

**PERFORMANCE  
DRIVEN DESIGN.**  
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## Request for Proposal - City of Duluth, MN

LHB - Waseca Industrial Road Extension - Design and Construction Phase

April 11, 2018

21 West Superior Street - Suite 500 | Duluth, MN 55802 | 218.727.8446 | 218.727.8456 Fax



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Cari Pederson, PE  
City of Duluth – Engineering Division  
411 W. 1st Street, Room 211 City Hall  
Duluth, MN 55802-1191

**RE: WASECA INDUSTRIAL ROAD EXTENSION – DESIGN AND CONSTRUCTION PHASE**

Dear Cari,

LHB is pleased to submit our proposal for design and construction administration services for the Waseca Industrial Road Project. As you will see in our proposal, we have an extensive history with the Waseca Industrial Road project and industrial area as well as past and ongoing work in the surrounding Irving Park neighborhood. Our history with this project dates back to 1989, when the City hired LHB to study the feasibility of the Waseca Road Extension and our subsequent design of the Waseca Industrial Road in 1989. Since then we have provided the City and the neighborhood's business community design and construction engineering services on multiple projects throughout the Irving neighborhood.

Through our site visits and ongoing community relationships with the project area, we have a thorough understanding of the level of involvement needed to successfully deliver the last remaining piece of the Waseca Industrial Road Extension initiative for the City of Duluth. We have worked hard to illustrate our qualifications, approach and understanding of your project throughout this proposal. In addition to our project history and community background, we believe we are uniquely qualified for this project. Our team has a successful track record of delivering State Aid projects for the City of Duluth. We also have a proven track record of delivering street projects with railroad coordination, sanitary sewer and watermain work.

As a firm, we consider ourselves community partners with the City of Duluth. Not only being integrated in the City, but also having fellow employees that live within the Irving neighborhood gives us a resounding sense of pride in ownership of the work.

We look forward to hearing from you and remain available should you have any questions concerning our proposal.

LHB

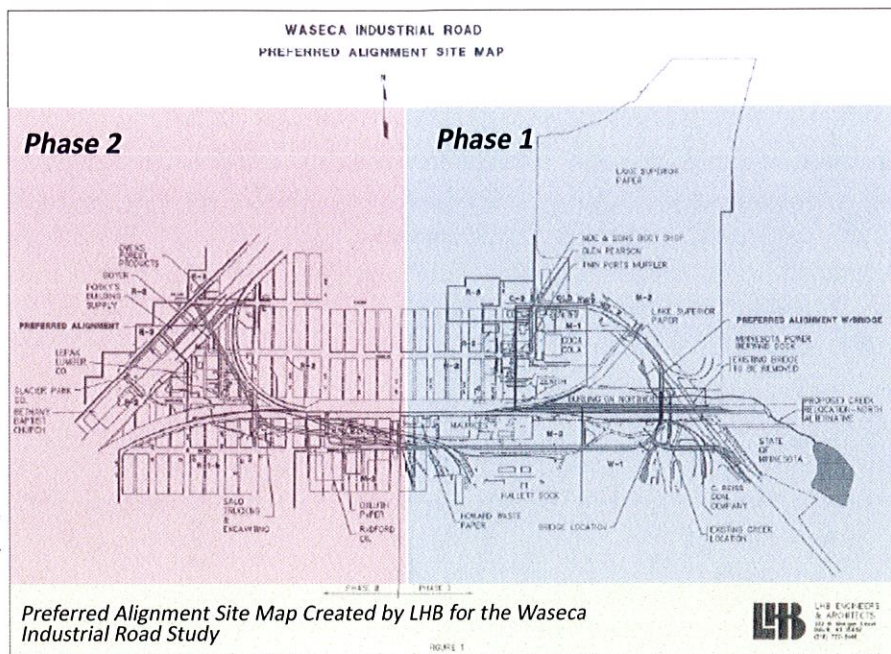
JOSEPH D. LITMAN, PE  
Project Principal

BRAD P. SCOTT, PE  
Project Manager

*LHB File#180273*

## 1. Goals and Objectives

The City of Duluth is requesting engineering design and construction administration services for the Waseca Industrial Road Extension project. The Waseca Industrial Road Extension Project reflects the final phase to a long-identified need for improved truck routing through the Irving residential neighborhood of West Duluth. Since 1986, the City of Duluth has been working with West Duluth residents and businesses to remove industrial traffic from the Irving residential neighborhood and improve access and traffic conditions. LHB has been a long-standing partner of the City of Duluth in this initiative. In May of 1987, the final report was completed for a planning process started in 1986 called "West Duluth Opportunities for Change" that was prepared by the West Duluth Plan Steering Committee and the City of Duluth Department of Planning and Development. In January of 1989, the City approved the selection of LHB to study the feasibility of the Waseca Street Improvement project. LHB's study summarized an extensive planning and preliminary design process which involved input from dozens of neighborhood residents, business owners, and government and environment representatives. Ultimately, the study recommended a preferred alignment and preliminary cost estimate for the design and construction of Waseca Industrial Road. The study also broke the project up into two segments:



The study also broke the project up into two segments:

- Phase I was to be constructed from the intersection of Raleigh Street and Central Avenue to 59th Avenue.
- Phase II was to be constructed from 59th Avenue West to Raleigh Street and Grand Avenue West.

The major objectives of the initial study included removing industrial truck traffic from Raleigh Street between Grand Avenue and Central Avenue and from 59th Avenue West between Raleigh and Waseca Street.

Ultimately, the City decided to develop Phase 1 and hired LHB to complete design and construction engineering services. The project also included reconstruction of Central Avenue from Raleigh Street to Interstate 35, as a turnback project from MnDOT. At that time, Phase 2 of the Waseca Industrial Road Extension was deferred until a future date.

After receiving funds through a Transportation Economic Development Infrastructure (TEDI) grant and using Municipal State Aid (MSA) funds, the City of Duluth is looking to complete the long-identified need to improve the traffic flow and connectivity to the Waseca Industrial Area and along Waseca Industrial Road for commercial traffic by designing and constructing Phase II of the Waseca Industrial Road project.

*"In order to accomplish the unique project goal and objectives, the City must have a consultant on-board who has the intimate understanding of the project and community history..."*

Although the alignment of the Waseca Industrial Road extension has been slightly revised since the initial study to make use of the unused Burlington Northern Santa Fe (BNSF) rail spur, the objectives remain the same: to remove industrial truck traffic from the residential streets of the Irving residential neighborhood and improve the traffic flow and connectivity to the Waseca Industrial Area and along Waseca Industrial Road for truck and commercial traffic. Since the project was initially studied, the need for completing the connection has been exemplified by the pending Kayak Bay Development in the Riverside neighborhood. Access for the \$40 Million development south and west of the project, needs to cross

the BNSF rail line. A project requirement imposed by BNSF and the City of Duluth in order to allow the development to move forward is to close the at-grade rail crossing of 59th Avenue West, further complicating access to the industrial sites adjacent to Waseca Industrial Road and underscores the necessity of the Waseca Road extension and through connection to Raleigh Street.

In order to accomplish the unique project goal and objectives, the City must have a consultant on-board who has the intimate understanding of the project and community history and can provide complete and quality documents under an aggressive schedule to keep the project on-track and within budget.

A detailed summary of the project design goals and objectives, associated key design tasks, and potential issues that we have identified follows. Our detailed work plan in part 5 of this proposal further details our project approach to prioritize the work and resolve issues to deliver a successful project.

## **INITIAL SITE VISIT AND CONSULTATIONS**

*Goal: Discuss project background and conditions, verify project goals, outline priorities and establish framework for ongoing communication.*

### **Kickoff Meeting and Site Visit**

Upon award of contract, LHB will host a Kickoff meeting with the City of Duluth. The Kickoff Meeting's agenda will include, but is not limited to discussing project history and background; reviewing existing information; establishing a design criteria and project schedule. After the kickoff meeting, we intend to visit the project site with key City staff.

After the kickoff meeting, LHB will continue to follow the communication protocol that is established, which will include weekly project status updates and three status meetings with the City of Duluth at City Hall.



## **ENGINEERING DESIGN**

*Goal: Complete the design and prepare plans, specifications and cost estimates to successfully bid the project.*

LHB will complete intermediate and final design plans, construction cost estimates, and special provisions that accommodate the City of Duluth and State Aid standards. LHB has a long history completing street and utility projects that accommodate both sets of standards.

### **Street Reconstruction**

Waseca Industrial Road serves as a truck route for the Irving neighborhood that is continuing to see increased industrial growth. The project will extend Waseca Industrial Road 2,400 lineal feet from 59th Avenue West to the Raleigh Street. The new roadway will be designed to municipal state-aid standards to accommodate industrial traffic. With projected traffic over 1500 ADT, it is anticipated that the design speed will be 30 mph to match the existing roadway parameters. We note that the City RFP indicates a minimum 32-ft width is to be provided. However, we also note that the existing typical section of Waseca Industrial Road is 36-feet, measured between the curb face. The proposed extension could be designed to match the existing width of the Phase 1 construction to maintain corridor consistency. Although MnDOT State Aid allows urban projects to be designed to 9-ton minimum, we recommend a 10-tons structural axle load design for the industrial traffic in this neighborhood. The City intends to construct sidewalk on at least one side of the roadway.

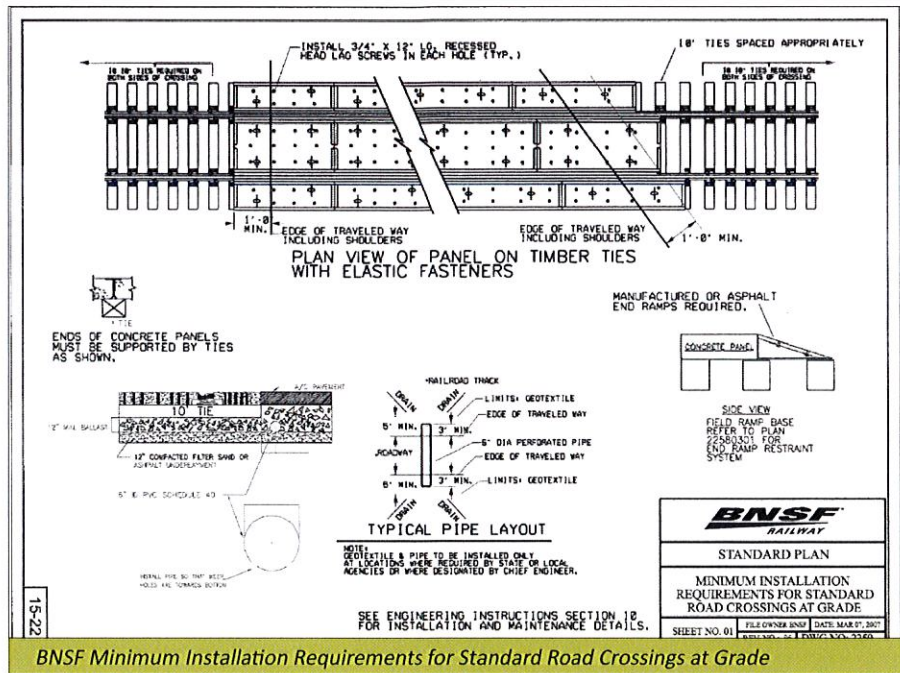
With the proposed alignment, a new roadway crossing at Redruth Street will be constructed. Through discussions with the City, we understand that the intersection will have to be designed to allow cross-through traffic to continue. An at-grade intersection will also be designed and constructed at Sherburne Street, while 63rd Avenue West will become a three-legged intersection.

Traffic control and staging plans will need to address local access for those affected by the project, including local businesses, residents and BNSF. Loll Designs, Arrowhead Healthcare Supply and Valley Cartage, all located at the dead end of existing Waseca Industrial Road, will require coordination and consideration during the design as the existing road is their sole access point. LHB discussed the project, their business operations, and potential issues with businesses at this location in preparing our proposal (see "**Project Issues, Goals and Objectives map**" and "public input meeting section" for further discussion).

### **Railroad Coordination**

The project will require reconstruction of the at-grade BNSF rail crossing of 63rd Avenue West. LHB provided design for (7) rail crossings as part of the Phase 1 Waseca project and are very familiar with the applicable standards and location requirements for these crossings. Coordination with the railroad and rail partners will be critical to the success of the project. The existing BNSF rail line is an active rail line servicing Hallett Dock 6 and 7 as well as the paper mill, Minnesota Power renewable energy facility and rail destinations to the east. The rail crossing will be designed to BNSF Guidelines for Industry Track

Projects, May 2017. It is anticipated that the proposed rail crossing will be an open crossing similar to the prevailing at grade in conformance with current BNSF standards and rail crossings in the area including 59th Avenue West, Fremont Street, and Pulaski Street, among others. City utilities, including gas and water, cross beneath the existing rail crossing. In general, public utilities crossing underneath the rail crossing will be protected by a steel casing pipe with vent piping, as required by BNSF utility crossing standards. The utility crossings will also require a utility crossing agreement. To ensure the project stays on track we will assist the City with outreach and agreement development work with the BNSF



beginning at the projects onset. The BNSF may also designate an outside agency, acting as their right of way agent to manage the process of finalizing the agreement for the replacement crossing, its maintenance and for utility crossings. We have assisted many agencies with the gaining and finalizing of crossing agreements, including most recently Duluth's Seaway Port Authority in negotiations with the BNSF and CP railways for a new crossing on Helberg Drive. Our understanding of the process and parties involved will ensure the rail crossing agreement is finalized early on. In addition, we will ensure the division of responsibilities for the furnishing and installation of the crossing is clearly understood. Depending on BNSF and its unions interpretation of the tracks use their union may claim rights to the installation and/ or portions of it. Knowing this division of responsibility and properly defining, coordinating and timing it within the projects plans and specifications is also essential to the project's success. Our coordination process with the railroad will continue through the end of the plan and specification development process ensuring details are presented to the railroad for review at the appropriate stages to gain all necessary approvals.

### Sanitary Sewer and Water Main

The water main underneath 63rd Avenue West is 6" cast iron pipe, which was installed in 1890. The water main under 61st Avenue West is also cast iron pipe, installed in 1922. There is presently no connection between the avenue water mains at 63rd Avenue West and 61st Avenue West via the Waseca Industrial Road corridor and we understand the City intends to make that connection with this project. The project will also replace approximately 450-feet of water main underneath 63rd Avenue West within the limits of road reconstruction. We anticipate the new water main will consist of 8-inch HDPE water main via cast iron transition couplings.

The existing sanitary sewer under 63rd Avenue West is 8" Vitrified Clay Pipe (VCP) from 1906. We anticipate this approximate 450-feet of sanitary sewer replacement will primarily consist of 8-inch PVC pipe.

### Storm Sewer Construction

Due to the project's urban design, a new stormwater trunk main, manholes, catch basins and leads will need to be constructed as part of the project. Hydrologic and hydraulic analyses will be performed. As part of the preliminary design it is important that the design assess existing adverse drainage conditions at yards and areas behind the proposed curb that are a nuisance or represent ongoing problems for adjacent businesses / residents or City maintenance. It is important to proactively identify and document such conditions early in the design and, to the extent practicable, address them in the final plans. Such efforts also help resolve any complaints that might arise after construction is complete. A preliminary storm sewer layout will be prepared for review at the 30% design level and based on the required State Aid spread and sizing conditions. Sag conditions will be analyzed and connections to existing storm sewer infrastructure and outfalls will be identified.

An NPDES General Construction Permit will also be required. Because the proposed site will have an increase in new impervious greater than 1-acre, on-site stormwater mitigation will be required. We have taken a cursory look at the existing topography and due to anticipated soil conditions and past industrial use of the project area, stormwater filtration will likely be the recommended mitigation measure. It is anticipated the project will likely require two stormwater basins, one to the north of the railroad tracks and one south of the railroad tracks. Stormwater basins should be located near the low points of the project, on land that is unlikely to be developed in the future, and near points where the treated runoff can discharge to existing low areas or storm sewer. Furthermore, treating and attenuating stormwater runoff to the north of the railroad tracks, will allow it to discharge into existing infrastructure thus eliminating the need for crossing the railroad tracks with the proposed storm sewer.

When reviewing the existing topography, it is best to break up the proposed corridor into three segments when discussing how stormwater along the new roadway could be treated:

- Segment 1 – North of the BNSF railroad crossing: The existing topography in this segment generally slopes from the north to south. Similarly, the proposed roadway will likely have a profile that drains water to the south, conveying stormwater towards an existing low point north of the railroad tracks and east of the proposed alignment. The existing grades appear to be conducive to allowing the roadway stormwater runoff to discharge to a potential pond location east of 63rd Avenue West near the intersection of the proposed alignment with Sherburne Street. After the stormwater is treated, the storm basin could discharge to the east into an existing ditch with an existing culvert crossing the railroad tracks.
- Segment 2 – From the BNSF railroad crossing to a natural high point located approximately 800-feet east of 63rd Avenue West: Although rather flat, this roadway segment has an existing localized low point approximately 350 feet east of 63rd Avenue West. Stormwater in this segment could flow to the naturally occurring low-point and then to a storm basin located north of the roadway. After the water is treated, it could be discharged through a pipe to the south of the new roadway.
- Segment 3 – From the natural high point located approximately 800-feet east of 63rd Avenue West to the end of the project: This stormwater could be captured by the existing storm sewer system, located 300-feet west of 69th Avenue West along Waseca Industrial Road.

Temporary BMP's will need to be designed and a SWPPP developed for use during the construction of the project. The temporary BMP's will include sedimentation and erosion control practices.

After taking a cursory look at the existing contours, we have identified areas where we think stormwater basins could be potentially placed, and have shown them on the included [Project Issues, Goals and Objectives Map](#).

### **State Aid Plan Submittal**

We understand the City has the desire to add Waseca Industrial Road to their State-Aid system after construction. As a state-aid project, the drainage plans, estimated quantities and a hydraulic report will be submitted to State Aid for review and approval to determine the appropriate funding splits between local and state aid funds.

As part of the final state aid plan submittal, LHB will prepare and submit the completed plans, special provisions, Engineer's Estimate including funding splits; state-aid review checklist; and laboratory testing and inspection services request forms, with City input. LHB will assist the City in preparation of the proposal and will provide review and input as desired.

### **DATA COLLECTION AND INVESTIGATION**

*Goal: Provide site survey, geotechnical site investigation, wetland delineation and permitting, archeological survey, and right-of-way exhibits to successfully scope the project and facilitate the design.*

#### **Topographic Surveys and Right-of-Way Mapping**

An accurate base map is critical for the success of the project. LHB will complete a full topographic survey within the project right-of-way to identify surface features and terrain. Inplace right-of-way and property boundaries will be established. We understand the City will be completing the Right-of-Way acquisition separate from this contract, and outreach has already begun with BNSF. In order for the City to complete the right-of-way acquisition for the proposed Waseca right-of-way, LHB will prepare the required right-of-way survey exhibits. In addition, we have included time in our proposal for the preparation

of property exhibits for the parcels crossed or immediately adjacent to the identified alignment in the event further right-of-way acquisition is required to complete the project.

### Wetland Delineation and Permitting



Low depression with wetland features (Type 2) near proposed Raleigh Street intersection

Although not specifically requested in the RFP, but based on our field review and subsequent discussion with the City, we understand that a wetland delineation and report will be required for a Section 404 USACE General Permit and DNR Public Waters Permit. Although not listed on the National Wetland Inventory Maps, preliminary field review leads us to believe naturally occurring wetland complexes which will require delineation, exist along the proposed alignment. The wetland bodies are somewhat interconnected with existing roadways intersecting them and consist of common wetland types typical to this region. In particular, we observed Type 2: Sedge Meadows dominated by herbaceous species including sedges, grasses and cattail, and Type 6: Shrub Swamps

dominated by alder, dogwood, and willow species. Topography within these low areas is subtle with gradients ranging from 0-5% slopes. Please refer to the [Project Issues, Goals and Objectives map](#) for further detail on possible wetland locations.

Wetland boundaries will be determined using methods described in the 1987 US Army Corps of Engineers' Wetlands Delineation Manual, as well as the Northcentral and Northeast Regional Supplements.

### Phase I Archaeological Review/Survey

Although LHB's initial study in 1987 did not identify any sites of historic, architectural, archaeological or cultural value within the project limits, we understand the sensitivity of the project location and the City's desire for a Phase IA Archaeological Review and Phase I Field Survey within the proposed project right-of-way. For that reason, we have included Duluth Archaeology Center on our project team to complete these services. The entire project will be reviewed for recorded historic properties and potential for unrecorded properties, focusing on the railroad bed but including other historic and possible prehistoric resources. Field survey will include surface pedestrian walkover and shovel testing as appropriate to ground conditions. Any recovered artifacts will be analyzed and accessioned for permanent curation at the appropriate repository.

### Phase I Environmental Site Assessment (ESA)

The City issued Addendum #1 to the Request for Proposals on April 3rd, notifying all proposers that the City is soliciting a Phase 1 Environmental Site Assessment (ESA) separately for this project. The proposed roadway alignment not only extends through BNSF property, but also crosses a building location currently used for storing equipment. During our site visit, we noticed a slight oil sheen in the runoff at the previous Salo Trucking and Excavating storage location, shown in the image to the right. This location is also identified on MPCA's "What's In My Neighborhood" website as previously generating hazardous material and regulated waste, although currently inactive, we anticipate that a Phase II ESA likely will be required.



### Geotechnical Site Investigation and Recommendations

Geotechnical site investigation is required to characterize subsurface conditions that may affect the project design. We understand that the City's recent completion of 59th Avenue West experienced 2-3 feet of roadway fill over native clays. Additionally, there were a few areas where organic material was encountered. Through a preliminary review of the existing soil conditions, there is potential for encountering soft and swampy soils between Waseca Industrial Road and S. 63rd Avenue West. We understand the range of soil conditions throughout the project region well, having performed extensive geotechnical work including surcharging and installation of wick drains for construction of bridge embankments during our Phase 1 work.

We recommend performing nine Standard Penetration Tests (SPT) at approximately 300-foot intervals along the proposed alignment. The borings will be performed to nominal depths of 15 feet or refusal, whichever comes first. SPT sampling will be performed at continuous two foot intervals to a depth of 10 feet and at 2 ½ foot intervals thereafter. We also propose to perform two (2) pavement cores with a diamond bit core barrel at each end of the new roadway to help determine the existing pavement structure at tie-in locations.

A City of Duluth Right of Way permit will be acquired prior to drilling operations. Prior to arriving on-site, a Gopher State One Call (GSOC) will be performed to locate utilities.

After the completion of the field exploration, collected samples will be returned to the laboratory to be classified according to the Unified Soil Classification System. Additional information will be provided by performing the following laboratory tests:

- 40 moisture content tests
- 8 sieve analysis tests (#200 sieve only)
- 2 Atterberg Limit tests

A geotechnical evaluation report will then be prepared, including the following:

- Detailed boring logs outlining encountered soil and groundwater conditions, including SPT N values and any laboratory test results.
- A summary of site conditions and their potential impacts on the project.
- Recommendations for site preparation, including pavement subgrades and mitigating poor soils.
- Recommendations for roadway and pavement construction and design.
- Recommended pavement sections, utility construction and design.
- Recommendations for utility construction and design.



## MEETINGS AND PUBLIC PARTICIPATION

*Goal: Facilitate public and stakeholder involvement to ensure input is solicited and incorporated into the design, where applicable, to enhance the design, minimize disruption during construction, and ensure functionality.*

### Public Meetings

We understand the importance in a transparent public involvement process and ongoing communication with the Irving residential neighborhood. Residents and business leaders had an active voice in the initial planning phases of this project and will surely appreciate the opportunity to have their voices heard as the Waseca Industrial Road extension moves forward. We recommend having an Open House early in the design process to summarize what studies have already been completed, where the City is at in accomplishing the project's goals, and how this project will complete the overall goal of removing industrial truck traffic from neighborhood residential streets and increasing property value of adjacent commercial properties. We recommend sharing a preliminary layout of the preferred alternative with the public during the first meeting and asking the public to be forthcoming with any concerns, comments or recommendations.



During the second public meeting, we recommend providing a summary of what was heard during the first public meeting, and how we have addressed their feedback. We recommend sharing an updated layout with the public at this time and providing more information on anticipated construction schedule, traffic impacts and construction cost.

A third meeting could be held late in the design schedule, when final design plans have been substantially completed. The focus of this public meeting should be on a refined construction schedule, traffic control and impacts to the neighborhood, and updated contact information and access to progress notifications.

### Small Group Meetings with Businesses



The local businesses adjacent to Waseca Industrial Road are an active group, and have been heavily involved in the Waseca Industrial Road study since its conception. Hallet Dock No. 6 no longer serves a maritime facility, and relies solely on rail and truck access to serve the Port of Duluth-Superior as a transload facility moving a variety of bulk commodities. The C. Reiss Terminal has been in operation since the 1920's and provides dry bulk storage and handling of coal and limestone. The C. Reiss Terminal also relies heavily on rail and road to import and export its product. Based on previous experience working on this project, we know that the list of businesses, agencies and stakeholders with a vested interest in the project is extensive. Within the industrial area served by Waseca Street, business

groups and stakeholders in particular rely on Waseca Industrial Road and will have an active voice in seeing the project constructed in a way that allows them to continue to be thriving and growing members of the community both during



and after construction. These businesses include but are not limited to IPS Cranes-Duluth, Verso, North Shore Track Services, Moline Machinery, LLC, Loll Designs, Valley Cartage, Arrowhead Healthcare Supply, HDPE Supply and Walsh. Loll Designs currently owns the two large commercial buildings at the dead end of the Waseca Industrial Road. Loll currently has two building tenants; Valley Cartage and Arrowhead Healthcare Supply. Arrowhead Healthcare Supply employs approximately 25 people, and relies on daily FedEx shipments. Valley Cartage employs approximately 14 people, and ships 4-5 53-foot tractor trailers each evening from its location, with the trucks returning early in the morning. Loll Designs is in the process of expanding to the smaller of the two buildings, and will use the loading dock on the east face of the building. According to the businesses, their primary concerns revolve around potential disruption to deliveries, employee parking and access, and pedestrian access.

LHB has long-standing relationships with businesses throughout the project area, completing multiple projects and studies over the years for their owners with a proven track record and earned trust. This experience and trust will aid us in facilitating three small group meetings with the business community. We recommend holding a workshop with the businesses shortly after award of contract to discuss the recommended alignment and gather feedback that we can take to the drawing board. After 30% plans are completed, we recommend sitting down with the working group once more to respond to the feedback initially received, and share the refined drawings. After 90% plans are complete, we suggest holding a third workshop to inform the business community on how we've addressed their feedback and concerns, and to communicate a timeframe for construction, any short-term construction related impacts, and how we've made efforts to minimize disruption to their businesses during construction while providing a corridor that benefits them and their companies for years to come.

### **Weekly On-site construction meetings**

LHB will lead and facilitate weekly on-site construction meetings once construction work commences. This task includes holding a preconstruction and weekly construction meeting with the Contractor, Owner, Engineer, and other interested parties such as utility owners, BNSF, permitting agencies and area residents and businesses. Communication is a critical component during construction. Often we will dedicate the first portion of each construction meeting to area resident, business owner, utility owner or permitting agency issues allowing their items to be addressed early on and allowing for them to leave prior to the detailed construction meeting. The weekly construction meetings is used to coordinate activities and schedules, assess any extra work, review environmental requirements, manage traffic control, oversee material testing, etc. All of this will be documented and sent out as meeting minutes to attendees and selected stakeholders.

## **CONSTRUCTION ADMINISTRATION & INSPECTION**

### **Construction Administration**

LHB will provide construction administration and inspection services for the project. Our objective during construction observation is to see that construction work proceeds properly and in conformance with specifications. In providing continual inspection, work found not to be proceeding within specification can be corrected at the time of occurrence, minimizing the need for costly delays or major issues due to placement of subsequent work. Continuous representation on site also allows us to be available for resident or business owner concerns at all times the work is occurring.

### **Construction Staking**

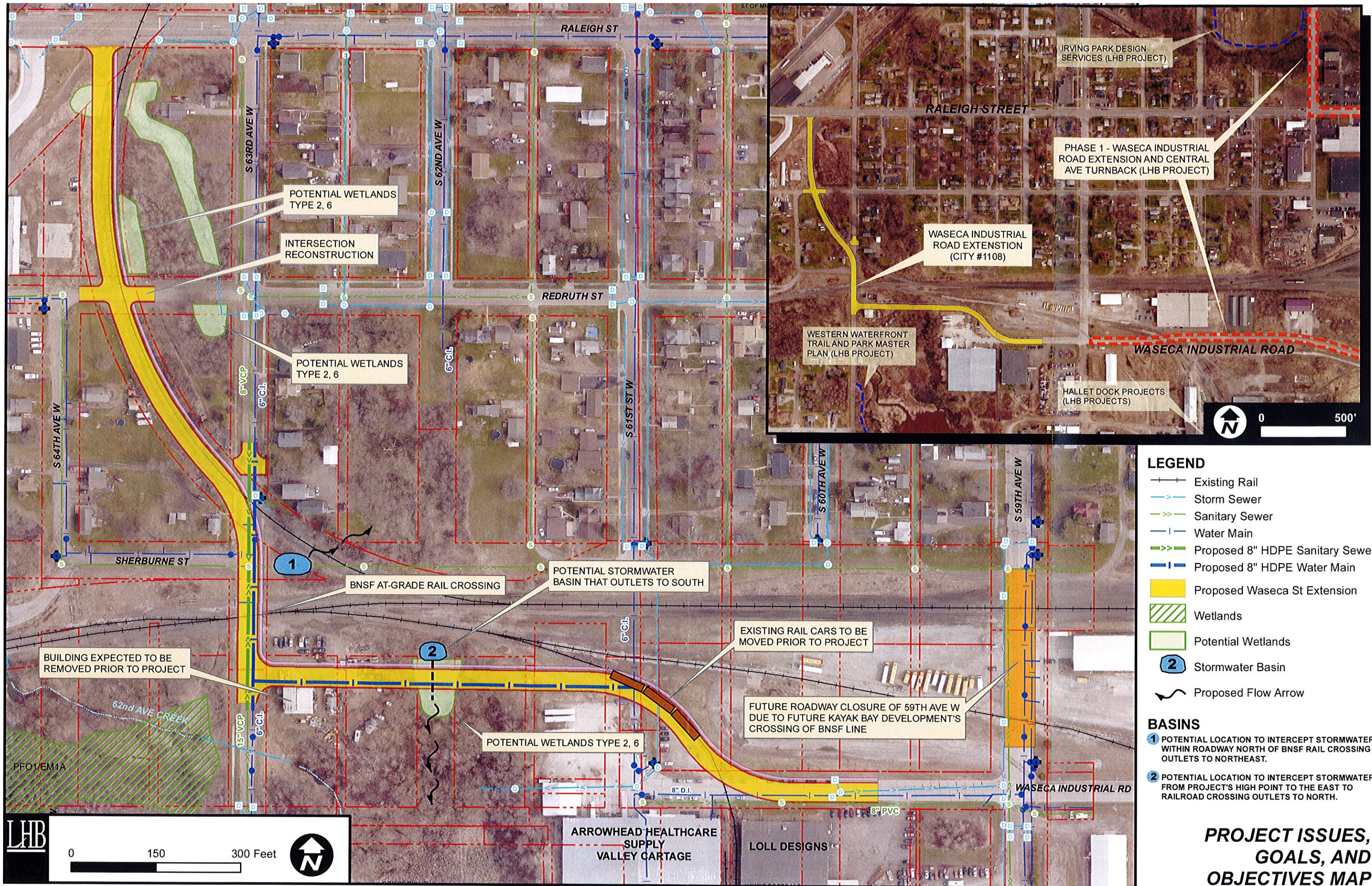
Construction staking includes detailed field survey staking of necessary control and grades to facilitate construction of the project. This includes creating staking data files and staking items such as; roadway subcuts, roadway alignment, roadway surface blue tops and curb stakes, utility locations and workpoint staking.

## **PUBLIC, PUBLIC AGENCY, AND BUSINESS INVOLVEMENT:**

**The following is a listing of some of the community, public agency and business groups which contributed to the formation and selection of a final recommended alignment for this project during the 1990 Waseca Industrial Road Study:**

- West Duluth Plan Steering Committee
- Irving Community Club
- Irving Community Club Representative Group
- Spirit Valley Citizens Neighborhood Development Association (SVCNDA)
- Burlington Northern Railroad
- Hallett Dock Company
- Lake Superior Paper Industries
- Minnesota Power
- Salo Trucking and Excavating, Inc.
- Radford Company
- Maurices
- Coca-Cola Bottling Midwest, Inc.
- Lepak Lumber Company
- Porky's Building Supply, Inc.
- C. Reiss Coal Company
- Moe and Sons Body Shop
- Twin Ports Custom Muffler & Welding
- Polar Bar
- Glacier Park Company
- Owens Forest Projects
- Army Corps of Engineers
- Minnesota Department of Natural Resources
- Minnesota Pollution Control Agency
- US Fish and Wildlife
- Minnesota Department of Transportation
- Minnesota Historical Society
- City Planning Commission
- Duluth City Council
- City of Duluth Department of Planning and Development
- City of Duluth Engineering Division
- LHB, Inc.
- JLS Enterprises
- City of Duluth Police Department
- City of Duluth Fire Department
- Zenith Dredge

**Historic list of active stakeholders from Phase 1 shown above. Phase 2 stakeholder list to be established with City input.**



- LEGEND**
- Existing Rail
  - Storm Sewer
  - Sanitary Sewer
  - Water Main
  - Proposed 8" HDPE Sanitary Sewer
  - Proposed 8" HDPE Water Main
  - Proposed Waseca St Extension
  - Wetlands
  - Potential Wetlands
  - Stormwater Basin
  - Proposed Flow Arrow
- BASINS**
- 1** POTENTIAL LOCATION TO INTERCEPT STORMWATER WITHIN ROADWAY NORTH OF BNSF RAIL CROSSING OUTLETS TO NORTH.
  - 2** POTENTIAL LOCATION TO INTERCEPT STORMWATER FROM PROJECT'S HIGH POINT TO THE EAST TO RAILROAD CROSSING OUTLETS TO NORTH.

**PROJECT ISSUES, GOALS, AND OBJECTIVES MAP**



### Construction Documentation

LHB will provide full construction documentation and record keeping of construction conformance, construction progress and payment processing. All recordkeeping will be in conformance with MnDOT State Aid funding requirements, as well as City requirements. Documentation will include, but is not limited to, preparation of the Daily and Weekly Diaries, Quantity Measurements and Computations, preparation and updating of Quantity Item Record Accounts, review and processing of Materials Testing Reports, and preparation of Work Orders, Change Orders, Supplemental Agreements and Pay Estimates. Wherever possible, we will utilize the City's OneOffice system to prepare and manage project documentation. The task will be complete

with the preparation / assemblage of final Record Drawings and completion of the punch list and final walk through.

### Materials Testing

LHB has brought Twin Ports Testing on board to provide Materials Testing in accordance with the 2018 SALT Schedule of Materials Control and City of Duluth Schedule for Materials Testing. Testing will be performed at the most restrictive testing rates/frequencies of the two documents, and will be reported on MnDOT State Aid forms. Testing technicians will carry all required MnDOT Technician Certifications for materials testing for both field and plant operations.

## 2. Experience

The project team we have assembled for this project have a proven track record of working effectively for the City of Duluth to deliver successful projects. Representative firm and team experience are included in this section. We share and are committed to meeting the City's expectations for high quality design documents that are prepared in strict accordance with State Aid design standards.

### Waseca Industrial Road and Central Avenue (Phase 1)

(S.A.P. 118-107-06, 118-108-02 & 118-108-02)

#### Project Type

- New construction on Municipal State Aid projects
- Railroad Design and Crossings
- Construction Administration

#### Client

Duluth City Offices

#### Key Staff

Joe Litman, PE - Project Engineer



The City of Duluth hired LHB to complete final design and construction engineering services for Waseca Industrial Road extension (Phase 1). The project began at the end of Waseca Industrial Road and consisted of constructing a new roadway for 0.7 miles through the Irving residential and commercial neighborhood. The intent of the project was to help relieve commercial truck traffic through the residential streets by providing a direct route to commercial properties along the Burlington Northern Railroad and

along the St. Louis River. The project included bituminous pavement, concrete curb and gutter, sidewalk, storm sewer, subsurface drain and grading. The project also included construction of a 356-foot bridge over the Burlington Northern rail line, relocation of Keene Creek, bypass road realignment and wetland restoration. LHB provided design for seven (7) rail crossings as part of the project including coordination with the railroad authority.

With the Waseca Industrial Road extension, LHB was also hired to provide final design and construction engineering services for the reconstruction of a portion of Waseca Industrial Road and Central Avenue as a turnback project. The project was 0.5 miles in length, and included removal of an existing bridge, reconstruction of an existing 156-foot bridge over the Burlington Northern Railroad, concrete pavement, concrete curb and gutter and median, sidewalks, storm sewer, subsurface drain and grading.

The project included an extensive construction staging plan to minimize disruption to local businesses and residents, including temporary culverts, a temporary railroad crossing and coordination.

LHB also provided construction inspection and administration throughout the two-year construction duration, beginning in 1993 with substantial completion in Fall, 1994.

## 2. Experience

### Project Type

Railroad Design  
and Construction  
Administration

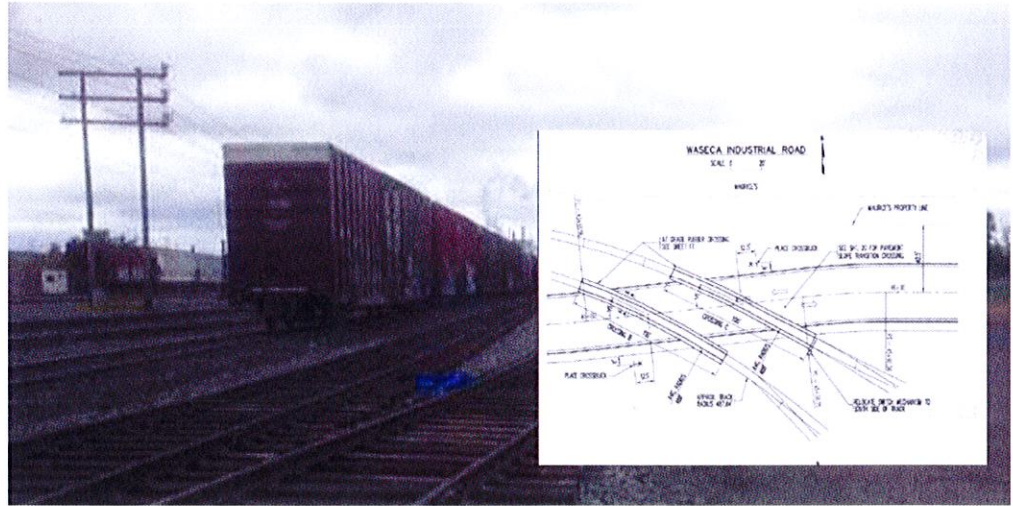
### Key Staff

Joe Litman, PE - Project  
Principal

Brad Scott, PE - Project  
Manager



### Rail Projects



As a firm, LHB has working knowledge and past design experience for rail projects in a variety of settings. Our project staff will ensure the project design meets the applicable design standards including BNSF guidelines and requirements as well as applicable Federal Railroad Administration (FRA) and American Railway Engineering and Maintenance-of-Way (AREMA) requirements to ensure the proper geometric, clearances and operational standards are met. Our project team has also been involved in a wide variety of projects involving rail coordination for road, bridge, and trail projects throughout Minnesota. Among others, LHB's past project experience includes:

- Waseca Phase 1 - LHB provided design and construction administration for the project which included design of seven (7) at grade rail crossings including the crossings at Waseca and 59th Avenue West; two crossings on Waseca Industrial Road between 59th Avenue West and Leisure Street; and four crossings along Leisure Street. LHB worked with the rail to coordinate the design and permitting of the crossings in accordance with rail standards and operational needs. LHB's construction administration and inspection work included coordination with the rail for sequencing and staging of the construction work.
- Project Athena facility expansion; LHB provided design and construction administration for the relocation and extension of the existing industrial rail siding as part of SAPPI's 2012 Project Athena facility expansion. The project required the re-configuration of existing track and approximately 400-ft of new track entering the new building. The design required multiple constricted horizontal curve and vertical profile adjustments to accommodate the rail envelope within the narrow confines of an industrial yard with formal curvature variances from the FRA.
- Cloquet Terminal Rail Road (CTRR) Box Car Storage Tracks; Cloquet, MN; LHB provided full design and construction oversight for the construction of two new rail sidings for a total of 3,700-ft of new track. The design also provided four new switches to connect and manage rail traffic between the new and existing system.
- DSPA C & D Dock Tiger Grant Improvements; Duluth, MN - As prime designer and project manager for this large dock development project, LHB's work included the coordination and obtaining of rail crossing agreements with the BNSF and CP Railways.

## 2. Experience

### Project Type

Rail Coordination

Survey, Right-of-Way Assistance & Right-of-Way Exhibits

Construction Administration

Survey

Utility and Site Design

Wetland Delineation & Permitting

### Key Staff

Paul Vogel – Design and Construction Survey

Joe Litman – Design / Construction Administration

### Project Type

Railroad Coordination

New Roadway and Bridge with State Aid Funds

Design and inspection of HDPE watermain and sanitary

Construction Administration

Wetland Delineation and Permitting

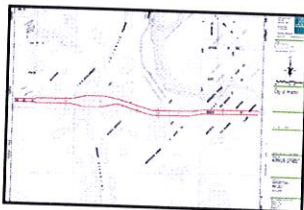
### Client

City of Proctor

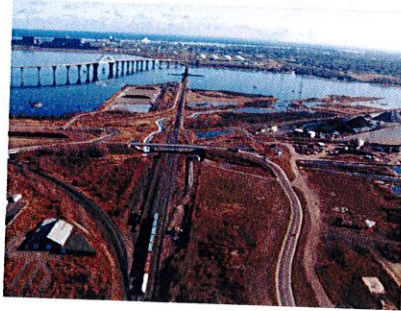
### Key Staff

Joe Litman - Project Manager

Brad Scott - Design / Construction Administration



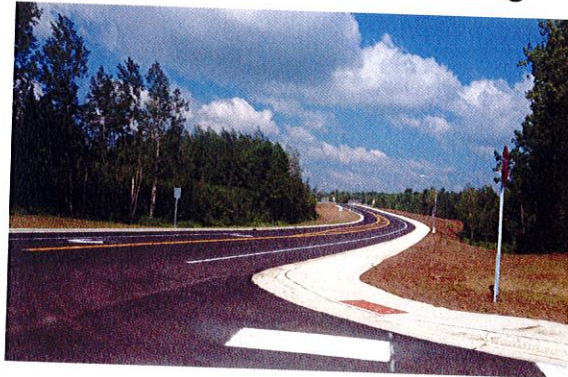
## Hallett Dock Company



LHB has a long-standing relationship with Hallett Dock Company in the Waseca Industrial Park, and have completed numerous projects and services for them over the years. Hallett Dock Company was heavily active in the Phase 1 Waseca Industrial Road construction project. Since then, LHB has aided Hallett Dock by providing environmental, masterplanning, design, survey and construction administration services for the company's site development.

- Dock 6 & 7 Masterplanning Services
- Waseca Industrial Park Utility Extension – Phase 1
  - Final Design, Final Plats, Construction observation, documentation
- Hallett Dock 6 & 7 Development – Preliminary and Final Plats
- Hallett Dock Industrial Subdivision and Wetland Mitigation
- Keen Creek Master Planning
- Hallett Dock 5 Development Services
- Incan Superior Dock Survey
- Dock 5 Parking Lot Design Services
- Dock 5 Topographic Survey
- Waseca Lots Legal Descriptions
- Hallett Dock Legal Descriptions
- Dock #6 to Dock #5 Relocation Construction Administration
- Dock #8 As-Built Survey
- IPS Boundary & Easements Survey

## Kirkus Street Roadway and Bridge



LHB worked with the City of Proctor for the design of the new Kirkus Street Roadway. Kirkus Street was a new urban collector roadway which consisted of widening of one block of existing roadway and the construction of nearly one mile of roadway along a new forested alignment.

The project also included wetland delineation over varying terrain that included swampy lowlands and exposed

bedrock. The roadway design took wetland and swamp deposits into account to mitigate wetland impacts while providing an effective and practical design. The final roadway plans included areas of deep and extensive muck and rock excavation.

Stormwater treatment ponds were designed to address stormwater impacts from over three acres of new, impervious surfaces. Drainage design included new storm sewer for an urban roadway section and centerline crossing culverts to accommodate local streams and creeks.

The project also included railroad and utility crossing agreements for a new bridge structure over the CN Railroad and water, gas, and sanitary sewer utilities. The project was funded through a combination of City and Federal funds. LHB services included environmental and federal reporting, topographic survey, design and plans for roadway, bridge and utilities, as well as, construction administration.

Additionally, LHB provided the City of Proctor with Legal Descriptions and accompanying exhibits across 19 tracts of land for multiple transactions for right of way fee acquisition, temporary construction easements, and utility and drainage easements.

## 2. Experience

### Project Type

HDPE Water Main

Survey

Utility Design

Public Engagement and Meetings

### Client

Duluth City Offices

### Key Staff

Joe Litman - Project Principal

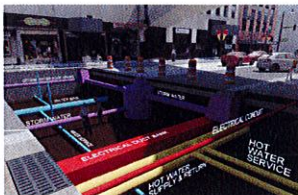
Brad Scott - Project Manager

Adam Beissel - Roadway Designer

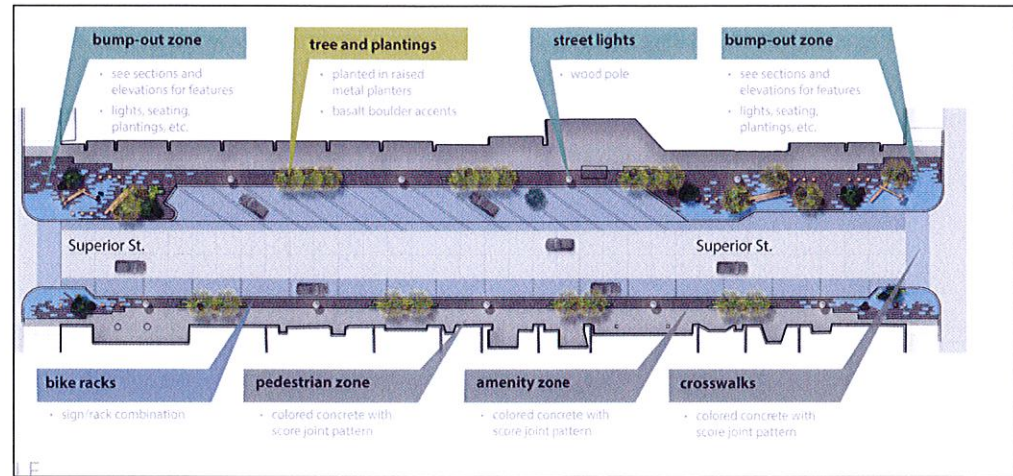
Nathan Bruno - Drainage Engineer

Paul Vogel - Land Surveyor

Heidi Bringman - Landscape Architect



## Superior Street Reconstruction



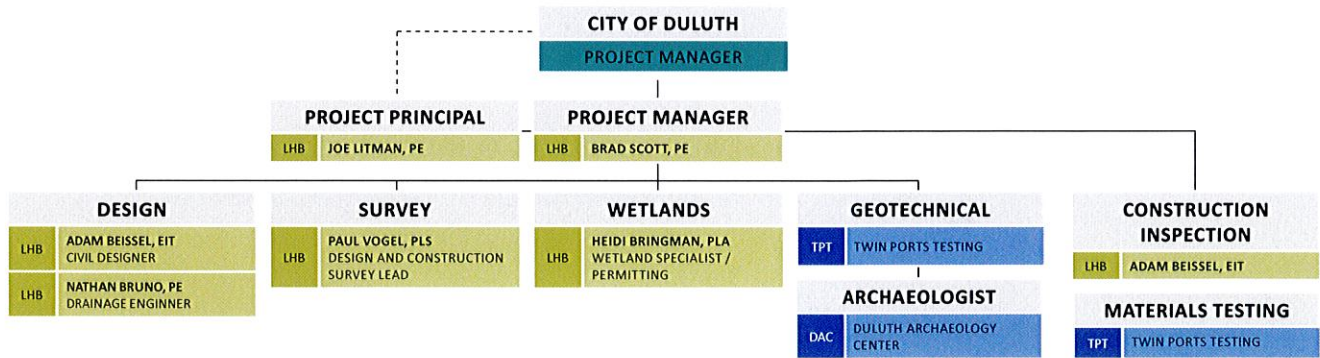
Based on the need to replace below-street utilities and the condition of the streetscapes, the City of Duluth engaged a team led by LHB, Inc. to develop a preliminary and final design for the reconstruction of 11 blocks of Superior Street in Downtown Duluth. Due to the nature of the street and the interests of stakeholders along its route, the team undertook an intensive public engagement process that revealed the desire for a “signature street”—one that recaptures the qualities the existing street once had, creating reasonable spaces for pedestrians and pedestrian activities, and maintaining key functional elements like turn lanes, bus accommodations, and parking.

- Develop a program to engage stakeholders, business and property owners, and other interested parties to define issues and desires for a reconstructed street
- Define the methods of replacing the street’s core infrastructure
- Demonstrate the magnitude of cost that might be associated with various reconstruction and streetscape options
- Provide final plans and specifications including roadway and utility design including HDPE watermain and storm sewer to MnDOT State Aid Standards

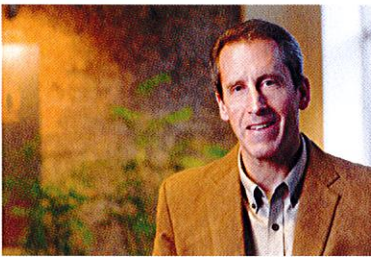


### 3. Personnel

Over the years, LHB has worked hard to produce a proven track record of delivering high quality design and construction services for a range of successful street improvement projects. LHB is committed to promoting and enhancing our working relationships with the city engineering staff moving forward. We are confident that the members of the design team selected for this project have the design experience; commitment to excellence; and enthusiasm to provide a high quality design that will fully satisfy the city’s expectation. Our entire team is locally based in Duluth, Minnesota. Our proposed project organization with key relationships is shown below:



#### Joseph D. Litman, PE – Project Principal



With 29 years of experience, Joe serves as the Manager of LHB’s Transportation and Structures Group, specializing in the management and design and construction administration of civil and structural projects. His responsibilities include overseeing all phases of project development. Joe’s design experience encompasses all facets of civil engineering projects, including environmental and federal reporting and documentation, and design of municipal roadways, sanitary and storm sewer systems. His civil construction administration knowledge includes inspection and staking in accordance with Mn/DOT State-Aid and FHWA construction requirements.

Joe will serve as a valuable resource to the Waseca Industrial Road Extension project, as he was heavily involved through the design and construction of Waseca Industrial Road Extension (Phase 1).

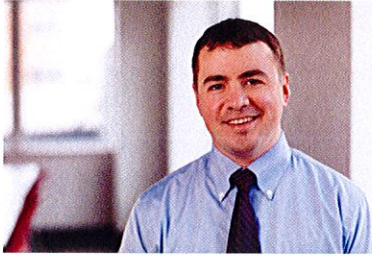
#### Brad P. Scott, PE – Project Manager



As LHB’s Roadway Design Leader, Brad has over 20 years of experience in roadway, construction management, and civil engineering. His project management abilities include design team leadership for complex projects, construction planning and construction administration for City, County, and State highway and street projects. Brad has extensive experience with State Aid and Federal Aid projects for all phases of design and construction including environmental reporting, geometric design, plan preparation, and construction administration. His project experience is rooted in his extensive working history with the City of Duluth on a wide variety of roadway construction and reconstruction projects including Superior Street; Maple Grove Road;

Morningside; 10th Ave East and Lower Piedmont; Oxford, Livingston and Glenwood; Hawthorne Road; and the 2012 Flood Repair projects in Lakeside and Hillside, among others. Brad is thoroughly versed in the City’s standards and is committed to the success of the City of Duluth’s street program and will ensure the plan meets LHB’s quality standards to produce a plan set that serves the City through bidding and construction. Brad is also an experienced and effective communicator and will lead the public involvement process to communicate the City’s goals for the project in a manner that is responsive to the concerns and issues of the public. Brad will serve as the Professional Engineer overseeing the project work through all stages of its development.

### **Adam D. Beissel, EIT – Civil Designer / Construction Inspection**



Adam serves as a civil designer in LHB's Public Works and Structures Group. He has over five years of experience providing design services for a broad variety of clients and project types. Adam's design expertise with roadway reconstruction and construction projects is rooted in practical, first hand experience. Adam started his career working as an inspector on a major MnDOT roadway project in Cloquet, MN. At LHB he's spent several summers working on street projects in St. Louis County (CSAH 16) and Carlton County (CSAH 12) serving as the lead inspector where he received outstanding marks for his project record keeping, communication skills, and practical decision making.

Adam was the lead designer for LHB's 4-plans set project for MnDOT as well as the CSAH 4 reclamation project in Lake County, and recently completed street design work for the City of Duluth on Superior Street. Adam is well versed in City of Duluth, MnDOT, State Aid and Federal Aid project and plan requirements.

### **Nathan Bruno, PE – Drainage Engineer**



Nathan has ten years of design experience in civil engineering specializing in water resource engineering. His extensive experience includes designing storm water treatments ponds, storm sewer and other conveyance systems, bridge hydraulics, sanitary sewers, water mains, site grading and drainage plans, and SWPPP's for both local public and private clients.

Nathan provides analysis, reports, design, metering, plans, permitting, project management, and construction engineering for projects and is intimately familiar with the Municipal State Aid and City of Duluth design standards.

He is knowledgeable of municipal, state, and federal regulations and permitting standards including NPDES, Minnesota Department of Health, and BWSR, so he can assure compliance with permitting agencies. With a sound understanding of MnDNR's natural resources restrictions, he provides design recommendations for working in and around protected waters and will ensure the City's goals are met.

Nathan holds a certification for the design of SWPPP's and uses structural and non-structural BMP to meet treatment goal and design standards. His past design experience includes work on an award-winning city retrofit rain garden project.

### **Paul A. Vogel, PLS – Topographic Survey, Right-of-Way Mapping, Construction Staking**



Paul has 26 years of surveying experience and has provided services for various private and public clients. Paul's role is to complete and oversee a variety of professional assignments to facilitate the completion of roads, building sites, recreational areas, developments, and bridges. He performs ALTA/ACSM, boundary, cadastral, topographic, environmental site, route surveys, which involve section subdivision, right-of-way acquisition, and preparation of appropriate legal description. Paul prepares design, concept plats, preliminary plats, final plats, site maps, and a variety of exhibits for land transfers, right-of-way acquisition, easements, and utility infrastructure. He also provides research, computations, layout, field work, drafting,

and correspondence. He performs surveys involving the location, alignment, and associated infrastructure for railroads and railroad bridges, layout of pipelines, primary and secondary roads, sewer and water lines, curb and gutter, and buildings.

### **Heidi Bringman, PLA, LEED AP BD+C, CDT, CCCA, WDCP – Wetland Delineator**



Heidi is a licensed Landscape Architect and is a Minnesota Certified Delineator and Wetland Specialist with 15 years of experience working in LHB's Landscape Architecture and Planning Group. Heidi's areas of specialization include public engagement, site master planning, and the design of trails, parks, and public spaces for a variety of communities. She enjoys working on both small and large-scale projects, and has assisted many municipal and private clients with establishing and implementing design standards.



Being both a Landscape Architect and Wetland Specialist, Heidi brings a unique perspective to projects. Specialty skills that compliment both landscape architecture and wetland related work include her attention to detail, excellent report writing, graphic illustrations, and her ability to communicate effectively with a wide variety of people, ranging from regulatory officials to neighborhood residents. She also assists many clients with permit writing, processing, and regulatory approvals for site disturbance development projects.

#### 4. Knowledge of Duluth Requirements

We believe that our knowledge of the City of Duluth requirements for the design and construction of street and utility standards is evident in the projects that we have completed over the years. LHB has provided surveying, design, staking, and construction inspection services since our work on the Waseca project beginning in 1989. We take an active approach to involving and listening to members of the community in each of our projects, and understand the City values an effective public involvement process. Over the years, we have provided engineering services for the City of Duluth on over 56 streets. Many of LHB’s city street and utility engineering services include following MnDOT State-Aid standards. We have integrated our understanding of both City and State-Aid standards into our project approach for the Waseca Industrial Road Extension project, and plan to follow the more restrictive of the two requirements. In preparation for Construction Administration services, our materials testing team members have been provided with both the 2018 SALT Schedule of Materials Control and the City of Duluth Schedule of Materials Testing. Through both design and construction administration, we will be sure to follow the City’s Standard Construction Specifications, details and engineering guidelines.

#### HDPE Water Main

LHB has a long resume of providing design and construction oversight of City water main projects. Brad Scott, in particular, has been the lead engineer for the following City projects:

LHB Staff	Lineal ft. of HDPE Water Main Design Experience (8" or larger)	HDPE Size	Project
Brad Scott, PE	5,200+	10-inch	Oxford-Livingston-Glenwood
	800+	20-inch	Michigan Street - 2016
	800+	20-inch	Michigan Street - 2017
	1000+	10-inch	Hawthorne Road
	6,000+	20-inch	Superior Street Reconstruction
	1,042+	8-inch	Duluth SIP 2006 Duluth Heights I
	5,564+	8-inch	Duluth SIP 2008 Morley Heights

#### 5. Work Plan

The following is our project work plan. Included where applicable are project deliverables and required City responsibilities and action items. A detailed project work plan itemizing tasks and associated hours with designated LHB staff is provided at the end of this section with a preliminary project work schedule identifying key project dates and milestones.

TASK 1 - INITIAL SITE VISITS AND CONSULTATIONS	
LHB	<ul style="list-style-type: none"> <li>Participate in kickoff meeting and site visit with City of Duluth staff to review preliminary mapping and confirm project scope and complexity.</li> <li>Participate in a minimum of three status meetings at City Hall.</li> </ul>
City	<ul style="list-style-type: none"> <li>Ensure key city staff members participate in kickoff meeting, site visit and status meetings, as desired.</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>Meeting minutes / summaries and design criteria summary</li> <li>Updated project schedule at each status meeting</li> </ul>
TASK 2 - DATA COLLECTION AND INVESTIGATION	
LHB	<ul style="list-style-type: none"> <li>Provide topographic field surveys including public and private utilities.</li> <li>Provide right-of-way mapping and survey.</li> <li>Perform Gopher State One Call design locate to collect utility facilities information and mapping.</li> <li>Provide geotechnical site investigation.</li> </ul>

## TASK 2 - DATA COLLECTION AND INVESTIGATION - CONTD.

LHB	<ul style="list-style-type: none"> <li>• Provide Wetland Delineation and Wetland Delineation Report.</li> <li>• Facilitate Technical Evaluation Panel (TEP) field review with Regulators</li> <li>• Complete and submit the Joint Application Form for Activities Affecting Water Resources in Minnesota, and NPDES General Construction Permit Application.</li> <li>• Complete a Phase I Archaeological Review and Survey.</li> <li>• Consult with City and BNSF to initiate crossing agreement process and communication protocol.</li> </ul>
City	<ul style="list-style-type: none"> <li>• Provide information from the Phase I Environmental Site Assessment as soon as available.</li> <li>• Provide aerial survey files in AutoCAD Civil 3D</li> <li>• Provide any existing reports, surveys and record drawings, and access to the City of Duluth archive information.</li> <li>• Take joint-ownership of the NPDES General Construction Permit.</li> <li>• Sign permit application forms.</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>• Mapping with underground utilities, right-of-way, and property ownership information.</li> <li>• Geotechnical Report</li> <li>• Wetland Delineation Report</li> <li>• Permit Applications ready for submittal.</li> <li>• Meeting minutes from TEP Field Review</li> <li>• Railroad crossing agreement process action items, protocol and schedule.</li> </ul>

## TASK 3 - PLANS AND SPECIFICATIONS

LHB	<ul style="list-style-type: none"> <li>• Complete and submit 60% design plans to City – complete design to the level that all significant design decisions have been addressed to properly construct the project.</li> <li>• Prepare and submit complete city hydraulics report, drainage calculations, and submittal to MnDOT State Aid Hydraulics</li> <li>• Complete and submit 90% plan submittals to City – Complete design to biddable level including quantity takeoffs, construction details, and statement of estimated quantities.</li> <li>• Complete and submit final plans to City and State Aid for signature – Includes submittal of special provisions, Engineer's Estimate including funding splits; state-aid review checklist; and laboratory testing and inspection services request forms, with City input.</li> <li>• Meet with affected private utilities and determine right-of-way or temporary easement needs.</li> <li>• Meet and communicate with BNSF railroad to coordinate plan and specification reviews and requirements and to finalize and obtain required railroad and utility crossing agreements.</li> <li>• Prepare project SWPPP</li> </ul>
City	<ul style="list-style-type: none"> <li>• Review and provide feedback on 60% design plans, as desired.</li> <li>• Review and provide feedback on 90% design plans, as desired.</li> <li>• Attend and lend input at utility coordination meetings, as required.</li> <li>• Attend and lend input at BNSF coordination meetings, as required.</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>• 60% Design Submittal (July 6, 2018)</li> <li>• State Hydraulics Submittal</li> <li>• Railroad Crossing Agreements</li> <li>• 90% Design Submittal (August 24, 2018)</li> <li>• Plans, Specifications, Checklists and Forms complete and submitted to MnDOT State Aid for Signature (September 7, 2018)</li> <li>• Bid-Ready Special Provisions</li> </ul>

## TASK 4 - COST ESTIMATE

LHB	<ul style="list-style-type: none"> <li>• Complete and submit 90% Engineer's Estimate of Cost.</li> <li>• Complete and submit Final Engineer's Estimate of Cost.</li> </ul>
City	<ul style="list-style-type: none"> <li>• Review and provide feedback on 90% Engineer's Estimate of Cost, if desired.</li> <li>• Review and provide feedback on Final Engineer's Estimate of Cost, if desired.</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>• 90% and Final Engineer's Estimate of Cost.</li> </ul>

**TASK 5 - PROJECT BIDDING**

LHB	<ul style="list-style-type: none"> <li>• Answer City and Contractor questions during bidding</li> <li>• Attend bid opening</li> <li>• Assist with the preparation of the proposal, as desired by the City</li> </ul>
City	<ul style="list-style-type: none"> <li>• Management, advertising, bidding and letting.</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>• Clarifications or addenda, as required.</li> <li>• Advertise for Bids (October 3, 2018)</li> <li>• Receive Bids (October 24, 2018)</li> </ul>

**TASK 6 - CONSTRUCTION ADMINISTRATION**

LHB	<ul style="list-style-type: none"> <li>• Participate in Preconstruction meeting</li> <li>• Provide electronic files, drawings and staking reports from final design.</li> <li>• Provide project management services – contract management, State-Aid documentation and reporting, progress reports, shop drawing review, coordinate with external testing services, record drawings and final records.</li> <li>• Materials Testing in accordance to MnDOT 2018 SALT Material Schedule Control and City of Duluth Schedule for Materials Testing</li> <li>• Construction staking, as required by the Contractor.</li> </ul>
City	<ul style="list-style-type: none"> <li>• Participate in Preconstruction meeting</li> <li>• Review and approval of pay estimates</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>• Progress reports, progressive and final pay estimates, state-aid documentation, final punch list, record drawings and final records.</li> <li>• Start Construction (May, 2019)</li> <li>• Construction Completion (October 2019)</li> <li>• Materials Testing Reports in accordance to MnDOT 2018 SALT Material Schedule Control and City of Duluth Schedule for Materials Testing</li> <li>• Submittal of Record Drawings (December, 2019)</li> <li>• Construction survey stakes</li> </ul>

**TASK 7 - CONSTRUCTION INSPECTION**

LHB	<ul style="list-style-type: none"> <li>• A MnDOT Certified Inspector or Surveyor for 1,200 hours for construction inspection services</li> <li>• Construction staking, as required by the Contractor.</li> </ul>
City	<ul style="list-style-type: none"> <li>• Be available for contact during construction process, as needed.</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>• Field and quantity measurements, communication log and daily project diary with photographs</li> <li>• Construction survey stakes</li> </ul>

**TASK 8 - MEETINGS AND PUBLIC PARTICIPATION**

LHB	<ul style="list-style-type: none"> <li>• Attend and facilitate three public meetings with residents and businesses – prepare and mail notices, prepare meeting exhibits and presentation, facilitate discussion with residents and prepare meeting minutes.</li> <li>• Attend and facilitate three small group meetings with businesses - prepare and mail notices, facilitate discussion and prepare meeting minutes</li> <li>• Meet with City and MnDOT staff to discuss design</li> <li>• Attend and facilitate on-site construction meetings, once work commences</li> </ul>
City	<ul style="list-style-type: none"> <li>• Attend and lend input at public meetings</li> <li>• Attend and lend input at three small group meetings with businesses</li> <li>• Have necessary staff available for meetings to discuss design</li> <li>• Attend on-site construction meetings, if desired.</li> <li>• Provide mailing list for residents and businesses invited to attend public input meetings and small group meetings</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>• Public Meeting #1 (June, 2018)</li> <li>• Public Meeting #2 (Late August, 2018)</li> <li>• Meeting minutes/summaries</li> <li>• Public Meeting Exhibits and Material</li> <li>• Prepare and mail notices</li> </ul>



**WORK PLAN & COST PROPOSAL**

Project Name **Waseca Industrial Road Extension**  
 Client **City of Duluth**  
 Preparer **LHB**

Project Number **180273**  
 Date **4/11/18**

Work Task	Description	LHB								TOTAL HOURS
		Joe Litman	Brad Scott	Adam Beissel	Nathan Bruno	Heidi Bringman	Steve Hohenstein	Paul Vogel	Mike Zabukover	
		Project Principal	Project Manager	Roadway Designer	Drainage Engineer	Wetland Specialist	Technician	Land Surveyor	Survey Tech	
<b>1.00</b>	<b>Initial Site Visits &amp; Consultations</b>	<b>1</b>	<b>10</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>
1.01	Project Kickoff / Initial Site Visit	1	4	4						
1.02	(3) Status Meetings at City Hall		6	9						
<b>2.00</b>	<b>Data Collection &amp; Investigation</b>	<b>0</b>	<b>9</b>	<b>16</b>	<b>0</b>	<b>29</b>	<b>61</b>	<b>45</b>	<b>142</b>	<b>302</b>
2.01	Field Survey & Mapping						40	8	50	
2.02	Boundary Survey		2	4				13	20	
2.03	ROW Acquisition Exhibits & Descriptions (9 EA)		3					24	72	
2.04	Gopher State One Call & Utility Verification		2	12						
2.05	Geotechnical Coordination		1							
2.06	Archaeological Coordination		1							
2.07	Wetland Delineation & Report					10	11			
2.08	(1) Technical Evaluation Panel (TEP) Field Review					3				
2.09	Complete and submit regulatory permit applications (Joint Application, NPDES)					16	10			
<b>3.00</b>	<b>Plans and Specifications</b>	<b>5</b>	<b>94</b>	<b>334</b>	<b>60</b>	<b>0</b>	<b>86</b>	<b>0</b>	<b>0</b>	<b>579</b>
3.01	Title Sheet (1 Sheet)		1	2						
3.02	Statement of Estimated Quantities ( 2 Sheets)		2	8			8			
3.03	Construction Notes & Standard Plates (1 Sheet)		1	2						
3.04	Tabulations (10 Sheets)									
3.05	Removals, Pavement, Erosion Control & Turf		4	12			12			
3.06	ADA, Driveways, Signing, Striping		6	12			6			
3.07	Drainage, Watermain, Sanitary		6	40	8		20			
	Typical Sections (2 Sheets)		4	12						
3.08	Alignment Plan and Tabulation (2 Sheets)		4				8			
3.09	Construction Details (13 Sheets)									
3.10	ADA & Design Documentation (5 Sheets)		4	26						
3.11	Intersection Details (4 Sheets)		6	36						
3.12	Stormwater Basins (3 EA)			6	24					
3.13	Railroad Crossing (Plan & Profile)	4	4	20						
3.14	Construction Plans and Profiles (6 Sheets - 1" = 40')		8	80						
3.15	Drainage Profiles (4 sheets)		4	8	20					
3.16	Sanitary Profiles (2 Sheets)		6	16						
3.17	Erosion and Sediment Control Plan (3 Sheets)									
3.18	City standard SWPPP and EC Details		4	10						
3.19	Traffic Control (2 Sheets)		4	8						
3.20	Earthwork Volume Summary (1 Sheet)		6	20						
3.21	Cross Sections (16 Sheets)		6	16			32			
3.22	Special Provisions (90% Complete)	1	6							
3.23	State Hydraulics Submittal				8					
3.24	State Aid Plan Submittal		8							
<b>4.00</b>	<b>Cost Estimate</b>	<b>0</b>	<b>6</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>
4.01	90% Cost Estimate		4	4						
4.02	Final Cost Estimate		2	4						
<b>5.00</b>	<b>Project Bidding</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>
5.01	Clarifications or Addenda		2	6						
<b>6.00</b>	<b>Construction Administration</b>	<b>2</b>	<b>35</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>100</b>	<b>193</b>
6.01	Preconstruction Meeting	2	3	6						
6.02	Construction Project Management (20 Weeks)		20							
6.03	Provide electronic files and staking reports			10						
6.04	Construction Staking (Staking Files, Hubs, Utilities, Curb Stakes & Blue Tops)			2				12	100	
6.05	Shop Drawing Review		4	6						
6.06	State Aid Documentation		8	20						
<b>7.00</b>	<b>Construction Inspection</b>	<b>0</b>	<b>20</b>	<b>1200</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
7.01	Construction Inspection (Assume 20 weeks @ 60 hrs/week)		20	1200						
<b>8.00</b>	<b>Meetings and Public Participation</b>	<b>0</b>	<b>48</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>84</b>
8.01	(3) Public Meetings		12	20						
8.02	(3) Small Group Meetings		12	12						
8.03	(2) Meetings with City and MnDOT staff		4	4						
8.04	(20) Onsite Construction Meetings		20							
<b>Total Hours</b>		<b>8</b>	<b>224</b>	<b>1657</b>	<b>60</b>	<b>29</b>	<b>147</b>	<b>57</b>	<b>242</b>	<b>2424</b>

## 6. Schedule

We acknowledge the general schedule provided in the Request for Proposals, and foresee no issues in being able to deliver within the time frames specified. We understand and acknowledge the importance of the early coordination regarding impacts to right-of-way and the BNSF railroad. Beyond reiterating the major schedule deliverables below, we have integrated these dates into our work plan.

RFP Issued.....	March 23, 2018
Proposals Due.....	April 11, 2018
Selection of Consultant.....	April 13, 2018
Council Approval to Award Contract.....	April 23, 2018
Public Meeting .....	June 2018
60% plans submitted for City review.....	July 6, 2018
90% plans submitted for City review.....	August 24, 2018
Public Meeting .....	Late August 2018
Plans and Specifications complete.....	September 7, 2018
Plans and Specifications submitted to State Aid for signature.....	September 7, 2018
Advertise for bids.....	October 3, 2018
Receive Bids.....	October 24, 2018
Start Construction .....	May 2019
Construction Completion.....	October 2019
Submittal of record drawings .....	December 2019

## 7. References

### **Roberta Dwyer - Project Manager | MnDOT**

1123 Mesaba Avenue, Duluth, MN 55811

roberta.dwyer@dot.state.mn.us

### **Steve Krasaway - Engineer | St. Louis County**

4787 Midway Road, Duluth, MN 55811

krasaway@stlouiscountymn.gov

### **Krysten Foster - Cook and Lake County Engineer**

609 East Fourth Avenue, Grand Marais, MN 55604

krysten.foster@co.cook.mn.us

### **Dave Conkel - State Aid Bridge Engineer | MnDOT**

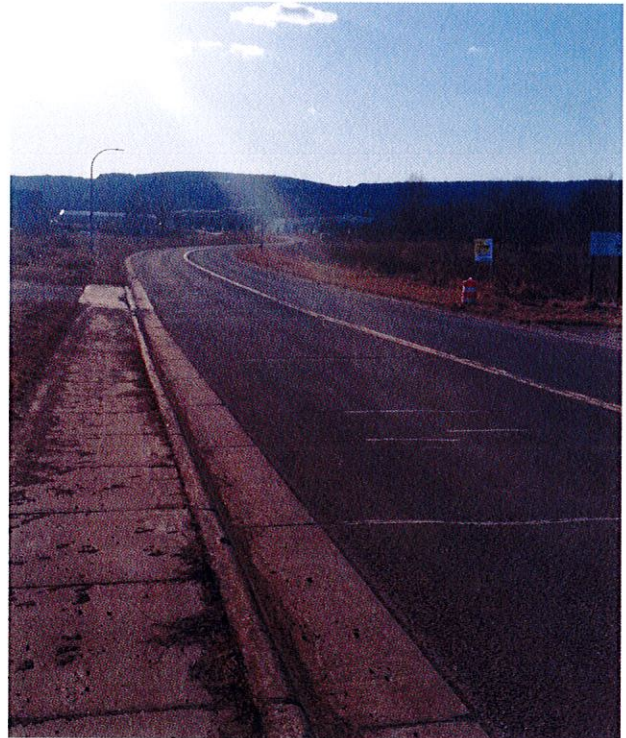
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### **Jim Foldesi - Public Works Director/Highway Engineer St. Louis County**

4787 Midway Road, Duluth, MN 55811

foldesij@stlouiscountymn.gov



## Addendum

We acknowledge the receipt of Addendum #1 dated April 3rd, 2018.



**CITY OF DULUTH**  
PURCHASING DIVISION  
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**Addendum #1**  
**File # 18-0297**

**Project: 1108, Waseca Industrial Road Extension- Design and Construction Phase**

This addendum serves to notify all proposers of the following changes to the solicitation documents:

The City of Duluth Business Development Office is soliciting a Phase I environmental study separately for this project. Once that study is complete, the results will be shared with the successful consultant for the road extension project. As a result, you do not need to include the costs for environmental services in your proposals at this time. If environmental work is needed following the Phase 1 investigation, it may be added to this engineering services agreement at a later date.

Please acknowledge receipt of this Addendum by returning it with your proposal.

Posted: April 3, 2018