

## 60% Design Package Deliverables

### Purpose

The **Project Engineer** works with the Project Team to ensure that the deliverable meets the expectations documented in this checklist, documenting all exceptions.

The **Project Manager** ensures that the Project Engineer has completed this checklist and saves it in the project files.

<b>Project Name</b>	Enter Project Name
<b>Project Number</b>	Enter Project Number
<b>Project Manager</b>	Enter Project Manager
<b>Project Engineer</b>	Enter Project Engineer
<b>Summary of Quality Control</b>	<ul style="list-style-type: none"> <li>• Civil Design/ &lt;&lt;Checker Name&gt;&gt;</li> <li>• Mechanical Design/ &lt;&lt;Checker Name&gt;&gt;</li> <li>• Structural Design/ &lt;&lt;Checker Name&gt;&gt;</li> <li>• Electrical Design/ &lt;&lt;Checker Name&gt;&gt;</li> <li>• &lt;&lt;Other Discipline&gt;&gt;/ &lt;&lt;Checker Name&gt;&gt;</li> <li>• &lt;&lt;Other Discipline&gt;&gt;/ &lt;&lt;Checker Name&gt;&gt;</li> </ul>

Describe exceptions from the standard Design Package below

**Deliverables Expected at 60% Design**

60% Design Deliverables	Description
<p><b>General Drawing</b></p> <p><b>Comments:</b></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Title Sheet, Drawing Index, Location and Vicinity Map essentially complete.</li> <li><input type="checkbox"/> General Symbols, Legends, Match Sheet Numbers, Stationing and Abbreviations essentially complete.</li> <li><input type="checkbox"/> Design Data and Criteria essentially complete.</li> <li><input type="checkbox"/> Basis of Design Plan Sheet completed for 60% Design</li> <li><input type="checkbox"/> 60% drawings sent to LOB representative to assign asset numbers.</li> </ul>
<p><b>Civil/Site Work Drawings</b></p> <p><b>Comments:</b></p>	<p><b>Site and Utility Plans</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Site Plan with proposed final location of structures, roadways and major site elements (fencing, gates, etc).</li> <li><input type="checkbox"/> All Major structures located by stationing and elevation via stationing offset or Northing/Easting or other survey method.</li> </ul> <p><b>Site, Utility and Piping Plans</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <u>Site Plan</u> with horizontal control and proposed grading. Show on the site plan all above ground utilities. Existing utilities in screened or lighter line type and proposed utilities in dark line. Include Details of manholes, pavement and trench sections, and other civil details.</li> <li><input type="checkbox"/> Include proposed contractor staging, storage, access, and offsite corridors (traffic routing plans).</li> </ul> <p><b>Pipeline Alignment and Site Utilities</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <u>Profiles of pipelines</u> with final proposed alignments (horizontal and vertical) that consider construction sequencing needs</li> </ul>
<p><b>Architectural Drawings</b></p> <p><b>Comments:</b></p>	<p><b>Buildings—Plans, Elevations and Sections</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Architectural plans, sections and elevations that depict the proposed final exterior architectural theme, materials of construction and floor plan of structures.</li> </ul>

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<p><b>Landscape Drawings</b></p> <p><b>Comments:</b></p>	<p><b>Conceptual Landscaping–Plan</b></p> <p><input type="checkbox"/> Proposed landscaping plan and schedules.</p>
<p><b>Structural Drawings</b></p> <p><b>Comments:</b></p>	<p><b>Foundation–Plans and Sections</b></p> <p><input type="checkbox"/> Structural notes, design criteria and inspection plan (meets requirements of DPD or Building Dept of the appropriate jurisdiction)</p> <p><input type="checkbox"/> Structural plans, sections and details. This should be coordinated with other design disciplines.</p> <p><b>Building – Plans, Sections and Details</b></p> <p><input type="checkbox"/> Large structural penetrations should be identified and potential conflicts with mechanical and electrical features should be resolved.</p> <p><b>Below Grade Structures –Plans and Sections</b></p> <p><input type="checkbox"/> Foundation plans, floor plans and roof plans should include dimensional information and structural member sizes with reinforcement detailing partially complete.</p>
<p><b>Mechanical Drawings</b></p> <p><b>Comments:</b></p>	<p><b>Major Equipment and Piping Layout–Plans, Sections and Details</b></p> <p><input type="checkbox"/> Mechanical plans, sections and details with proposed final location of major equipment, piping and appurtenances. Minor piping partially complete however adequate corridors identified. Location of equipment maintenance features finalized.</p> <p><b>HVAC Plans and Sections</b></p> <p><input type="checkbox"/> HVAC plans and sections adequately complete to verify building code compliance.</p> <p><b>HVAC Schedules and Schematics</b></p> <p><input type="checkbox"/> Preliminary equipment schedules and system schematics should be sufficient to allow review of system configuration and design intent. Conceptual fire protection system design (if required) should be included.</p>

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	<p><b>Plumbing Plans and Sections</b></p> <p><input type="checkbox"/> Plumbing plans and sections adequately complete to verify building code compliance.</p>
<p><b>Electrical Drawings</b></p> <p><b>Comments:</b></p>	<p><b>One Line Diagrams</b></p> <p><input type="checkbox"/> Proposed final electrical one-line diagrams, control room layouts and panel layouts.</p> <p><b>Power Plans, Control Diagrams and Schedules</b></p> <p><input type="checkbox"/> Power plans, control diagrams and schedules adequately complete to review layout and design intent.</p> <p><input type="checkbox"/> Location of handholds and equipment racks</p> <p><b>Lighting Plans and Reflective Ceiling Plans</b></p> <p><input type="checkbox"/> Proposed final lighting plan and reflective ceiling plan.</p>
<p><b>Instrumentation and Control Drawings</b></p> <p><b>Comments:</b></p>	<p><input type="checkbox"/> P&amp;IDs developed to greater detail including revisions based on proposed final equipment selection and configuration.</p>

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<p><b>Draft Project Manual</b></p> <p><b>Comments:</b></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Table of Contents and First Draft of Technical Specifications coordinated such that project specific information has been included and non-pertinent information has been removed</li> <li><input type="checkbox"/> Draft commissioning and testing requirement</li> <li><input type="checkbox"/> List of project constraints that impact construction sequence or timing such as permit requirements, community commitments, etc)</li> <li><input type="checkbox"/> Equipment list that includes equipment number, equipment size, equipment power requirements, basic controls and operating strategies for all equipment anticipated on the projects.</li> </ul>
<p><b>Other Submittal Items</b></p> <p><b>Comments:</b></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Draft Construction Stormwater and Erosion Control Plan</li> <li><input type="checkbox"/> Draft Traffic Control plans (if necessary)</li> <li><input type="checkbox"/> Draft Water Quality Protection Plan (if necessary)</li> <li><input type="checkbox"/> Geotechnical Interpretive Report (GIR)</li> <li><input type="checkbox"/> Geotechnical Baseline Report (GBR) and the Geotechnical Data Report (GDR) if necessary.</li> <li><input type="checkbox"/> Incorporate all information obtained to date and recommendations for any additional investigations necessary for design completion.</li> <li><input type="checkbox"/> Phase 2 Environmental Assessment Report (if required)</li> <li><input type="checkbox"/> Class 2 Capital Cost Estimates: Follow <a href="#">Cost Estimating Guidelines</a></li> <li><input type="checkbox"/> O&amp;M Cost Estimates developed by the O&amp;M Representative</li> <li><input type="checkbox"/> 30% Plan Review transmittal sheet with reviewers comments addressed</li> <li><input type="checkbox"/> 60% Design Constructability Review (if warranted)</li> <li><input type="checkbox"/> FOM Lead is aware of <a href="#">Asset O&amp;M Readiness Checklist</a> for 60% Design Complete</li> <li><input type="checkbox"/> <a href="#">Commissioning Activities</a> for 60% Design Complete</li> </ul>

- Basis of Estimate completed
- Technical QC Review Form Completed

Basis of Design\*, Basis of Estimate\*, Cost Estimate\*, 60% Design Package Deliverable (this document), Basis of Design Plan Sheet and Technical QC Review Form\* filed in the P:\drive project folder

\*Items shown with an asterisk are tracked as part of performance monitoring for the CIP Design Section. SPU Project Engineers must report to their supervisors on the status of these items at each major design milestone.