

MASTER AGREEMENT FOR ROAD DESIGN SERVICES

SCOPE OF WORK

1. Responsibilities of Consultant.

- A. Project Location.** Services provided under this Agreement shall apply to various projects located throughout the State of Wyoming. The individual project locations will be identified in each Project Work Directive to be issued by WYDOT on an as-needed basis throughout the term of this Agreement.
- B. Project Work Directives.** WYDOT's Project Development Section may engage the Consultant by issuing a Project Work Directive to provide the necessary road design services for various projects located throughout the State. An individual Project Work Directive will be executed for each specific project or group of projects assigned to the Consultant, and will thereby become a part of this Agreement.

The required deliverables and timeframes will be outlined in each Project Work Directive.

- C. Scope of Work.** The professional services to be provided by the Consultant under this Agreement shall be as necessary to furnish highway engineering, designs, drawings, details, analysis, special provisions, estimates, and other items incidental and necessary to develop final contract plans and documents in English units for each project. The design shall follow WYDOT design standards, the current AASHTO *A Policy on Geometric Design of Highways and Streets*, and recommendations set forth in the Final Reconnaissance Report. The plans and specifications shall be in accordance with WYDOT policies and procedures, and applicable federal or Wyoming state laws, guidelines and standards.

Provide highway engineering and project development functions to produce a complete set of contract plans and specifications in accordance with the recommendations outlined in the Final Reconnaissance Report for each project. Designs and plans shall conform to the *WYDOT Road Design Manual* and the current edition of the *WYDOT OpenRoads™ Design Manual*. A pre-design meeting shall be held with the Project Development Program before starting the road design process.

Plan development and submittal shall generally follow the Project Design Flow Chart in Section 2-01 of the *WYDOT Road Design Manual*. Each set of plans shall contain at a minimum, the defined and preliminary data shown in the Project Design Flow Chart.

Microstation design files shall be in accordance with the *WYDOT OpenRoads™ Design Manual*. Submit a copy of the current electronic design files with all plan submittals, formatted as outlined in the *WYDOT OpenRoads™ Design Manual*.

Plan drawings shall be drawn on the State's standard eleven inch by seventeen inch (11" x 17") sheet size drafted to English scale. To meet reproduction requirements, drafting and lettering shall be of proper density and legibility. Drafting standards, drawing dimensions and materials used shall comply with the State's requirements. Submit all formal plan sets in PDF format.

Standard plans developed by the State and incorporated into the project plans will be furnished by the State. Where such standard drawings are to be changed or modified to fit the project, the Consultant shall make the necessary revisions to such electronic standard drawings furnished, at no charge, by the State.

Summary sheets and cost estimates shall be compiled using established bid items furnished by the State. If the Consultant desires to create a new bid item(s), a written request for approval shall be submitted in advance to "Bid Item Committee," c/o Project Development. Summaries shall also include estimated quantities of miscellaneous items and other non-pay items involved in the construction.

Revisions in quantities and corrections in the Plans, Specifications and Estimates (PS&E) Plans required prior to the award of the contract, which are not deemed attributable to the State, shall be made in an expeditious manner by the Consultant at no additional cost to the State. However, in the event the award of the contract does not occur within twelve (12) months from the date of acceptance of the PS&E Plans by the State, the Consultant's responsibilities in this respect shall cease.

Advance submittal of details of the design may be made to the State at any time for informal review and approval.

Failure of WYDOT to initiate a plan review meeting within three (3) weeks of receipt of the plan issuance from the Consultant will result in justification for the Consultant for a completion time extension.

If project constraints make it impossible or impractical to meet certain standards, the Consultant shall prepare the necessary documentation in order to have any design exceptions approved by WYDOT and/or FHWA.

- (i) Project Management. Act as project manager to ensure production of a complete set of contract plans and documents within the time period

established by the project schedule.

Responsible for coordination of project design input received from other design sections and programs, as well as the district.

Make certain that the various design elements received contribute to the intended project design and do not conflict with other design parameters. Perform quality control checks on all required document and plan submittals to the State.

Monitor overall design process and sequence based on the project design flowchart and Project Control System (PCS) schedule developed for each project to ensure timely completion of the project design.

Provide schedule input and work progress updates on a monthly basis for all activities listed on the project PCS Reports. The information provided shall include the start dates, percentage complete, and the finish dates.

Submit a Project Deliverable Completion Statement to indicate overall percentage of plan phase deliverables completed. Include the completion statement with each payment request Progress Report using the standard format. The deliverable percentage will be compared to the total percent billed to indicate overall progress. Payments will not be made if the percent billed is substantially greater than the completion percentage as determined by the plan deliverables accepted by the State.

- (ii) Preliminary Plans. Provide Preliminary Plans in accordance with State standards. Refer to the Final Reconnaissance Report for project specific recommendations, and the Project Design Flow Chart in Section 2-01 of the *WYDOT Road Design Manual* for the defined and preliminary data to be included in the Preliminary Plans.

Include typical sections showing the existing typical roadway sections, and the preliminary proposed typical roadway sections as recommended in the Final Reconnaissance Report. The typical sections shall show the proposed travel way, shoulder widths, pavement type, thicknesses, and the design clear zone. Refer to the *WYDOT Road Design Manual*, Sections 4-02, Typical Sections.

The design elements to be included in the Preliminary Plans, according to the Project Design Flow Chart in Section 2-01 of the *WYDOT Road Design Manual* are as follows:

- (a) Plan view elements - horizontal alignment centerline with stationing and curve data, edge of pavement widths, existing right-of-way, interchange and intersection layouts, existing structures, major drainage pipes, section lines, and property lines. Show project mapping in plan views to indicate existing planimetric features, including existing utilities and railroads.
- (b) Profile view elements – existing ground profile, preliminary grade line with curve data, existing structures, and major drainage pipes.

Photo background or raster images may be included in the plan views in addition to the planimetric mapping if it helps to clarify the existing project conditions.

Develop design cross-sections at one hundred (100) foot intervals on tangents and fifty (50) foot intervals on curves, plus breaks, such as pipe crossings and bridge ends, and show limits of construction on the plan view.

Generate draft earthwork quantities to determine grading requirements which shall include mass ordinates, moisture density control, topsoil quantities, and added/wasted quantities. Provide the mass curve with the cross-sections and earthwork.

- (iii) Preliminary Plans Inspection. After issuance of the Preliminary Plans, an office and on-site inspection is generally conducted. The Consultant shall notify Project Development seven (7) days in advance of each plan submittal requiring an inspection to aid in the timely scheduling of the field inspection. The Consultant shall develop a draft agenda for the meeting. WYDOT will distribute the plans submitted by the Consultant and coordinate the plan reviews.

The preliminary typical sections, preliminary horizontal alignment, preliminary grade line, preliminary design cross-sections, and earthwork are reviewed. Concerns identified by District Maintenance are reviewed. It will be determined whether the horizontal alignment needs further revision.

Other features that are reviewed include potential borrow areas, approach locations, right-of-way conflicts, and drainage locations. Potential wetland conflicts or grading problems shall be identified and potential wetland mitigation sites determined. The need for borrow sources will be discussed along with potential on-site and off-site sources. Potential plant sites, staging areas, detours, and haul roads will also be discussed together with any prior PCS activities that are not complete.

Comments and/or revisions requested by the State shall be formalized by the Consultant through the writing of the appropriate plan review report. The Consultant shall be responsible for incorporating the revisions and/or additions to the plans as stated in the plan review report.

- (iv) Preliminary Plans Inspection Report. After completion of the Preliminary Plans inspection, the Consultant shall prepare a Preliminary Plan Inspection Report for review, comment, and signature. The report shall summarize the topics discussed at the Preliminary Plans inspection and the decisions made. Required corrections, additions, and changes that need to be made to the plans shall be discussed in the report. Issues requiring additional discussion or follow-up decisions shall be included in the report, as well as information or recommendations still required from other Programs in order to complete the next phases of the project design.

After the report is reviewed and signed by the Project Development Design Team Leader and Project Development Engineer, it will be submitted to the District Engineer and Highway Development Engineer for review and signature. The completed and signed report will then be issued to the WYDOT Programs and outside agencies via a Falcon link.

- (v) Grading Plans. The Grading Plans shall incorporate the “Preliminary Geology Recommendations” issued by the Geology Program; the “Final Surfacing Thickness Recommendations” issued by the Materials Lab; the “Traffic Geometric Determination” issued by the Traffic Program; and preliminary structure selection information from the Bridge Program.

The primary purpose of the Grading Plans shall be to substantially complete the grading design, which includes the drainage design, preliminary geology recommendations and the final surfacing thickness recommendations. Develop design cross-sections at one hundred (100) foot intervals on tangents and fifty (50) foot intervals on curves, plus breaks, such as pipe crossings and bridge ends. Generate draft earthwork quantities to determine grading requirements which shall include mass ordinates, moisture density control, topsoil quantities, and added/wasted quantities. Provide the mass curve with the cross-sections and earthwork.

This activity shall include drainage pipe design which involves developing the pipe cross-sections and placing the drainage pipe locations and sizes on the plan and profile sheets. Erosion prevention features shall also be included.

The Grading Plans represent semi-final grading quantities, including topsoil, moisture and density control, approach quantities, and other added grading quantities. Borrow and waste quantities shall be included to result

in a near-balanced and credible earthwork design. Additional adjustment of the earthwork shall be anticipated before finalization.

The design team shall plot the construction limit lines of cuts and fills with the terrain in the plan view. When overlaid with the existing right-of-way, this enables the need for additional right-of-way, construction permits, and easements. The areas shall be dimensioned, labeled and incorporated into the plan sheets for the Grading Plans. Show ownership of adjacent lands. Land ties to public land corners from the roadway centerline shall also be developed and labeled; since these are essential for the Right-of-Way Program to write legal descriptions for proposed acquisitions.

Essential elements of the Grading Plans according to the Project Design Flow Chart in Section 2-01 of the *WYDOT Road Design Manual* include the essential elements for the Preliminary Plans and, additionally, structure sites including retaining wall locations and stock passes, borrow sources, plant sites, staging areas, material sources, waste areas, haul roads, drainage pipe locations and sizes, irrigation structures and facilities, land ties, land ownerships, section corner ties, property lines, existing right-of-way lines, approaches, proposed fence types, proposed right-of-way and construction permits, detours, cultural sites, wetlands and wetland encroachments.

Consideration shall be given to construction impacts on wetlands and cultural sites. The wetland disturbance areas shall be quantified at this time to determine wetland mitigation requirements. Plot the construction limit lines of cuts and fills with the terrain in plan view. When overlaid with the delineated wetlands, determine impact areas. The areas shall be labeled and incorporated in the plan view or wetland impact details for the Grading Plans. Minimize impacts to wetland areas; refer to the *WYDOT Road Design Manual*, Section 2-04, Wetlands.

Plot existing utility locations in color on one (1) plan set to include all plan view sheets, including details, to be submitted with the Grading Plans. Required colors and procedures can be obtained from the WYDOT Utility Section.

- (vi) Grading Plans Inspection. After issuance of the Grading Plans, an office and on-site inspection is generally conducted. The Consultant shall notify Project Development seven (7) days in advance of each plan submittal requiring an inspection to aid in the timely scheduling of the field inspection. The Consultant shall develop a draft agenda for the meeting. WYDOT will distribute the plans submitted by the Consultant and coordinate the plan review.

The main focus of this inspection shall be the grading features of the project such as the final typical sections, grade line, cross-sections, fill slope and cut ditch design, reconstruction areas, drainage design, geology recommendations, back slope stability, snowdrift control, major utility conflicts, etc. The Grading Plans Inspection shall determine earthwork and cross-section revisions necessary to establish the final earthwork. The Grading Plans Cost Estimate should be reviewed for completeness at this inspection.

Comments and/or revisions requested by the State shall be formalized by the Consultant through the writing of the appropriate plan review report. The Consultant shall be responsible for incorporating the revisions and/or additions to the plans as stated in the plan review report.

- (vii) Grading Plans Inspection Report. After completion of the Grading Plans inspection, the Consultant shall prepare a Grading Plans Inspection Report for review, comment, and signature. The report shall summarize the topics discussed at the Grading Plans inspection and the decisions made. Required corrections, additions, and changes that need to be made to the plans shall be discussed in the report. Issues requiring additional discussion or follow-up decisions shall be included in the report, as well as information or recommendations still required from other Programs in order to complete the next phases of the project design.

After the report is reviewed and signed by the Project Development Design Team Leader and Project Development Engineer, it will be submitted to the District Engineer and Highway Development Engineer for review and signature. The completed and signed report will then be issued to the WYDOT Programs and outside agencies via a Falcon link.

- (viii) R/W & Engineering Plans. Producing the R/W & Engineering Plans shall be a final design phase activity consisting of developing a complete set of plans including all design features proposed for construction as shown in the Project Design Flow Chart in Section 2-01 of the *WYDOT Road Design Manual*. The plan requirements shall include all information detailed out for the Preliminary Plans and Grading Plans sets. Existing utilities shall be current and properly located on the plans. The plans shall reflect the “Final Surfacing Thickness Recommendations” and “Final Geology Report” recommendations. The plans shall contain final intersection and interchange details. These plans shall include the “Preliminary Structure Layout” from Bridge for field review during the inspection. The draft index of special provisions shall be prepared for discussion at the inspection.

This plan issuance shall be the semi-final plans issuance and shall reflect approximately eighty percent (80%) to eighty-five percent (85%) design completion. Design changes after this plan issuance shall be minimal.

R/W & Engineering Plans shall include a copy of the certified map of survey provided to the Consultant from the WYDOT Right-of-Way Program.

Develop design cross-sections at one hundred (100) foot intervals on tangents and fifty (50) foot intervals on curves, plus breaks, such as pipe crossings, and show limits of construction on the plan view.

Generate final earthwork quantities to determine grading requirements which shall include mass ordinates, moisture density control, topsoil quantities, and added/wasted quantities. Provide the mass curve with the cross-sections and earthwork.

- (ix) R/W & Engineering Plans Inspection. After issuance of the R/W and Engineering Plans, an office and on-site inspection is generally conducted. The Consultant shall notify Project Development seven (7) days in advance of each plan submittal requiring an inspection to aid in the timely scheduling of the field inspection. The Consultant shall develop a draft agenda for the meeting. WYDOT will distribute the plans submitted by the Consultant and coordinate the plan review.

R/W and Engineering Plans Inspection activity validates all previous engineering design input and establishes the basis for subsequent final design activities. The inspection shall be an in-depth review of the plans to ensure that all design elements have been addressed and the intent of the project as stated in the Final Reconnaissance Report and other formal recommendations has been fulfilled.

The Right-of-Way Program uses these plans to perform a current landowner title search and to develop the R/W Deficiency Report describing any plan deficiencies with regard to land ties and ownerships. In addition, Right-of-Way will gather pertinent information at the inspection with regard to landowner impacts for inclusion in the R/W Inspection Report.

Critical items to be discussed at this inspection shall be all design features, the earthwork and cross-sections, detours, special construction requirements with regard to sequence of work, traffic control, and a draft index of special provisions, and the wetland mitigation plan if needed.

Comments and/or revisions requested by the State shall be formalized by the Consultant through the writing of the appropriate plan review report. The Consultant shall be responsible for incorporating the revisions and/or additions to the plans as stated in the plan review report.

- (x) R/W & Engineering Plans Inspection Report. After completion of the R/W and Engineering Plans inspection, the Consultant shall prepare a R/W & Engineering Plans Inspection Report for review, comment, and signature. The report shall summarize the topics discussed at the R/W & Engineering inspection and the decisions made. Required corrections, additions, and changes that need to be made to the plans shall be discussed in the report. Issues requiring additional discussion or follow-up decisions shall be included in the report, as well as information or recommendations still required from other Programs in order to complete the next phases of the project design.

After the report is reviewed and signed by the Project Development Design Team Leader and Project Development Engineer, it will be submitted to the District Engineer and Highway Development Engineer for review and signature. The completed and signed report will then be issued to the WYDOT Programs and outside agencies via a Falcon link.

- (xi) R/W & Utility Plans. Prepare the R/W and Utility Plans incorporating all revisions from the R/W & Engineering Plans Inspection, the R/W Inspection Report and the R/W Deficiency Report from the Right-of-Way Program. This set of plans shall be the basis for acquisition of additional right-of-way and construction permits, and negotiations for utility adjustments. The Utilities Section shall be provided with the design cross-sections in order to determine the need for utility adjustments. The plans shall include the “Traffic Electrical Design Plans” submitted from the Traffic Electrical Design Group, as they often require additional right-of-way or construction permits to accommodate traffic signals or lighting.

There shall be no field inspection or report required for this plan set. Delays in issuing the R/W & Utility Plans subsequently delay the right-of-way acquisition, necessary utility relocations, and agreements, which can often delay the letting of the project.

Develop design cross-sections at one hundred (100) foot intervals on tangents and fifty (50) foot intervals on curves, plus breaks, such as pipe crossings, and show limits of construction on the plan view.

Plot existing utility locations in color on the design cross-sections and all plan view sheets, including details. Required colors and procedures can be obtained from the Utility Section.

Generate final earthwork quantities to determine grading requirements which shall include mass ordinates, moisture density control, topsoil quantities, and added/wasted quantities. Provide the mass curve with the cross-sections and earthwork.

- (xii) Final Plans. Prepare the Final Design Plans package containing all bid item summaries and special provisions, structure plans and details, traffic plans and details, and all other details and recommendations.

Prepare project quantity summaries as shown in *WYDOT Road Design Manual*, Section 4-03, Summaries, for all bid items including notes explaining any special requirements not given in the Standard Specifications.

Additional essential elements include: bridge design sheets and final bridge quantities and summaries; traffic control quantities and details; permanent signing quantities and details; lighting and signal quantities and details; other summaries and details from all Programs; agreement numbers for material sources; memorandums of agreement; verification of state or federal funding source and project number, and the special provisions.

Develop design cross-sections at one hundred (100) foot intervals on tangents and fifty (50) foot intervals on curves, plus breaks, such as pipe crossings, and show limits of construction on the plan view.

Generate final earthwork quantities to determine grading requirements which shall include mass ordinates, moisture density control, topsoil quantities, and added/wasted quantities. Provide the mass curve with the cross-sections and earthwork.

- (xiii) Final Plans Inspection. After issuance of the Final Plans, an office and on-site inspection is generally conducted. The Consultant shall notify Project Development seven (7) days in advance of each plan submittal requiring an inspection to aid in the timely scheduling of the field inspection. The Consultant shall develop a draft agenda for the meeting. WYDOT will distribute the plans submitted by the Consultant and coordinate the plan review.

Review the Final Plans and contract documents in preparation for the formal advertising and letting of the project. The major purpose of this plans review shall be to assure that all construction concerns and/or right-of-way considerations are addressed and included in the plans. The

inspection shall include an in-depth, final review of all plan sheets, pay quantities, bid items, summaries and special provisions. Changes resulting from this inspection will be expected to be of a minor nature. The required construction staking reports will also be determined. No formal inspection report will be required for this inspection.

- (xiv) Check Squad Plans. Prepare the contract plans and documents incorporating all necessary changes from the Final Plans Inspection. A final Total Estimated Quantities (TEQ) shall be prepared and submitted to Contracts and Estimates. The contract plans and documents shall be submitted to the Check Squad in Project Development for final checking prior to letting.

Prepare contract documents as shown in *WYDOT Road Design Manual*, Section 4-04, Contract Documents. The contract documents shall include all Special Provisions, Index of Supplemental Specifications, Proposal and Estimate sheet, and agreements for material sources, plant site, borrow areas, etc.

- (xv) PS&E Plans. Prepare and submit to the State, for review and approval, final contract plans and documents incorporating any changes requested by the State as a result of field reviews, inspections, and the Check Squad Plans check. These plans and documents shall show all the design features in detail, summaries of individual pay items, a recapitulation of bid items in the form of a total estimated quantities summary, and other requirements in sufficient detail to facilitate construction of the project.

Obtain applicable Professional Engineer stamps on the stamp sheet as required by State law. Submit the final electronic design files to Project Development to be permanently archived with Office Services who notifies the Resident Engineer that the design files are available.

The contract plans to be submitted to the State shall include, as a minimum:

- (a) Title Sheet, Professional Seal Sheet, Legend Sheet
- (b) Typical roadway sections
- (c) Summary sheets with summaries of individual pay items and summary of Total Estimated Quantities (TEQ)
- (d) Plan and profile sheets
- (e) Various other detail and/or layout sheets
- (f) Plans and details from other WYDOT Programs, i.e. signing, electrical, traffic control details, structure plans

The construction documents to be furnished to the State shall include:

- (a) Final design cross-sections
- (b) Earthwork design computations, final computer earthwork design hard copy, and other relevant design computations and drawings
- (c) Mass haul curve plot
- (d) Staking data for slope stakes and blue tops
- (e) Index of supplementary specifications required to supplement the *Standard Specifications for Road & Bridge Construction*
- (f) Special provisions required to supplement the *Standard Specifications for Road & Bridge Construction*
- (g) Final construction cost estimate

The electronic (computer) files to be furnished to the State shall include:

- (a) Estimates submitted using the TEQ spreadsheet software with additional columns for unit cost and total cost.
- (b) PD_Finals file including summary files, CADD plan sheets and design detail files in MicroStation™ format, and *OpenRoads* files, formatted as outlined in the *WYDOT OpenRoads Design Manual*.
- (c) Electronic staking data for slope stakes and blue tops in Trimble format

- (xvi) Prepare Cost Estimates. Cost estimates shall be prepared based on currently available data for the Grading Plans, R/W & Engineering Plans and the Final Plans. Refer to the WYDOT website for the most recent weighted average bid item prices.

Prepare an itemized cost estimate for the most recent Total Estimated Quantities (TEQ) including bid items and quantities for all project construction items. Submit the cost estimate to Contracts and Estimates for review and adjustment to the most current unit prices. Use only established WYDOT bid items. The Bridge Program will provide any cost estimates for structure work. Submit estimates using the TEQ spreadsheet software with additional columns for unit cost and total cost. Discuss the results of the estimates at the plans inspection.

- (xvii) Culvert Design (Class II). Size Class II culverts, as defined in WYDOT Operating Policy 18-6, Drainage Design for Highway Systems. Use the State Culvert Design System (CDS) computer program or other reliable methods. Refer to the *WYDOT Road Design Manual*, Section 3-06, Culvert Design.

Request the hydrological data from the WYDOT Hydraulics Section. The basin hydrological data will be determined and provided to the Consultant for input into the design analysis.

Determine the sizes, configuration, and layout of drainage pipes for Class II design. Develop pipe cross-sections, and plot and label proposed pipe locations and sizes on the plan and profile sheets. Erosion prevention features shall also be included.

(xviii) Storm Drain Details. Provide detailing services for a storm drain system. Details shall be based on storm drain analysis and design provided by the WYDOT Hydraulics Section and with consideration of other project constraints. Detail sheets shall be submitted to the State Bridge Engineer for review and approval.

(xix) Prepare Special Provisions. Special Provisions are required to define materials, construction specifications, and method of measurement for pay items not covered in the Standard Specifications or supplementary specifications. These are mostly lump sum and special items involving special method of payment; special construction procedures; and sequences of work. Follow the *Specification Writer's Style Guide* found on the WYDOT Website.

Prepare a draft index of special provisions proposed for the project as described in *WYDOT Road Design Manual*, Section 4-04, Contract Documents. The draft index will be reviewed during the R/W & Engineering Plans inspection for completeness. Draft special provisions for bid items for work designed by other Programs will be prepared by the responsible Programs, and then sent to the Project Development Design Team Leader for a special provision number and to verify the project index. Construction Staff will route for comment and finalize special provisions for inclusion in the PS&E Plans package.

(xx) Wetland Mitigation Design. Wetlands determination and mitigation shall comply with federal laws for wetlands preservation, and shall be completed after the final earthwork revisions have been made. Wetlands shall be avoided to the extent possible during the grading design phase.

Wetland mitigation sites will be determined by the WYDOT Environmental Services Section in coordination with Project Development and the Resident Engineer. Environmental Services will determine the number of acres to be mitigated based on disturbance areas and wetland

type, and will provide a basic design concept for the wetland mitigation plan which the Consultant shall develop into final contract plans. The wetland mitigation plan shall be included in the R/W & Engineering Plans.

The mitigation design shall be a combination of the designer's plan development and earthwork design capabilities, and the WYDOT Wetland Specialist's wetland material knowledge. Mitigation design shall be in accordance with the *WYDOT Road Design Manual*, Section 2-04, Wetlands. The following is a list of activities required for the design of the wetland mitigation site:

- (a) Meet with the WYDOT Wetland Specialist to discuss the mitigation design requirements before beginning the design.
- (b) Determine if additional mapping and terrain information is needed.
- (c) Prepare wetland site plan view from conception to final design (include existing wetland areas).
- (d) Prepare cross-sections (original and several (three (3) to five (5)) versions as the design develops).
- (e) Calculate the earthwork required for construction of the wetland.
- (f) Prepare a before and after topographic layout of the area.
- (g) Incorporate landowner's and WYDOT's comments and concerns into the design features of the wetland.
- (h) Quantify the acres of the wetlands created, and all impacts to existing wetlands (may be more than one (1) wetland type).
- (i) Assist with the legal description for the wetland easement - coordinate with WYDOT R/W on the preferred language.
- (j) Summarize the bid items required to construct the wetlands.

Items to be provided by WYDOT:

- (a) Location and limits of the wetland mitigation site.
 - (b) Special Provision for the wetland construction.
 - (c) Seeding and vegetation recommendations.
 - (d) Landowner contact for comments and concerns.
 - (e) Input on the bid items to be used for summarizing quantities.
- (xxi) Public Meeting. A public meeting will be scheduled by WYDOT and the Consultant shall prepare the necessary exhibits to be presented at the

meeting for various design alternatives. Coordinate exhibit requirements with the District and Environmental Services. The Consultant shall also attend the public meeting to present the design proposals and support design concepts.

- (xxii) Construction Staking Data. Work with WYDOT construction personnel to generate electronic staking files in a Trimble format for slope stake and blue top information at the cross-section intervals.
- (xxiii) NPDES Design and Details. Complete National Pollutant Discharge Elimination System (NPDES) plans to be reviewed by the Environmental Services Section. The State will be responsible for the NPDES submittal.
- (xxiv) Construction Phase. A contingency fee estimated at \$5,000 shall be included in the Consultant's fee proposal to allow for the following:
 - (a) The Consultant's attendance at a pre-construction partnering meeting, if requested by the State.
 - (b) Miscellaneous design clarifications and/or corrections during construction.
 - (c) Preparations for project award entries approved by the State. Entries may be recommended by WYDOT or the Consultant, but WYDOT will make the final decision whether to proceed, and at what level the State will participate in the funding.

2. Responsibilities of WYDOT.

A. Data Available from the State.

- (i) The State will furnish to the Consultant all pertinent data which is available, for example:
 - (a) Applicable project reports and/or correspondence
 - (b) Project Control System (PCS) reports
 - (c) Example plans and documents (upon request)
 - (1) Special provisions
 - (2) Standard details
 - (3) Mass haul plot
 - (d) Relevant "As-Constructed" plans
 - (e) The Final Reconnaissance Report
 - (f) Final mapping files with supplements for mapping verification

(ii) The State will furnish the Consultant single copies of the following manuals and publications, each made a part hereof by reference, the same as if attached hereto:

(a) *OpenRoads™ Design Manual*

(iii) The manuals and publications listed below are available for reference on the WYDOT website at www.dot.state.wy.us. It is the Consultant's responsibility to access the WYDOT website for pertinent information found in the following publications:

(a) *Road Design Manual*

(b) Standard Plans

(c) MicroStation™ Manuals

(d) *Standard Specifications for Road & Bridge Construction*

(e) Supplemental Specifications

(f) Design bid item listing

(g) Weighted average bid prices

(h) *Specification Writers Style Guide*

(i) *Access Manual*

B. Services Provided by the State. The State will provide services including, but not limited to:

(i) Furnish standard plans to be incorporated into the PS&E Plans.

(ii) Provide preliminary engineering survey data, land survey and ownerships, and related work products.

(iii) Provide geotechnical investigations, testing, and written recommendations.

(iv) Perform the surfacing pit materials investigations and provide the surfacing determination and recommendations.

(v) Provide structural designs and details.

(vi) Provide revegetation recommendations as needed.

(vii) Provide preliminary wetlands determination and secure any Corps of Engineers permits if necessary.

- (viii)** Locate gravel, borrow, and water sources, and secure permits.
- (ix)** Be responsible for negotiating utility relocations.
- (x)** Secure right-of-way and construction permits, and railroad agreements.
- (xi)** Secure environmental documents and provide archaeological investigations and clearances.
- (xii)** Provide traffic geometric design, permanent signing, electrical design, construction traffic control plans, and associated quantities.