**Instructions to Designers:**

Delete these instructions before submitting to PWD.

General:

1. Please note, there are two different checklists provided for In-Stream Grade Control and two different checklists provided for Streambank Protection. In-Stream Grade Control and Streambank Protection Design Guidance Checklists 1 are intended to be used for stream types B, C, or E and stream slopes less than 4%. In-Stream Grade Control and Streambank Protection Design Guidance Checklists 2 are intended to be used for stream types A or B and stream slopes greater than 4%.
2. Only one scenario should be completed for each checklist. The designer should complete the scenario that is most applicable to their intended use for a specific structure.
3. The designer should complete one checklist for each specific type of structure intended to be used within the project reach.
   1. The designer should not attempt to use one checklist to justify all of the different types of structures planned for the project reach (i.e., if the project proposes Engineered Riffles, Cross Rock Vanes, and Log Vanes then three separate checklists will be required to justify the use of each specific type of structure).
   2. However, one checklist may be used to justify multiple instances of the same type of structure (i.e., if the project proposes multiple Engineered Riffles only one checklist is required to justify the use of that structure throughout the project reach).

Step-By-Step Instructions:

1. Enter the PWD Work Number, Project Description, and Date at the top of the checklist.
2. Review the required items on the left-hand side of the checklist for each scenario.
3. Select the scenario that is most applicable for the intended use. Only one scenario should be filled out.
4. For the selected scenario, if the required items listed are applicable for the intended use, then check the boxes in the center of the checklist.
5. If all required items are checked for the selected scenario, then the structures listed on the right-hand side of the checklist are considered applicable for that scenario.
   1. If all required items are not selected for the selected scenario the designer should provide justification at the end of the checklist as to why the structure should be considered appropriate for the intended use.
6. Enter the selected scenario and structure at the end of the checklist. Enter the stationing along the construction baseline for the location of the structure. If the selected structure is planned for multiple locations throughout the project reach provide the stationing for each individual structure.

**PHILADELPHIA WATER DEPARTMENT**

**GSSD UNIT – Ecological Restoration**

**In-Stream Grade Control Design Guidance Checklist 2**

**(for Stream Slopes Greater Than 4%)**

|  |  |  |
| --- | --- | --- |
| [PWD Work Number and Project Description] | | [Date] |
| **Scenario A** | | |
| In-stream vertical grade control required; and |  | **Rock Step Pool with Boulder Toe Revetment**  **Boulder Cascade**  **Regenerative Step Pool Storm Conveyance** |
| Proposed stream type is A or B and stream slope is greater than 4% |  |
| **OPTIONAL:** Protection of infrastructure exposed within the stream channel or immediately adjacent to the stream channel is required |  |
| **Scenario B** | | |
| All required items from Scenario A are applicable; and |  | **Rock Step Pool with Boulder Toe Revetment**  **Regenerative Step Pool Storm Conveyance** |
| Streambank protection required |  |
| **Scenario C** | | |
| All required items from Scenario A are applicable; and |  | **Preformed Scour Hole** |
| Structure is intended for outfall stabilization |  |

|  |  |
| --- | --- |
| **Selected Scenario** | **Selected Structure** |
| [Enter Selected Scenario Here] | [Enter Selected Structure Here] |
| **Stationing** | |
| [Enter Structure Stationing Here] | |

**Designer Justification (if applicable):**