

Appendix P-0a: Suggested Implementation for All Performance Management Guidelines

This document is intended to offer some guidance on the issues to consider throughout the planning, design, construction and operation processes to help achieve and improve on the performance for each guideline. This document is intended as a guide and is not usable as a checklist to insure compliance. See the guidelines sections themselves to identify specific requirements and any time sensitive deadlines for those requirements.

Guideline P.0 Guideline Management

The Guideline Management Process is outlined in Appendix P-0b. Features of this process include:

- **Project Work to meet the Guidelines:** The Work Team is responsible for compliance shifts to correspond with the organization responsible for project work in a particular phase. For Example: during design phases, the design team (and their consultants) comprise the Work Team. During Ongoing Occupancy, the Work Team designation shifts to the facility operations group who are responsible for maintaining and operating the facility.
- **Guideline reporting:** compliance documentation is submitted for review at the end of each phase per the Compliance Review Process and only by using the B3 Guidelines Tracking Tool (www.msbgtracking.com).
- **The Appropriated Agency Reviews the submittals** in each phase that state the level of compliance and approves or rejects them. CSBR accesses these submittals for use in the B3 Guidelines Tracking Process.
- This document is not intended to outline the requirements of the Minnesota Sustainable Building 2030 Energy Standard Requirements (SB2030). SB2030 is the energy performance standard used by B3 Guidelines. Please see documentation available at www.mn2030.umn.edu on the phase-by-phase required submissions for verification of compliance with SB2030. Note that as SB2030 is separately legislated, it does not use the same variance process as the other guidelines in B3 Guidelines.

Agency Planning

- Identify the Guideline Leader appropriate to the phase to fulfill the role leading the Guideline Management Process (See Appendix P-0b for more details).
- Create a project file in the B3 Guidelines tracking tool at www.msbgtracking.com.
- Educate the planning team so that Agency agrees to importance of:
 - A performance oriented planning, design and construction process.
 - An on-going evaluation of performance, implementation of preventive maintenance, and logging of occupant complaints and resolutions.
 - Evaluation and reporting tasks required by the Work Team
- Include the Guideline Management Process in budget plans. This includes long range implications for active management of performance during the Ongoing Occupancy phase.
- Education and Recognition: (Recommended) Plan ahead for ways to educate the public and the design and construction industry about the techniques and performance levels the facility will achieve. See Resources for samples of award recognition programs.¹ Variance

¹ Some recognition programs such as LEED™ take advance planning and specific steps throughout the design process, and so are best planned for early.

Review: Analyze guidelines to determine if any variances are appropriate, and apply for variances before the end of schematic design.

- Submit required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Predesign-Programming

- Identify the Guideline Leader appropriate to the phase to fulfill the role leading the Guideline Management Process. This may be the same Guideline Leader as previous phases.
- Guideline Leader shall manage guideline tasks to perform in this phase and manage Work Team compliance with Guidelines and required Tracking Tool documentation.
- Variance Review: Analyze guidelines to determine if any variances are appropriate, and apply for variances before the end of schematic design.
- Submit required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Predesign-Site Selection

- Identify the Guideline Leader appropriate to the phase to fulfill the role leading the Guideline Management Process. This may be the same Guideline Leader as previous phases.
- Guideline Leader shall manage guideline tasks to perform in this phase and manage Work Team compliance with Guidelines and required Tracking Tool documentation.
- Variance Review: Analyze guidelines to determine if any variances are appropriate, and apply for variances before the end of schematic design.
- Submit required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Schematic Design

- Identify the Guideline Leader appropriate to the phase to fulfill the role leading the Guideline Management Process. This may be the same Guideline Leader as previous phases.
- Guideline Leader shall highlight guideline tasks to be performed in this phase, document details of performance goals and criteria as they develop and manage Work Team compliance with Guidelines and required Tracking Tool documentation.
- Variance Review: Analyze guidelines to determine if any variances are appropriate, and apply for variances before the end of schematic design.
- Submit required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Design Development

- Identify the Guideline Leader appropriate to the phase to fulfill the role leading the Guideline Management Process. This may be the same Guideline Leader as previous phases.
- Guideline Leader shall highlight guideline tasks to be performed in this phase, document details of performance goals and criteria as they develop and manage Work Team compliance with Guidelines and required Tracking Tool documentation.
- Performance Check: Guideline Leader shall review design as documented to check that it supports the physical outcomes and operational performance desired.
- Variance Review: Analyze guidelines to determine if any variances are appropriate, and apply for variances before the end of schematic design.
- Submit required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Construction Documents

- Identify the Guideline Leader appropriate to the phase to fulfill the role leading the Guideline Management Process. This may be the same Guideline Leader as previous phases.
- Guideline Leader shall highlight guideline tasks to be performed in this phase, document details of performance goals and criteria as they develop and manage Work Team compliance with Guidelines and required Tracking Tool documentation.
- Performance Check: Guideline Leader shall review design as documented to check that it supports the physical outcomes and operational performance desired.
- Submit required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Construction Administration

- Identify the Guideline Leader appropriate to the phase to fulfill the role leading the Guideline Management Process. This may be the same Guideline Leader as previous phases.
- Guideline Leader shall identify guideline tasks to be performed by the design team in this phase. This may be the same Guideline Leader as previous phases.
- Performance Verification: Guideline Leader (with Design Team) shall verify performance that is not covered under the Commissioning Section. This includes reviewing submittal information to verify its compliance with performance criteria as incorporated in the construction documents.
- Construction Guideline Leader (with Construction Team) shall identify and document guideline Construction tasks (as represented in construction documents.)
- Contractor shall comply with guidelines to the extent these are incorporated in the construction documents.
- Submit required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Correction Period

- Identify the Guideline Leader appropriate to the phase to fulfill the role leading the Guideline Management Process. This may be the same Guideline Leader as previous phases, though some project teams may wish this role to shift to facilities management staff.
- Education and Recognition: Explore ways to educate the public and the design and construction industry about the performance levels achieved. See Resources section for samples of award recognition programs.
- Submit required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Ongoing Occupancy

- Identify the Guideline Leader for the ongoing occupancy phase. The Guideline Leader role during operations may be filled by the Facility Operations Manager, and is often not the Guideline Leader assigned to previous phases. Guideline Leader shall complete annual Compliance Summary and Outcome Documentation Forms (and optionally Guideline Report), demonstrating guideline compliance, and provide an executive summary of significant facility changes, actions taken to change performance level and measured or estimated results demonstrating performance level.
- Submit the required documentation in the B3 Guidelines Tracking Tool (www.msbgtracking.com).
- Guideline Leader shall give written feedback to inform the guideline development process.

Next Use

- Guideline Leader (with Design Team) and Facility Operations Manager shall advise in facility planning process and review, and aid in transfer of planning, design, construction, and operations performance history as documented in the Project Archive.

Guideline P.1 General Project Data

All Phases

- Select a Work Team member to lead this guideline.
- Enter required and up-to-date building information into the B3 Guidelines tracking tool at www.msbgtracking.com

Guideline P.2 Planning for Conservation

Agency Planning

- Select a person from the agency to lead this guideline.
- Determine the required floor area based on typical industry data and first understanding of facility needs and operating parameters.
- Project organizational needs into the future. Create a document that states space, technology, and systems needs for the next 5-10 years at the beginning of a new project's inception.
- Evaluate the existing building's space utilization, opportunities, and limitations. Agency planning shall consider whether or not their needs can be met without building anything new.
- Determine if all spaces are being used to their capacity during facility use times. The measurement of success of this process will be based on whether or not the perceived facility need was resolved without new construction.
- Review space-sharing options with other state agencies or within the community. As needs are assessed, look to neighboring facilities to determine if spaces could be shared.

Predesign-Programming & Predesign-Site Selection

- Project organizational needs into the future. Review the Agency Planning document that projects Agency space needs for the next 5-10 years. The programming information created in the Agency Planning phase shall be considered the Planning Baseline.
- Evaluate Agency requirements through thorough use of surveys, interviews, questionnaires, and specific system analyses; compile information using tools available in a supplementary publication.
- Analyze Program Utilization
 - Every square foot of new construction has significant economic and environmental impacts, and so to achieve the most sustainable design, it is important to do a careful program analysis in order to build no more than is needed or will be well utilized.
 - Analyze space utilization by comparing recognized standards, existing facility, and proposed program spaces (SF/person-hour)

- The design team and agency shall work together to create a program that focuses on overall space utilization. This is measured against standard space use standards.
- Look for opportunities to reduce the number of duplicate spaces (i.e. consider a manager's office as a conference room if that person is out of the office more than 50% of the time.)
- Develop a space program data sheet.
- Analyze potential future uses and building lifespan. Create multiple planning schemes for projected agency needs and building's next use
- Create a new program document incorporating changes to the space needs based on the analysis outlined above. Include square footage for spaces that may be located outside the facility as a separate subtotal.
- Enter the reductions in square footage from the predesign/programming phase in the B3 Guidelines Tracking Tool www.msbgtracking.com.

Schematic Design

- Analyze spatial utilization for program area.
Determine net program to gross area and net program to gross volume. Excerpt from source of accepted space standards showing recommended SF/program unit ranges. Create a proposed SF/program unit and if the proposed exceeds minimum recommended, then provide an explanation.
- Analyze spatial utilization based on time.
 - For a given building area the justification for the environmental and economic demands, has most meaning when it is a well-utilized space. In a sense, all the embodied cost, and operating costs of a space is wasted for every hour it is not used for its intended purpose. This measure serves to increase awareness for all involved of the amount of "program benefit" achieved for an investment in a space. It is also a way to highlight opportunities for shared spaces between functions that have different scheduling. This can highlight under-utilized spaces that could be borrowed from adjacent facilities. It can also be a way to make more use of tax dollars to construct a building, by identifying underutilized spaces that might be shared with the community to add amenity and create interaction within the community. Each space as well as the whole facility should be analyzed for proposed annual percent utilization based on current program needs. If additional space is being rationalized by future needs the projected percent utilization should also be shown for the time frame scenario being considered.
 - In columns next to each programmed space, identify its annual % utilization based on current program needs. Add columns as needed if it is seasonally based, or if there are areas with low utilization to be examined in more detail for opportunities for space sharing.
 - Tally the total % utilization for all annual hours of all the net program area (not halls, toilets, janitor's closets, etc.)
 - Tally the % utilization for just the primary operating hours as a benchmark.
 - Report the total utilization, the operation hours to total hours, and the utilization within the operating hours.
- Analyze spatial utilization based on volume.
 - Two-dimensional spatial efficiency is a result of the layout of a building and grouping of functions which can affect the overall net to gross area ratio, which affects the environmental and economic impacts of building. Three-dimensional

spatial efficiency for a given square foot area, aims at building as high and with as much plenum space as is needed. This is not to say that ample plenum space is not beneficial for future adaptability and maintenance, but that if the designer aims at minimizing wasted height, creative solutions can occur. Nor is it to say that tall spaces whether for daylight access or for design objectives are not important, but they should be compared to the impact of added cubic feet and vertical feet of envelope to put the costs and the benefits in perspective.

- Consider impact of design configuration and system selection on projected building lifecycle scenarios.
 - Evaluate design against needs for adaptability, flexibility and disassembly.
 - Confirm life expectancy for building design and design systems accordingly.
- Enter the reductions in square footage from schematic design phase in the B3 Guidelines Tracking Tool at www.msbtracking.com.

Correction Period

- Communicate intent and benefits of planning for conservation strategies to owner/operator to enhance operation

Ongoing Occupancy

- Analyze ongoing program and schedule optimization
- Review maintenance and operation of facility in relation to planning for conservation goals.
- Make improvements to optimize use of existing space before adding new space.

Next Use

- Refer to documentation of prior scenario planning and actions taken to make use of opportunities designed into the facility

P.3 Integrated Design Process

The Suggested Implementation schedule of is presented in the form of the Integrated Design Process Supporting Information (Appendix P-3a) and the related Integrated Design Process Matrix (Appendix P-3b).

P.4 Design and Construction Commissioning

Suggested Implementation

The Suggested Implementation is presented in the the Integrated Design Process Supporting Information (Appendix P-4a) and the Design and Construction Commissioning matrix (Appendix P-4b). Roles and responsibilities for each Commissioning Team member are flexible and need to be defined as part of the project-specific Commissioning Plan. However, some team members are prohibited from performing some of the activities due to inherent conflicts of interest. These unacceptable assignments of responsibility are blacked out in the matrix.

P.5 Operations Commissioning

Suggested Implementation

The Suggested Implementation is presented in Operations Commissioning Supporting Information (Appendix P-5a) and the Operations Commissioning matrix (Appendix P-5b). Roles and responsibilities for each Commissioning Team member are flexible and need to be defined as part of the project-specific Commissioning Plan. Additional members of the Operations Commissioning Team can also be named, as deemed appropriate for each project.

P.6 Lowest Life Cycle Cost

Agency Planning & Schematic Design

- Evaluate at least three alternatives at least once before the end of the schematic design phase. Submit a file in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Design Development & Construction Documents

- Evaluate at least three alternatives at least once more before the end of the Construction Documents phase. Submit a file in the B3 Guidelines Tracking Tool (www.msbgtracking.com).

Ongoing Occupancy

- It is recommended a comparison to the final project model be run at least every 5 years to capture experiences during construction and operations and compare them with assumptions made in the final project model.