|  |  |
| --- | --- |
| DOTLOGO2.TIF | **Hydraulic Report Data Sheets** |
|  |
| Route |       | P or D # |       |
| Section |       | PTB # |       |
| County |       |  |
| Exist SN |       |  |
| Prop SN |       |  |
|  |  |  |
| **General Information** |
|  |
| 1. | Stream name: |       |  |
|  |
| 2. | Structure location: |       | ¼ of the |       | ¼ of Section |      , |
|  |  | Township |      , | Range |       | of the |       | P.M. |
|  |
| 3. | Hydraulic Report Prepared By: | [ ]  Consultant |  [ ]  Prime [ ]  Sub |
|  |  | [ ]  District |
|  |
| 4. | Hydraulic Report Approval Authority: | [ ]  District – Post PDF of HR to BBS Hydraulics SharePoint Server |
|  |  | [ ]  BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics |
|  |
| **Site Design Data** |
|  |
| 5. | Drainage Area (sq. mi.): |       |  |
|  |
| 6. | Highway Classification: | [ ]  Rural | [ ]  Principal Arterial |
|  |  | [ ]  Urban | [ ]  Minor Arterial |
|  |  | [ ]  Other | [ ]  Collector |
|  |  |  | [ ]  Local |
|  |
| 7. | Design Frequency: | [ ]  30 yr [ ]  50 Yr. [ ]  Other |       |
|  |
| 8. | Number of Waterway Information Tables (WIT): |       |  |
|  | If more than one, explain: |       |
|  |       |
|  |       |
|  |
| **Hydrologic & Hydraulic Analysis** |
|  |
| 9. | Hydrology Modeling (check all that apply): | [ ]  USGS/Stream Stats [ ]  FIS [ ]  Gage Data |
|  |  | [ ]  Other |       |
|  |
| 10. | Hydraulic Modeling (check all that apply): |  |
|  | a. Method: | [ ]  HEC-RAS [ ]  WSPRO [ ]  Other |       |
|  | b. Manning's "n" values determined per IDOT Drainage Manual Chap. 5?  |  [ ]  Yes [ ]  No |
| If no, explain: |       |
| c. Source of Starting WSE: |      |
| d. Non- IDOT encroachments in Survey? | [ ]  Yes [ ]  No |
| If yes, are they accounted for? | [ ]  Yes [ ]  No |
| e. Does a Tailwater Control exist? | [ ]  Yes [ ]  No |
| If yes, list: |       |
|  |  |
| f. Were the Expansion/Contraction cones properly addressed? | [ ]  Yes [ ]  No [ ]  N/A |
| If No or N/A, explain: |       |
| g. What Expansion and Contraction Rates were used? | Expansion: |       (X:1) |
|  | Contraction |       (X:1) |
|  |
| **IDNR – OWR Floodway Permit** |
|  |
| 11. | Is area experiencing urbanization or expected to urbanize within 10 years? | [ ]  Yes [ ]  No (Rural)  |
|  |
| 12. | Are there any sensitive flood receptors located upstream within possible backwater influence? | [ ]  Yes [ ]  No |
|  | If yes, list and describe critical upstream flood damageable properties and their elevations. |  |
|  |       |
|  |       |
|  |
| 13. | Is there any History of Flooding or Overtopping problems? | [ ]  Yes [ ]  No |
|  | Sources & dates of Observed Highwater: |
|  |       |
|  |       |
|  |
| 14. | Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated  |
|  | Public Body of Water? [ ]  No [ ]  Yes. OWR 3704 Rules apply.  |
|  |  |
| 15. | Required IDNR - OWR Permit type: |
|  | [ ]  Individual 3700 [ ]  SWP #2 [ ]  SWP #12 [ ]  Floodway 3708 |
|  | [ ]  None [ ]  Other |       |
|  |  |
| **Proposed Structure Data** |
|  |  |
| 16. | Project Scope (check all that apply): |
|  | a. [ ]  Complete Replacement |
|  | b. [ ]  Superstructure Replacement |
|  | c: [ ]  Superstructure Widening; Length of Pier Extension in the water: |
|  |  U/S |       | D/S |       |
|  | d. [ ]  Bridge [ ] Culvert [ ]  Three-sided Bridge |
|  | e. [ ]  New Alignment |
|  | f. Work Planned Below Q100 HWE? [ ]  Yes [ ]  No |
|  | g. [ ]  Profile Raise |
|  |  |
| 17. | If a bridge is proposed, supply: |
|  | Flow line elevation (ft): |       |  | Abutment type: |       |
|  | Preliminary low beam elevation (ft): |       |  | Skew (degrees): |       |
|  | Width of deck (ft): |       |  | Number of spans: |       |
|  | Total length from face to face of abutment (ft) |       |  |  |
|  |
| 18. | If a culvert is proposed, supply: |
|  | Type and size: |       |  | Length (ft): |       |
|  | Upstream invert elevation (ft): |       |  | Entrance type: |       |
|  | Downstream invert elevation (ft): |       |  | Skew (degrees): |       |
|  | Note: Upstream and downstream elevations should reflect the elevations before the standard 3” drop (or other embedment) is applied |
|  |
| 19. | If a three-sided structure is proposed, supply: |  |
|  | U/S Flow line elevation (ft): |       |  | Skew (degrees): |       |
|  | Span (ft): |       |  | Length (ft): |       |
|  | Height (ft): |       |  | Number of spans: |       |
|  |
| 20. | a. Is the IDOT Clearance Policy met? | [ ]  Yes [ ]  No [ ]  NA | Value (ft): |       |
|  | b. Is the IDOT Freeboard Policy met? | [ ]  Yes [ ]  No [ ]  NA | Value (ft): |       |
|  |
| 21. | Type of streambed soil : | [ ]  Clay [ ]  Silt [ ]  Sand [ ]  Loam | [ ]  |       |
|  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 22. | Scour/ Migration Problems: | [ ]  None/Minimal | [ ]  Significant | [ ]  Severe |
|  | Comments: |       |
|  |
|  | Ice Concerns: | [ ]  None/Minimal | [ ]  Significant | [ ]  Severe |
|  | Comments: |       |
|  |
|  | Debris Concerns: | [ ]  None/Minimal | [ ]  Significant | [ ]  Severe |
|  | Comments: |       |
|  |
|  | Proposed or Identified Countermeasures: |       |
|  |
| **Existing Structure Data** |
|  |
|  |  |  | StructureU/S | SubjectStructure | StructureD/S |
| 23. | Distance from proposed (subject) structure: (ft.) |  |       | N\A |       |
| 24. | Type of structure: |  |       |       |       |
| 25. | Low beam elevation: |  |       |       |       |
| 26. | Flow line elevation: |  |       |       |       |
| 27. | Maximum known high water elevation: |  |       |       |       |
| 28. | Date of maximum high water: |  |       |       |       |
| 29. | Cause (backwater, headwater, etc.): |  |       |       |       |
| 30. | Does structure carry entire design flood flow? |  | [ ]  Yes [ ]  No | [ ]  Yes [ ]  No | [ ]  Yes [ ]  No |
|  | If not, state area of additional waterway opening: (ft2) |  |       |       |       |
| 31. | Type and size of existing overflow structures: |  |       |       |       |
| 32. | Has adverse scour occurred under or adjacent to the structure? |  |       |       |       |
| 33. | Classify type of scour and/or aggradation / degradation: |  |       |       |       |
|  |
| **Required Additional Data** |
|  |
| 34. | Deviations from the General Procedures presented in IDOT Drainage Manual CH. 2, CH.6, and CH.7: |
|  |       |
| 35. | Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area: |
|  |       |
| 36. | Site Inspection made by: |       | Date: |       |
|  |
|  | Remarks: |
|  |       |
|  |  |
| 37. | Prepared by: |       | Date |       |
|  |
|  | Signed (QA/QC): |  | Date |       |

|  |
| --- |
| **Hydraulic Report Checklist** |
|  |
| The District or Consultant should complete the following checklist before submitting the Hydraulic Report for approval. |
|  |
| 1. | [ ]  | Title Page |
|  |  |  |
| 2. | [ ]  | Table of Contents |
|  |  |  |
| 3. | [ ]  | Narrative - (as outlined in Section 2-601.01 Item #3) |
|  |  |  |
| 4. | [ ]  | Waterway Information Table (WIT) - (as outlined in Section 2-601.01 Item #4) |
|  |  |  |
| 5. | [ ]  | Hydraulic Report Data Sheets |
|  |  |  |
| 6. | [ ]  | Location Map - should show the subject structure along with nearby location defining landmarks (cities, roads, highways, nearby structures over same stream, etc.) |
|  |  |  |
| 7. | [ ]  | USGS Hydrologic Atlas (historical data available on selected streams- District 1 only) |
|  |  |  |
| 8. | [ ]  | Photographs - (Minimum: U/S & D/S structure faces, U/S & D/S channel, U/S & D/S roadway across structure) |
|  |  |  |
| 9. | [ ]  | Hydrology (map, calculations and related exhibits) |
|  |  |  |
| 10. | [ ]  | Streambed Profile |
|  |  |  |
| 11. | [ ]  | Roadway Profile (existing and proposed) |
|  |  |  |
| 12. | [ ]  | Cross Section Plots - with plan layout preferably overlayed upon an aerial photo with the contours |
|  |  |  |
| 13. | [ ]  | Bridge Opening Plots |
|  |  |  |
| 14. | [ ]  | Natural Condition Analysis | When HEC-RAS modeling is being used, ALLPlans (Natural, Existing, & Proposed) shall beincluded in ONE Project File. |
|  |  |  |  |
| 15. | [ ]  | Existing Condition Analysis |  |
|  |  |  |  |
| 16. | [ ]  | Proposed Condition Analysis |  |
|  |  |  |
| 17. | [ ]  | Scour Analysis – Existing and Proposed Conditions |
|  |  |  |
| 18. | [ ]  | Compensatory Storage Calculations (if required- District 1 only. Include permit summary formand related attachments. )  |
|  |  |  |
| 19. | [ ]  | Survey Notes (if available, CADD plot of survey points. No Electronic Point Files) |
|  |  |  |
| 20. | [ ]  | EWSE Data - (per Section 2-402.06) |
|  |  |  |
| 21. | [ ]  | Correspondence Notes |

|  |  |  |
| --- | --- | --- |
| 22. | [ ]  | CD with Project Files (Include pdf copy of the Hydraulic Report and working files for the hydrology and hydraulic analyses.) |