THE PORT AUTHORITY OF NY & NJ

Engineering Department

Design Guidelines and Procedures

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1.0 PURPOSE OF DESIGN GUIDELINES

1.1 PART I – INTRODUCTION

The purpose of these Design Guidelines (the "Guidelines") is to aid the design professional in preparing the design and construction documents for new and renovated facilities and infrastructure owned, operated, and/or leased by the Port Authority of New York & New Jersey or one of its wholly-owned entities (collectively hereinafter referred to as the "Port Authority"). The Guidelines will establish a framework for the design and construction elements and assist in describing the form, character, and standards of a particular project. The Port Authority's Engineering Department Design Division compiled the Guidelines based on good engineering practices, years of interaction, and input from a number of other Port Authority departments. As such, the Guidelines reflect the planning, design, construction, and maintenance expertise of Port Authority personnel. The Guidelines shall not be interpreted as a static document but will remain dynamic in response to the ever-changing nature of the design and construction industries as well as the needs of the Port Authority.

As guidelines for the Port Authority, the material included in this manual shall be applied in the preparation of documents for the design and construction of new and renovated facilities and infrastructure. Designers are to become familiar with and shall incorporate the appropriate guideline from the very first planning and design stages through actual construction and where applicable in response to facility maintenance and management. The information included within each section is specific to the discipline. In general, sections contain procedures to be followed, materials to be used, and design guidelines that have been found appropriate to ensure the desired level of quality on the basis of reliability, serviceability, sustainability, safety, and cost (including design, construction, operating, and maintenance costs).

The Guidelines shall not replace professional design analyses nor are the Guidelines intended to limit innovative design where equal performance in value, safety, and maintenance economy can be demonstrated. The design team shall be responsible for producing designs that comply with the Guidelines in addition to all applicable codes, ordinances, statutes, rules, regulations, and laws. Any conflict between the Guidelines and an applicable code, ordinance, statute, rule, regulation, and/or law shall be addressed with the respective functional chief. The use and inclusion of the Guidelines, specifications, or example drawing details as part of the Contract Documents does not alleviate the design professional from their responsibilities or legal liability for any Contract Documents they create. It is also recognized that the Guidelines are not universally applicable to every project. There may be instances where a guideline may not be appropriate. If the design professional believes that a deviation from the Guidelines is warranted, such a deviation shall be submitted in writing for approval to the respective functional chief.

1.1.1 DISCLAIMER

The Design Guidelines contain sample and model documents pertaining to the design and construction of varying size facilities and infrastructure owned and operated by the Port Authority. The sample and model documents are included solely as examples. Each was developed for the unique circumstances of a specific project. No representation is made that these are specifically applicable to any other Port Authority circumstances and/or projects. It is the responsibility of the design professional to review the use and determine the adaptation of these documents.

The Port Authority does not endorse manufacturers or products. Trade or manufacturer names that may appear herein are included solely because they are considered essential to the objective of these guidelines.

1.1.2 DEVELOPMENT OF DELIVERABLES

For a general description, list of deliverables, and a timeline for each stage within a project, refer to the Project Delivery sections of the Engineering Manual. Provided below is a guideline for producing deliverables within the stages of design.

1. **Pre-Stage I or Stage I** <future link to Project Delivery Index>
   Depending on the size and complexity of the project, a Pre-stage I or Stage I report may be required. Below is an outline of topics to be used when developing a Pre-Stage I or Stage I report. This represents a large-scale outline that can be down-sized as necessary. Each completed report shall be transmitted with a memorandum, summarizing the project scope, findings and recommendations. <link to transmittal memo template> (1)

   1.1 Pre-stage I or Stage I Report Outline

1.1.1 EXECUTIVE SUMMARY

The executive summary should be a short synopsis of the overall report and should be limited to one page, if possible. The summary should include a brief statement of scope, options evaluated with estimated construction costs for each option, recommendation of the selected option with estimated construction cost and construction duration. All staging, phasing, rigging issues, etc. must also be identified.

1.2.1 BACKGROUND

Include a brief history of the Facility building and/or asset being evaluated, its function or service to the agency and why this project was initiated.

1.3.1 EXISTING CONDITIONS

Include a detailed description of the existing conditions of the Facility building and/or asset being evaluated. This should be based on the condition assessment performed.

1.3.1.1 LEAD DISCIPLINE
1.3.1.2 DISCIPLINE 2
1.3.1.3

1.4.1 CODES AND STANDARDS

1.4.1.1 LEAD DISCIPLINE
1.4.1.2 DISCIPLINE 2
1.4.1.3

1.5.1 ASSUMPTIONS

Include any property acquisition, rights of way/entry or permitting requirements, all unknown concerns/issues such as sub-surface conditions, potential for underground utilities as well as requirements for surveys and geotechnical borings etc.

1.5.1.1 LEAD DISCIPLINE
1.5.1.2 DISCIPLINE 2
1.5.1.3

1.6.1 DESIGN CRITERIA

Include explanation of how assumptions, listed above, impacts the design and/or overall project.

1.6.1.1 LEAD DISCIPLINE
1.6.1.2 DISCIPLINE 2
1.6.1.3

1.7.1 EVALUATION

Include a detailed description of the options and analysis. Specific staging and phasing, rigging, interdependencies, major risks etc. must be elaborated within this section.

1.7.1.1 LEAD DISCIPLINE
1.7.1.2 DISCIPLINE 2
1.7.1.3

1.8.1 RECOMMENDATIONS *(with justification)*

1.8.1.1 LEAD DISCIPLINE
1.8.1.2 DISCIPLINE 2
1.8.1.3

1.9.1 APPENDICES

APPENDIX A: Order of Magnitude Cost Estimate (Pre-Stage 1) or Engineer's Estimate (Stage 1)

APPENDIX B: Photos

APPENDIX C: Drawings/Sketches

<OTHER APPENDICIES AS REQUIRED: Surveys, Reference Documents, Environmental Reports, Catalog Cuts >

2. **Stage II** <future link to Project Delivery Index>
Part of the Stage II effort may require a Basis of Design Report (BDR). The BDR describes the characteristics of and establishes the criteria for the design. Documentation contained within a BDR justifies the design concept of the design professional prior to Stage II commencement. The BDR establishes the benchmark or basis for design development. <future link to Sample BDRs>

3. **Stage III <future link to Project Delivery Index>**
The tools required for development of the design and for preparation of the Contract Drawings are outlined in Part II - Discipline Guidelines.

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3.2 Civil [3]
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1.1.3 ACRONYM LIST

Acronym	Facility
ACY	Atlantic City International Airport
AKG	Arthur
BB	Bayonne Bridge
BIP	Bathgate Industrial Park
BP	Brooklyn Piers
BWAY	115 Broadway
EWR	Newark Liberty International Airport
FT	Ferry Transportation
GB	Goethals Bridge
GWB	George Washington Bridge
GWBBS	George Washington Bridge Bus Station
HCMF	Harrison Car Maintenance Facility
HH	Howland Hook
HT	Holland Tunnel
IPY	Industrial Park at Yonkers
JAMS	Jersey Avenue Maintenance Shop
JFK	John F. Kennedy International Airport
JSTC	Journal Square Transportation Center
LGA	LaGuardia Airport
LT	Lincoln Tunnel
MAD	Madison Avenue
MVP	Marine View Plaza
NJLP	New Jersey Leased Properties
NJMT	New Jersey Marine Terminals
NYIP	New York Industrial Park
NYMT	New York Marine Terminals
OBX	Outerbridge Crossing
PABT	Port Authority Bus Terminal
PATC	Port Authority Technical Center
PATH	Port Authority Trans-Hudson
PE	Port Elizabeth
PN	Port Newark
PJ	Port Jersey
SIB	Staten Island Bridges
SWF	Stewart International Airport
TEB	Teterboro Airport
TLPT	Teleport
WTC	World Trade Center
WTCP	World Trade Command Post

1.2 PART II – DISCIPLINE STANDARDS

- ARCHITECTURE
- CIVIL
- ELECTRICAL
- ENVIRONMENTAL
- GEOTECHNICAL
- MECHANICAL
- STRUCTURAL
- TRAFFIC
- CONTRACTS
- RESILIENCE AND SUSTAINABLE DESIGN

2.0 REFERENCES

1. [Online] https://panynj.sharepoint.com/sites/Engineering/Projects/EngineeringManual/_layouts/15/DocIdRedir.aspx?ID=ENGDEPT-1702089146-215.

2. [Online] https://panynj.sharepoint.com/sites/Engineering/Projects/EngineeringManual/_layouts/15/DocIdRedir.aspx?ID=ENGDEPT-471001907-308.

3. [Online] https://panynj.sharepoint.com/sites/Engineering/_layouts/15/DocIdRedir.aspx?ID=ENGDEPT-1200776305-803.

4. [Online] https://panynj.sharepoint.com/sites/Engineering/Projects/EngineeringManual/_layouts/15/DocIdRedir.aspx?ID=ENGDEPT-1702089146-256.

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6. [Online] https://panynj.sharepoint.com/sites/Engineering/Projects/EngineeringManual/_layouts/15/DocIdRedir.aspx?ID=ENGDEPT-1702089146-217.

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8. [Online] https://panynj.sharepoint.com/sites/Engineering/Projects/EngineeringManual/_layouts/15/DocIdRedir.aspx?ID=ENGDEPT-1702089146-310.

9. [Online] https://panynj.sharepoint.com/sites/Engineering/Projects/EngineeringManual/_layouts/15/DocIdRedir.aspx?ID=ENGDEPT-471001907-334.

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11. [Online] https://panynj.sharepoint.com/sites/Engineering/SitePages/Resilience%20and%20Sustainable%20Design.aspx.