
USACE / NAVFAC / AFCEC /NASA UFGS-01 33 29 (November 2014)

Preparing Activity: NAVFAC NEW (supersedes UFGS 01 33 29
LEED Documentation, UFGS 01 62 35
Recycled/Recovered/Biobased
Materials, and NAVFAC 01 33 29.00
20 Sustainable Requirements)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated October 2014

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11/14

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SECTION 01 33 29

SUSTAINABILITY REQUIREMENTS 11/14

NOTE: This guide specification covers the requirements for providing sustainability documentation for Guiding Principles Validation (GPV), and Third Party Certification (TPC).

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

UFGS are intended for design-bid-build contracts; for design-build projects UFGS may require extensive editing by the designer. Navy design-build projects must use NAVFAC Design-Build Master at www.wbdg.org/ndbm.

PART 1 GENERAL

1.1 REFERENCES

NOTE: Issue (date) of references included in project specifications need not be more current than provided by the latest guide specification. Use of

**SpecsIntact automated reference checking is
recommended for projects based on older guide
specifications.**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING
ENGINEERS (ASHRAE)

ASHRAE 189.1 (2011; Errata 1-2 2012; INT 1 2013; Errata
3-8 2013) Standard for the Design of
High-Performance Green Buildings Except
Low-Rise Residential Buildings

GREEN BUILDING INITIATIVE (GBI)

Green Globes (2004) Green Globes(tm) US Green Building
Rating System

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
(SMACNA)

ANSI/SMACNA 008 (2007) IAQ Guidelines for Occupied
Buildings Under Construction, 2nd Edition

U.S. DEPARTMENT OF ENERGY (DOE)

ISWG Guiding Principles (2008) High Performance and Sustainable
Buildings Guidance

U.S. GREEN BUILDING COUNCIL (USGBC)

LEED (2002; R 2005) Leadership in Energy and
Environmental Design(tm) Green Building
Rating System for New Construction
(LEED-NC)

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247 Comprehensive Procurement Guideline for
Products Containing Recovered Materials

1.2 SUMMARY

This specification includes general requirements and procedures for this project to be constructed and documented per the federally mandated "Guiding Principles" (GP), Third Party Certification (TPC) requirements (if applicable), UFC 1-200-02, High Performance and Sustainable Building Requirements, and other requirements identified in this specification.

1.3 SUBMITTALS

**NOTE: Review Submittal Description (SD) definitions
in Section 01 33 00 SUBMITTAL PROCEDURES and edit
the following list to reflect only the submittals**

required for the project.

The Guide Specification technical editors have designated those items that require Government approval, due to their complexity or criticality, with a "G". Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a "G" to an item, if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy projects.

An "S" following a submittal item indicates that the submittal is required for the Sustainability Notebook to fulfill federally mandated sustainable requirements in accordance with Section 01 33 29 SUSTAINABILITY REQUIREMENTS.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

NOTE: Sustainability requirements have been identified in many of the technical specification sections. Include additional sustainability requirements throughout the technical specification sections according to goals of this project. Identify products and other submittals required for Guiding Principle Validation (GPV) or Third Party Certification (TPC), with an "S" next to the item under SD-11 Closeout Submittals. Use the following format under SD-11 to add items in the technical section to comply with the requirements of this section:

<ITM>_{Insert Submittal Item}; _S

"S" submittals are processed as described in Section 01 33 00 SUBMITTAL PROCEDURES.

Make corresponding edits in the products part or the execution part to differentiate those pieces of equipment, products, or activities related to GPV and TPC.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submittals with an "S" are for Government Approval and for inclusion in the Sustainability Notebook. Submittals with an "S" are for inclusion in the Sustainability Notebook, in conformance to Section 01 33 29 SUSTAINABILITY REQUIREMENTS. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Preliminary Sustainability Notebook[; G]

Preliminary High Performance and Sustainable Building Checklist

SD-07 Certificates

Third Party Certification (TPC)

SD-11 Closeout Submittals

Final Sustainability Notebook[; G]

Final High Performance and Sustainable Building Checklist[; G]

NOTE: Choose bracketed option, "Amended Final Sustainability Notebook Submittal" for projects that require data and performance information to be collected after the BOD of the facility.

Choose bracketed option for "Third Party Certification Plaque and Certificates" for TPC projects.

[Amended Final Sustainability Notebook[; G]

] [Third Party Certification Plaque and Certificates[; G]

] 1.4 GUIDING PRINCIPLES VALIDATION (GPV)

NOTE:

1. GUIDING PRINCIPLES VALIDATION (GPV) applies to all building projects (vertical construction) in accordance with UFC 1-200-02 High Performance and Sustainable Building Requirements.

2. Only GPV is required for the following types of projects:

a. Non-energy designated new construction or renovation projects that require a very limited number of construction trades. Examples include:

interior painting, replacing floor material,
repairing roofs, or resurfacing parking lot.

b. Renovation projects less than \$2.5 Million.

Editor must complete initial HSPB Checklist for this
project and include at the end of this specification
as Attachment 1. Obtain HPSB checklist from
respective agency. See paragraph 1.5.2 below for
location.

Provide construction related sustainability documentation to verify
achievement of ISWG Guiding Principles Validation (GPV).

Provide the following for GPV:

- a. Refer to Attachment 1, HPSB Checklist at the end of this specification
section.
- b. Obtain approval of any changes to the HPSB Checklist from the
Contracting Officer at the Preconstruction Conference. Contracting
Officer's approval establishes identified ISWG Guiding Principles
Requirements as the project's sustainability goals.

No variations or substitutions to the HPSB Checklist are allowed
without written consent from the Contracting Officer. Immediately
bring to the attention of the Contracting Officer any changes that
impact meeting the approved ISWG Guiding Principles Requirements for
this project and demonstrate that change will not incur additional
construction cost or increase the life cycle cost.

- c. Include all work required to incorporate the applicable
ISWG Guiding Principles Requirements indicated on the HPSB Checklist and
in this contract.
- d. Include construction related documentation to maintain an up-to-date
Sustainability Notebook. Supplement construction related documentation
containing the following components;
 - (1) HPSB Checklist
 - (2) Sustainability Action Plan

NOTE: Use bracketed items below for projects that
exceed thresholds in above Editor's Note.

- [(3) Documentation illustrating Guiding Principle (GP) Requirements
compliance
 -] [(4) Commissioning Plan and Reports
-] 1.4.1 Sustainability Action Plan

Include the following information in the Sustainability Action Plan:

- a. Contractor's planned method to achieve each construction relate GP

requirement.

NOTE: Use bracketed items below for projects that
exceed thresholds in above Editor's Note.

- [b. For each designated construction related ISWG Guiding Principles Requirements that is not achieved, provide narrative explaining how mission or activity precludes achieving specific sustainability requirement or goal. Provide analysis of particular requirement and level to which project is able to comply.
- c. Name and contact information for: Contractor's Sustainability POC and other sustainability professional on the Contractor's Staff responsible for ensuring sustainability goals are accomplished and documentation is assembled.

]1.4.2 Costs

Contractor is responsible for all costs associated with constructing and demonstrating that project complies with approved ISWG Guiding Principles Requirements.

]1.4.3 Calculations

NOTE: Use below paragraph when project exceeds
threshold defined in notes under header above
"Guiding Principles Validation (GPV)".

Provide calculations, product data, and certifications required in this section to demonstrate compliance with the ISWG Guiding Principles Requirements.

]1.4.4 Third Party Certification (TPC) Documentation

NOTE: Use this paragraph when Third Party
Certification is required and the Designer of Record
registers and certifies the project, with the
Contractor providing the construction
documentation. This is in addition to GPV.

NOTE: Obtain, fill out, and include TPC checklist
as Attachment 2.

NOTE: On the rare occasion that a project facility
scope is not capable of meeting LEED Silver
Certification or equivalent (TPC) certification
level, enter "Certified" or equivalent in the empty
set of brackets, and provide Government with
documentation to justify deviation from Silver.

This project has been designed for, and must be constructed to attain a sustainability rating of [LEED [Silver][____]] [Green Globes [2 Globes][____]]. Project is already registered with the TPC Organization. Provide construction related sustainability documentation, in the format required by the TPC Organization, to the Contracting Officer for approval, and for final approval by the TPC organization.

Include the following:

- a. Refer to Attachment 2, TPC Checklist at the end of this specification section.
- b. Obtain approval of the TPC Checklist from the Contracting Officer at the Pre-Construction Conference.

No variations or substitutions to the approved TPC checklist are allowed without written consent from the Contracting Officer. Immediately bring to the attention of the Contracting Officer any project changes that impact meeting the approved TPC Requirements for this project. Demonstrate that change will not: incur additional construction cost; increase the life cycle cost; impact previous TPC Design Review; or impact required TPC certification level.

- c. Complete all work required to incorporate the applicable TPC Requirements.
- d. Maintain the construction related information, and provide replacement pages, in the Sustainability Notebook pertaining to additions and changes to the approved sustainability requirements. The Sustainability Notebook is in electronic format and is explained in paragraph SUSTAINABILITY NOTEBOOK. The Sustainability Notebook contains the following components in addition to the GPV components above:

- (1) TPC Checklist
- (2) Sustainability Action Plan

**NOTE: Choose the first or second bracketed item.
For second bracketed item, Contractor has to be
entered as a TPC Online Team Member.**

- (3) Completed TPC documentation for each identified prerequisite and credit. [Forward to the Contracting Officer for approval.] [Upload onto the TPC Online documentation website.]
 - (4) Copy of all correspondence with the TPC organization.
 - (5) Commissioning Plan
- e. Include the following information in the Sustainability Action Plan. Provide this TPC information in addition to the GPV Action Plan items above:
 - (1) Contractor's planned method to achieve each TPC requirement.

- (2) For each required TPC credit that is attempted but not achieved, provide narrative explaining how mission or activity precludes achieving specific sustainability requirement or goal. Provide analysis of particular requirement and level to which project is able to comply.
 - (3) Provide the commissioning plan and schedule for performance testing[, and data collection to take place during first year of facility usage].
 - (4) Name and contact information for: Contractor's Sustainability POC and other names of sustainability professionals on the Contractor's Staff responsible for ensuring TPC sustainability goals are accomplished and documentation is assembled.
- f. Contractor is responsible for all costs associated with constructing and demonstrating that project complies with approved TPC requirements, including but not limited to:
- (1) TPC coordination with Government's AE and other consultants, TPC website requirements, and management for construction related documentation.
 - (2) Construction work required to incorporate TPC prerequisites and credits.
 - (3) Submittals required to demonstrating compliance with Government approved TPC checklists.
- g. Provide all calculations, product data, and certifications required in this contract to demonstrate compliance with the TPC Requirements of this section.

] [1.4.5 Third Party Certification (TPC)

NOTE: Choose this paragraph, and delete the previous, if the Contractor is responsible for achieving the final TPC certification.

NOTE: Choose the first bracketed paragraph below and delete the second, if the Designer of Record (DOR) has not registered the project with a TPC organization, and the Contractor must do so. Otherwise, choose the second bracketed paragraph below and delete the first, if the DOR has registered the project with a TPC organization, and will pass the responsibility for final TPC documentation and certification to the Contractor.

NOTE: On the rare occasion that a project is not capable of meeting LEED Silver Certification or equivalent TPC certification level, enter "Certified" or equivalent in the empty set of brackets, and provide Government with documentation

to justify deviation from Silver.

[Contractor is responsible for registering and meeting all requirements to achieve Third Party Certification (TPC) level of [LEED [Silver] [____]] [Green Globes [2 Globes] [____]], or other Government-approved equivalent TPC sustainability certification. An equivalent TPC organization must demonstrate equivalency for Government consideration, prior to use on the project. Third Party Certification is met when Government receives TPC organization certificate and plaque.

Register project with TPC organization using the following format and content:

Project Title First Line: US Army, US Air Force, US Navy or US Marine Corps, Building Name (if known)

Project Title Second Line: MILCON P#, DD1391 Project Name

Project Address: UIC (Installation code), Category code, RPUID (Real Property Unique Identifier) Number

Project Owner Organization: US Army, US Air Force, US Navy or US Marine Corps

Primary Contact, Owner: Agency Project Manager

Additional Contact, Building Owner: Public Works Officer or Designee]

[Project is already registered with TPC organization. The TPC Online management will be turned over to the Contractor who will assume full responsibility for management and obtaining Final Certification.]

The TPC Certification requires the following:

- a. Refer to Attachment 2, TPC Checklist at the end of this specification section.
- b. Obtain approval of the TPC Checklist from the Contracting Officer at the Pre-Construction Conference.

No variations or substitutions to the approved TPC checklist are allowed without written consent from the Contracting Officer. Immediately bring to the attention of the Contracting Officer any project changes that impact meeting the approved TPC Requirements for this project. Demonstrate that change will not: incur additional construction cost; increase the life cycle cost; impact previous TPC Design Review; or impact required TPC certification level.

- c. Complete all work required to incorporate the applicable TPC Requirements.
- d. Maintain the construction related information, and provide replacement pages, in the Sustainability Notebook pertaining to additions and changes to the approved sustainability requirements. The Sustainability Notebook is in electronic format and is explained in paragraph SUSTAINABILITY NOTEBOOK. The Sustainability Notebook contains the following components in addition to the GPV components above:

- (1) TPC Checklist
 - (2) Completed TPC Online forms for each identified prerequisite and credit
 - (3) Copy of all correspondence with the TPC organization including proof of TPC registration
 - (4) Documentation illustrating compliance with TPC requirements
 - (5) TPC Award Certificate
 - (6) Commissioning Plan
- e. Include the following information in the Sustainability Action Plan. Provide this TPC information in addition to the GPV Action Plan items above:
- (1) Contractor's planned method to achieve each TPC requirement.
 - (2) For each required TPC credit that is attempted but not achieved, provide narrative explaining how mission or activity precludes achieving specific sustainability requirement or goal. Provide analysis of particular requirement and level to which project is able to comply.
 - (3) Name and contact information for: Contractor's Sustainability POC and other names of sustainability professionals on the Contractor's Staff responsible for ensuring TPC sustainability goals are accomplished and documentation is assembled
 - (4) Provide the plan and schedule for performance testing, data collection, and commissioning[to take place during first year of facility usage].
- f. Contractor is responsible for all costs associated with constructing and demonstrating that project complies with approved TPC requirements, including but not limited to:
- (1) Final TPC review, certification and plaque fees
 - (2) Online (or offline with secure facilities) TPC management and documentation.
 - (3) Obtaining TPC certification based on Government-approved sustainability goals.
 - (4) Construction work required to incorporate TPC prerequisites and credits.
 - (5) Submittals required to demonstrate compliance with Government approved TPC checklists.
- g. Provide all calculations, product data, and certifications required in this specification to demonstrate compliance with the TPC Requirements.
- h. Provide all online (or offline, with secure facilities) TPC management and documentation.

- i. Contractor is responsible for all required responses to TPC.
- j. Provide TPC Plaque and Certificates. Use format below to create the Plaque, Certificate and Letter of Congratulations. Forward to parties designated by Contracting Officer:
 - (1) Plaque:

Name: Final Building Name. If unknown, provide Form DD1391 Project Name.
 - (2) Certificate:

Project Title, first line: P-(X); Form DD1391 Project Name).

Project Title, second line: UIC (Installation code)
 - (3) Letter Congratulations:

Address letter to Facility's Installation commander Name. Address the letter to an individual person.

]1.5 SUSTAINABILITY SUBMITTALS

Provide documentation in the Sustainability Notebook and the HPSB Checklist to indicate compliance with the sustainability requirements of the project.

Submit the GPV[.and TPC] sustainability documentation required in this specification as "S" submittals. Highlight GPV[.and TPC] compliance data in "S" submittal.

1.5.1 SUSTAINABILITY NOTEBOOK

Provide and maintain a comprehensive Sustainability Notebook to document compliance with the sustainability requirements identified in the approved HPSB[and TPC] Checklist[s]. Sustainability Notebook must contain all required data to support full compliance with the ISWG Guiding Principles Requirements [and TPC requirements]. Sustainability Notebook is in the form of an Adobe PDF file; bookmarked at each ISWG Guiding Principles Requirement [, TPC requirement,]and sub-bookmarked at each document. Match format to ISWG Guiding Principles numbering system indicated herein. Maintain up to date information, spreadsheets, templates, etc. with each current submittals.[For TPC projects, provide a second Table of contents using TPC numbering system. Locate documentation unique to TPC here. Where TPC documentation would repeat GP documentation, insert note referring reviewer to GP documentation.]

Contracting Officer may deduct from the monthly progress payment accordingly if Sustainability Notebook information is not current, until information is updated and on track per project goals.

1.5.1.1 Sustainability Notebook Submittal Schedule

Provide Sustainability Notebook Submittals at the following milestones of the project:

- a. Preliminary Sustainability Notebook
 - Submit preliminary Sustainability Notebook for approval at the Pre-construction conference. Include Preliminary High Performance and

Sustainable Building Checklist.

- b. Construction Progress Meetings. Update GP[and TPC] documentation in the Sustainability Notebook[and TPC Online tool] for each meeting.
- c. Final Sustainability Notebook

Submit updated Sustainability Notebook within 60 days after the Beneficial Occupancy Date (BOD). Final progress payment retainage may be held by Contracting Officer until final sustainability documentation is complete. [Submit three (3) electronic copies of the Final Sustainability Notebook on DVDs to the Government.] Include Final High Performance and Sustainable Building Checklist.

NOTE: Choose the bracketed option for an Amended Final Submittal, if the project requires Cx or data collection after BOD.

[d. Amended Final Sustainability Notebook

Amend and resubmit the Final Sustainability Notebook to include commissioning, testing and balancing, and collection of performance requirements. [Submit three (3) final electronic copies of the Amended Final Sustainability Notebook Submittal on DVDs to the Government no longer than 30 days after the GP[, TPC][, and Cx] designated data collection period.]

]1.5.2 HIGH PERFORMANCE SUSTAINABLE BUILDING (HPSB) CHECKLIST

Provide construction documentation that provides proof of and supports compliance with the completed HBSP Checklist.

Submit an updated copy of the HPSB Checklist with each Sustainability Notebook submittal. Attach HPSB Checklist to DD1354 Real Property Record Submittal.

Where not included as attachment to this specification section, use the following as HPSB Checklist for respective service branch. Where Internet address appears on two lines, copy full address into Internet browser.

Air Force - Air Force MILCON Sustainability Requirements Score sheet,
"AF Sustainable Design Development Implementing Guidance Memo - Attachment 3" http://www.wbdg.org/ccb/browse_cat.php?c=265

Army - Energy & Sustainability Record Card
<http://www.sas.usace.army.mil/About/DivisionsandOffices/EngineeringDivision/EngineeringDesignCriteria.aspx>

Navy - NAVFAC Sustainability & Energy Data Record Card
http://www.wbdg.org/pdfs/navfac_sustainable_energy_data_record_card.pdf

1.6 DOCUMENTATION REQUIREMENTS

NOTE: Choose the following bracketed paragraph for Third Party Certification (TCP) projects.

[Third Party Certification requirements or credits are mandatory when they have requirements that match a Guiding Principle Requirement. Documentation used to demonstrate TPC compliance may be used to demonstrate GP compliance.

]

NOTE: The following subparagraphs provide Guiding Principle Requirements. Edit out Guiding Principle Requirements that are not applicable to the project. Add sustainability requirements based on project requirements.

Guiding principles that are related to design must already be designed into the project.

Incorporate each of the following ISWG Guiding Principles Requirements into project construction; and provide documentation that proves compliance with each listed requirement. Items below are organized according to the ISWG Guiding Principles. For projects that require TPC, refer to Third Party Certifier's reference manuals for TPC requirements.

1.6.1 Commissioning

NOTE: Use the first bracketed paragraph for projects that have a Commissioning Authority (CxA) hired directly by the Government and delete the second. Use the second bracketed paragraph and items for Contractor-hired CxA, and delete the first.

[Work with the Government's Commissioning Authority (CxA) to achieve requirements of the Commissioning plan and other construction document requirements at each stage of commissioning. Maintain up-to-date records of commissioning activities in the Sustainability Notebook.

] [Using a qualified commissioning authority, develop and incorporate commissioning requirements into the construction documents. Develop and implement a commissioning plan. Verify the installation and performance of the systems to be commissioned, including no less than: HVAC&R systems and associated controls, lighting and daylighting controls, domestic hot water systems, and renewable energy systems. Complete a summary commissioning report.

Provide the following documentation:

- a. Commissioning Authority certifications
- b. Commissioning Authority qualifications
- c. Commissioning meeting minutes during construction
- d. Commissioning Plan, updated at each project stage
- e. For each commissioned system, completed pre-startup checklist, completed functional verification checklist and performance verification test report.

- f. Final commissioning report and narrative demonstrating project's fundamental commissioning requirements have been successfully executed

]1.6.2 Energy Efficient Equipment

Provide only energy-using equipment that is Energy Star rated, or has the Federal Energy Management Program (FEMP) recommended efficiency. Where Energy Star or FEMP recommendations have not been established, provide equipment with efficiency in the top 25 percent for the type of equipment procured. Provide only energy using equipment that meets FEMP requirements for low standby power consumption. Energy efficient equipment can be found at: <http://www1.eere.energy.gov/femp/> and <http://www.energystar.gov/>.

Provide the following documentation:

Proof that equipment is energy efficient and complies with the cited requirements.

1.6.3 Benchmarking

Provide report of initial actual energy performance with the energy design targets.

Provide the following documentation:

Prefinal Performance Report with data collected from the first 60 days of operation of the facility after Beneficial Occupancy Date (BOD). Submit this information with the Final Sustainability Notebook Submittal.

1.6.4 Reduce Volatile Organic Compounds (VOC)

Provide materials and products with low pollutant emissions, including composite wood products, adhesives, sealants, interior paints and finishes, carpet systems, and furnishings. Meeting the requirements of ASHRAE 189.1 Sections 8.4.2 (Prescriptive Option: Materials) or Section 8.5.2 (Performance Option: Materials) demonstrates compliance.

Provide the following documentation:

- a. Demonstrate that materials do not exceed maximum VOC emissions of cited standards. VOC averaging is allowed where coatings are subject to human contact or harsh environmental conditions.
- b. Demonstrate that flooring materials comply with VOC emissions of cited standards.
- c. Demonstrate that composite wood and agrifiber products and associated laminating adhesives contain no added urea-formaldehyde.
- d. Demonstrate that furniture and seating is third-party certified for low emissions.
- e. Create and maintain a list of above listed products used on the project within the building vapor barrier. Demonstrate how product meets cited standards.

1.6.5 Indoor Air Quality During Construction

Prior to construction, create indoor air quality plan. Implement IAQ plan during construction and flush building air before occupancy.

a. Construction submittal documentation required:

- (1) Provide IAQ management plan for the construction and preoccupancy phases of the building. For renovation of occupied existing buildings, the plan must be developed and implemented in accordance with ANSI/SMACNA 008-2008 IAQ Guidelines for Occupied Buildings Under Construction.
- (2) Provide required documentation showing that after construction ends and prior to occupancy, new HVAC filters were installed, and building air was flushed out in accordance with UFC 1-200-02, with maximum outdoor air consistent with achieving relative humidity no greater than 60 percent.

1.6.6 Recycled Content

Provide materials on this project with aggregated total recycled content greater than 10 percent. In addition, comply with 40 CFR 247. Refer to <http://www.epa.gov/cpg/products.htm> for assistance identifying products cited in 40 CFR 247

Provide the following documentation:

- a. Total amount of recycled content contained in building materials as a percentage of total cost of all building materials on the project (mechanical, electrical, and plumbing components, and specialty items such as elevators excluded).
- b. Substitutions: In case of conflict between project's recycled content goals and individual technical section requirements, Contractor may submit for Government approval, proposed alternative products or systems that provide equivalent performance and appearance and have greater contribution to project recycled content requirements. For all such proposed substitutions, submit with the Sustainability Action Plan accompanied by product data demonstrating equivalence.

1.6.7 Bio-Based Products

NOTE: Specifying a minimum 2.5 percent of the total value of all building materials and products to be "rapidly renewable" (having a harvest cycle of 10 years or less) is highly desirable, but not mandatory. Choose the bracketed option for projects that will meet the requirements.

Utilize products and material made from biobased materials to the maximum extent possible without jeopardizing the intended end use or detracting from the overall quality delivered to the end user. Use only supplies and materials of a type and quality that conform to applicable specifications and standards.

Biobased products that are designated for preferred procurement under

theUSDA BioPreferred Program must meet the required minimum biobased content. Refer to <http://www.biopREFERRED.gov> for the product categories and BioPreferred Catalog.

Provide the following documentation:

- a. For biobased products used on this project, provide biobased content and biobased source of material. Indicate name of the manufacturer, cost of each product and the use of each product on this project.

1.6.8 Landfill Disposal

Divert construction debris from landfill disposal in accordance with Section 01 74 19 Construction and Demolition Waste Management of the Federal Green Construction Guide for Specifiers, available at <http://fedgreenspecs.wbdg.org>

Provide the following documentation:

Documentation showing total amount of construction debris diverted from landfill as a percentage of all construction debris on the project.

Include project's Construction Waste Management Plan and all dumpster haul tickets.

1.6.9 Ozone Depleting Substances

Eliminate the use of ozone depleting substances during and after construction where alternative environmentally preferable products are available and in accordance with either the Montreal Protocol and Title VI of the Clean Air Act Amendment of 1990 or equivalent overall air quality benefits that take into account lifecycle impacts. Meet the requirements of ASHRAE 189.1 Section 9.3.3 Refrigerants (except for fire suppression system requirements covered elsewhere in this specification).

Provide the following documentation:

- a. MSDS sheets for all refrigerants provided
- b. Products that meet the criteria of U.S. EPA Significant New Alternatives Policy, available at <http://www.epa.gov/ozone/snap/index.html>.

1.6.10 Validation and Certification Restrictions

The purchase of renewable energy credits (RECs) to meet project sustainability goals is prohibited.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 SUSTAINABILITY COORDINATION

NOTE: Choose the bracketed options below for TPC projects.

3.1.1 Coordinating Sustainability Documentation Progress

Provide sustainability focus and coordination at the following meetings to achieve sustainability goals. Contractor's designated [TPC accredited] sustainability professional responsible for GP [and TPC] documentation must participate in the following meetings to coordinate documentation completion.

- a. Pre-Construction Conference: Discuss the following: [TPC and] HPSB Checklist[s], Sustainability Action Plan, Construction submittal requirements and schedule, individuals responsible for achieving each Guiding Principle Requirement[and TPC prerequisite and credit].
- b. Construction Progress Meetings: Review GP[and TPC] sustainability requirements with project team including contractor and sub-contractor representatives. Demonstrate GP[and TPC] documentation is being collected and updated to the Sustainability Notebook[and TPC Online tool].
 - (1) Facility Turnover Meetings: Review Sustainability Notebook[, and TPC Online submission] for completeness and identify any outstanding issues relating to final documentation requirements.
 - (2) Final Sustainability Notebook Review

[3.2 SUSTAINABILITY AWARD

NOTE: Choose the following bracketed option for projects that require the Contractor to obtain the TPC certification.

Finalize the sustainability certification process and obtain the TPC Certification Plaque and Certificates, indicating completion of the projects sustainability goals.

3.2.1 Third Party Certification Plaque and Certificates

Obtain and install plaque and provide one original framed copy of the certificate. Mount certificates in 25 mm 1 inch deep metal frames, with double matt, and wire hangers. Obtain [_____] additional certificates, and deliver to Contractor Officer, unless otherwise instructed. Hang the Plaque in a prominent interior location approved by the Contracting Officer.

] -- End of Section --