1.0 **PURPOSE:**
This procedure describes the process used for in-house and consultant design of roadway systems, including bituminous concrete pavements.

2.0 **SCOPE:**
This procedure spans the preliminary design and 30% review process from the point at which a project is selected until the preliminary plan is approved.

3.0 **RESPONSIBILITY:**
District Engineering office, Central office, Consultant Designers, and FHWA personnel

4.0 **EQUIPMENT NEEDED:**
Not applicable
5.0 PROCEDURE:

Preliminary Engineering and 30% Design Review Process

1. Input Selected Project
   - Conducts Engineering and Environmental (E&E) scoping field view
   - Decides on in-house or consultant design
   - Selects consultant if not in-house design
   - Revises cost estimates
   - Prepares proposal package
   - Submits proposal packages to Program Center for PMC approval

2. Cross Functional District Design Team
   - Formulates Scope of Work
   - Revises cost estimates
   - Prepares proposal package
   - Submits proposal packages to Program Center for PMC approval

3. Program Center
   - Reviews proposal package and submits to PMC for approval
   - Obtains PMC approval
   - Sends PMC approval to District Design Team

4. Proposal Package
   - Reviews proposal package and submits to PMC for approval
   - Obtains PMC approval
   - Sends PMC approval to District Design Team

5. District Design Team and/or Design Consultant
   - Performs site survey
   - Prepares site plan
   - Obtains approved traffic counts
   - Performs preliminary pavement structural design
   - Prepares non-pavement structures design
   - Prepares design field view (DFV) documents
   - Conducts agency and public involvement program
   - Updates cost estimates
   - Ensures project need is substantiated
   - Conduct environmental studies
   - Prepare and submitted environmental documents
   - Obtain environmental clearance if Federal Oversight Project
   - Submits DFV, revised cost estimates, and design exception requests to FHWA
   - Revises documents based upon FHWA comments
   - Receives FHWA approval

6. Partially Approved Pavement Design
   - Conducts preliminary constructability review

7. BOMO Pavement Management
   - Reviews DFV and cost estimates
   - Conducts preliminary constructability review

8. Approved DFV Plan
   - Considers requests for design exceptions
   - Prepares comments
   - Approves or disapproves plan
   - Advises PENNDOT of decision

9. FHWA
   - Conducts preliminary constructability review

10. District Design Team or Design Consultant
    - Conducts preliminary constructability review

11. Approved Preliminary Plan
    - Reviews approved DFV Plan
    - Sends DFV Plan to Final Design

Key Control Point
- Projects obtain environmental clearance
- Adequate and accurate data acquisition
- Preliminary design satisfies project needs
- Appropriate Superpave mix design selection
- Preliminary budget and schedule agrees with programmed project funding
- Constructible design

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## Revision Log

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
<th>Requested By</th>
<th>Completed By</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>01/26/07</td>
<td>Initial Release</td>
<td>PASIN Core Team</td>
<td>WKG</td>
</tr>
</tbody>
</table>
| 01       | 02/27/07 | 1. Replaced “If non-exempt project” with “If Federal Oversight Project” in block 5.  
  2. Added “Prepares typical sections and geotechnical engineering reports” under block 5  
  3. Added “reviews approved DFV Plan” under block 10                                 | Contract Development Work Group | WKG              |