## RISK BREAKDOWN STRUCTURE

### Level 1

<table>
<thead>
<tr>
<th>ENV 10</th>
<th>ENV 20</th>
<th>ENV 30</th>
<th>ENV 40</th>
<th>ENV 50</th>
<th>ENV 60</th>
<th>ENV 70</th>
<th>ENV 80</th>
<th>ENV 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEPA/SEPA</td>
<td>ESA issues</td>
<td>Environmental Permitting</td>
<td>Discoveries</td>
<td>HAZMAT</td>
<td>Habitat Mitigation issues</td>
<td>Environmental Justice</td>
<td>Construction Impacts</td>
<td>Noise (permanent mitigation)</td>
</tr>
<tr>
<td>Documentation completion, Section 402, challenges</td>
<td>consultation, Biological Assessments / Biological Opinions, Fish Passage</td>
<td>- delays, appeals, unanticipated conditions</td>
<td>Cultural resources (Section 106), historic property impacts &amp; mitigation</td>
<td>Geotechnical Design Criteria Change</td>
<td>- groundwater / soil contamination, building / structure abatement</td>
<td>- traffic mgmt, access, temp construction impacts</td>
<td>- water quality, TESC</td>
<td>- curtailed modifications require ROW, MEF approval</td>
</tr>
</tbody>
</table>

### Level 2

<table>
<thead>
<tr>
<th>STG 10</th>
<th>STG 20</th>
<th>STG 30</th>
<th>STG 40</th>
<th>STG 50</th>
<th>STG 60</th>
<th>STG 70</th>
<th>STG 80</th>
<th>STG 90</th>
</tr>
</thead>
</table>

### Level 3

<table>
<thead>
<tr>
<th>GDE 10</th>
<th>GDE 20</th>
<th>GDE 30</th>
<th>GDE 40</th>
<th>GDE 50</th>
<th>GDE 60</th>
<th>GDE 70</th>
<th>GDE 80</th>
<th>GDE 90</th>
</tr>
</thead>
</table>

### Major Project Risks

- **Utilities**
  - UTL 10
  - UTL 20
  - UTL 30
  - UTL 40
  - UTL 50
  - UTL 60
  - UTL 70
  - UTL 80
  - UTL 90
  - UTL 100

- **Railroad**
  - RR 10
  - RR 20
  - RR 30
  - RR 40
  - RR 50
  - RR 60
  - RR 70
  - RR 80
  - RR 90
  - RR 100

- **Partnerships & Stakeholders**
  - PSP 10
  - PSP 20
  - PSP 30
  - PSP 40
  - PSP 50
  - PSP 60
  - PSP 70
  - PSP 80
  - PSP 90
  - PSP 100

- **Management / Funding**
  - MGT 10
  - MGT 20
  - MGT 30
  - MGT 40
  - MGT 50
  - MGT 60
  - MGT 70
  - MGT 80
  - MGT 90
  - MGT 100

- **Contracting & Procurement**
  - CTR 10
  - CTR 20
  - CTR 30
  - CTR 40
  - CTR 50
  - CTR 60
  - CTR 70
  - CTR 80
  - CTR 90

- **Construction**
  - CNS 10
  - CNS 20
  - CNS 30
  - CNS 40
  - CNS 50
  - CNS 60
  - CNS 70
  - CNS 80

### Using the Risk Breakdown Structure (RBS)

Each project is unique and has a specific project risk profile. Examples provided are an aid to identify risk types and are not to be considered complete or exclusive. Develop project risk registers by identifying and assessing risks for the project under review.

The RBS provides several functions and benefits, including:

1. **Consistent risk organization, approach and taxonomy** (wording).
2. **Common standard categories**.
3. **Allows for identification of trends (risk event categories, types and characteristics)**.
4. **Offers a basis for initiating risk identification and elistation**.
5. **Eases the ability to conduct risk surveys for those unable to attend workshops**.

For more information regarding the RBS, see the Project Risk Management Guide.

Note: decision-makers may have other enterprise level considerations that are difficult to quantify, such as trust, credibility, safety, and reputation of the organization.

### Key Acronyms

- **ATC**: Alternative Technical Concept
- **CSS**: Contact Sensitive Solution
- **DB**: Design-Build
- **DBB**: Design-Build-Bid
- **DBE**: Disadvantaged Business Enterprise
- **DEA**: Disadvantaged Enterprises Act
- **DD**: Design-Draw
- **DEP**: Disadvantaged Enterprise Program
- **DL**: Disadvantaged Local
- **DPA**: Disadvantaged Project Area

### Schedule

Using the RBS, the project team can:

1. **Identify potential project impacts**.
2. **Analyze project risk factors**.
3. **Prioritize risks**.
4. **Develop risk mitigation strategies**.
5. **Monitor and evaluate risk management efforts**.

### Risks

- **Environmental**
  - Air quality
  - Water quality
  - Waste management

- **Geotechnical**
  - Groundwater
  - Landslide risk

- **Structural**
  - Load-bearing capacity
  - Fire hazard

- **Right-of-Way**
  - Easements
  - Right-of-way acquisition

- **Utilities**
  - Electrical distribution
  - Telecommunications

- **Railroad**
  - Train operations
  - Track stability

- **Partnerships & Stakeholders**
  - Landowners
  - Community groups

- **Management / Funding**
  - Budget overruns
  - Funding availability

- **Contracting & Procurement**
  - Bid protests
  - Supplier performance

- **Construction**
  - Delays
  - Material shortages

### Further Reading

- **Project Risk Management Guide**: A comprehensive guide for risk management in construction projects.
- **Risk Assessment Techniques**: A detailed guide on various techniques and methodologies for risk assessment.

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*Note: The table and diagram are placeholders for illustrative purposes. Actual content may vary based on the context and specific project requirements.*