

## Items Required for Final Plan Submission

### 1. Program Application Revisions (if applicable)

### 2. Special Provisions

- A. Each Non-Standard Pay Item needs a special provision
- B. Pay Item Name must match the estimate and plans exactly
- C. Pay Item Unit must be spelled out to match unit names of standard spec. book
- D. Maintaining Traffic
- E. HMA Application Estimate

### 3. Other Items

- A. Progress Clause
- B. Notice To Bidders For Utility Coordination
- C. Coordination Clause (if needed)

### 4. Estimate

- A. List of Pay Items (updated from GI)
- B. Breakdown between Bridge and Approach Pay Items
  - 1. Participating Road Pay Items
  - 2. Participating Bridge Pay Items
  - 3. Non-Participating Road Pay Items
  - 4. Non-Participating Bridge Pay Items
- C. Pay Codes for each Pay Item

### 5. Plans – Submit 11” x 17” OR 24” x 36” Plan Sheets.

- A. Title Sheet
  - 1. Traffic Data (present & future ADTs, posted & design speeds, % commercial)
  - 2. Township, Section, and Range
  - 3. Utility Companies List (if not on site sheet)
  - 4. List of Standard Plans / Special Details
  - 5. Index of Plan Sheets
  - 6. Project Titles
    - a) Local Agency
    - b) State Bridge Number
    - c) Job Number
    - d) Control Section
    - e) Federal Project Number (if federal funds apply)
    - f) Federal Item Number (if federal funds apply)
  - 7. Map of Bridge Location (include detour route if not shown elsewhere)
  - 8. Notes: All applicable MDOT Design Manual notes.
  - 9. **Title/Signature Block (signed and sealed by designer and local agency rep.)**
  - 10. Erosion Control Items and Legend (if not shown on site or structure sheet)
  - 11. Bridge Structure Number & Job Number on all sheets
  - 12. Design Loading

## B. General Plan of Site

1. Plan View of Project
  - a) Right of Way Limits
  - b) Slope Stake Line
  - c) Easements Labeled
    - 1) Permanent Easements
    - 2) Grading Permits
  - d) Stations Shown (include P.O.B. & P.O.E.)
  - e) Utilities
  - f) Flow direction and name of water course (if applicable)
  - g) North Arrow
  - h) Layout of Bridge
    - 1) deck
    - 2) approach
    - 3) wingwalls
    - 4) guardrail
  - i) Survey and Construction Centerlines
  - j) Horizontal Alignment and/or Alignment Diagram
  - k) Outline of Existing Bridge
  - l) Erosion Control w/ Legend (if not shown on title or structure sheets)
  - m) Topography
2. Elevation View
  - a) Vertical Alignment
    - 1) All vertical curve data
      - a) Grade Left
      - b) Grade Right
      - c) Length
      - d) K value computed
    - 2) Existing and Proposed Alignments
    - 3) Existing Grades just outside the P.O.B. & P.O.E.
  - b) Span Lengths
  - c) Reference Point Stations and Elevations
  - d) Project Limits (include labels for P.O.B. and P.O.E.)
  - e) Bottom of Abutment, Pier Footing Elevations
  - f) Pile Information: Capacity and Type (if applicable)
  - g) Water Surface Information (survey elevation & date and 100 year elevation)
  - h) Rip Rap
  - i) Stations and Elevations
  - j) Proposed Low Beam Elevation
3. Benchmark Box
4. Existing Structure Information
5. Control Points or Horizontal Tie Points
6. Notes: All that pertain from the MDOT Design Manual
7. Title Block with Bridge Number(s) and Job Number(s)
8. Construction Staging Details (if applicable)

- C. Log of Borings (*see current AASHTO Standard Specifications for Highway Bridges, Section 4 – Foundations, Subsurface Exploration - General Requirements for minimum depth and minimum coverage* )
1. Soil Profile
    - a) Soil Strata
    - b) Blow Counts with three 6" increments
    - c) Elevations shown, not depths
  2. Pile Information (if applicable)
    - a) Bottom of Footing Elevations (abutments and piers)
    - b) Bottom of Tremie Elevations (if necessary)
    - c) Minimum Pile Penetration Elevations
    - d) Estimated Pile Penetration Elevations
    - e) Total Scour Elevations
  3. Notes: All that pertain from MDOT Bridge Design Manual
  4. Soil Boring Diagram indicating locations of borings
- D. General Plan of Structure
1. Plan View of Structure
    - a) Lane and Shoulder Widths dimensioned
    - b) Clear Roadway dimensioned
    - c) Angle of Crossing shown
    - d) Reference Points: Stations and Elevations
    - e) Guardrail Details shown
    - f) Rip Rap shown (if applicable)
    - g) Slope Stake Line
    - h) Permanent Easements and Grading Permits shown
    - i) Survey and Construction Centerline shown
    - j) Slope Steepness indicated
    - k) Erosion Control shown (if not shown on Site sheet)
    - l) Right of Way Limits shown and dimensioned
    - m) Cofferdam Layout (if applicable)
  2. Elevation View of Structure
    - a) Railing Type shown
    - b) Beam Type indicated (if applicable)
    - c) Berm Elevation shown
    - d) Water Elevations shown
      - 1) Elevation at Date of Survey
      - 2) 100 year Elevation
    - e) Rip Rap shown, include degree of slope
    - f) Cofferdams shown
    - g) Piles shown
      - 1) Type shown
      - 2) Capacity shown
    - h) Abutments and Pier(s) shown
      - 1) Bottom of Tremie Elevations
      - 2) Bottom of Footing Elevations
    - i) Guardrail Layout and Type

- j) Approach Type Information
  - k) Bearing Fixity
  - l) Vertical Underclearance (if grade or railroad separation)
  - m) Span Lengths
  - n) Overall Bridge Length
3. HMA Application Table
4. Hydraulic Table – To be completed for river/drain crossings, as shown in the MDOT Bridge Design Manual, with the following data.
- a) 50 Year Data
  - b) 100 Year Data
5. Typical Bridge Cross Section
- a) Lane and Shoulder Widths shown: include centerline label
  - b) Shoulder to Fascia Distances dimensioned
  - c) Centerline to Fascia Distances dimensioned
  - d) Out to Out of Fascia dimensioned
  - e) Deck Material and Thickness shown
  - f) Deck Cross Slope shown
  - g) Railing Type indicated
  - h) Number and Type of Beam shown
  - i) Earth Slopes shown (include existing and proposed)
  - j) Rip Rap shown
  - k) Pile Type and Capacity shown (include pile batter)
  - l) Limits of Backfill and Excavation shown
  - m) Cofferdams shown
6. Typical Section Through Abutment / Pier
- a) Deck Type shown
  - b) Beam Type shown
  - c) Reference Lines shown
  - d) Approach Material shown (abutments)
  - e) Rip Rap shown
  - f) Limits of Backfill and Excavation
  - g) Berm Elevations (abutments)
  - h) Bottom of Tremie Elevations
  - i) Bottom of Footing Elevations shown
  - j) Pile Type, Capacity and Batter shown
  - k) Cofferdams shown
  - l) Dimensions of Abutments and Piers
    - a) widths
    - b) minimum/maximum heights

7. Typical Section Through Wingwall
    - a) Show all dimensions
      - 1) widths
      - 2) minimum/maximum heights
    - b) Limits of Backfill and Excavation
    - c) Pile information
      - 1) Capacity
      - 2) Type
      - 3) Batter
  
  8. Approach Typical
    - a) Lane and Shoulder widths
    - b) Guardrail Type
    - c) Road/Subbase Material
  
  9. Rip Rap Header Details (if applicable)
    - a) Toe Header Dimensions w/ geotextile liner
    - b) Side Header Dimensions w/ geotextile liner
  
  10. Notes: All that pertain from the MDOT Design Manual
- E. Detail sheets including
1. Substructure Details
    - a) Abutment Details
    - b) Pier Details
    - c) Pile Details
  
  2. Beam Details
    - a) Prestressed Beam Details (resteel, strands, etc.)
    - b) Steel Beam Details
  
  3. Superstructure Details
  
  4. Deck Rehab or Replacement Details
  
  5. Slab and Screed Details
  
  6. Steel Reinforcement Details (Bar Schedule)
- F. Existing Plans (if available) For Info. Only
- G. Quantity Summary Sheet