

Sustainable Building Guidelines - Part I

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1.0 BACKGROUND

In June 1993, the Port Authority of New York and New Jersey (PANYNJ) formally issued an Environmental Policy statement recognizing its long-standing commitment to provide transportation, terminal and other facilities of commerce within the Port District in an environmentally sound manner. PANYNJ affirmed this commitment in July 2006 when Administrative Instruction 45-2 (AI 45-2) was issued “to reduce adverse environmental impacts of the design, construction, operation and maintenance and occupancy or leasing of new or substantially renovated buildings and facilities, reconstruction projects, and programs of the Port Authority and its tenants.” AI 45-2 called for the creation of sustainable design guidelines and mandated periodic updates as industry best practices evolve. In March 2008, the Environmental Policy was expanded to address the agency’s contributions to climate change. PANYNJ pledged to make best efforts to reduce greenhouse gas (GHG) emissions from its facilities by 80 percent by 2050.

Originally launched in 2007, the Sustainable Building Guidelines (formerly called the Sustainable Design Project Manual) were primarily based on the US Green Building Council’s (USGBC) Leadership in Energy & Environmental Design (LEED) Rating System (version 2.1). The PANYNJ Sustainable Building Guidelines (SBG) apply to building projects and may include associated site work.

In 2011, PANYNJ expanded the Sustainable Design Guidelines by creating Sustainable Infrastructure Guidelines (SIG) (referred to as “Part 2”) to complement the Sustainable Building Guidelines (SBG) (“Part 1”). Together, the Sustainable Design Guidelines Parts 1 and 2 provide clear direction to optimize project sustainability through integrated design practice, with the complementary goals of enhancing cost effectiveness, extending the project lifespan and, in some cases, reducing operational and/or maintenance costs.

SBG is divided into two sections to distinguish compliance requirements for PANYNJ projects and Tenant Alteration Applications (TAAs).

- For PANYNJ projects, use Part 1, Sustainable Building Guidelines, PANYNJ Projects (Section 3).
- For TAA projects, use Part 1: Sustainable Building Guidelines, TAA Projects (Section 4).

2.0 2017 SBG UPDATE SUMMARY

Since the launch of SBG in 2007, design technologies, building codes, practices, and industry green building guidelines have continued to evolve. The 2017 SBG update streamlines documentation requirements, reflects current best practices, and allows additional flexibility in determining the pathway to compliance. Specific updates include:

- Utilization of the USGBC’s LEED for Building Design and Construction (BD+C) and LEED for Interior Design and Construction (ID+C) Rating Systems;
- Creation of customized guidance for PANYNJ and TAA projects, respectively;
- Removal of PANYNJ-specific credits, including operation and maintenance requirements, determined by actions post-occupancy;
- Updated project type definitions;
- Establishment of a Small Projects & Primary Systems compliance pathway; and
- Updated documentation requirements, including non-conformance records.

Compliance with PANYNJ SBG is mandatory for all PANYNJ and TAA building projects greater than 1,000 GSF. Although not required, LEED certification is encouraged both to streamline the compliance process and achieve suitable recognition. In most cases, compliance with SBG will ensure that a project can achieve formal LEED certification under the appropriate rating system, if desired (with the exception of Small

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Projects & Primary Systems). Current versions of the LEED for BD+C and LEED for ID+C Rating System Reference Guides can be found on the website of the USGBC (<http://www.usgbc.org/>) as well as via links in the Reference Documents section of this document.

3.0 PANYNJ PROJECTS

NOTE: For information, specific to Tenant Alteration Applications (TAAs), see [Section 4: TAA Projects](#)

3.1 ACRONYMS

FTE	Full Time Equivalent employee
GBCI	Green Business Certification Institute
GHG	Greenhouse Gas
GSF	Gross Square Feet
LEED	Leadership in Energy & Environmental Design
LEED AP	LEED Accredited Professional
PA	Port Authority
PANYNJ	Port Authority of New York And New Jersey
PDPS	Project Delivery Performance System
PDS	Project Definition Statement (PA Operating Projects)
LE/A	Lead Engineer/Architect
PID	Project Identification number
PIRF	Project Initiation Request Form (PA Capital Projects)
QA/QC	Quality Assurance/Quality Control
RE/REO	Resident Engineer/Resident Engineer's Office
RSD	Resilience and Sustainable Design (Engineering Department unit)
SBG	Sustainable Building Guidelines
SCC	Sustainable Construction Coordinator
SD	Sustainable Design
SDC	Sustainable Design Coordinator
SDM	Sustainable Design Manager
SIG	Sustainable Infrastructure Guidelines
USGBC	United States Green Building Council

3.2 DEFINITIONS

Attachment A	The scope of work and other information for a professional services RFP. The Attachment A may include a description of tasks, schedule, conditions and precautions, hardware/software requirements, and regulations.
Contract Documents	Completed design documents and all other necessary documents for construction of the project.
Contractor	The firm or company providing and coordinating the use of materials, labor and equipment for the construction of the project.
LEED	Leadership in Energy & Environmental Design (LEED) is a green building certification program instituted by the United States Green Building Council (USGBC) that recognizes best-in-class building strategies and practices. To receive LEED certification, building projects satisfy prerequisites and earn credits to achieve a targeted level of certification (Certified, Silver, Gold and Platinum), a determination made by Green Business Certification Inc. (GBCI) ¹ . Prerequisites and credits differ for each rating system (see USGBC's website for details).
LEED BD+C	LEED for Building Design + Construction (BD+C) is a certification process that applies to buildings that are being newly constructed or undergoing a major renovation. USGBC offers the following BD+C certification categories: New Construction, Core & Shell, Schools, Retail, Hospitality, Data Centers, Warehouses & Distribution Centers, and Healthcare.
LEED ID+C	LEED for Interior Design + Construction (ID+C) is a certification process that applies to complete interior fit-outs, including Commercial Interiors, Retail and Hospitality.

¹ For the purposes of this document, USGBC and GBCI may be used interchangeably to refer to the organizations that develop and publish LEED rating systems and/or review and certify LEED applications.

<p>Non-Occupied Building</p>	<p>A building, enclosure or space that is not regularly occupied (without permanent staff) and meets the following criteria:</p> <ul style="list-style-type: none"> a) Is explicitly defined as “unoccupied” or “non-occupied” by applicable building codes and/or standards; OR b) Entry is controlled and recommended occupancy is limited to 168 hours per year, not to exceed forty hours per month, AND c) The number of occupants is limited to 10 at any given time. <p>Typical examples include: substations, ventilation buildings, storage sheds.</p>
<p>Occupied Building</p>	<p>A building, enclosure or space that does NOT qualify under the Non-Occupied Building definition specified in this document. Typical examples include: warehouses, offices, transit stations, terminals, restaurants, retail stores, maintenance shops, parking garages and toll plazas that are staffed by a minimum of one full time equivalent employee (FTE).</p>
<p>Project Definition Statement (PDS) or Project Initiation Request Form (PIRF)</p>	<p>Document prepared by the PANYNJ Line Department outlining overall functional scope, schedule and budget information requesting PANYNJ Engineering Department services on a new project.</p>
<p>Project Delivery Performance System (PDPS)</p>	<p>PANYNJ Engineering Department software tool for organizing and tracking project scope, schedule and budget and transmitting required documentation to the PANYNJ Line Department for concurrence.</p>
<p>Lead Engineer/Architect (LE/A)</p>	<p>The LE/A is assigned by the Design Division lead discipline for a project. The LE/A leads the design effort for all Engineering Department divisions through Stages I, II, and III. During Stage IV, the LE/A supports the construction effort for the Resident Engineer (RE).</p>
<p>Resident Engineer (RE)/ Resident Engineer’s Office (REO)</p>	<p>The RE/REO leads the construction effort for all Engineering Department divisions during Stage IV (Construction). The RE is the primary contact person with the Line Department during Stage IV. The Resident Engineer’s Office performs inspections and monitors the contractor’s activities to ensure that the required equipment, material, and methods of construction are in compliance with the contract drawings and specifications.</p>

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<p>Substantial Completion (PANYNJ Projects)</p>	<p>A project has achieved Substantial Completion when:</p> <ul style="list-style-type: none"> a) Deemed so by the PANYNJ Resident Engineer; OR b) The owner or occupying entity may enjoy beneficial use or occupancy and may use, operate and maintain the project in all respects, for its intended purpose. Typically, the owner or occupying entity will have received all required warranties and documentation.
<p>Sustainable Construction Coordinator (SCC)</p>	<p>As applicable, the SCC, working with or on behalf of the REO and in communication with the SDM, is responsible for construction phase inspections and documentation pertaining to SBG compliance.</p>
<p>Sustainable Design Coordinator (SDC)</p>	<p>If appointed by the LE/A, the SDC supports the LE/A in communication, coordination, and documentation activities pertaining to SBG compliance.</p>
<p>Sustainable Design Manager (SDM)</p>	<p>PANYNJ Engineering Department staff member(s) who advises on project compliance path and reviews technical application of Sustainable Building Guidelines (SBG) and Sustainable Infrastructure Guidelines (SIG).</p>

3.3 PROJECT TYPES

<p>Interior Construction</p>	<p>Fit-out or remodel of an interior space inside the building envelope. Examples include restaurant renovation, office space remodel, airport terminal retail renovation, etc.</p>
<p>New Construction</p>	<p>New construction refers to site preparation for, and construction of, entirely new structures and/or extensions to existing structures whether or not the site was previously occupied.</p>
<p>Reconstruction</p>	<p>A renovation of an existing building or buildings involving replacement or rehabilitation of four or more primary building systems (as defined in this document) as part of a unified design project or multiple, coordinated design projects, even if implementation is phased.</p>
<p>Small Projects & Primary Systems</p>	<p>Replacement or rehabilitation of fewer than four of the following building systems, regardless of phasing, duration or project cost: roofs, ceilings, window replacement, building envelope, plumbing, site work, HVAC, electrical/electronics and elevator/escalator. Small projects also include demolition.</p> <p>Small Projects and Primary System replacements, upgrades, or demolitions are evaluated using the <i>Small Projects & Primary Systems Green Design Table</i>², which designates applicable credits for each building system. NOTE: Projects using the <i>Small Projects and Primary Systems</i> pathway must comply with all applicable credits.</p>

² The PANYNJ SBG “Small Projects and Primary Systems” category was adapted from the New York State Office of General Service’s *Green Building Design “Green Design Table for Small Projects.”*

3.4 SUSTAINABLE DESIGN PROCESS (PANYNJ PROJECTS)

The following sections present the standard requirements, roles, responsibilities and procedures for compliance with PANYNJ's Sustainable Building Guidelines (SBG) for PA Capital and Operating projects. For information, specific to Tenant Alteration Applications (TAAs), see [Sustainable Design Guidelines Part 1, Section 4: Sustainable Building Guidelines for TAA Projects](#).

3.4.1 PROJECT SCOPE

The categorization of each project scope as "Building", "Infrastructure", or (for some major projects) both "Building" and "Infrastructure" is determined during the development of the PANYNJ Project Definition Statement (PDS)/Project Initiation Request Form (PIRF)³ in reference to the following guidance:

Building Projects

(Use Part 1, Sustainable Building Guidelines)

- Terminal (Airport, Rail, Port, Bus, etc.)
- Commercial Space (Retail/Restaurant)
- Office Facility
- Parking Garage
- Substation
- Storage Facility
- Toll Plaza
- Ventilation Building
- Small Projects and Primary Systems (*fewer than four of the following*):
 - Roof/Ceilings
 - Window Replacement
 - Building Envelope
 - Plumbing
 - Site Work/Demolition Project
 - HVAC/Refrigeration/Boiler/Rooftop Units/Controls
 - Electrical/Electronics
 - Elevators/Escalators

Infrastructure Projects

(Use Part 2, Sustainable Infrastructure Guidelines)

- Airfield New Construction/Reconstruction
- Airfield Rehabilitation
- Bridge New Construction
- Bridge and Tunnel Rehabilitation
- Intelligent Transportation Systems
- Marine Structures (Docks, Wharves, etc.)
- Roadway New Construction/Reconstruction
- Roadway Pavement Rehabilitation
- Parking Lot New Construction and Rehabilitation
- Parking Lot Rehabilitation
- Port Site Work
- Utility New Construction
- Utility Rehabilitation
- Track Work
- Associated Infrastructure Scopes
 - Exterior Lighting
 - Landscaping
 - Mechanical/Electrical/Fire Suppression Systems
 - Traffic Safety and Public Environments

Unless explicitly exempted by the PANYNJ Sustainable Design Manager (SDM), all PANYNJ Building Projects greater than 1,000 GSF will comply with requirements of the Sustainable Building Guidelines (Part I, Section 3).

³ For project scopes not listed, contact the PANYNJ Sustainable Design Manager (SDM) for guidance.

3.4.2 PROJECT TYPES AND REQUIRED ACHIEVEMENT LEVEL

The PANYNJ Sustainable Building Guidelines reference the USGBC's LEED for Building Design and Construction (BD+C) and LEED for Interior Design and Construction (ID+C) Rating Systems. Requirements for the appropriate LEED Rating System and level vary according to project type and size, as delineated in Table 3.1 below and informed by the Sustainable Design Project Type definitions. Projects must obtain sufficient credits to be eligible for certification ("certifiable") to the LEED level specified in Table 3.1, but formal USGBC certification is not required by SBG.

TABLE 3.1 SBG PROJECT CATEGORIZATION FOR PANYNJ PROJECTS

Project Type	LEED Rating System	LEED Level Required by Gross Square Footage (GSF)	
		1,000 to 20,000	20,000+
New Construction	LEED BD+C	LEED Certified	LEED Silver
Reconstruction	LEED BD+C	LEED Certified*	LEED Certified
Interior Construction	LEED ID+C	LEED Certified*	LEED Certified
Small Projects and Primary Systems		100% of Applicable Credits from Small Projects & Primary Systems Green Design Table**	

* Meet SBG requirements or contact SDM for an applicability determination based on project type, scale and scope.

** Projects using the Small Projects and Primary Systems pathway must comply with all applicable credits.

The LE/A shall utilize the most appropriate and recent LEED Rating System based on project type, in reference to the Project Type Definitions. The final rating system determination is subject to concurrence by the SDM (or, if seeking LEED Certification, the USGBC). Alternative compliance paths must be approved by the SDM *prior* to commencement of Stage III design. In all cases, applicable codes and standards must be met or exceeded. **Note:** For non-occupied buildings, IEQ credits are not valid unless approved by the SDM.

3.5 LEED CERTIFICATION

At the discretion of the appropriate PANYNJ Line Department or Facility, the project may pursue formal LEED certification. In such cases, project review will be conducted by Green Business Certification Inc. (GBCI), and the SDM compliance determination will be based on the resulting GBCI LEED certification report. All associated fees are to be paid by the appropriate applicant-whether Line Department, Facility, or designated project developer (including, but not limited to, Design-Build entities). The applicant remains solely responsible for demonstrating compliance.

3.6 REQUIRED DOCUMENTATION

This section outlines required SBG documentation for PANYNJ projects for both design and construction phases (if applicable), as well as where to obtain required forms and templates.

3.6.1 PROJECTS NOT PURSUING FORMAL LEED CERTIFICATION (INCLUDING SMALL PROJECTS AND PRIMARY SYSTEMS)

- **Design Documentation Requirements:** Projects not pursuing formal LEED certification must utilize the PANYNJ SBG Project Credit Checklist and the USGBC LEED templates to demonstrate compliance. These documents should be obtained from the SDM. The PANYNJ SBG Project Credit Checklist provides columns for references to required backup documentation, which may include drawings, specifications and/or calculations. The LE/A must submit the USGBC LEED templates and PANYNJ SBG Project Credit Checklist digitally to the SDM at 50% and 100% design in Stage III. Full access to all required backup documentation must be provided simultaneously through the network drives or Content Server.
- **Construction Documentation Requirements (projects 20,000 GSF or larger):** For projects equal to or greater than 20,000 GSF and not pursuing LEED certification, the PANYNJ SBG Construction Compliance Report must be submitted digitally by the PANYNJ Resident Engineer (RE) to the SDM at Substantial Completion in Stage IV. Full access to all required backup documentation must be provided simultaneously. Construction documentation requirements are not applicable to Small Projects and Primary Systems or projects smaller than 20,000 GSF.
- **Accessing Required Forms:** For projects not pursuing formal LEED certification, all required PANYNJ forms and LEED templates are available from the SDM (sustainabledesignmanager@panynj.gov). Because forms may be updated periodically, new forms must be obtained for each project. The following forms are available:
 - PANYNJ Sustainable Project Initiation Form (SPIF)
 - PANYNJ Sustainable Building Guidelines Project Credit Checklist
 - USGBC LEED templates
 - PANYNJ Sustainable Building Guidelines Construction Compliance Report (applicable projects only).

3.6.2 PROJECTS PURSUING FORMAL LEED CERTIFICATION

- **Design Documentation Requirements:** USGBC LEED templates and documentation materials serve as the record of design compliance with the SBG. LEED Online serves as the platform for tracking project status and confirming SBG compliance through the completion of construction and award of certification by GBCI.
 - Designated project developers must invite the PANYNJ SDM and/or the SDM's designated representative(s) to join the project's LEED Online site at the time of project registration, no later than 50% design (Stages I, II, or III).
- **Construction Documentation Requirements:** LEED Online shall serve as the platform for tracking project status and confirming SBG compliance through the completion of construction and award of certification by GBCI.
- **Accessing Required Forms:** For projects pursuing formal LEED certification, LEED reference manuals and templates are available directly from USGBC (<http://www.usgbc.org>). The PANYNJ Sustainable Project Initiation Form (SPIF) is available by email (sustainabledesignmanager@panynj.gov).

3.7 ROLES AND RESPONSIBILITIES

For PANYNJ projects, Engineering Department roles and responsibilities for incorporating SBG into design and construction are shared among the Sustainable Design Manager (SDM), the Lead Engineer/Architect (LE/A), and in some cases, the Sustainable Design Coordinator (SDC) and Sustainable Construction Coordinator (SCC) as follows:

- ❑ Sustainable Design Manager (SDM) - The SDM advises on the project compliance path and reviews the technical application of SBG. For questions regarding the SBG, the Sustainable Design process, or roles and responsibilities, please contact sustainabledesignmanager@panynj.gov.
- ❑ Lead Engineer/Architect (LE/A) - The LE/A is responsible for managing the SBG implementation and documentation process to ensure compliance. For projects of significant scale and scope, the LE/A may appoint a Sustainable Design Coordinator (SDC) from within the lead discipline, preferably a LEED Accredited Professional (LEED AP). Regardless of whether a SDC is appointed, the LE/A retains responsibility for achieving compliance.
- ❑ Sustainable Design Coordinator (SDC) - If appointed, the SDC supports the LE/A in communication, coordination, and documentation activities pertaining to the fulfillment of sustainable design objectives.
- ❑ Sustainable Construction Coordinator - As applicable, the SCC, working with or on behalf of the REO and in communication with the SDM, is responsible for construction phase inspections and documentation pertaining to SBG compliance.

Please see Table 3.2 for further information on key project milestones, specific work tasks and deliverables.

3.8 PROJECT MILESTONES AND DELIVERABLES

TABLE 3.2 PANYNJ PROJECT MILESTONES AND DELIVERABLES

Stage		Work Steps/Tasks	Deliverables	
Proposal (internal to PA, precedes each design stage)		<ul style="list-style-type: none"> LE/A prepares the PANYNJ Sustainable Project Initiation Form (SPIF) and submits via PDPS to SDM prior to project kick-off. SDM determines appropriate Sustainable Design requirements, required forms and LEED templates, and budget based on PIRF. LE/A coordinates development of Attachment A with RSD unit. LE/A invites SDM to kickoff meeting. 	<ul style="list-style-type: none"> PANYNJ Sustainable Project Initiation Form (SPIF) Sustainable Design requirements, required forms, LEED templates and budget for inclusion in proposal Attachment A 	
STAGE I	Conceptual Design	Kick-Off	<ul style="list-style-type: none"> LE/A invites SDM to kick-off meeting and prepares preliminary PANYNJ Sustainable Building Guidelines (SBG) Project Credit Checklist with input from SDM and design team. LE/A assigns a Sustainable Design Coordinator (SDC) [optional]. 	<ul style="list-style-type: none"> Preliminary PANYNJ Sustainable Building Guidelines Project Credit Checklist Kick-off meeting minutes
		Design Criteria Report	<ul style="list-style-type: none"> LE/A includes PANYNJ SBG Project Credit Checklist in Design Criteria Report. SDM comments on Design Criteria Report. 	<ul style="list-style-type: none"> Design Criteria Report
		Design	<ul style="list-style-type: none"> LE/A updates checklist as needed during design progress. LE/A includes Sustainable Design (SD) Chapter in Stage I report with PANYNJ SBG Project Credit Checklist and draft LEED templates demonstrating integration. SDM comments on project reports at Milestone Review Submissions. 	<ul style="list-style-type: none"> Milestone Review Submissions (LE/A includes SD Chapter in Report with PANYNJ SBG Project Credit Checklist and draft LEED templates)
		Close-out	<ul style="list-style-type: none"> LE/A submits Final Stage I PANYNJ SBG Project Credit Checklist via PDPS for SDM Approval. 	<ul style="list-style-type: none"> Final Stage I PANYNJ SBG Project Credit Checklist
STAGE II	Design Development	Kick-Off	<ul style="list-style-type: none"> LE/A invites SDM to kick-off meeting and reviews/updates Stage I PANYNJ SBG Project Credit Checklist with input from SDM and design team. 	<ul style="list-style-type: none"> Updated PANYNJ SBG Project Credit Checklist (if needed) Kick-off meeting minutes
		Design Criteria Report	<ul style="list-style-type: none"> LE/A includes updated PANYNJ SBG Project Credit Checklist in Design Criteria Report. SDM comments on Design Criteria Report. 	<ul style="list-style-type: none"> Design Criteria Report
		Design Milestone Review Submissions	<ul style="list-style-type: none"> LE/A updates checklist as needed during design progress. LE/A includes SD Chapter in Stage II reports with PANYNJ SBG Project Credit Checklist and draft LEED templates demonstrating integration. SDM comments on Milestone Review Submissions. 	<ul style="list-style-type: none"> Milestone Review Submissions (LE/A includes SD Chapter in Report with PANYNJ SBG Project Credit Checklist and draft LEED templates)
		Close-out	<ul style="list-style-type: none"> LE/A submits Final Stage II PANYNJ SBG Project Credit Checklist via PDPS for SDM Approval. 	<ul style="list-style-type: none"> Final Stage II PANYNJ SBG Project Credit Checklist
STAGE III	Contract Documents	Kick-Off	<ul style="list-style-type: none"> LE/A invites SDM to kick-off meeting and reviews/updates prior Stage PANYNJ SBG Project Credit Checklist with input from SDM and design team. 	<ul style="list-style-type: none"> Updated PANYNJ SBG Project Credit Checklist Kick-off meeting minutes
		Design Criteria Report	<ul style="list-style-type: none"> LE/A includes current PANYNJ SBG Project Credit Checklist in Design Criteria Report. SDM comments on Design Criteria Report. 	<ul style="list-style-type: none"> Design Criteria Report
		Design Milestone Review Submissions	<ul style="list-style-type: none"> LE/A updates checklist as needed during design progress. LE/A includes PANYNJ SBG Project Credit Checklist and LEED templates in Milestone Review Submissions. SDM comments on Milestone Review Submissions and assists with Division 1 Clause(s) development. LE/A coordinates Custom Specifications with SDM. 	<ul style="list-style-type: none"> Milestone Review Submission including PANYNJ SBG Project Credit Checklist, LEED templates Division 1 Clause, Custom Specifications
		PA Wide Review	<ul style="list-style-type: none"> LE/A provides Division 1 Clause(s), PANYNJ SBG Project Credit Checklist and LEED templates for PA Wide Review. 	<ul style="list-style-type: none"> Division 1 Clause(s), PANYNJ SBG Project Credit Checklist, LEED templates
		Team Certification	<ul style="list-style-type: none"> LE/A submits Final Stage III PANYNJ SBG Project Credit Checklist via PDPS for SDM Approval. LE/A submits QA/QC Certification to SDM for approval. 	<ul style="list-style-type: none"> Final Stage III PANYNJ SBG Project Credit Checklist submitted through PDPS QA/QC Certification
		Submittals Selection	<ul style="list-style-type: none"> LE/A consults SDM on preparation of Submittals Distribution List. 	<ul style="list-style-type: none"> Final Submittals Distribution List
		Bid Period	<ul style="list-style-type: none"> LE/A consults SDM on bidder's questions related to Sustainable Design. 	<ul style="list-style-type: none"> Responses to bidder SD questions

TABLE 3.2: PANYNJ PROJECTS (CONT'D)

Stage		Work Steps/Tasks	Deliverables	
STAGE IV	Construction Phase <i>(projects 20,000 GSF+)</i>	Kick-Off	<ul style="list-style-type: none"> RE identifies Construction SCC(s) and holds a sustainable design meeting with SDM to review construction related credits. 	<ul style="list-style-type: none"> Kick-off meeting minutes
		On-going	<ul style="list-style-type: none"> SCC(s) holds periodic meetings to review compliance with Sustainable Design requirements. SCC(s) review sustainable design submittals and compile supporting documentation. SCC(s) submit periodic, cumulative PANYNJ Sustainable Building Guidelines Construction Compliance Report updates to SDM. 	<ul style="list-style-type: none"> Periodic, cumulative PANYNJ Sustainable Building Guidelines Construction Compliance Report updates
		Substantial Completion	<ul style="list-style-type: none"> SCC(s) submits final cumulative PANYNJ Sustainable Building Guidelines Construction Compliance Report to SDM for review and approval. 	<ul style="list-style-type: none"> Final cumulative PANYNJ Sustainable Building Guidelines Construction Compliance Report
		Certification	<ul style="list-style-type: none"> SDM approves final submission. 	

3.9 COMPLIANCE

Consistent with agency policy, 100% of applicable PANYNJ projects must comply with PANYNJ Sustainable Building Guidelines. The PANYNJ LE/A is responsible for achieving compliance. In rare cases, circumstances beyond the control or purview of the Engineering Department may make compliance technically infeasible or cost prohibitive. In such instances, these circumstances will be documented by the Chief of Resilience & Sustainability, in conjunction with the appropriate design discipline Chief(s), and presented to the Chief of Design for final adjudication.

4.0 TAA PROJECTS

NOTE: For information, specific to PANYNJ Projects, see [Section 3: PANYNJ Projects](#)

4.1 ACRONYMS

A/EOR	Architect/Engineer of Record
FTE	Full Time Equivalent employee
GBCI	Green Business Certification Institute
GHG	Greenhouse Gas
GSF	Gross Square Feet
LEED	Leadership in Energy & Environmental Design
LEED AP	LEED Accredited Professional
PA	Port Authority
PANYNJ	Port Authority Of New York And New Jersey
SBG	Sustainable Building Guidelines
SD	Sustainable Design
SDM	Sustainable Design Manager
TAA	Tenant Alteration Application
TC	Tenant Coordinator/Tenant Liaison
TCAP	Tenant Construction and Alteration Process
TCRM	Tenant Construction Review Manual
USGBC	United States Green Building Council

4.2 DEFINITIONS

Architect or Engineer of Record (A/EOR)	The PA requires the Tenant to identify an Architect or Engineer of Record (A/EOR). The PA requires that the Tenant establish agreements with their consultants to provide services that meet the TCAP requirements. The PA further requires the Tenant to identify a qualified lead consultant to be the A/EOR. The ultimate responsibility for engineering design and Building Code compliance always remains with the A/EOR who prepares the design and construction documents. Additional responsibilities of the A/EOR are specified in the TCAP Manual (See Reference Documents).
Contract Documents	Completed design documents and all other necessary documents for construction of the project, for review by the PA.

Contractor	The firm or company providing and coordinating the use of materials, labor and equipment for the construction of the project.
LEED	Leadership in Energy & Environmental Design (LEED) is a green building certification program instituted by the United States Green Building Council (USGBC) that recognizes best-in-class building strategies and practices. To receive LEED certification, building projects satisfy prerequisites and earn credits to achieve a targeted level of certification (Certified, Silver, Gold and Platinum), a determination made by Green Business Certification Inc. (GBCI) ⁴ Prerequisites and credits differ for each rating system (see USGBC’s website for details).
LEED BD+C	LEED for Building Design + Construction (BD+C) is a certification process that applies to buildings that are being newly constructed or undergoing a major renovation. USGBC offers the following BD+C certification categories: New Construction, Core & Shell, Schools, Retail, Hospitality, Data Centers, Warehouses & Distribution Centers, and Healthcare.
LEED ID+C	LEED for Interior Design + Construction (ID+C) is a certification process that applies to complete interior fit-outs, including Commercial Interiors, Retail and Hospitality.
Non-Occupied Building	<p>A building, enclosure or space that is not regularly occupied (without permanent staff) and meets the following criteria:</p> <ul style="list-style-type: none"> a) Is explicitly defined as “unoccupied” or “non-occupied” by applicable building codes and/or standards; OR b) Entry is controlled and recommended occupancy is limited to 168 hours per year, not to exceed forty hours per month, AND c) The number of occupants is limited to 10 at any given time. <p>Typical examples include: substations, ventilation buildings, storage sheds.</p>
Occupied Building	A building, enclosure or space that does NOT qualify under the Non-Occupied Building definition specified in this document. Typical examples include: warehouses, offices, transit stations, terminals, restaurants, retail stores, maintenance shops, parking garages and toll plazas that are staffed by a minimum of one full time equivalent employee (FTE).
Partial and Final Inspections for Occupancy (TAA Projects)	During Phase 3 (Close-out & Occupancy) of the TAA process, inspections for occupancy or use.

⁴ For the purposes of this document, USGBC and GBCI may be used interchangeably to refer to the organizations that develop and publish LEED rating systems and/or review and certify LEED applications.

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Project Initiation Form	Form TAA-MWA 01, used by the Tenant to notify the PA of an intent to perform construction or alteration work.
Sustainable Design Manager (SDM)	PANYNJ Engineering Department staff member(s) who advises on project compliance path and reviews technical application of Sustainable Building Guidelines (SBG) and Sustainable Infrastructure Guidelines (SIG).
Tenant	Signatory to a lease with the PA.
Tenant Coordinator / Tenant Liaison (TC)	PA staff providing oversight of conformance to the TCAP, working on behalf of the Facility Manager.

4.3 PROJECT TYPES

<p>Interior Construction</p>	<p>Fit-out or remodel of an interior space inside the building envelope. Examples include restaurant renovation, office space remodel, airport terminal retail renovation, etc.</p>
<p>New Construction</p>	<p>New construction refers to site preparation for, and construction of, entirely new structures and/or extensions to existing structures whether or not the site was previously occupied.</p>
<p>Reconstruction</p>	<p>A renovation of an existing building or buildings involving replacement or rehabilitation of four or more primary building systems (as defined in this document) as part of a unified design project or multiple, coordinated design projects, even if implementation is phased.</p>
<p>Small Projects & Primary Systems</p>	<p>Replacement or rehabilitation of fewer than four of the following building systems, regardless of phasing, duration or project cost: roofs, ceilings, window replacement, building envelope, plumbing, site work, HVAC, electrical/electronics and elevator/escalator. Small projects also include demolition.</p> <p>Small Projects and Primary System replacements, upgrades, or demolitions are evaluated using the <i>Small Projects & Primary Systems Green Design Table</i>⁵, which designates applicable credits for each building system. NOTE: Projects using the <i>Small Projects and Primary Systems</i> pathway must comply with all applicable credits.</p>

⁵ The PANYNJ SBG “Small Projects and Primary Systems” category was adapted from the New York State Office of General Service’s *Green Building Design “Green Design Table for Small Projects.”*

4.4 SUSTAINABLE DESIGN PROCESS (TAA PROJECTS)

In accordance with the PANYNJ's *Tenant Construction and Alteration Process (TCAP) Manual* (See Reference Documents), all PANYNJ tenants are required to comply with the Sustainable Building Guidelines (SBG) and must submit all required SBG documentation as part of the Tenant Alteration Application (TAA). For information, specific to PANYNJ Projects, see [Sustainable Design Guidelines Part 1, Section 3: Sustainable Building Guidelines for PANYNJ Projects](#).

4.4.1 PROJECT SCOPE

The categorization of each project scope is determined during the development of the TAA Project Initiation Form. The PA Sustainable Building Guidelines are applicable to tenant project scopes including, but not limited to, the following⁶:

- Terminal (Airport, Rail, Port, Bus, etc.)
- Commercial Space (Retail/Restaurant)
- Office Facility
- Parking Garage
- Substation
- Storage Facility
- Toll Plaza
- Ventilation Building
- Small Projects and Primary Systems (*fewer than four of the following*):
 - Roof/Ceilings
 - Window Replacement
 - Building Envelope
 - Plumbing
 - Site Work/Demolition Project
 - HVAC/Refrigeration/Boiler/Rooftop Units/Controls
 - Electrical/Electronics
 - Elevators/Escalators
- Any project subject to applicable building codes and standards.

Unless explicitly exempted by the PANYNJ Sustainable Design Manager (SDM), all Tenant Alteration Application building projects greater than 1,000 GSF will comply with requirements of the PA Sustainable Building Guidelines (Part I, Section B).

- ▶ For TAA building projects between 1,000 and 4,999 GSF, this requirement is effective as of January 1, 2018.
- ▶ For TAA building projects greater than 5,000 GSF, this requirement is effective as of January 1, 2017.
- ▶ For the purposes of these Guidelines, the effective start date of a TAA building project is the date on which PANYNJ receives all required Project Initiation documents.

⁶For project scopes not listed, contact PANYNJ Sustainable Design Manager for guidance.

4.4.2 PROJECT TYPES AND REQUIRED ACHIEVEMENT LEVEL

The PANYNJ Sustainable Building Guidelines reference the USGBC's *LEED for Building Design and Construction (BD+C)* and *LEED for Interior Design and Construction (ID+C)* Rating Systems. Requirements vary according to project type and size, as delineated in Table 4.1 below and informed by the Sustainable Design Project Type Definitions. Projects must obtain sufficient credits to be eligible for certification ("certifiable") to the LEED level specified in Table 4.1, but formal USGBC certification is not required by SBG.

TABLE 4.1 SBG PROJECT CATEGORIZATION FOR TAA PROJECTS

Project Type	LEED Rating System	LEED Level Required by Gross Square Footage (GSF)	
		1,000 to 20,000	20,000+
New Construction	LEED BD+C	LEED Certified	LEED Silver
Reconstruction	LEED BD+C	LEED Certified*	LEED Certified
Interior Construction	LEED ID+C	LEED Certified*	LEED Certified
Small Projects and Primary Systems	-	100% of Applicable Credits from <i>Small Projects & Primary Systems Green Design Table</i> **	

* Meet SBG requirements or contact SDM for an applicability determination based on project type, scale and scope.

** Projects using the Small Projects and Primary Systems pathway must comply with all applicable credits.

The tenant (A/EOR) shall utilize the most appropriate and recent LEED Rating System based on project type, in reference to the Project Type Definitions. The final rating system determination is subject to concurrence from the SDM. Alternative compliance paths must be approved by the SDM prior to commencement of design. In all cases, applicable codes and standards must be met or exceeded. **Note:** For non-occupied buildings, IEQ credits are not valid unless approved by the SDM.

To ensure that SBG compliance has been demonstrated prior to the conclusion of the Tenant Construction and Alteration Process, the A/EOR must submit the PANYNJ SBG Project Credit Checklist and the USGBC LEED templates to the SDM to determine compliance even if the tenant is pursuing LEED certification through GBCI⁷.

4.5 REQUIRED DOCUMENTATION

This section outlines required SBG documentation for TAA projects and where to obtain forms and templates.

- **Design Documentation Requirements:** Projects must utilize the PANYNJ SBG Project Credit Checklist and the USGBC LEED templates to demonstrate compliance. These documents should be obtained from the SDM. The PANYNJ SBG Project Credit Checklist provides columns for references to required backup documentation, which may include

⁷ If the project achieves formal GBCI certification *prior* to the conclusion of the TCAP process (e.g., through a volume certification program) or LEED certification is required as part of a public Record of Decision (ROD), the SDM compliance determination will be based on the resulting GBCI LEED certification report. In the latter instance, the tenant must invite the PANYNJ SDM and/or the SDM's designated representative(s) to join the project's LEED Online site at the time of project registration, no later than 50% design. The tenant remains solely responsible for demonstrating SBG compliance.

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drawings, specifications and/or calculations. The A/EOR must submit the PANYNJ SBG Project Credit Checklist and USGBC LEED templates as part of their TAA Submittal. Full access to all required backup documentation must be provided simultaneously.

- **Accessing Required Forms:** All required forms are available from the PANYNJ SDM sustainabledesignmanager@panynj.gov. Because forms may be updated periodically, new forms must be obtained for each project. The following forms are available from the SDM:
 - PANYNJ Sustainable Project Initiation Form (SPIF)
 - PANYNJ Sustainable Building Guidelines Project Credit Checklist
 - USGBC LEED templates.

4.6 ROLES AND RESPONSIBILITIES

For TAA projects, roles and responsibilities for incorporating SBG into design and construction are shared among the tenant, the tenant’s Architect/Engineer of Record, the Tenant Coordinator /Tenant Liaison, and the Sustainable Design Manager as follows.

- Sustainable Design Manager (SDM) - The PANYNJ SDM advises on the project compliance path, as requested, and reviews the technical application of SBG to determine compliance.
- Tenant / Architect/Engineer of Record (A/EOR) - The tenant (through the tenant’s A/EOR) is responsible for managing the SBG implementation and documentation process to ensure compliance. Protocols and procedures for TAAs are referenced in the *TCAP Manual*.
- Tenant Coordinator / Tenant Liaison (TC) - As the primary liaison between the PA and the tenant team, the TC is responsible for ensuring that SBG requirements are transmitted to the tenant, the tenant has timely access to the SDM if questions arise, SBG technical submittals are complete and timely, and that compliance failures are handled in accordance with the *TCAP Manual*.

Please see Table 4.2 for information on key project milestones, specific work tasks and deliverables. For questions regarding the SBG, the Sustainable Design process, or roles and responsibilities, please contact sustainabledesignmanager@panynj.gov. Refer to the *TCAP Manual* for further details on the TAA process.

4.7 PROJECT MILESTONES AND DELIVERABLES

TABLE 4.2 PROJECT MILESTONES AND DELIVERABLES FOR TAA PROJECTS

Phase	Work Steps/Tasks	Deliverables
Project Initiation	<ul style="list-style-type: none"> • Tenant / A/EOR completes PANYNJ Sustainable Project Initiation Form (SPIF) and submits to PANYNJ TC, who transmits to SDM prior to project kick-off. • SDM provides LEED rating system selection guidance. 	<ul style="list-style-type: none"> • PANYNJ Sustainable Project Initiation Form (SPIF)
Phase 1 - Design	<ul style="list-style-type: none"> • TC invites SDM to kick-off meeting. • Tenant/ A/EOR holds Sustainable Design meetings with all design team members and other relevant stakeholders to complete USGBC LEED Checklist and incorporate requirements into Contract Documents. • Tenant Liaison submits the PANYNJ SBG Project Credit Checklist and USGBC LEED templates as part of TAA Submittal (including supporting backup documentation). 	<ul style="list-style-type: none"> • Kick-off meeting minutes • Completed USGBC LEED Checklist with inclusion in Contract Documents • PANYNJ SBG Project Credit Checklist, USGBC LEED templates and supporting backup documentation as part of TAA Submittal.

Contact the SDM (sustainabledesignmanager@panynj.gov) with any questions related to the SBG implementation and documentation process.

4.8 COMPLIANCE

All applicable TAAs must comply with PANYNJ Sustainable Design Guidelines. In accordance with the *TCAP Manual*, “the Tenant is ultimately responsible for compliance with all PA requirements.” Compliance failures will be handled following the procedures set forth in the *TCAP Manual*, which may include withholding a Final Certificate of Authorization to Occupy or Use.

5.0 REFERENCE DOCUMENTS

The following web links to reference materials are current as of December 2016.

PANYNJ

- Sustainable Infrastructure Guidelines (SIG): <http://www.panynj.gov/about/pdf/Sustainable-infrastructure-guidelines.pdf>
- Tenant Construction and Alteration Process (TCAP) Manual: <http://www.panynj.gov/business-opportunities/tcap/pdf/tcap-manual.pdf>
- Tenant Construction Review Manual (TCRM): <http://www.panynj.gov/business-opportunities/tcap/pdf/7.5-References/7.5.1-all-facil/7.5.1-01.pdf>

USGBC LEED

- United States Green Building Council (USGBC): www.usgbc.org
- LEED v4 for Building Design & Construction (BD+C):
 - Summary reference manual: <http://www.usgbc.org/resources/leed-v4-building-design-and-construction-current-version>
 - Checklist: <http://www.usgbc.org/resources/leed-v4-building-design-and-construction-checklist>
- LEED v4 for Interior Design & Construction (ID+C):
 - Summary reference manual: <http://www.usgbc.org/resources/leed-v4-interior-design-and-construction-current-version>
 - Checklist: <http://www.usgbc.org/resources/leed-v4-interior-design-and-construction-checklist>
- Guide to LEED Certification, Commercial: <http://www.usgbc.org/cert-guide/commercial>
- LEED templates/forms: <http://www.usgbc.org/sampleforms>