



sustainability
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Green Building Standards

Dallas Fort Worth

International Airport

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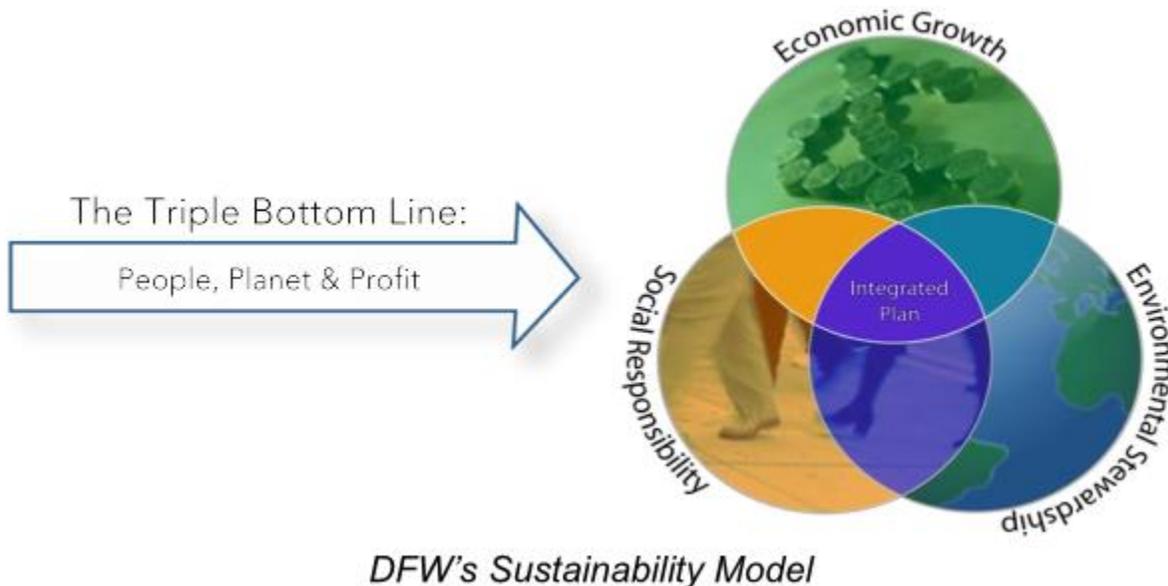
SECTION 1 Overview

Introduction

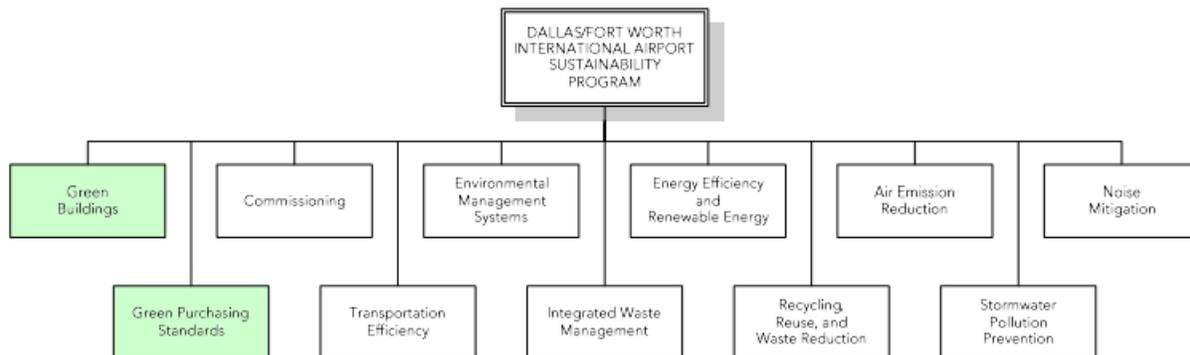
Dallas Fort Worth International Airport (DFW) opened in 1974 and covers 29.8 square miles. DFW is the 3rd largest airport worldwide in terms of operations and 10th largest in terms of passenger volume. In addition to 5 terminals, a SkyLink train, commercial centers, warehouses, offices, and hotels, the airport currently has 7 active runways and 167 gates. According to a study by The Perryman Group in 2015, DFW Airport operations and related activities generate 228,000 jobs and \$19.8 billion in annual gross product in the North Central Texas Region. In short, DFW is a major operation with ample opportunity to implement green building design. Although DFW has been executing sustainable best management practices for years, introducing Green Building Standards will enable DFW to continue to grow responsibly.

DFW Sustainability Program

In August 2008, DFW Airport launched an airport-wide Sustainability Policy and Program under the auspices of DFW’s Executive Vice President’s Operations Division. DFW’s Sustainability Program is a key element in the Airport’s Strategic Plan designed to positively affect the environment, the community, the Airport and its employees. DFW’s Sustainability Program is about being environmentally friendly and being a strong corporate and community partner. Sustainability is a business approach that seeks to understand and balance economic, environmental and social objectives.



DFW Sustainability Program



This document, called the Green Building Standards (GBS), is the product of the work undertaken in the Green Buildings focus area of the DFW Sustainability Program. To aid the development of this work, a GBS Task Force (a subgroup of the Green Building Team) developed the following Charter Statement:

This interdepartmental group of stakeholders shall develop a “Green Building Program” for DFW Airport that: a) governs the design and construction of facilities constructed on Airport property, b) supports the Airport’s comprehensive sustainability strategy, and c) demonstrates the Airport’s commitment to environmental stewardship by utilizing “Best Business Practices” to effectively reduce the Airport’s consumption of natural resources.

GBS Intent

The Green Building Standards (GBS) was developed to provide project teams with sustainable design guidelines for infrastructure, interior/small renovation, major renovation, and new facilities. This document is intended to be used in conjunction with DFW’s “Design Criteria Manual”. All Board-controlled projects will implement the GBS. The GBS is not expected to be applied to Ground Lease Tenant projects and it is DFW’s intention to issue separate guidelines for these projects at a later date.

By developing a rigorous GBS framework, DFW will be able to measure and report over time on the implementation of sustainable design strategies at the airport.

GBS Development

The GBS was developed using the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) v4 for Green Building Design and Construction rating system as the core standard. As the predominant market-based green building rating system in the U.S., LEED provides an internationally accepted and recognizable benchmark for sustainable design

performance. Further, the following airport-specific guidelines were evaluated as notable airport sustainable design guidelines:

- Chicago Department of Aviation Sustainable Airport Manual (SAM)
- Los Angeles World Airports Sustainable Airport Planning, Design and Construction Guidelines
- Port Authority of New York and New Jersey (PANYNJ) Sustainable Design Guidelines

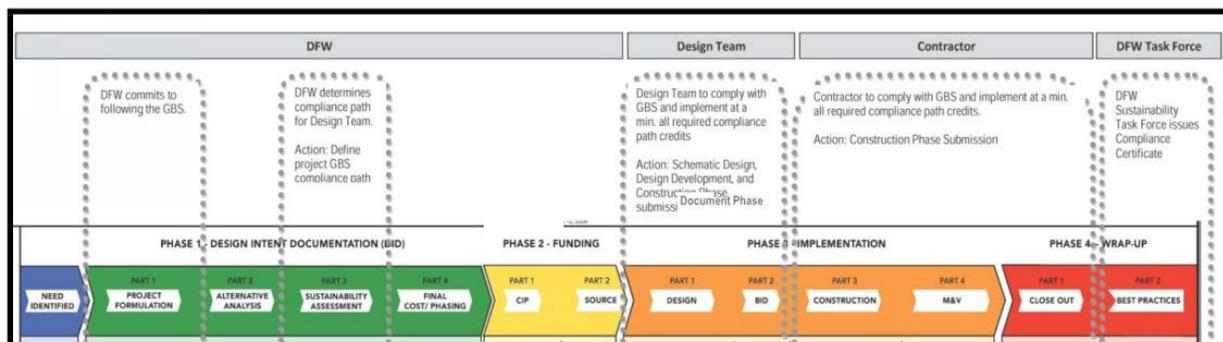
It is the deliberate intention that for all the LEED credits identified in the GBS, project teams will utilize the LEED Reference Guide and comply with the credit intent and requirements. The GBS also expressly goes beyond LEED by increasing the number of required credits within the LEED system, and creating DFW Baseline Credits that emphasize sustainable project leadership, innovative design, and sustainable construction practices.

Within the GBS, four (4) compliance paths were established to reflect the wide-ranging types of projects that are typically undertaken at DFW Airport. Definitions and example projects are provided in Section 2 to assist project teams to correctly identify the appropriate compliance path for a project.

GBS and Project Development

The graphic below shows how the GBS process compliments the phases presented in the Project Development Procedure (PDP). The PDP is currently being developed by DFW as an integrated approach to sustainable airport development.

The top bar indicates the project team member that is responsible for implementing the GBS at the different phases of a project. The dashed boxes overlay the PDP process to identify the key actions during each phase.



Project Development Procedure (process portion only) produced by DFW with GBS overlay

GBS Structure

The GBS provides 5 succinct sections that steer a project team through the use of the GBS and the administrative procedures required to demonstrate GBS compliance.

- Section 1 presents DFW's sustainability objectives and introduces the Green Building Standards, including the document intent, development, and structure.
- Section 2 presents the GBS applicability and administration for project teams to successfully comply with the process and documentation, including how to determine which compliance path should be followed for different types of projects.
- Section 3 presents the GBS Checklist, which includes the compliance path for all four (4) types of projects and defines which credits are required and optional.
- Section 4 presents the definition of all nine (9) required DFW Baseline Credits including credit intent, requirements, and documentation guidance.
- Section 5 provides the required submission forms and templates that will be completed by the design and construction teams.

SECTION 2 Applicability and Administration

Applicability

All DFW Board-controlled projects must comply with the GBS and four compliance paths have been established to encompass the various types and sizes of projects that will be initiated. It is the responsibility of DFW to determine the appropriate compliance path during the Design Intent Documentation (DID) phase.

Compliance Paths – Types of Projects

The four project definitions are as follows.

- Infrastructure (20 Required Credits): Infrastructure is defined as flat/civil engineering work and includes landscaping and utilities. Examples: Runway paving, tree planting, surface parking, apron, waiting areas, park, etc.
- Interior/Minor Renovation (30 Required Credits): Interior and Minor Renovation projects are defined as projects where the scope of work either i) mainly comprises furniture, fixtures and equipment (FF&E) alterations, changes or upgrades, or ii) includes the replacement of up to two (2) system upgrades out of HVAC, electrical, plumbing and envelope upgrades. Examples: Office reconfiguration, conference room remodeling, interior painting, ticket counter remodels, flooring, lighting upgrades, bathroom remodels, chiller replacement, window replacements, etc.
- Major Renovation (45 Required Credits): Major Renovation is defined as the replacement of more than two (2) systems out of HVAC, electrical, plumbing, significant envelope modifications and major interior rehabilitation. Examples: Gut-rehab of terminal building, office building upgrade, etc.

For major renovation projects that meet the LEED v4 Minimum Program Requirements, the project team shall consider pursuing LEED certification.

- New Facility (50 Required Credits): New Facility is defined as either a new building or a building addition or expansion. Examples: New terminals, warehouses, distribution centers, control towers, information booths, fire stations, etc.

For new facility projects that meet the LEED v4 Minimum Program Requirements, the project shall achieve LEED-Silver certification.

Request for GBS Variance

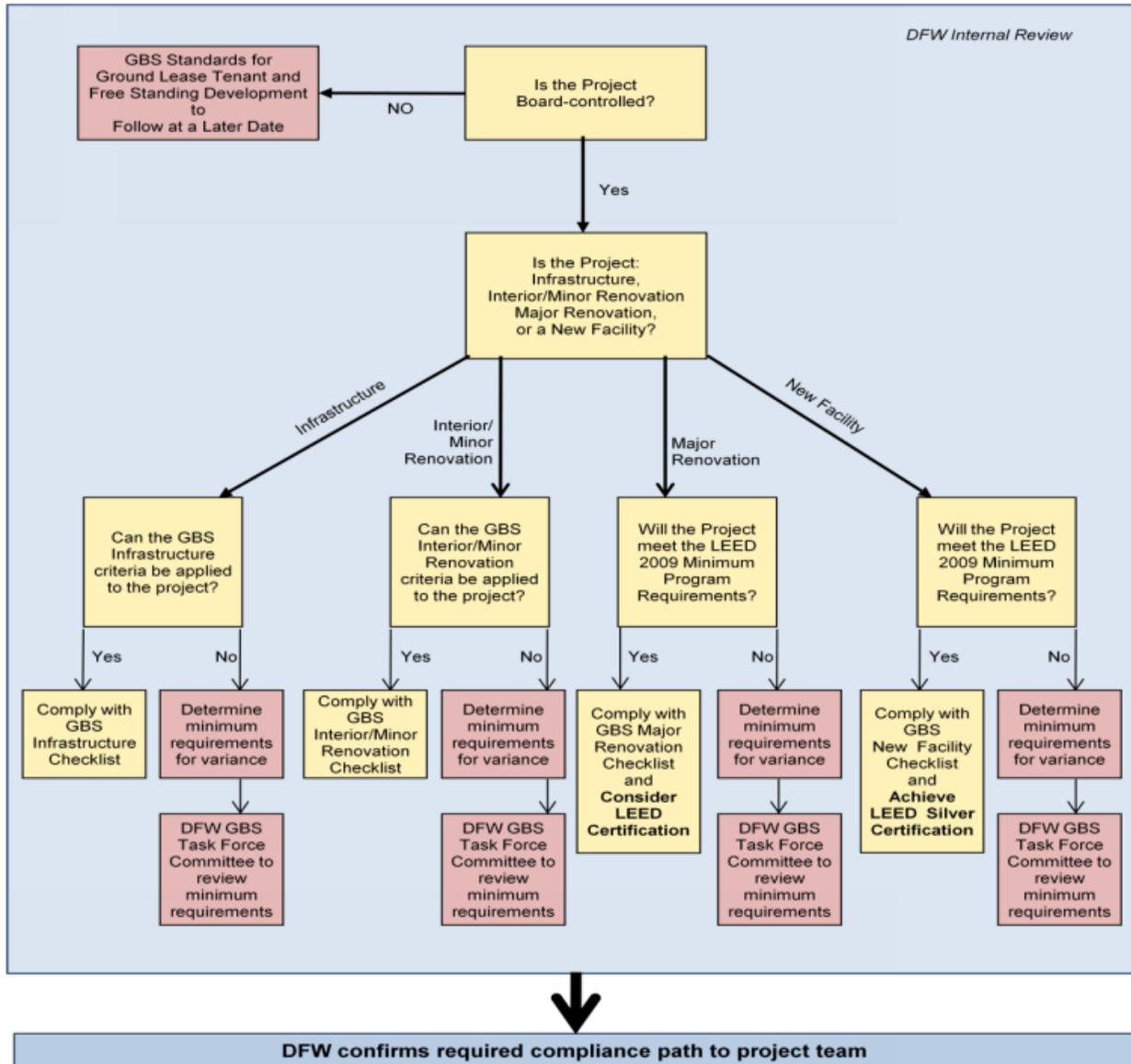
If it is determined that a GBS compliance path is not feasible, the project team can submit a variance application to the DFW Sustainability team. The variance application shall include:

- Project scope and budget
- Reasons why each GBS required credit cannot be achieved

The DFW Sustainability team will evaluate the application and issue a variance that will include confirmation of which credits, if any, the project is required to achieve.

GBS Project Compliance Path Flowchart

The following flow chart is provided to guide DFW’s decision-making process to determine the appropriate compliance path for each project.



LEED Minimum Program Requirements are as follows:

- 1) Must comply with environmental laws,
- 2) Must be a complete, permanent building or space,
- 3) Must use a reasonable site boundary,
- 4) Must comply with minimum floor area requirements (>1,000sqft),
- 5) Must comply with minimum occupancy rates (>1 FTE),
- 6) Must commit to sharing whole-building energy and water usage data,
- 7) Must comply with a minimum building area to site area ratio (gross floor area of the LEED project must be > 2% of gross land area within the LEED project boundary).

LEED Rating System Version

If the LEED rating system is updated or amended, the version that is current at the time of Design Intent Documentation (DID) shall be used. If the project team believes it is more favorable to utilize a later LEED version, during project development, the DFW Sustainability team must be notified.

Codes and Regulations

The GBS shall not supersede any federal, state and local code or regulatory requirements.

Submissions

All submissions shall be emailed to the DFW Sustainability team. Submissions are required at the completion of the following design milestones:

- Schematic Design
- Design Development
- Construction Documents
- Construction Phase

At each submission, the Project Team must submit/update the following documents (templates for both have been provided in Section 5):

- Project Description Form
- DFW GBS Worksheet

For LEED Projects: Regardless of whether or not the project pursues formal LEED certification, the GBS Worksheet must be completed for the Schematic Design and Design Development phases. For those credits that will be achieved through the LEED process, note in the Construction Documents and Construction Phase phases: "SEE LEED DOCUMENTATION".

Questions related to the GBS shall be emailed to the DFW Sustainability team.

Review Process

The DFW Sustainability team will review each submission and provide comments. DFW Sustainability has two (2) weeks to provide comments/questions. If there are follow up actions, the design team will need to address each follow up action within one (1) week of issue. No confirmation of GBS compliance will be issued until completion of the project and all outstanding issues have been closed out.

Scoring and Rating

The GBS Checklist identifies all the credits that a project must achieve, which are denoted as 'Required'. The number of required credits varies in each of the four compliance paths to reflect the different opportunities available to different types and scales of projects. Each project must

achieve all the required credits. It is at the discretion of the project team whether or not to pursue additional credits that are denoted in the Checklist as 'Optional'.

A project is compliant with the GBS when all required credits are achieved. There is no tiered rating system within the checklist. However, the Certificate of Compliance will indicate how many required and optional credits were achieved.

Compliance Certificate

After the Construction Phase submission is submitted and approved by the DFW Sustainability team, a Certificate of Compliance will be issued (combining the design and construction of a project). The Certificate of Compliance will mark the achievement of environmental design and construction excellence as set forth by the DFW Green Building Standards.

The Certificate will indicate the number of achieved required credits out of the total number of required credits and will highlight where the project team has exceeded these requirements by achieving further optional credits. For example, an infrastructure project might achieve 17 out of the 20 required credits, plus 5 optional credits.

SECTION 3 Green Building Standards Checklist

Introduction

The DFW Green Building Standards (GBS) Checklist provides an overview of all the GBS sustainable design credits for each of the project type compliance paths, denoting which credits are required or optional.

There are four (4) project type compliance paths, which are defined in Section 2:

- Infrastructure (20 Required Credits)
- Interior/Minor Renovation (30 Required Credits)
- Major Renovation (45 Required Credits)
- New Facility (50 Required Credits)

The checklist is intended to be used as a framework for design teams to implement sustainable design on projects. There are a total of 64 credits that are either “required” or “optional”. The number of required credits varies depending on the project compliance path. However, sustainable design opportunities shall not be limited to the required credits only, and design teams are encouraged to evaluate the optional credits, as well as explore additional sustainable design opportunities, on all projects.

An example of the GBS checklist can be found on the following page. Forms can be acquired from the DFW Sustainability team.

Types of Credits

- DFW Baseline Credits were developed to address specific airport sustainable design issues. The intent and requirements for each DFW credit is explained in Section 4. All DFW Baseline credits are required for all projects.
- DFW Requirements based on LEED v4 are credits referenced directly from the LEED v4 for Green Building Design and Construction rating system. In order to demonstrate compliance with these credits, project teams are required to follow the intent and requirements in accordance with the LEED Reference Guide. Formal LEED certification is only required for New Facility projects, but encouraged for Major Renovation projects.
- Required/Optional Credits
 - Required Credits “R” are credits that DFW has identified as being of particular importance, which include LEED prerequisite credits, and should be implemented on every project. It is understood that some projects, due to project scope or location, will not be able to achieve all required credits or that some credits may not be applicable. In these instances the Project Team shall include in the GBS Worksheet an explanation of why compliance was not possible.
 - Optional Credits “O” are credits that the Design Team will evaluate on a project by project basis and will implement where feasible.

Submission Date					Submission Milestone (select one)	Schematic Design	Construction Documents	
DFW Project Identification #					Sustainability Liaison (submission completed by)	Design Development	Construction Phase	
Project Name					Submission Verified by: (name and project role)			
Project Track (select one)	Infrastructure	Interior Minor Renovations	Major Renovation	New Facility	Date of Previous Submissions:			
Credit	GBS Checklist Track Required/Optional				SCHEMATIC DESIGN PHASE		CONSTRUCTION DOCUMENTS	CONSTRUCTION PHASE
	Infrastructure	Interior Minor Renovation	Major Renovation	New Facility	Identify Sustainable Design Opportunities (update checklist with any changes, mark with "x")	DESIGN DEVELOPMENT	Provide narrative, drawing, or specification reference	Verify Sustainable Construction (Narrative, tracking, monitoring and compliance)
DFW Baseline Credits								
DFW 1	Green Meetings	R	R	R	R			
DFW 2	Integrated Design Meetings	R	R	R	R			
DFW 3	Sustainability Liaison	R	R	R	R			
DFW 4	Water Management Plan	R	R	R	R			
DFW 5	Energy Management Plan	R	R	R	R			
DFW 6	Material Sustainability	R	R	R	R			
DFW 7	Acoustics and Noise	R	R	R	R			
DFW 8	Sustainable Construction Management Plan	R	R	R	R			
DFW 9	Innovation Considerations	R	R	R	R			
Requirements based on LEED v4								
Location and Transportation								
Credit	Sensitive Land Protection	O	O	O	O			
Credit	Surrounding Density and Diverse Uses	O	O	O	O			
Credit	High Priority Site	O	O	O	O			
Credit	Access to Quality Transit	O	O	O	R			
Credit	Bicycle Facilities	O	O	O	R			
Credit	Green Vehicles	O	O	O	R			
Credit	Reduced Parking Footprint	O	O	O	O			
Sustainable sites								
Prerequisite	Construction Activity Pollution Prevention	R	R	R	R			
Prerequisite	Site Assessment	R	R	R	R			
	Site Development- Protect or							
Credit	Restore Habitat	R	O	O	R			
Credit	Open Space	O	O	O	O			
Credit	Rainwater Management	R	O	R	R			
Credit	Heat Island Reduction	R	O	R	R			
Credit	Light Pollution Reduction	R	R	R	R			
Water Efficiency								
Prerequisite	Outdoor Water Use Reduction	R	R	R	R			
Prerequisite	Indoor Water Use Reduction	O	R	R	R			
Prerequisite	Building-Level Water Metering	O	O	R	R			
	Outdoor Water Use Reduction							
Credit	Outdoor Water Use Reduction (50% reduction)	R	O	R	R			
Credit	Indoor Water Use Reduction	O	O	R	R			
Credit	Cooling Tower Water Use	O	O	O	O			
Credit	Water Metering	O	O	O	O			

Green Building Standards Checklist, page 1.

Energy and Atmosphere										
Prerequisite	Fundamental Commissioning and Verification	O	R	R	R					
Prerequisite	Minimum Energy Performance	R	R	R	R					
Prerequisite	Building-Level Energy Metering	O	O	R	R					
Prerequisite	Fundamental Refrigerant Management	O	R	R	R					
Credit	Optimize Energy Performance	O	O	R	R					
Credit	Advanced Energy Metering	O	O	O	O					
Credit	Demand Response	O	O	O	O					
Credit	Renewable Energy Production	O	O	O	R					
Credit	Enhanced Commissioning	O	O	R	R					
Credit	Enhanced Refrigerant Management	O	O	O	O					
Credit	Green Power and Carbon Offsets	O	O	O	O					
Materials and Resources										
Prerequisite	Storage and Collection of Recyclables	O	R	R	R					
Prerequisite	Construction and Demolition Waste Management Planning	R	R	R	R					
Credit	Building Life-Cycle Impact Reduction	O	O	R	O					
Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	R	R	R	R					
Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	O	O	O	O					
Credit	Building Product Disclosure and Optimization - Material Ingredients	O	O	O	O					
Credit	Construction and Demolition Waste Management	R	R	R	R					
Indoor Environmental Quality										
Prerequisite	Minimum Indoor Air Quality Performance	O	R	R	R					
Prerequisite	Environmental Tobacco Smoke Control	O	R	R	R					
Credit	Enhanced Indoor Air Quality Strategies	O	O	R	R					
Credit	Low-Emitting Materials	O	R	R	R					
Credit	Construction Indoor Air Quality Management Plan	R	R	R	R					
Credit	Indoor Air Quality Assessment	O	R	R	R					
Credit	Thermal Comfort	O	O	R	R					
Credit	Interior Lighting	O	R	R	R					
Credit	Daylight	O	O	O	R					
Credit	Quality Views	O	O	O	R					
Credit	Acoustic Performance	O	O	O	O					
Innovation and Design Process										
Credit	Innovation in Design: Specific Title	O	O	O	O					
Credit	LEED Accredited Professional	O	O	O	R					
TOTAL CREDITS						0	0	0	0	

Green Building Standards Checklist, page 2.

SECTION 4 DFW Baseline Credits

Introduction

DFW has established nine (9) airport-specific credits. These required credits have been included in the GBS to emphasize sustainable project leadership, innovative design, and sustainable construction practices.

DFW Baseline Credits

All projects that comply with the GBS are required to achieve all of the DFW baseline credits which are as follows:

DFW 1	Green Meetings
DFW 2	Sustainability Liaison
DFW 3	Integrated Design
DFW 4	Water Management Plan
DFW 5	Energy Management Plan
DFW 6	Material Sustainability
DFW 7	Acoustics and Noise
DFW 8	Sustainable Construction Practices
DFW 9	Innovation Considerations

Definitions for each credit, including the credit intent, requirements, and documentation guidance, are provided in the following pages.

An implementation plan for completing each of these baseline credits must be submitted to the DFW Sustainability Program.

DFW 1 Green Meetings

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	n/a	n/a

Intent

Incorporate environmental considerations into project planning, design and construction meetings to minimize negative impacts on the environment.

Requirements

Where feasible, comply with the following green meeting requirements:

- Print all documents double-sided
- Utilize web-conferencing
- Minimize number of handouts
- Utilize recycled paper for printing
- Print in draft mode
- Use video/phone conferences where feasible
- Promote public transport/carpool to meetings
- Recycle discarded materials
- Engage with local companies for food/beverage services

DFW 2 Integrated Design Meetings

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	May contribute to Innovation Credit	May contribute to Innovation Credit

Intent

Engage and collaborate with project stakeholders throughout the design process to inform all stakeholders of the sustainability goals.

Requirements

Hold at least one integrated design meeting, which includes the attendance of the entire design team (architect, electrical, mechanical, civil, structural engineers, landscape architect, commissioning authority, energy modeler, etc.) and all relevant stakeholders (DFW planning staff, facility managers, construction manager, contractor, etc.), at the beginning of each design phase and the construction phase.

All integrated design meetings shall be led by the sustainability liaison. The following tasks shall be undertaken during each of the phases:

Schematic Design

Discuss and identify project-specific sustainable design opportunities to comply with Green Building Standards (GBS). Use the GBS Checklist as a framework for discussion.

Conduct at least one integrated design workshop with the full project team. The goal of the workshop shall be to optimize the integration of green strategies across all aspects of the building design, leveraging the expertise of all participants.

Design Development

Discuss and identify all of the sustainable design opportunities that will be implemented on the project. Develop implementation plan including strategies to attain the green building credits that the project will pursue. Discuss any required credits that cannot be achieved.

Construction Phase

Discuss how sustainable construction will be implemented and how GBS compliance will be monitored throughout construction.

DFW 3 Sustainability Liaison

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	May contribute to Innovation Credit	May contribute to Innovation Credit

Intent

Establish a designated sustainability liaison within the design and construction project teams, and ensure that sustainable design is implemented throughout the project during the design and construction phases of the project.

Requirements

Designate a Sustainability Liaison during both the design and construction phases of the project.

Design Sustainability Liaison:

- Individual is part of the design team
- Leads all integrated design meetings
- Encourages green meetings
- Person of contact for sustainability questions
- Must be familiar with the LEED rating system

Construction Sustainability Liaison:

- Individual is part of the contractor team
- Obtain the GBS Worksheet completed during the design phase
- Leads the contractor sustainability liaison meeting
- Encourages green meetings
- Develop contractor templates to track sustainability compliance for all LEED material and resource credits (i.e. VOC levels, recycled content, regional materials)
- Tracks all GBS contractor-driven credits to ensure compliance
- Person of contact for sustainability questions
- Must be familiar with the LEED rating system

DFW 4 Water Management Plan

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	n/a	n/a

Intent

Develop and implement strategies to reduce the use of water and improve the management of wastewater.

Requirements

Identify all water demands:

- Flush Fixtures
- Flow fixtures
- Irrigation
- Cooling tower
- Janitors sink
- Showers
- Others

Identify all potential water sources:

- Graywater from flow fixtures
- Reclaimed Water
- Stormwater and/or rainwater capture
- Municipal water
- Others

Identify opportunities for:

- Use reduction
- Capture
- On-site treatment
- Reuse

Implement all identified, feasible opportunities to improve water management.

DFW 5 Energy Management Plan

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	n/a	n/a

Intent

Assess current energy consumption for existing infrastructure and buildings, and identify, develop, and implement strategies to reduce the use of energy in new and existing construction. Identify opportunities for alternative sources of energy.

Requirements

Identify all energy consuming systems. At a minimum:

- HVAC & Refrigeration
- Lighting (interior and exterior)
- Domestic Hot water systems
- Renewable energy systems (if applicable)
- Baggage systems
- Vertical transportation
- Others

Identify opportunities for energy use reduction such as:

- Lighting and Daylighting Controls
- Building energy management system / controls
- High efficiency equipment
- Others

Asses the feasibility of:

- Purchasing off-site green power
- Installing on-site renewable energy systems

Provide guidance for infrastructure and building-specific preventative maintenance (PM) and operation & maintenance (O&M) procedures to maintain energy efficiency.

DFW 6 Material Sustainability

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	May contribute to Innovation Credit	May contribute to Innovation Credit

Intent

Evaluate the use of resilient, sustainable materials and finishes to extend structure life and reduce maintenance requirements.

Requirements

Develop a list of primary permanent building and finish material options and identify the factors that contribute to their durability.

Evaluation should include:

- Use of recycled, renewable, locally-sourced materials
- Expected life of material
- Affordability
- Availability
- Use of industry standard forms and sizes
- Replacement considerations
- Non-custom materials
- Operation & Maintenance considerations

DFW 7 Acoustics and Noise

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	May contribute to Innovation Credit	May contribute to Innovation Credit

Intent

Improve the acoustics and noise levels in buildings and enhance indoor environmental quality for staff and passengers.

Requirements

- Design building envelope to diminish external sources of noise and vibration
- Locate mechanical equipment rooms away from occupied spaces
- Design interior separations to minimize transfer of noise
- Utilize dampening equipment to minimize noise
- Specify sound attenuation materials

DFW 8 Sustainable Construction Management Plan

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	n/a	n/a

Intent

Ensure that sustainable construction practices are implemented to minimize pollution, noise, and vibration from construction activities and vehicles.

Requirements

In addition to achieving the Construction Activity Pollution Prevention credit (LEED SS Prerequisite 1) and Construction Waste Management credit (LEED MR 2.1-2.2), prepare a Sustainable Construction Management Plan that highlights all additional sustainable construction practices that will be implemented. The plan should consider the following best management practices:

Construction Practices

- Identify a Sustainability Liaison to track construction sustainable practices (DFW 3)
- Develop and implement sustainable construction training
- Implement an Integrated Pest Management plan
- Reduce potable water use during construction (e.g. use recycled water for vehicle wheel washing)
- Recycle and reuse temporary construction materials
- Evaluate earthwork storage and reuse opportunities
- Reduce construction light pollution and use energy efficient temporary lighting
- Purchase energy star appliances for all field offices
- Promote alternative fuel vehicles for contractor on-road vehicles
- Promote construction staff carpool programs
- Implement noise reduction strategies from temporary construction practices (interior and exterior noise)

Construction Vehicles

- Implement diesel retrofit technology where practicable on non-road construction equipment in accordance with EPA diesel retrofit recommendations
- Limit unnecessary idling times on diesel powered engines to 3 minutes
- Limit non-road diesel equipment of 60hp or greater to utilize ultra low sulfur diesel fuel (limit sulfur levels to 15ppm)
- Promote the use of biodiesel where feasible Promote the use of low-emission construction vehicles (e.g. diesel-electric hybrid vehicles)

DFW 9 Innovation Considerations

Project Type	Infrastructure	Interior/Minor Renovation	Major Renovation	New Facility
Points	Required	Required	Required	Required
LEED Equivalent	n/a	n/a	n/a	n/a

Intent

Evaluate innovative research and development (R&D) in best management practices (BMPs), applicable to design and construction projects.

Requirements

- Earthwork management plan
- Construction phasing
- Current infrastructure and building construction technologies
- Address social demand for technology
- Disruptive technologies

SECTION 5 Submission Templates

Introduction

For each project, the designated Sustainability Liaison is required to complete and submit the following documents at the end of each design milestone:

1. Project Description Form
2. Green Building Standard Worksheet

The completed Project Description Form and the Green Building Standard Worksheet shall be submitted to the DFW Sustainability team for review, comments, and approval.

Templates can be obtained electronically from the DFW Sustainability team.

GBS Worksheet Guidance

In summary, each milestone will require the following portion of the GBS Worksheet to be completed:

Schematic Design Identify Sustainable Design Opportunities

Task: Complete DFW checklist and identify the possible achievement of credits (Yes, Maybe, No, n/a).

Design Development Implement Opportunities

Task: For all “yes” credits, provide a brief description of how the credit will be implemented. If a required credit (R) cannot be achieved, provide an explanation of non-compliance.

Construction Documents Provide narrative/drawing/specification reference

Task: For all “yes” credits, provide a brief narrative of how the credit has been implemented or reference the relevant specification section or drawing to confirm implementation. If a required credit (R) cannot be achieved, provide a brief explanation of non-compliance.

Construction Phase Verify Sustainable Construction

Task: For all “yes” credits, track and monitor credits implemented during the construction phase. Provide evidence (calculations, narratives, reference documents) that prove compliance.

LEED Projects

Regardless of whether or not the project pursues formal LEED certification, the Green Building Standard Worksheet must be completed for the Schematic Design and Design Development phases. For those credits that will be achieved through the LEED process, note in the Construction Documents and Construction Phase phases: “SEE LEED DOCUMENTATION”.



Document Title: Project Description Form
Version Date: 03/31/11

Submission Date	
DFW Project Identification #	
Project Name	
Project Track (Infrastructure/Interior/Minor Renovation/Major Renovation/New Facility)	
Is the project pursuing formal LEED certification (date registered)?	
Submission Milestone (SD, DD, CD, Construction Phase)	
Dates of Previous Submissions	
Sustainability Liaison (Submission Completed by)	
Submission Verified by (Name and role on Project)	
Lead Architect/Engineer	
Commissioning Agent	
Energy Modeler	
Contractor	
Estimated construction cost and completion date	
Brief Project Scope and Description	
Identify any Significant Changes since the last submission that affect the sustainability of the project	
Project Area (sqft)	
Building Area (sqft)	
Pervious Area (sqft)	
Impervious Area (sqft) (Note parking area if applicable)	
Occupancy (Male & Female breakdown)	