   Seating products must be evaluated using the seating scenario. Classroom furniture must be evaluated using the standard school classroom scenario. Other products should be evaluated using the open plan or private office scenario, as appropriate. The open plan scenario is more stringent.

   OR
   - Product is inherently *non-emitting*, *salvaged*, or *reused*.

Salvaged and reused materials: Product is more than one year old at the time of use.

If another product (including but not limited to adhesives, sealants, paints, and coatings) is applied to the inherently nonemitting material and has a separate manufacturer and cost, to the end-user, from the original material, the applied product may be documented as a separate product and meet the low-emitting criteria applicable to the applied product, even if applied off-site.

If another product is applied to the INSR material and does not have a separate manufacturer and cost, to the end-user, the result is considered a new finished product that no longer qualifies as an inherently nonemitting material and is subject to the VOC emissions evaluation criteria.

3. Formaldehyde Emissions Evaluation
   - Product has a qualifying third-party certification from a CARB-approved/EPA-recognized third-party certifier (TPC), valid at the time of product purchase, that demonstrates the product is one of the following:
     - Certified as ultra-low-emitting formaldehyde (ULEF) product under EPA Toxic Substances Control Act, Formaldehyde Emission Standards for Composite Wood Products (TSCA, Title

VI) (EPA TSCA Title VI) or California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM).

- Certified as no added formaldehyde resins (NAF) product under EPA TSCA Title VI or CARB ATCM.
- Wood structural panel manufactured according to PS 1-09 or PS 2-10 (or one of the standards considered by CARB to be equivalent to PS 1 or PS 2) and labeled bond classification Exposure 1 or Exterior
- Structural wood product manufactured according to ASTM D 5456 (for structural composite lumber), ANSI A190.1 (for glued laminated timber), ASTM D 5055 (for I-joists), ANSI PRG 320 (for cross-laminated timber), or PS 20-15 (for finger-jointed lumber).

OR

- Product is inherently *non-emitting*, *salvaged*, or *reused*.

Impact area alignment

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MR Credit: Building Product Disclosure and Optimization
1 – 5 points

Intent

To encourage the use of products and materials that have sustainability information available and that have environmentally, economically, and socially preferable impacts in alignment with industry momentum. To reward project teams for selecting products from manufacturers who have disclosed sustainability information about their products and optimized their products across multiple criteria areas.

Requirements

MRc: Building Product Disclosure and Optimization Achievement Pathways	Points
New Construction	1-5
Option 1. Number of Manufacturers	1-3
AND/OR	
Option 2. Product Categories	1-5

Select nonstructural building products that demonstrate achievement in one or more of five criteria areas:

- Climate health
- Human health
- Ecosystem health
- Social health and equity
- Circular economy

Products that achieve two or more criteria areas are considered multi-attribute. Products that achieve higher levels of achievement and/or across additional criteria areas will be given a higher value in credit calculations.

Achievement is demonstrated through eligible compliant manufacturer product documentation, which include third-party product certifications, ecolabels, declarations, and standards. A single product document can demonstrate multiple benefits and/or achievement levels, or the product can earn multi-attribute criteria through a combination of separate eligible product documents.

There are three achievement levels for products:

Level 1 — A product in this level achieves a first step towards sustainability for a criteria area. Widespread achievement of these practices drive market transformation towards sustainability outcomes within the criteria area. Products scored at this level earn a 1x multiplier.

Level 2 — This level represents a leadership position in the marketplace for a given sustainability attribute. Products at this level are optimized and demonstrate a level of sustainability that peers aspire to achieve. Products scored at this level earn a 2x multiplier.

Level 3 — Products that earn this level are elite and represent the forefront of sustainability. Products scored at this level earn a 3x multiplier.

There are two ways to earn points in this credit.

- Option 1 provides a pathway to select products with multi-attributes from a diverse range of unique manufacturers.
- Option 2 provides a calculation method to determine how much of one or more specific product categories have achieved multi-attribute criteria.

Option 1. Number of Manufacturers (1 – 3 points)
Select and install materials that demonstrate multi-attribute criteria from different manufacturers. To be eligible, a product must meet the following conditions: .

- For this option, a product must earn any level of achievement in at least three criteria areas (climate health, human health, etc.).
    - Achieving the three criteria areas may come from more than one document for the product. For example, a product could have an HPD, an EPD, and some recycled content to achieve the multi-attribute criteria.
- Products can come from any product category as listed in Option 2 below.

Points for Option 1 are awarded according to Table 1.

Table 1. Points for number of manufacturers that demonstrate achievement in at least three criteria areas

Number of Different Manufacturers	Points
>15 manufacturers	1
>30 manufacturers	2
>45 manufacturers	3

AND/OR

Option 2. Product Categories (1 – 5 points)
This option rewards the selection of eligible interior and enclosure materials from the following product categories

- Paints and coatings
- Adhesives and sealants
- Flooring
- Walls
- Ceilings
- Insulation
- Furniture
- Composite Wood
- Plumbing fixtures

Eligible products meet the achievement levels and are scored as 1, 2, 3. These scores are added across criteria areas to add up to a maximum score of 5 per product. This cumulative score is called the product "multi-attribute score."

Each individual product's value (cost, area, volume, or unit) is adjusted based on its multi-attribute score:

Product value x multi-attribute score = adjusted product value for LEED

To determine total compliant product value per category follow equation 1.

Equation 1. Calculate the multi-attribute adjusted value of a product category.

$$\text{Product category adjusted value for LEED} = 100 \times \frac{\left(\begin{matrix}\textit{Product A}\\ \text{multiattribute score} * \\ \textit{Product A}\ \text{value}\end{matrix}\right) + \left(\begin{matrix}\textit{Product B}\\ \text{multiattribute score} * \\ \textit{Product B}\ \text{value}\end{matrix}\right) + \left(\begin{matrix}\textit{Product C}\\ \text{multiattribute score} * \\ \textit{Product C}\ \text{value}\end{matrix}\right) + \left(\begin{matrix}\textit{Product D}\\ \text{multiattribute score} * \\ \textit{Product D}\ \text{value}\end{matrix}\right) + \ldots}{\text{Total value of all products in the product category}}$$

Any product category adjusted value for LEED that exceeds 100% earns one point. Points are awarded for achievement of whole product categories, up to a maximum of 5 points according to Table 3.

Table 2. Points for multi-attribute achievement of product categories

Number of product categories	Points
1 Product Category	1
2 Product Categories	2
3 Product Categories	3
4 Product Categories	4
5 Product Categories	5

Informative note:
Please see the Resources section of the credit library for additional details on this credit.

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

MR Credit: Construction and Demolition Waste Diversion
1 – 2 points

Intent

To reduce construction and demolition waste disposed of in landfills and incineration facilities and pollution to the environment. To reduce the environmental impacts and embodied carbon of manufacturing new materials and products. To delay the need for new landfill facilities that are often located in frontline communities. To create green jobs and materials markets for building construction services.

Requirements

MRc: Construction and Demolition Waste Diversion Achievement Pathways	Points
New Construction	1-2
Construction and Demolition Materials Management Plan	
AND	
Diversion	1-2

Comply with the following requirements:

Construction and Demolition Materials Management Plan
Develop and implement a construction and demolition (C&D) Materials Management Plan and achieve points through diversion and recycling.

AND

Diversion (1 – 2 points)
Follow the Materials Management Plan and provide a final waste management report detailing all waste generated, including disposal and diversion rates for the project. Calculations can be by weight or volume but must be consistent throughout. Points are awarded according to Table 1.

Divert construction and demolition waste materials by employing strategies including off-site salvage, source-separation for single-material recycling, mixed C&D recycling, and industry/manufacturer take-back programs.

- Source-separated materials are considered 100% diverted for credit calculation purposes. These include:
    - Recovered materials sent to a single-material recycler.
    - Recovered materials sent for off-site salvage/reuse.
    - Materials sent to a qualifying manufacturer or industry take-back program.
    - Salvaged materials are valued at twice the diversion rate (200%) of other diverted materials for credit calculation purposes. Salvaged materials include recovered materials sent off-site for reuse. Note: materials reused onsite contribute to *MRc: Building & Materials Reuse.*
- Mixed C&D materials sent to a processing facility for recovery must take the facility average recycling rate. Recycling rates not verified by a third party must assume a maximum of 35% diversion rate.
- Materials destined for alternative daily cover (ADC), biofuel, or incineration/energy recovery are considered waste (0% diverted).
- Exclude hazardous waste from calculations. Exclude on-site reuse from credit calculations (include in Building & Materials Reuse credit).
- Exclude excavated soil and land-clearing debris from calculations.

Table 1. Points for C&D Diversion. Meet any criteria up to a total of 2 points.

Thresholds	Points
Divert at least 50% of the total construction and demolition material At least 10% of diverted materials must be salvaged or source-separated and sent to single-materials recycler(s)	1
Divert at least 75% of the total construction and demolition material At least 25% of the total diverted materials must be salvaged or source-separated and sent to single-material recycler(s).	2

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

INDOOR ENVIRONMENTAL QUALITY (EQ)

EQ Prerequisite: Construction Management Plan
Required

Intent

To promote the well-being of construction workers and building occupants by minimizing environmental quality problems associated with construction and renovation.

Requirements

EQp: Construction Management Plan Achievement Pathways	Points
New Construction	N/A
Construction Management Plan	

Develop and implement a construction management plan for the construction and preoccupancy phases of the building. The plan must address all of the following:

- **No smoking**. Prohibit smoking during construction except in designated smoking areas located at least 25 feet (7.5 meters) from the building to minimize construction-worker exposure to smoke. Install signage that prohibits smoking during construction.
- **Extreme heat protection.** Implement measures that protect construction workers from extreme heat.
- **HVAC protection.** Keep contaminants out of the HVAC system. Do not run permanently installed equipment if possible or maintain proper filtration if it is used. Replace all air filtration media after completion of construction and before occupancy. Confirm that testing and balance work is completed with new filtration.
- **Source control.** Keep sources of contaminants out of the building and have a plan to eliminate any that are introduced.
    - Store carpets, acoustical ceiling panels, fabric wall coverings, insulation, upholstery and furnishings and other absorptive materials in a designated area protected from moisture damage.
- **Pathway interruption.** Prevent circulation of contaminated air and when cutting concrete or wood, sanding drywall, installing VOC-emitting materials, or performing other activities that affect IAQ in other workspaces.
    - Isolate areas of work to prevent contamination of other spaces, whether they are finished or not. Seal doorways, windows, or tent off areas as needed using temporary barriers.
    - Use walk-off mats at entryways to reduce introduced dirt and pollutants.
    - Use dust guards and collectors on saws and other tools.
- **Housekeeping.** Maintaining a clean job site. Use vacuum cleaners with high-efficiency particulate filters and use sweeping compounds or wetting agents for dust control when sweeping.
- **Scheduling.** Sequence construction activities to reduce air quality problems in new construction projects. For major renovations, coordinate construction activities to minimize or eliminate disruption of operations in occupied areas.

Impact area alignment

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EQ Prerequisite: Fundamental Air Quality
Required

Intent

To design for above average indoor air quality to support occupant health and well-being.

Requirements

EQp: Fundamental Air Quality Achievement Pathways	Points
New Construction	N/A
Investigate Regional and Local Air Quality	
AND	
Ventilation and Filtration Design	
AND	
Entryway Design Systems	

Investigate Regional and Local Air Quality
Investigate outdoor air quality in accordance with ASHRAE Standard 62.1-2022, Sections 4.1 -4.3.

AND

Ventilation and Filtration Design
Meet the requirements of ASHRAE Standard 62.1-2022, Sections 5 and 6. Use the Ventilation Rate Procedure, the IAQ Procedure, the Natural Ventilation Procedure, or a combination thereof. Comply with the following additional provisions:

- **Filtration.** Each central HVAC system that supplies outdoor air and/or recirculated air to regularly-occupied spaces must meet one of the following:
    - *Minimum efficiency reporting value (MERV) of 13, in accordance with ASHRAE Standard 52.2–2017; or*
    - *Equivalent filtration media class of ePM1 50%, as defined by ISO 16890-2016, Particulate Air Filters for General Ventilation, Determination of the Filtration Performance.*
    - *Stand-alone in-room air cleaning systems*
    - Use systems tested for effectiveness and safety per ASHRAE Standard 241-2023 section 7.4 (and Normative Appendix A). If treating for particles and gases, use systems tested for effectiveness per ASHRAE 62.1-2022 Addendum N. If treating for infectious aerosols use systems tested for effectiveness per ASHRAE Standard 241-2023 section 7.
- **Outdoor Air Measurement.** Provide outdoor airflow measurement devices for all mechanical ventilation systems with outdoor air intake flow greater than 1000 cfm (472 L/s).

Healthcare
For healthcare spaces, meet the requirements of Sections 6-10 of ASHRAE Standard 170-2021.

Residential
For residential spaces, follow the additional Dwelling Unit Provisions below.

Dwelling Unit Provisions
If the project building contains residential units, each dwelling unit must meet all of the following requirements:

- Design and install a dwelling-unit mechanical ventilation system that complies with ASHRAE 62.2-2022, Sections 4, 6.6, and 6.7. Supply and balanced mechanical ventilation systems must be designed and constructed to provide ventilation air directly from the outdoors. Mechanical ventilation systems are not required when the project meets the exception detailed in ASHRAE 62.2-2022, Section 4.1.1.

- Design and install local mechanical exhaust systems in each kitchen and bathroom, including half-baths, that comply with ASHRAE 62.2-2022, Sections 5 and 7. Exhaust air to the outdoors. Do not route exhaust ducts to terminate in attics or interstitial spaces. Recirculating range hoods or recirculating over-the-range microwaves do not satisfy the kitchen exhaust requirements. For exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (188 liters per second), provide makeup air at a rate approximately equal to the exhaust air rate. Makeup air systems must have a means of closure and be automatically controlled to start and operate simultaneously with the exhaust system. Use ENERGY STAR–labeled bathroom exhaust fans in all bathrooms (including half-baths) or performance equivalent for projects outside the U.S. A heat recovery ventilator (HRV) or energy recovery ventilator (ERV) may be used to exhaust single or multiple bathrooms if it has an efficacy level meeting the ENERGY STAR Technical Specifications for Residential Heat-Recovery Ventilators and Energy-Recovery Ventilators (H/ERVs) Version 2.3 as certified by the Home Ventilating Institute (HVI).
- Unvented combustion appliances (ovens and ranges excluded) are not allowed.
- Carbon monoxide (CO) monitor must be installed on each floor of each dwelling unit, hard-wired with a battery backup. CO monitors are required in all types of units, regardless of the type of equipment installed in the unit.
- Any indoor fireplaces and woodstoves must have solid glass enclosures or doors that seal when closed. Any indoor fireplaces and woodstoves that are not closed combustion or power-vented must pass a backdraft potential test to ensure that depressurization of the combustion appliance zone is less than 5 Pa.
- Space- and water-heating equipment that involves combustion must be designed and installed with closed combustion (i.e., sealed supply air and exhaust ducting) or with power-vented exhaust or located in a detached utility building or open-air facility.

AND

Entryway System Design
Install permanent entryway systems to capture dirt and particulates entering the building at primary exterior entrances. There is no length requirement for entryway systems.

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EQ Prerequisite: No Smoking or Vehicle Idling
Required

Intent

To minimize exposure to tobacco smoke and vehicle emissions.

Requirements

EQp: No Smoking or Vehicle Idling Achievement Pathways	Points
New Construction	N/A
Prohibit Smoking	
AND	
Prohibit Vehicle Idling	

Comply with the following requirements:

Prohibit Smoking

- *Indoor Smoking.* Prohibit smoking inside the building with limited exceptions (see below).
- *Outdoor Smoking.* Prohibit smoking outside the building except in designated smoking areas located at least 25 feet (7.5 meters) (or the maximum extent allowable by local codes) from all entries, outdoor air intakes, and operable windows.
- School projects must prohibit all smoking on site.

AND

Prohibit Vehicle Idling

- Prohibit vehicle idling on-site.

Communicate the no-smoking and vehicle idling prohibition policy to occupants. Have in place provisions for enforcement or prohibitive signage.

Residential

Meet the requirements above for all areas inside and outside the building except dwelling units and private balconies

For residential projects that do not prohibit smoking, each dwelling unit where smoking will be permitted must meet the following compartmentalization requirements:

- Perform a blower door test of residential dwelling units, following the procedures in ANSI/RESNET/ICC 380 or equivalent. For each unit tested, demonstrate a maximum leakage of enclosure area that is no more than 1.5 times the thresholds identified in Table 1 (enclosure area refers to all surfaces enclosing the dwelling unit, including exterior and party walls, floors, and ceilings). Demonstrate a weighted average leakage of enclosure area for the building including dwelling units that complies with the caps in the limits identified in Table 1.

Table 1. Caps on air leakage rates

Building Conditioned Floor Area (CFA)	Pressure Test Conditions Across the Building Envelope	Maximum Air Leakage	
		New Construction	Major Renovation
≥ 5,000 ft^2 (465 m^2)	At pressure difference of 50 Pascal (0.2 in H2O)	0.13 cfm/ft^2 (0.65 L/s*m^2)	0.20 cfm/ft2 (1.0 L/s*m^2)

	At pressure difference of 75 Pascal (0.3 in H2O)	0.18 cfm/ft^2 (0.90 L/s*m^2)	0.27 cfm/ft2 (1.35 L/s*m^2)
< 5,000 ft^2 (465 m^2)	At 50 Pascal (0.2 in in H20)	1 ACH	1.5 ACH
	At 75 Pascal (0.3 in H_2O)	1.35 ACH	2 ACH

Impact area alignment

Decarbonization Quality of Life Ecological Conservation and Restoration

EQ Credit: Enhanced Air Quality
1 point

Intent

To design for increased indoor air quality to better protect the health of building occupants.

Requirements

EQc: Enhanced Air Quality Achievement Pathways	Points
New Construction	1
Option 1. Increased Ventilation	1
OR	
Option 2. Enhanced Indoor Air Quality Design	1

Design the building to exceed the requirements of ASHRAE 62.1-2022, Section 6. If using the ventilation rate procedure to comply with *EQp: Fundamental Air Quality*, use Option 1 or Option 2; if using the Indoor Air Quality Procedure, use Option 2.

Option 1. Increased Ventilation (1 point)
Increase *breathing zone* outdoor air ventilation rates by at least 15% above the minimum rates (for 1 point, or 30% for exemplary performance) as determined in *EQp: Fundamental Air Quality*.

Increased outdoor air rates should be provided to 95% of all regularly occupied spaces.

OR

Option 2. Enhanced Indoor Air Quality Design (1 point)
In addition to the design compounds and design limits outlined in ASHRAE 62.1-2022, Tables 6-5 and 6-6, design for enhanced indoor air quality using the lower design limits listed below in Table 1.

Table 1. Additional Design Limits for Enhanced Indoor Air Quality design

Design Compound or PM2.5	Enhanced IAQP Design Limit*
PM2.5	10 ug/m3
Formaldehyde	20 µg/m³
Ozone	10 ppb

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EQ Credit: Occupant Experience

1 – 7 points

Intent

To move beyond neutral spaces toward customization, joy, and belonging, catalyzing emotional connections between people and the building to increase the likelihood of consistent satisfaction and ongoing stewardship.

Requirements

EQc: Occupant Experience Achievement Pathways	Points
New Construction	1-7
Option 1. Biophilic Environment	1-4
Path 1. Indoor Biophilic Design	1
AND/OR	
Path 2. Quality Views	2-3
AND/OR	
Option 2. Adaptable Environment	1
AND/OR	
Option 3. Thermal Environment	1
AND/OR	
Option 4. Sound Environment	1-2
Path 1. Mapping Acoustical Expectations for Indoor and Outdoor Spaces	1
AND/OR	
Path 2. Acoustic Criteria for Indoor and Outdoor Spaces	1
AND/OR	
Option 5. Lighting Environment	1-6
Path 1. Solar Glare	1
AND/OR	
Path 2. Quality Electric Lighting	1
AND/OR	
Path 3. Proximity to Windows for Daylight Access	1
AND/OR	
Path 4. Daylight Simulation	1-4

Option 1. Biophilic Environment (1 – 4 points)

Path 1. Indoor Biophilic Design (1 point)

Integrate Biophilic Design that demonstrates each of the following five principles adapted from The Practice of Biophilic Design by Kellert and Calabrese:

1. Biophilic design requires repeated and sustained engagement with nature.
2. Biophilic design focuses on human adaptations to the natural world that, over evolutionary time, have advanced people's health, fitness, and wellbeing.
3. Biophilic design encourages an emotional attachment to the building and building location.
4. Biophilic design promotes positive interactions between people and nature that encourage an expanded sense of relationship and responsibility for the human and natural communities.
5. Biophilic design encourages mutual reinforcing, interconnected, and integrated architectural solutions.

AND/OR

Path 2. Quality Views (2 – 3 points)

Provide occupants in the building with a view to the outdoor natural or urban environment for 75% (for 2 points, 90% for 3 points) of all regularly occupied floor area. Auditoriums, conference rooms dedicated to video conferencing, and gymnasiums may be excluded. Views into interior atria may be used to meet up to 30% of the required area.

- Views must be through glass with a visible light transmittance (VLT) above 40%. If the glazing has frits, patterns, or tints the view must be preserved. Neutral gray, bronze, and blue-green tints are acceptable.
- Views must include at least one of the following:
  - Nature, urban landmarks, or art; or
  - Objects at least 25 feet (7.5 meters) from the exterior of the glazing.
- Occupants must have direct access to the view and be within three times the head height of the glazing.

AND/OR

Option 2. Adaptable Environment (1 point)
Allow occupants choice and flexibility, and, where possible, the ability to alter the space to meet their individual needs. Provide variability and optionality for thermal, sound, and lighting environments that invite occupants to move between sensory zones. This must include accessible quiet spaces to retreat from high levels of sensory stimulation. Projects must also demonstrate at least one of the additional strategies below:

Additional Strategies

- Provide outdoor or transitional space that encourages interaction with nature. Ensure the space is easily accessible for all occupants from within the building or located within 2000 feet (60 meters) of a building entrance or access point.
- Provide socializing, meeting, dining, eating, and/or working areas where occupants can sit outside the main action and have permanent architectural features at their backs, creating a comfortable, semi-protected space that overlooks the larger area (prospect).Provide alternative paths that enable travel around the perimeter of the space so that people are not required to travel across a large open space.
- Provide choice in furniture configuration and a variety of seating to accommodate a wide range of body types, including seating with back rests and without arm rests.
- Provide height variety for permanently installed fixtures, like counters and sinks, and/or height-adjustable tables and desks, where appropriate.

AND/OR

Option 3. Thermal Environment (1 point)

- Design indoor occupied spaces to meet the requirements of ASHRAE Standard 55–2023, Thermal Environmental Conditions for Human Occupancy with errata. Investigate thermal conditions in and around the project and explain how the design considers the following:
  - Thermal conditions that align and adjust with changing seasons.
  - Overcooling during warm seasons
    - Design solutions for newly arrived occupants or occupants transitioning between different thermal environments to adjust to the space while maintaining an appropriately warm environment for those already in the building.
    - Design solutions for long-term occupants in transition spaces to customize their working area.
  - Support for occupants carrying out different tasks requiring varying levels of movement.
    - Cooling solutions for those completing high-movement tasks

AND/OR

Option 4. Sound Environment (1 – 2 points)

Path 1. Mapping Acoustical Expectations for Indoor and Outdoor Spaces (1 point)
Determine the desired sound environment early in the design process, by mapping the following:

- Acoustical Expectations for each primary indoor and outdoor spaces that are specific to the use of the space and occupant needs. (examples to consider include: noise exposure, acoustical comfort and noise sensitivity, acoustical privacy, communication, and soundscape.) Example classifications for Acoustical Comfort: Loud Zone, Quiet Zone, Mixed Zone, Circulation, Sensitive, and No Specific Expectations.
- Example classifications for Acoustical Privacy: High Speech Security, Confidential Speech Privacy, Normal Speech Privacy, Marginal Speech Privacy, No Privacy
- Example classifications for Communication Zones: Excellent, Good, Marginal, and None or No Specific Expectations.

Define acoustic criteria and potential design strategies and solutions to meet the Acoustical Expectations for each space. (examples to consider include: internally generated background noise, externally intrusive background noise, outdoor acoustical environment, airborne sound reverberation, sound insulation, vibration insulation, and impact noise).

AND/OR

Path 2. Acoustic Criteria for Indoor and Outdoor Spaces (1 point)
Meet the acoustics criteria established in path 1 for at least 75% of the occupied spaces and all classroom and core learning spaces. Use calculations, modeling and/or measurements to confirm conformance with the requirements.

AND/OR

Option 5. Lighting Environment (1 – 6 points)

Path 1. Solar Glare (1 point)
Provide manual or automatic (with manual override) glare-control devices in all regularly occupied spaces that will receive direct or reflected sun penetration. Spaces designed intentionally for direct sunlight may be excluded.

AND/OR

Path 2. Quality Electric Lighting (1 point)
Comply with the following requirements for regularly occupied spaces:

- **Electric Glare Control**:
  - Each light fixture shall meet one of the following requirements:
    - Have calculated luminance of less than 6,000 candela per square meter (cd/m^2) between 45 and 90 degrees from nadir.
    - Achieve a Unified Glare Rating (UGR) of 19 or lower using the UGR Tabula Method for each space.

  OR
  - Achieve a UGR rating of 19 or lower using the software modeling calculations of the designed lighting. (Modeling must be performed as outlined in the NEMA white paper on Unified Glare Rating).

- **Color Rendering**: Use light sources that have a Color Rendering Index (CRI) of at least 90, or a Color Fidelity Index greater than or equal to 78 and a gamut index greater than or equal to 95, and hue bin 1 in the following range – 1% <= Rcs,h1 <=15% determined in accordance with Illuminating Engineering Society (IES) TM-30-20.

AND/OR

Path 3. Proximity to Windows for Daylight Access (1 point)
Design the building floorplates and interior layout to provide at least 30% of the regularly occupied area to be within a 20 ft (6 m) horizontal distance of envelope glazing. The glazing must have a visible light transmittance (VLT) above 40%. Regularly occupied area with visual obstructions (incapable of providing a view to envelope glazing) should be excluded from the compliant area.

OR

Path 4. Daylight Simulation (1 – 4 points)
Perform a daylight simulation analysis for the project to understand and optimize access to daylight and visual comfort. Use the calculation protocols in IES LM-83-23 with following clarifications:

- Calculate spatial daylight autonomy$_{300/50\%}$ (sDA$_{300/50\%}$), and annual sunlight exposure$_{1000,250}$ (ASE$_{1000,250}$) as defined in IES LM-83-22 for each regularly occupied space in the project. sDA$_{150/50\%}$ may be used for areas without visual tasks with design targets of 225 lux.
- For any regularly occupied spaces with ASE$_{net(1000,250h)}$ greater than 20%, identify how the space is designed to address glare.

Calculate the average sDA$_{300/50\%}$ or sDA 150/50% for the total regularly occupied floor area. Do not exclude spaces due to ASE. Points are awarded based on this calculation, according to Table 1.

Table 1. Points for Daylight Simulation

average sDA300/50% or sDA150/50% value	Points
≥40%	1
≥55%	2
≥65%	3
≥75%	4

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EQ Credit: Accessibility and Inclusion
1 point

Intent

To support the diverse needs of occupants and increase widespread usability of the building to foster individual and collective sense of belonging.

Requirements

EQc: Accessibility and Inclusion Achievement Pathways	Points
New Construction	1
Accessibility and Inclusion Strategies	1

Comply with Local Accessibility Codes

All projects must support access for those with physical disabilities through designs meeting all locally applicable accessibility codes identified in *IPp: Human Impact Assessment.* If there is no code in place, include the following strategies:

1. Accessible routes or regularly used exterior building entrances have ramps to accommodate elevation change.
2. All doors meant for human passage have a minimum clear width of 32" (0.86 meters).
3. Reception desks, security counters and service counters all have a front approach wheelchair accessible section.

AND

Include at least 10 of the following accessibility and inclusion strategies most relevant to the project:

Accessibility for Physical Diversity:

- Provide wave-to-open or vertical hand / foot press door operators at all regularly used building entrances.
- Design meeting spaces to accommodate mobility devices for at least 10% of occupants.
- Incorporate accessible and inclusive equipment and activities in fitness facilities. Ensure an open and accessible route to and around the equipment.
- Where non-accessible routes are provided (i.e. stairs), provide an alternate accessible route that starts and terminates at the same location.
- Include at least one adult changing station or table in a designated, accessible restroom or family restroom.

Accessibility for Safety and Aging:

- Provide non-slip flooring.
- Fix area rugs to floor below and provide transition strips at all edges.
- Provide visual indication or railing at all full height glazing, except in private residences.
- Provide audible and visual alerts for emergency alerts.
- Provide closed risers (visually and physically) in all stairs.
- Use visual contrast between walls and floors, walls and doors, and walls and casework.
- Provide visual, tactile, contrasting, or photoluminescent warnings at floor level changes.

Accessibility for Social Health:

- Provide lactation rooms or space for lactation pods.
- Provide at least one fully accessible all-gender single-use restroom OR one multi-use all-gender restroom on each floor of the building.
- Include at least one adult changing station or table in a designated, accessible restroom or family restroom.

- Provide signage in all languages spoken by more than 5% of the local population.
- Achieve at least 1 point under *EQc: Occupant Experience, Option 1. Biophilic Environments*.

Accessibility for Navigation:

- Provide wayfinding signage that clearly indicates exits, entrances, and major functions in the project.
- Provide non-text diagrams and symbols at signage.
- Provide Braille, visual and auditory cues, and/or continuous linear indicators on paths of travel.
- Use pattern and color blocking to identify key access spaces.
- Provide haptic/tactile maps for wayfinding.

Impact area alignment

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EQ Credit: Resilient Spaces
1 – 2 points

Intent

To support design features that increase the capacity for occupants to adapt to changing climate conditions and be protected from events that may compromise the quality of the indoor environment and subsequently occupant health and wellbeing.

Requirements

EQc: Resilient Spaces Achievement Pathways	Points
New Construction	1-2
Option 1. Management Mode for Episodic Outdoor Ambient Conditions	1
AND/OR	
Option 2. Management Mode for Respiratory Diseases	1
AND/OR	
Option 3. Design for Occupant Thermal Safety during Power Outages	1-2
Path 1. Consider Extreme Heat	1
AND/OR	
Path 2. Consider Extreme Cold	1
AND/OR	
Option 4. Operable Windows	1-2

Comply with any of the following options for up to 2 points:

Option 1. Management Mode for Episodic Outdoor Ambient Conditions (1 point)
Design systems with the capability to operate an episodic outdoor event management mode as described in ASHRAE Guideline 44. The mode should address varying outdoor conditions or events that could negatively influence indoor air quality such as wildfire smoke. Include the management mode in the design and commissioning documents. Verify proper implementation of the mode during commissioning.

AND/OR

Option 2. Management Mode for Respiratory Diseases (1 point)
Design occupied spaces with the capability to operate an Infection Risk Management mode which provides the minimum equivalent clean airflow rates outlined in ASHRAE 241-2023 section 5.1*.* Include the management mode in the design and commissioning documents as outlined in ASHRAE 241-2023 Section B10.2 Design Documentation. Verify proper implementation of the mode during commissioning.

AND/OR

Option 3. Design for Occupant Thermal Safety during Power Outages (1 – 2 points)

Path 1. Consider Extreme Heat (1 point)
Demonstrate through thermal modeling that a building will passively maintain thermally habitable conditions during a power outage that lasts two days during peak summertime conditions of a typical meteorological year. Designate specific thermal safety zones where habitable conditions will be maintained during a power outage.

AND/OR

Path 2. Consider Extreme Cold (1 point)
Demonstrate through thermal modeling or Passive House certification that a building will passively maintain thermally habitable conditions during a power outage that lasts two days

during peak wintertime conditions of a typical meteorological year. Designate specific thermal safety zones where habitable conditions will be maintained during a power outage.

AND/OR

Option 4. Operable Windows (1 – 2 points)
Design 50% (for 1 point) or 75% (for 2 points) of the regularly occupied spaces to have operable windows with the capability to provide access to outdoor air during heat waves or localized power outages. The windows must meet the opening size and location requirements of ASHRAE 62.1-2022, Section 6.4.

Impact area alignment

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EQ Credit: Air Quality Testing and Monitoring
1 – 2 points

Intent

To support better management of indoor air quality and identify opportunities for health-based approaches to building operations.

Requirements

EQc: Air Quality Testing and Monitoring Achievement Pathways	Points
New Construction	1-2
Option 1. Pre-Occupancy Air Testing	1-2
Path 1. Particulate Matter and Inorganic Gases	1
AND/OR	
Path 2. Volatile Organic Compounds	1
AND/OR	
Option 2. Continuous Indoor Air Monitoring	1

Option 1. Pre-Occupancy Air Testing (1 – 2 points)
After construction ends and before occupancy, but under ventilation conditions typical for occupancy, conduct baseline IAQ. Retail projects may conduct the testing within 14 days of occupancy. The number of measurements should be specified according to Table 1 and taken in respective locations of the building.

Table 1. Number of Measurements required for Pre-Occupancy Air Testing

Total Occupied Floor Area, ft2 (m2)	Number of measurements
≤5,000 (500)	**1**
>5,000 (500) and ≤15,000 (1500)	**2**
>15,000 (1500) and ≤25,000 (2,500)	**3**
>25,000 (2,500) and ≤200,000 (20,000)	**4** plus one additional measurement per each 25,000 ft2 (2500 m2) above 25,000 ft2
>200,000	10 plus one additional measurement per each 50,000 ft2 (500m2) above 200,000 ft2

Path 1. Particulate Matter and Inorganic Gases (1 point)
Test for the particulate matter (PM) and inorganic gases listed in Table 2, using an allowed test method, and demonstrate the contaminants do not exceed the concentration limits listed in the table. Measure for a 4-hour period, calculating peak concentration for carbon monoxide and average concentration for ozone, PM2.5, and PM10.

Table 2. Limits for Particulate Matter and inorganic gases

Contaminant (CAS#)	Concentration Limit ($\mu g/m^3$)	Allowed Test Methods (laboratory based)	Direct reading instrument minimum specifications

Carbon Monoxide (CO)	9 ppm; no more than 2 ppm above outdoor levels	ISO 4224 EPA Compendium Method IP-3 GB/T 18883-2002 for projects in China	Direct calibrated electrochemical instrument with accuracy of +/- 3% of reading and resolution of 0.1 ppm NDIR CO Sensors with accuracy of 1% of 10 ppm full scale and display resolution of less than 0.1ppm
Particulates (for projects in attainment areas)	ISO class 8 or lower per ISO 14644-1:2015 OR meet PM 10: 50 µg/m^3 PM 2.5: 12 µg/m^3	n/a IP-10A	Accuracy (+/-): Greater of 5 µg/m^3 or 20% of reading Resolution (+/-): 5 µg/m^3
Particulates (for projects in non-attainment areas)	ISO class 8 or lower per ISO 14644-1:2015 OR meet PM 10: 50 µg/m^3 PM 2.5: 35 µg/m^3	n/a IP-10A	Accuracy (+/-): Greater of 5 µg/m^3 or 20% of reading Resolution (+/-): 5 µg/m^3
Ozone	0.07 ppm OR 0.01 ppm for projects pursuing *EQc: Enhanced Air Quality* Option 1 Path 2	ISO 13964 ASTM D5149 -– 02 EPA designated methods for Ozone	Monitoring device with accuracy greater of 5 ppb or 20% of reading and resolution (5 min average data) +/- 5 ppb

AND/OR

Path 2. Volatile Organic Compounds (1 point)

- Perform a screening test for Total Volatile Organic Compounds (TVOC). Use ISO 16000-6, EPA TO-17, or EPA TO-15 to collect and analyze the air sample. Calculate the TVOC value per EN 16516:2017, CDPH Standard Method v1.2 2017 section 3.9.4, or alternative calculation method, as long as full method description is included in test report.
    - If the TVOC levels exceed 500 µg/m^3, investigate for potential issues by comparing the individual VOC levels from the GC/MS results to associated cognizant authority health-based limits. Correct any identified issues and re-test if necessary.
- Test for the individual volatile organic compounds listed in Table 3 using an allowed test method and demonstrate the contaminants do not exceed the concentration limits listed in the table. Laboratories that conduct the tests must be accredited under ISO/IEC 17025 for the test methods they use.

Table 3. Volatile organic compounds limits

Contaminant (CAS#)	**Concentration Limit (µg/m^3)**	**Allowed Test Methods**

Formaldehyde 50-00-0	20 µg/m^3 (16 ppb)	ISO 16000-3, 4; EPA TO-11a, EPA comp. IP-6A ASTM D5197-16
Acetaldehyde 75-07-0	140 µg/m^3	
Benzene 71-43-2	3 µg/m^3	ISO 16000-6 EPA IP-1, EPA TO-17, EPA TO-15 ISO 16017-1, 2; ASTM D6196-15
Hexane (n-) 110-54-3	7000 µg/m^3	
Naphthalene 91-20-3	9 µg/m^3	
Phenol 108-95-2	200 µg/m^3	
Styrene 100-42-5	900 µg/m^3	
Tetrachloroethylene 127-18-4	35 µg/m^3	
Toluene 108-88-3	300 µg/m^3	
Vinyl acetate 108-05-4	200 µg/m^3	
Dichlorobenzene (1,4-) 106-46-7	800 µg/m^3	
Xylenes-total 108-38-3, 95-47-6, and 106-42-3	700 µg/m^3	

AND/OR

Option 2. Continuous Indoor Air Monitoring (1 point)
Provide indoor air monitors for all of the following parameters:

- Carbon dioxide (CO2)
- Particulate matter (PM2.5)
- Total volatile organic compounds (TVOC)
- Temperature
- Relative humidity

Monitors must be building grade or better and located between 3 and 6 feet above the floor.

Impact area alignment

☐ Decarbonization ■ Quality of Life ☐ Ecological Conservation and Restoration

PROJECT PRIORITIES AND INNOVATION (IN)

IN Credit: Project Priorities

1 – 9 points

Intent

To promote achievement of credits that address geographically sensitive or adaptation-specific environmental, social equity, and public health priorities. To encourage projects to think creatively to test and accelerate new sustainable building practices and strategies.

Requirements

INc: Project Priorities Achievement Pathways	Points
New Construction	1-9
Regional Priority	1-9
Project-Type Credits	
Exemplary Performance	
Pilot Credits	
Innovation Strategies	

Achieve any combination of the following for a maximum of 9 points:

Regional Priority
Achieve a regional priority credit from USGBC's Credit Library. These credits have been identified by USGBC as having additional regional importance for the project's region.

Project-Type Credits
Achieve a project-type credit from USGBC's Credit Library. These credits have been identified by USGBC as addressing unique needs for the given adaptation or building application.

Exemplary Performance
Achieve an exemplary performance credit from USGBC's Credit Library. These credits have been identified by USGBC as going above and beyond an existing LEED v5 prerequisite or credit in the LEED v5 priority areas of scale, decarbonization, resilience, health, equity, and/or ecosystems.

Pilot Credits
Achieve a pilot credit from USGBC's Credit Library.

Innovative Strategies
Achieve significant, measurable, environmental performance using a strategy not addressed in the LEED green building rating system.

Identify all of the following criteria:

- the intent of the proposed innovation strategy;
- proposed requirements for compliance;
- proposed submittals to demonstrate compliance; and
- the design approach or strategies used to meet the requirements.

IN Credit: LEED Accredited Professional
1 point

Intent
To encourage team integration required by a LEED AP and to streamline the application and certification process.

Requirements

INc: LEED AP Achievement Pathways	Points
New Construction	1
LEED AP	1

At least one principal participant of the project team must be a LEED Accredited Professional (AP) with a specialty appropriate for the project.

APPENDIX I. LEED PLATINUM REQUIREMENTS

EA CREDIT: ELECTRIFICATION

Design and operate the project from start-up with no on-site combustion except for emergency support systems.

Combined weighted average equipment efficiency for space heating and service water heating must be at least 2.0 COP

The following equipment may be excluded from the COP determination:

- Space heating equipment in climate zones 0 through 2.
- Supplemental or auxiliary heating equipment designed only for operation at outside air dry bulb temperatures (DBT) below 20°F (-6.5 °C).

EA CREDIT: ENHANCED ENERGY EFFICIENCY

8 points are required

EA CREDIT: RENEWABLE ENERGY

100% of site energy use from any combination of Tier 1, Tier 2, and Tier 3 renewable energy

MR CREDIT: REDUCE EMBODIED CARBON

20% reduction in embodied carbon