**OKLAHOMA WATER RESOURCES BOARD**

**PLANNING & MANAGEMENT DIVISION - DAM SAFETY PROGRAM**

**DAM INSPECTION CHECKLIST**

|  |  |
| --- | --- |
| Name of Dam: | State Inventory ID: |
| Owner of Dam: | Purpose of Dam: |
| Address: | Hazard Classification: |
| Phone: | County: |
| Email: | Inspected By: |
| Legal Location: | Date of Inspection: |
| Latitude: | Estimated Lake Level: |
| Longitude | Weather Conditions: |

**Note: Latitude-Longitude should be measured using a GPS and taken on the crest of the dam at the center.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Item** | | | | | **Yes** | **No** | **N/A** | 1Condition  (Satisfactory, Fair, Poor, and Unsatisfactory) | **Remarks** |
| **1** | **General Conditions of Dam** | | | | |  |  |  |  |  |
| A | Alterations to the dam? | | | | |  |  |  |  |  |
| B | Development in downstream floodplain? | | | | |  |  |  |  |
| C | Grass cover adequate? | | | | |  |  |  |  |
| D | Settlements, misalignments, or cracks? | | | | |  |  |  |  |
| E | Recent high water marks? | | | | |  |  |  | elevation |
| **2** | **Upstream Slope of Dam** | | | | |  |  |  |  |  |
| A | Erosion, slides, or depressions? | | | | |  |  |  |  |  |
| B | Trees or excessive vegetation? | | | | |  |  |  |  |
| C | Animal burrows or holes? | | | | |  |  |  |  |
| D | Evidence of livestock on dam? | | | | |  |  |  |  |
| E | Cracks, settlement, or bulges? | | | | |  |  |  |  |
| F | Evidence of slides or scarps? | | | | |  |  |  |  |
| G | Adequate and sound slope protection (rip-rap)? | | | | |  |  |  |  |
| **3** | **Crest of Dam** | | | | |  |  |  |  |  |
| A | Longitudinal or transverse cracking? | | | | |  |  |  |  |  |
| B | Trees or excessive vegetation? | | | | |  |  |  |  |
| C | Crest arching or bowing? | | | | |  |  |  |  |
| D | Erosion or ruts? | | | | |  |  |  |  |
| E | Low areas or depressions? | | | | |  |  |  |  |
| F | Evidence of livestock on crest? | | | | |  |  |  |  |
| G | Road on crest? | | | | |  |  |  |  |
| **4** | **Downstream Slope of Dam** | | | | |  |  |  |  |  |
| A | Erosion, slides, or depressions? | | | | |  |  |  |  |  |
| B | Trees or excessive vegetation? | | | | |  |  |  |  |
| C | Animal burrows or holes? | | | | |  |  |  |  |
| D | Evidence of livestock on embankment? | | | | |  |  |  |  |
| E | Cracks, settlement, or bulges? | | | | |  |  |  |  |
| F | Drains or wells flowing? | | | | |  |  |  | Estimated gpm clear or cloudy? |
| G | Seepage or boils? | | | | |  |  |  | Estimated gpm clear or cloudy? |
| **5** | **Abutment Contacts** | | | | |  |  |  |  |  |
| A | Erosion, cracks, or slides? | | | | |  |  |  |  |  |
| B | Seepage or boils? | | | | |  |  |  | Estimated gpm clear or cloudy? |
| **6** | **Inlet Structure** | | | | |  |  |  |  |  |
| A | Concrete? |  | Metal? |  |  |  |  |  |  |  |
| B | Spalling, cracking, or scaling? | | | | |  |  |  |  |
| C | Exposed reinforcement? | | | | |  |  |  |  |
| D | Corrosion present? | | | | |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Item** | | | | | **Yes** | **No** | **N/A** | 1Condition  (Satisfactory, Fair, Poor, and Unsatisfactory) | **Remarks** |
| E | Coating adequate? | | | | |  |  |  |  |  |
| F | Leakage? | | | | |  |  |  | Estimated gpm |
| G | Trash rack adequate? | | | | |  |  |  |  |
| H | Obstacles to inlet? | | | | |  |  |  |  |
| I | Drawdown operative? Opened & closed | | | | |  |  |  |  |
| **7** | **Conduit & Outlet** | | | | |  |  |  |  |  |
| A | Concrete? |  | Metal? |  |  |  |  |  |  |  |
| B | Spalling, cracking, or scaling? | | | | |  |  |  |  |
| C | Exposed reinforcement? | | | | |  |  |  |  |
| D | Joints displaced or offset? | | | | |  |  |  |  |
| E | Joint material lost? | | | | |  |  |  |  |
| F | Leakage of valve or gates? | | | | |  |  |  | Estimated gpm |
| G | Other leakage? | | | | |  |  |  | Estimated gpm clear or cloudy? |
| H | Conduit misaligned? | | | | |  |  |  |  |
| I | Outlet or channel obstructed? | | | | |  |  |  |  |
| J | Outlet channel eroding? | | | | |  |  |  |  |
| **8** | **Concrete Spillway** | | | | |  |  |  |  |  |
| A | Spalling, cracking, or scaling? | | | | |  |  |  |  |  |
| B | Exposed reinforcement or deterioration? | | | | |  |  |  |  |
| C | Joints displaced or offset? | | | | |  |  |  |  |
| D | Joint material lost? | | | | |  |  |  |  |
| E | Leakage (joints, cracks, other)? | | | | |  |  |  | Estimated gpm clear or cloudy? |
| F | Wall displaced? | | | | |  |  |  |  |
| G | Dissipater deteriorating? | | | | |  |  |  |  |
| H | Dissipaters clean of debris or vegetation? | | | | |  |  |  |  |
| I | Erosion at toe of spillway? | | | | |  |  |  |  |
| J | Spillway undercutting? | | | | |  |  |  |  |
| **9** | **Auxiliary (Emergency) Spillway** | | | | |  |  |  |  |  |
| A | Obstructions, debris, trees? | | | | |  |  |  |  |  |
| B | Erosion or sinkholes? | | | | |  |  |  |  |
| C | Animal burrows or holes? | | | | |  |  |  |  |
| D | Evidence of livestock on spillway? | | | | |  |  |  |  |
| **10** | **Stilling Basin** | | | | |  |  |  |  |  |
| A | Spalling, cracking, or scaling? | | | | |  |  |  |  |  |
| B | Exposed reinforcement? | | | | |  |  |  |  |
| C | Joints displaced or offset? | | | | |  |  |  |  |
| D | Joint material lost? | | | | |  |  |  |  |
| E | Joints leak? | | | | |  |  |  | Estimated gpm clear or cloudy? |
| F | Rock adequate? | | | | |  |  |  |  |
| G | Excessive vegetation or debris in basin? | | | | |  |  |  |  |
| H | Dissipator deteriorating? | | | | |  |  |  |  |
| I | Dissipators clean of debris or vegetation? | | | | |  |  |  |  |
| **11** | **Gates** | | | | |  |  |  |  |  |
| A | Floodgates broken or bent? | | | | |  |  |  |  |  |
| B | Floodgates eroded or rusted? | | | | |  |  |  |  |
| C | Floodgates operational? | | | | |  |  |  |  |
| D | Floodgates leaking? | | | | |  |  |  | Estimated gpm |
| **12** | **Instruments** | | | | |  |  |  |  |  |
| A | Structure instrumented? | | | | |  |  |  |  |  |
| B | Monitoring performed? | | | | |  |  |  |  |
| C | Instruments operational? | | | | |  |  |  |  |
| **13** | **Development Below Dam** | | | | |  |  |  |  |  |
| A | Are there homes, businesses, habitable  structures, or high-traffic roadways located down-stream of the dam? | | | | |  |  |  |  |  |
| **14** | **Emergency Action Plan &**  **Maintenance Plan** | | | | |  |  |  |  |  |
| A | Emergency action plan? | | | | |  |  |  |  |  |
| B | Emergency services contacts up-to-date? | | | | |  |  |  |  |
| C | Maintenance Plan? | | | | |  |  |  |  |

**Remarks:**

***For High and Significant Hazard-Potential Dams Only*** Professional Engineer Seal

**Name of Engineer:**

**Date:**

**Engineer’s Firm or Agency:**

**Address:**

**City, State, Zip:**

**Telephone Number:**

**Engineer’s Email:**

**Signature:**

**1Condition**: Please rate the condition of Sections 1 – 11 on inspection form either: Satisfactory, Fair, Poor, and Unsatisfactory.

**Satisfactory** - No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions (static, hydrologic, seismic) in accordance with the applicable regulatory criteria or tolerable risk guidelines.

**Fair** - No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.

**Poor** - A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. Poor may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

**Unsatisfactory** - A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.