Hillsborough County Aviation Authority

Sustainable Design Criteria Manual

2025

Tampa International Airport

CONTENTS

INTRODUCTION

The Sustainable Design Criteria Manual (SDCM or "the Manual") is a comprehensive guide developed by the Hillsborough County Aviation Authority (HCAA or "the Authority") to support design and construction of high-performing projects. Its purpose is to integrate airport-specific sustainability principles early in the design process through construction in accordance with project schedule, budget, and operations and maintenance (O&M) requirements.

The Manual provides practical guidance for designers and contractors to incorporate strategies that optimize the environmental performance, stakeholder engagement, and long-term economic value of new construction, major renovation and other development or O&M projects. In addition, the Manual includes resilient design guidance for adapting airport infrastructure to changing conditions supporting the Authority's mission with minimal disruption.

HCAA's 2024 Sustainable Management Plan (SMP) includes a goal of 100% compliance for Master Plan and Capital Improvement Program (CIP) projects with the sustainability and resilience criteria outlined in this Manual. The SDCM reflects industry best practices and draws from established third-party certification frameworks, including:

- U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Version 4.1 Rating System
- Green Business Certification, Inc (GBCI) Parksmart
- Institute for Sustainable Infrastructure (ISI) Envision Framework
- International Well Building Institute (WELL)

While third-party certification (TPC) is not required, the Manual supports TPC-aligned outcomes and encourages teams to pursue certification where feasible. Referenced TPCs can be found in **Appendix A**.

The SDCM guides project teams to integrate sustainable and resilient design and construction strategies into projects by establishing performance targets and documentation methods. While not required, HCAA encourages project teams to incorporate SDCM criteria as feasible. In all cases, project teams must first comply with applicable State, County, City, and agency requirements.

APPLICABILITY

This Manual is applicable to new construction, major renovation, and other projects with a total value greater than $100,000 at all HCAA owned and operated locations. **Table 1** specifies applicability by project type along with a link to the relevant SDCM criteria.

Table 1: Project Application and Type Description

Type of Project	Description	Examples	Link to Page
Airside Building (AB)	Project consisting of facilities on the airside that will be occupied by employees and passengers.	Airsides, Terminals, Guard Posts, Firefighting Facilities, Cargo Facilities, Air Traffic Control Towers	**AIRSIDE BUILDING**
Airside Civil (AC)	Project consisting of infrastructure on the airside.	Runways, Taxiways, Aprons, Airside Cargo Sites	**AIRSIDE CIVIL**
Landside Building (LB)	Project consisting of facilities on the landside that will be occupied by employees and passengers.	Office Buildings, Commercial Buildings	**LANDSIDE BUILDING**
Landside Civil (LC)	Projects consisting of infrastructure on the landside.	Parking Lots, Pump Stations, Roadways, Bridges	**LANDSIDE CIVIL**
Parking Garage (PG)	Projects that include a multi-level parking facility for vehicles.	Commercial Parking Garages, Employee Parking Garages	**PARKING GARAGE**
Major Renovation and All Other Projects (MR)	Projects that include renovation of HVAC, electrical, plumbing, significant envelope modifications, and/or major interior renovations or all other projects with a total cost greater than $100,000.	Terminal Gut-Rehab, Office Building Upgrades, Bathroom Remodels	**MAJOR RENOVATIONS AND ALL OTHER PROJECTS**

While sustainability measures are also applicable to operations, this manual prioritizes the planning, design and construction process.

HOW TO USE THIS DOCUMENT

The Manual outlines technical criteria for new construction and renovation projects in the following categories.

- Administrative (AD)
- Air Quality and Emissions (AQE)
- Biodiversity (B)
- Community (COM)
- Energy Management (EM)
- Health, Safety, and Security (HSS)
- Sustainable Procurement (SP)
- Resilience (R)
- Water Management (WA)
- Waste Management (WS)

Within each category, there are several technical standards, called "criteria". These criteria provide direction for incorporating sustainable and resilient elements into a project transparently and cost-effectively.

Each criterion has seven subcategories: Phase, Applicability, Benefits, Performance Target(s), and Documentation, as described below:

- **Phase:** Identifies planning, design, and/or construction for criteria incorporation and submittal.
- **Applicability:** Identifies criteria relevant to the project type.
- **Benefits:** Describes benefits associated with criteria implementation.
- **Performance Target(s):** Sets a minimum goal for each criterion.
- **Documentation:** Recommends how project teams demonstrate alignment with criteria performance target(s). Documentation may include calculations, data, short narratives, documents, or references (e.g., to specification sections or design drawings) indicating how the strategy has been incorporated.

To support effective implementation, this manual organizes criteria into two primary sections: **Criteria for Planning and Design** and **Criteria for Construction**. This structure helps each discipline identify criteria relevant to their scope of work and ensure they are appropriately addressed throughout the project lifecycle.

While not all criteria are applicable to every project type, the Authority recommends that design and construction teams think creatively, considering the intent of the criterion and how they may be fulfilled by project planning, design, and/or construction.

INTEGRATION PROCESS

REVIEW PROCESS

HCAA administers the SDCM and its supporting documentation. HCAA staff are responsible for reviewing SDCM submittals and will provide project-specific guidance for each project regarding sustainable design strategies.

Concurrent with each project milestone, the identified **Sustainability Professional(s)** or designated team member (designee) will submit SDCM documentation consistent with goals established during the project management plan (PMP) phase to HCAA's Sustainability and Resilience Department. SDCM documentation includes the **SDCM Checklist** tool, **Design Narratives** and Owner, Architect, Contractor (OAC) project meeting proceedings.

At construction kickoff, the construction contractor will review sustainability construction specifications and the SDCM checklist. The construction team's Sustainability Professional (or designee) tracks progress on applicable required criteria through project closeout. Tracking may occur through regular OAC project meetings or status reports and use the SDCM Checklist tool to identify complete, missing, or not applicable criteria. At construction closeout, the contractor must submit a final SDCM checklist with supporting documentation. **Figure 1** provides the anticipated SDCM review process.

Figure 1: SDCM Implementation Process

Planning	Design		Construction	
PMP Conceptual Design	**Design Kick Off**	**60% Design**	**Construction Kick Off**	**Construction Closeout**
PMP team will include a sustainability section in the PMP kickoff meeting and identify relevant project criteria.	Project Team will review checklist at kick-off. Update SDCM checklist as needed. Design team will assign responsibility for criteria. Submit SDCM checklist to Sustainability and Resilience Director for review.	Review the updated checklist and narrative documents to confirm implementation. Assess any additional considerations and evaluate potential impacts on the project scope and budget.	Review updated SDCM and Sustainability Specification with Construction Team.	The Contractor will submit SDCM Checklist with supporting documentation confirming sustainability initiatives as part of final "closeout" process to the Sustainability and Resilience Director.

EXEMPTIONS

LIFE CYCLE COST EFFECTIVENESS

This Manual optimizes the environmental, social, and economic performance of new construction and renovations. Project teams should implement criteria that are cost-effective over the project life cycle. Project teams are encouraged to apply Life Cycle Cost Analysis (LCCA) when evaluating criteria. **Table 2** summarizes criteria that the project team may choose to exclude from the project if not Life Cycle Cost Effective (LCCE).

Table 2: LCCE Exemption Criteria

Category	Exempt Criteria if LCCE is Not Demonstrated
Energy Management	EM-3 Alternative and Renewable Energy
Resilience	R-2 Backup Power

SDCM CHECKLIST

The SDCM Checklist tool tracks progress of criteria related to the type of project. The Checklist shall be submitted by the project team sustainability professional(s) at each milestone throughout project planning, design and construction phases. The tool should be completed in collaboration between the Sustainability Professional(s) and responsible disciplines, as identified during the PMP phase.

DOCUMENTATION

This section provides high-level guidance for documents that Sustainability Professional(s) should submit with the SDCM Checklist to demonstrate alignment with the criteria. A construction specification document can be found in **Appendix B**.

NARRATIVE GUIDANCE

Each criterion in the Sustainable Design Criteria Manual (SDCM) indicates whether a narrative is encouraged to the support sustainable and resilience strategy documentation. The narrative should explain the reasons why any feasible criteria were not achieved. The descriptive narrative provides the reviewer with a clear understanding of how each applicable criterion will be implemented within the project's scope of work. This may include, but is not limited to:

- The type of analysis used (e.g. feasibility study)
- Relevant locations
- Hardware specifications
- Material/product certifications
- Quantities (e.g. Products/materials), system operations and maintenance plan (system installed, purpose, integration, and post-occupancy operations and maintenance coordination)

For any estimates related to materials, products, sizing, or quantities, the methodology used to determine those values should be included.

LIFE CYCLE COST EFFECTIVENESS

Any Life Cycle Cost Effectiveness (LCCE) analysis should include the scope, limitations, cost analysis approach, time horizons, assumptions, rationale and discount rate where applicable.

- The LCCA must be prepared in accordance with 10 CFR Part 436, Subpart A[1] and NIST Handbook 135 Life Cycle Costing Manual for the Federal Energy Management Program[2], or an equivalent methodology.

[1] U.S. Department of Energy. (2024). 10 CFR Part 436, Subpart A – Methodology and Procedures for Life Cycle Cost Analyses.
[2] National Institute of Standards and Technology. (2020). NIST Handbook 135: Life Cycle Costing Manual for the Federal Energy Management Program. U.S. Department of Commerce.

- The LCCA must be prepared using the Building Life-Cycle Costing (BLCC) program, available from the National Institute of Standards and Technology (NIST)[3], or equivalent software.
- If not otherwise supplied by HCAA, the implied long term inflation rate and discount rates identified in the Annual supplement to NIST Handbook 135 must be used.
- Any building-level LCCA must be calculated using a 40-year expectant life. Individual components or systems life expectancies must be reflected by inclusion of appropriate replacement and salvage values in the appropriate year of this analysis. Calculations must also consider O&M cost through the lifecycle of the asset.

[3] National Institute of Standards and Technology. (n.d.). *Building Life Cycle Cost Programs*. U.S. Department of Commerce.

SDCM CRITERIA

ALL CRITERIA

Criteria	Phase
Administrative	
AD-1: Integrated Design	Planning, Design, Construction
AD-2: Sustainability Professional	Planning, Design, Construction
Air Quality & Emissions	
AQE-1: Alternative Transportation	Planning, Design
AQE-2: Reduce Heat Islands	Design, Construction
AQE-3: Ozone-Depleting Chemicals and Refrigerant Management	Design, Construction
AQE-4: EV Infrastructure	Planning, Design
AQE-5: Exterior Air Quality	Design, Construction
Biodiversity Management	
B-1: Wildlife Deterrence Program	Design
B-2: Integrated Pest Management Program	Construction
Community	
COM-1: Light Pollution Reduction	Design
COM-2: Exterior Views	Design
Energy Management	
EM-1: Systems Commissioning	Design, Construction
EM-2: Improved Energy Performance	Design
EM-3: Alternative and Renewable Energy	Design
EM-4: Advanced Energy Metering	Design
EM-5: Daylighting	Design
EM-6: Thermal Comfort	Design
Health, Safety and Security	
HSS-1: Indoor Air Quality Performance	Design
HSS-2: Environmental Tobacco Smoke Control	Design
HSS-3: Carbon Dioxide Monitoring	Design
HSS-4: Indoor Chemical & Pollutant Source Control	Design
HSS-5: Design for Heat Hazards	Design
HSS-6: Noise and Acoustical Quality	Design
HSS-7: Construction Indoor Air Quality Management	Construction
Resilience	
RS-1: Design for Enhanced Resilience	Design
RS-2: Backup Power	Design
RS-3: Debris Protection	Design
Sustainable Procurement	
SP-1: Environmental Product Declarations	Construction
SP-2: Sourcing of Raw Materials	Construction
SP-3: Material Ingredients	Construction
SP-4: Low-Emitting Materials	Construction
Water Management	

Criteria	Phase
WA-1: Stormwater Management— Rate and Runoff Quality	Design
WA-2: Potable Water in Landscaping	Design
WA-3: Water Use Reduction	Design
Waste Management	
WS-1: Storage and Collection of Recyclables	Design
WS-2: Planning for Deconstruction	Design
WS-3: Construction Waste Management	Construction
WS-4: Balanced Earthwork	Design, Construction

AIRSIDE BUILDING (AB)

Criteria	Phase
Administrative	
AD-1: Integrated Design	Planning, Design, Construction
AD-2: Sustainability Professional	Planning, Design, Construction
Air Quality & Emissions	
AQE-2: Reduce Heat Islands	Design, Construction
AQE-3: Ozone-Depleting Chemicals and Refrigerant Management	Design, Construction
AQE-5: Exterior Air Quality	Design, Construction
Biodiversity Management	
B-1: Wildlife Deterrence Program	Design
B-2: Integrated Pest Management Program	Construction
Community	
COM-1: Light Pollution Reduction	Design
COM-2: Exterior Views	Design
Energy Management	
EM-1: Systems Commissioning	Design, Construction
EM-2: Improved Energy Performance	Design
EM-3: Alternative and Renewable Energy	Design
EM-4: Advanced Energy Metering	Design
EM-5: Daylighting	Design
EM-6: Thermal Comfort	Design
Health, Safety and Security	
HSS-1: Indoor Air Quality Performance	Design
HSS-2: Environmental Tobacco Smoke Control	Design
HSS-3: Carbon Dioxide Monitoring	Design
HSS-4: Indoor Chemical & Pollutant Source Control	Design
HSS-5: Design for Heat Hazards	Design
HSS-6: Noise and Acoustical Quality	Design
HSS-7: Construction Indoor Air Quality Management	Construction
Resilience	
RS-1: Design for Enhanced Resilience	Design
RS-2: Backup Power	Design
RS-3: Debris Protection	Design
Sustainable Procurement	
SP-1: Environmental Product Declarations	Construction
SP-2: Sourcing of Raw Materials	Construction
SP-3: Material Ingredients	Construction
SP-4: Low-Emitting Materials	Construction
Water Management	
WA-1: Stormwater Management— Rate and Runoff Quality	Design
WA-2: Potable Water in Landscaping	Design
WA-3: Water Use Reduction	Design
Waste Management	
WS-1: Storage and Collection of Recyclables	Design

Criteria	Phase
WS-2: Planning for Deconstruction	Design
WS-3: Construction Waste Management	Construction
WS-4: Balanced Earthwork	Design, Construction

AIRSIDE CIVIL (AC)

Criteria	Phase
Administrative	
AD-1: Integrated Design	Planning, Design, Construction
AD-2: Sustainability Professional	Planning, Design, Construction
Air Quality & Emissions	
AQE-2: Reduce Heat Islands	Design, Construction
AQE-5: Exterior Air Quality	Design, Construction
Biodiversity Management	
B-1: Wildlife Deterrence Program	Design
B-2: Integrated Pest Management Program	Construction
Community	
COM-1: Light Pollution Reduction	Design
Energy Management	
EM-1: Systems Commissioning	Design, Construction
EM-3: Alternative and Renewable Energy	Design
Health, Safety and Security	
HSS-5: Design for Heat Hazards	Design
HSS-6: Construction Indoor Air Quality Management	Construction
Resilience	
RS-1: Design for Enhanced Resilience	Design
RS-2: Backup Power	Design
RS-3: Debris Protection	Design
Sustainable Procurement	
SP-1: Environmental Product Declarations	Construction
SP-2: Sourcing of Raw Materials	Construction
SP-3: Material Ingredients	Construction
SP-4: Low-Emitting Materials	Construction
Water Management	
WA-1: Stormwater Management— Rate and Runoff Quality	Design
WA-2: Potable Water in Landscaping	Design
WA-3: Water Use Reduction	Design
Waste Management	
WS-2: Planning for Deconstruction	Design
WS-3: Construction Waste Management	Construction
WS-4: Balanced Earthwork	Design, Construction

LANDSIDE BUILDING (LB)

Criteria	Phase
Administrative	
AD-1: Integrated Design	Planning, Design, Construction
AD-2: Sustainability Professional	Planning, Design, Construction
Air Quality & Emissions	
AQE-1: Alternative Transportation	Planning, Design
AQE-2: Reduce Heat Islands	Design, Construction
AQE-3: Ozone-Depleting Chemicals and Refrigerant Management	Design, Construction
AQE-4: EV Infrastructure	Planning, Design
AQE-5: Exterior Air Quality	Design, Construction
Biodiversity Management	
B-1: Wildlife Deterrence Program	Design
B-2: Integrated Pest Management Program	Construction
Community	
COM-1: Light Pollution Reduction	Design
COM-2: Exterior Views	Design
Energy Management	
EM-1: Systems Commissioning	Design, Construction
EM-2: Improved Energy Performance	Design
EM-3: Alternative and Renewable Energy	Design
EM-4: Advanced Energy Metering	Design
EM-5: Daylighting	Design
EM-6: Thermal Comfort	Design
Health, Safety and Security	
HSS-1: Indoor Air Quality Performance	Design
HSS-2: Environmental Tobacco Smoke Control	Design
HSS-3: Carbon Dioxide Monitoring	Design
HSS-4: Indoor Chemical & Pollutant Source Control	Design
HSS-5: Design for Heat Hazards	Design
HSS-6: Noise and Acoustical Quality	Design
HSS-7: Construction Indoor Air Quality Management	Construction
Resilience	
RS-1: Design for Enhanced Resilience	Design
RS-2: Backup Power	Design
RS-3: Debris Protection	Design
Sustainable Procurement	
SP-1: Environmental Product Declarations	Construction
SP-2: Sourcing of Raw Materials	Construction
SP-3: Material Ingredients	Construction
SP-4: Low-Emitting Materials	Construction
Water Management	
WA-1: Stormwater Management— Rate and Runoff Quality	Design
WA-2: Potable Water in Landscaping	Design
WA-3: Water Use Reduction	Design

Criteria	Phase
Waste Management	
WS-1: Storage and Collection of Recyclables	Design
WS-2: Planning for Deconstruction	Design
WS-3: Construction Waste Management	Construction
WS-4: Balanced Earthwork	Design, Construction

LANDSIDE CIVIL (LC)

Criteria	Phase
Administrative	
AD-1: Integrated Design	Planning, Design, Construction
AD-2: Sustainability Professional	Planning, Design, Construction
Air Quality & Emissions	
AQE-2: Reduce Heat Islands	Design, Construction
AQE-5: Exterior Air Quality	Design, Construction
Biodiversity Management	
B-1: Wildlife Deterrence Program	Design
B-2: Integrated Pest Management Program	Construction
Community	
COM-1: Light Pollution Reduction	Design
Energy Management	
EM-1: Systems Commissioning	Design, Construction
EM-3: Alternative and Renewable Energy	Design
Health, Safety and Security	
HSS-5: Design for Heat Hazards	Design
HSS-6: Construction Indoor Air Quality Management	Construction
Resilience	
RS-1: Design for Enhanced Resilience	Design
RS-2: Backup Power	Design
RS-3: Debris Protection	Design
Sustainable Procurement	
SP-1: Environmental Product Declarations	Construction
SP-2: Sourcing of Raw Materials	Construction
SP-3: Material Ingredients	Construction
SP-4: Low-Emitting Materials	Construction
Water Management	
WA-1: Stormwater Management— Rate and Runoff Quality	Design
WA-2: Potable Water in Landscaping	Design
WA-3: Water Use Reduction	Design
Waste Management	
WS-2: Planning for Deconstruction	Design
WS-3: Construction Waste Management	Construction
WS-4: Balanced Earthwork	Design, Construction

PARKING GARAGE (PG)

Criteria	Phase
Administrative	
AD-1: Integrated Design	Planning, Design, Construction
AD-2: Sustainability Professional	Planning, Design, Construction
Air Quality & Emissions	
AQE-1: Alternative Transportation	Planning, Design
AQE-2: Reduce Heat Islands	Design, Construction
AQE-4: EV Infrastructure	Planning, Design
AQE-5: Exterior Air Quality	Design, Construction
Biodiversity Management	
B-1: Wildlife Deterrence Program	Design
B-2: Integrated Pest Management Program	Construction
Community	
COM-1: Light Pollution Reduction	Design
Energy Management	
EM-1: Systems Commissioning	Design, Construction
EM-3: Alternative and Renewable Energy	Design
EM-4: Advanced Energy Metering	Design
Health, Safety and Security	
HSS-5: Design for Heat Hazards	Design
HSS-6: Construction Indoor Air Quality Management	Construction
Resilience	
RS-1: Design for Enhanced Resilience	Design
RS-2: Backup Power	Design
RS-3: Debris Protection	Design
Sustainable Procurement	
SP-1: Environmental Product Declarations	Construction
SP-2: Sourcing of Raw Materials	Construction
SP-3: Material Ingredients	Construction
SP-4: Low-Emitting Materials	Construction
Water Management	
WA-1: Stormwater Management— Rate and Runoff Quality	Design
WA-3: Water Use Reduction	Design
Waste Management	
WS-2: Planning for Deconstruction	Design
WS-3: Construction Waste Management	Construction
WS-4: Balanced Earthwork	Design, Construction

MAJOR RENOVATIONS & ALL OTHER PROJECTS (MR)

Criteria	Phase
Administrative	
AD-1: Integrated Design	Planning, Design, Construction
AD-2: Sustainability Professional	Planning, Design, Construction
Air Quality & Emissions	
AQE-1: Alternative Transportation	Planning, Design
AQE-2: Reduce Heat Islands	Design, Construction
AQE-3: Ozone-Depleting Chemicals and Refrigerant Management	Design, Construction
AQE-4: EV Infrastructure	Planning, Design
AQE-5: Exterior Air Quality	Design, Construction
Biodiversity Management	
B-1: Wildlife Deterrence Program	Design
B-2: Integrated Pest Management Program	Construction
Community	
COM-1: Light Pollution Reduction	Design
COM-2: Exterior Views	Design
Energy Management	
EM-1: Systems Commissioning	Design, Construction
EM-2: Improved Energy Performance	Design
EM-3: Alternative and Renewable Energy	Design
EM-4: Advanced Energy Metering	Design
EM-5: Daylighting	Design
EM-6: Thermal Comfort	Design
Health, Safety and Security	
HSS-1: Indoor Air Quality Performance	Design
HSS-2: Environmental Tobacco Smoke Control	Design
HSS-3: Carbon Dioxide Monitoring	Design
HSS-4: Indoor Chemical & Pollutant Source Control	Design
HSS-5: Design for Heat Hazards	Design
HSS-6: Noise and Acoustical Quality	Design
HSS-7: Construction Indoor Air Quality Management	Construction
Resilience	
RS-1: Design for Enhanced Resilience	Design
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RS-3: Debris Protection	Design
Sustainable Procurement	
SP-1: Environmental Product Declarations	Construction
SP-2: Sourcing of Raw Materials	Construction
SP-3: Material Ingredients	Construction
SP-4: Low-Emitting Materials	Construction
Water Management	
WA-1: Stormwater Management— Rate and Runoff Quality	Design
WA-3: Water Use Reduction	Design
Waste Management	

Criteria	Phase
WS-1: Storage and Collection of Recyclables	Design
WS-2: Planning for Deconstruction	Design
WS-3: Construction Waste Management	Construction

CRITERIA FOR PLANNING AND DESIGN

ADMINISTRATIVE (AD)

AD-1 INTEGRATED DESIGN

PHASE	APPLICABILITY
PLANNING, DESIGN, CONSTRUCTION	All

BENEFITS

- Sustainability charrettes and milestone reviews foster collaboration across disciplines and reduces redesign through early alignment of goals.
- Documenting sustainability actions at defined project milestones provides HCAA with clear accountability and transparency at each milestone.

PERFORMANCE TARGET(S):

- Incorporate sustainable design into the PMP and address them during project kickoff.
- Review and document SDCM checklist updates with HCAA at each design deliverable.
- The construction contractor should receive the sustainability construction specifications and deliver monthly progress updates during OAC meetings through project closeout, maintaining continuity from integrated design into construction.

DOCUMENTATION

- Submit documentation of sustainable design incorporation at project kickoff.
- Complete and review checklist during design and construction milestone meetings.

AD-2 SUSTAINABILITY PROFESSIONAL

PHASE	APPLICABILITY
PLANNING, DESIGN CONSTRUCTION	All

BENEFITS

- Facilitates the incorporation of sustainable design and construction strategies throughout the project lifecycle.
- Applies prior experience with similar projects to better integrate cost-effective and practical sustainability measures.

PERFORMANCE TARGET(S):

- The design and construction team shall have at least one team member serve as the Sustainability Professional responsible for coordinating and tracking the Sustainable Design Criteria Manual (SDCM) strategies where applicable.

DOCUMENTATION

- Submit documentation identifying the designated Sustainability Professional on the design team and construction team(s).

AIR QUALITY AND EMISSIONS (AQE)

AQE-1 ALTERNATIVE TRANSPORTATION

PHASE	APPLICABILITY
PLANNING, DESIGN	LB, PG, MR

BENEFITS

- Reduce pollution and land development impacts from automobile use.
- Supports mode shift away from single-occupancy vehicles, reducing GHG emissions and aligning with airport carbon reduction goals.

PERFORMANCE TARGET(S):

- Encourage alternative end-user transportation by evaluating the feasibility for out-buildings to support alternative transportation such as bike racks and bike repair stations.

DOCUMENTATION

- Documentation of feasibility study for supporting alternative transportation.
- Include descriptive narrative in design deliverables.

AQE-2 REDUCE HEAT ISLANDS

PHASE	APPLICABILITY
DESIGN, CONSTRUCTION	All

BENEFITS

- High-SRI and high-SR materials reflect more sunlight and absorb less heat, reducing surface and ambient temperatures.
- Cooler surfaces reduce cooling loads in adjacent or connected buildings, especially in terminals, leading to operational cost savings.

PERFORMANCE TARGET(S):

- Design roofs to have an initial Solar Reflective Index (SRI) of at least 82 and a three-year aged SRI of at least 64.
- Implement paving materials with an initial Solar Reflectance (SR) of at least 0.33 and a three-year aged SR of at least 0.28.
- Design shading structures to have an initial SR of at least 0.33 and a three-year aged SR of at least 0.28; Alternatively, shading structures can be covered with energy generation systems, such as solar thermal collectors or photovoltaics.

DOCUMENTATION

- Documentation of High Reflectance Roof and Non-Roof Sustainable Design Strategies. Cutsheets for roof material and paving materials (e.g. concrete mix designs or surface treatments)showing SRI and SR values respectively.

AQE-3 OZONE DEPLETING CHEMICALS AND REFRIGERANT MANAGEMENT

PHASE	APPLICABILITY
DESIGN, CONSTRUCTION	AB, LB, MR

BENEFITS

- Low-impact refrigerants align with emerging global standards and reduce risk of future retrofits or costly regulatory upgrades.
- Using refrigerants with low global warming potential (GWP) helps minimize the airport's contribution to climate change.

PERFORMANCE TARGET(S):

- Ensure that new HVAC systems do not incorporate CFC-based refrigerants.
- All systems should utilize low-impact refrigerants with an ozone depletion potential of zero (ODP) and a GWP of less than 50.
    - Reference EPA's guidance on Global Warming Potentials (GWPs) from the Technology Transitions Rule, or equivalent, for guidance on GWP for common refrigerants.

DOCUMENTATION

- Documentation of refrigerants used.
- Manufacturer's refrigerant documentation on GWP or calculations demonstrating the refrigerant type GWP.

AQE-4 ELECTRIC VEHICLE INFRASTRUCTURE

PHASE	APPLICABILITY
PLANNING, DESIGN	LB, MR, PG

BENEFITS

- Promotes the shift toward low-emission vehicles by making electric vehicles (EV) charging accessible for employees, tenants, and visitors. EV infrastructure supports reductions in Scope 1 and Scope 3 emissions.
- Including conduit and circuit capacity ensures infrastructure readiness and minimizes future retrofitting costs as EV adoption increases.

PERFORMANCE TARGET(S):

- Designate a portion of parking spaces to accommodate EV Charging based on determined end user needs.
- For all outbuildings: Ensure that designated EV parking spaces have conduit runs to spaces and sufficient electrical circuit capacity to support EV infrastructure.
- Ensure the chargers comply with local safety standards and provide a minimum Level 2 charging capability at 208-240 volts.

DOCUMENTATION

- Include a descriptive narrative in design deliverables.
- Include architectural drawings identifying EV spaces.
- Electrical schedule identifying panel space for EV circuits.

BIODIVERSITY (B)

B-1 WILDLIFE DETERRENCE PROGRAM

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Selecting non-wildlife attracting plant species minimizes the potential for wildlife strikes, aligning with FAA wildlife hazard mitigation best practices and supporting safe airfield operations.
- Reducing wildlife attraction lowers the need for ongoing wildlife management interventions, which can be costly and disruptive to airport operations.
- Reinforces HCAA's commitment to FAA Advisory Circular 150/5200-33 and other aviation safety requirements through responsible landscaping practices.

PERFORMANCE TARGET(S):

- Any project with landscaping in the scope will ensure a horticulturalist or landscape professional verify that all plants selected for the landscape area are non-attractive to wildlife, ensuring compliance with HCAA Sustainable Design Criteria.

DOCUMENTATION

- Documentation of consultation with a horticulturalist or landscape professional.
- Plant Selection Report as applicable.

COMMUNITY (COM)

COM-1 LIGHT POLLUTION REDUCTION

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Well-controlled lighting reduces glare and light trespass, improving visibility for pilots, drivers, and pedestrians while preserving safety-critical lighting zones.
- Reducing upward and outward light minimizes skyglow, benefiting neighboring communities and ecosystems by maintaining natural circadian rhythms for people and wildlife.
- Targeted lighting reduces unnecessary illumination, lowering energy use and long-term operating costs for exterior lighting systems.

PERFORMANCE TARGET(S):

- Design exterior luminaires to align with Lighting Zone (LZ) 3 standards wherever feasible.
- Provide a list of fixtures with the location, LZ and BUG rating to demonstrate alignment with LZ 3.
- For any fixtures which do not meet LZ 3 standards, provide a justification. Acceptable reasons may include safety considerations, conflict with FAA regulations, or preemption by federal, state and local regulations.
- Specialized signal, directional and marker lighting for transportation may be excluded, if it is controlled by a separate circuit from other non-excluded lighting.

DOCUMENTATION

- Design documents demonstrate use of Lighting Zone and a list of fixtures demonstrating compliance with luminance threshold with the location or justification document in the SDCM checklist.

COM-2 EXTERIOR VIEWS

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Access to exterior views supports mental health, reduces stress, and increases comfort for passengers and employees in regularly occupied spaces.
- Natural sightlines to the outside help orient users within large airport facilities, contributing to a more intuitive and calming experience.

PERFORMANCE TARGET(S):

- Provide direct eye-level views to the outside in regularly occupied spaces where feasible.

DOCUMENTATION

- Floor plans highlighting regularly occupied spaces.
- List of glare-control devices for all windows with their control mechanism.
- List of compliant spaces with their annual summary values for sDA and ASE.
- Geometric plots from simulations.
- Narrative or output file describing daylight simulation program, simulation inputs, and weather file.
- List of compliant spaces with their calculated illuminance values.

ENERGY MANMAGEMENT (EM)

EM-1 SYSTEMS COMMISSIONING

PHASE	APPLICABILITY
DESIGN, CONSTRUCTION	All

BENEFITS

- Verifying that systems operate as designed reduces operational issues, improves energy performance, and prevents costly rework or downtime after occupancy.
- By including systems like airfield lighting, navigational aids, pump stations, and illuminated signage, commissioning ensures that mission-critical infrastructure performs under stress and during emergencies.

PERFORMANCE TARGET(S):

- Complete a commissioning plan for all major systems, including, but not limited to:
  - Mechanical
  - Electrical
  - Renewable energy infrastructure
  - Plumbing systems
  - Building envelope
  - Building Information Management (BIM) systems
  - Emergency back-up power
  - Landside Lighting/Signage systems
  - Airfield Lighting/Signage/Navigational Aids systems
  - Traffic signals
  - Pump stations
  - Oil/water separators
  - Other project-specific minor systems
- Follow ASHRAE Guidance 0-2005 and ASHRAE Guideline 1.1-2007 for HVAC&R systems.

DOCUMENTATION

- System Commissioning Plan.
- Documentation of testing and verification
- Operations and Maintenance Plan
- Commissioning Report

EM-2 IMPROVED ENERGY PERFORMANCE

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Achieving project-level energy reductions helps meet airport-wide energy and emissions reduction targets, contributing to a more resilient and sustainable airport campus.
- Energy modeling ensures systems are optimized for performance, enabling smarter design decisions around building systems synergies and total cost of ownership.

PERFORMANCE TARGET(S):

- Achieve energy consumption reductions compared to the 2020 Florida Building Code, Energy Conservation, 7th Edition-Chapter 4 [CE] Commercial Energy Efficiency.
- Complete an energy model to demonstrate designed energy use.
- Evaluate the use of all electric building systems and energy recovery units.

DOCUMENTATION

- Energy model summary.
- Energy input and output reports.

EM-3 ALTERNATIVE AND RENEWABLE ENERGY

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Designing for solar readiness enables seamless integration of future renewable energy systems, supporting long-term reductions in utility expenses, greenhouse gas emissions and evolving sustainability targets.
- Eliminates the need for disruptive and expensive retrofits when solar installation becomes viable.

PERFORMANCE TARGET(S):

- Incorporate a solar ready design.
- Complete a glint and glare analysis and feasibility studies for solar installations.
- Design for maximum solar potential for structures including, but not limited to:
  - Rooftop structures.
  - Parking canopies.
  - Ground mounts for areas compliant with glint and glare results.
- At a minimum, design roof structures to accommodate this capacity and ensure electrical panels are designed for future solar array interconnections.

DOCUMENTATION

- Glint and Glare Analysis compliant with FAA Policy 14 CFR Part 77.
- Proposed solar array layout.
- Solar Production potential calculations.
- Documentation of structure viability and interconnection potential.
- Electrical Panel Schedule indicating interconnection points.

EM-4 ADVANCED ENERGY METERING

PHASE	APPLICABILITY
DESIGN	AB, LB, MR, PG

BENEFITS

- Submetering and a robust energy management plan allow airport facility teams to track and analyze energy use in real time, identifying inefficiencies and fine-tuning performance across systems.
- Accurate, aggregated data simplifies reporting for internal goals, utility benchmarking, and third-party certifications.

PERFORMANCE TARGET(S):

- Install advanced energy metering for the following:
  - All whole-building energy sources used by the building.
  - Any individual energy end-use that represents 10% or more of the total annual consumption of the building.
- Ensure metering systems are applicable to data receiving platforms used by HCAA.
- Ensure the metering system has the capacity to separate building and facility load from the process load.
- Develop a comprehensive Measurement and Verification Plan (M&V Plan).
- Ensure the M&V Plan covers all energy end-uses within the building.
- Achieve accurate aggregation of energy consumption data at the building level, covering specified energy streams.
- Implement submeters for major energy-consuming systems to enable detailed monitoring and optimization.

DOCUMENTATION

- Demonstration of compliance with HCAA facility existing metering systems.
- M&V Plan outlining advanced meter locations, the measurement, verification process for all energy end uses and description on how to use the meters.
- Aggregated energy consumption data reports for building-level energy consumption and detailed data from submeters for major energy-consuming systems.
- Manufacturer's metering documentation.

EM-5 DAYLIGHTING

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Effective daylighting strategies reduce reliance on artificial lighting, lowering electricity consumption and operational costs.

PERFORMANCE TARGET(S):

- Provide manual or automatic (with manual override) glare-control devices for regularly occupied spaces wherever feasible.
- For core and shell projects, glare-control devices are not required in the spaces to be fit-out by the tenant.
- Evaluate illuminance compliance with 300 lux minimum illuminance level.

DOCUMENTATION

- Daylight Analysis Reports.
- Records of Glare-Control Device installation.
- Illuminance Compliance Reports.

EM-6 THERMAL COMFORT

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Comfortable thermal conditions improve focus and performance, especially for airport employees in non-public work areas.

PERFORMANCE TARGET(S):

- Align thermal comfort strategies with the principles outlined in ASHRAE 55-2017.
- Provide individual temperature controls in building occupants in non-public spaces wherever feasible.

DOCUMENTATION

- ASHRAE Standards calculations results verifying that design parameters meet ASHRAE Standard 55–2017 for 80% acceptability.

HEALTH, SAFETY AND SECURITY (HSS)

HSS-1 INDOOR AIR QUALITY PERFORMANCE

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Meeting or exceeding ASHRAE 62.1-2016 ventilation standard improves air circulation and reduces contaminants, supporting occupant respiratory health and comfort.
- Proper ventilation and air quality help prevent mold, moisture buildup, and system inefficiencies—preserving building integrity and lowering maintenance risks.

PERFORMANCE TARGET(S):

- Design buildings to have ventilation rates that meet or exceed the minimum requirements specified in ASHRAE Standard 62.1-2016.
- Implement demand-controlled ventilation strategies to reduce outside air intake quantities when typically, densely occupied spaces experience reduced occupant levels.

DOCUMENTATION

- Design calculations confirming compliance with ASHRAE 62.1-2016.

HSS-2 ENVIRONMENTAL TOBACCO SMOKE CONTROL

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Reducing exposure to secondhand smoke improves indoor air quality and supports the health of passengers, employees, and visitors—especially vulnerable groups like children and older adults.
- Keeping smoke away from building intakes helps maintain cleaner air ducts and filters, reducing maintenance needs and improving system performance.

PERFORMANCE TARGET(S):

- Prepare an environmental tobacco smoke (ETS) control plan as part of design.
- Provide only outdoor smoking areas, a minimum of 25 feet from entries, air intakes, and operable windows.

DOCUMENTATION

- Environmental tobacco smoke (ETS) control plan.
- Document efforts to communicate to all occupants the designated smoking areas and locations where tobacco use is prohibited, along with the expectations for compliance.
- Use visible signage and provide an example sign.

HSS-3 CARBON DIOXIDE MONITORING

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Adjusting ventilation based on occupancy prevents over-conditioning of spaces, reducing unnecessary energy use and lowering utility costs.
- Connecting CO_2 monitors to the Building Automation System (BAS) allows for real-time monitoring, automated alerts, and quicker response to IAQ issues.

PERFORMANCE TARGET(S):

- Specify installation of carbon dioxide monitors in all densely occupied spaces (i.e., spaces exceeding 25 occupants per thousand square feet of floor area).
- Connect monitors to the building automation system (BAS).
- Use a 10% variance trigger in BAS alerts to initiate notifications when CO_2 levels deviate by more than 10% from the setpoint.
- Locate and design outdoor air intake away from exhaust from vehicles and aircraft to minimize contamination.

DOCUMENTATION

- Include list of densely occupied spaces and monitoring system locations.
- Documentation of outdoor air intake locations and design considerations to prevent re-entrainment of exhaust or pollutants.
- System operations and maintenance plan.
- Carbon Dioxide Monitoring Reports.

HSS-4 INDOOR CHEMICAL AND POLLUTANT SOURCE CONTROL

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

Entryway systems, negative pressure zones, and MERV-13 filtration reduce the infiltration and spread of contaminants into clean areas, ensuring consistently high IAQ throughout airport facilities.

PERFORMANCE TARGET(S):

- Design or specify physical and mechanical means to control chemical and pollutant sources, ensuring compliance with ASHRAE standards.
- All building entrances must have permanent entryway systems (e.g., grills, grates or carpet) at least 10 feet long in the primary direction of travel to control the introduction of pollutants and contaminants into the building interior.
- For all spaces where hazardous gases or chemicals may be present or used (including hangars and copying/printing rooms):
    - Provide exhaust systems sufficient to create negative pressure with respect to adjacent spaces with the doors to the room closed.
- The exhaust rate should be at least 0.50 cfm/sq.ft., with no air recirculation.
- Provide self-closing doors and deck to deck partitions or a hard lid ceiling.
- Each ventilation system that supplies outdoor air to occupied spaces must have particle filters or air-cleaning devices that meet minimum efficiency reporting value (MERV) of 13 or higher, in accordance with ASHRAE Standard 52.2-2007.

DOCUMENTATION

- Documentation of exhaust rates and system design in compliance with ASHRAE Standard 62.1.
- Records of physical and mechanical means implemented to control pollutants.

HSS-5 DESIGN FOR HEAT HAZARDS

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Designing shaded areas and mitigating heat exposure helps prevent heat-related illnesses, ensuring safe working conditions for construction crews and operations staff.
- Incorporating passive cooling strategies and thermal protection prepares airport infrastructure to better withstand rising temperatures and more frequent heat waves.

PERFORMANCE TARGET(S):

- Design shade structures that provide heat protection.
- Incorporate measures in the design to maintain safe working conditions in scenarios where temperatures exceed OSHA's recommended limits for heat exposure.

DOCUMENTATION

- Site specific safety plan.
- Site layout plans documenting the location of shade structures, cooling stations, and hydration stations.
- Training records of heat stress training provided to workers, including attendance and training materials.

HSS-6 NOISE AND ACOUSTICAL QUALITY

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Controlling background noise supports acoustic comfort for passengers, staff, and tenants—especially in spaces like offices and conference rooms where focus and communication are essential.

PERFORMANCE TARGET(S):

- For occupied spaces such as offices and conference rooms achieve maximum background noise levels from heating, ventilating, and air conditioning (HVAC) per 2015 ASHRAE Handbook—HVAC Applications, Chapter 48, Table 1.
- For large conference rooms or other similar spaces, evaluate whether sound reinforcement or masking systems are needed.

DOCUMENTATION

- Documentation of mitigation strategies and how design complies with standards.

RESILIENCE (R)

R-1 DESIGN FOR ENHANCED RESILIENCE

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Elevating structures above the Design Flood Elevation (DFE) protects critical infrastructure from storm surge, sea level rise, and extreme precipitation—minimizing repair costs and service interruptions.
- Aligning with FEMA and ASCE 24 standards helps meet insurance, permitting, and grant eligibility requirements—particularly for federal and state resilience funding.
- Designing hydrodynamic and debris loads ensures structural integrity under future climate conditions, extending the lifespan of buildings and systems.

PERFORMANCE TARGET(S):

- Document design strategies that are responsive to TPA Climate Resiliency and Initial Action Plan, storm surge analysis, and stormwater model.
- The design strategies should focus on elevated structures above the Design Flood Elevation (DFE).
- The DFE corresponds to the site-specific Base Flood Elevation (BFE), or the elevation determined by the resilience analysis whichever is greater, plus the required freeboard which typically ranges from 1 to 2 feet in accordance with the adopted building code and local ordinances.
- If fully elevated structures are not feasible, the design strategy should explore constructing the structure at the minimum code required elevation and implementing floodproofing for the additional desired protection.
- Flood design must account for various loads, including but not limited to:

- Hydrostatic
- Hydrodynamic
- Debris impact
- Wave loads as outlined in the FEMA Guidelines and ASCE 24 standard.

DOCUMENTATION

- Documentation of adaptation concepts.
- Structural analysis demonstrating the structural capacity to withstand buoyant forces and wind speeds.

R-2 BACKUP POWER

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Elevating generators above the Design Flood Elevation and incorporating battery storage reduces vulnerability to flood and storm damage.
- Properly sized and strategically located backup power systems help maintain essential airport functions—such as lighting, communications, security, and life safety systems—during grid disruptions.

PERFORMANCE TARGET(S):

- Size backup power system to meet the energy requirements of equipment to be powered.
- Determine the location of the backup power system, and if a hazard (i.e., flood or wind) protection plan should be incorporated.
- All emergency generators must be located above the Design Flood Elevation per Floodproofing Design Guide.[4]
- Determine the operational duration needed for critical assets backup power.
- Backup power systems should be capable of operating for 12 hours without refueling.
- Use battery storage assets where economically feasible.
- Size fuel supply or battery size to meet operational duration.

[4] City of Tampa. (n.d.). Code of ordinances: Chapter 5 – Building code, Article III. Flood-resistant development.

DOCUMENTATION

- Identify systems to be powered during power outages.
- List equipment to power critical systems and their energy requirements.

R-3 DEBRIS PROTECTION

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Exceeding baseline wind, debris, and flood protection standards ensure that airport structures can remain functional during or immediately after major hurricanes and storm surge events—minimizing risk to staff, passengers, and essential services.
- Integrating hardened and redundant systems—such as reinforced envelopes and protected utility connection minimizes damage and speeds up recovery, reducing downtime and emergency response costs.

PERFORMANCE TARGET(S):

- Design features shall exceed minimum wind, debris, and flood protection standards by integrating:
  - Climate-adjusted hazard projections.
  - Hardened and redundant utility systems.
  - Passive or hybrid protective measures.
- Structures must maintain operations through extreme events such as Category 4 hurricanes or 500-year storm surge scenarios, incorporating both engineered and nature-based defenses to reduce reliance on emergency response.

DOCUMENTATION

- Manufacturer's documentation.
- Documentation of structural analysis demonstrates capacity to withstand buoyant forces and wind speeds.

WATER MANAGEMENT (WA)

WA-1 STORMWATER MANAGEMENT – RATE AND RUNOFF QUALITY

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Mitigate localized flooding and drainage system overloads, supporting operational continuity during heavy rainfall events.
- Enhanced runoff quality reduces pollutants (e.g., oils, sediments, heavy metals) entering nearby water bodies, protecting local aquatic life and improving compliance with environmental regulations.

PERFORMANCE TARGET(S):

- Incorporate infrastructure features that reduce stormwater runoff, compared to existing/pre-project conditions, wherever feasible.

DOCUMENTATION

- Documentation of runoff calculation.
- Design engineering report (ER) documenting reduced stormwater runoff.

WA-2 WATER EFFICIENT LANDSCAPING

PHASE	APPLICABILITY
DESIGN	AB, AC, LB, LC

BENEFITS

- Native and drought-tolerant species require less irrigation, fertilization, and maintenance, which reduces utility costs and ongoing landscape upkeep over the facility's life cycle.
- Landscapes designed with local climate in mind are more resilient to temperature extremes and rainfall variability, while also supporting pollinators and enhancing biodiversity.

PERFORMANCE TARGET(S):

- Achieve 0% potable water usage for landscaping through the use of native and drought-tolerant species as well as the use of reclaimed water.

DOCUMENTATION

- Landscaping documentation.
- Irrigation System Design Calculations: documentation of irrigation system design and water consumption reduction strategies.
- Water Meter Installation Report.

WA-3 WATER USE REDUCTION

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Installing low-flow fixtures and water reuse systems can significantly lower water bills by reducing overall consumption, delivering operational savings across the facility's lifespan.
- Installing low-flow fixtures and water reuse systems can significantly lower water bills by reducing overall consumption, delivering operational savings across the facility's lifespan.

PERFORMANCE TARGET(S):

- Employ water reduction strategies for all indoor water use.
- Strategies include but are not limited to:
  - WaterSense-labeled low-flow fixtures
  - Water reclamation systems
  - Non-potable water use for viable processes.

DOCUMENTATION

- Provide drawings or specifications for water reduction strategies.
- Water reduction calculations.
- Manufacturer's documentation, if applicable.

WASTE MANAGEMENT (WS)

WS-1 STORAGE AND COLLECTION OF RECYCLABLES

PHASE	APPLICABILITY
DESIGN	AB, LB, MR

BENEFITS

- Providing infrastructure for recycling and hazardous waste diversion helps minimize solid waste sent to landfills, lowering environmental footprint.
- Clearly designated collection areas streamline waste handling processes and reinforce sustainability awareness among employees.

PERFORMANCE TARGET(S):

- Provide storage and collection provisions for the following minimum waste streams in all public-facing facilities:
  - Comingled recycling and municipal solid waste.
- Provide storage and collection provisions for the following minimum waste streams in all back of house and employee-facing facilities:
  - Comingled recycling and municipal solid waste
  - Hazardous waste such as batteries, mercury-containing lights and e-waste.

DOCUMENTATION

- Material collection and recycling plan for the facility when operational.
- Plans should include procedures for waste disposal, expected waste streams, and potential recycling facility locations.

WS-2 PLANNING FOR DECONSTRUCTION

PHASE	APPLICABILITY
DESIGN	All

BENEFITS

- Designing with end-of-life in mind enables reuse, recycling, or repurposing of materials—diverting construction waste from landfills and extending the life cycle of valuable resources.
- Thoughtful planning enables more flexible, modular structures that can adapt to changing operational or environmental conditions—improving long-term facility resilience.

PERFORMANCE TARGET(S):

- Develop an end-of-life plan for all major components of the project such as wall assemblies and major structural components throughout its projected life with consideration given to recyclability, deconstruction, and/or replacement.
    - End-of-life environmental, social, and economic conditions are part of the assessment.
    - End-of-life costs and salvage values.

DOCUMENTATION

- Component end of life plan.

CRITERIA FOR CONSTRUCTION

AIR QUALITY AND EMISSIONS (AQE)

AQE-5 EXTERIOR AIR QUALITY

PHASE	APPLICABILITY
CONSTRUCTION	All

BENEFITS

- EPA Tier 4 equipment reduces particulate matter (PM), nitrogen oxides (NOx), and other pollutants, contributing to cleaner air for nearby communities, passengers, and construction workers.
- Reduced emissions during construction can support scope 3 carbon reduction targets.

PERFORMANCE TARGET(S):

- Ensure that all project-related on-road vehicles, off-road equipment and temporary generators comply with EPA Tier 4 emissions standards, which significantly reduce harmful emissions by integrating advanced emission control technologies.

DOCUMENTATION

- Emissions log of all on-road vehicles, off-road equipment, and temporary generators including the following information:
  - Vehicle type
  - Engine make
  - Engine model number
  - Serial number of engines
  - Engine family name and model year

- Horsepower and/or Kilowatts (for nonroad only)
- Current Tier level
- Serial number and VIN of vehicle
- Type of fuel used
- Number of use hours (if available)
- Contractor/owner

BIODIVERSITY (B)

B-2 INTEGRATED PEST MANAGEMENT PROGRAM

PHASE	APPLICABILITY
CONSTRUCTION	All

BENEFITS

- Targeted pest control reduces harm to beneficial or non-target species (e.g., pollinators), helping maintain the local ecosystem.
- Reducing reliance on chemical pesticides minimizes occupant and employee exposure to toxic substances, supporting safer indoor and outdoor environments.
- Preventive pest management strategies reduce the frequency and severity of infestations, lowering the need for chemical treatments and repairs due to pest-related damage.

PERFORMANCE TARGET(S):

- Develop an Integrated Pest Management (IPM) plan for construction.
- Strategies should correctly identify pests to determine the best preventive measures that do not harm non-target species and reduce unnecessary pesticide use.
- Establish a pest population level at which pest control action must be taken.
- Focus on prevention by removing conditions that attract pests, such as food, water, and shelter.
- Evaluate and implement appropriate control methods when preventive measures are no longer effective.
- Avoid the use of pesticides for pest prevention whenever possible.
- Apply pesticides only in areas where pests are present.

DOCUMENTATION

- Construction Integrated Pest Management Plan.

HEALTH, SAFETY AND SECURITY (HSS)

HSS-7 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

PHASE	APPLICABILITY
CONSTRUCTION	AB, LB, MR

BENEFITS

- Minimizing dust, VOCs, and other airborne pollutants during construction reduces respiratory risks for construction workers and ensures a healthier environment for future building occupants and airport staff.
- Indoor Air Quality (IAQ) testing and flush-out procedures ensure that new or renovated spaces are free of odors, allergens, and harmful particulates.

PERFORMANCE TARGET(S):

- Develop and implement a Construction IAQ Management Plan.
- The Plan must include, at a minimum:
  - Specify activities to limit VOCs.
  - Mitigation strategies for dust and other IAQ impacts during construction.
  - Building flush-out.
  - IAQ testing or other strategies used to ensure optimal IAQ prior to occupancy.
  - Non-combustion power tools.

Include provisions to prevent indoor smoking during construction.

DOCUMENTATION

- Construction IAQ Management Plan
- Photos of IAQ strategies used in construction.

SUSTAINABLE PROCUREMENT (SP)

SP-1 ENVIRONMENTAL PRODUCT DECLARATIONS

PHASE	APPLICABILITY
CONSTRUCTION	All

BENEFITS

- Environmental Product Declarations (EPDs) provide independently verified, standardized information about a product's environmental impact, helping project teams make more informed and responsible choices.

PERFORMANCE TARGET(S):

- Use permanently installed products sourced from manufacturers that meet one of the disclosure criteria below whenever feasible:
  - Products with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044.
  - Products with an internally critically reviewed LCA in accordance with ISO 14071.
  - Products with third-party certification.
  - Products with EPDs which conform to ISO 14025 and EN 15804 or ISO 21930 and have at least a cradle to gate scope.

DOCUMENTATION

- Product-specific EPD documents.

SP-2 SOURCING OF RAW MATERIALS

PHASE	APPLICABILITY
CONSTRUCTION	All

BENEFITS

- Procurement from sources that prioritize sustainable extraction and production to help reduce environmental degradation and conserving natural ecosystems.
- Incorporating recycled, reused, and responsibly sourced materials helps divert waste from landfills and reduces demand for virgin raw materials.

PERFORMANCE TARGET(S):

- Use products that are responsibly sourced and extracted for products permanently installed building products in the project wherever feasible. Responsibly sourced products may include:
  - Products purchased from a manufacturer (producer) that participates in an extended producer responsibility program or is directly responsible for extended producer responsibility.
  - Bio-based products and materials other than wood must be tested using ASTM Test Method D6866 or equivalent method ISO 16620-2 or be certified to the USDA BioPreferred Voluntary Labeling Initiative that includes verification via ASTM 6866 testing.
  - Wood products certified by the Forest Stewardship Council or USGBC-approved equivalent.
  - Reused materials including salvaged, refurbished, or reused products.
  - Locally sourced materials within 100 miles of the airport campus.
  - Recycled content.

DOCUMENTATION

- Documentation of legally harvested bio-based products.
- Manufacturer's product documentation.
- Program documentation.

SP-3 MATERIAL INGREDIENTS

PHASE	APPLICABILITY
CONSTRUCTION	All

BENEFITS

- Access to detailed product ingredient information allows project teams to make better choices that align with sustainability goals and avoid materials with potentially hazardous chemicals.

PERFORMANCE TARGET(S):

- Use products that demonstrate the chemical inventory of the product to at least 0.1% (1,000 ppm) by selecting manufacturers that use any of the following programs:
  - ANSI/BIFMA e3 Furniture Sustainability Standard
  - Cradle to Cradle
  - Declare
  - Facts – NSF/ANSI 336
  - Global Green TAG
  - Health Product Declaration
  - Living Product Challenge
  - Manufacturer Product Data Sheet
  - Product Lens Certification

DOCUMENTATION

- LEED v4.1 materials and resources (MR) building product calculator product reports.

SP-4 LOW EMITTING MATERIALS

PHASE	APPLICABILITY
CONSTRUCTION	All

BENEFITS

- By utilizing materials with low volatile organic compounds (VOCs) and emissions, the project minimizes harmful pollutants, reducing risks of respiratory issues, allergies, and other health problems for occupants and visitors.
- Cleaner indoor environments contribute to greater comfort and well-being, which can improve employee productivity and passenger experience within airport facilities.

PERFORMANCE TARGET(S):

- Demonstrate compliance with the following product categories wherever feasible:
  - Paints, Coast, Adhesives, Sealants - Should meet the VOC emissions evaluation and meet the VOC content evaluation.
  - Wall Panels - Should meet the VOC emissions evaluation, or be identified as inherently non-emitting sources criteria, or be salvaged and reused materials criteria.
  - Flooring and Ceilings - Should meet the VOC emissions evaluation or be identified as inherently non-emitting sources criteria or be salvaged and reused materials criteria.
  - Insulation - Should meet the VOC emissions evaluation.
  - Furniture - Should meet the furniture emissions evaluation, or be identified as inherently non-emitting sources criteria, or be salvaged and reused materials criteria.

DOCUMENTATION

- CDPH Standard Method v1.2-2017 and/or EN 16516:2017 with 2018 updates.
- LEED v4.1 MR Low-emitting materials calculator or equivalent documentation.

WASTE MANAGEMENT (WS)

WS-3 CONSTRUCTION WASTE MANAGEMENT

PHASE	APPLICABILITY
CONSTRUCTION	All

BENEFITS

- Diverting construction and demolition debris reduces landfill burden, lowers greenhouse gas emissions, and conserves natural resources.
- Recycling and reusing materials can decrease disposal costs and reduce demand for virgin materials, promoting more efficient project resource management.

PERFORMANCE TARGET(S):

- Develop a Construction Waste Management Plan that identifies:
  - Material streams to be site-separated for recycling.
  - Building components to be reused wherever feasible.

DOCUMENTATION

- Construction Waste Management Plan.
- Project waste generation and diversion reports by material and weight.
- Waste tickets supporting waste diversion calculations.

WS-4 BALANCED EARTHWORK

PHASE	APPLICABILITY
CONSTRUCTION	AB, AC, LB, LC, PG

BENEFITS

- Reusing onsite soils reduces the need to haul materials offsite and bring in new fill, cutting fuel use, vehicle emissions, and traffic disruption.
- Stockpiling and reusing soil promote soil preservation and reduces disturbance to natural sites, enhancing overall site sustainability.

PERFORMANCE TARGET(S):

- Identify reuse or stockpile opportunities for excavation and earthwork soils on airport property for later use in the form of an Earthwork Balancing Plan.
- Track earthwork activity throughout the project by volume of disturbed soils, percent retained on HCAA campus, and volume of new soils used for the project.

DOCUMENTATION

- Earthwork Balancing Plan.
- Final earthwork balancing report.

APPENDIX A – THIRD-PARTY CRITERIA REFERENCE

Administrative (AD)

AD-1 Integrated Design:

1. Integrative Process: Integrative Project Planning and Design; Page 11-12, LEED Reference Guide for Building Design and Construction v4.1 -US Green Building Council, 2025
2. Integrative Process, Planning, and Assessments: Integrative Design Process; Page 9, LEED Reference Guide for Building Design and Construction v5 -US Green Building Council, First Public Comment Draft April 2024

AD-2 Sustainable Professional – No Third-Party Reference

Air Quality and Emissions (AQE)

AQE-1 Alternative Transportation:

1. Location and Transportation: Bicycle Facilities; Page 9, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024
2. Program Management: Bicycle Parking and Storage; Page 27, Parksmart Certification Standard – Green Business Certification Inc., 2016
3. Support Alternative Transportation; Page 112, SITES v2 Rating System – Sustainable Sites Initiative, 2016
4. Active Transportation Support; Page 354, WELL Building Standard v2 – International WELL Building Institute, 2020
5. Improve Community Quality of Life; Page 18, Envision v3 Guidance Manual – Institute for Sustainable Infrastructure, 2018

AQE-2 Reduce Heat Islands:

1. Sustainable Sites: Heat Island Reduction – Roof and Nonroof Measures; Page 9, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024
2. Reduce Urban Heat Island Effects; Page 122, SITES v2 Rating System – Sustainable Sites Initiative, 2016
3. Reduce Negative Impacts from Materials – Heat Island Reduction; Page 45, Envision v3 Guidance Manual – Institute for Sustainable Infrastructure, 2018

AQE-3 Ozone-Depleting Chemicals and Refrigerant Management:

1. Enhanced Refrigerant Management; Page 142, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024
2. Reduce Operational Pollution – Refrigerant Management; Page 52, Envision v3 Guidance Manual – Institute for Sustainable Infrastructure, 2018
3. U.S. Environmental Protection Agency. (2023). Technology Transitions GWP Reference Table

AQE-4 Electric Vehicle Infrastructure:

1. Electric Vehicle Supply Equipment (EVSE); Page 18, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024
2. Electric Vehicle Charging Stations; Page 35, Parksmart Certification Standard – Green Business Certification Inc., 2016
3. Reduce Greenhouse Gas Emissions – Support for Low-Emission Vehicles; Page 61, Envision v3 Guidance Manual – Institute for Sustainable Infrastructure, 2018

AQE-5 Exterior Air Quality:

1. Construction Emissions Reduction; Page 165, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024
2. Reduce Construction Emissions; Page 67, Envision v3 Guidance Manual – Institute for Sustainable Infrastructure, 2018

Biodiversity (B)

B-1 Wildlife Deterrence Program:

1. Site Design – Planting Design: Use Appropriate Plants; Page 98, SITES v2 Rating System – Sustainable Sites Initiative, 2016

B-2 Integrated Pest Management Program:

1. Implement Integrated Pest Management; Page 152, SITES v2 Rating System – Sustainable Sites Initiative, 2016

Community (COM)

COM-1 Light Pollution Reduction:

1. Sustainable Sites: Light Pollution Reduction – BUG Rating and Lighting Zone Compliance; Page 75, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

COM-2 Exterior Views:

1. Indoor Environmental Quality: Daylight – Simulation and Performance Metrics (sDA, ASE); Page 101, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

Energy Management (EM)

EM-1 Systems Commissioning:

1. Energy and Atmosphere: Fundamental and Enhanced Commissioning – ASHRAE Guidelines 0-2005 and 1.1-2007; Page 130, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

EM-2 Improved Energy Performance:

1. Energy and Atmosphere: Minimum Energy Performance – Energy Modeling and ASHRAE 90.1-2019 Compliance; Page 137, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024
2. Florida Building Code (2020), Energy Conservation, 7th Edition-Chapter 4 [CE] Commercial Energy Efficiency

EM-3 Alternative and Renewable Energy:

1. Energy and Atmosphere: Renewable Energy Planning – Solar Ready Design and Glint & Glare Analysis; Page 149, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

EM-4 Advanced Energy Metering:

1. Energy and Atmosphere: Advanced Energy Metering and Measurement & Verification Plan; Page 145, LEED Reference Guide for Building Design and

Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

EM-5 Daylighting:

1. Indoor Environmental Quality: Daylight and Quality Views – Glare Control and Illuminance Levels; Page 103, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

EM-6 Thermal Comfort:

1. Indoor Environmental Quality: Thermal Comfort – ASHRAE 55-2017 Compliance and Individual Controls; Page 120, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

Health, Safety, and Security (HSS)

HSS-1 Indoor Air Quality Performance:

1. Indoor Environmental Quality: Minimum Indoor Air Quality Performance – ASHRAE 62.1-2016 Compliance; Page 95, LEED Reference Guide for Building Design and Construction v4.1 – U.S. Green Building Council, First Public Comment Draft, April 2024.

HSS-2 Environmental Tobacco Smoke Control:

1. Indoor Environmental Quality: Environmental Tobacco Smoke Control – Outdoor Smoking Area Requirements; Page 93, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

HSS-3 Carbon Dioxide Monitoring:

1. Indoor Environmental Quality: Enhanced Indoor Air Quality Strategies – CO_2 Monitoring and Demand-Controlled Ventilation; Page 97, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

HSS-4 Indoor Chemical and Pollutant Source Control:

1. Indoor Environmental Quality: Enhanced Indoor Air Quality Strategies – Source Control and MERV 13 Filtration; Page 99, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

HSS-5 Design for Heat Hazards:

1. Indoor Environmental Quality: Thermal Health and Resilience – Heat Exposure Mitigation Strategies; Page 123, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

HSS-6 Noise and Acoustic Quality:

1.Indoor Environmental Quality: Acoustic Performance – HVAC Background Noise and Sound Reinforcement; Page 118, LEED Reference Guide for Building Design and Construction v4.1 – U.S. Green Building Council, First Public Comment Draft, April 2024

HSS-7 Construction Indoor Air Quality Management:

1. Indoor Environmental Quality: Construction Indoor Air Quality Management Plan – SMACNA Guidelines and VOC Control; Page 91, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

Resilience (R)

R-1 Design for Enhanced Resilience:

1. Location and Transportation: Climate Resilience Assessment – Flood Risk and Elevation Strategies; Page 41, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

R-2 Backup Power:

1. Energy and Atmosphere: Resilient Energy Infrastructure – Backup Power and Flood Protection; Page 151, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

R-3 Debris Protection:

1. Location and Transportation: Climate Resilience – Design for Category 4 Hurricanes and 500-Year Storm Surge; Page 43, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

Sustainable Procurement (SP)

SP-1 Environmental Product Declarations:

1. Materials and Resources: Building Product Disclosure and Optimization – Environmental Product Declarations (EPDs); Page 83, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

SP-2 Sourcing of Raw Materials:

1. Materials and Resources: Building Product Disclosure and Optimization – Sourcing of Raw Materials; Page 85, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

SP-3 Material Ingredients:

1. Materials and Resources: Building Product Disclosure and Optimization – Sourcing of Raw Materials; Page 85, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

SP-4 Low Emitting Materials:

1. Indoor Environmental Quality: Low-Emitting Materials – Page 9, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

Water Management (WA)

WA-1 Stormwater Management – Rate and Runoff:

1. Site Design – Water: Stormwater Management Page 42, SITES v2 Reference Guide for Sustainable Land Design and Development – Green Business Certification Inc., 2014

WA-2 Water Efficient Landscaping:

1. Site Design – Water: Potable Water Use Reduction for Landscape Irrigation – Page 45, SITES v2 Reference Guide for Sustainable Land Design and Development – Green Business Certification Inc., 2014

WA-3 Water Use Reduction:

1. Water Efficiency: Indoor Water Use Reduction – Page 12, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

Waste Management (WS)

WS-1 Storage and Collection of Recyclables:

1. Materials and Resources: Waste Management – Storage and Collection – Page 93, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

WS-2 Planning for Deconstruction:

1. Resource Allocation: End-of-Life Planning for Major Components, Envision v3 Rating System – Institute for Sustainable Infrastructure, 2018

WS-3 Construction Waste Management:

1. Materials and Resources: Construction and Demolition Waste Management – Page 97, LEED Reference Guide for Building Design and Construction v5 – U.S. Green Building Council, First Public Comment Draft, April 2024

WS-4 Balanced Earthwork:

1. Site Design – Soil Management: Reuse of Excavated Soils Page 52, SITES v2 Reference Guide for Sustainable Land Design and Development – Green Business Certification Inc., 2014

APPENDIX B – SUSTAINABLE CONSTRUCTION SPECIFICATIONS

SECTION XX-XX
SUSTAINABILITY CONSTRUCTION SPECIFICATION

PART 1 GENERAL

1.1 SUMMARY

This specification includes general requirements and procedures for this project to be constructed and documented per the Hillsborough County Aviation Authority (HCAA) Sustainable Design Criteria Manual (SDCM) and other requirements identified in this specification.

1.2 BASIS OF PAYMENT

Contractor shall bear all costs associated with constructing, demonstrating, and documenting that project complies with approved SDCM Criteria Requirements.

1.3 DEFINITIONS

Term	Definition
ANSI/BIFMA e3 Furniture Sustainability Standard	A comprehensive standard developed by the Business and Institutional Furniture Manufacturers Association (BIFMA) and accredited by ANSI.
Bio-based Products	Materials, chemicals, or fuels derived from renewable biological resources such as plants, animals, or microorganisms.
Cradle to Cradle	A product certification that assesses a product's safety to humans and the environment and its design for future life cycles.
Declare	A transparency platform and labeling program by the International Living Future Institute (ILFI) that discloses product ingredients, sourcing, and end-of-life options.
Environmental Product Declaration (EPD)	A standardized document that provides transparent, verified data about the environmental impact of a product throughout its life cycle.
Facts – NSF/ANSI 336	A sustainability assessment standard for commercial furnishings fabrics.
Global Green TAG	An internationally recognized ecolabel and certification system that assesses the health, environmental, and social impacts of products.
Global Warming Potential (GWP)	Measure of how much heat a greenhouse gas traps in the atmosphere over a specific time period (usually 100 years), compared to carbon dioxide (CO_2), which has a GWP of 1.

Health Product Declarations	A standardized format for reporting the contents and associated health information of building products.
Living Product Challenge	A certification by ILFI that encourages manufacturers to create products that are healthy, socially responsible, and give back more than they take.
Manufacturer Product Data Sheet	A detailed list of all ingredients in a product, typically down to 100 ppm (parts per million), including chemical names and chemical abstracts service (CAS) numbers.
Ozone Depletion Potential (ODP)	A measure of a substance's potential to destroy the ozone layer compared to a reference substance (~~usually CFC-11~~). A value of zero means the substance does not deplete ozone.
Previous Sustainability Projects	Projects that followed established sustainability guidelines (or manuals) or projects that were reviewed and certified by independent third-party organizations.
Product Lens Certification	A certification developed by the Health Product Declaration Collaborative and Clean Production Action.
Refurbished	A product that has been previously used or returned, then inspected, repaired, if necessary, cleaned, and restored to a fully functional condition.
Reuse	Making use of a material without altering its form. Materials can be reused on-site or reused on other projects off-site.
Salvage	Recovery of materials for on-site reuse, or off-site sale or donation to a third party.

1.4 REFERENCES

Solar Reflective Index (SRI)
ASTM E1980-11. *Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.* ASTM International.

Global Warming Potentials (GWPs)
U.S. Environmental Protection Agency. *Global Warming Potentials (GWPs) from the Technology Transitions Rule.* Office of Air and Radiation, 2024.

EPA Tier 4 Emissions Standards
U.S. Environmental Protection Agency. *Emission Standards for Nonroad Diesel Engines (Tier 4).* Code of Federal Regulations, Title 40, Part 1039.

ISO 14044:2006
International Organization for Standardization. *Environmental management — Life cycle assessment — Requirements and guidelines.*

ISO 14071:2014
International Organization for Standardization. *Environmental management —*

Life cycle assessment — Critical review processes and reviewer competencies — Additional requirements and guidelines to ISO 14044.

ISO 14025:2006
International Organization for Standardization. *Environmental labels and declarations — Type III environmental declarations — Principles and procedures.*

EN 15804:2012+A2:2019
European Committee for Standardization (CEN). *Sustainability of construction works — Environmental product declarations — Core rules for the product category of construction products.*

ISO 21930:2017
International Organization for Standardization. *Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services.*

VOC Emissions Evaluation
U.S. Environmental Protection Agency. *Technical Overview of Volatile Organic Compounds (VOCs).* Office of Air and Radiation.

Indoor Air Quality During Construction
Sheet Metal and Air Conditioning National Contractors Association (SMACNA). *IAQ Guidelines for Occupied Buildings Under Construction*, 2nd Edition, 2007. ANSI/SMACNA 008–2008, Chapter 3.

LEED v4.1 MR Low-emitting Materials Calculator

U.S. Green Building Council. *LEED v4.1 Building Design and Construction Reference Guide*, Materials and Resources Credit: Low-Emitting Materials.

1.5 ADMINISTRATIVE REQUIREMENTS

1.5.1 Preconstruction Meetings

a. General contractor will conduct Kick-off meeting in collaboration with the Design Team and HCAA to review SDCM Criteria Requirements and third-party requirements no more than 30-days after the Notice to Proceed issuance.

1.5.2 HCAA SDCM Validation

a. Refer to the SDCM Checklist at the end of this specification section. All projects must meet these requirements. Projects that involve multiple buildings must have one Checklist for each building.

b. No variations to the SDCM Checklist are allowed without written consent from the Designer of Record. Immediately bring to the attention of the Designer of Record any changes that impact meeting the approved SDCM Criteria Requirements for this project.
c. Documentation of all work is required to incorporate the applicable SDCM Criteria Requirements indicated on the SDCM Checklist and in this contract.

1.6 INFORMATIONAL SUBMITTALS

1.6.1 Sustainability Action Plan (SAP)

a. Contractor shall submit a Sustainability Action Plan. The SAP shall include the following information:
    i. Planned method to achieve each construction related HCAA SDCM manual requirement.
    ii. Name of designated Sustainability Professional responsible for ensuring HCAA SDCM criteria requirements are met and for assembling documentation.
    iii. Construction Integrated Pest Management Plan.
    iv. Construction Indoor Air Quality (IAQ) Management Plan
    v. List of proposed products with Environmental Product Declarations.
    vi. List of proposed products complying with requirements for raw material and source extraction reporting.
    vii. List of proposed products complying with requirements for material ingredient reporting.
    viii. List of proposed products complying with requirements for low emissions.
    ix. Construction Waste Management Plan.
    x. Earthwork Balancing Plan.

1.6.2 Progress Reports

b. Contractor shall submit monthly progress reports updating progress towards HCAA SDCM Checklist and supporting documentation compliance.
    i. Waste reduction progress reports.
    ii. Product disclosure and optimization – environmental product declarations.
    iii. Product disclosure and optimization – sourcing of raw materials.
    iv. Responsibly Sourced products.
    v. Bio-based materials.
    vi. Certified wood products.
    vii. Materials reuse.

viii. Recycled content.
ix. Product disclosure and optimization – material ingredients.
x. Low emitting materials.
xi. Indoor air quality, during construction, Air Quality Management.
xii. Indoor air quality assessment requirements.

1.6.3 Sustainability Professional

a. Contactor shall designate a Sustainability Professional responsible for all contractor requirements as identified in the HCAA SDCM Checklist.
b. Contractor shall submit documentation demonstrating the designated Sustainability Professional on the design team and Construction team.

1.6.4 Exterior Air Quality

a. All project-related on-road vehicles, off-road equipment and temporary generators comply with EPA Tier 4 emissions standards, which significantly reduce harmful emissions by integrating advanced emission control technologies.
    i. Contractor shall provide emissions log of all on-road vehicles, off-road equipment, and temporary generators including the following information:
        1. Vehicle type
        2. Engine make
        3. Engine model number
        4. Serial number of engines
        5. Engine family name and model year
        6. Horsepower and/or Kilowatts (for nonroad only)
        7. Current Tier level
        8. Serial number and VIN of vehicle
        9. Type of fuel used
        10. Number of use hours (if available)
        11. Contractor/owner

1.6.5 Integrated Pest Management Program

a. Contractor shall provide a construction integrated pest management (IPM) plan.
    i. IPM plan shall include the following:
        1. Pest population level at which pest control actions must be taken.
        2. Pest prevention measures.
        3. Control measures for instances when prevention measures are not effective.
        4. Pesticide alternative measures to avoid the use of pesticides whenever possible.

1.6.6 Construction Indoor Air Quality Management

a. Contractor shall provide a construction indoor air quality (IAQ) management plan.
    i. IAQ shall include the following, at a minimum:
        1. Specify activities to limit VOCs.
        2. Mitigation strategies for dust and other IAQ impacts during construction.
        3. Building flush-out.
        4. IAQ testing or other strategies used to ensure optimal IAQ prior to occupancy.
        5. Non-combustion power tools.
b. Contractor shall provide photos of IAQ strategies used in construction.

1.6.7 Construction Waste Management Plan

a. Contractor shall provide a construction waste management plan.
    i. Construction waste management plan shall identify material streams to be site-separated for recycling and building components to be reused.
b. Contractor shall provide project reports of total waste generation and diversion by material and weight.
c. Contractor shall provide waste tickets supporting waste diversion calculations.

1.6.8 Balanced Earthwork

a. Contractor shall provide earthwork balancing plan
    i. Plan shall identify the following:
        1. Reuse or stockpile opportunities for excavation.
        2. Earthwork soils on airport property for later use.
b. Contractor shall provide earthwork balancing report detailing earthwork activity tracking throughout the project.
    i. Tracking shall be provided by:
        1. Volume of disturbed soils.
        2. Percent retained on HCAA campus.
        3. Volume of new soils for the project.

1.6.9 Calculations

Contractor shall provide calculations, product data, labels, cutsheets and product certifications required to demonstrate compliance with the SDCM Criteria Requirements.

1.7 ACTION SUBMITTALS

1.7.1 Sustainable Submittals

Contractor shall provide updated HCAA SDCM Checklist and supporting documentation demonstrating compliance with the SDCM requirements of the project.

1.7.2 SDCM Documentation Compliance Submittals

Contractor shall incorporate each of the following SDCM Citeria Requirements into project construction; and provide documentation that proves compliance with each listed requirement. Items below are organized according to the SDCM.

1.7.3 SDCM Citeria Requirements

1.7.3.1 Reduced Heat Islands

a. The contractor shall provide cutsheets for roof materials, concrete mix designs, and shading structures showing Solar Reflective Index (SRI) and Solar Reflectance (SR) values respectively.
    i. Manufacturer’s documentation demonstrating roof material initial SRI of at least 82 and a three-year aged SRI of at least 64.
    ii. Manufacturer’s documentation demonstrating paving material initial SR of at least 0.33 and a three-year aged SR of at least 0.28.
    iii. Manufacturer’s documentation demonstrating shading structures initial SR of at least 0.33 and a three-year aged SR of at least 0.28

1.7.3.2 Ozone Depleting Chemicals and Refrigerant Management

a. All systems shall utilize low-impact refrigerants with an ozone depletion potential (ODP) of zero (0) and a GWP of less than 50; reference EPA's guidance on Global Warming Potentials (GWPs) from the Technology Transitions Rule, or equivalent.
    i. Contractor shall provide manufacturer’s documentation demonstrating refrigerant GWP or calculations demonstrating the refrigerant type GWP.

1.7.3.3 Water Use Reduction

a. Contractor shall provide manufacturer's documentation for all fixtures and fittings identifying WasterSense Label compliance.

1.7.3.4 Environmental Product Declarations (EPD)

a. Contractor shall source permanently installed products from manufacturers that meet one of the following disclosure criteria:

i. Products with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044.
ii. Products with an internally critically reviewed LCA in accordance with ISO 14071.
iii. Products with third-party certification.
iv. Products with EPDs which conform to ISO 14025 and EN 15804 or ISO 21930 and have at least a cradle to gate scope.

b. Contractor shall provide product specific environmental product declarations (EPD) documents demonstrating criteria.

1.7.3.5 Sourcing of Raw Materials

a. Contractor shall source products that are responsibly sourced and extracted for products permanently installed building products in the project. Responsibly sourced products may include:
   i. Products purchased from a manufacturer (producer) that participates in an extended producer responsibility program or is directly responsible for extended producer responsibility.
   ii. Bio-based products and materials other than wood must be tested using ASTM Test Method D6866 or equivalent method ISO 16620-2 or be certified to the USDA BioPreferred Voluntary Labeling Initiative that includes verification via ASTM 6866 testing.
   iii. Wood products certified by the Forest Stewardship Council.
   iv. Material Reuse including salvaged, refurbished, or reused products.
   v. Locally sourced materials within 100 miles of the airport campus.
   vi. Recycled content.
b. Contractor shall provide product documentation demonstrating legally harvested bio-based products.
c. Contractor shall provide product responsible program documentation.

1.7.3.6 Material Ingredients

a. Contractor shall source products that demonstrate the chemical inventory of products to at least 0.1% (1,000 ppm) by selecting manufacturers that use any of the following programs:
   i. ANSI/BIFMA e3 Furniture Sustainability Standard
   ii. Cradle to Cradle
   iii. Declare
   iv. Facts – NSF/ANSI 336
   v. Global Green TAG
   vi. Health Product Declaration
   vii. Living Product Challenge

viii. Manufacturer Inventory
ix. Product Lens Certification

b. Contractor shall provide LEED v4.1 materials and resources (MR) building product calculator reports.

1.7.3.7 Low Emitting Materials

a. Contractor shall source products that demonstrate the low volatile organic compounds (VOCs) in the following product categories:
   i. Paints, Coast, Adhesives, Sealants - Should meet the VOC emissions evaluation and meet the VOC content evaluation.
   ii. Wall Panels - Should meet the VOC emissions evaluation, or be identified as inherently non-emitting sources criteria, or be salvaged and reused materials criteria.
   iii. Flooring and Ceilings - Should meet the VOC emissions evaluation or be identified as inherently non-emitting sources criteria or be salvaged and reused materials criteria.
   iv. Insulation - Should meet the VOC emissions evaluation.
   v. Furniture - Should meet the furniture emissions evaluation, or be identified as inherently non-emitting sources criteria, or be salvaged and reused materials criteria.
b. Contractor shall provide CDPH Standard Method v1.2-2017 and/or EN 16516:2017 with 2018 updates.
c. Contractor shall provide LEED v4.1 MR Low-emitting materials calculator or equivalent documentation.

--End of Section--