Preliminary Design, Design Survey & Detailed Design for Highway Improvement Project on Highway 371 in Hackensack, MN

This Scope of Work represents work on State Project (SP) 1118-22, Trunk Highway (TH) 371. This project is set for letting & construction in Fiscal Year (FY) 2023.

State Project Overview

SP 1118-22 on TH 371
SP 1118-22 is a reconstruction project on TH 371 in Hackensack within the city limits with an overall project length of 0.91 miles, extending from County State Aid Highway (CSAH) 40 to CSAH 5. The project is a reconstruction project that will include pedestrian facilities in the central 3 blocks of the city, pedestrian/bicycle accommodations from Noname Avenue West to CSAH 5, underground utility construction (storm sewer, water & sanitary sewer), curb and gutter, and intersection improvements at CSAH 5.

Project Overview

This contract will provide the State with Preliminary Design Survey, Detailed Design Survey, Preliminary Design, Detailed Design and deliverables needed to bring project to letting on schedule. The product and services needed include but are not limited to: utility surveys, preliminary design surveys, detailed design surveys, road construction plans (grading, signing, pavement markings, drainage, lighting, pedestrian accommodations & landscaping), public outreach/involvement, preliminary design, detailed design, project cost estimates, cost participation breakdown & layout. The project scope consists of the following:

Section 1. Project Management (Source Type 1010)

Project management will include communications and work necessary for completion of the project tasks on time and within budget. Management and administration of the project will include communications with State staff, City of Hackensack, Cass County and local businesses/residents. The Selected Responder will maintain bi-weekly conference calls with the State’s Project Manager (PM) to provide updates, coordinate activities, and schedule project meetings. The Selected Responder will be required to coordinate planning, permitting, and project documentation review with local agencies, affected utility companies, and permitting agencies as necessary. This work also includes administrative tasks, including invoices, progress reporting, scheduling, and meetings as needed.

1.1. Project Management and Administration

1.1.1. Monthly Budget and Billing (Invoices and Progress Report): Invoices will be accompanied by a cover letter explaining the general status of the project, including at a minimum the work completed to date, the anticipated remaining efforts and required schedule changes, progress report form: supporting data for direct expenses; and an updated project status report reflecting State Primavera 6 (P6) activities identified by the State’s PM.

1.1.2. Bi-weekly Update to the State’s PM: On a bi-weekly basis the Selected Responder’s PM will update the State’s PM in regards to the status of the project schedule, budget and general status/progress. With approval of the State’s PM, these updates may take place in person, by telephone or via e-mail.
1.2. Work Plan and Project Schedule
Selected Responder will submit a detailed work plan (work, budget, and schedule) based on discussions with the State’s PM. The Selected Responder will prepare and maintain a Critical Path Method (CPM) project schedule in P6. The work plan and schedule will be reviewed and approved by the State’s PM. The schedule will be updated monthly. The Selected Responder and the State will review and update the schedule to maintain positive float and submit deliverables on schedule.

1.3. Project Meetings
The Selected Responder will schedule 1 kick-off meeting and five (5) design team meetings. The design team meetings will be scheduled prior to public open houses #1 & #2, prior to public open houses #3 & #4 and following the 30%, 60%, & 90% submittals. The Selected Responder will attend the kick-off meeting and the design team meetings. The Selected Responder will assume two (2) representatives will attend in-person meetings (Project Manager and Lead Designer). Other design team and supplemental meetings will be handled via conference call or video conference.

The Selected Responder will schedule meetings pertinent to the timely completion of the project design phase. These would include, meetings with the State, City of Hackensack, and Cass County. The Selected Responder will provide agenda’s for meetings 3 days prior, and meeting minutes within 7 days of each meeting. The State has assumed that the meetings will take place in Bemidji, at the State’s District 2 Headquarters building.

1.3.1. Kick-off Meeting:
The Selected Responder will coordinate and conduct a project kick-off meeting. The meeting will establish communications protocol, requirements for CADD file format and discuss the project schedule. The Selected Responder will receive available existing information from the State. The State will provide deliverables as available, a brief discussion of known issues, and a review of the project schedule.

1.3.2. Design Meeting:
Selected Responder will coordinate and conduct design meetings. After the kick-off meeting, the Selected Responder will hold one plan review prior to presentation to the public for comment after the preliminary design (Level 1 Geometric Layout is approved), one meeting prior to presentation of the typical section to the public for comment, and one meeting after each of the 30, 60 & 90 percent turn-ins for comment review understanding. The Selected Responder and State will discuss needed design changes. We have assumed that these meetings will take place in Bemidji.

1.4. Quality Management
The Selected Responder will prepare and maintain a project-specific Quality Management Plan (QMP) detailing the quality process and procedures to be used. The QMP will be in conformance with the State’s Design-Bid-Build Quality Management Process. The QMP will be submitted to the State for review within 10 business days of Notice to Proceed, unless approved by the State’s PM. Refer to http://www.dot.state.mn.us/design/qmp/index.html for further information.

1.5. Electronic File Submittal
Selected Responder will provide one copy of the preliminary and detail design files on CD or via ftp. The Selected Responder will provide CADD files in MicroStation V8i or SS3 and
GEOPAK format, using the approved line types and styles.

1.6. Project Management Deliverables and Due Date or Time Requirements

1.6.1. State’s Deliverables
   1.6.1.1. Review and respond to submittals (within 2 weeks)
   1.6.1.2. Coordinate internal reviews (within 2 weeks)
   1.6.1.3. Provide copies of project correspondence and project information (as needed)
   1.6.1.4. Attend meetings (as needed)
   1.6.1.5. Approve deliverables (as needed)
   1.6.1.6. Monitor quality control (at turn-in milestones)
   1.6.1.7. P6 schedule and updating
   1.6.1.8. Early Notification Memo
   1.6.1.9. Preliminary Scoping Document
   1.6.1.10. Survey Data (as available)
   1.6.1.11. Categorical Exclusion (CATEX) when completed
   1.6.1.12. Americans with Disabilities Act (ADA) Recommendations (as available)
   1.6.1.13. File naming convention guidance and file directory guidance
   1.6.1.14. ProjectWise access
   1.6.1.15. CADD file standards

1.6.2. Selected Responder’s Deliverables
   1.6.2.1. Coordinate and attend meetings
   1.6.2.2. Hold an update meeting or conference call with State’s PM (bi-weekly)
   1.6.2.3. Prepare meeting agendas, displays, and minutes (as needed)
   1.6.2.4. Prepare and submit invoices and progress reports (monthly)
   1.6.2.5. Provide updates to the project schedule (upon request by State’s PM)
   1.6.2.6. Provide timely copies of critical correspondence and project issue data (as needed)
   1.6.2.7. Provide Quality Assurance/Quality Control (QA/QC) on project deliverables and submit QA/QC certification
   1.6.2.8. Submit electronic project files on CD or via ftp (at project completion)
   1.6.2.9. Work Plan by (February 15, 2019)
   1.6.2.10. Final Scoping Report due within 2 weeks of approved Geometric Layout (May 12, 2020)

Section 2. Public Involvement and City/County Involvement (Source Type 1010)

The intent of Public Involvement for this contract is for the contractor to work with adjacent landowners, businesses, the City of Hackensack, Cass County and other associated stakeholders.

The public involvement process will be conducted by the Selected Responder in accordance with: Hear Every Voice, State’s Public Participation Initiative. Guidance and resource documents are found at: http://www.dot.state.mn.us/publicinvolvement/tools.html.

With prior authorization from the State’s PM, the Selected Responder will perform direct contacts with State functional units, City of Hackensack, County of Cass, and other outside agencies to collect information needed for project development and final plans. Selected Responder will provide copies of communications with State functional units, City of Hackensack, County of Cass and other outside agencies to State’s PM.
2.1. Public Involvement
The Selected Responder will prepare a public and city/county involvement plan and coordinate and conduct four (4) Public Open House meetings for the City of Hackensack and Cass County to present the draft and Preliminary Level 1 Geometric layouts for public input (2 meetings) and to present the Approved Level 1 Geometric Layout with proposed typical section alternatives, including trail/sidewalk/parking layouts (2 meetings) for public input. The Selected Responder will contact directly affected property owners (businesses and residents) to explain the project and get their concerns and suggestions for the project. Residents that are not directly affected will be contact by letter for their input, including those affected by the intersection re-configuration.

2.2. City Involvement
The Selected Responder will prepare for and attend one City Council meeting for the City of Hackensack. The content and timing of the meeting will be at the discretion of the State’s PM, and in cooperation with the City.

2.3. County Involvement
The Selected Responder will prepare for and attend one County Board meeting for Cass County. The content and timing of the meeting will be at the discretion of the State’s PM, and in cooperation with the County.

2.4. Stakeholder Involvement
The Selected Responder will prepare for and attend monthly Stakeholder meetings to discuss alternatives and gather feedback prior to the Public Open House meetings for the City and County. The Stakeholders group will included residents, business, City and County representatives. The Selected Responder should assume up to twelve (12) meetings.

2.5. Online Open House
The Selected Responder will develop four (4) online public open houses to solicit feedback on the design options from those unable to attend the in-person public open houses. The online public open houses are intended to increase participation in the public engagement process by allowing community members and project stakeholders to provide input on their own time and at their convenience. The Selected Responder will develop up to four online open houses, assumed to be hosted external to the State and linked to the project website. An example online open house: http://mplshdrpi.com/hwy316/. The Selected Responder will use a Facebook ad (brief text plus a simple image) to drive traffic to the virtual meetings jointly with advertisements for the in-person open houses. The online public open houses will be shared with stakeholder groups to broaden visibility and participation. The Selected Responder will provide a summary and analytics post-meeting for each online open house. The Selected Responder assumes the following: online open houses will be hosted external to the State; the State will review and comment on each deliverable once (1) before it becomes final; the State will provide reviews within five (5) business days of receiving draft materials.

2.6. Renderings
The Selected Responder will develop up to eight (8) renderings showing potential future design conditions along the project corridor. The renderings will be based on actual photography at desired locations. The renderings will be available for use at public meetings and online to help communicate to the public and stakeholders about potential changes along the corridor.
2.7. Website Enhancements
The Selected Responder will develop map-based corridor tour featuring renderings for specific points along the corridor, assumed to be hosted on the State’s website. Users will be able to view before and after visuals through an image sliding interface. An example of a map-based corridor tour website: http://www.dot.state.mn.us/metro/projects/snellingstudy/interactive-map/index.html. The Selected Responder will provide ongoing maintenance of the map-based corridor tour for the duration of the project.

2.8. Public Involvement Deliverables and Due Dates or Time Requirements

2.8.1. State’s Deliverables:

2.8.1.1. Participate in Public Open Houses (as needed)
2.8.1.2. Participate in City/County/Stakeholder involvement meetings (as needed)

2.8.2. Selected Responder’s Deliverables:

2.8.2.1. Prepare a public and City/County involvement plan by November 15, 2019.
2.8.2.2. Prepare for and attend Public Open House meeting #1 (Upon draft Level 1 Geometric layout completion. Open house to be complete by April 17, 2020).
2.8.2.3. Prepare for and attend Public Open House meeting #2 (Upon final Level 1 Geometric layout completion. Open house to be complete by April 17, 2020).
2.8.2.4. Prepare for and attend Public Open House meeting #3 (To present typical sections and parking lane alternatives). Open house to be complete by November 30, 2020.
2.8.2.5. Prepare for and attend Public Open House meeting #4 (To present typical sections and parking lane alternatives). Open house to be complete by November 30, 2020.
2.8.2.6. Prepare for and attend one City Council meeting and one County Board meeting, to present Approved Level 1 Geometric Layout and typical section(s), by January 22, 2021
2.8.2.7. Prepare for and attend monthly stakeholder meetings until the Level 1 Geometric layout and typical section(s) are presented at the Public Open Houses and approved, monthly (minimum).
2.8.2.8. Prepare a written meeting summary for each meeting (within 7 days of meeting day).
2.8.2.9. Obtain mailing list of affected owners (as needed).
2.8.2.10. Draft and final online public open house content (electronic) for up to four (4) virtual meetings.
2.8.2.11. Up to four (4) online public meeting summaries and analytics (electronic).

Section 3. Preliminary Design Surveys (Source Type 1021)

The Selected Responder will perform Right of Way (ROW) surveys, as needed with approval of the State’s PM. The Selected Responders duties are as follows:

3.1. Right-of-Way Surveying
3.1.1. The Selected Responder will establish the in place Right-of-Way for impacted side roads and cross streets in the project area that are having ADA work done on them for one block beyond TH 371. This will require courthouse research for the cross street Right-of-Way widths (e.g. additional Right-of-Way beyond the platted street, vacations, etc.).
3.1.2. Establish coordinate values for Right-of-Way points (which could include, but not be limited to: plat, block, lot and property corners) on Cass County North Coordinates 1983(96). Found land survey points are required to be double stubbed in.

3.1.3. Set the block corners for any un-mounted block corners for the above cross streets.

3.2. Right-of-way Surveying Deliverables and Due Dates or Time Requirement

3.2.1. State’s Deliverables:
   3.2.1.1. Horizontal and vertical survey control information
   3.2.1.2. Relevant State (DOT only) Land Survey Information
   3.2.1.3. Data collection standards
   3.2.1.4. In place/ROW alignment of TH 371
   3.2.1.5. State Commissioner’s Orders
   3.2.1.6. State Right-of-Way map file numbers
   3.2.1.7. Planimetric Photo mapping & LiDAR DEM, orthomosaic

3.2.2. Selected Responder’s Deliverables:
   3.2.2.1. English unit coordinates of angle points in the Right-of-Way lines (which could include but not be limited to: plat, block, lot and property corners) and found land survey points in Cass County North Coordinates 1983(96) in the following two file types: an electronic comma delimited file in Textpad format and a Microstation Graphics file using State drafting standards.
   3.2.2.2. A survey report including: a narrative describing the project, descriptions of how the Right-of-Way lines were established.
   3.2.2.3. A Certificate of Survey, for recording at the Cass County Recorder’s Office.
   3.2.2.4. Deliverables due by October 9, 2020 except the setting of any monuments will be due prior to November 20, 2020.

Section 4. Data Collection (Source Type 1040)

The Selected Responder will perform sufficient data collection, field studies and analysis to provide a framework for design. The Selected Responder will be required to collect existing and proposed information as needed (including the necessary layouts, mapping, plan sheets, profiles, alignments, and cross sections) by contacting the proper agencies (State and city.) Surveys will be tied to State furnished control points. Mapping and a LiDAR TIN model have been completed from aerial photography, but additional design survey work is necessary in obscured areas or to obtain additional design survey information as needed for detail design.

4.1. The Selected Responder will be responsible for the collection of data from various sources. Data Collection includes but is not limited to:

4.2. Data Provided by the State in other sections.

4.3. Data to be collected from others:
   4.3.1. Selected Responder will collect needed survey information to design the project on TH 371.
   4.3.2. Existing public and private utilities per City, State & County records.

4.4. Selected Responder will resolve any conflicts in regard to any unclear items or conflicting data.

4.5. Preliminary Utilities
   Information will be gathered and documented per the current State Utility Manual as follows:
4.5.1. Gopher State One Call – design locate or field locate utilities as necessary
4.5.2. Review existing ROW. Existing ROW to be identified and verified by the Selected Responder

4.6. Work will be accomplished in conformance with the standards and specifications on the “MnDOT Surveying and Mapping Manual.” In addition:

4.6.1. Horizontal survey data will be reference to the NAD 83(96) Cass County North coordinate system
4.6.2. Vertical survey data will be referenced to the NAVD 88 datum.
4.6.3. Records produced will be in English units
4.6.4. Survey features will be provided in a .GPK file. Graphics files will be in MicroStation format (State Standards – line types and styles)
4.6.5. The State will provide the Selected Responder with the alignment, survey control, State’s data collection methods, current right-of-way maps/Commissioners orders.

4.7. Data Collection Deliverables and Due Dates or Time Requirements

4.7.1. Data Provided by the State
   4.7.1.1. Existing ROW drawings (as needed)
   4.7.1.2. Contaminated properties (as needed)
   4.7.1.3. As-built plans
   4.7.1.4. Preliminary Hydraulics Recommendations
   4.7.1.5. Bridge Recommendations (Boy River)
   4.7.1.6. Preliminary Materials Design Recommendations
   4.7.1.7. Soil Borings

4.7.2. Selected Responder’s Deliverables
   4.7.2.1. Review scoping report and submit comments (2 weeks after contract execution)
   4.7.2.2. Gopher State One Call – design locate, or field locate utilities as necessary
   4.7.2.3. Survey work detailing field topographic survey data for existing facilities

Section 5. Design Surveying (Source Type 1040)

5.1. Surveying and Survey Coordination
5.1.1. The Selected Responder will make an analysis of existing survey data and information. If the data are found to be incorrect or incomplete, the Selected Responder will bring this finding to the attention of the State’s PM before proceeding further with survey work needed for the project.
5.1.2. The Selected Responder will provide location survey work, if approved by the State’s PM, to check on critical locations involving such features as utilities, property boundaries, or other factors to determine engineering or environmental feasibility.
5.1.3. As needed and with the State’s PM’s approval, the Selected Responder will perform field and office tasks needed to add the data to the survey base map or TIN.

5.2. Design Surveying Deliverables and Due Dates or Time Requirement
5.2.1. State’s Deliverables:
   5.2.1.1. Approve need for additional field survey (as needed, within 2 days)
   5.2.1.2. Provide existing survey information (upon contract execution or as available)
5.2.2. Selected Responder’s Deliverables:
   5.2.2.1. Analysis of existing survey data provided by State for completeness (30 days after receipt)
   5.2.2.2. Perform field survey to obtain locations as stated above and pick up additional information (as needed)
   5.2.2.3. Update the existing base map and provide an electronic file (as needed)

Section 6. **Utility Coordination (Activity Code 1195)**

Utility coordination will include tasks necessary to be in compliance with MnDOT’s 2013 Utilities Manual and applicable State Statutes. This includes but is not limited to Gopher State-One Call contacts and preparing and distributing letter and plans, meetings and individual utility contacts.

6.1. **Step 1:** Perform Gopher State One call, receive utility data and survey data. Conduct field reviews if necessary.

6.2. **Step 2:** Prepare preliminary utility plans and tabulations showing in-place public and private utilities located within the proposed construction limits. Follow QC checks on utility file. The preliminary utility plans and tabulations will include the following:

   6.2.1. List of utility owners within the project
   6.2.2. Plan view of in-place utilities showing location, size and type of facility (if known).
   6.2.3. Distinction between overhead and buried utility lines.
   6.2.4. Voltage of power lines greater than 15 kV.
   6.2.5. Tabulation of in-place utilities showing the location (indicated by state and offset from the roadway alignment used in the final construction plan), the utility facility owner, and the size and type of the facility in the project area.

6.3. **Step 3:** Upon completion of the construction limits, submit a Utility Coordination Letter to each utility company of discovered utilities two to three (2-3) weeks prior to Utility Information Meeting; attached will be 20-45% plan set. Follow QC checks on letter and attached materials. Required plan sheets are listed below. Gather potential easement information from utility owners. Utility plans and tabulations should be back-checked. Utility Plan sheets will include the following:

   6.3.1. Title Sheet
   6.3.2. General Layout
   6.3.3. Typical Sections
   6.3.4. Preliminary utility tabulations
   6.3.5. Topography, construction plans, and removal plans showing preliminary construction limits and existing utility facilities.

6.4. **Step 4:** Arrange and conduct a preliminary Utility Information Meeting for the purpose of informing utility owners about the project. Participants review and discuss the utility information plans. Distribute meetings minutes to participants.

6.5. **Step 5:** Revise utility plans and tabulations based upon comments from the State and utility owners:

   Indicate the effect in the tabulation for each utility identified (leave as-is, adjust, relocate, or
remove) based on project construction limits, grading changes, and project utility information.

6.6. Step 6: Submit a Utility Design Letter to each utility company of discovered utilities two to three (2-3) weeks prior to the Utility Design Meeting. Follow QC checks on let and attached materials. Include information to utility owners regarding project changes and major updates to utility information. Utility tabulations and plans (if major changes) will be back-checked. Utility plan sheets will include the following:

6.6.1. Title sheet
6.6.2. General layout
6.6.3. Typical sections
6.6.4. Updated utility tabulations with potential conflicts identified.
6.6.5. Topography, construction plans, and removal plans showing construction limits and existing utility facilities.
6.6.6. Intersection details

6.7. Step 7: Utility Design Meeting with State’s Utility Agreement and Permits Unit and the Construction Group may be required, Selected Responder should plan to hold this meeting.

6.8. Step 8: Request utility owners to submit detailed plans, schedule and estimates using Request for Relocation Letter. Utilities are to submit relocation plans using the Red/Green/Brown Marking system. Red marks indicate facilities to be removed or put out of service; Green marked facilities will remain in place; and Brown marks indicate proposed facilities. This step may require additional follow-up if utility owners are unresponsive/unfamiliar with the State process, or the project is very complicated.

6.9. Step 9: A follow-up Utility Design Meeting may be required

6.10. Step 10: Conduct 90-Day GSOC prior to letting. Submit a Utility Verification and Information Letter to each identified utility owner, no more than 90 days prior to the submission of final plan sheets, and cross sections. One copy will also be submitted to the State’s Utility Agreements Office. Responses from utility companies will be copies to the State’s PM and Utility agreements Office.

6.11. Step 11: The State will review utility relocation plans and schedule to address project conflicts and meet Utility Accommodation Policy. Coordinate review with construction. Assist permitting office with utility agreements and reimbursement. This will be the State’s Utility Agreements and Permits Unit. Selected Responder is not required to participate in the activity.

6.12. Step 12: Add proposed utility relocation locations to plans, profiles and cross sections for any proposed relocation information is the information is furnished prior to completion of the plans. Final QC check on utility plans and tabulations.

6.13. The State will add utility special provisions to the contract that will require mutual coordination between the utility owner and the Construction Contract including utility contact information. Selected Responder is not required to participate in this activity.

6.14. Deliverables:

6.14.1. State’s Deliverables:
6.14.1.2. Send out notice and orders to utility companies (Steps 13 & 14)
6.14.1.3. Available existing utility information
6.14.1.4. Single Set of consolidates plan comments

6.14.2. Selected Responder’s Deliverables:
6.14.2.1. Gopher State One Call documentation
6.14.2.2. Coordination Letter and attachments
6.14.2.3. Utility Plans and Tabulations
6.14.2.4. One Utility Coordination Meeting agendas, materials and minutes
6.14.2.5. Utility Design Meetings
6.14.2.6. Phone log documentation
6.14.2.7. Project Manager utility certification
6.14.2.8. Meeting minutes

Section 7. Preliminary Design (Source Type 1250)

The State will complete the following preliminary design activities, including; preparation and submission of the Early Notification Memo, preliminary Hydraulic Recommendations, Turn lane recommendations, and preliminary Materials Design Recommendation (MDR). The State will provide CADD files in MicroStation SS3 and GEOPAK format.

The Selected Responder will complete horizontal and vertical alignments, typical sections, utility tabulations (if required), cross sections, and cost estimates. The Selected Responder will provide CADD files in MicroStation V8i or SS3 and GEOPAK format, State Standard line types and styles.

7.1. Level 1 Geometric Layout Development
Preliminary Level 1 Geometric Layout(s) will be developed for TH 371. The layouts will be used to determine construction limits. The Selected Responder will prepare up to 4 preliminary layouts however these layouts may change with the results from the stakeholder and open house/public meetings held in Hackensack and Cass County.

Four concept level alternatives for the Geometric Layout will be identified for presentation to the public. The 4 Geometric Layout alternatives will include the CSAH 5 intersection alternatives (Leave As-Is, roundabout and 2 realignment/reconfiguration alternatives), as well as considering possible access closures/consolidations, bike/pedestrian accommodations, and parking lanes

7.2. Construction Limits
Selected Responder will provide construction limits files so that any needed ROW can be obtained by the State. It is expected that most pedestrian ramp work will take place within existing State owned highway ROW or within city platted streets. Pedestrian facilities should be designed within existing highway ROW and city platted streets if possible. If that work cannot be done within existing highway ROW and city platted streets, Selected Responder will notify the State. Removal of trees will be identified on the layout.

7.3. Layout Development
7.3.1. The Selected Responder will develop the Final Level 1 Geometric Layout to State standards, following guidance from: State’s Highway Project Development Process (HPDP)
Manual, State’s CADD Standards, and PROWAG for pedestrian facilities.

http://www.dot.state.mn.us/ada/index.html

7.3.2. Consideration of adjacent business and or residential development will be included in the development of the layout.

7.3.3. Final Level 1 Geometric Layout: The Selected Responder will prepare the final Level 1 Geometric layout in consultation with State staff using the appropriate State design requirements based on the preliminary geometric layout.

7.3.4. Develop a final layout with or including:
   - Letter of response, addressing comments received from State.
   - Letter of response, addressing comments received from public open house.
   - Submit Layout to State for review and comment.
   - Submit Layout. The submittal will include an electronic copy and three hard copies of the layout. Comments on the final Level 2 Geometric Layout will be provided to the Selected Responder within 10 business days of submittal.
   - Preliminary cost estimate.

7.4. Construction Limits Map
   The Selected Responder will update the construction limits map. Construction limits will be included in the Level 1 Geometric Layout submittals. Final construction limits will be required. State will need enough time to obtain ROW and Selected Responder providing construction limits will be a high priority as the first deliverable. State will be providing the ROW plat, appraisal work and property offers for this project.

7.5. Design Memorandum
   This State Project has determined the need of a Design Memo. The Selected Responder will create the Design Memo per the Highway Project Development Process. A link to the memo template is located on the State website at: http://www.dot.state.mn.us/planning/hpdp/
   Preparation can begin with the selection of the preferred design concept and when preliminary design details are decided.

   7.5.1. Documentation
   The Selected Responder is responsible for documentation relating to the Design Memorandum.

   7.5.2. The State will provide the following:
   7.5.2.1. Review and approval of the Final Design Memorandum.

   7.5.3. The Selected Responder will:
   7.5.3.1. Prepare Draft Design Memorandum
   7.5.3.2. Prepare Final Design Memorandum
   7.5.3.3. Prepare typical sections as required for the Design Memorandum

7.6. Early Notification Memo
   The Selected Responder will be responsible for any follow up to the Early Notification Memo

7.7. Preliminary Design Deliverables and Due Dates or Time Requirement

   7.7.1. State’s Deliverables:
   - Preliminary Materials Design Recommendations (when available)
• Review the Level 1 Geometric Layout and submit comments (within 10 business days)
• ADA Recommendation Memo (when available)
• Review construction limits map and submit comments (within 10 business days)
• Review preliminary cost estimate and submit comments (within 10 business days)
• Final CATEX due by May 18, 2020

7.7.2. Selected Responder’s Deliverables:
• Preliminary Level 1 Geometric layout (April 17, 2020)
• Construction limits map (June 30, 2020)
• Final Level 1 Geometric Layout (May 12, 2020)
• Preliminary utility tabulations and plans (March 19, 2021)
• Preliminary cost estimate (March 19, 2021)
• Design Memorandum (August 8, 2022)

Section 8. **Roadway Design (Activity Code 1250)**

8.1. **Detailed Design**
Selected Responder will prepare construction plans for the proposed roadway improvements that are consistent with horizontal and vertical alignments, typical sections, and construction limits identified in the approved Final Level 1 Geometric Layout. The road plans prepared will also be consistent with the findings and recommendations identified in the Project Design Memorandum, the CATEX and the State provided MDR.

Selected Responder will provide the traffic control, striping, signing and lighting plans (as needed) and they will be incorporated into the plan set (see Section 9).

Selected Responder will provide the hydraulic plans (as needed) and they will be incorporated into the plan set (see Section 10)

Work will be in accordance with the State HPDP, State Computer Aided Drafting and Design (CADD) standards, and Technical Memoranda. Work will be completed using English units.

The format of the construction plans will comply with the State sample plan and the State CADD Standards as found at [http://www.dot.state.mn.us/caes/cadd](http://www.dot.state.mn.us/caes/cadd).

The construction plan set may consist of the following sheets:

8.1.1. **Title Sheet:** Contains the location map, signature block, sheet index, project data, station equations and station-reference point comparisons.

8.1.2. **General Layout**

8.1.3. **Statement of Estimated Quantities (SEQ):** Contains the State’s standard pay item number, item description and quantity of materials. Quantity totals will be sub-totaled by each State and Local Project number or funding source (including pro-rata of lump sum items, 100% state, 100% city, 60-40, 90-10, 80-20, and drainage splits). Reference to quantity tabulations for each individual item will be made. Notes will be included, where necessary, for clarification.
8.1.4. **Soils/Construction Notes, Standard Plates and Index of Tabulations:** Soils and construction notes covering special requirements and critical information contained in the Soils Letter will be listed. Standard Plates used on the project will be listed. An index of the tabulations will be included.

8.1.5. **Typical Sections:** Sections will be shown for existing roadways and proposed roadways to be constructed under this contract. The sections will be consistent with the Project Design Study Report, approved geometric layout and soils and surfacing requirements shown in the Soils Letter. Surface type, base materials and subgrade corrections will be shown.

8.1.6. **Quantity Tabulations:** A summary of the earthwork volumes by station and the balance of calculations by stage. Detailed tabulations of each item contained on the estimated quantities sheet. Two independent quantity calculations or one set checked by a registered engineer will be prepared for each item. The computations will be submitted to State on 8-1/2” x 11” sheets as far as practical and bound in a neat and orderly manner.

8.1.7. **Miscellaneous Details:** Provide horizontal geometry and details necessary for the construction of unique or non-standard items such as concrete pavement joint details, sawcut details and other items identified during the final design process.

8.1.8. **Standard Plan Sheets:** Insert standard plans wherever needed to eliminate or supplement construction details in the plan. The State will supply electronic copies of standard plans as needed.

8.1.9. **Existing Topography, Utility and Removal Plans and Tabulations:** Prepare 1” = 50’-0” scale plans showing in-place topographic features and private and public utilities, including wells, septic tanks, drain fields and field tile within the project limits. Show proposed centerlines and in-place right-of-way lines. Also show pavement, pipe, culvert, drainage structure, curb and gutter and barrier removal and tree clear and grub. The plans will also include updated information provided by the field survey in task previously listed. Prepare an early submission of the existing utility plans and tabulations to be sent to each known utility company, with a copy to the State’s Utility Agreements Section. The plans will include the following as a minimum:

- **8.1.9.1.** List utility owners within the project limits.
- **8.1.9.2.** Include plan view of in-place utilities showing the location, size, and type of facility in the project area.
- **8.1.9.3.** Include tabulation of in-place utilities showing the location, size, and type of facility in the project area (leave as is, adjust, relocate, or remove). Indicate the effect in the tabulation for each utility identified.
- **8.1.9.4.** Show utility locations and existing and proposed right of way lines on the cross section sheets.
- **8.1.9.5.** List the address, contact person, phone number, and fax number of each utility company in the project area.

8.1.10. **Alignment Plans and Tabulations:** Prepare tabulation sheets showing alignment and curve data (PC, PT, PI, POT, POC, PCC) for the alignment points shown on the alignment plan. Tabulated data will include station, delta, radius, tangent, curve length, and X and Y coordinates. A statement as to the horizontal datum used must be included.
8.1.11. **Roadway Plan Sheets:** Prepare 1" = 50'-0" scale plans of the project providing detailed information on the location of items such as: roadways, shoulders, radii, turn lanes, acceleration lanes, driveways, tapers, right-of-way, easements, oblinations, station equations, fencing, etc.

8.1.12. **Drainage Notes:** Prepare notes explaining drainage design and permitting information as per the State’s Sample Plan.

8.1.13. **Drainage and Temporary Erosion/Sediment Control Plans:** Prepare plans at 1" = 100'-0" scale. Required curb and gutter sections will have catch basins and a closed drainage system. Plans should show required special ditches needed. Show the location and type of temporary erosion control devices (bale checks, silt fences, etc.) and sedimentation basins that will be used to control the erosion of surfaces exposed during construction, consistent with the project reports complying with Department of Natural Resources (DNR), Corps of Engineers (COE) and National Pollutant Discharge Elimination System (NPDES) permit requirements. (NPDES requirements include showing waters of the State within 1/2 mile of the project, wetlands identified on the National Wetland Inventory (NWI) map, drainage divisions and flow arrows.) The State will provide the Selected Responder with a copy of the NWI map if needed. Stormwater Pollution Prevention Plan (SWPPP) Plans.

8.1.14. **In-place Drainage Tabulations:** List type, size and location of in-place drainage structures within the project limits shown on the existing topography and utility plans. Proposed construction impacts (remove, leave as is, etc.) will also be indicated in the tabulation.

8.1.15. **Proposed Drainage Tabulations:** List the location, type, size, length, inlet and outlet elevations, top of casting elevation, grade, class, alternative pipe types, erosion control, excavation, bedding, etc. for each proposed culvert/storm sewer. For offset structures, include the location of the casting as well as that of the structure.

8.1.16. **Turf Establishment Plans and Permanent Erosion/Sediment Control Plans:** Prepare plans at 1" = 100'-0" showing areas requiring permanent turf establishment due to construction disturbance and the type of material to be placed (sod, seed, mulch, wood fiber blanket, etc.). Show the type and location of permanent erosion control devices, sedimentation basins, waters of the State within 1/2 mile of the project, wetlands identified on the NWI map and a table summarizing land feature changes consistent with the project reports and NPDES permit requirements.

8.1.17. **Traffic Control/Staging Plans** – Prepare plans at 1” – 100’ – 0” scale. Plan should show Detour Plans, Staging Plans, Details, Notes, Guidelines and Tabulations.

8.1.18. **Striping/Pavement Marking Plans** – Prepare plans at 1” – 50’ – 0” scale. Plans should show Notes & Guidelines, Details, Pavement Marking Plans, Typical Layouts, & Tabulations.

8.1.20. **Lighting Plans** – Prepare plans at 1” – 50’ – 0” scale. Plans should show Removal Plans, Standard Plates, Details, Layouts, Notes & Guidelines & Tabulations.

8.1.21. **Cross-Section Sheets:** Prepare cross-sections at a minimum of 50-foot intervals, with intermediate sections at plus stations of unique physical features. Show existing ground, proposed roadway and railroad template, grading grade, existing utilities, existing culvert/storm sewers, existing and proposed right-of-way, temporary easements, driveway slopes, subgrade correction, unsuitable soil removal and topsoil placement. Compute earthwork volumes and balances.

8.1.22. **ADA Design**

Selected Responder will work closely with the State’s District Design Engineer or the PM to develop the design consistent with the latest State curb ramp standards and policies. Documentation to assist with the design can be found in the revised Chapter 11 of the State’s MnDOT Road Design Manual (February 2010), the State’s MnDOT Technical Memorandum No. 0-02-TR-01 (February 11, 2010), the State’s MnDOT Curb Ramp Guidelines (October 2010), 2009 Federal Manual on Uniform Traffic Control Devices Section 4E.08-4E.13, Sample Plans and Standard Details provided by the State’s ADA office.

The Selected Responder will attend one (1) ADA onsite field walk with District and/or Central Office Staff.

The Selected Responder’s designer responsible for leading the curb ramp design for the project must have attended the State’s Consultant ADA Training and must be directly involved with the design of the project. The Selected Responder will produce detailed 1:20 scale intersection designs at intersections with pedestrian ramps. The Selected Responder will utilize sample plans provided by the State as a template for the design work. The Selected Responder’s curb ramp designer and State staff will work together to determine the appropriate locations for pedestrian crosswalks. The X, Y coordinates of the points where the proposed crosswalks intersect the curb lines must be provided in the plan.

Pay items including utility adjustments will be tabulated by quadrant and if radial domes are to be used at a quadrant, the radius must be given in addition to the quantity. Follow pay item guidance provided by the State’s ADA office when determining which pay items to use on the project.

Plan submittal will be submitted to the State’s ADA office at the 30% and 60% submittal for their review to avoid major comments at the 100% turn-in.

8.2. **Plan Format**

The format of the Construction Plans will comply with the State’s current CADD data standards, related appendices, and the State’s current design concepts and practices. Sheets contained in the Construction plans and cross sections will be submitted to the State in Microstation V8i (or SS3) and GEOPAK formats. The Plans and cross sections will be in compliance with the MnDOT CAD Standards, as found at [http://www.dot.state.mn.us/caes/cadd](http://www.dot.state.mn.us/caes/cadd).

Plans submitted for review will be delivered One (1) hard copy 11” x 17” bond sheets and one (1) Adobe PDF. The Detailed Design plan will be submitted on 11” x 17” bond and the title
sheet will be on 11” x 17” vellum.

8.3. **Engineer’s Construction Cost Estimates**
Selected Responder will submit the Engineer’s Construction Cost Estimates based on quantities and information at hand, starting with the Detail Design (30%), and milestone submittals thereafter. The cost estimates will use the latest cost data available. An electronic copy of the cost estimates in Excel format will be submitted in addition to the hard copy.

In additional to the required cost estimates in Excel format, the Construction Plan submittal (100%) will include an electronic file of estimated quantities and costs. The electronic file will be submitted by the State’s Central Office directly to the State’s Estimates Unit for loading in the Trns*port system.

8.4. **Plan Review and Approval**

8.4.1. Preliminary Design (30% Complete)
Selected Responder will submit one set of prints and one electronic file (Adobe PDF) showing elements of the Construction Plan listed in Section 8.1 of this Scope of Services. The State’s staff will do a complete review and comment on this submittal within 10 business days of the submittal date. The Selected Responder will make necessary revisions required by the State’s staff.

8.4.2. Intermediate Design (60% Complete)
Selected Responder will submit one set of prints and one electronic file (Adobe PDF) showing elements of the Construction Plan listed in Section 8.1 of this Scope of Services. The State’s staff will do a complete review and comment on this submittal within 10 business days of the submittal date. The Selected Responder will make necessary revisions required by the State’s staff.

8.4.3. Detail Design (90% Complete)
Selected Responder will submit one set of prints and one electronic file (Adobe PDF) showing elements of the Construction Plan listed in Section 8.1 of this Scope of Services. The State’s staff will do a complete review and comment on this submittal within 10 business days of the submittal date. Selected sheets will be sent to the State’s Central Office for preparation of any necessary Agreements. The Selected Responder will make necessary revisions required by the State’s staff.

8.4.4. Construction Plans (100% Complete)
Selected Responder will submit one set of prints, in electronic format, showing the proposed Construction Plan, and one copy of the Engineer’s Construction Cost for the State’s review and comment. The State’s staff will do a complete review and comment on this submittal within 10 business days of the submittal date. The Selected Responder will make necessary revisions required by the State’s staff.

8.4.5.Upon making revisions to the 100% Construction Plan submittal the Selected Responder will submit one signed and certified set of bond prints with the vellum title sheet for letting. The original prints will be submitted to the State’s Central Office Design Liaison Unit for review and approval. The State’s Central Office Design Liaison Unit will make final review and comment on the certified Construction Plan.

8.4.6.Upon making the revisions requested by the State’s Central Office Design Liaison Unit, the Selected Responder will submit new signed and certified sheets, as necessary. An electronic copy of the project’s GEOPAK design files (.gpk) and each sheet in Microstation V8i format will be submitted. One copy of the design computations and quantity
calculations will also be submitted.

8.5. **Detail Design Deliverables and Due Date or Time Requirement**

8.5.1. **State’s Deliverables**
   - 8.5.1.1. Draft Material Design Recommendation
   - 8.5.1.2. Final MDR
   - 8.5.1.3. Complete review and comments
   - 8.5.1.4. Special Provisions

8.5.2. **Selected Responder’s Deliverables**
   - 8.5.2.1. 30% submittals (Plans, Engineer’s Construction Cost Estimate)
   - 8.5.2.2. 60% submittals (Plans, Engineer’s Construction Cost Estimate)
   - 8.5.2.3. 90% submittals (Plans, Engineer’s Construction Cost Estimate, Special Provisions)
   - 8.5.2.4. 100% submittals (Plans, Engineer’s Construction Cost Estimate, Special Provisions)
   - 8.5.2.5. Selected Responder will submit deliverables as required to meet the letting date.

The State expects 100% completion of tasks and deliverables for a final Construction Plan turn in on September 29, 2022.

**Section 9. Traffic Control, Striping, Signing, & Lighting Plans (see work item for Activity Code)**

9.1. **Traffic Control Plans (Source Code 1254)**
   Prior to starting any work on the traffic control, Selected Responder will hold a phone conference with State’s traffic and construction personnel to determine staging. Minimize impacts to businesses.

Perform tasks necessary to develop detailed plans, and tabulations for the location of signs, barriers, and striping necessary to accommodate the construction staging within the project area. Plans and notes will be consistent with the Minnesota Manual of Uniform Traffic Control Devices (MMUTCD), Manual for Temporary Traffic Control Zone Layouts, and State District 2 practices.

Selected Responder will also prepare the Transportation Management Plan (TMP) for approval by the State.

Submit traffic control tabulations at 60%, 90% and 100% completion with construction plans.

9.2. **Striping Plans (Source Code 1255)**
   Prepare detailed plans, notes and tabulations for the temporary and permanent pavement markings. The plan will include the applicable State Pavement Marking Typicals found on the State Traffic Engineering website and plan sheets showing permanent pavement markings on the roadway alignment. Plans and notes will be consistent with the MMUTCD, Chapter 7 of the MnDOT Traffic Engineering Manual, and State District Two practices. The State will provide the recommendations for the pavement marking materials.

9.3. **Signing Plans (Source Code 1255)**
   Selected Responder will prepare signing plans for the replacement of signing in the project limits, except for requestor pays signing. This will include new Type C & D signs and revised
signing at turn lanes. State will provide a listing of signs and sign sizes, but SelectedResponder will be required to conduct a field verification of in-place signing.

Detailed plans, notes and tabulations will be prepared showing the location of the in-place signs and the location of the permanent signs upon completion of the project. The plan will include necessary typicals found in the State Traffic Engineering website to construct the permanent signing. New signs must be designed according to the MnDOT Sign Design Manual and be completes using SignCAD software. Plans and notes will be consistent with the MMUTCD, the MnDOT Signing Plan Design Manual, Chapter 6 of the MnDOT Traffic Engineering Manual and State District 2 practices.

The special provisions (Division ST) will be written to State standards.

9.4. Traffic Lighting Plan (Source Code 1252)
This task consists of installing new street lighting in the City of Hackensack. Lighting plans will be in State plan format, coordinate correct, and will contain necessary design information including, but not limited to, the following: quantity tabulation, signature block, abbreviations, symbols, details (standard and special), intersection layout (s), wiring diagram (S), scale(approve by district staff) appropriate for each area of interest, and include Salvage and Removal Lighting Plans as part of the lighting package, independent of the road design package.

Proposed lighting plans will be drafted from new data.

9.5. Deliverables

9.5.1. State Deliverables:
9.5.1.1. District traffic control practices
9.5.1.2. Typical Details
9.5.1.3. Listing of signs and sizes
9.5.1.4. Pavement marking materials type
9.5.1.5. Single set of consolidated plan comments
9.5.1.6. Meeting attendance

9.5.2. Selected Responder Deliverables
9.5.2.1. 60%, 90% and 100% plan submittals (Microstation and AdobePDF)
9.5.2.2. Microstation design files for each lighting submittal
9.5.2.3. Design quantity computations
9.5.2.4. QA/QC documentation
9.5.2.5. Transportation Management Plan (TMP) (June 29, 2022)

Section 10. Drainage, Culvert, Temporary Erosion/Sediment Control, Permanent Turf Establishment Plans and SWPPP Plan Sheet (Activity Code 1071, 1141, & 1257)

10.1. Hydraulics Design (Code 1141)

Preliminary Hydraulics Recommendations will be completes by the State per MnDOT Drainage Manual found at [http://www.dot.state.mn.us/bridge/hydraulics/drainagemanual.html](http://www.dot.state.mn.us/bridge/hydraulics/drainagemanual.html) Field review of structures /will not be required.
Final Hydraulics Recommendations including calculations will be prepared by the Selected Responder. The contractor will identify and review in-place drainage patterns and systems. A new drainage system will be designed that may include storm sewer, culverts and ditches. Design computations will be in accordance with the MnDOT Drainage Manual and State Technical Memorandum No. 13-08-B-04.

10.1.1. Existing Drainage Tabulation
   Show the type, size, locations, and proposed construction impact of in-place drainage culverts, pipes sewers and structures within the project limits. The tabulations will show the following for in-place pipes, culverts and drainage structures, as applicable:
   10.1.1.1. Removals
   10.1.1.2. Salvages
   10.1.1.3. Reinstalls
   10.1.1.4. Linings
   10.1.1.5. Extensions

10.1.2. Drainage Plan Sheets (to be completed with construction plans)
   Show proposed culverts, aprons, other drainage structures, labeling, size, material types and structure number (if applicable).

10.1.3. Proposed Drainage Tabulations
   A list of the location, type, size, length, inlet and outlet elevations, grade, class, erosion control, excavation, and bedding for each proposed pipe and structure. The tabulations will also include quantities associated with box culvert/bridge construction.

10.1.4. Utility conflicts with storm sewer are to be resolved and tabulated in the utility relocation tabulations.

10.2. Erosion/Sediment Control, Storm Water Pollution Prevention Plan (SWPPP) (Code 1257)

10.2.1. For temporary erosion control items tabulate the location and type of temporary erosion control devices that will be used to control project runoff and sediment during construction. The Best Management Practices (BMPs) will be consistent with the CATEX and comply with Minnesota Pollution Control Agency (MPCA), Department of Natural resource (DNT), Corp of Engineers (COE), and National Pollution Discharge Elimination System (NPDES) permit requirements. Erosion control will be developed in conjunction with District Two Water Resources personnel. Provide any calculations required by the NPDES permit.

10.2.2. For permanent erosion control items tabulate the location and types of permanent turf establishment in areas of construction disturbance and permanent erosion control devices that comply with MPCA BMPs. Erosion control will be developed in conjunction with District Two Water Resource personnel.

10.2.3. Develop preliminary erosion control details for the State’s review and comment. Meet with the State’s Water Resources staff to coordinate usage of BMPs and identify pay item breakdowns and necessary special provisions. Prepare drainage, erosion control, turf establishment, and SWPPP plans. The details will include notes, symbols and abbreviations for BMPs being applied to control project runoff during construction. Prepare tabulations that summarize the drainage, erosion control and turf establishment items and their...
locations.

10.3. Permits (Code 1071)
   10.3.1. NPDES Permit Application and Storm Water Pollution Prevention Plan (SWPPP) sheets
   containing the SWPPP and NPDES permit application will be developed as part of the
   overall plan set. A stand-alone SWPPP plan set will not be developed. The NPDES will
   be submitted by the State. The template will be provided.

10.3.2. Selected Responder will prepare cross sections and construction limits for the wetland
permit. The permit application will be submitted by the State.

10.4. Submit erosion control details at 60%, 90% and 100% completion with construction
plans.

10.5. Perform enhanced internal QC review of design components, including Discipline
Coordination Review meeting, prior to each plan submittal for the State’s review. Scan
and electronically file documentation of QC checks and resolutions.

10.6. Deliverables

10.6.1. State Deliverables:
   10.6.1.1. Standard district SWPPP template
   10.6.1.2. Hydrinfra listing of drainage structures in the project
   10.6.1.3. Preliminary Hydraulic Recommendations which include the location and the
   existing condition of the in-place culverts and storm sewer within the project
   limits and general description of what type of repairs/replacements are
   anticipated.
   10.6.1.4. Single set of consolidated plan comments
   10.6.1.5. Special Provisions for recommended drainage items
   10.6.1.6. Set of drainage as-builts from the original grading plan (if available)
   10.6.1.7. Any available video files of structures and pipes
   10.6.1.8. Wetland Delineations
   10.6.1.9. NPDES Permit application
   10.6.1.10. US Army Corp of Engineers (COE) Application

10.6.2. Selected Responder’s Deliverables
   10.6.2.1. Final Hydraulics recommendations including drainage calculations (November 2,
2021)
   10.6.2.2. 60%, 90%, and 100% drainage plan submittals (November 2, 2021, May 17,
2022 & September 29, 2022 respectively)
   10.6.2.3. QA/QC documentation
   10.6.2.4. SWPPP plan sheets (August 8, 2022)
   10.6.2.5. Erosion & Sediment Control plan sheets for temporary and permanent (August
15, 2022)
   10.6.2.6. Permit coordination needed for wetland impacts (prior to October 5, 2021)

Section 11. Permits

11.1. Permits
   The State will make a preliminary determination of permits required for the project, other than
those specifically listed elsewhere in this document. The State will prepare applicable permit
applications, and will secure the necessary approvals.

Section 12. Consultation After Detailed Design (Activity Code 1267)

12.1. Pre-Bid Activities
During advertisement of the project for bids, the Selected Responder will assist State in plan interpretation to the construction contractors as necessary in order to provide a comprehensive understanding of the project.

12.2. Attend Pre-Letting Conference
The Selected Responder will attend the pre-letting conference and will answer questions and provide design clarification related to the construction plans and specifications.

12.3. Attend Pre-Construction Conference
The Selected Responder will attend the pre-construction conference and will answer questions and provide design clarification related to the final design plan set and specifications.

12.4. Consultation During Construction
The Selected Responder will respond to questions that arise during construction that relate to design clarification of the final design plan set and specifications. The Selected Responder will assume 6 requests for information during the construction project from the State. Assume 8 hours of qualified contractor staff time for each request from the State.

Section 13. Deliverables

Deliverables are defined as the work product created or supplied to the State by the Selected Responder pursuant to the terms of this Contract. The deliverables to be provided under the terms of this Contract are as follows:

13.1. Project Design Memorandum
Selected Responder will prepare and deliver a project design memorandum as specified in Section 7. (One (1) hard copy and One (1) electronic copy to the State’s PM). Due Date: June 29, 2022.

13.2. 30% Design Package
Selected Responder will prepare and deliver 30% Design Package (One (1) hard copy and One (1) electronic copy to the State’s PM). Due Date: March 19, 2021. State will require 10 working days to review the 30% design package.

13.2.1. 30% Construction Plan (Adobe PDF format)
   13.2.1.1. General layout
   13.2.1.2. In-place right of way
   13.2.1.3. Construction limits
   13.2.1.4. Preliminary cross-sections
   13.2.1.5. Proposed Profile
   13.2.1.6. Proposed pedestrian ramp designs
   13.2.1.7. Storm sewer layout with preliminary elevations (depths)
   13.2.1.8. Sanitary and water main layouts with preliminary elevations (depths) – from City’s Engineer
   13.2.1.9. Initial staging plan
   13.2.1.10. Preliminary quantities
13.2.1.11. Typical sections
13.2.1.12. Preliminary Construction Cost Estimate along with cost the participation breakdown. (Adobe PDF and Microsoft Excel format)

13.3.60% Design Package
Selected Responder will prepare and deliver 60% Design Package (Package (One (1) hard copy and One (1) electronic copy to the State’s PM). Due Date: November 2, 2021. State will require 10 working days to review the 60% design package.
The 60% Design Package will consist of the following:

13.3.1. 60% Construction Plan (Adobe PDF format)
13.3.1.1. Title sheet
13.3.1.2. Typical sections
13.3.1.3. Utility tabulations
13.3.1.4. Plan/Profile
13.3.1.5. Cross sections (with in-place right-of-way shown)
13.3.1.6. Lighting Plans (from State)
13.3.1.7. Signal Plans (from State)
13.3.1.8. Sanitary Sewer and Watermain plans (from City)
13.3.1.9. Preliminary Construction Cost Estimate along with cost the participation breakdown. (Adobe PDF and Microsoft Excel format)

13.3.2. The Selected Responder will coordinate and facilitate a 60% review meeting with District staff and key stakeholders.

13.4. 90% Design Package
Selected Responder will prepare and deliver 90% Design Package (Package (One (1) hard copy and One (1) electronic copy to the State’s PM). Due Date: August 29, 2022. State will require 10 working days to review the 90% design package.
The 90% Design Package will consist of the following:

13.4.1. 90% Construction Plan. The Selected Responder should consider this a 100% complete plan. Pertinent information about the project or in the plan will be reviewed prior to the 90% complete plan turn in. (Adobe PDF format)

13.4.2. One set of design computations and quality calculations for review and comment. (Adobe PDF format)

13.4.3. A Construction Cost Estimate along with cost participation breakdown. (Adobe PDF and Microsoft Excel format)

13.5. 100% Design Package
Selected Responder will prepare and deliver 100% Design Package (One (1) hardcopy and One (1) electronic copy to the State’s PM). Due Date: September 29, 2022.
The 100% Design Package will consist of the following:

13.5.1. 100% construction plan set of original reproducible plans (vellum title sheet and other sheets on bond) on 11" x 17" sheets. (Adobe PDF format)
13.5.2. One set of design computations and quality calculations for review and comment. (Adobe PDF format)
13.5.3. Final Construction Cost Estimate along with cost the participation breakdown. (Microsoft Excel Format)

13.5.4. After the State review of the plans, the Selected Responder will incorporate necessary changes and deliver revised original plan and an AutoCAD/ Microstation format copy. In addition, when available, the Selected Responder will also incorporate the State Central Office review comments.

Section 14. Form of Deliverables
14.1. Selected Responder Deliverables described as “Adobe PDF” will be in Adobe PDF 9.3.0 format.
14.2. Selected Responder Deliverables described as “MicroStation” will be in MicroStation V8i format.
14.3. Selected Responder Deliverables described as “GEOPAK” will be in Bentley GEOPAK V8i format.
14.4. Selected Responder Deliverables described as “Microsoft Excel” will be in Microsoft Excel 2013 format.
14.5. Selected Responder Deliverables described as “Microsoft Word” will be in Microsoft Word 2013 format.
14.6. Selected Responder Deliverables described as “AutoCAD” will be in a format that is compatible with MicroStation V8i.

Section 15. Exclusions
The following items are excluded from the scope above:
- Phase II Environmental Site Assessment.
- Contaminated soils mitigation.
- Design of ground improvements beyond those identified in State provided MDR.
- CATEX.
- Betterments requested by business owners (parking lots, driveways, entrances et al. outside the construction limits).
- Design of city watermain, sanitary sewer, services, curb-stops, hydrants, and related appurtenances).
- CADD work related to city watermain and sanitary sewer.
- Construction CPM Schedule.
- Cost estimate for City watermain and sanitary sewer work.
- Design of temporary works (shoring et al.) that may be required to install sanitary sewer and watermain.
- Minnesota Department of Health (MDH) and MPCA permits that may be required for watermain and sanitary sewer improvements / construction.
- Coordination with businesses and residents related to modifications / improvements and construction of city watermain and sanitary sewer.
- Construction staging for sanitary and watermain (City to provide input to the construction staging plan and to State’s Construction Engineer’s development of Time & Traffic Provisions).
- Wetland Permits
- NPDES Permit
- Special Provisions

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