"A Growing Community"

UTILITY COMMISSION AGENDA
Wednesday, May 4, 2016
5:30 p.m.

1. **Meeting Called to Order**

2. **Roll Call**

3. **Consent Agenda**
The following items are considered non-controversial by staff and are recommended to be read and passed in one motion. Any commission member, staff, citizen or meeting attendee can request one or more items be pulled from the consent agenda and the item will be pulled and addressed immediately after the passage of the consent agenda. Otherwise, the following will be passed in one motion:

   A) Approval of Meeting Minutes from April 6, 2016 (pp. 4 - 13).

Agenda

4. 2016 Chip Seal Project Monthly Update (pg. 14).
**Information only.*

5. 2016 Crow Wing County Cost Share Agreement for the 2016 City of Baxter Chip Sealing Project (pp. 15 – 21).
**Staff recommends the Utilities Commission make a motion to City Council to approve the 2016 Crow Wing County Cost Share Agreement for the 2016 City of Baxter Chip Sealing Project in the estimated amount of $30,002.89.*

6. Crow Wing County Stormwater Ponding Request for the 2017 CSAH 48 Improvement Project (pp. 22 – 23).
**Staff recommends the Utilities Commission make a motion to City Council to approve allowing Crow Wing County to construct a stormwater pond on the south side of Rush Lake on city property.*

7. WSB Traffic Engineering Review and Analysis for HJ Development – Central Lakes Crossing (Enclosed in packet).
**Staff recommends the Utilities Commission make a motion to City Council to approve the WSB Traffic Engineering Review and Analysis for HJ Development for Central Lakes Crossing and conclusions/recommendations 1 – 7 as written in the study.*

8. Elmwood Addition Preliminary & Final Plat (Enclosed in packet).
**Staff recommends advising the Planning and Zoning Commission that the Utilities Commission has no concerns with the Elmwood Addition Preliminary & Final Plat contingent on the following:*
    1. *Additional 10-feet of right-of-way on Elder Drive*
    2. *Developers Agreement must be in place before the building permit is issued.*
    3. *Dedicated 30' x 30' site triangle at the intersection of Elder Drive and Forthun Road.*
    4. *Dedicated 30' x 30' site triangle at the intersection of Forthun Road and Elmwood Drive.*
    5. *Dedicated 30' x 30' site triangle at the intersection of Elder Drive and Garrison Road.*

9. Central Lakes Crossing Junior Box Retail 100-Year Stormwater Management Plan and WSN Stormwater Review Letter (Enclosed in packet).
**Staff recommends the Utilities Commission make a motion to City Council to approve the Sambatek Engineering 100-Year Stormwater Management Plan for the Central Lakes Crossing Junior Box Retail Development.*

10. Central Lakes Crossing Junior Box Retail Civil Plans (Enclosed in packet).
**Preliminary Comments, Developers Agreement will be at the June Utilities Commission Meeting.*

11. Central Lakes Crossing 3rd Addition Preliminary & Final Plat (Enclosed in packet).
**Staff recommends advising the Planning and Zoning Commission that the Utilities Commission has no concerns with the Central Lakes Crossing 3rd Addition Preliminary & Final Plat contingent on the following:*
    1. *All water and sanitary sewer easements be dedicated on the plat.*
    2. *A developer's agreement be in place before a building permit is issued.*

12. Central Lakes Crossing Multi-Tenant 100-Year Stormwater Management Plan and WSN Stormwater Review Letter (Enclosed in packet).
**Staff recommends the Utilities Commission make a motion to City Council to approve the Sambatek Engineering 100-Year Stormwater Management Plan for the Central Lakes Crossing Multi-Tenant Retail Development.*

13. Central Lakes Crossing 3rd Addition Civil Plans (Enclosed in packet).
**Preliminary Comments, Developers Agreement will be at the June Utilities Commission Meeting.*

14. 2015 Mill & Overlay Project Update (pp. 24 – 27).
**Information only.*

15. 2015 Excelsior Road Improvements Project Monthly Update (pg. 28).

**Information only.*

16. 2015 Excelsior Road Improvements Project Final Pay Estimate No. 8 (pp. 29 – 34).
**Staff recommends the Utilities Commission make a motion to City Council to approve the Anderson Brothers Final Pay Estimate No.8 in the amount of $23,617.53 for the 2015 Excelsior Road Improvements Project.*

17. 2016 Fairview Road Improvements Project Monthly Update and Project Schedule (pp. 35 – 39).
**Information only.*

18. 2016 Golf Course Drive Improvements Project Monthly Update (pp. 40 – 41).
**Information only.*

19. 2016 Mill and Overlay, Full Depth Reclamation and Right Turn Lane Construction Monthly Update and Project Schedule & Memo (pp. 42 - 44).
**Information only.*

20. 2015 Dellwood Drive and Novotny Road, Inglewood Drive and Independence Road Improvements Project Monthly Update (pp. 45 - 48).
**Information only.*

21. WSN Agreement for Professional Services for the 2015 Dellwood Drive and Novotny Road, Inglewood Drive and Independence Road Improvements Project Memo and Fee Amendment Requests (pp. 49 – 67).
    a) **Staff recommends the Utilities Commission make a motion to approve the WSN Agreement for Professional Services Fee Amendment for 2015 Independence Road Improvements Project in the amount of $994.00.*

    b) *Staff recommends the Utilities Commission make a motion to approve the WSN Agreement for Professional Services Fee Amendment for 2015 Inglewood Drive Improvements Project in the amount of $5,545.00.*

    c) **Staff recommends the Utilities Commission make a motion to approve the WSN Agreement for Professional Services Fee Amendment for the 2015 Dellwood Drive and Novotny Road Improvements Project in the amount of $12,269.00.*

22. 2015 Dellwood Drive and Novotny Road, Inglewood Drive and Independence Road Improvements Project Change Order No. 3 (pp. 68 – 74).
**Staff recommends the Utilities Commission make a motion to City Council to approve the R. L. Larson Excavating Change Order No. 3 in the increased amount of $30,774.25 for the 2015 Dellwood Drive & Novotny Road, Inglewood Drive and Independence Road Improvements Project.*

23. 2015 Dellwood Drive & Novotny Road, Inglewood Drive and Independence Road Improvements Project Partial Pay Estimate No. 4 (pp. 75 – 84).
**Staff recommends the Utilities Commission make a motion to City Council to approve the R. L. Larson Excavating Partial Pay Estimate No. 4 in the amount of $63,480.63 for the 2015 Dellwood Drive & Novotny Road, Inglewood Drive and Independence Road Improvements Project.*

24. Isle Drive Office Park 100-Year Stormwater Management Plan (pg. 85).
**Staff recommends the Utilities Commission make a motion to City Council to approve the updated Isle Drive Office Park 100-Year Stormwater Management Plan.*

25. Lift Station No. 8 Reconstruction Project Monthly Update (pg. 86).
**Information only.*

26. Water Treatment Plant Polymer Pilot Testing Monthly Update (pg. 87).
**Information only.*

27. MN Average Water Cost Per Gallon (pg. 88).
**Information only.*

28. Future County Highway Projects (Enclosed in packet).
**Information only.*

29. Local Option Transportation Funding Sources for Minnesota Counties (pp. 89 - 100).
**Information only.*

30. 2015 Consumer Confidence Report (pp. 101 – 108).
**Information only.*

31. Adjourn.

UTILITIES COMMISSION
April 6, 2016

The regular meeting of the Baxter Utilities Commission was called to order at 5:30 p.m. by Chairman Rock Yliniemi.

MEMBERS PRESENT: Commissioners Jack Christofferson, Shawn Crochet, Dave Franzen, Doug Wolf, Council Liaison Mark Cross and Chairman Rock Yliniemi.

MEMBERS ABSENT: None.

STAFF PRESENT: Public Works Director/City Engineer Trevor Walter and Administrative Assistant Mary Haugen.

OTHERS PRESENT: WSN Consulting Engineer Aric Welch and SEH Consulting Engineer Scott Hedlund.

APPROVAL OF MINUTES
MOTION by Commissioner Crochet, seconded by Commissioner Wolf to approve the Utilities Commission minutes of March 16, 2016. Motion carried unanimously.

2015 EXCELSIOR ROAD IMPROVEMENTS PROJECT MONTHLY UPDATE
SEH Consulting Engineer Hedlund informed the commission the slope correction has been completed on Excelsior Road and staff is working on closing out the project. The final pay estimate should be at the May Utilities Commission meeting.

2016 FAIRVIEW ROAD IMPROVEMENTS PROJECT MONTHLY UPDATE
SEH Consulting Engineer Hedlund informed the commission that City Council approved the plans and specifications and authorized advertisement for bids at the April 5 City Council meeting. Bid opening is scheduled for Tuesday, May 3, 2016 at 11:00 a.m.

SEH AGREEMENT FOR PROFESSIONAL SERVICES – 2016 FAIRVIEW ROAD IMPROVEMENTS PROJECT FOR BIDDING, FINAL ASSESSMENT CALCULATIONS/HEARING, ADDITIONAL DESIGN AND EASEMENT SUPPORT
SEH Consulting Engineer Hedlund reviewed the Agreement for Professional Services for the Fairview Road Improvements Project. This agreement covers the bidding, assessments, design and easement support of the project. Mr. Hedlund explained that there were more easements than originally estimated and they are working with the school district on easements and pond cleaning agreements which were not in the original contract and scope of services.

Public Works Director/City Engineer Walter informed the commission that he has no concern with this agreement and that Mr. Hedlund has been in contact with him regarding this phase of the project and has kept the City informed of additional services in the monthly reports submitted to the City for this project.

MOTION by Commissioner Wolf, seconded by Commissioner Franzen to recommend City Council approve the Agreement for SEH Professional Services for the 2016 Fairview Road Improvements Project for Bidding, Final Assessment Calculations/Hearing, Additional Design and Easement Support in the Not to Exceed amount of $25,353.00. Motion carried unanimously.

2016 GOLF COURSE DRIVE IMPROVEMENTS PROJECT MONTHLY UPDATE

Public Works Director/City Engineer Walter gave a brief update on the project. Public Works Supervisor Cassady has walked the project area with Bolton & Menk for the replacement of existing curb and gutter. Survey work has been completed and final design has been started.

Project plans and specifications are anticipated at the Utilities Commission meeting on May 4, 2016.

2016 GOLF COURSE DRIVE IMPROVEMENTS PROJECT STORM SEWER REROUTE AT MILL'S FLEET FARM BUILDING SITE

Public Works Director/City Engineer Walter gave a brief update on the condition of the existing storm sewer system. The inspection showed the sewers to be in very good condition and there does not appear to be any reason, from a condition or capacity perspective, to reroute the storm sewers currently located beneath the Mill's Fleet Farm Building.

Bolton & Menk did recommend inspections of the storm sewers be conducted at least once every six years until deterioration is found at which time the sewers should be inspected more frequently or repaired or replaced.

2016 MILL AND OVERLAY PLANS AND SPECIFICATIONS

WSN Consulting Engineer Welch reviewed the final mill and overlay plans. The residential streets are in fairly good condition; however, the commercial area will need to be milled deeper in order to make a more uniform and thicker base material.

Public Works Director/City Engineer Walter stated that Public Works Supervisor Cassady has requested that hand milling around the gate valves and manholes be required in the specifications.

Mr. Welch reviewed the Maplewood Drive section that has existing water drainage issues and ditching will be installed in a few areas in order to keep the city's water off residential properties.

There is an existing 66-foot right-of-way to the White Sand Lake water edge located next to 13437 Maplewood Drive that will have a small apron to allow access to the lake in the winter. The commission discussed any possible liability concerns to the city by installing the apron and was it a necessity. Chairman Yliniemi stated this is the access point to the lake during the winter for the residents on Maplewood Drive, it is not to encourage use but it is widely used in the winter for getting on off the ice.

Public Works Director/City Engineer Walter stated a wider shoulder could be installed which would be safer from the liability angle of a driveway approach. Mr. Walter explained to the new commissioners there is no area to park any vehicles it is just City street right of way 66 feet wide all the way down to the water's edge of White Sand Lake. Mr. Welch said that something would be shown on the plans that could be defined with council at a later time and have the City Council address the liability issue.

Mr. Welch inquired what the City would like to do with regards to signage at the end of Golf Course Drive and Woida Road. There is a 90° corner at that location that should have some advanced notification. Mr. Walter requested the consulting engineer contact Mills Properties on behalf of the City regarding their response on closing that access point to their property in order to clean up that corner. Install curb and gutter around outside radius and balck dirt and seed behind the curb so there is no access.

Commissioner Christofferson inquired on the timing of both the Mill & Overlay and Lift Station No. 8 Reconstruction. Mr. Walter stated that Lift Station No. 8 Reconstruction will need to be completed before the mill and overlay is done so the road will not be damaged. The City and Project Engineer will work with the Lift Station No. 8 Contractor and try really hard to make this happen in project schedules.

MOTION by Commissioner Franzen, seconded by Commissioner Christofferson to recommend City Council adopt Resolution No. 2016-XX Approving the 2016 Mill and Overlay Plans and Specifications and directing staff to bid the project. Motion carried unanimously.

WSN AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR THE INGLEWOOD DRIVE RAILWAY CROSSING AND FOLEY ROAD IMPROVEMENTS FEASIBILITY REPORT

WSN Consulting Engineer Welch submitted an engineering proposal to the commission for consideration for updating the Inglewood Drive Railway Crossing and Foley Road Improvements Feasibility Report. The new project limits make up three old outdated feasibility reports. WSN will put all three feasibility reports into one report and update total estimated project costs. The following proposal was submitted:

> In response to City staff request, we are pleased to submit a proposal to update and prepare a feasibility study for the Foley Road and Inglewood Drive railway crossing improvements. We are familiar with the project area and have assisted the City with the following previously completed work directly related to the proposed project.
>
> Design and construction observation/administration of existing sanitary sewer and water distribution system improvements adjacent to the project area.
>
> - Foley Road Area Improvements Feasibility Report (Five Year Utility and Roadway Improvements Feasibility Report), November 2000
> - Foley Road Area Improvements Improvement Hearing, October 4, 2001

- Preliminary Inglewood Drive Railway Crossing conceptual layouts and preliminary cost estimates
- Inglewood Drive Railway Crossing Surface Transportation Program funding application, December 2015

Based on our previous experience and discussions with City staff, we understand the project is scheduled for construction in 2021 and will consist of the following improvements:

- Inglewood Drive - TH 210 to Foley Road
  - TH 210 Intersection and signal improvements.
  - Urban roadway extension from TH 21O to Foley Road.
  - Separated bituminous trail improvements.
  - Railway crossing meeting silent crossing requirements.
  - Right-of-way acquisition from BNSF.

- Foley Road - CSAH 48 to Forthun Road
  - Sanitary sewer extension along Foley Road from 630' west of Inglewood Drive to Animal Care Center.
  - Water distribution improvements along Foley Road from 630' west of Inglewood Drive to Forthun Road.
  - Inglewood Drive intersection and turn lane improvements.
  - Roadway realignment at Inglewood Drive intersection.
  - Roadway realignment at Knollwood Drive intersection.
  - Urban roadway and bituminous trail reconstruction.
  - Full depth reclamation improvements on remainder of Foley Road from CSAH 48 to Forthun Road (scheduled as part of Pavement Management Plan)

- Knollwood Drive - TH 210 to Foley Road
  - TH 210 intersection closure and signal removal
  - Removal of Knollwood Drive from TH 210 to Foley Road
  - Railway crossing removal

Our proposed scope of services is as follows:

<u>Feasibility Study</u>
WSN proposes to complete a feasibility study meeting the requirements of the Minnesota Chapter 429 assessment process. Specific items included with this proposal are:

- Research of existing documents and studies.
- Preparation of preliminary study exhibits.
- Preparation of preliminary property acquisition exhibit.
- Estimated preliminary quantities.
- Preparation of preliminary cost estimates and assessment calculations.

- Preparation of draft feasibility study that includes a review of existing conditions, proposed improvements, estimated project costs, project implementation and discussion of conclusions and recommendations.
- Review preliminary study with City staff and Council.
- Prepare final study based on City review comments.

WSN proposes to perform the services described above on an hourly basis, in accordance with the attached fee schedule, for the Not to exceed amount of $9,750.00.

Public Works Director/City Engineer Walter stated two reasons for this update were for consideration of the 5-Year Capital Improvements Plan 2017 budgeting and possible expansion of the veterinary clinic on Foley Road. The updated and current estimated dollar amounts are needed for the 2017 budget cycle in order for the council to make good informed decisions.

MOTION by Commissioner Franzen, seconded by Commissioner Christofferson to recommend City Council approve the WSN Agreement for Professional Engineering Services for the Inglewood Drive Railway Crossing and Foley Road Improvements Feasibility Report Update in the Not to Exceed amount of $9,750.00. Motion carried unanimously.

LIFT STATION NO. 8 RECONSTRUCTION BID RECOMMENDATION

WSN Consulting Engineer Welch reviewed the bids for the Lift Station No. 8 Reconstruction project. A total of five bids were received. All bids conformed to the plan, specification and advertisement requirements.

1. DeChantal Excavating, LLC	$ 76,941.00
2. Anderson Brothers Construction Company	$ 89,812.79
3. Eagle Construction Company Inc.	$ 89,900.00
4. Landwehr Construction, Inc.	$106,574.00
5. CCS Contracting, Inc.	$115,000.00

The low bid is approximately $12,960 or 15% lower than the second and third low bids. This raised some concern considering this was DeChantal Excavating's first bid on a Baxter lift station reconstruction project. WSN discussed this concern with Mr. DeChantal and he assured WSN that he had thoroughly reviewed the plans and specifications and felt that his bid was appropriate and confirmed this with an email dated Friday March 25, 2016. Mr. DeChantal also confirmed that all subcontractors on the project have previous experience with Baxter lift station reconstruction projects.

The last three lift station reconstruction projects of similar size and scope had construction costs of $76,998.08, $88,000, $97,500. The apparent low bid of $76,941.00 appears to be reasonable based on previous bid history. The total project cost including construction ($76,941), Quality Flow equipment procurement contract for the controls, pumps and hatches ($49,770) and engineering ($9,150) is $135,861. The 2016 budgeted amount for this work in the current 20-Year Lift Station Maintenance Plan was $140,000.00.

MOTION by Commissioner Franzen, seconded by Commissioner Christofferson to recommend City Council award the 2016 Lift Station No. 8 Reconstruction Project to DeChantal Excavating in the amount of $76,941.00. Motion carried unanimously.

NORTH INGLEWOOD AREA UTILITY IMPROVEMENTS FEASIBILITY UPDATE

City Consulting Engineer Welch reviewed the feasibility of extending municipal sanitary sewer collection system and water distribution improvements to properties on either side of Inglewood Drive area from Peace Road and to CSAH 77 (Pine Beach Road) and along CSAH 77 from Inglewood Drive to Edgewood Drive.

Much of the property in the project area was recently annexed into the city and is currently in a transition zoning and not permanently zoned by the City. Only one parcel on the east side of Inglewood Drive, approximately half way between Woida Road and CSAH 77, is currently zoned Medium Density Residential (R-2). The north end of the project area is currently commercially developed on both sides of Inglewood Drive with the remaining areas being comprised of a mixture of single family residential parcels, undeveloped property and low lying undevelopable property.

The Inglewood Drive roadway and surface drainage are in excellent condition. Peace Road is an existing 22' wide gravel surfaced roadway with swales on either side to handle surface runoff.

Proposed improvements include extending municipal sanitary sewer collection and water distribution piping to the project area. With the recent roadway improvements to Inglewood Drive, utility routes were identified that minimized disruption to the new roadway surface. Four options were considered as listed below:

Option 1 – Connection to Edgewood Drive

The first option reviewed was connecting to the existing 10" PVC stub at the north end of Edgewood Dive and extending 10" gravity PVC sanitary sewer main piping westerly approximately 700' along the south side of CSAH 77. The depth of the piping at the westerly termination was approximately 6.6 feet deep and insulation would be required at the west end of the extension. From this point no further extension either westerly or southerly was feasible due to the low lying property and loss of ground cover to provide frost protection. Manholes are proposed at a maximum spacing of 400' with six-inch services proposed to all potentially developable lots to allow for future commercial development. All services are proposed to be stubbed to the right-of-way of easement lines.

Twelve inch watermain is proposed to be extended along the same route and adjacent to the sanitary sewer mains being proposed. Hydrants would be located at approximate 600' intervals. 1 ½" services are proposed to all potentially developable lots in the project area to allow for future commercial development. All proposed services will be extended to the right-of-way line or easement line.

This option does not provide service to the entire project area, but could be utilized to service property in the southeast quadrant of the Inglewood Drive /CSAH 77 intersection. Service could be provided to this property if considerable fill was placed to provide frost protection or a private pressure system was utilized.

Option 2 – Construct Lift Station

The second option reviewed included the same 10" sanitary sewer and 12" water main extension from Edgewood Drive as discussed in Option 1, but included a lift station to provide service to the remainder of the project area and provide service to future development in the surrounding areas. For purposes of this report a duplex lift station is proposed on the north side of Peace Road approximately 1,300' west of Inglewood Drive. The lift station would discharge in a northerly and easterly direction to the 10" gravity extension being proposed from Edgewood Drive.

From the lift station, 8" PVC collection piping is proposed in an easterly direction along Peace Road to the west side of Inglewood Drive. From that point, 8" PVC main is extended northerly and easterly along the edges of Inglewood Drive to the north end of the project area. One open cut crossing of Inglewood Drive is proposed to avoid low lying areas along the roadway corridor. An 8" PVC gravity main is also proposed to be extended northerly from the lift station along the west property line to the south side of CSAH 77. From that point 8" PVC would be extended easterly along the south side of CSAH 77 to a point near the Inglewood Drive intersection.

Depths of the proposed piping vary from 23' deep at the lift station to 10' below existing surface grade. Manholes are proposed at a maximum spacing of 400' with four-inch services proposed to each residentially developed and potentially developable lot. Six-inch services are proposed at each commercially developed and potentially developable lot. All services are proposed to be stubbed to the right-of-way of easement lines.

Water mains are proposed to be extended along the same route and adjacent to the sanitary sewer mains being proposed. Twelve-inch main would be extended along the south side of CSAH 77 to the west end of the proposed improvements. All remaining water main is proposed to be 8" PVC located in the same locations and adjacent to the proposed sanitary sewer mains. Hydrants would be located at a maximum of 600' intervals One-inch services are proposed to each residential developed and potentially developable lot in the project area with 1 ½" services provided to each commercially developed and potentially developable lot in the project area. All proposed services will be extended to the right-of-way line or easement line.

Peace Road is proposed to be removed to allow for utility construction and replaced to a 26' wide bituminous surfaced roadway with drainage swales on both side to handle surface runoff.

The majority of the proposed municipal utility mains are proposed to be constructed within utility easements located adjacent to existing roadway corridors or existing lot lines. These easements need to be obtained from the private property owners. Obtaining private easements was proposed to minimize interference with existing roadways and interference with existing private utilities (telephone, fiber-optic, electric) located in ditches along the roadway corridors.

Option 3 – Connection to Woida Road
The third option considered was connecting to the existing 10" PVC main at the Woida Road intersection and extending mains northerly along Inglewood Drive to the project area. It was noted that this main could only be extended approximately 100' north of Woida Road prior to running out of cover. Due to the significant distance from the project area, and limited amount of cover, this option was abandoned and dropped from further consideration.

Option 4 – Do Nothing
The do nothing options was considered but was dropped from further consideration since it does not provide service to the project area and allow for future development under current City zoning ordinances.

Mr. Welch stated that he was looking for any comments or input on the report. Public Works Director/City Engineer Walter informed the commission that Planning and Zoning is waiting to see if the area can be feasibly served with city utilities before making a final Comp Plan amendment on current zoning and future land use recommendation to City Council. Mr. Walter stated the city would have significant holding costs for this project but it could be done in phases.

Commissioner Christofferson inquired if boring Inglewood drive was being considered. Mr. Welch stated it was not being considered at this time; however, it could be done but it is hard to keep grade on sanitary sewer when boring but it would eliminate tearing up the Inglewood Drive in two spots. This option could be considered during final design of the project.

2015 DELLWOOD DRIVE AND NOVOTNY ROAD, INGLEWOOD DRIVE AND INDEPENDENCE ROAD IMPROVEMENTS PROJECT MONTHLY UPDATE
City Consulting Engineer Welch informed the commission that the Contractor will begin cleanup work on the project starting in early April. A schedule for the remaining paving work on Dellwood Drive and Novotny Road has not been provided at this time.

Completion dates per Change Order No. 2 Agreement, work on Dellwood Drive and Novotny Road will be suspended for the winter as long as the conditions in the agreement have been satisfied. Work will commence in the spring with the revised substantial completion date of May 26, 2016 and final completion date of June 9, 2016.

AUDUBON WAY WATERMAIN PIPE REPAIR
The Contractor was able to locate the leak in the directional drilled watermain between Hill Top Trailer Sales and Holiday Inn & Suites. The leak was caused by a 3" gash in the pipe located in the wetland south of Audubon Way. WSN worked with the Army Corps of Engineers and Crow Wing Count to secure a permit to dig in the wetland and repair the pipe. The repair was completed on Tuesday March 3, 2016 and the pipe has since passed the pressure and bacteria testing and the line is fully charged and being used by the City.

WSN AGREEMENT FOR ENGINEERING SERVICES FOR THE EXCELSIOR ROAD, FAIRVIEW ROAD AND EDGEWOOD DRIVE FEASIBILITY STUDY FEE AMENDMENT

The agreement was provided to the commission as information only. City Council acted on the WSN Agreement for Engineering Services for the Excelsior Road, Fairview Road and Edgewood Drive Feasibility Report Amendment at the April 5, 2016 council meeting due to time constraints on the project.

RIVERWOOD BANK DRAFT DEVELOPERS AGREEMENT

Public Works Director /City Engineer Walter reviewed the Development Agreement for Riverwood Bank, Inc. This is the standard agreement the City uses for watermain and sanitary sewer extensions for private improvement projects. Public Works Director /City Engineer Walter has no concerns with the agreement and recommends approval.

MOTION by Commissioner Crochet, seconded by Commissioner Wolf to recommend City Council approve the Development Agreement for Riverwood Bank, Inc. Motion carried unanimously.

WASTEWATER TREATMENT PLANT CHARGES FOR FEBRUARY 2016

The wastewater treatment plant charges for February 2016 were submitted to the commission as information only.

SAFE ROUTES TO SCHOOL PLANNING GRANT FOR ISD NO. 181

The Safe Routes to School planning grant for ISD No. 181 was submitted to the commission as information only.

SAFE ROUTES TO SCHOOL GRANT FOR FORESTVIEW MIDDLE SCHOOL

The Safe Routes to School grant for Forestview Middle School was submitted to the commission as information only.

POTHOLE ARTICLE

The pothole article was provided to the commission as information only.

CRACKSEALING ARTICLE

The cracksealing article was provided to the commission as information only.

MnDOT NEWS RELEASE

The MnDOT news release article on converting to LED roadway lighting was submitted to the commission as information only.

MnDOT COST PARTICIPATION POLICY

The MnDOT cost participation policy was submitted to the commission as information only.

NORTHERN LONG-EARED BAT UPDATE ARTICLE

The northern long-eared bat article was submitted to the commission as information only.

MPCA PROPOSAL FOR FLUSHABLE WIPES ARTICLE
The MPCA proposal for flushable wipes article was submitted to the commission as information only. The commission consensus was this information should go in the next city newsletter.

FLINT: COULD IT HAPPEN HERE ARTICLE
The Minnesota Department of Health's article was submitted to the commission as information only.

MnDOT STATE AID FOR LOCAL TRANSPORTATION DISTRIBUTION FUND
The MnDOT State Aid brochure for local transportation distribution fund was submitted to the commission as information only.

NORTHLAND ARBORETUM
The Northland Arboretum letter was submitted to the commission as information only.

ADJOURNMENT
MOTION by Commissioner Crochet, seconded by Commissioner Wolf to adjourn the meeting at 7:00 p.m. Motion carried unanimously.

Approved by:

Rock Yliniemi
Chairman

Submitted by,

Mary Haugen
Administrative Assistant

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
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2016 Chip Seal Project

Date: April 27, 2016

To: Baxter Utilities Commission

From: Mike Rardin, PE MRR

Cc: Trevor Walter, PE – City Engineer/Public Works Director

Subject: Project Update
2016 Chip Seal Project

Work Completed - First Update
Plans and bid documents were provided to Crow Wing County on March 7, 2016. Crow Wing County advertised the project for bids during March and opened bids on April 6, 2016. The bid abstract was reviewed by Bolton & Menk, Inc. (BMI) and no concerns were noted. The low bidder is the same as last year - Morris Sealcoat & Trucking, Inc. The low bid was within the budget provided by the City for this project.

A pre-construction conference is currently scheduled for Wednesday, May 4, 2016.

Project Schedule and Completion
The project is currently on schedule with no delays anticipated. The following schedule and completion requirements were incorporated into this project:

1. Construction operations are not to be started prior to Tuesday, July 5, 2016, except stockpiling of aggregate materials.
2. The contractor is to notify the City of their proposed work schedule at least five (5) working days in advance of beginning work.
3. All seal coat, fog, and interim pavement marking work required under this Contract is to be completed no later than August 15, 2016 and within ten (10) working days from project initiation.
4. All construction operations are to be completed no later than August 26, 2016.

Engineering Costs
The City contracted with BMI for design services for this project in early March. Because the City was uncertain over Franchise Fee creation and street maintenance funding during late February and early March, construction services were not contracted for by the City. Design services were completed by BMI with the submittal of project plans and specifications to the County on March 7, 2016.

On April 12, 2016, a proposal for construction Observation Services was submitted to the City in the amount of $11,000. The cost proposed is higher than what would normally be expected on this type of project. This is based on past experience associated with this Contractor. If the Contractor performs in an expedient manner, we would expect costs to be much less than the $11,000 proposed. Last year construction observation costs for this work with this same Contractor totaled $11,077. The contract contains provisions to assess the Contractor charges for failure to complete this work in a timely manner (time limits described above). The County was informed prior to the bidding process the City will be expecting the contractor to satisfactorily complete the project within the contract time provided or damages will be assessed the contractor.

**CONSTRUCTION COST SHARE AGREEMENT
WITH THE CITY OF BAXTER (CP 18-200-66) & (CP 230-200-66)
FOR THE BITUMINOUS SEAL COAT OF
ROADWAYS UNDER THE JURISDICTION OF CROW WING COUNTY,
CASS COUNTY, CITY OF BAXTER, CITY OF BREEZY POINT, CITY OF JENKINS,
JENKINS TOWNSHIP, AND OAK LAWN TOWNSHIP**

This Agreement is made and entered into this day of _____, 2016, by and between the County of Crow Wing, State of Minnesota, a political subdivision of the State of Minnesota, 326 Laurel Street, Brainerd, Minnesota, 56401, hereinafter referred to as "County", and the City of Baxter, c/o Kelly Steele – City Clerk/Assistant City Administrator, PO Box 2626, Baxter, Minnesota 56425 hereinafter referred to as the "City".

WITNESSETH

WHEREAS, the parties mutually agree that a bituminous seal coat desired by the City of Baxter to be applied to the roadways listed in Attachment C has the potential to result in overall costs savings when combined with the County Project to provide a bituminous seal coat to County roadways and other local agency roadways, and,

WHEREAS, the County has budgeted funds to complete the project; and,

WHEREAS, the Crow Wing County Highway Department has prepared plans and specifications for the project entitled BITUMINOUS SEAL COAT, which plans and specifications are on file in the office of the County Engineer;

NOW, THEREFORE, IT IS MUTUALLY STIPULATED AND AGREED:

I. PURPOSE

The parties have joined together for the purpose of applying a bituminous seal coat to roadways under the jurisdiction of the various agencies listed in Attachment C, as described in the plans and specifications entitled BITUMINOUS SEAL COAT on file in the office of the Crow Wing County Highway Department (hereinafter referred to as the "Project").

II. Duties

A. Design and Construction

The County shall provide all design-engineering services for the Project unless otherwise stated in this agreement. The City shall provide all design-engineering services for the roads/trails listed in the Baxter section of Attachment C. The City shall also provide all construction-engineering services for the roads/trails identified in Attachment C. The County shall do the calling for all bids and the acceptance of all bid proposals. A three percent contract administration charge shall be applied to the City's final construction costs.

B. Inspection and Approval

The City shall provide construction inspection and staking for their own roadways. The County shall be responsible for final approval for acceptance of the work on the project as a whole as it is completed. The City shall notify the County of any concerns related to their roadways that arise during or after the completion of the Project. Approval of the completed construction by the County shall be final, binding and conclusive upon the City as to the satisfactory completion of the construction.

III. COSTS

A. The contract costs of the work, or if the work is not contracted, the cost of all labor, materials, normal engineering costs and equipment rental required to complete the work, shall constitute the estimated construction costs and shall be so referred to herein. Actual construction costs may vary and those will be the actual costs for which the relevant parties will be responsible.

B. The estimated construction cost of the Project is $535,786.77. Participation in the construction costs is as follows:

1. The City shall pay one hundred percent (100%) of the cost of the bituminous seal coat items related to the roads identified as being under its jurisdiction, listed in Attachment C. The estimated cost to the City for these items is $157,913.20. When adding the three percent contract administration of $4,737.40, the total estimated cost to the City is $162,650.60 as shown in Attachment D. It is understood that the City may add numerous roads to the contract once bids are received, which will impact the costs listed above.

2. The County shall pay for one hundred percent (100%) of the bituminous seal coat items related to the County roadways listed in Attachment A. The total estimated cost to the County for these items is $166,729.86 as shown in Attachment B.

3. Under a separate agreement, other local agencies shall pay one hundred percent (100%) of the cost of the bituminous seal coat items related to the remaining roads listed in Attachment A. The estimated cost to the other local agencies for these items is $211,143.71 as shown in Attachment B.

C. The total estimated cost to the City for the Project is $162,650.60 as shown in Attachment D. This amount is only an estimate and the City agrees to pay its share of actual costs incurred by the County in fulfilling this agreement.

D. The City shall reimburse the County for its costs within 30 days of receipt of final project costs.

IV. TERM

This Agreement shall continue until terminated as provided hereinafter.

V. DISBURSEMENT OF FUNDS

All funds disbursed by the County or City pursuant to this Agreement shall be disbursed pursuant to law.

VI. CONTRACTS AND PURCHASES

All contracts let and purchases made pursuant to this Agreement shall be made by the County in conformity with State law.

VII. ACCOUNTABILITY

An accounting shall be made of all receipts and disbursements upon request by either party.

VIII. TERMINATION

This Agreement may be terminated by either party only for breach of this Agreement or by mutual consent of the parties.

IX. NOTICE

For purposes of delivery of any notices hereunder, the notice shall be effective if delivered to the County Auditor of Crow Wing County, 326 Laurel Street, Brainerd, Minnesota, 56401, on behalf of the County, and City of Baxter, c/o Kelly Steele – City Clerk/Assistant City Administrator, PO Box 2626, Baxter, Minnesota 56425 on behalf of the City.

X. INDEMNIFICATION

The City and the County mutually agree to indemnify and hold harmless each other from any claims, losses, costs, expenses or damages resulting from the acts or omissions of the respective officers, agents, or employees relating to activities conducted by either party under this Agreement.

XI. ENTIRE AGREEMENT

It is understood and agreed that the entire agreement of the parties is contained herein and that this Agreement supersedes all oral agreements and all negotiations between the parties relating to the subject matter hereof, as well as any previous agreement presently in effect between the parties to the subject matter hereof. Any alterations, variations, or modifications of the provisions of this Agreement shall be valid only when they have been reduced to writing and duly signed by the parties.

IN WITNESS WHEREOF, the parties of this Agreement have hereunto set their hands on the dates written below:

COUNTY OF CROW WING

By: _____
Robert Hall
Assistant County Engineer

Dated: _____

CITY OF BAXTER

By: _____
Darrel Olson, Mayor
Mayor

Dated: _____

By: _____
Kelly Steele,
City Clerk/Assistant City Administrator

Dated: _____

Attachment A
County Project 18-200-66
Cost Share Agreement

2016 SEAL COAT PROJECT
PROJECT NO. CP 18-200-66
CROW WING COUNTY, CASS COUNTY, CITY OF BREEZY POINT
CITY OF JENKINS, JENKINS TOWNSHIP, OAK LAWN TOWNSHIP

Crow Wing County

Roadways to receive bituminous seal coat:

CSAH 3(North)	CSAH 3(South)	CSAH 4

Cass County

Roadways to receive bituminous seal coat:

CSAH 1

City of Breezy Point

Roadways to receive bituminous seal coat:

5th Street	Beverly Drive	Russ Court
East Street	Rolling Oak Trail	Mohican Circle
Eagle Lane	Sparrow Trail	Oriole Circle
Owl Circle	Canary Lane	Wren Drive
Robin Lane	Osceola Circle	

City of Jenkins

Roadways to receive bituminous seal coat:

Lilac Street

Jenkins Township

Roadways to receive bituminous seal coat:

Delta Bay Drive	Heath Drive	Long Farm Road
Pine Knolls Circle	South Upper Hay Lake	Upper Hay Access

Oak Lawn Township

Roadways to receive bituminous seal coat:

Woodrow Road	Red Pine Road	Two Mile Road

Attachment B
County Project 18-200-66
Cost Share Agreement

ESTIMATED QUANTITIES										ENGINEERS ESTIMATE							
ITEM NO.	ITEM DESCRIPTION	UNIT	QTY	CROW WING COUNTY	CASS COUNTY	CITY OF BREEZY PT	CITY OF JENKINS	JENKINS TOWNSHIP	OAK LAWN TOWNSHIP	UNIT PRICE	CROW WING COUNTY	CASS COUNTY	CITY OF BREEZT PT	CITY OF JENKINS	JENKINS TOWNSHIP	OAK LAWN TOWNSHIP	TOTAL COST
2021.501	MOBILIZATION	LUMP SUM	1	0.45	0.07	0.20	0.02	0.12	0.14	$ 9,175.00	$ 4,128.75	$ 642.25	$ 1,835.00	$ 183.50	$ 1,101.00	$ 1,284.50	$ 9,175.00
2355.502	BITUMINOUS MATERIAL FOR FOG SEAL	GALLON	11886	5,802	986	2,902	365	1,831	-	$ 3.56	$ 20,655.12	$ 3,510.16	$10,331.12	$ 1,299.40	$ 6,518.36	$ -	$ 42,314.16
2356.505	BITUMINOUS MATERIAL FOR SEAL COAT	GALLON	75180	31352	4565	15479	1978	9767	12039	$ 2.59	$ 81,201.68	$ 11,823.35	$40,090.61	$ 5,123.02	$25,296.53	$31,181.01	$ 194,716.20
2356.506	BITUMINOUS SEAL COAT (FA 2)	SQ YD	39831	-	-	-	-	-	39,831	$ 0.46	$ -	$ -	$ -	$ -	$ -	$18,123.11	$ 18,123.11
2356.506	BITUMINOUS SEAL COAT (FA 2 1/2)	SQ YD	195762	96699	14080	48372	6090	30521	-	$ 0.46	$ 43,998.05	$ 6,406.40	$22,009.26	$ 2,770.95	$13,887.06	$ -	$ 89,071.71
2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.45	0.07	0.20	0.02	0.12	0.14	$ 9,500.00	$ 4,275.00	$ 665.00	$ 1,900.00	$ 190.00	$ 1,140.00	$ 1,330.00	$ 9,500.00
2580.603	INTERIM PAVEMENT MARKING	LIN FT	40462	32,264	7559	-	639	-	-	$ 0.10	$ 3,226.40	$ 755.90	$ -	$ 63.90	$ -	$ -	$ 4,046.20
2582.501	PAVT MSSG PAINT	SQ FT	876	876	-	-	-	-	-	$ 3.25	$ 2,847.00	$ -	$ -	$ -	$ -	$ -	$ 2,847.00
2582.502	4" SOLID LINE PAINT	LIN FT	99298	82,373	12325	-	430	-	4,170	$ 0.06	$ 4,860.01	$ 727.18	$ -	$ 25.37	$ -	$ 246.03	$ 5,858.58
2582.502	4" BROKEN LINE PAINT	LIN FT	7265	5103.00	510	-	522.00	-	1,130.00	$ 0.06	$ 301.08	$ 30.09	$ -	$ 30.80	$ -	$ 66.67	$ 428.64
2582.502	8" DOTTED LINE PAINT	LIN FT	285	285	-	-	-	-	-	$ 0.06	$ 16.82	$ -	$ -	$ -	$ -	$ -	$ 16.82
2582.502	4" DBLE SOLID LINE PAINT	LIN FT	16446	11296	2735	-	-	-	2415	$ 0.11	$ 1,219.97	$ 295.38	$ -	$ -	$ -	$ 260.82	$ 1,776.17
										TOTAL	$ 166,729.86	$ 24,855.71	$ 76,165.99	$ 9,686.94	$47,942.95	$ 52,492.14	$ 377,873.58
										8% Design, Construction and Contract Administration		$0.00	$6,093.28	$774.96	$3,835.44	$4,199.37	
										Total		$24,855.71	$82,259.27	$10,461.89	$51,778.38	$56,691.51	

Attachment C
County Project 230-200-66
Cost Share Agreement

2016 SEAL COAT PROJECT
PROJECT NO. CP 230-200-66
CITY OF BAXTER

City of Baxter

Roadways to receive bituminous seal coat:

Afton Road	Atwater Road	Austin Road
Firewood Drive	Franklin Drive	Ginko Drive
Grand Oaks Drive	Green Briar Drive	Hemlock Drive
Holly Drive	Inglewood Drive	Jewelwood Drive
Kirkwood Drive	Kirkwood Lane	Lynwood Drive
White Pine Drive	Woida Road	

Trails to receive bituminous seal coat:

North side of Cedar Scenic Road
North Side of Clearwater Road

Attachment D
County Project 320-200-66
Cost Share Agreement

ESTIMATED QUANTITIES				CITY OF BAXTER	
ITEM NO.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL COST
2021.501	MOBILIZATION	LUMP SUM	1	$4,000.00	$4,000.00
2355.502	BITUMINOUS MATERIAL FOR FOG SEAL (STREET)	GALLON	5,483.00	$4.32	$23,686.56
2355.502	BITUMINOUS MATERIAL FOR FOG SEAL (TRAIL)	GALLON	499	$4.32	$2,155.68
2356.505	BITUMINOUS MATERIAL FOR SEAL COAT (STREET)	GALLON	30,155.00	$2.27	$68,451.85
2356.505	BITUMINOUS MATERIAL FOR SEAL COAT (TRAIL)	GALLON	2,494.00	$2.27	$5,661.38
2356.506	BITUMINOUS SEAL COAT FA-1 (CLASS A, GREY COLO	SQ YD	12,469.00	$0.43	$5,361.67
2356.506	BITUMINOUS SEAL COAT FA-2 1/2 (CLASS A, GREY CC	SQ YD	91,380.00	$0.44	$40,207.20
2356.601	PRE-APPLICATION OF BITUMINOUS	LUMP SUM	1	$2,000.00	$2,000.00
2563.601	TRAFFIC CONTROL	LUMP SUM	1	$400.00	$400.00
2582.501	PAVEMENT MESSAGE (PAINT) (P)	EACH	2	$100.00	$200.00
2582.502	4" SOLID LINE WHITE-PAINT (P)	LIN FT	6,503.00	$0.07	$455.21
2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT (P)	LIN FT	17,212.00	$0.14	$2,409.68
2582.502	4" SOLID LINE YELLOW-PAINT (P)	LIN FT	300	$0.07	$21.00
2582.502	4" BROKEN LINE YELLOW-PAINT (P)	LIN FT	3,450.00	$0.07	$241.50
2582.502	4" BROKEN LINE WHITE-PAINT (P)	LIN FT	971	$0.07	$67.97
2582.502	8" SOLID LINE WHITE - PAINT (CROSSWALK) (P)	LIN FT	10,374.00	$0.25	$2,593.50
				TOTAL	$157,913.20

3% Contract Administration	$4,737.40
Total	**$162,650.60**

4/25/2016 3:09 PM

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RUSH LAKE STORMWATER PONDS

DESIGN ENGINEER: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: ROBERT HALL DATE: LICENSE NUMBER 26696

DATE	REVISION

CROW WING COUNTY MINNESOTA

STATE AID PROJECT 018-648-013 (CSAH 48)

01/01

Mary Haugen

From: Trevor Walter
Sent: Tuesday, April 26, 2016 3:37 PM
To: Mary Haugen
Subject: FW: CSAH 48 Rush Lake Ponds
Attachments: Rush Lake Ponds.pdf

From: Luke Wehseler [mailto:Luke.Wehseler@crowwing.us]
Sent: Tuesday, April 26, 2016 7:41 AM
To: Trevor Walter
Cc: Rob Hall
Subject: CSAH 48 Rush Lake Ponds

Trevor,

Attached is a rough sketch of the ponds areas for Rush Lake. The two of the four outlets go right in to the OHW of Rush Lake. Treatment at those locations would be underground storm chambers that possibly might work (not in the budget). The other two locations marked on the figure are feasible 4' deep ponds and could discharge into the existing vegetated woods. They would go beyond the ROW though.

Would the City be willing to allow the County to construct the pond in this area on the south side of Rush Lake? The City would be responsible for the pond in the long term so transfer of ownership would be not necessary.

Would the Association on the North of Rush Lake be open to the idea of a pond on their property. Possibly donate an easement to the City?

Typically we would not do ponds on a mill and overlay project (not required). In the case of having willing partners that want to see this improvement we are more inclined to construct the improvements.

Feel free to call to work this out or let us know what your thoughts are.

Thanks,

Luke L. Wehseler, P.E.
Senior Engineer
Highway Department
16589 County Road 142
Brainerd, MN 56401

Office: (218) 824-1110
Fax: (218) 824-1111
www.crowwing.us

CROW WING COUNTY MINNESOTA

Our Vision: Being Minnesota's favorite place.

2015 Mill and Overlay Project
Baxter, Minnesota

Project Update

BAXTE 131772

April 2016 | Project Update No. 12

Project Team

SEH Project Manager
Scott Hedlund
218.855.1705 (office)
612.865.3509 (cell)
shedlund@sehinc.com

SEH Field Representative
Roger Worm
320.250.1072

City of Baxter
218.454.5100

Anderson Brothers Construction Co. of Brainerd, LLC
General Contractor
Mike Niemi
Project Manager
218.822.4883 (office)
218.820.9944 (cell)

Project Website
http://www.baxtermn.gov/category/street-projects/2015-mill-and-overlay-project-edgewood-dellwood-clearwater-fairview-foley-elder-glory/

If you wish to receive future Project Updates and other project information via email instead of regular mail, please email Melissa Blommel at mblommel@sehinc.com with your request.

Again, Thank You!

The project team would like to, again, thank you for your continued cooperation and especially for your patience on the project to date. Please feel free to contact SEH with questions or concerns regarding the project. We will make every attempt to provide you accurate answers in a timely manner.

Project Status

The Contractor is making plans to start up again on the project and have it completed before Memorial Day Weekend. The work that remains includes reclaiming and paving on Edgewood Drive from Clearwater Road to 550 feet north of Woida Road, and at the Glory Road/Isle Drive intersection. There is also miscellaneous concrete curb and valley gutter repair and bituminous driveway work, mostly on Edgewood Drive and the Isle Drive/Glory Road intersection. Work elsewhere on the project is complete.

Concrete work is planned to start Monday 04/25/16. Reclaiming and paving work is planned to start 05/02/16. Note, work will be completed under traffic with flaggers.

The Contractor has given the following detailed schedule, subject to change:

- Week of 04/25/16:
  - Miscellaneous concrete work on Edgewood Drive and the Glory Road/ Isle Drive intersection.
- Week of 05/02/16:
  - Monday:
    - Remove pavement and rehabilitate the sanitary sewer manhole at the Glory Road/ Isle Drive intersection.
  - Tuesday:
    - Paving in the Glory Road/ Isle Drive intersection.
    - Reclaiming (i.e. turn to gravel) Edgewood Drive from Clearwater Rd to 550 feet north of Woida Road.
  - Wednesday:
    - Paving in the Glory Road/ Isle Drive intersection.
    - Mill off (remove) excess reclaim material, grading, compaction on Edgewood Drive from Clearwater Road to 550 feet north of Woida Road.
  - Thursday and Friday:
    - Paving and manhole casting adjustments on Edgewood Drive from Clearwater Road to 550 feet north of Woida Road.
- Week of 05/09/16 and after:
  - Pavement Markings, cleanup, punch list.

Thank you again for your patience during construction!

Construction Zone

Barricades and lane closure signs will be installed in the project area to protect motorists and construction workers during construction. Please pay careful attention to the warning signs!

There will be times during construction that direct access to or from your driveway(s) will be limited or inconvenient. Access will also be on a gravel surface including on the adjacent project road at times as well. Access to your property is important to us and will be maintained, and the Contractor will work to minimize those times that access must be limited.

As the Contractor's operations move during the course of construction, you will observe that signs and barricades move as well. We understand this may be frustrating! Please allow extra time in your schedule as you drive through the construction zone. Please advise your customers, delivery personnel, and employees to exercise caution, allow more time, and safe driving speeds. Be sure workers and heavy equipment operators see you before driving around them.

Short Elliott Hendrickson Inc.
416 South 6th Street, Suite 200
Brainerd, MN 56401-3504

Project Update

2015 Mill and Overlay Project
Baxter, Minnesota

Access During Construction

Access will be maintained to all properties during construction. At times, properties with alternate access off non-project roads will see access off project roads closed. This may be inconvenient, but is necessary. There will be periods of time when access may be temporarily limited such as when active construction is underway in front of your property. There will be short duration temporary lane and (partial/full) driveway closures during work hours and then typically reopening by the end of the day, depending on what type of and where active work is occurring. The Contractor has been meeting with property owners when construction starts occurring in their area.

The remaining work on Edgewood Drive and the Glory Road/Elder Drive intersection areas will be completed under traffic. There will be periods when traffic will drive on a gravel surface. The team will make every effort to minimize disruption and communicate staging changes.

2015 Mill and Overlay Project
Baxter, Minnesota

Project Update

BAXTE 131772

April 2016 | Project Update No. 13

Project Team

SEH Project Manager
Scott Hedlund
218.855.1705 (office)
612.865.3509 (cell)
shedlund@sehinc.com

SEH Field Representative
Roger Worm
320.250.1072

City of Baxter
218.454.5100

Anderson Brothers Construction Co. of Brainerd, LLC
General Contractor
Mike Niemi
Project Manager
218.822.4883 (office)
218.820.9944 (cell)

Project Website
http://www.baxtermn.gov/category/street-projects/2015-mill-and-overlay-project-edgewood-dellwood-clearwater-fairview-foley-elder-glory/

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Again, Thank You!

The project team would like to, again, thank you for your continued cooperation and especially for your patience on the project to date. Please feel free to contact SEH with questions or concerns regarding the project. We will make every attempt to provide you accurate answers in a timely manner.

Project Status

On 04/26/16, the Contractor resumed construction on the project, focusing on miscellaneous concrete work on Edgewood Drive and at the Glory Road/Isle Drive intersection.

Reclaiming and paving work is planned to start 05/02/16. Note, work will be completed under traffic with flaggers.

The Contractor has given the following detailed schedule, subject to change:

- Week of 05/02/16:
  - Monday:
    - Remove pavement and rehabilitate the sanitary sewer manhole at the Glory Road/ Isle Drive intersection.
  - Tuesday:
    - Paving in the Glory Road/ Isle Drive intersection.
    - Reclaiming (i.e. turn to gravel) Edgewood Drive from Clearwater Rd to 550 feet north of Woida Road.
  - Wednesday:
    - Paving in the Glory Road/ Isle Drive intersection.
    - Mill off (remove) excess reclaim material, grading, compaction on Edgewood Drive from Clearwater Road to 550 feet north of Woida Road.
  - Thursday and Friday:
    - Paving and manhole casting adjustments on Edgewood Drive from Clearwater Road to 550 feet north of Woida Road.
- Week of 05/09/16 and after:
  - Pavement Markings, driveway paving, cleanup, and punch list.

Thank you again for your patience during construction!

Construction Zone

Barricades and lane closure signs will be installed in the project area to protect motorists and construction workers during construction. Please pay careful attention to the warning signs!

There will be times during construction that direct access to or from your driveway(s) will be limited or inconvenient. Access will also be on a gravel surface including on the adjacent project road at times as well. Access to your property is important to us and will be maintained, and the Contractor will work to minimize those times that access must be limited.

As the Contractor's operations move during the course of construction, you will observe that signs and barricades move as well. We understand this may be frustrating! Please allow extra time in your schedule as you drive through the construction zone. Please advise your customers, delivery personnel, and employees to exercise caution, allow more time, and safe driving speeds. Be sure workers and heavy equipment operators see you before driving around them.

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The remaining work on Edgewood Drive and the Glory Road/Elder Drive intersection areas will be completed under traffic. There will be periods when traffic will drive on a gravel surface. The team will make every effort to minimize disruption and communicate staging changes.

Short Elliott Hendrickson Inc.
416 South 6th Street, Suite 200
Brainerd, MN 56401-3504

Project Update

2015 Mill and Overlay Project
Baxter, Minnesota

SEH

Building a Better World
for All of Us®

MEMORANDUM

TO: Honorable Mayor and City Council and Utilities Commission
c/o Trevor Walter
City of Baxter, Minnesota

FROM: Scott Hedlund, PE

DATE: April 25, 2016

RE: Excelsior Road Improvements
Monthly Project Status Update
SEH No. BAXTE 128763 14.00

A. The following is an update on the status of the various work tasks on the project:
- Construction Start:
  - Preconstruction Conference was held on April 23, 2015.
  - Notice to Proceed was executed May 29, 2015 - the same day the USACE wetland permit was approved.
  - Construction started June 1, 2015.
- Construction Progress:
  - The project was re-opened to through traffic on Friday, September 25th
  - **The final remaining punch list item of correcting the steep slope on the north side of the Excelsior Road on the first curve west of Broadmoor Drive was completed March 31, 2016.**
- Construction Progress Payments to the Contractor:
  - **Application for Payment No. 8 – Final is planned to be on the May 2016 Utilities Commission and City Council agendas for approval.**
- Construction Completion:
  - The contract final completion date is November 27, 2015.
  - **The plan is to close out the Anderson Brothers Construction contract in May 2016.**

B. Project scope changes:
- There are no unapproved scope changes at this time.

sh
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OWNER
CONTRACTOR
SEH

APPLICATION FOR PAYMENT NO. 8 (FINAL)

PROJECT NO. BAXTE 128763
CITY NO. 4108
SAP NO. 230-106-002
OWNER CITY OF BAXTER, MN
CONTRACTOR ANDERSON BROTHERS CONSTRUCTION CO. OF BRAINERD, LLC

CONTRACTOR FOR: 2015 EXCELSIOR ROAD IMPROVEMENTS
AGREEMENT DATE: 4/7/2015
FOR WORK ACCOMPLISHED THROUGH: 3/31/2016

					CONTRACT		THIS PAYMENT		WORK TO DATE	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	2021.501	MOBILIZATION	LUMP SUM	$80,000.00	1.00	$80,000.00		$0.00	1.00	$80,000.00
2	2101.501	CLEARING	ACRE	$5,500.00	0.56	$3,080.00		$0.00	0.56	$3,080.00
3	2101.502	CLEARING	TREE	$315.00	3.00	$945.00		$0.00	7.00	$2,205.00
4	2101.506	GRUBBING	ACRE	$5,500.00	0.56	$3,080.00		$0.00	0.56	$3,080.00
5	2101.507	GRUBBING	TREE	$105.00	3.00	$315.00		$0.00	7.00	$735.00
6	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	$17.00	2,413.00	$41,021.00		$0.00	2,475.00	$42,075.00
7	2104.501	REMOVE SEWER PIPE (SANITARY)	LIN FT	$27.50	57.00	$1,567.50		$0.00	57.00	$1,567.50
8	2104.501	REMOVE CURB AND GUTTER	LIN FT	$2.10	2,462.00	$5,170.20		$0.00	2,145.50	$4,505.55
9	2104.501	REMOVE GUARDRAIL	LIN FT	$6.30	590.00	$3,717.00		$0.00	583.00	$3,672.90
10	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	$1.05	16,817.00	$17,657.85		$0.00	18,068.30	$18,971.72
11	2104.505	REMOVE CONCRETE PAVEMENT	SQ YD	$8.50	69.00	$586.50		$0.00	129.20	$1,098.20
12	2104.509	REMOVE WOOD POST	EACH	$23.20	59.00	$1,368.80		$0.00	59.00	$1,368.80
13	2104.509	REMOVE DRAINAGE STRUCTURE	EACH	$475.00	17.00	$8,075.00		$0.00	16.00	$7,600.00
14	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	$4.75	441.00	$2,094.75		$0.00	31.00	$147.25
15	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	$2.05	604.00	$1,238.20		$0.00	687.00	$1,408.35
16	2104.521	SALVAGE CHAIN LINK FENCE	LIN FT	$10.55	50.00	$527.50		$0.00	42.00	$443.10
17	2104.521	SALVAGE WOOD FENCE	LIN FT	$10.55	60.00	$633.00		$0.00	60.00	$633.00
18	2104.521	SALVAGE CONCRETE BOX CULVERT	LIN FT	$125.00	152.00	$19,000.00		$0.00	152.00	$19,000.00
19	2104.521	SALVAGE PIPE SEWER (STORM)	LIN FT	$18.50	170.00	$3,145.00		$0.00	167.00	$3,089.50
20	2104.523	SALVAGE CONCRETE BOX CULVERT END SECTION	EACH	$1,250.00	2.00	$2,500.00		$0.00	2.00	$2,500.00
21	2104.523	SALVAGE CASTING	EACH	$160.00	4.00	$640.00		$0.00	0.00	$0.00
22	2104.523	SALVAGE DRAINAGE STRUCTURE	EACH	$195.00	4.00	$780.00		$0.00	4.00	$780.00
23	2104.523	SALVAGE PIPE APRON	EACH	$450.00	1.00	$450.00		$0.00	0.00	$0.00
24	2104.523	SALVAGE COMMERCIAL SIGN	EACH	$105.00	1.00	$105.00		$0.00	1.00	$105.00
25	2104.523	SALVAGE SIGN TYPE C	EACH	$26.50	37.00	$980.50		$0.00	29.00	$768.50
26	2104.523	SALVAGE SIGN SPECIAL	EACH	$26.50	6.00	$159.00		$0.00	0.00	$0.00
27	2104.603	ABANDON STORM SEWER	LIN FT	$60.00	20.00	$1,200.00		$0.00	20.00	$1,200.00
28	2104.607	SALVAGE RANDOM RIPRAP	CU YD	$52.75	195.00	$10,286.25		$0.00	177.00	$9,336.75
29	2104.618	SALVAGE BLOCK RETAINING WALL	SQ FT	$3.20	250.00	$800.00		$0.00	250.00	$800.00
30	2105.501	COMMON EXCAVATION (P)	CU YD	$8.20	6,362.00	$52,168.40		$0.00	6,362.00	$52,168.40
31	2105.507	SUBGRADE EXCAVATION	CU YD	$9.75	13,908.00	$135,583.50		$0.00	6,981.80	$68,072.55
32	2105.511	CHANNEL AND POND EXCAVATION	CU YD	$10.75	4,773.00	$51,309.75		$0.00	4,773.00	$51,309.75
33	2105.522	SELECT GRANULAR BORROW (LV)	CU YD	$14.00	9,609.00	$134,526.00		$0.00	1,548.00	$21,672.00
34	2105.601	DEWATERING	LUMP SUM	$160,000.00	1.00	$160,000.00		$0.00	1.00	$160,000.00
35	2105.602	EXCAVATION SPECIAL (SUBGRADE POTHOLE)	EACH	$800.00	7.00	$5,600.00		$0.00	6.00	$4,800.00
36	2105.607	EXCAVATION SPECIAL (EAST POND)	CU YD	$22.50	3,020.00	$67,950.00		$0.00	3,153.09	$70,944.53
37	2123.61	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	$125.00	15.00	$1,875.00		$0.00	23.50	$2,937.50
38	2130.501	WATER	MGAL	$50.00	500.00	$25,000.00		$0.00	111.50	$5,575.00

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APPLICATION FOR PAYMENT NO. 8 (FINAL)

PROJECT NO. BAXTE 128763
CITY NO. 4108
SAP NO. 230-106-002
OWNER CITY OF BAXTER, MN
CONTRACTOR ANDERSON BROTHERS CONSTRUCTION CO. OF BRAINERD, LLC

CONTRACTOR FOR: 2015 EXCELSIOR ROAD IMPROVEMENTS
AGREEMENT DATE: 4/7/2015
FOR WORK ACCOMPLISHED THROUGH: 3/31/2016

					CONTRACT		THIS PAYMENT		WORK TO DATE	
ITEM	MNDOT	ITEM DESCRIPTION	UNITS	UNIT COST	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
39	2211.503	AGGREGATE BASE, CLASS 8 (CV) (P)	CU YD	$23.50	4,036.00	$94,846.00		$0.00	4,036.00	$94,846.00
40	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD	$1.50	3,291.00	$4,936.50		$0.00	3,243.00	$4,864.50
41	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	$2.50	2,192.00	$5,480.00		$0.00	1,672.00	$4,180.00
42	2360.501	TYPE SP 9.5 WEARING COURSE MIX (2,C) TRAIL	TON	$85.00	266.00	$22,610.00		$0.00	237.69	$20,203.65
43	2360.501	TYPE SP 9.5 WEARING COURSE MIX (3,C)	TON	$69.00	5,512.00	$380,328.00		$0.00	5,143.31	$354,888.39
44	2360.502	TYPE SP 12.5 NON WEARING COURSE MIX (3,B)	TON	$52.00	2,504.00	$130,208.00		$0.00	2,390.44	$124,302.88
45	2411.521	GRANULAR BACKFILL (LV)	CU YD	$9.50	5,309.00	$50,435.50		$0.00	0.00	$0.00
46	2501.515	12" RC PIPE APRON	EACH	$515.00	4.00	$2,060.00		$0.00	4.00	$2,060.00
47	2501.515	15" RC PIPE APRON	EACH	$535.00	3.00	$1,605.00		$0.00	4.00	$2,140.00
48	2501.515	18" RC PIPE APRON	EACH	$560.00	1.00	$560.00		$0.00	1.00	$560.00
49	2501.515	24" RC PIPE APRON	EACH	$686.00	1.00	$686.00		$0.00	1.00	$686.00
50	2501.515	27" RC PIPE APRON	EACH	$890.00	1.00	$890.00		$0.00	1.00	$890.00
51	2501.515	36" RC PIPE APRON	EACH	$1,400.00	1.00	$1,400.00		$0.00	2.00	$2,800.00
52	2501.515	48" RC PIPE APRON	EACH	$1,850.00	1.00	$1,850.00		$0.00	1.00	$1,850.00
53	2501.521	22" SPAN RC PIPE-ARCH CULV IIA	LIN FT	$55.50	159.00	$8,824.50		$0.00	159.00	$8,824.50
54	2501.571	INSTALL CONCRETE BOX CULVERT	LIN FT	$265.00	152.00	$40,280.00		$0.00	152.00	$40,280.00
55	2501.573	INSTALL CONCRETE BOX CULVERT END SECTION	EACH	$4,220.00	2.00	$8,440.00		$0.00	2.00	$8,440.00
56	2501.573	INSTALL CONCRETE APRON	EACH	$815.00	1.00	$815.00		$0.00	0.00	$0.00
57	2501.602	TRASH GUARD FOR 12" PIPE APRON	EACH	$300.00	4.00	$1,200.00		$0.00	4.00	$1,200.00
58	2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	$350.00	3.00	$1,050.00		$0.00	4.00	$1,400.00
59	2501.602	TRASH GUARD FOR 18" PIPE APRON	EACH	$375.00	1.00	$375.00		$0.00	1.00	$375.00
60	2501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	$750.00	1.00	$750.00		$0.00	1.00	$750.00
61	2501.602	TRASH GUARD FOR 27" PIPE APRON	EACH	$815.00	1.00	$815.00		$0.00	1.00	$815.00
62	2501.602	TRASH GUARD FOR 36" PIPE APRON	EACH	$1,200.00	1.00	$1,200.00		$0.00	2.00	$2,400.00
63	2501.602	TRASH GUARD FOR 48" PIPE APRON	EACH	$1,750.00	1.00	$1,750.00		$0.00	1.00	$1,750.00
64	2503.541	12" RC PIPE SEWER DES 3006 CL V	LIN FT	$31.00	513.00	$15,903.00		$0.00	539.00	$16,709.00
65	2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT	$32.50	636.00	$20,670.00		$0.00	781.00	$25,382.50
66	2503.541	18" RC PIPE SEWER DES 3006 CL III	LIN FT	$37.75	1,849.00	$69,799.75		$0.00	1,854.00	$69,988.50
67	2503.541	24" RC PIPE SEWER DES 3006 CL IV	LIN FT	$47.25	50.00	$2,362.50		$0.00	44.00	$2,079.00
68	2503.541	27" RC PIPE SEWER DES 3006 CL III	LIN FT	$54.50	28.00	$1,526.00		$0.00	28.00	$1,526.00
69	2503.541	30" RC PIPE SEWER DES 3006 CL III	LIN FT	$58.25	46.00	$2,679.50		$0.00	46.00	$2,679.50
70	2503.541	36" RC PIPE SEWER DES 3006 CL IV	LIN FT	$81.00	282.00	$22,842.00		$0.00	398.00	$32,238.00
71	2503.541	48" RC PIPE SEWER DES 3006 CL IV	LIN FT	$125.00	158.00	$19,750.00		$0.00	174.00	$21,750.00
72	2503.571	INSTALL PIPE SEWER	LIN FT	$23.25	156.00	$3,627.00		$0.00	128.00	$2,976.00
73	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	$745.00	2.00	$1,490.00		$0.00	2.00	$1,490.00
74	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	$875.00	5.00	$4,375.00		$0.00	8.00	$7,000.00
75	2503.603	12" PVC SANITARY SEWER PIPE	LIN FT	$68.00	84.00	$4,352.00		$0.00	44.00	$2,992.00

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CONTRACTOR ANDERSON BROTHERS CONSTRUCTION CO. OF BRAINERD, LLC

CONTRACTOR FOR: 2015 EXCELSIOR ROAD IMPROVEMENTS
AGREEMENT DATE: 4/7/2015
FOR WORK ACCOMPLISHED THROUGH: 3/31/2016

					CONTRACT		THIS PAYMENT		WORK TO DATE	
ITEM	NUMBER	DESCRIPTION	UNIT	UNIT COST	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
76	2503.603	CLEAN & VIDEO TAPE PIPE SEWER	LIN FT	$16.00	64.00	$1,024.00		$0.00	0.00	$0.00
77	2503.603	BYPASS PUMPING	LUMP SUM	$9,750.00	1.00	$9,750.00		$0.00	1.00	$9,750.00
78	2504.601	LOWER WATER MAIN	LUMP SUM	$8,500.00	1.00	$8,500.00		$0.00	1.50	$12,750.00
79	2504.602	ADJUST VALVE BOX	EACH	$370.00	18.00	$6,660.00		$0.00	21.00	$7,770.00
80	2504.603	HYDRANT RISER	LIN FT	$1,350.00	0.50	$675.00		$0.00	0.50	$675.00
81	2504.604	3" INSULATION	SQ YD	$24.50	120.00	$2,940.00		$0.00	124.10	$3,040.45
82	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 4007	LIN FT	$205.00	28.08	$5,756.40		$0.00	28.38	$5,817.90
83	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES SPECIAL	EACH	$5,000.00	2.00	$10,000.00		$0.00	2.00	$10,000.00
84	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES H	EACH	$950.00	8.00	$7,600.00		$0.00	8.00	$7,600.00
85	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES 48-4020	EACH	$1,750.00	19.00	$33,250.00		$0.00	19.00	$33,250.00
86	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES 60-4020	EACH	$2,400.00	5.00	$12,000.00		$0.00	4.00	$9,600.00
87	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES 72-4020	EACH	$3,100.00	2.00	$6,200.00		$0.00	2.00	$6,200.00
88	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES 84-4020	EACH	$4,700.00	2.00	$9,400.00		$0.00	3.00	$14,100.00
89	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES 96-4020	EACH	$6,100.00	3.00	$18,300.00		$0.00	3.00	$18,300.00
90	2506.516	CASTING ASSEMBLY	EACH	$800.00	41.00	$32,800.00		$0.00	53.00	$42,400.00
91	2506.521	INSTALL CASTING	EACH	$525.00	4.00	$2,100.00		$0.00	0.00	$0.00
92	2506.521	INSTALL DRAINAGE STRUCTURE	EACH	$1,600.00	4.00	$6,400.00		$0.00	4.00	$6,400.00
93	2506.602	ADJUST FRAME MANHOLE CASTING	EACH	$525.00	17.00	$8,925.00		$0.00	22.00	$11,550.00
94	2506.602	ADJUST FRAME & RING CASTING	EACH	$525.00	5.00	$2,625.00		$0.00	2.00	$1,050.00
95	2506.602	RECONSTRUCT MANHOLE INVERT	EACH	$1,000.00	1.00	$1,000.00		$0.00	1.00	$1,000.00
96	2511.501	RANDOM RIP RAP CLASS III	CU YD	$110.00	107.00	$11,770.00		$0.00	177.43	$19,517.30
97	2511.607	INSTALL RIPRAP	CU YD	$52.75	195.00	$10,286.25		$0.00	147.00	$7,754.25
98	2521.501	6" CONCRETE WALK	SQ FT	$6.50	2,569.00	$16,698.50		$0.00	2,751.00	$17,881.50
99	2531.501	CONCRETE CURB AND GUTTER DESIGN B612	LIN FT	$21.10	22.00	$464.20		$0.00	23.00	$485.30
100	2531.501	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	$21.10	220.00	$4,642.00		$0.00	193.50	$4,082.85
101	2531.501	CONCRETE CURB AND GUTTER DESIGN B624	LIN FT	$13.75	2,880.00	$39,600.00		$0.00	3,209.00	$44,123.75
102	2531.618	TRUNCATED DOMES	SQ FT	$31.75	217.00	$6,889.75		$0.00	116.00	$3,683.00
103	2540.602	BOLLARD	EACH	$1,055.00	1.00	$1,055.00		$0.00	1.00	$1,055.00
104	2540.618	INSTALL BLOCK RETAINING WALL	SQ FT	$10.55	250.00	$2,637.50		$0.00	0.00	$0.00
105	2545.511	LIGHTING UNIT TYPE SPECIAL	EACH	$4,400.00	18.00	$79,200.00		$0.00	18.00	$79,200.00
106	2545.515	LIGHT FOUNDATION DESIGN E MODIFIED	EACH	$800.00	18.00	$14,400.00		$0.00	18.00	$14,400.00
107	2545.523	2" NON-METALLIC CONDUIT	LIN FT	$5.00	3,475.00	$17,375.00		$0.00	3,950.00	$19,750.00
108	2545.523	2" NON-METALLIC CONDUIT (DIRECTIONAL BORE)	LIN FT	$16.00	275.00	$4,400.00		$0.00	773.00	$12,368.00
109	2545.531	UNDERGROUND WIRE 1 COND NO 4	LIN FT	$1.45	12,300.00	$17,835.00		$0.00	11,181.00	$16,212.45
110	2545.531	UNDERGROUND WIRE 1 COND NO 6	LIN FT	$1.00	12,300.00	$12,300.00		$0.00	10,262.00	$10,262.00
111	2545.531	UNDERGROUND WIRE 1 COND NO 12	LIN FT	$0.55	3,800.00	$2,090.00		$0.00	2,910.00	$1,600.50
112	2545.541	SERVICE CABINET	EACH	$6,300.00	1.00	$6,300.00		$0.00	1.00	$6,300.00
113	2545.544	SERVICE EQUIPMENT	EACH	$1,600.00	1.00	$1,600.00		$0.00	1.00	$1,600.00

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AGREEMENT DATE: 4/7/2015
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ITEM	SPEC.	DESCRIPTION	UNIT	UNIT COST	CONTRACT QUANTITY	CONTRACT AMOUNT	THIS PAYMENT QUANTITY	THIS PAYMENT AMOUNT	WORK TO DATE QUANTITY	WORK TO DATE AMOUNT
114	2545.545	EQUIPMENT PAD	EACH	$700.00	1.00	$700.00		$0.00	1.00	$700.00
115	2545.553	HANDHOLE	EACH	$588.00	1.00	$588.00		$0.00	1.00	$588.00
116	2557.603	INSTALL CHAIN LINK FENCE	LIN FT	$10.55	38.00	$400.90		$0.00	22.00	$232.10
117	2557.603	INSTALL WOOD FENCE	LIN FT	$21.10	60.00	$1,266.00		$0.00	60.00	$1,266.00
118	2563.601	TRAFFIC CONTROL	LUMP SUM	$3,375.00	1.00	$3,375.00		$0.00	1.00	$3,375.00
119	2563.601	DETOUR SIGNING	LUMP SUM	$1,500.00	1.00	$1,500.00		$0.00	1.00	$1,500.00
120	2564.531	SIGN PANELS TYPE C	SQ FT	$42.00	226.00	$9,492.00		$0.00	379.25	$15,928.50
121	2564.537	INSTALL SPECIAL SIGN	EACH	$525.00	1.00	$525.00		$0.00	1.00	$525.00
122	2564.537	INSTALL SIGN TYPE C	EACH	$160.00	3.00	$480.00		$0.00	4.00	$640.00
123	2564.537	INSTALL SIGN SPECIAL	EACH	$160.00	6.00	$960.00		$0.00	0.00	$0.00
124	2565.816	PEDESTRIAN CROSSWALK FLASHER SYSTEM	SYS	$21,000.00	1.00	$21,000.00		$0.00	1.00	$21,000.00
125	2565.616	REVISE FLASHER SYSTEM	SYS	$3,700.00	1.00	$3,700.00		$0.00	1.00	$3,700.00
126	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.10	4,475.00	$9,397.50		$0.00	5,227.00	$10,976.70
127	2573.505	FLOTATION SILT CURTAIN TYPE MOVING WATER	LIN FT	$21.05	90.00	$1,894.50		$0.00	30.00	$631.50
128	2573.515	TEMPORARY DITCH CHECK TYPE 3	LIN FT	$5.25	60.00	$315.00		$0.00	0.00	$0.00
129	2573.53	STORM DRAIN INLET PROTECTION	EACH	$160.00	50.00	$8,000.00		$0.00	58.00	$9,280.00
130	2573.535	STABILIZED CONSTRUCTION EXIT	EACH	$685.00	11.00	$7,535.00		$0.00	0.00	$0.00
131	2574.508	FERTILIZER TYPE 3	POUND	$0.65	1,434.00	$932.10		$0.00	1,675.00	$1,086.75
132	2574.525	COMMON TOPSOIL BORROW (LV)	CU YD	$27.00	3,390.00	$91,530.00	40.00	$1,080.00	2,239.00	$60,453.00
133	2575.501	SEEDING	ACRE	$800.00	4.07	$3,256.00	0.05	$40.00	4.61	$3,848.00
134	2575.501	SEEDING (TEMPORARY)	ACRE	$52.75	4.47	$235.79		$0.00	0.00	$0.00
135	2575.502	SEED MIXTURE 22-111	POUND	$3.25	271.00	$880.75		$0.00	420.00	$1,365.00
136	2575.502	SEED MIXTURE 25-141	POUND	$3.50	298.00	$1,043.00	6.00	$21.00	406.00	$1,421.00
137	2575.502	SEED MIXTURE 25-151	POUND	$2.95	87.00	$256.65		$0.00	100.00	$295.00
138	2575.502	SEED MIXTURE 33-361	POUND	$35.00	128.00	$4,480.00		$0.00	70.00	$2,450.00
139	2575.502	SEED MIXTURE 34-181	POUND	$375.00	3.00	$1,125.00		$0.00	3.00	$1,125.00
140	2575.505	SODDING TYPE LAWN	SQ YD	$8.25	2,167.00	$17,877.75		$0.00	2,760.00	$22,770.00
141	2575.523	EROSION CONTROL BLANKET CATEGORY 3	SQ YD	$2.50	17,732.00	$44,330.00	233.00	$582.50	6,241.00	$15,602.50
142	2575.562	HYDRAULIC MATRIX TYPE MULCH	POUND	$1.00	15,890.00	$15,890.00		$0.00	28,940.00	$28,940.00
143	2582.501	PAVT MSSG (LT ARROW) EPOXY (SEE CHANGE ORDER NO. 1)	EACH	$130.00	21.00	$2,730.00		$0.00	0.00	$0.00
144	2582.501	PAVT MSSG (RT ARROW) EPOXY (SEE CHANGE ORDER NO. 1)	EACH	$130.00	8.00	$1,040.00		$0.00	0.00	$0.00
145	2582.501	PAVT MSSG (THRU ARROW) EPOXY (SEE CHANGE ORDER NO. 1)	EACH	$130.00	1.00	$130.00		$0.00	0.00	$0.00
146	2582.502	4" SOLID LINE WHITE-EPOXY (SEE CHANGE ORDER NO. 1)	LIN FT	$0.27	6,265.00	$1,691.55		$0.00	0.00	$0.00
147	2582.502	4" SOLID LINE YELLOW-EPOXY (SEE CHANGE ORDER NO. 1)	LIN FT	$0.30	2,910.00	$873.00		$0.00	0.00	$0.00
148	2582.502	4" BROKEN LINE YELLOW-EPOXY (SEE CHANGE ORDER NO. 1)	LIN FT	$0.30	600.00	$180.00		$0.00	0.00	$0.00

OWNER
CONTRACTOR
SEH

APPLICATION FOR PAYMENT NO. 8 (FINAL)

PROJECT NO. BAXTE 128763
CITY NO. 4108
SAP NO. 230-106-002
OWNER CITY OF BAXTER, MN
CONTRACTOR ANDERSON BROTHERS CONSTRUCTION CO. OF BRAINERD, LLC

CONTRACTOR FOR: 2015 EXCELSIOR ROAD IMPROVEMENTS
AGREEMENT DATE: 4/7/2015
FOR WORK ACCOMPLISHED THROUGH: 3/31/2016

ITEM	SPEC NO.	DESCRIPTION	UNIT	UNIT COST	CONTRACT QUANTITY	CONTRACT AMOUNT	THIS PAYMENT QUANTITY	THIS PAYMENT AMOUNT	WORK TO DATE QUANTITY	WORK TO DATE AMOUNT
149	2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY (SEE CHANGE ORDER NO. 1)	LIN FT	$0.60	3,950.00	$2,370.00		$0.00	0.00	$0.00
150	2582.502	8" SOLID LINE WHITE-EPOXY (SEE CHANGE ORDER NO. 1)	LIN FT	$3.70	270.00	$999.00		$0.00	0.00	$0.00
151	2582.502	24" SOLID LINE WHITE-EPOXY (SEE CHANGE ORDER NO. 1)	LIN FT	$7.50	32.00	$240.00		$0.00	0.00	$0.00
152	2582.502	24" SOLID LINE YELLOW-EPOXY (SEE CHANGE ORDER NO. 1)	LIN FT	$6.00	57.00	$342.00		$0.00	0.00	$0.00
		TOTAL ITEMS BID				$2,476,917.04		$1,723.50		$2,186,197.56
CHANGE ORDER NO. 1										
143A	2582.501	PAVT MSSG (LT ARROW) EPOXY	EACH	$130.00	(21.00)	($2,730.00)		$0.00	0.00	$0.00
144A	2582.501	PAVT MSSG (RT ARROW) EPOXY	EACH	$130.00	(8.00)	($1,040.00)		$0.00	0.00	$0.00
145A	2582.501	PAVT MSSG (THRU ARROW) EPOXY	EACH	$130.00	(1.00)	($130.00)		$0.00	0.00	$0.00
146A	2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT	$0.27	(6,265.00)	($1,691.55)		$0.00	0.00	$0.00
147A	2582.502	4" SOLID LINE YELLOW-EPOXY	LIN FT	$0.30	(2,910.00)	($873.00)		$0.00	0.00	$0.00
148A	2582.502	4" BROKEN LINE YELLOW-EPOXY	LIN FT	$0.30	(600.00)	($180.00)		$0.00	0.00	$0.00
149A	2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	LIN FT	$0.60	(3,950.00)	($2,370.00)		$0.00	0.00	$0.00
150A	2582.502	8" SOLID LINE WHITE-EPOXY	LIN FT	$3.70	(270.00)	($999.00)		$0.00	0.00	$0.00
151A	2582.502	24" SOLID LINE WHITE-EPOXY	LIN FT	$7.50	(32.00)	($240.00)		$0.00	0.00	$0.00
152A	2582.502	24" SOLID LINE YELLOW-EPOXY	LIN FT	$6.00	(57.00)	($342.00)		$0.00	0.00	$0.00
153	2582.501	PAVEMENT MESS (LEFT ARROW) - PAINT	EACH	$82.50	21.00	$1,732.50		$0.00	35.00	$2,887.50
154	2582.501	PAVEMENT MESS (RIGHT ARROW) - PAINT	EACH	$82.50	8.00	$660.00		$0.00	10.00	$825.00
155	2582.501	PAVEMENT MESS (THRU ARROW) - PAINT	EACH	$82.50	1.00	$82.50		$0.00	0.00	$0.00
156	2582.502	4" SOLID LINE WHITE - PAINT	LINI FT	$0.17	6,265.00	$1,065.05		$0.00	7,025.00	$1,194.25
157	2582.502	4" SOLID LINE YELLOW - PAINT	LINI FT	$0.17	2,910.00	$494.70		$0.00	3,606.00	$613.02
158	2582.502	4" BROKEN LINE YELLOW - PAINT	LINI FT	$0.17	600.00	$102.00		$0.00	1,121.00	$190.57
159	2582.502	4" DOUBLE LINE YELLOW - PAINT	LINI FT	$0.33	3,950.00	$1,303.50		$0.00	1,920.00	$633.60
160	2582.502	8" SOLID LINE WHITE - PAINT	LINI FT	$2.42	270.00	$653.40		$0.00	271.00	$655.82
161	2582.502	24" SOLID LINE WHITE - PAINT	LINI FT	$3.85	32.00	$123.20		$0.00	43.00	$165.55
162	2582.502	24" SOLID LINE YELLOW - PAINT	LINI FT	$3.52	57.00	$200.64		$0.00	0.00	$0.00
163	2360.502	DEDUCT TO ALLOW RAP IN WEARING COURSE MIXTURE	TON	$5.00	(8,016.00)	($40,080.00)		$0.00	(5,381.00)	($26,905.00)
164	2573.521	SEDIMENT REMOVAL (VACUUM TRUCK)	LUMP SUM	$1,484.38	1.00	$1,484.38		$0.00	1.00	$1,484.38
165		WASHING SALVAGED RIP RAP	LUMP SUM	$1,718.94	1.00	$1,718.94		$0.00	1.00	$1,718.94
		TOTAL CHANGE ORDER NO. 1				($41,054.74)		$0.00		($16,536.37)
CHANGE ORDER NO. 2										
166		TIED CONCRETE BLOCK MAT (FLEXAMAT)	SF	$21.72	720.00	$15,638.40		$0.00	900.00	$19,548.00
167		CONCRETE J-BARRIER	LF	$22.00	96.00	$2,112.00		$0.00	96.00	$2,112.00
168		TOPSOIL 25% MATERIAL COST DEDUCT	CY	($1.69)	3,390.00	($5,729.10)		$0.00	2,199.00	($3,716.31)
		TOTAL CHANGE ORDER NO. 2				$12,021.30		$0.00		$17,943.69

OWNER
CONTRACTOR
SEH

APPLICATION FOR PAYMENT NO. 8 (FINAL)

PROJECT NO. BAXTE 128763
CITY NO. 4108
SAP NO. 230-106-002
OWNER CITY OF BAXTER, MN
CONTRACTOR ANDERSON BROTHERS CONSTRUCTION CO. OF BRAINERD, LLC

CONTRACTOR FOR: 2015 EXCELSIOR ROAD IMPROVEMENTS
AGREEMENT DATE: 4/7/2015
FOR WORK ACCOMPLISHED THROUGH: 3/31/2016

ITEM	UNIT	DESCRIPTION	UNITS	UNIT COST	CONTRACT QUANTITY	CONTRACT AMOUNT	THIS PAYMENT QUANTITY	THIS PAYMENT AMOUNT	WORK TO DATE QUANTITY	WORK TO DATE AMOUNT
CHANGE ORDER NO. 4										
169		REPAIR IRRIGATION SYSTEM AT TRAILS HEAD BUSINESS CENTER	LUMP SUM	$2,503.60	1.00	$2,503.60		$0.00	1.00	$2,503.60
170		REPAIR IRRIGATION SYSTEM AT MANN LAKES 12 THEATRE	LUMP SUM	$1,936.00	1.00	$1,936.00		$0.00	1.00	$1,936.00
171		PAVEMENT MARKING REMOVAL	LIN FT	$2.00	531.00	$1,062.00		$0.00	531.00	$1,062.00
172		RELOCATE EXISTING PEDESTRIAN FLASHER BASES BY FLEET FARM	LUMP SUM	$2,961.13	1.00	$2,961.13		$0.00	1.00	$2,961.13
TOTAL CHANGE ORDER NO. 4						$8,462.73		$0.00		$8,462.73
MATERIAL STORED ON SITE										
		SEED MIXTURES (AGASSIZ SEED & SUPPLY)	LUMP SUM	$2,698.63				$0.00	0.00	$0.00
BACKSHEET ADJUSTMENT NO. 1										
		UNRESOLVED REPAIRS TO PAUL BUNYAN STATE TRAIL BRIDGE NO. 18529 DAMAGED BY CONTRACTOR ON 06/24/15	LUMP SUM	($25,000.00)				$0.00	0.00	$0.00
BACKSHEET ADJUSTMENT NO. 2										
		BITUMINOUS DENSITY DISINCENTIVE	LUMP SUM	($4,941.22)				$0.00	1.00	($4,941.22)
SUMMARY										
TOTAL ITEMS BID						$2,476,917.04		$1,723.50		$2,186,197.56
MATERIAL STORED ON SITE								$0.00		$0.00
BACKSHEET ADJUSTMENT NO. 1								$0.00		$0.00
BACKSHEET ADJUSTMENT NO. 2								$0.00		($4,941.22)
CHANGE ORDER NO. 1						($41,054.74)		$0.00		($16,536.37)
CHANGE ORDER NO. 2						$12,021.30		$0.00		$17,943.69
CHANGE ORDER NO. 4						$8,462.73		$0.00		$8,462.73
TOTAL						$2,456,346.33		$1,723.50		$2,191,126.39

The undersigned Contractor certifies that all previous payments received from the Owner for work done under this contract have been applied to discharge in full all obligations the Contractor incurred in connection with the work covered by said progress payments. The undersigned Contractor agrees to pay all subcontractors within 10 days of receipt of payment from the municipality for undisputed services provided by the subcontractor. The Contractor agrees to pay interest as described under Minnesota state statute.

Gross Amount Due	$2,191,126.39
Less Retainage (0%)	$0.00
Amount Eligible to Date	$2,191,126.39
Less Previous Payments	$2,167,508.86
Amount Due This Application	**$23,617.53**

SUBMITTED ANDERSON BROTHERS CONSTRUCTION CO. O
PO BOX 668
BRAINERD, MN 56401-0668
BY: [signature] DATE: 4/15/16

RECOMMENDED SEH
416 S 6TH ST STE 200
BRAINERD, MN 56401
BY: Scott D. Kirkland DATE: 4-19-16

APPROVED CITY OF BAXTER
PO BOX 2626
BAXTER, MN 56425-2626
BY: _____ DATE: _____
Kelly Steele, Asst. City Administrator/Clerk

APPROVED CITY OF BAXTER
PO BOX 2626
BAXTER, MN 56425-2626
BY: _____ DATE: _____
Darrel Olson, Mayor

APPROVED CITY OF BAXTER - UTILITIES COMMISSION
PO BOX 2626
BAXTER, MN 56425-2626
BY: _____ DATE: _____

SEH

Building a Better World
for All of Us®

MEMORANDUM

TO: Honorable Mayor and City Council and Utilities Commission
c/o Trevor Walter
City of Baxter, Minnesota

FROM: Scott Hedlund, PE

DATE: April 25, 2016

RE: 2016 Fairview Road Improvements Project
Monthly Project Status Update
SEH No. BAXTE 133676 20.00

The following is an update on the status of the various work tasks on the project:

A. Feasibility Report
- A draft feasibility report was prepared and presented to the Utilities Commission on November 4, 2015
- The draft feasibility report was updated after the Utilities Commission meeting and then presented to the City Council on November 17, 2015.
- A public information meeting was held December 2, 2015, 7:00 PM.
- The final feasibility report was approved by the City Council on January 5, 2016.
- The Improvement Hearing was held February 1, 2016.
- The City Council Ordered the Improvement (road only) on February 2, 2016.

B. Final Design
- The topographic design survey and wetland delineation field work are complete.
  - Additional survey was completed to assist with the drainage design.
  - Additional survey and coordination was completed to assist the City complete necessary tree clearing adjacent to the Inglewood Dr wetland related to long eared bat avoidance and the pending wetland permit application.
- A drainage analysis of the Fairview Road corridor has been completed.
  - Infiltration testing is planned to be completed by Braun Intertec on March 28, 2016 to verify inplace soils infiltration rates to finalize the gas station pond design.
    1. Multiple sizing options have been evaluated.
    2. The test results could affect easement acquisition needs.
- Preliminary private utility design coordination meetings were held September 10 and December 22, 2015.
  - A follow-up meeting with Crow Wing Power was held on January 15, 2016.
- Design meetings with the gas station owners to discuss stormwater improvements occurred October 30, 2015 and January 11, 2016, with follow-up correspondence in March.
  - The property owners are comfortable with the design.
- It has been discovered that there have been past petroleum and fuel oil releases reported to the MPCA on the gas station and school properties respectively.
  - The releases are being investigated further and construction contingencies planned.
- Final construction plans are complete.

- The Utilities Commission approved the plans at their March 16, 2016 meeting.
- **The City Council approved the plans at their April 5, 2016 meeting.**

C. Permits
- A wetland permit application for impacts on the north side of Fairview Road just west of Inglewood Drive was submitted to the US Army Corps of Engineers (USACE) on March 4, 2016 and will be on the Crow Wing County TEP agenda on April 5, 2016.
  - **The TEP approved the permit.**
  - **Approval of the USACE permit is anticipated in June.**
- **The necessary Mn/DOT right of way (ROW) permit has been secured.**

D. Easements
- Appraisals and Minimum Damage Acquisition (MDA) documents have been completed to determine the value of permanent and temporary easements needed from 25 parcels for the project.
  - An offer letter for the gas station and adjacent commercial property were approved by the City Council on February 16, 2016 and mailed by SEH the next day.
  - Offer letters for the remaining 23 parcels were approved by the City Council on March 3, 2016 and mailed by SEH the next day.
- **Easement agreements from 19 parcels have been secured to date.**
- **Phone or in-person contact have been made with all but 2 parcels.**
  - **A meeting was held with the property owner that spoke during the City Council open forum on March 15, 2016 and the easement has been secured.**
- **Beyond the easements above, 2 additional easements combined with maintenance agreements are being negotiated with the school district to cover the existing storm ponds on the west and southeast sides of Baxter Elementary School property.**
  - **The west pond is planned for cleaning with the 2016 Mill & Overlay Project and the southeast pond is planned to be cleaned with this project.**

E. Bidding
- Authorization by the City Council to advertise for bids is planned for April 5, 2016.
- Bids are planned to be opened on May 3, 2016.

F. Assessment Hearing
- **The assessment hearing is planned for Thursday, June 2, 2016.**

G. Construction
- **Construction is planned to start somewhere between mid-June and early July with completion by September 1, 2016.**

H. Utility Relocation Work
- **Centerpoint Energy (gas) relocation/upgrade is planned to start the week of 4/25/16 with sewer service investigations (televising mains), with new pipe installation work starting in May.**

The following is an update on the status of the project budget:

I. Total project budget:
- The preliminary total project budget based on the Feasibility Report dated December 28, 2015 is $2.05M.

J. Consultant budget:
- **It is planned to request contract approval for construction services in June.**
  - **Centerpoint Energy (gas) relocation coordination by SEH is occurring now and will be included in the upcoming construction services contract.**

Attachment – updated project schedule
c: Kelly Steele, Jeremy Vacinek – City of Baxter
sh
p:\ae\b\baxte\133676\2-proj-mgmt\monthly project update memos\m seh to city 2016 fairview rd project status memo 042516.docx

2016 FAIRVIEW ROAD IMPROVEMENTS
BAXTER, MN
City No. 4113
BAXTE 133676

04/25/16

Project Schedule City Council Meetings Held: 1st & 3rd Tuesday @ 7:00 p.m. (work session 5:30 p.m.) **Utilities Commission Meetings Held: 1st Wednesday @ 5:00 p.m.**	
Preliminary Utility Design Meeting #1 (for Fairview Road only)	Thursday, September 10, 2015
Review Draft Feasibility Report	Wednesday, November 4, 2015, Utilities Commission Meeting
Review Draft Feasibility Report	Tuesday, November 17, 2015, City Council Workshop Meeting
Resolution Ordering Feasibility Report (resolution)	Tuesday, November 17, 2015, Regular City Council Meeting
Authorize Design Topo Survey for Trail corridor	Tuesday, November 17, 2015, Regular City Council Meeting
Mail Neighborhood Meeting #1 Notice	Friday, November 20, 2015
Neighborhood Meeting #1	Wednesday, December 2, 2015, 7:00 PM, Special City Council Meeting
Preliminary Utility Design Meeting #2	Tuesday, December 22, 2015
Receive Feasibility Report & Order Improvement Hearing (resolution)	Tuesday, January 5, 2016, Regular City Council Meeting
Authorize Appraisals	Tuesday, January 5, 2016, Regular City Council Meeting
Coordination meeting with Crow Wing Power	Friday, January 15, 2016
Advertise Notice for Improvement Hearing (10 days prior to Improvement Hearing) (Brainerd Dispatch publication deadline 2 days prior) Mail Notice for Improvement Hearing (10 days prior to Improvement Hearing)	Friday, January 22, 2016 Friday, January 22, 2016
Brainerd Daily Dispatch: Deadline: 2 Full Days by 4 pm Publish: Friday	 Wednesday, January 20, 2016 January 22 and 29, 2016
Improvement Hearing	Monday, February 1, 2016, Special City Council Meeting
Order Improvement (resolution)	Tuesday, February 2, 2016, Regular City Council Meeting
Appraisals Complete (approximately 45 days from notice to proceed)	February 12, 2016
City Council Approves Offers To Purchase Easements (Parcels 40 & 41 only)	Tuesday, February 16, 2016, Regular City Council Meeting (Closed Session)
SEH Mails Offer Letters (Start of 60-Day ROW negotiation period) Parcels 40 & 41 only	Wednesday, February 17, 2016
City Council Approves Offers To Purchase Easements (remaining parcels)	Thursday, March 3, 2016, Regular City Council Meeting (Closed Session)
SEH Mails Offer Letters (Start of 60-Day ROW negotiation period) remaining parcels	Friday, March 4, 2016
Request Tree Clearing Quotes (work to be completed before June 1, 2016 if possible)	TBD – April/May

City Council Approves Tree Clearing Contract (long eared bat avoidance – possible USACE permit condition)	TBD – April/May
Wetland permit submittal to TEP and USACE	Friday, March 4, 2016
TEP meeting (wetland permit)	Tuesday, April 12, 2016 (WCA and USACE permits anticipated to be secured by end of June 2016)
Utilities Commission Reviews Plans and Specifications	Wednesday, March 16, 2016, Special Utilities Commission Meeting (*packet deadline, Wednesday, March 9, 2016*)
Approve Plans and Specifications and Authorize Advertisement for Bids (resolution)	Tuesday, April 5, 2016, Regular City Council Meeting
OPEN on Quest CDN Website Post on City Website?	Friday, April 8, 2016
Brainerd Daily Dispatch: Deadline: 2 Full Days by 4 pm Publish: Friday	 April 6, 2016 April 8 and 15, 2016
Advertisement For Bids Publication Date (3 weeks prior to bid opening date) (Brainerd Dispatch publication deadline 2 days prior)	April 8, 2016
Submit permit applications	Friday, April 8, 2016
End of 60-Day ROW negotiation period (Parcels 40 & 41)	April 17, 2016
End of 60-Day ROW negotiation period (remaining Parcels)	May 2, 2016
Initiate 90-Day "Quick Take" process for condemnation of easements – if necessary (resolution) – remaining Parcels	Tuesday, May 3, 2016, Regular City Council meeting (closed session)
City Attorney Mails "Quick Take" condemnation notices to affected property owners (Start of 90-Day Quick Take period) - remaining Parcels	Wednesday, May 4, 2016
Bid Opening Date	Tuesday, May 3, 2016, 11 am, City Hall
Order Assessment Hearing (resolution)	Tuesday, May 17, 2016, Regular City Council meeting
Published Notice for Assessment Hearing (minimum 2 weeks before Assessment Hearing) (Brainerd Dispatch publication deadline 2 days prior) Mail Assessment Hearing Notices (minimum 2 weeks before Assessment Hearing)	Friday, May 20, 2016 (need to get notice to the paper on Wednesday, May 18, 2016) Friday, May 20, 2016
Brainerd Daily Dispatch: Deadline: 2 Full Days by 4 pm Publish: Friday	 Wednesday, May 18, 2016 May 20 and 27, 2016
Bid Review By Utilities Commission	Wednesday, June 1, 2016
Assessment Hearing Date	Thursday, June 2, 2016, Special City Council Meeting

Adopt Assessments (resolution) and Award Construction Contract (resolution)	Tuesday, June 7, 2016, Regular City Council Meeting (assumes no condemnation or assessment challenges)
Preconstruction Conference	Thursday, June 16, 2016*
Neighborhood Meeting #2	Thursday, June 16, 2016*
Notice to Proceed	June 20, 2016*
Private Utility Relocations	June 20 – July 8, 2016 (need minimum 3 weeks)*
Start Construction	June 20, 2016 (early start) or July 18, 2016 (late start)*
Wetland permits secured	June 30, 2016 (anticipated)
End of 90-Day Quick Take Period – Parcels 40 & 41	Tuesday, July 19, 2016
Easements Secured (by eminent domain) – Parcels 40 & 41	Tuesday, July 19, 2016 (could possibly be moved up if all easements can be negotiated)
End of 90-Day Quick Take Period – remaining Parcels	Tuesday August 2, 2016
Easements Secured (by eminent domain) – remaining Parcels	Tuesday, August 2, 2016 (could possibly be moved up if all easements can be negotiated)
Substantial Completion	August 5, 2016*
Final Completion	September 2, 2016*

*date dependent on date contract awarded, which could be affected by date easements are secured.

ABOVE DATES ARE SUBJECT TO CHANGE BY FACTORS BEYOND SEH'S CONTROL SUCH AS CONDEMNATION, PRIVATE UTILITIES RELOCATIONS, USACE WETLAND PERMIT

PERMITS

1. WCA and USACE (Wetland)
2. MPCA NPDES (Stormwater)
3. MnDOT (ROW)

MS KELLY STEELE
ASSISTANT CITY ADMINISTRATOR/CLERK
CITY OF BAXTER
13190 MEMORYWOOD DR
PO BOX 2626
BAXTER MN 56425-2626
218.454.5110 FAX 218.454.5103
ksteele@baxtermn.gov

BRAINERD DAILY DISPATCH
506 JAMES ST
BRAINERD MN 56401-2942
218.829.4705 FAX 218.829.7735
ann.windorski@brainerddispatch.com
PUBL: 6 DAYS (NO SAT);
DEADLINE 2 FULL DAYS BY 4 PM
LEGAL NOTICES MONDAY - FRIDAY ONLY (NOT SAT OR SUNDAY)

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
7656 Design Road, Suite 200 • Baxter, MN 56425-8676
Phone (218) 825-0684 • Fax (218) 825-0685
www.bolton-menk.com

Golf Course Drive Improvement Project

Date: April 27, 2016

To: Baxter Utilities Commission

From: Mike Rardin, PE MPR

Cc: Trevor Walter, PE – City Engineer/Public Works Director

Subject: Project Update
Golf Course Drive Improvement Project

Work Progress - Second Update
At the April 5th City Council meeting, sewer condition and capacity evaluations completed for the City by Bolton & Menk, Inc. (BMI) were reviewed. These evaluations indicated the sewers to be acceptable for their intended purposes. As a result, the Council determined the rerouting of City storm sewers on the Mills Fleet Farm site was not necessary. Council directed staff to inform Mills of the proposed project and their determination regarding this matter. Council felt it necessary to provide Mills the opportunity to consider relocating these sewers at their cost should they wish to do so. Staff provided notice of this to Mills on April 7th and requested a response with two weeks. In addition, Council directed BMI to continue project and plan development without storm sewer rerouting as a part of the City project.

Widseth Smith Nolting & Associates, Inc. (WSN), Mills engineering consultant, and Mills representatives met with City and BMI staff on Friday, April 15th, to discuss storm sewer rerouting. Sewer inspection and sewer capacity study documents were provided to WSN after the meeting. At that meeting, Mills was given until April 29th to inform the City if they wished to relocate the City storm sewers from their site.

At the April 19th Council meeting BMI presented a Supplement to the 2015 WSN Feasibility Report for this proposed project. The Council accepted the Supplement and ordered an Improvement Hearing to be held on May 5th. The Public Information Meeting, normally provided for proposed projects, was determined to be unnecessary by Council due to compression of the project schedule. The following are highlights from the BMI Supplement:

1. The south project termini was moved to the south side of Excelsior Road.
2. The north project termini was moved to the south side of Woida Road.
3. Storm sewer replacement as originally proposed has been verified.
4. Curb and gutter replacement has been determined and it increased from 770 feet to 2,681 feet at an estimated cost increase of $9,555.
5. Pedestrian crossings at the north end of the project have been evaluated with removal of the south crossing being recommended.
6. Total project costs increased from an estimated $1,305, 535 to $1,369,084
7. City costs increased from an estimated $391,161 to $415,044
8. Total assessments increased from an estimated $914,193 to $954,040

Publication of the hearing along with the mailing of notices was completed on Thursday, April 21st.

Project Schedule
The project has been delayed approximately four (4) weeks due to considering the possible relocation of the storm sewers on the Mill's site. However, the project is still on schedule for 2016 construction. A complete detailed schedule was included as a part of the Supplement to the Feasibility Report. The following is a summary of major activities proposed to move this project forward:

Improvement Hearing	Thursday, May 5
Order Project and Preparation of Final Plans and Specifications	Tuesday, May 17
Approve Plans and Authorize Advertisement for Bid	Tuesday, June 7
Order Assessment Hearing	Tuesday, June 7
Advertise for Bids	Friday, June 10
Bid Opening	Tuesday, July 5
Assessment Hearing	Thursday, July 7
Adopt Assessment Rolls	Tuesday, July 19
Award Contract (contingent on no objections to sp assessments)	Tuesday, July 19

Completion Dates
The revised schedule attached allows for project completion during the first half of October. Further delays to the project will likely cause construction to be delayed to 2017. It is estimated that it will take approximately six (6) weeks time to construct this project.

Easements
No easements or right of way acquisition are anticipated for this project as it is currently proposed.

Costs
The City should be aware that the work associated with the possible sewer relocations has resulted in extra work and costs. The City Council was appraised of the estimated costs for this extra work, the sewer inspection costs, and the sewer capacity analysis costs at their meeting on March 3rd. An amendment to the agreement based on those discussions will be provided for approval in the near future.

Other work on the project will continue as agreed to according to the existing "Not to Exceed" contract.

WIDSETH SMITH NOLTING

Brainerd/Baxter
7804 Industrial Park Road
PO Box 2720
Baxter, MN 56425-2720

218.829.5117
218.829.2517
Brainerd@wsn.us.com

WidsethSmithNolting.com

MEMO

Date: April 27, 2016
To: **Baxter Utilities Commission**
From: Aric Welch
Cc: Trevor Walter
Gordon Heitke
Project Name: 2016 Mill and Overlay, FDR and Turn Lane Improvements
Project No.: 0102B0379.000
Subject: **Project Update**

Summary of Work Completed Since Last Update

Braun completed the pavement coring study and submitted the final Pavement Evaluation Report on March 29, 2016.

The Feasibility Report was completed and accepted by the City Council on Tuesday, April 5, 2016.

The Improvement Hearing was held on Monday, April 18, 2016.

The City Council passed resolutions ordering the improvement and approving the plans and specifications on Tuesday, April 19, 2016.

The project is currently being advertised in the Brainerd Dispatch and QuestCDN.

Project Schedule

The project is on schedule. The bid opening will be held on Tuesday, May 17, 2016. The Council could award the project as soon as Tuesday, June 7, 2016.

MEMO

WIDSETH SMITH NOLTING

Brainerd/Baxter
7804 Industrial Park Road
PO Box 2720
Baxter, MN 56425-2720

218.829.5117
218.829.2517
Brainerd@wsn.us.com

WidsethSmithNolting.com

Date: April 27, 2016
To: **Baxter City Council**
From: Aric Welch
Cc: Trevor Walter, City of Baxter
Kelly Steele, City of Baxter
Project Name: 2016 Mill and Overlay, FDR and Turn Lane Improvements
Project No.: 0102B0379.000
Subject: **Project Schedule**

I would like to have a discussion at the next Council workshop on project schedule. More specifically, when the final assessment hearing should be held.

On past projects the City has typically held the assessment hearing prior to award of the project. This allows the City to discover any challenges to the proposed assessments and analyze potential financial threats to the project before moving forward.

The current schedule has the City awarding the project on Tuesday, June 7, 2016. If the Council wishes to hold the assessment hearing prior to award of the project on this date, the following tasks will need to be completed on Tuesday, May 17, 2016

- Bids opened at 11:00 am
- WSN tabulates bids
- WSN reviews bids for compliance with the bidding requirements
- WSN inserts low bid unit prices into assessment calculation worksheet
- City Staff reviews worksheet and confirms final costs to be assessed
- City Staff prepares resolution ordering the assessment hearing (final assessed costs must be known and listed in the resolution)
- Council passes resolution ordering the assessment hearing

This is a considerable amount of work that must be completed between the bid opening at 11:00 am and the City Council meeting the same night. With this tight schedule, I am concerned that something will be missed and mistakes will be made resulting in increased City costs or assessments to the affected property owners.

We recommend the City Council review and consider the following options:

<u>Option for Holding Assessment Hearing Prior to Award</u>

- Hold special meeting on Tuesday, May 24, to review bids and pass resolution ordering the assessment hearing. This would allow WSN and City staff approximately one week to properly review the bids and develop a solid recommendation for the Council to review. Hearing could be held as soon as June 13, 2016. Notice of Award and construction would be delayed two weeks.

<u>Option to Hold Assessment Hearing After Award of the Project</u>

- Chapter 429 does not require the City to hold the assessment hearing prior to award of the project. This project has a relatively low assessment at just over $3,000 for a typical residential lot which may not trigger a large number of appeals. The City could choose to hold the assessment hearing any time during or after the project. The notice of award would not be delayed and construction could begin on schedule.

If the Council wishes to hold the assessment hearing prior to award of the project, we strongly encourage you to allow WSN and City staff at least one week to review bids and calculate final costs and assessments. Trying to complete this work in one day is not advised. The Council should be aware this option will delay construction approximately two weeks.

If the Council feels the risk of appeals is low, we encourage you to keep the current schedule and award the project on Tuesday, June 7, 2016 (assuming costs are favorable). If the Council wishes, the resolution calling for the assessment hearing could also be considered on Tuesday, June 7, 2016.

Please review the available options and provide direction on how you would like to proceed.

MEMO

WIDSETH SMITH NOLTING

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Date: April 27, 2016
To: **Baxter Utilities Commission**
From: Aric Welch
Cc: Trevor Walter
Project Name: Dellwood, Novotny, Inglewood and Independence Improvements
Project No.: 0102B0274.000
Subject: **Project Update**

Work Completed Since Last Update

A project kick off meeting and walkthrough of Dellwood Drive and Novotny Road was completed on Wednesday, April 12, 2016. Representatives from the City, WSN, RL Larson and Crow Wing County Highway Department were present. Items discussed included coordination with the County project and punch list review. A copy of the updated punch list is attached for your review.

The Contractor has been working on punch list items as weather allows. A meeting between the City, WSN, RL Larson and Tri City Paving was held on Tuesday, April 19, 2016 to discuss miscellaneous paving and warranty issues on Inglewood Drive.

Project Schedule

The Contractor will continue to work on punch list items and miscellaneous cleanup. Tri City will likely pave Dellwood Drive and complete warranty repair work after the miscellaneous concrete repairs are complete in mid-May.

Completion Dates

Per Change Order No. 2 Agreement, the revised substantial completion date is May 26, 2016 with a final completion date of June 9, 2016.

Easements

Two roadway easements remain to be signed (Tanner and Wicklund). A sketch and description to vacate a portion of the unused Dellwood Drive right-of-way adjacent to the Tanner property has been prepared and was forwarded to the City Attorney for review and preparation of the final documents.

Hilltop Trailer Sales easement is still being held up by the bank financing the property.

Engineering

A letter requesting additional engineering fees has been submitted to address changes in project scope. As we move forward with the project, we will continue to monitor the engineering budget and track costs associated with warranty items or other work that was not addressed in prior contracts.

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April 14, 2016

Jeff Whipper
RL Larson Excavating, Inc.
2255 12th Street SE
St. Cloud, MN 56304

RE: Dellwood Drive, Novotny Road, Inglewood Drive and Independence Road Improvements
Municipal Project Numbers 4063, 4105 and 4107
WSN Job No. 0102B0274.000

Dear Mr. Whipper,

A project kick off meeting and walk through of Dellwood Drive and Novotny Road was completed on Wednesday, April 12, 2016. Representatives present at the walkthrough included the following:

City of Baxter
- Trevor Walter
- Kevin Cassady

RL Larson Excavating, Inc.
- Jeff Whipper

Widseth Smith Nolting
- Aric Welch
- Brian Winskowski

Crow Wing County
- Mark Melby
- Wayne Dosh

Dellwood Drive Paving Discussion

Anderson Brothers is the paving contractor for the County project on Dellwood Drive. They will likely start sometime in June after our project is complete. It was decided that we will pave 11.5' in the northbound lane, leaving a 6" overlap area for the County to tie into. Pavement edge will need to be temporary shouldered with class 5. Paving will stop 50' short of the north end of the project. WSN will create a new pavement marking layout and County will complete all pavement markings north of Woida Road.

Punch List

The following punch list items are carryovers from last year's walkthroughs or were noted during the recent meeting.

- ☐ Sweep curb & gutter
- ☐ Pick up locate flags, stakes and trash
- ☐ Install correct size "Bike Lane" signs
- ☐ Adjust curb stops and cleanouts and install marking terminals and irrigation boxes per the detail
- ☐ Touchup paint hydrants
- ☐ Check rotation on "Pump After Use" tags on hydrants
- ☐ Replace cracked/chipped curb. WSN will mark curb after roadways have been swept clean. City is responsible for replacement of curb hit by snowplows.
- ☐ Repair washouts and erosion areas.
- ☐ Monitor turf establishment and reseed/mulch as necessary.

Dellwood Drive

- ☐ Remove and replace Edina Realty bituminous driveway and add spillway
- ☐ Install reflective tape/flagging on utility services posts for empty lot north of Edina Realty
- ☐ Raise gate valve for hydrant north of Edina Realty
- ☐ Repair cracked curb in driveway STA 19+75 RT

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- ☐ Trim trees STA 20+00 RT
- ☐ Remove pipe apron and construct shallow catch basin in east ditch by HART
- ☐ Repair and grout catch basin on west side of road across from HART
- ☐ Extend pipe inlet into catch basin on west side of road across from HART
- ☐ Repair cracked curb in beaver tail along west side of Dellwood Drive (north end)
- ☐ Trim trees along west side of Dellwood Drive by General Rental
- ☐ Replace concrete wing on General Rental south entrance
- ☐ Grade around pipe apron at DS 9 by Positive Realty

Novotny Road

- ☐ Repair erosion in ditch along south side of Novotny Road at TH 371 and install biologs or other temporary erosion control device for the winter. May need to add additional curb on south side and reconstruct spillway.
- ☐ Place delineators next to gate valves in south ditch of Novotny Road just east of TH 371
- ☐ Grind stump by Lakes Audio
- ☐ Replace curb at driveway entrance to brown house

Novotny Road

- ☐ Repair roadway and curb on Audubon Way
- ☐ Complete backfilling, topsoil and turf establishment

Independence Road

- ☐ Re-patch bituminous core holes
- ☐ Add aggregate surfacing to driveway south of cul-de-sac

Inglewood Drive

- ☐ Replace forcemain gate valve box "Water" covers with "Sanitary Sewer" covers
- ☐ Remove bituminous chunks, grade, topsoil and seed around all pedestrian curb ramps
- ☐ Sweep gutters
- ☐ Clean concrete splatter from truncated domes
- ☐ Install temporary aggregate surfacing at south end of trail between Fairview Road and TH 210
- ☐ Remove and replace bituminous trail between Fairview Road and TH 210
- ☐ Lower curb & gutter in southwest corner of Inglewood Drive and TH 210 intersection and patch bituminous
- ☐ Repair low bituminous edges along curb and gutter between TH 210 and Fairview Road
- ☐ Repair bituminous surface on north bound Inglewood Drive at TH 210
- ☐ Repair erosion into pond in southwest corner of Inglewood Drive and Fairview Road intersection
- ☐ Repair truck tracks in bituminous north of staging area
- ☐ Shoulder and seed along south side of Fairview Road north of staging area
- ☐ Trim branches along east side of Inglewood Drive just north of Fairview Road

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- ☐ Repair cracked curb near DS 204
- ☐ Remove, raise and repave driveway STA 8+00 RT
- ☐ Sprinkler system repair at 6519 John Street
- ☐ Install irrigation box over sanitary sewer cleanout at 6519 John Street
- ☐ Add 4' pipe section to east end of culvert STA 10+75 RT
- ☐ Coordinate fence storage at 6517 Mary Street and install next spring
- ☐ Remove roller marks in bituminous (5 locations)
- ☐ Repair low bituminous edge along valley gutters at Johns Street, Mary Street and Cherrywood Drive
- ☐ Repair broken gutter edge STA 18+20 RT
- ☐ Repair cracked curb in driveway at 13980 Inglewood Drive
- ☐ Remove dirt piles on 13980 Inglewood Drive
- ☐ Fill behind curb and seed in southwest corner of Inglewood Drive and Excelsior Road
- ☐ Coordinate sprinkler repair at 13802 Cherrywood Drive
- ☐ Fill behind curb and seed at 13802 Cherrywood Drive
- ☐ Lower sanitary sewer cleanout, irrigation box and curb stop at Church
- ☐ Lower sanitary sewer cleanout and irrigation box just south of Church
- ☐ Level pile on future trail along south side of north pond
- ☐ Topsoil and seed around north pond outlet structure
- ☐ Place posts and delineators at culvert STA 10+75
- ☐ Remove silt fence after turf has been established
- ☐ Topsoil and seed around sanitary sewer manhole just east of LS #3
- ☐ Remove and replace trail section through lift station driveway

Please keep us informed on your progress as you complete the partial punch list items. If you have any questions or need clarification on the above items, please give me a call.

Sincerely,

WIDSETH SMITH NOLTING

Aric Welch, P.E.

Enc.

Cc: Trevor Walter, City of Baxter
Kevin Cassady, City of Baxter

WIDSETH SMITH NOLTING

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April 25, 2016

Trevor Walter
City of Baxter
13190 Memorywood Drive
Baxter, MN 56425

Re: Additional Engineering Fees
Dellwood Drive, Novotny Road, Inglewood Drive and Independence Road Improvements
Municipal Project Numbers 4063, 4105 and 4107
Baxter, Minnesota
WSN Job No. 0102B0274.000

Dear Mr. Walter:

This letter is written to address additional engineering tasks and costs associated with changes in scope for the above referenced projects. A brief explanation of the requested changes is summarized by project and discussed below.

Independence Road

Existing WSN Contract **$12,950**

1. Roadway Re-Design **Requested Fee Amendment:** **$994**

Additional work was required to addressed roadway profile revisions requested by City staff. The requested change required re-design of the cul-de-sac and additional calculations for quantity determination and construction staking purposes. The revision required 12 hours of additional work.

Inglewood Drive

Existing WSN Contract **$116,350**

1. Watermain Lowering **Requested Fee Amendment:** **$880**

The existing watermain crossing at the south end of Inglewood Drive was found to be shallow and in conflict with the proposed storm sewer. MnDOH requires an 18" vertical separation between the storm sewer and watermain. To achieve the required separation it was necessary to lower the watermain. In discussing the issue with City staff, it was determined the entire length of watermain under the roadway surface should be lowered/replaced because the existing pipe was CL 200 thin walled pipe. WSN provided additional construction observation services and updated the record drawings to reflect the change. This resulted in 9.5 hours of additional work.

2. Forcemain Extension **Requested Fee Amendment:** **$1,063**

The Lift Station 3 forcemain realignment was originally scheduled to be completed as part of the Lift Station 3 Re-Route project. A portion of the work included installation of a new forcemain across Fairview Road and Madeline Drive. Since the forcemain re-route project was delayed, City staff requested the forcemain be installed with this project. Additional work included design coordination with Bolton Menk, construction observation and record drawing preparation. The forcemain extension resulted in 10.5 hours of additional work.

3. Temporary Construction Easement **Requested Fee Amendment: $278**

An additional temporary construction easement was required to work on private property. The original plan included the removal of a concrete basketball court that was originally going to be sawed off and removed to the right-of-way line. After meeting with the property owner, it was determined the City would remove the entire court as part of the project. Additional work included preparing the easement sketch and description and obtaining the necessary signatures. The easement required 2.5 hours of additional work.

4. North Stormwater Pond Revision **Requested Fee Amendment: $2,078**

The north stormwater basin was revised during construction to include a 10' wide trail/access road along the south side of the basin per City staff request. Additional work included revising the pond grading, adding the 10' wide bituminous trail, revising the stormwater pond outlet and adding a pedestrian curb ramp at Inglewood Drive. The revisions required 21 hours of additional work as documented on the attached spreadsheet.

5. Roadway Profile Revision **Requested Fee Amendment: $573**

During construction, the Inglewood Drive roadway profile was adjusted through the vertical curve located just south of Cherrywood Drive at the request of City staff. The revision required 6 hours of additional work.

6. Culvert Extension and Easement **Requested Fee Amendment: $673**

The centerline culvert under Inglewood Drive was extended farther to the east to better fit the flattened inslope as requested by the property owner and City staff. Additional work included construction observation and easement preparation. The culvert extension required 6.5 hours of additional work.

Dellwood Drive and Novotny Road

Existing WSN Contract **$190,955**

1. Additional Sanitary Sewer and Water Services **Requested Fee Amendment: $1,058**

During construction, six sanitary sewer and water services were added to the project at the request of property owners. The work required additional construction observation and record drawing efforts. The additional services resulted in 12 hours of additional work.

2. Fire Protection Line to Hilltop Trailer Sales **Requested Fee Amendment: $400**

During construction, a fire protection water line was added at the request of Hilltop Trailer Sales. The work required additional construction observation and record drawing efforts. The fire protection line required 4.5 hours of additional work.

3. Dellwood Drive Bypass Lane **Requested Fee Amendment: $2,144**

The addition of the bypass lane required re-design of the Dellwood Drive roadway profile and storm sewer system. At the request of the County, the entire centerline roadway profile was adjusted to direct as much stormwater as possible to the south, limiting the amount of stormwater runoff to the north through the bypass lane. Additional work included revision of the centerline roadway profile from Whispering Woods Lane to Novotny Road, storm sewer adjustments and pipe resizing. The revisions required 22 hours of additional work to complete.

4. Audubon Way Watermain Extension **Requested Fee Amendment: $8,667**

The Contractor experienced problems with trying to pressure test the directional drilled watermain between Novotny Road and Audubon Way. The pipe failed initial pressure tests which resulted in the Contractor attempting to isolate and locate a leak in the system. The Contractor spent considerable time digging up connections in hope of finding a leak in one of the watermain fittings. After no leak was found the Contractor installed a valve half way along the pipe and tested both ends. The leak was determined to be located between Hilltop Trailer Sales and Audubon Way. The Contractor hired a leak detection service to locate the leak but they were unsuccessful. The Contractor then hired a company to televise the pipe. Televising was also unsuccessful in locating the leak and the Contractor suspended efforts for the winter.

Early this spring the Contractor made a second attempt at televising the pipe. The second televising was successful and the leak was found under the wetland. After the leak was detected, WSN began the process of permitting the necessary repair efforts. A no net loss permit application was prepared and secured for the repair. The Contractor repaired the service and completed the necessary pressure and bacteria testing.

During this process, WSN expended considerable effort monitoring the Contractor's testing and exploratory efforts. WSN also completed additional work associated with wetland permitting and record drawing preparation. The total amount of additional time was 90 hours. Please note this does not include construction observation of the original installation of the directional drilled pipe which was included in the original not to exceed contract.

Detailed task and time efforts associated with the above outlined additional work is shown in the attached spreadsheet.

Summary of Requested Fees

	Current Contract Fee	Requested Fee Amendment	Requested Contract Fee Amount
Independence Road	$12,950.00	$994.00	$13,944.00
Inglewood Drive	$116,350.00	$5,545.00	$121,895.00
Dellwood and Novotny	$190,955.00	$12,269.00	$203,224.00

Please consider this request for additional compensation associated with our professional services to address the changes outlined above. Revised contracts reflecting the requested fee revisions are attached for review and signature. Please note the revised contracts for Inglewood Drive and Dellwood Drive/Novotny Road also include certain reimbursable expenses requested by City staff that were not included in the previous contracts.

Please feel free to give me a call if you have any questions regarding our requested fee amendments.

Sincerely,

Widseth Smith Nolting & Associates, Inc.

Aric Welch

Aric Welch, P.E.

Enc.

Cc: Kevin Wernberg, WSN

ADDITIONAL WORK SUMMARY
DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AND INDEPENDENCE ROAD IMPROVEMENTS
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
WSN 0102B0274.000
4/25/2016

DESCRIPTION OF ADDITIONAL WORK	LABOR CATEGORY / HOURLY RATES / ESTIMATED HOURS / COSTS					TOTALS
	SCIENTIST	ENGINEER 3	SURVEYOR 3	ENGINEERING TECHNICIAN 3	SURVEY TECHNICIAN 2	
	$145.00	$128.00	$128.00	$86.00	$70.00	
INDEPENDENCE ROAD						
Roadway Profile Adjustment						
Project Management		0.5				$64.00
Re-Design		0.5		6		$580.00
Re-Staking					5	$350.00
Subtotal Hours	0	1	0	6	5	12
Subtotal Costs	$0.00	$128.00	$0.00	$516.00	$350.00	$994.00
INGLEWOOD DRIVE						
Watermain Lowering						
Project Management		1				$128.00
Design		0.5		1		$150.00
Construction Observation				6.5		$559.00
Record Drawing				0.5		$43.00
Forcemain Extension						
Project Management		1				$128.00
Design		3				$384.00
Construction Observation				5.5		$473.00
Record Drawing				0.5	0.5	$78.00
Haas Temporary Constructoin Easement						
Project Management		1				$128.00
Sketch & Description			0.5	1		$150.00
North Stormwater Pond Revision for Trail						
Project Management		2				$256.00
Design		6		4		$1,112.00
Construction Staking					3	$210.00
Construction Observation				4		$344.00
Record Drawing				1	1	$156.00
Revised Roadway Profile South of Cherrywood						
Project Management	1					$145.00
Design		2		2		$428.00
Culvert Extension and Easement						
Project Management		0.5				$64.00
Easement	1	1		2		$445.00
Construction Observation				1		$86.00
Record Drawing				0.5	0.5	$78.00
Subtotal Hours	2	18	0.5	29.5	5	55
Subtotal Costs	$290.00	$2,304.00	$64.00	$2,537.00	$350.00	$5,545.00
DELLWOOD DRIVE AND NOVOTNY ROAD						
Six Additional Sanitary Sewer and Water Services						
Project Management		1				$128.00
Construction Observation				9		$774.00
Record Drawing				1	1	$156.00
Fire Protection Line for Hilltop Trailer Sales						
Project Management/Design		0.5				$64.00
Construction Observation				3		$258.00
Record Drawing				0.5	0.5	$78.00
Dellwood Drive Bypass Lane						
Project Management						
Roadway Profile Re-design		4		10		$1,372.00
Storm Sewer Re-design		2		4		$600.00
Construction Observation				2		$172.00
Audubon Watermain Extension						
Project Management	5					$725.00
Permitting	6	4				$1,382.00
Construction Observation	2			72		$6,482.00
Record Drawing				0.5	0.5	$78.00
Subtotal Hours	13	11.5	0	102	2	128.5
Subtotal Costs	$1,885.00	$1,472.00	$0.00	$8,772.00	$140.00	$12,269.00
Totals						
Total Hours	15	30.5	0.5	137.5	12	195.5
Total Costs	$2,175.00	$3,904.00	$64.00	$11,825.00	$840.00	$18,808.00

WIDSETH SMITH NOLTING

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April 26, 2016

Mayor and City Council
City of Baxter
P.O. Box 2626
Baxter, MN 56425

RE: Agreement for Professional Engineering Services – Fee Amendment
Independence Road Improvements
Baxter, MN

Dear Mayor and City Council:

We are currently under contract with the City of Baxter for engineering services related to the design and construction of the Independence Road Improvements, Municipal Project Number 4107.

During the course of the project we completed additional work that we feel is above and beyond the original scope of the project. The changes in project scope and associated fee amendment are summarized below:

Additional Roadway Design	**Requested Fee Amendment:**	**$994**

A detailed review and explanation of the requested fee amendment associated with our professional services required to address the changes in project scope can be found in our letter dated April 25, 2016.

Our previous approved "Not To Exceed" fee was $12,950. Including the above $994 fee increase, the revised total WSN fee is a "Not To Exceed" $13,944. The additional services described above will be invoiced on an hourly basis in accordance with the fee schedule adopted at the time the work was performed.

If you are in agreement with the proposed fee amendment, please sign and return one copy of this agreement to us as our authorization to invoice the previously completed additional work.

We thank you for your consideration of our requested fee amendment and for giving us the opportunity to work with the City to make this project a reality. If you have any questions, please feel free to give me a call.

Sincerely,

Aric Welch

Aric Welch, P.E.

Proposed by Widseth Smith Nolting

Aric Welch, Vice President

Kevin B. Wernberg, Executive Vice President

Accepted by the City of Baxter: The above proposal and previously submitted General Provisions of Professional Services Agreement are satisfactory and WSN is authorized to do the work as specified. Payment will be made monthly in accordance with the terms on the fee schedule.

Date

Date

General Provisions of Professional Services Agreement

WIDSETH SMITH NOLTING
Engineering | Architecture | Surveying | Environmental

These General Provisions are intended to be used in conjunction with a letter-type Agreement or a Request for Services between Widseth Smith Nolting, a Minnesota Corporation, hereinafter referred to as WSN, and a CLIENT, wherein the CLIENT engages WSN to provide certain Architectural, and/or Engineering services on a Project.

As used herein, the term "this Agreement" refers to (1) the WSN Proposal Letter which becomes the Letter Agreement upon its acceptance by the Client, (2) these General Provisions and (3) any attached Exhibits, as if they were part of one and the same document. With respect to the order of precedence, any attached Exhibits shall govern over these General Provisions, and the Letter Agreement shall govern over any attached Exhibits and these General Provisions. These documents supersede all prior communications and constitute the entire Agreement between the parties. Amendments to this Agreement must be in writing and signed by both CLIENT and WSN.

ARTICLE 1. PERIOD OF SERVICE
The term of this Agreement for the performance of services hereunder shall be as set forth in the Letter Agreement. In this regard, any lump sum or estimated maximum payment amounts set forth in the Letter Agreement have been established in anticipation of an orderly and continuous progress of the Project in accordance with the schedule set forth in the Letter Agreement or any Exhibits attached thereto. WSN shall be entitled to an equitable adjustment to its fee should there be an interruption of services, or amendment to the schedule.

ARTICLE 2. SCOPE OF SERVICES
The scope of services covered by this Agreement shall be as set forth in the Letter Agreement or a Request for Services. Such scope of services shall be adequately described in order that both the CLIENT and WSN have an understanding of the expected work to be performed.

If WSN is of the opinion that any work they have been directed to perform is beyond the Scope of this Agreement, or that the level of effort required significantly exceeds that estimated due to changed conditions and thereby constitutes extra work, they shall notify the CLIENT of that fact. Extra work, additional compensation for same, and extension of time for completion shall be covered by a revision to the Letter Agreement or Request for Services and entered into by both parties.

ARTICLE 3. COMPENSATION TO WSN

A. Compensation to WSN for services described in this Agreement shall be on a Lump Sum basis, Percentage of Construction, and/or Hourly Rate basis as designated in the Letter Agreement and as hereinafter described.

1. A Lump Sum method of payment for WSN's services shall apply to all or parts of a work scope where WSN's tasks can be readily defined and/or where the level of effort required to accomplish such tasks can be estimated with a reasonable degree of accuracy. The CLIENT shall make monthly payments to WSN within 30 days of date of invoice based on an estimated percentage of completion of WSN's services.

2. A Percentage of Construction or an Hourly Rate method of payment of WSN's services shall apply to all or parts of a work scope where WSN's tasks cannot be readily defined and/or where the level of effort required to accomplish such tasks cannot be estimated with any reasonable degree of accuracy. Under an Hourly Rate method of payment, WSN shall be paid for the actual hours worked on the Project by WSN technical personnel times an hourly billing rate established for each employee. Hourly billing rates shall include compensation for all salary costs, payroll burden, general, and administrative overhead and professional fee. In a Percentage of Construction method of payment, final compensation will be based on actual bids if the project is bid and WSN's estimate to the CLIENT if the project is not bid. A rate schedule shall be furnished by WSN to CLIENT upon which to base periodic payments to WSN.

3. In addition to the foregoing, WSN shall be reimbursed for items and services as set forth in the Letter Agreement or Fee Schedule and the following Direct Expenses when incurred in the performance of the work:

   (a) Travel and subsistence.
   (b) Specialized computer services or programs.
   (c) Outside professional and technical services with cost defined as the amount billed WSN.
   (d) Identifiable reproduction and reprographic costs.
   (e) Other expenses for items such as permit application fees, license fees, or other additional items and services whether or not specifically identified in the Letter Agreement or Fee Schedule.

4. The CLIENT shall make monthly payments to WSN within 30 days of date of invoice based on computations made in accordance with the above charges for services provided and expenses incurred to date, accompanied by supporting evidence as available.

B. The CLIENT will pay the balance stated on the invoice unless CLIENT notifies WSN in writing of the particular item that is alleged to be incorrect within 15 days from the date of invoice, in which case, only the disputed item will remain undue until resolved by the parties. All accounts unpaid after 30 days from the date of original invoice shall be subject to a service charge of 1 % per month, or the maximum amount authorized by law, whichever is less. WSN shall be entitled to recover all reasonable costs and disbursements, including reasonable attorneys fees, incurred in connection with collecting amount owed by CLIENT. In addition, WSN may, after giving seven days written notice to the CLIENT, suspend services and withhold deliverables under this Agreement until WSN has been paid in full for all amounts then due for services, expenses and charges. CLIENT agrees that WSN shall not be responsible for any claim for delay or other consequential damages arising from suspension of services hereunder. Upon payment in full by Client and WSN's resumption of services, the time for performance of WSN's services shall be equitably adjusted to account for the period of suspension and other reasonable time necessary to resume performance.

ARTICLE 4. ABANDONMENT, CHANGE OF PLAN AND TERMINATION
Either Party has the right to terminate this Agreement upon seven days written notice. In addition, the CLIENT may at any time, reduce the scope of this Agreement. Such reduction in scope shall be set forth in a written notice from the CLIENT to WSN. In the event of unresolved dispute over change in scope or changed conditions, this Agreement may also be terminated upon seven days written notice as provided above.

In the event of termination, and upon payment in full for all work performed and expenses incurred to the date of termination, documents that are identified as deliverables under the Letter Agreement whether finished or unfinished shall be made available by WSN to the CLIENT pursuant to Article 5, and there shall be no further payment obligation of the CLIENT to WSN under this Agreement except for payment of an amount for WSN's anticipated profit on the value of the services not performed by WSN and computed in accordance with the provisions of Article 3 and the Letter Agreement.

In the event of a reduction in scope of the Project work, WSN shall be paid for the work performed and expenses incurred on the Project work thus reduced and for any completed and abandoned work, for which payment has not been made, computed in accordance with the provisions of Article 3 and the Letter Agreement.

ARTICLE 5. DISPOSITION OF PLANS, REPORTS AND OTHER DATA
All reports, plans, specifications, field data and notes and other documents, including all documents on electronic media, prepared by WSN or its consultants are Instruments of Service and shall remain the property of WSN or its consultants, respectively. WSN and its subconsultants retain all common law, statutory and other reserved rights, including, without limitation, copyright. WSN and its subconsultants maintain the right to determine if production will be made, and allowable format for production, of any electronic media or data to CLIENT or any third-party. Upon payment in full of monies due pursuant to the Agreement, WSN shall make hard copies available to the CLIENT, of all documents that are identified as deliverables under the Letter Agreement. If the documents have not been finished (including, but not limited to, completion of final quality control), then WSN shall have no liability for any claims expenses or damages that may arise out of items that could have been corrected during completion/quality control. Any Instruments of Service provided are not intended or represented to be suitable for reuse by the CLIENT or others on extensions of the Project or any other project. Any modification or reuse without written verification or adaptation by WSN for the specific purpose intended will be at CLIENT's sole risk and without liability or legal exposure to WSN. CLIENT shall indemnify, defend and hold harmless WSN from any and all suits or claims of third parties arising out of use of unfinished documents, or modification or reuse of finished documents, which is not specifically verified, adapted, or authorized in writing by WSN. This indemnity shall survive the termination of this Agreement.

Should WSN choose to deliver to CLIENT documents in electronic form, CLIENT acknowledges that differences may exist between any electronic files delivered and the printed hard-copy. Copies of documents that may be relied upon by CLIENT are limited to the printed hard-copies that are signed and/or sealed by WSN. Files in electronic form are only for convenience of CLIENT. Any conclusion or information obtained or derived from such electronic documents will be at user's sole risk. CLIENT acknowledges that the useful life of some forms of electronic media may be limited because of deterioration of the media or obsolescence of the computer hardware and/or software systems. Therefore, WSN makes no representation that such media will be fully usable beyond 30 days from date of delivery to CLIENT.

ARTICLE 6. CLIENT'S ACCEPTANCE BY PURCHASE ORDER OR OTHER MEANS
In lieu of or in addition to signing the acceptance blank on the Letter Agreement, the CLIENT may accept this Agreement by permitting WSN to commence work on the project or by issuing a purchase order signed by a duly authorized representative. Such purchase order shall incorporate by reference the terms and conditions of this Agreement. In the event of a conflict between the terms and conditions of this Agreement and those contained in the CLIENT's purchase order, the terms and conditions of this Agreement shall govern. Notwithstanding any purchase order provisions to the contrary, no warrantees, express or implied, are made by WSN.

ARTICLE 7. CLIENT'S RESPONSIBILITIES

A. To permit WSN to perform the services required hereunder, the CLIENT shall supply, in proper time and sequence, the following at no expense to WSN:

1. Provide all program, budget, or other necessary information regarding its requirements as necessary for orderly progress of the work.

2. Designate in writing, a person to act as CLIENT's representative with respect to the services to be rendered under this Agreement. Such person shall have authority to transmit instructions, receive instructions, receive information, interpret and define CLIENT's policies with respect to WSN's services.

3. Furnish, as required for performance of WSN's services (except to the extent provided otherwise in the Letter Agreement or any Exhibits attached hereto), data prepared by or services of others, including without limitation, core borings, probes and subsurface explorations, hydrographic and geohydrologic surveys, laboratory tests and inspections of samples, materials and equipment; appropriate professional interpretations of all of the foregoing; environmental assessment and impact statements; property, boundary easement, right-of-way, topographic and utility surveys; property descriptions; zoning, deed and other land use restriction; and other special data not covered in the Letter Agreement or any Exhibits attached hereto.

4. Provide access to, and make all provisions for WSN to enter upon publicly or privately owned property as required to perform the work.

5. Act as liaison with other agencies or involved parties to carry out necessary coordination and negotiations; furnish approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

6. Examine all reports, sketches, drawings, specifications and other documents prepared and presented by WSN, obtain advice of an attorney, insurance counselor or others as CLIENT deems necessary for such examination and render in writing, decisions pertaining thereto within a reasonable time so as not to delay the services of WSN.

7. Give prompt written notice to WSN whenever CLIENT observes or otherwise becomes aware of any development that affects the scope of timing of WSN's services or any defect in the work of Construction Contractor(s), Consultants or WSN.

8. Initiate action, where appropriate, to identify and investigate the nature and extent of asbestos and/or pollution in the Project and to abate and/or remove the same as may be required by federal, state or local statute, ordinance, code, rule, or regulation now existing or hereinafter enacted or amended. For purposes of this Agreement, "pollution" and "pollutant" shall mean any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, alkalis, chemicals and hazardous or toxic waste. Hazardous or toxic waste means any substance, waste pollutant or contaminant now or hereafter included within such terms under any federal, state or local statute, ordinance, code, rule or regulation now existing or hereinafter enacted or amended. Waste further includes materials to be recycled, reconditioned or reclaimed.

   If WSN encounters, or reasonably suspects that it has encountered, asbestos or pollution in the Project, WSN shall cease activity on the Project and promptly notify the CLIENT, who shall proceed as set forth above. Unless otherwise specifically provided in the Letter Agreement, the services to be provided by WSN do not include identification of asbestos or pollution, and WSN has no duty to identify or attempt to identify the same within the area of the Project.

   With respect to the foregoing, CLIENT acknowledges and agrees that WSN is not a user, handler, generator, operator, treater, storer, transporter or disposer of asbestos or pollution which may be encountered by WSN on the Project. It is further understood and agreed that services WSN will undertake for CLIENT may be uninsurable obligations involving the presence or potential presence of asbestos or pollution. Therefore, CLIENT agrees, except (1) such liability as may arise out of WSN's sole negligence in the performance of services under this Agreement or (2) to the extent of insurance coverage available for the claim, to hold harmless, indemnify and defend WSN and WSN's officers, subcontractor(s), employees and agents from and against any and all claims, lawsuits, damages, liability and costs, including, but not limited to, costs of defense, arising out of or in any way connected with the presence, discharge, release, or escape of asbestos or pollution. This indemnification is intended to apply only to existing conditions and not to conditions caused or created by WSN. This indemnification shall survive the termination of this Agreement.

9. Provide such accounting, independent cost estimating and insurance counseling services as may be required for the Project, such legal services as CLIENT may require or WSN may reasonably request with regard to legal issues pertaining to the Project including any that may be raised by Contractor(s), such auditing service as CLIENT may require to ascertain how or for what purpose any Contractor has used the moneys paid under the construction contract, and such inspection services as CLIENT may require to ascertain that Contractor(s) are complying with any law, rule, regulation, ordinance, code or order applicable to their furnishing and performing the work.

10. Provide "record" drawings and specifications for all existing physical features, structures, equipment, utilities, or facilities which are pertinent to the Project, to the extent available.

11. Provide other services, materials, or data as may be set forth in the Letter Agreement or any Exhibits attached hereto.

B. WSN may use any CLIENT provided information in performing its services. WSN shall be entitled to rely on the accuracy and completeness of information furnished by the CLIENT. If WSN finds that any information furnished by the CLIENT is in error or is inadequate for its purpose, WSN shall endeavor to notify the CLIENT. However, WSN shall not be held responsible for any errors or omissions that may arise as a result of erroneous or incomplete information provided by CLIENT.

ARTICLE 8. OPINIONS OF COST

Opinions of probable project cost, construction cost, financial evaluations, feasibility studies, economic analyses of alternate solutions and utilitarian considerations of operations and maintenance costs provided for in the Letter Agreement or any Exhibits attached hereto are to be made on the basis of WSN's experience and qualifications and represent WSN's judgment as an experienced design professional. It is recognized, however, that WSN does not have control over the cost of labor, material, equipment or services furnished by others or over market conditions or contractors' methods of determining their prices, and that any evaluation of any facility to be constructed, or acquired, or work to be performed on the basis of WSN's cost opinions must, of necessity, be speculative until completion of construction or acquisition. Accordingly, WSN does not guarantee that proposals, bids or actual costs will not substantially vary from opinions, evaluations or studies submitted by WSN to CLIENT hereunder.

ARTICLE 9. CONSTRUCTION PHASE SERVICES

CLIENT acknowledges that it is customary for the architect or engineer who is responsible for the preparation and furnishing of Drawings and Specifications and other construction-related documents to be employed to provide professional services during the Bidding and Construction Phases of the Project, (1) to interpret and clarify the documentation so furnished and to modify the same as circumstances revealed during bidding and construction may dictate, (2) in connection with acceptance of substitute or equal items of materials and equipment proposed by bidders and Contractor(s), (3) in connection with approval of shop drawings and sample submittals, and (4) as a result of and in response to WSN's detecting in advance of performance of affected work inconsistencies or irregularities in such documentation. CLIENT agrees that if WSN is not employed to provide such professional services during the Bidding (if the work is put out for bids) and the Construction Phases of the Project, WSN will not be responsible for, and CLIENT shall indemnify and hold WSN, its officers, consultant(s), subcontractor(s), employees and agents harmless from, all claims, damages, losses and expenses including attorneys' fees arising out of, or resulting from, any interpretation, clarification, substitution acceptance, shop drawing or sample approval or modification of such documentation issued or carried out by CLIENT or others. Nothing contained in this paragraph shall be construed to release WSN, its officers, consultant(s), subcontractor(s), employees and agents from liability for failure to perform in accordance with professional standards any duty or responsibility which WSN has undertaken or assumed under this Agreement.

ARTICLE 10. REVIEW OF SHOP DRAWINGS AND SUBMITTALS

WSN may review and approve or take other appropriate action on the contractor's submittals or shop drawings for the limited purpose of checking for general conformance with information given and design concept expressed in the Contract Documents. Review and/or approval of submittals is not conducted for the purpose of determining accuracy and completeness of other details or for substantiating instructions for installation or performance of equipment or systems, all of which remain the exclusive responsibility of the contractor. WSN's review and/or approval shall not constitute approval of safety precautions, or any construction means, methods, techniques, sequences or procedures. WSN's approval of a specific item shall not indicate approval of an assembly of which the item is a component. WSN's review and/or approval shall not relieve contractor for any deviations from the requirements of the contract documents nor from the responsibility for errors or omissions on items such as sizes, dimensions, quantities, colors, or locations. Contractor shall remain solely responsible for compliance with any manufacturer requirements and recommendations.

ARTICLE 11. REVIEW OF PAY APPLICATIONS

If included in the scope of services, any review or certification of any pay applications, or certificates of completion shall be based upon WSN's observation of the Work and on the data comprising the contractor's application for payment, and shall indicate that to the best of WSN's knowledge, information and belief, the quantity and quality of the Work is in general conformance with the Contract Documents. The issuance of a certificate for payment or substantial completion is not a representation that WSN has made exhaustive or continuous inspections, reviewed construction means and methods, verified any back-up data provided by the contractor, or ascertained how or for what purpose the contractor has used money previously paid by CLIENT.

ARTICLE 12. REQUESTS FOR INFORMATION (RFI)
If included in the scope of services, WSN will provide, with reasonable promptness, written responses to requests from any contractor for clarification, interpretation or information on the requirements of the Contract Documents. If Contractor's RFI's are, in WSN's professional opinion, for information readily apparent from reasonable observation of field conditions or review of the Contract Documents, or are reasonably inferable therefrom, WSN shall be entitled to compensation for Additional Services for WSN's time in responding to such requests. CLIENT may wish to make the Contractor responsible to the CLIENT for all such charges for additional services as described in this article.

ARTICLE 13. CONSTRUCTION OBSERVATION
If included in the scope of services, WSN will make site visits as specified in the scope of services in order to observe the progress of the Work completed. Such site visits and observations are not intended to be an exhaustive check or detailed inspection, but rather are to allow WSN to become generally familiar with the Work. WSN shall keep CLIENT informed about the progress of the Work and shall advise the CLIENT about observed deficiencies in the Work. WSN shall not supervise, direct or have control over any Contractor's work, nor have any responsibility for the construction means, methods, techniques, sequences or procedures selected by the Contractor nor for the Contractor's safety precautions or programs in connection with the Work. These rights and responsibilities are solely those of the Contractor. WSN shall not be responsible for any acts or omissions of any Contractor and shall not be responsible for any Contractor's failure to perform the Work in accordance with the Contract Documents or any applicable laws, codes, regulations, or industry standards.

If construction observation services are not included in the scope of services, CLIENT assumes all responsibility for interpretation of the Contract Documents and for construction observation, and the CLIENT waives any claims against WSN that are connected with the performance of such services.

ARTICLE 14. BETTERMENT
If, due to WSN's negligence, a required item or component of the Project is omitted from the construction documents, WSN shall not be responsible for paying the cost required to add such item or component to the extent that such item or component would have been required and included in the original construction documents. In no event, will WSN be responsible for any cost or expense that provides betterment or upgrades or enhances the value of the Project.

ARTICLE 15. CERTIFICATIONS, GUARANTEES AND WARRANTIES
WSN shall not be required to sign any documents, no matter by who requested, that would result in WSN having to certify, guarantee or warrant the existence of conditions whose existence WSN cannot ascertain. CLIENT agrees not to make resolution of any dispute with WSN or payment of any amount due to WSN in any way contingent upon WSN signing such certification.

ARTICLE 16. CONTINGENCY FUND
CLIENT and WSN agree that certain increased costs and changes may be required because of possible omissions, ambiguities or inconsistencies in the plans and specifications prepared by WSN, and therefore, that the final construction cost of the Project may exceed the bids, contract amount or estimated construction cost. CLIENT agrees to set aside a reserve in the amount of 5% of the Project construct costs as a contingency to be used, as required, to pay for any such increased costs and changes. CLIENT further agrees to make no claim by way of direct or third-party action against WSN with respect to any increased costs within the contingency because of such changes or because of any claims made by any Contractor relating to such changes.

ARTICLE 17. INSURANCE
WSN shall procure and maintain insurance for protection from claims against it under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims against it for damages because of injury to or destruction of property including loss of use resulting therefrom.

Also, WSN shall procure and maintain professional liability insurance for protection from claims arising out of performance of professional services caused by any negligent act, error, or omission for which WSN is legally liable.

Certificates of insurance will be provided to the CLIENT upon request.

ARTICLE 18. ASSIGNMENT
Neither Party to this Agreement shall transfer, sublet or assign any rights or duties under or interest in this Agreement, including but not limited to monies that are due or monies that may be due, without the prior written consent of the other party. Subcontracting to subconsultants, normally contemplated by WSN as a generally accepted business practice, shall not be considered an assignment for purposes of this Agreement.

ARTICLE 19. NO THIRD-PARTY BENEFICIARIES
Nothing contained in this Agreement shall create a contractual relationship or a cause of action by a third-party against either WSN or CLIENT. WSN's services pursuant to this Agreement are being performed solely for the CLIENT's benefit, and no other party or entity shall have any claim against WSN because of this Agreement.

ARTICLE 20. CORPORATE PROTECTION
It is intended by the parties to this Agreement that WSN's services in connection with the Project shall not subject WSN's individual employees, officers or directors to any personal legal exposure for the risks associated with this Project. Therefore, and notwithstanding anything to the contrary, CLIENT agrees that as the CLIENT's sole and exclusive remedy, any claim, demand or suit shall be directed and/or asserted only against WSN, a Minnesota corporation, and not against any of WSN's individual employees, officers or directors.

ARTICLE 21. CONTROLLING LAW
This Agreement is to be governed by the laws of the State of Minnesota.

ARTICLE 22. ASSIGNMENT OF RISK
In recognition of the relative risks and benefits of the project to both the CLIENT and WSN, the risks have been allocated such that the CLIENT agrees, to the fullest extent permitted by law, to limit the liability of WSN, employees of WSN and sub-consultants, to the CLIENT and to all construction contractors, subcontractors, agents and assigns on the project for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, so that total aggregate liability of WSN, employees of WSN and sub-consultants, to all those named shall not exceed $1,000,000 on this project. Such claims and causes include, but are not limited to negligence, professional errors or omissions, strict liability, breach of contract or warranty.

ARTICLE 23. NON-DISCRIMINATION
WSN will comply with the provisions of applicable federal, state and local statutes, ordinances and regulations pertaining to human rights and non-discrimination.

ARTICLE 24. SEVERABILITY
Any provision or portion thereof in this Agreement which is held to be void or unenforceable under any law shall be deemed stricken and all remaining provisions shall continue to be valid and binding between CLIENT and WSN. All limits of liability and indemnities contained in the Agreement shall survive the completion or termination of the Agreement.

ARTICLE 25. PRE-LIEN NOTICE
Pursuant to the Agreement WSN will be performing services in connection with improvements of real property and may contract with subconsultants or subcontractors as appropriate to furnish labor, skill and/or materials in the performance of the work. Accordingly, CLIENT is entitled under Minnesota law to the following Notice:

(a) Any person or company supplying labor or materials for this improvement to your property may file a lien against your property if that person or company is not paid for its contributions.

(b) Under Minnesota law, you have the right to pay persons who supplied labor or materials for this improvement directly and deduct this amount from our contract price, or withhold the amounts due from us until 120 days after completion of the improvement unless we give you a lien waiver signed by persons who supplied any labor or materials for the improvement and who gave you timely notice.

WIDSETH SMITH NOLTING

Baxter/Brainerd
7804 Industrial Park Road
PO Box 2720
Baxter, MN 56425-2720

218.829.5117
218.829.2517
Brainerd@wsn.us.com

WidsethSmithNolting.com

April 26, 2016

Mayor and City Council
City of Baxter
P.O. Box 2626
Baxter, MN 56425

RE: Agreement for Professional Engineering Services – Fee Amendment
Inglewood Drive Improvements
Municipal Project Number 4105
Baxter, MN

Dear Mayor and City Council:

We are currently under contract with the City of Baxter for engineering services related to the design and construction of the Inglewood Drive Improvements, Municipal Project Number 4105.

During the course of the project we completed additional work that we feel is above and beyond the original scope of the project. The changes in project scope and associated fee amendment are summarized below:

Change in Project Scope	Requested Fee Amendment
Watermain Lowering	$880.00
Forcemain Extension	$1,063.00
Haas Temporary Construction Easement	$278.00
North Stormwater Pond Revision	$2,078.00
Roadway Profile Revision	$573.00
Culvert Extension and Easement	$673.00
Total Fee Amendment	**$5,545.00**

A detailed review and explanation of the requested fee amendment associated with our professional services required to address the changes in project scope outlined above can be found in our letter dated April 25, 2016.

In addition to the request fee amendment, we are also seeking a modification to our agreement to cover the following reimbursable expenses that were requested by City staff but were not included in our original agreement:

Reimbursable Expense	Requested Amount
Wetland Replacement Plan Application	$300.00
Wetland Banking Credits	$6,834.25
Total Reimbursable Expenses	**$7,134.25**

Our previous approved "Not To Exceed" fee was $116,350. Including the above $5,545 fee increase and $7,134.25 in reimbursable expenses, the revised total WSN fee is a "Not To Exceed" $129,029.25. The additional services described above will be invoiced on an hourly basis in accordance with the fee schedule adopted at the time the work was performed.

If you are in agreement with the proposed fee amendment, please sign and return one copy of this agreement to us as our authorization to invoice the previously completed additional work.

We thank you for your consideration of our requested fee amendment and for giving us the opportunity to work with the City to make this project a reality. If you have any questions, please feel free to give me a call.

Sincerely,

Aric Welch, P.E.

Proposed by Widseth Smith Nolting

Aric Welch, Vice President

Kevin B. Wernberg, Executive Vice President

Accepted by the City of Baxter: The above proposal and previously submitted General Provisions of Professional Services Agreement are satisfactory and WSN is authorized to do the work as specified. Payment will be made monthly in accordance with the terms on the fee schedule.

Date

Date

WIDSETH SMITH NOLTING

Engineering | Architecture | Surveying | Environmental

General Provisions of Professional Services Agreement

These General Provisions are intended to be used in conjunction with a letter-type Agreement or a Request for Services between Widseth Smith Nolting, a Minnesota Corporation, hereinafter referred to as WSN, and a CLIENT, wherein the CLIENT engages WSN to provide certain Architectural, and/or Engineering services on a Project.

As used herein, the term "this Agreement" refers to (1) the WSN Proposal Letter which becomes the Letter Agreement upon its acceptance by the Client, (2) these General Provisions and (3) any attached Exhibits, as if they were part of one and the same document. With respect to the order of precedence, any attached Exhibits shall govern over these General Provisions, and the Letter Agreement shall govern over any attached Exhibits and these General Provisions. These documents supersede all prior communications and constitute the entire Agreement between the parties. Amendments to this Agreement must be in writing and signed by both CLIENT and WSN.

ARTICLE 1. PERIOD OF SERVICE
The term of this Agreement for the performance of services hereunder shall be as set forth in the Letter Agreement. In this regard, any lump sum or estimated maximum payment amounts set forth in the Letter Agreement have been established in anticipation of an orderly and continuous progress of the Project in accordance with the schedule set forth in the Letter Agreement or any Exhibits attached thereto. WSN shall be entitled to an equitable adjustment to its fee should there be an interruption of services, or amendment to the schedule.

ARTICLE 2. SCOPE OF SERVICES
The scope of services covered by this Agreement shall be as set forth in the Letter Agreement or a Request for Services. Such scope of services shall be adequately described in order that both the CLIENT and WSN have an understanding of the expected work to be performed.

If WSN is of the opinion that any work they have been directed to perform is beyond the Scope of this Agreement, or that the level of effort required significantly exceeds that estimated due to changed conditions and thereby constitutes extra work, they shall notify the CLIENT of that fact. Extra work, additional compensation for same, and extension of time for completion shall be covered by a revision to the Letter Agreement or Request for Services and entered into by both parties.

ARTICLE 3. COMPENSATION TO WSN

A. Compensation to WSN for services described in this Agreement shall be on a Lump Sum basis, Percentage of Construction, and/or Hourly Rate basis as designated in the Letter Agreement and as hereinafter described.

1. A Lump Sum method of payment for WSN's services shall apply to all or parts of a work scope where WSN's tasks can be readily defined and/or where the level of effort required to accomplish such tasks can be estimated with a reasonable degree of accuracy. The CLIENT shall make monthly payments to WSN within 30 days of date of invoice based on an estimated percentage of completion of WSN's services.

2. A Percentage of Construction or an Hourly Rate method of payment of WSN's services shall apply to all or parts of a work scope where WSN's tasks cannot be readily defined and/or where the level of effort required to accomplish such tasks cannot be estimated with any reasonable degree of accuracy. Under an Hourly Rate method of payment, WSN shall be paid for the actual hours worked on the Project by WSN technical personnel times an hourly billing rate established for each employee. Hourly billing rates shall include compensation for all salary costs, payroll burden, general, and administrative overhead and professional fee. In a Percentage of Construction method of payment, final compensation will be based on actual bids if the project is bid and WSN's estimate to the CLIENT if the project is not bid. A rate schedule shall be furnished by WSN to CLIENT upon which to base periodic payments to WSN.

3. In addition to the foregoing, WSN shall be reimbursed for items and services as set forth in the Letter Agreement or Fee Schedule and the following Direct Expenses when incurred in the performance of the work:

   (a) Travel and subsistence.
   (b) Specialized computer services or programs.
   (c) Outside professional and technical services with cost defined as the amount billed WSN.
   (d) Identifiable reproduction and reprographic costs.
   (e) Other expenses for items such as permit application fees, license fees, or other additional items and services whether or not specifically identified in the Letter Agreement or Fee Schedule.

4. The CLIENT shall make monthly payments to WSN within 30 days of date of invoice based on computations made in accordance with the above charges for services provided and expenses incurred to date, accompanied by supporting evidence as available.

B. The CLIENT will pay the balance stated on the invoice unless CLIENT notifies WSN in writing of the particular item that is alleged to be incorrect within 15 days from the date of invoice, in which case, only the disputed item will remain undue until resolved by the parties. All accounts unpaid after 30 days from the date of original invoice shall be subject to a service charge of 1 % per month, or the maximum amount authorized by law, whichever is less. WSN shall be entitled to recover all reasonable costs and disbursements, including reasonable attorneys fees, incurred in connection with collecting amount owed by CLIENT. In addition, WSN may, after giving seven days written notice to the CLIENT, suspend services and withhold deliverables under this Agreement until WSN has been paid in full for all amounts then due for services, expenses and charges. CLIENT agrees that WSN shall not be responsible for any claim for delay or other consequential damages arising from suspension of services hereunder. Upon payment in full by Client and WSN's resumption of services, the time for performance of WSN's services shall be equitably adjusted to account for the period of suspension and other reasonable time necessary to resume performance.

ARTICLE 4. ABANDONMENT, CHANGE OF PLAN AND TERMINATION
Either Party has the right to terminate this Agreement upon seven days written notice. In addition, the CLIENT may at any time, reduce the scope of this Agreement. Such reduction in scope shall be set forth in a written notice from the CLIENT to WSN. In the event of unresolved dispute over change in scope or changed conditions, this Agreement may also be terminated upon seven days written notice as provided above.

In the event of termination, and upon payment in full for all work performed and expenses incurred to the date of termination, documents that are identified as deliverables under the Letter Agreement whether finished or unfinished shall be made available by WSN to the CLIENT pursuant to Article 5, and there shall be no further payment obligation of the CLIENT to WSN under this Agreement except for payment of an amount for WSN's anticipated profit on the value of the services not performed by WSN and computed in accordance with the provisions of Article 3 and the Letter Agreement.

In the event of a reduction in scope of the Project work, WSN shall be paid for the work performed and expenses incurred on the Project work thus reduced and for any completed and abandoned work, for which payment has not been made, computed in accordance with the provisions of Article 3 and the Letter Agreement.

ARTICLE 5. DISPOSITION OF PLANS, REPORTS AND OTHER DATA
All reports, plans, specifications, field data and notes and other documents, including all documents on electronic media, prepared by WSN or its consultants are Instruments of Service and shall remain the property of WSN or its consultants, respectively. WSN and its subconsultants retain all common law, statutory and other reserved rights, including, without limitation, copyright. WSN and its subconsultants maintain the right to determine if production will be made, and allowable format for production, of any electronic media or data to CLIENT or any third-party. Upon payment in full of monies due pursuant to the Agreement, WSN shall make hard copies available to the CLIENT, of all documents that are identified as deliverables under the Letter Agreement. If the documents have not been finished (including, but not limited to, completion of final quality control), then WSN shall have no liability for any claims expenses or damages that may arise out of items that could have been corrected during completion/quality control. Any Instruments of Service provided are not intended or represented to be suitable for reuse by the CLIENT or others on extensions of the Project or any other project. Any modification or reuse without written verification or adaptation by WSN for the specific purpose intended will be at CLIENT's sole risk and without liability or legal exposure to WSN. CLIENT shall indemnify, defend and hold harmless WSN from any and all suits or claims of third parties arising out of use of unfinished documents, or modification or reuse of finished documents, which is not specifically verified, adapted, or authorized in writing by WSN. This indemnity shall survive the termination of this Agreement.

Should WSN choose to deliver to CLIENT documents in electronic form, CLIENT acknowledges that differences may exist between any electronic files delivered and the printed hard-copy. Copies of documents that may be relied upon by CLIENT are limited to the printed hard-copies that are signed and/or sealed by WSN. Files in electronic form are only for convenience of CLIENT. Any conclusion or information obtained or derived from such electronic documents will be at user's sole risk. CLIENT acknowledges that the useful life of some forms of electronic media may be limited because of deterioration of the media or obsolescence of the computer hardware and/or software systems. Therefore, WSN makes no representation that such media will be fully usable beyond 30 days from date of delivery to CLIENT.

ARTICLE 6. CLIENT'S ACCEPTANCE BY PURCHASE ORDER OR OTHER MEANS
In lieu of or in addition to signing the acceptance blank on the Letter Agreement, the CLIENT may accept this Agreement by permitting WSN to commence work on the project or by issuing a purchase order signed by a duly authorized representative. Such purchase order shall incorporate by reference the terms and conditions of this Agreement. In the event of a conflict between the terms and conditions of this Agreement and those contained in the CLIENT's purchase order, the terms and conditions of this Agreement shall govern. Notwithstanding any purchase order provisions to the contrary, no warrantees, express or implied, are made by WSN.

ARTICLE 7. CLIENT'S RESPONSIBILITIES

A. To permit WSN to perform the services required hereunder, the CLIENT shall supply, in proper time and sequence, the following at no expense to WSN:

1. Provide all program, budget, or other necessary information regarding its requirements as necessary for orderly progress of the work.

2. Designate in writing, a person to act as CLIENT's representative with respect to the services to be rendered under this Agreement. Such person shall have authority to transmit instructions, receive instructions, receive information, interpret and define CLIENT's policies with respect to WSN's services.

3. Furnish, as required for performance of WSN's services (except to the extent provided otherwise in the Letter Agreement or any Exhibits attached hereto), data prepared by or services of others, including without limitation, core borings, probes and subsurface explorations, hydrographic and geohydrologic surveys, laboratory tests and inspections of samples, materials and equipment; appropriate professional interpretations of all of the foregoing; environmental assessment and impact statements; property, boundary easement, right-of-way, topographic and utility surveys; property descriptions; zoning, deed and other land use restriction; and other special data not covered in the Letter Agreement or any Exhibits attached hereto.

4. Provide access to, and make all provisions for WSN to enter upon publicly or privately owned property as required to perform the work.

5. Act as liaison with other agencies or involved parties to carry out necessary coordination and negotiations; furnish approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

6. Examine all reports, sketches, drawings, specifications and other documents prepared and presented by WSN, obtain advice of an attorney, insurance counselor or others as CLIENT deems necessary for such examination and render in writing, decisions pertaining thereto within a reasonable time so as not to delay the services of WSN.

7. Give prompt written notice to WSN whenever CLIENT observes or otherwise becomes aware of any development that affects the scope of timing of WSN's services or any defect in the work of Construction Contractor(s), Consultants or WSN.

8. Initiate action, where appropriate, to identify and investigate the nature and extent of asbestos and/or pollution in the Project and to abate and/or remove the same as may be required by federal, state or local statute, ordinance, code, rule, or regulation now existing or hereinafter enacted or amended. For purposes of this Agreement, "pollution" and "pollutant" shall mean any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, alkalis, chemicals and hazardous or toxic waste. Hazardous or toxic waste means any substance, waste pollutant or contaminant now or hereafter included within such terms under any federal, state or local statute, ordinance, code, rule or regulation now existing or hereinafter enacted or amended. Waste further includes materials to be recycled, reconditioned or reclaimed.

   If WSN encounters, or reasonably suspects that it has encountered, asbestos or pollution in the Project, WSN shall cease activity on the Project and promptly notify the CLIENT, who shall proceed as set forth above. Unless otherwise specifically provided in the Letter Agreement, the services to be provided by WSN do not include identification of asbestos or pollution, and WSN has no duty to identify or attempt to identify the same within the area of the Project.

   With respect to the foregoing, CLIENT acknowledges and agrees that WSN is not a user, handler, generator, operator, treater, storer, transporter or disposer of asbestos or pollution which may be encountered by WSN on the Project. It is further understood and agreed that services WSN will undertake for CLIENT may be uninsurable obligations involving the presence or potential presence of asbestos or pollution. Therefore, CLIENT agrees, except (1) such liability as may arise out of WSN's sole negligence in the performance of services under this Agreement or (2) to the extent of insurance coverage available for the claim, to hold harmless, indemnify and defend WSN and WSN's officers, subcontractor(s), employees and agents from and against any and all claims, lawsuits, damages, liability and costs, including, but not limited to, costs of defense, arising out of or in any way connected with the presence, discharge, release, or escape of asbestos or pollution. This indemnification is intended to apply only to existing conditions and not to conditions caused or created by WSN. This indemnification shall survive the termination of this Agreement.

9. Provide such accounting, independent cost estimating and insurance counseling services as may be required for the Project, such legal services as CLIENT may require or WSN may reasonably request with regard to legal issues pertaining to the Project including any that may be raised by Contractor(s), such auditing service as CLIENT may require to ascertain how or for what purpose any Contractor has used the moneys paid under the construction contract, and such inspection services as CLIENT may require to ascertain that Contractor(s) are complying with any law, rule, regulation, ordinance, code or order applicable to their furnishing and performing the work.

10. Provide "record" drawings and specifications for all existing physical features, structures, equipment, utilities, or facilities which are pertinent to the Project, to the extent available.

11. Provide other services, materials, or data as may be set forth in the Letter Agreement or any Exhibits attached hereto.

B. WSN may use any CLIENT provided information in performing its services. WSN shall be entitled to rely on the accuracy and completeness of information furnished by the CLIENT. If WSN finds that any information furnished by the CLIENT is in error or is inadequate for its purpose, WSN shall endeavor to notify the CLIENT. However, WSN shall not be held responsible for any errors or omissions that may arise as a result of erroneous or incomplete information provided by CLIENT.

ARTICLE 8. OPINIONS OF COST

Opinions of probable project cost, construction cost, financial evaluations, feasibility studies, economic analyses of alternate solutions and utilitarian considerations of operations and maintenance costs provided for in the Letter Agreement or any Exhibits attached hereto are to be made on the basis of WSN's experience and qualifications and represent WSN's judgment as an experienced design professional. It is recognized, however, that WSN does not have control over the cost of labor, material, equipment or services furnished by others or over market conditions or contractors' methods of determining their prices, and that any evaluation of any facility to be constructed, or acquired, or work to be performed on the basis of WSN's cost opinions must, of necessity, be speculative until completion of construction or acquisition. Accordingly, WSN does not guarantee that proposals, bids or actual costs will not substantially vary from opinions, evaluations or studies submitted by WSN to CLIENT hereunder.

ARTICLE 9. CONSTRUCTION PHASE SERVICES

CLIENT acknowledges that it is customary for the architect or engineer who is responsible for the preparation and furnishing of Drawings and Specifications and other construction-related documents to be employed to provide professional services during the Bidding and Construction Phases of the Project, (1) to interpret and clarify the documentation so furnished and to modify the same as circumstances revealed during bidding and construction may dictate, (2) in connection with acceptance of substitute or equal items of materials and equipment proposed by bidders and Contractor(s), (3) in connection with approval of shop drawings and sample submittals, and (4) as a result of and in response to WSN's detecting in advance of performance of affected work inconsistencies or irregularities in such documentation. CLIENT agrees that if WSN is not employed to provide such professional services during the Bidding (if the work is put out for bids) and the Construction Phases of the Project, WSN will not be responsible for, and CLIENT shall indemnify and hold WSN, its officers, consultant(s), subcontractor(s), employees and agents harmless from, all claims, damages, losses and expenses including attorneys' fees arising out of, or resulting from, any interpretation, clarification, substitution acceptance, shop drawing or sample approval or modification of such documentation issued or carried out by CLIENT or others. Nothing contained in this paragraph shall be construed to release WSN, its officers, consultant(s), subcontractor(s), employees and agents from liability for failure to perform in accordance with professional standards any duty or responsibility which WSN has undertaken or assumed under this Agreement.

ARTICLE 10. REVIEW OF SHOP DRAWINGS AND SUBMITTALS

WSN may review and approve or take other appropriate action on the contractor's submittals or shop drawings for the limited purpose of checking for general conformance with information given and design concept expressed in the Contract Documents. Review and/or approval of submittals is not conducted for the purpose of determining accuracy and completeness of other details or for substantiating instructions for installation or performance of equipment or systems, all of which remain the exclusive responsibility of the contractor. WSN's review and/or approval shall not constitute approval of safety precautions, or any construction means, methods, techniques, sequences or procedures. WSN's approval of a specific item shall not indicate approval of an assembly of which the item is a component. WSN's review and/or approval shall not relieve contractor for any deviations from the requirements of the contract documents nor from the responsibility for errors or omissions on items such as sizes, dimensions, quantities, colors, or locations. Contractor shall remain solely responsible for compliance with any manufacturer requirements and recommendations.

ARTICLE 11. REVIEW OF PAY APPLICATIONS

If included in the scope of services, any review or certification of any pay applications, or certificates of completion shall be based upon WSN's observation of the Work and on the data comprising the contractor's application for payment, and shall indicate that to the best of WSN's knowledge, information and belief, the quantity and quality of the Work is in general conformance with the Contract Documents. The issuance of a certificate for payment or substantial completion is not a representation that WSN has made exhaustive or continuous inspections, reviewed construction means and methods, verified any back-up data provided by the contractor, or ascertained how or for what purpose the contractor has used money previously paid by CLIENT.

ARTICLE 12. REQUESTS FOR INFORMATION (RFI)
If included in the scope of services, WSN will provide, with reasonable promptness, written responses to requests from any contractor for clarification, interpretation or information on the requirements of the Contract Documents. If Contractor's RFI's are, in WSN's professional opinion, for information readily apparent from reasonable observation of field conditions or review of the Contract Documents, or are reasonably inferable therefrom, WSN shall be entitled to compensation for Additional Services for WSN's time in responding to such requests. CLIENT may wish to make the Contractor responsible to the CLIENT for all such charges for additional services as described in this article.

ARTICLE 13. CONSTRUCTION OBSERVATION
If included in the scope of services, WSN will make site visits as specified in the scope of services in order to observe the progress of the Work completed. Such site visits and observations are not intended to be an exhaustive check or detailed inspection, but rather are to allow WSN to become generally familiar with the Work. WSN shall keep CLIENT informed about the progress of the Work and shall advise the CLIENT about observed deficiencies in the Work. WSN shall not supervise, direct or have control over any Contractor's work, nor have any responsibility for the construction means, methods, techniques, sequences or procedures selected by the Contractor nor for the Contractor's safety precautions or programs in connection with the Work. These rights and responsibilities are solely those of the Contractor. WSN shall not be responsible for any acts or omissions of any Contractor and shall not be responsible for any Contractor's failure to perform the Work in accordance with the Contract Documents or any applicable laws, codes, regulations, or industry standards.

If construction observation services are not included in the scope of services, CLIENT assumes all responsibility for interpretation of the Contract Documents and for construction observation, and the CLIENT waives any claims against WSN that are connected with the performance of such services.

ARTICLE 14. BETTERMENT
If, due to WSN's negligence, a required item or component of the Project is omitted from the construction documents, WSN shall not be responsible for paying the cost required to add such item or component to the extent that such item or component would have been required and included in the original construction documents. In no event, will WSN be responsible for any cost or expense that provides betterment or upgrades or enhances the value of the Project.

ARTICLE 15. CERTIFICATIONS, GUARANTEES AND WARRANTIES
WSN shall not be required to sign any documents, no matter by who requested, that would result in WSN having to certify, guarantee or warrant the existence of conditions whose existence WSN cannot ascertain. CLIENT agrees not to make resolution of any dispute with WSN or payment of any amount due to WSN in any way contingent upon WSN signing such certification.

ARTICLE 16. CONTINGENCY FUND
CLIENT and WSN agree that certain increased costs and changes may be required because of possible omissions, ambiguities or inconsistencies in the plans and specifications prepared by WSN, and therefore, that the final construction cost of the Project may exceed the bids, contract amount or estimated construction cost. CLIENT agrees to set aside a reserve in the amount of 5% of the Project construct costs as a contingency to be used, as required, to pay for any such increased costs and changes. CLIENT further agrees to make no claim by way of direct or third-party action against WSN with respect to any increased costs within the contingency because of such changes or because of any claims made by any Contractor relating to such changes.

ARTICLE 17. INSURANCE
WSN shall procure and maintain insurance for protection from claims against it under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims against it for damages because of injury to or destruction of property including loss of use resulting therefrom.

Also, WSN shall procure and maintain professional liability insurance for protection from claims arising out of performance of professional services caused by any negligent act, error, or omission for which WSN is legally liable.

Certificates of insurance will be provided to the CLIENT upon request.

ARTICLE 18. ASSIGNMENT
Neither Party to this Agreement shall transfer, sublet or assign any rights or duties under or interest in this Agreement, including but not limited to monies that are due or monies that may be due, without the prior written consent of the other party. Subcontracting to subconsultants, normally contemplated by WSN as a generally accepted business practice, shall not be considered an assignment for purposes of this Agreement.

ARTICLE 19. NO THIRD-PARTY BENEFICIARIES
Nothing contained in this Agreement shall create a contractual relationship or a cause of action by a third-party against either WSN or CLIENT. WSN's services pursuant to this Agreement are being performed solely for the CLIENT's benefit, and no other party or entity shall have any claim against WSN because of this Agreement.

ARTICLE 20. CORPORATE PROTECTION
It is intended by the parties to this Agreement that WSN's services in connection with the Project shall not subject WSN's individual employees, officers or directors to any personal legal exposure for the risks associated with this Project. Therefore, and notwithstanding anything to the contrary, CLIENT agrees that as the CLIENT's sole and exclusive remedy, any claim, demand or suit shall be directed and/or asserted only against WSN, a Minnesota corporation, and not against any of WSN's individual employees, officers or directors.

ARTICLE 21. CONTROLLING LAW
This Agreement is to be governed by the laws of the State of Minnesota.

ARTICLE 22. ASSIGNMENT OF RISK
In recognition of the relative risks and benefits of the project to both the CLIENT and WSN, the risks have been allocated such that the CLIENT agrees, to the fullest extent permitted by law, to limit the liability of WSN, employees of WSN and sub-consultants, to the CLIENT and to all construction contractors, subcontractors, agents and assigns on the project for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, so that total aggregate liability of WSN, employees of WSN and sub-consultants, to all those named shall not exceed $1,000,000 on this project. Such claims and causes include, but are not limited to negligence, professional errors or omissions, strict liability, breach of contract or warranty.

ARTICLE 23. NON-DISCRIMINATION
WSN will comply with the provisions of applicable federal, state and local statutes, ordinances and regulations pertaining to human rights and non-discrimination.

ARTICLE 24. SEVERABILITY
Any provision or portion thereof in this Agreement which is held to be void or unenforceable under any law shall be deemed stricken and all remaining provisions shall continue to be valid and binding between CLIENT and WSN. All limits of liability and indemnities contained in the Agreement shall survive the completion or termination of the Agreement.

ARTICLE 25. PRE-LIEN NOTICE
Pursuant to the Agreement WSN will be performing services in connection with improvements of real property and may contract with subconsultants or subcontractors as appropriate to furnish labor, skill and/or materials in the performance of the work. Accordingly, CLIENT is entitled under Minnesota law to the following Notice:

(a) Any person or company supplying labor or materials for this improvement to your property may file a lien against your property if that person or company is not paid for its contributions.

(b) Under Minnesota law, you have the right to pay persons who supplied labor or materials for this improvement directly and deduct this amount from our contract price, or withhold the amounts due from us until 120 days after completion of the improvement unless we give you a lien waiver signed by persons who supplied any labor or materials for the improvement and who gave you timely notice.

WIDSETH SMITH NOLTING

Baxter/Brainerd
7804 Industrial Park Road
PO Box 2720
Baxter, MN 56425-2720

218.829.5117
218.829.2517
Brainerd@wsn.us.com

WidsethSmithNolting.com

April 26, 2016

Mayor and City Council
City of Baxter
P.O. Box 2626
Baxter, MN 56425

RE: Agreement for Professional Engineering Services – Fee Amendment
Dellwood Drive and Novotny Road Improvements
Municipal Project Number 4063
Baxter, MN

Dear Mayor and City Council:

We are currently under contract with the City of Baxter for engineering services related to the design and construction of the Dellwood Drive and Novotny Road Improvements, Municipal Project Number 4063.

During the course of the project we completed additional work that we feel is above and beyond the original scope of the project. The changes in project scope and associated fee amendment are summarized below:

Change in Project Scope	Requested Fee Amendment
Additional Sanitary Sewer and Water Services	$1,058
Fire Protection Line for Hilltop Trailer Sales	$400
Dellwood Drive Bypass Lane	$2,144
Audubon Way Watermain Extension	$2,144
Total Fee Amendment	**$12,269**

A detailed review and explanation of the requested fee amendment associated with our professional services required to address the changes in project scope outlined above can be found in our letter dated April 25, 2016.

In addition to the request fee amendment, we are also seeking a modification to our agreement to cover the following reimbursable expenses that were requested by City staff but were not included in our original agreement:

Reimbursable Expense	Requested Amount
Wetland Replacement Plan Application	$300
MnDOH Review Fee	$150
MPCA Sanitary Sewer Extension Permit	$310
Total Reimbursable Expenses	**$760**

Our previous approved "Not To Exceed" fee was $190,955. Including the above $12,269 fee increase and $760 in reimbursable expenses, the revised total WSN fee is a "Not To Exceed" $203,984. The additional services described above will be invoiced on an hourly basis in accordance with the fee schedule adopted at the time the work was performed.

If you are in agreement with the proposed fee amendment, please sign and return one copy of this agreement to us as our authorization to invoice the previously completed additional work.

We thank you for your consideration of our requested fee amendment and for giving us the opportunity to work with the City to make this project a reality. If you have any questions, please feel free to give me a call.

Sincerely,

Aric Welch, P.E.

Proposed by Widseth Smith Nolting

Aric Welch, Vice President

Kevin B. Wemberg, Executive Vice President

Accepted by the City of Baxter: The above proposal and previously submitted General Provisions of Professional Services Agreement are satisfactory and WSN is authorized to do the work as specified. Payment will be made monthly in accordance with the terms on the fee schedule.

Date

Date

General Provisions of Professional Services Agreement

WIDSETH SMITH NOLTING
Engineering | Architecture | Surveying | Environmental

These General Provisions are intended to be used in conjunction with a letter-type Agreement or a Request for Services between Widseth Smith Nolting, a Minnesota Corporation, hereinafter referred to as WSN, and a CLIENT, wherein the CLIENT engages WSN to provide certain Architectural, and/or Engineering services on a Project.

As used herein, the term "this Agreement" refers to (1) the WSN Proposal Letter which becomes the Letter Agreement upon its acceptance by the Client, (2) these General Provisions and (3) any attached Exhibits, as if they were part of one and the same document. With respect to the order of precedence, any attached Exhibits shall govern over these General Provisions, and the Letter Agreement shall govern over any attached Exhibits and these General Provisions. These documents supersede all prior communications and constitute the entire Agreement between the parties. Amendments to this Agreement must be in writing and signed by both CLIENT and WSN.

ARTICLE 1. PERIOD OF SERVICE
The term of this Agreement for the performance of services hereunder shall be as set forth in the Letter Agreement. In this regard, any lump sum or estimated maximum payment amounts set forth in the Letter Agreement have been established in anticipation of an orderly and continuous progress of the Project in accordance with the schedule set forth in the Letter Agreement or any Exhibits attached thereto. WSN shall be entitled to an equitable adjustment to its fee should there be an interruption of services, or amendment to the schedule.

ARTICLE 2. SCOPE OF SERVICES
The scope of services covered by this Agreement shall be as set forth in the Letter Agreement or a Request for Services. Such scope of services shall be adequately described in order that both the CLIENT and WSN have an understanding of the expected work to be performed.

If WSN is of the opinion that any work they have been directed to perform is beyond the Scope of this Agreement, or that the level of effort required significantly exceeds that estimated due to changed conditions and thereby constitutes extra work, they shall notify the CLIENT of that fact. Extra work, additional compensation for same, and extension of time for completion shall be covered by a revision to the Letter Agreement or Request for Services and entered into by both parties.

ARTICLE 3. COMPENSATION TO WSN
A. Compensation to WSN for services described in this Agreement shall be on a Lump Sum basis, Percentage of Construction, and/or Hourly Rate basis as designated in the Letter Agreement and as hereinafter described.

1. A Lump Sum method of payment for WSN's services shall apply to all or parts of a work scope where WSN's tasks can be readily defined and/or where the level of effort required to accomplish such tasks can be estimated with a reasonable degree of accuracy. The CLIENT shall make monthly payments to WSN within 30 days of date of invoice based on an estimated percentage of completion of WSN's services.

2. A Percentage of Construction or an Hourly Rate method of payment of WSN's services shall apply to all or parts of a work scope where WSN's tasks cannot be readily defined and/or where the level of effort required to accomplish such tasks cannot be estimated with any reasonable degree of accuracy. Under an Hourly Rate method of payment, WSN shall be paid for the actual hours worked on the Project by WSN technical personnel times an hourly billing rate established for each employee. Hourly billing rates shall include compensation for all salary costs, payroll burden, general, and administrative overhead and professional fee. In a Percentage of Construction method of payment, final compensation will be based on actual bids if the project is bid and WSN's estimate to the CLIENT if the project is not bid. A rate schedule shall be furnished by WSN to CLIENT upon which to base periodic payments to WSN.

3. In addition to the foregoing, WSN shall be reimbursed for items and services as set forth in the Letter Agreement or Fee Schedule and the following Direct Expenses when incurred in the performance of the work:

   (a) Travel and subsistence.
   (b) Specialized computer services or programs.
   (c) Outside professional and technical services with cost defined as the amount billed WSN.
   (d) Identifiable reproduction and reprographic costs.
   (e) Other expenses for items such as permit application fees, license fees, or other additional items and services whether or not specifically identified in the Letter Agreement or Fee Schedule.

4. The CLIENT shall make monthly payments to WSN within 30 days of date of invoice based on computations made in accordance with the above charges for services provided and expenses incurred to date, accompanied by supporting evidence as available.

B. The CLIENT will pay the balance stated on the invoice unless CLIENT notifies WSN in writing of the particular item that is alleged to be incorrect within 15 days from the date of invoice, in which case, only the disputed item will remain undue until resolved by the parties. All accounts unpaid after 30 days from the date of original invoice shall be subject to a service charge of 1 % per month, or the maximum amount authorized by law, whichever is less. WSN shall be entitled to recover all reasonable costs and disbursements, including reasonable attorneys fees, incurred in connection with collecting amount owed by CLIENT. In addition, WSN may, after giving seven days written notice to the CLIENT, suspend services and withhold deliverables under this Agreement until WSN has been paid in full for all amounts then due for services, expenses and charges. CLIENT agrees that WSN shall not be responsible for any claim for delay or other consequential damages arising from suspension of services hereunder. Upon payment in full by Client and WSN's resumption of services, the time for performance of WSN's services shall be equitably adjusted to account for the period of suspension and other reasonable time necessary to resume performance.

ARTICLE 4. ABANDONMENT, CHANGE OF PLAN AND TERMINATION
Either Party has the right to terminate this Agreement upon seven days written notice. In addition, the CLIENT may at any time, reduce the scope of this Agreement. Such reduction in scope shall be set forth in a written notice from the CLIENT to WSN. In the event of unresolved dispute over change in scope or changed conditions, this Agreement may also be terminated upon seven days written notice as provided above.

In the event of termination, and upon payment in full for all work performed and expenses incurred to the date of termination, documents that are identified as deliverables under the Letter Agreement whether finished or unfinished shall be made available by WSN to the CLIENT pursuant to Article 5, and there shall be no further payment obligation of the CLIENT to WSN under this Agreement except for payment of an amount for WSN's anticipated profit on the value of the services not performed by WSN and computed in accordance with the provisions of Article 3 and the Letter Agreement.

In the event of a reduction in scope of the Project work, WSN shall be paid for the work performed and expenses incurred on the Project work thus reduced and for any completed and abandoned work, for which payment has not been made, computed in accordance with the provisions of Article 3 and the Letter Agreement.

ARTICLE 5. DISPOSITION OF PLANS, REPORTS AND OTHER DATA
All reports, plans, specifications, field data and notes and other documents, including all documents on electronic media, prepared by WSN or its consultants are Instruments of Service and shall remain the property of WSN or its consultants, respectively. WSN and its subconsultants retain all common law, statutory and other reserved rights, including, without limitation, copyright. WSN and its subconsultants maintain the right to determine if production will be made, and allowable format for production, of any electronic media or data to CLIENT or any third-party. Upon payment in full of monies due pursuant to the Agreement, WSN shall make hard copies available to the CLIENT, of all documents that are identified as deliverables under the Letter Agreement. If the documents have not been finished (including, but not limited to, completion of final quality control), then WSN shall have no liability for any claims expenses or damages that may arise out of items that could have been corrected during completion/quality control. Any Instruments of Service provided are not intended or represented to be suitable for reuse by the CLIENT or others on extensions of the Project or any other project. Any modification or reuse without written verification or adaptation by WSN for the specific purpose intended will be at CLIENT's sole risk and without liability or legal exposure to WSN. CLIENT shall indemnify, defend and hold harmless WSN from any and all suits or claims of third parties arising out of use of unfinished documents, or modification or reuse of finished documents, which is not specifically verified, adapted, or authorized in writing by WSN. This indemnity shall survive the termination of this Agreement.

Should WSN choose to deliver to CLIENT documents in electronic form, CLIENT acknowledges that differences may exist between any electronic files delivered and the printed hard-copy. Copies of documents that may be relied upon by CLIENT are limited to the printed hard-copies that are signed and/or sealed by WSN. Files in electronic form are only for convenience of CLIENT. Any conclusion or information obtained or derived from such electronic documents will be at user's sole risk. CLIENT acknowledges that the useful life of some forms of electronic media may be limited because of deterioration of the media or obsolescence of the computer hardware and/or software systems. Therefore, WSN makes no representation that such media will be fully usable beyond 30 days from date of delivery to CLIENT.

ARTICLE 6. CLIENT'S ACCEPTANCE BY PURCHASE ORDER OR OTHER MEANS
In lieu of or in addition to signing the acceptance blank on the Letter Agreement, the CLIENT may accept this Agreement by permitting WSN to commence work on the project or by issuing a purchase order signed by a duly authorized representative. Such purchase order shall incorporate by reference the terms and conditions of this Agreement. In the event of a conflict between the terms and conditions of this Agreement and those contained in the CLIENT's purchase order, the terms and conditions of this Agreement shall govern. Notwithstanding any purchase order provisions to the contrary, no warrantees, express or implied, are made by WSN.

ARTICLE 7. CLIENT'S RESPONSIBILITIES

A. To permit WSN to perform the services required hereunder, the CLIENT shall supply, in proper time and sequence, the following at no expense to WSN:

1. Provide all program, budget, or other necessary information regarding its requirements as necessary for orderly progress of the work.

2. Designate in writing, a person to act as CLIENT's representative with respect to the services to be rendered under this Agreement. Such person shall have authority to transmit instructions, receive instructions, receive information, interpret and define CLIENT's policies with respect to WSN's services.

3. Furnish, as required for performance of WSN's services (except to the extent provided otherwise in the Letter Agreement or any Exhibits attached hereto), data prepared by or services of others, including without limitation, core borings, probes and subsurface explorations, hydrographic and geohydrologic surveys, laboratory tests and inspections of samples, materials and equipment; appropriate professional interpretations of all of the foregoing; environmental assessment and impact statements; property, boundary easement, right-of-way, topographic and utility surveys; property descriptions; zoning, deed and other land use restriction; and other special data not covered in the Letter Agreement or any Exhibits attached hereto.

4. Provide access to, and make all provisions for WSN to enter upon publicly or privately owned property as required to perform the work.

5. Act as liaison with other agencies or involved parties to carry out necessary coordination and negotiations; furnish approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

6. Examine all reports, sketches, drawings, specifications and other documents prepared and presented by WSN, obtain advice of an attorney, insurance counselor or others as CLIENT deems necessary for such examination and render in writing, decisions pertaining thereto within a reasonable time so as not to delay the services of WSN.

7. Give prompt written notice to WSN whenever CLIENT observes or otherwise becomes aware of any development that affects the scope of timing of WSN's services or any defect in the work of Construction Contractor(s), Consultants or WSN.

8. Initiate action, where appropriate, to identify and investigate the nature and extent of asbestos and/or pollution in the Project and to abate and/or remove the same as may be required by federal, state or local statute, ordinance, code, rule, or regulation now existing or hereinafter enacted or amended. For purposes of this Agreement, "pollution" and "pollutant" shall mean any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, alkalis, chemicals and hazardous or toxic waste. Hazardous or toxic waste means any substance, waste pollutant or contaminant now or hereafter included within such terms under any federal, state or local statute, ordinance, code, rule or regulation now existing or hereinafter enacted or amended. Waste further includes materials to be recycled, reconditioned or reclaimed.

   If WSN encounters, or reasonably suspects that it has encountered, asbestos or pollution in the Project, WSN shall cease activity on the Project and promptly notify the CLIENT, who shall proceed as set forth above. Unless otherwise specifically provided in the Letter Agreement, the services to be provided by WSN do not include identification of asbestos or pollution, and WSN has no duty to identify or attempt to identify the same within the area of the Project.

   With respect to the foregoing, CLIENT acknowledges and agrees that WSN is not a user, handler, generator, operator, treater, storer, transporter or disposer of asbestos or pollution which may be encountered by WSN on the Project. It is further understood and agreed that services WSN will undertake for CLIENT may be uninsurable obligations involving the presence or potential presence of asbestos or pollution. Therefore, CLIENT agrees, except (1) such liability as may arise out of WSN's sole negligence in the performance of services under this Agreement or (2) to the extent of insurance coverage available for the claim, to hold harmless, indemnify and defend WSN and WSN's officers, subcontractor(s), employees and agents from and against any and all claims, lawsuits, damages, liability and costs, including, but not limited to, costs of defense, arising out of or in any way connected with the presence, discharge, release, or escape of asbestos or pollution. This indemnification is intended to apply only to existing conditions and not to conditions caused or created by WSN. This indemnification shall survive the termination of this Agreement.

9. Provide such accounting, independent cost estimating and insurance counseling services as may be required for the Project, such legal services as CLIENT may require or WSN may reasonably request with regard to legal issues pertaining to the Project including any that may be raised by Contractor(s), such auditing service as CLIENT may require to ascertain how or for what purpose any Contractor has used the moneys paid under the construction contract, and such inspection services as CLIENT may require to ascertain that Contractor(s) are complying with any law, rule, regulation, ordinance, code or order applicable to their furnishing and performing the work.

10. Provide "record" drawings and specifications for all existing physical features, structures, equipment, utilities, or facilities which are pertinent to the Project, to the extent available.

11. Provide other services, materials, or data as may be set forth in the Letter Agreement or any Exhibits attached hereto.

B. WSN may use any CLIENT provided information in performing its services. WSN shall be entitled to rely on the accuracy and completeness of information furnished by the CLIENT. If WSN finds that any information furnished by the CLIENT is in error or is inadequate for its purpose, WSN shall endeavor to notify the CLIENT. However, WSN shall not be held responsible for any errors or omissions that may arise as a result of erroneous or incomplete information provided by CLIENT.

ARTICLE 8. OPINIONS OF COST

Opinions of probable project cost, construction cost, financial evaluations, feasibility studies, economic analyses of alternate solutions and utilitarian considerations of operations and maintenance costs provided for in the Letter Agreement or any Exhibits attached hereto are to be made on the basis of WSN's experience and qualifications and represent WSN's judgment as an experienced design professional. It is recognized, however, that WSN does not have control over the cost of labor, material, equipment or services furnished by others or over market conditions or contractors' methods of determining their prices, and that any evaluation of any facility to be constructed, or acquired, or work to be performed on the basis of WSN's cost opinions must, of necessity, be speculative until completion of construction or acquisition. Accordingly, WSN does not guarantee that proposals, bids or actual costs will not substantially vary from opinions, evaluations or studies submitted by WSN to CLIENT hereunder.

ARTICLE 9. CONSTRUCTION PHASE SERVICES

CLIENT acknowledges that it is customary for the architect or engineer who is responsible for the preparation and furnishing of Drawings and Specifications and other construction-related documents to be employed to provide professional services during the Bidding and Construction Phases of the Project, (1) to interpret and clarify the documentation so furnished and to modify the same as circumstances revealed during bidding and construction may dictate, (2) in connection with acceptance of substitute or equal items of materials and equipment proposed by bidders and Contractor(s), (3) in connection with approval of shop drawings and sample submittals, and (4) as a result of and in response to WSN's detecting in advance of performance of affected work inconsistencies or irregularities in such documentation. CLIENT agrees that if WSN is not employed to provide such professional services during the Bidding (if the work is put out for bids) and the Construction Phases of the Project, WSN will not be responsible for, and CLIENT shall indemnify and hold WSN, its officers, consultant(s), subcontractor(s), employees and agents harmless from, all claims, damages, losses and expenses including attorneys' fees arising out of, or resulting from, any interpretation, clarification, substitution acceptance, shop drawing or sample approval or modification of such documentation issued or carried out by CLIENT or others. Nothing contained in this paragraph shall be construed to release WSN, its officers, consultant(s), subcontractor(s), employees and agents from liability for failure to perform in accordance with professional standards any duty or responsibility which WSN has undertaken or assumed under this Agreement.

ARTICLE 10. REVIEW OF SHOP DRAWINGS AND SUBMITTALS

WSN may review and approve or take other appropriate action on the contractor's submittals or shop drawings for the limited purpose of checking for general conformance with information given and design concept expressed in the Contract Documents. Review and/or approval of submittals is not conducted for the purpose of determining accuracy and completeness of other details or for substantiating instructions for installation or performance of equipment or systems, all of which remain the exclusive responsibility of the contractor. WSN's review and/or approval shall not constitute approval of safety precautions, or any construction means, methods, techniques, sequences or procedures. WSN's approval of a specific item shall not indicate approval of an assembly of which the item is a component. WSN's review and/or approval shall not relieve contractor for any deviations from the requirements of the contract documents nor from the responsibility for errors or omissions on items such as sizes, dimensions, quantities, colors, or locations. Contractor shall remain solely responsible for compliance with any manufacturer requirements and recommendations.

ARTICLE 11. REVIEW OF PAY APPLICATIONS

If included in the scope of services, any review or certification of any pay applications, or certificates of completion shall be based upon WSN's observation of the Work and on the data comprising the contractor's application for payment, and shall indicate that to the best of WSN's knowledge, information and belief, the quantity and quality of the Work is in general conformance with the Contract Documents. The issuance of a certificate for payment or substantial completion is not a representation that WSN has made exhaustive or continuous inspections, reviewed construction means and methods, verified any back-up data provided by the contractor, or ascertained how or for what purpose the contractor has used money previously paid by CLIENT.

ARTICLE 12. REQUESTS FOR INFORMATION (RFI)
If included in the scope of services, WSN will provide, with reasonable promptness, written responses to requests from any contractor for clarification, interpretation or information on the requirements of the Contract Documents. If Contractor's RFI's are, in WSN's professional opinion, for information readily apparent from reasonable observation of field conditions or review of the Contract Documents, or are reasonably inferable therefrom, WSN shall be entitled to compensation for Additional Services for WSN's time in responding to such requests. CLIENT may wish to make the Contractor responsible to the CLIENT for all such charges for additional services as described in this article.

ARTICLE 13. CONSTRUCTION OBSERVATION
If included in the scope of services, WSN will make site visits as specified in the scope of services in order to observe the progress of the Work completed. Such site visits and observations are not intended to be an exhaustive check or detailed inspection, but rather are to allow WSN to become generally familiar with the Work. WSN shall keep CLIENT informed about the progress of the Work and shall advise the CLIENT about observed deficiencies in the Work. WSN shall not supervise, direct or have control over any Contractor's work, nor have any responsibility for the construction means, methods, techniques, sequences or procedures selected by the Contractor nor for the Contractor's safety precautions or programs in connection with the Work. These rights and responsibilities are solely those of the Contractor. WSN shall not be responsible for any acts or omissions of any Contractor and shall not be responsible for any Contractor's failure to perform the Work in accordance with the Contract Documents or any applicable laws, codes, regulations, or industry standards.

If construction observation services are not included in the scope of services, CLIENT assumes all responsibility for interpretation of the Contract Documents and for construction observation, and the CLIENT waives any claims against WSN that are connected with the performance of such services.

ARTICLE 14. BETTERMENT
If, due to WSN's negligence, a required item or component of the Project is omitted from the construction documents, WSN shall not be responsible for paying the cost required to add such item or component to the extent that such item or component would have been required and included in the original construction documents. In no event, will WSN be responsible for any cost or expense that provides betterment or upgrades or enhances the value of the Project.

ARTICLE 15. CERTIFICATIONS, GUARANTEES AND WARRANTIES
WSN shall not be required to sign any documents, no matter by who requested, that would result in WSN having to certify, guarantee or warrant the existence of conditions whose existence WSN cannot ascertain. CLIENT agrees not to make resolution of any dispute with WSN or payment of any amount due to WSN in any way contingent upon WSN signing such certification.

ARTICLE 16. CONTINGENCY FUND
CLIENT and WSN agree that certain increased costs and changes may be required because of possible omissions, ambiguities or inconsistencies in the plans and specifications prepared by WSN, and therefore, that the final construction cost of the Project may exceed the bids, contract amount or estimated construction cost. CLIENT agrees to set aside a reserve in the amount of 5% of the Project construct costs as a contingency to be used, as required, to pay for any such increased costs and changes. CLIENT further agrees to make no claim by way of direct or third-party action against WSN with respect to any increased costs within the contingency because of such changes or because of any claims made by any Contractor relating to such changes.

ARTICLE 17. INSURANCE
WSN shall procure and maintain insurance for protection from claims against it under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims against it for damages because of injury to or destruction of property including loss of use resulting therefrom.

Also, WSN shall procure and maintain professional liability insurance for protection from claims arising out of performance of professional services caused by any negligent act, error, or omission for which WSN is legally liable.

Certificates of insurance will be provided to the CLIENT upon request.

ARTICLE 18. ASSIGNMENT
Neither Party to this Agreement shall transfer, sublet or assign any rights or duties under or interest in this Agreement, including but not limited to monies that are due or monies that may be due, without the prior written consent of the other party. Subcontracting to subconsultants, normally contemplated by WSN as a generally accepted business practice, shall not be considered an assignment for purposes of this Agreement.

ARTICLE 19. NO THIRD-PARTY BENEFICIARIES
Nothing contained in this Agreement shall create a contractual relationship or a cause of action by a third-party against either WSN or CLIENT. WSN's services pursuant to this Agreement are being performed solely for the CLIENT's benefit, and no other party or entity shall have any claim against WSN because of this Agreement.

ARTICLE 20. CORPORATE PROTECTION
It is intended by the parties to this Agreement that WSN's services in connection with the Project shall not subject WSN's individual employees, officers or directors to any personal legal exposure for the risks associated with this Project. Therefore, and notwithstanding anything to the contrary, CLIENT agrees that as the CLIENT's sole and exclusive remedy, any claim, demand or suit shall be directed and/or asserted only against WSN, a Minnesota corporation, and not against any of WSN's individual employees, officers or directors.

ARTICLE 21. CONTROLLING LAW
This Agreement is to be governed by the laws of the State of Minnesota.

ARTICLE 22. ASSIGNMENT OF RISK
In recognition of the relative risks and benefits of the project to both the CLIENT and WSN, the risks have been allocated such that the CLIENT agrees, to the fullest extent permitted by law, to limit the liability of WSN, employees of WSN and sub-consultants, to the CLIENT and to all construction contractors, subcontractors, agents and assigns on the project for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, so that total aggregate liability of WSN, employees of WSN and sub-consultants, to all those named shall not exceed $1,000,000 on this project. Such claims and causes include, but are not limited to negligence, professional errors or omissions, strict liability, breach of contract or warranty.

ARTICLE 23. NON-DISCRIMINATION
WSN will comply with the provisions of applicable federal, state and local statutes, ordinances and regulations pertaining to human rights and non-discrimination.

ARTICLE 24. SEVERABILITY
Any provision or portion thereof in this Agreement which is held to be void or unenforceable under any law shall be deemed stricken and all remaining provisions shall continue to be valid and binding between CLIENT and WSN. All limits of liability and indemnities contained in the Agreement shall survive the completion or termination of the Agreement.

ARTICLE 25. PRE-LIEN NOTICE
Pursuant to the Agreement WSN will be performing services in connection with improvements of real property and may contract with subconsultants or subcontractors as appropriate to furnish labor, skill and/or materials in the performance of the work. Accordingly, CLIENT is entitled under Minnesota law to the following Notice:

(a) Any person or company supplying labor or materials for this improvement to your property may file a lien against your property if that person or company is not paid for its contributions.

(b) Under Minnesota law, you have the right to pay persons who supplied labor or materials for this improvement directly and deduct this amount from our contract price, or withhold the amounts due from us until 120 days after completion of the improvement unless we give you a lien waiver signed by persons who supplied any labor or materials for the improvement and who gave you timely notice.

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Change Order No. 3

Date of Issuance:		Effective Date:	Council Approval
Owner:	City of Baxter	Owner's Contract No.:	4063, 4105, 4107
Contractor:	R.L. Larson Excavating, Inc.	Contractor's Project No.:	
Engineer:	Widseth Smith Nolting	Engineer's Project No.:	0102B0274.000
Project:	2015 Dellwood Drive, Novotny Road, Inglewood Drive and Independence Road Utility and Roadway Improvements	Contract Name:	Municipal Project Numbers 4063, 4105 and 4107

The Contract is modified as follows upon execution of this Change Order:

Description: See WSN Letter Dated April 26, 2016

Attachments: Change Order Summary and WSN Letter Dated April 26, 2016

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIMES
Original Contract Price: $1,530,029.37	Original Contract Times: Substantial Completion: October 23, 2015 Ready for Final Payment: November 6, 2015 days or dates
Increase from previously approved Change Orders: $ 0	Increase from previously approved Change Orders: Substantial Completion: 0 Ready for Final Payment: 0 days
Contract Price prior to this Change Order: $1,530,029.37	Contract Times prior to this Change Order: Substantial Completion: November 6, 2015 Ready for Final Payment: November 20, 2015 days or dates
Increase of this Change Order: $ 30,774.25	Increase of this Change Order: Substantial Completion: May 26, 2016 Ready for Final Payment: June 9, 2016 days or dates
Contract Price incorporating this Change Order: $ 1,560,803.62	Contract Times with all approved Change Orders: Substantial Completion: May 26, 2016 Ready for Final Payment: June 9, 2016 days or dates

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By:	By:	By:
Engineer	Owner (Authorized Signature)	Contractor (Authorized Signature)
Title:	Title	Title Proj. Manager
Date:	Date	Date 4-26-2016

CONTRACT CHANGE ORDER SUMMARY

CONTRACT FOR: DELLWOOD DR, NOVOTNY RD, INGLEWOOD DR & INDEPENCENCE RD IMPROVEMENTS MUNICIPAL PROJECT NUMBESR 4063, 4105 AND 4107	ORDER NO. 3
	DATE: April 26, 2016
OWNER: CITY OF BAXTER	STATE: MINNESOTA
TO: RL LARSON EXCAVATING, INC.	COUNTY: CROW WING

Description of Changes	Quantity	Unit	Unit Cost	DECREASE in Contract Price	INCREASE in Contract Price
Listing of Changes:					
1. INDEPENDENCE ROAD ADDITIONAL GRADING	1	LUMP SUM	$1,440.00		$1,440.00
2. INGLEWOOD DRIVE ADDITIONAL GRADING	1	LUMP SUM	$5,272.00		$5,272.00
3. WORK AROUND 6" GAS MAIN	1	LUMP SUM	$1,350.00		$1,350.00
4. INGLEWOOD DRIVE WATERMAIN LOWERING	1	LUMP SUM	$12,958.38		$12,958.38
5. FAIRVIEW ROAD FORCEMAIN	1	LUMP SUM	$9,753.87		$9,753.87
CHANGE ORDER TOTALS:				$0.00	$30,774.25
NET CHANGE IN CONTRACT PRICE:					$30,774.25

JUSTIFICATION:

See WSN Letter Dated April 26, 2016.

The amount of the Contract will be **Increased** by the sum of:

Thirty Thousand Seven Hundred Seventy Four and 25/100 Dollars($30,774.25).

The Contract Total including this and previous Change Orders will be:

One Million Five Hundred Sixty Thousand Eight Hundred Three and 62/100 Dollars($1,560,803.62).

WIDSETH SMITH NOLTING

Brainerd/Baxter
7804 Industrial Park Road
PO Box 2720
Baxter, MN 56425-2720

218.829.5117
218.829.2517
Brainerd@wsn.us.com

WidsethSmithNolting.com

April 25, 2016

Greg Philippi
RL Larson Excavating, Inc.
2255 12th Street SE
St. Cloud, MN 56304

Re: Claim for Additional Work
Dellwood Drive, Novotny Road, Inglewood Drive and Independence Road Improvements
Municipal Project Numbers 4063, 4105 and 4107
Baxter, Minnesota
WSN Job No. 0102B0274.000

Dear Mr. Philippi:

This letter is written in response to the following claims and change order requests:

- Attachment A – Independence Road & Inglewood Drive
- Attachment B – Extra Work Dellwood Dr./Novotny Project

This letter will be copied to the City and will serve as the Engineer's recommendation and formal action regarding the associated claims.

Our review and recommendation on each claim and change order request is as follows:

Attachment A

1. Independence Rd Additional Grading Requested Change in Contract Price: $12,790.00

The Contractor is requesting a total of $12,790 based on equipment time for the additional grading work on Independence Road. The additional grading work was directed by the Engineer following a request from City staff to change the roadway profile after the initial roadway grading work had been completed in accordance with the original plan.

The extra grading resulted in 1,135 CY of additional common excavation. The Contractor was paid for the additional common excavation on Pay Estimate 2 and 3 based at the unit bid price of $10.00/CY or $11,350.00. The difference between the contractor requested amount and the amount paid to date is $1,440.00. Our notes indicate the Contractor was nearly complete with the roadway grading work then the change was requested. It is our determinate the Contractor did complete additional grading work because they had to prepare the site for final grading twice.

Engineer's Recommendation Change in Contract Price: $1,440.00

2. Inglewood Drive Additional Grading Requested Change in Contract Price: $8,280.00

The Contractor is requesting a total of $8,280 based on equipment time for additional grading work on Inglewood Drive. The additional grading work was directed by the Engineer and City staff to create flatter slopes into the residential yards along the east side of Inglewood Drive. The plan called for a 3:1 slope in this area which is the minimum slope meeting State Aid standards. Residents and City staff were concerned with the ability to maintain/mow the 3:1 slope and requested a flatter 4:1 slope which is more typical of a residential ditch area.

The extra grading resulted in an estimated 320 CY of additional common borrow which has been added to the IRA and will be paid on the next pay estimate at the unit bid price of $9.40/CY. This will result in a payment to the Contractor of $3,008.00. The difference between the contractor requested

amount and the amount paid with unit bid pricing is $5,272. Our notes indicate the work was completed after the curb & gutter was in place. This resulted in the Contractor completing the work behind the curb with a skid steer and three laborers which resulted in increased costs.

Engineer's Recommendation **Change in Contract Price: $5,272.00**

3. Work Around 6" Gas Main **Requested Change in Contract Price: $1,350.00**

The Contractor is requesting a total of $1,350 based on crew time for additional work required to lower a 6" gas main crossing at Fairview Road which was necessary to install the storm sewer along Inglewood Drive.

Weekly meeting minutes indicate CenterPoint Energy could not schedule relocation of the gas main prior to October due to work load issues. This forced RL Larson to lower the existing gas line in order to continue working on the storm sewer installation. It is our recommendation the work was necessary to keep the project moving forward on schedule.

Engineer's Recommendation **Change in Contract Price: $1,350.00**

Attachment B

1. Inglewood Watermain Lowering **Requested Change in Contract Price: $12,958.38**

The Contractor is requesting a total of $12,958.38 for the watermain lowering on Inglewood Drive. The existing watermain crossing at the south end of Inglewood Drive was found to be shallow and in conflict with the proposed storm sewer. MnDOH requires an 18" vertical separation between the storm sewer and watermain. To achieve the required separation it was necessary to lower the watermain. In discussing the issue with City staff it was determined the entire length of watermain under the roadway surface should be lowered/replaced because the existing pipe is CL 200 thin walled pipe.

Our records confirm the amount of time claimed by the Contractor to complete the work. Costs include labor, equipment, materials and dewatering. A substantial portion of the cost was dewatering at $5,000. It is our determination the Contractors itemized costs are appropriate for the amount of work complete.

Engineer's Recommendation **Change in Contract Price: $12,958.38**

2. Fairview Road Forcemain **Requested Change in Contract Price: $9,753.87**

The Contractor is requesting a total of $9,753.87 for the forcemain extension across Fairview Road. The lift station forcemain realignment work was originally scheduled to be completed prior to this project. A portion of the work included installing a new forcemain across Fairview Road and Madeline Drive. Since the forcemain re-route project was been delayed, City staff requested the forcemain be installed with this project. Additional work was undertaken including cutting in a wye and gate valve into the existing line and installing a gate valve and extending the forcemain approximately 20' south of Fairview Road.

Our records confirm the amount of time claimed by the Contractor to complete the work. Costs include labor, equipment and materials. It is our determination the Contractor's itemized costs are appropriate for the amount of work complete.

Engineer's Recommendation **Change in Contract Price: $9,753.87**

Summary of Contractor Claims and Engineer's Recommendation

	Contractor's Requests Change in Contract Price	Engineer's Recommended Change in Contract Price
Attachment A	$22,420.00	$8,062.00
Attachment B	$22,712.25	$22,712.25
Total	$45,132.25	$30,774.25

Based on our review of the Contractor submittals and available construction records and documentation, we have determined the Contractor is eligible to receive a change in contract price of $30,774.25.

This letter will serve as the Engineer's recommendation on all attached correspondence and a change order will be prepared reflecting the decisions outlined above. In accordance with the General Conditions, the Engineer's decision is final and binding. If you are not in agreement with the Engineer's determination, please refer to General Conditions Article 12.

Please feel free to give me a call if you have any questions regarding our review and recommendations as presented.

Sincerely,

Widseth Smith Nolting & Associates, Inc.

Aric Welch, P.E.

Enc.

Cc: Trevor Walter, City of Baxter

Baxter, Project #414 Extra Work Performed
Independence Rd & Inglewood Dr.

Independence Rd

9/28/2015 start changing road grade to new slopes

Equipment	Hrs	Rate	Total
Dozer	11.5	$220.00	$2,530.00
Loader	11.5	$200.00	$2,300.00
Total			$4,830.00

9/29/2015 finish regrading road -ditches - backslopes and haul out material

Dozer	12	$220.00	$2,650.00
Loader	12	$200.00	$2,400.00
Tri-ax truck	12	$110.00	$1,320.00
Tri-ax truck	12	$110.00	$1,320.00
Total			$7,960.00

Inglewood Drive

11/6/2015 carry fill up with loader to dump over new curb to create new backslopes into lawns Sta 8+00 to 12+00 after additional easement agreement was made. Level with bobcat and handrake area.

Loader	10.5	$200.00	$2,100.00
Bobcat	10.5	$130.00	$1,365.00
3-laborers	7.5	$90.00	$675.00
Total			$4,140.00

11/7/2015 finissh filling and leveling area to approved grade

Loader	10.5	$200.00	$2,100.00
Bobcat	10.5	$130.00	$1,365.00
3-laborers	7.5	$90.00	$675.00
Total			$4,140.00

9/22/2015 Pipe crew spent 1.5 hrs digging around 6" gas main dead center of 18" storm sewer to lower it 1.5 feet?

crew rate	1.5	$900.00	$1,350.00

Total to Date $22,420.00

common borrow quantities need to be confirmed our numbers are higher, will have to discuss
have to figure out Novotny/Dellwood yet

Partial list to cover some of the items.

Extra Work Dellwood Dr./ Novoty Project

Here is some extra work we did on the above project

Date	Description	Equipment	Rate/Hr	Hours	Total Amount
10/1/2015	Water Main lowering on Inglewood Drive	Foreman	$ 110.00	8	$ 880.00
		TopMan	$ 100.00	6.5	$ 650.00
		Pipelayer	$ 105.00	6.5	$ 682.50
		349 Cat Excavator	$ 305.00	7	$ 2,135.00
		Loader	$ 200.00	7	$ 1,400.00
		Dewatering			$ 5,000.00
		12X12 Sleeve (ea)	$ 407.29	1	$ 407.29
		2- (45 degree bends)	$ 338.02	2	$ 676.04
		12" C-900 pipe (LF)	$ 14.32	71	$ 1,016.72
		insulation (SY)	$ 15.61	7.1	$ 110.83
10/5/2015	Forcemain future stub on Inglewood Drive	Foreman	$ 110.00	7	$ 770.00
		349 Cat Excavator	$ 305.00	6.5	$ 1,982.50
		Loader	$ 200.00	2.5	$ 500.00
		TopMan	$ 100.00	5.5	$ 550.00
		Bottom Man	$ 100.00	5.5	$ 550.00
		Pipelayer	$ 105.00	5.5	$ 577.50
		8" gave valve/box (ea)	$ 1,456.22	2	$ 2,912.44
		8x8 wye (ea)	$ 488.57	1	$ 488.57
		8" 45 degree bend	$ 175.34	1	$ 175.34
		8" long sleeve (ea)	$ 275.36	1	$ 275.36
		8" plug (ea)	$ 71.74	1	$ 71.74
		8" C-900 pipe (lf)	$ 6.98	129	$ 900.42
		Mega lugs included			
			Total Amount		**$ 22,712.25**

PARTIAL PAYMENT ESTIMATE
NUMBER 4

Name of Contractor: R.L. Larson Excavating, Inc.
2255 12th Street SE
St Cloud, MN 56304

Name of Owner: City of Baxter
PO Box 2828
Baxter, MN 56425

Date of Completion:
Original: See Agreement
Revised:

Amount of Contract:
Original: $1,530,029.37
Revised:

Dates of Estimate:
From: 11/18/15
To: 1/25/16

Description of Project:
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AND INDEPENDENCE ROAD IMPROVEMENTS
MUNICIPAL PROJECT NUMBERS 4003, 4105 AND 4107
BAXTER, MN

ITEM NO.	ITEM DESCRIPTION	CONTRACT ITEMS QTY.	UNIT	UNIT PRICE	AMOUNT	THIS PERIOD QTY.	THIS PERIOD AMOUNT	TOTAL TO DATE QTY.	TOTAL TO DATE AMOUNT
BASE BID									
2021.501	MOBILIZATION	1	LUMP SUM	$70,000.00	$70,000.00			1	$70,000.00
2101.501	CLEARING	0.52	ACRE	$5,000.00	$2,600.00			0.65	$3,250.00
2101.502	CLEARING	58	TREE	$150.00	$8,700.00			66	$9,900.00
2101.506	GRUBBING	0.52	ACRE	$5,000.00	$2,600.00			0.65	$3,250.00
2101.507	GRUBBING	58	TREE	$150.00	$8,700.00			62	$9,300.00
2104.501	REMOVE SEWER PIPE (STORM)	22	LIN FT	$10.00	$220.00			67	$670.00
2104.501	REMOVE WATER SERVICE PIPE	20	LIN FT	$10.00	$200.00			30	$300.00
2104.501	REMOVE CURB AND GUTTER	76	LIN FT	$5.00	$380.00			187	$935.00
2104.505	REMOVE BITUMINOUS PAVEMENT	16266	SQ YD	$1.80	$29,278.80			18271	$28,257.80
2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	49	SQ YD	$6.00	$294.00			172	$1,032.00
2104.509	REMOVE CONCRETE APRON	1	EACH	$50.00	$50.00			1	$50.00
2104.509	REMOVE CATCH BASIN	1	EACH	$100.00	$100.00			1	$100.00
2104.509	REMOVE SIGN TYPE C	19	EACH	$25.00	$475.00	2	$50.00	17	$425.00
2104.509	REMOVE VALVE BOX	2	EACH	$200.00	$400.00			2	$400.00
2104.509	REMOVE CURB STOP & BOX	3	EACH	$300.00	$900.00			3	$900.00
2104.509	REMOVE DELINEATOR	5	EACH	$25.00	$125.00			4	$100.00
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	441	LIN FT	$5.00	$2,205.00			37	$185.00
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	330	LIN FT	$3.00	$990.00			782	$2,346.00
2104.521	SALVAGE FENCE	357	LIN FT	$10.00	$3,570.00			97	$970.00
2104.523	SALVAGE SIGN	20	EACH	$25.00	$500.00			20	$500.00
2104.523	SALVAGE HYDRANT & VALVE	2	EACH	$425.00	$850.00			2	$850.00
2104.523	SALVAGE PIPE APRON	2	EACH	$100.00	$200.00			2	$200.00
2105.501	COMMON EXCAVATION (P)	7512	CU YD	$10.00	$75,120.00			6947	$68,470.00
2105.505	MUCK EXCAVATION	1000	CU YD	$10.00	$10,000.00			1000	$10,000.00
2105.522	COMMON BORROW (CV)	7191	CU YD	$9.40	$67,695.40	860	$8,084.00	7511	$70,603.40
2105.601	DEWATERING	0.95	LUMP SUM	$62,000.00	$58,900.00			1	$62,000.00
2118.501	AGGREGATE SURFACING CLASS 5	26	TON	$20.00	$520.00				
2123.501	COMMON LABORERS	30	HOUR	$85.00	$2,550.00				
2123.503	MOTOR GRADER	20	HOUR	$170.00	$3,400.00				
2123.610	STREET SWEEPER (WITH PICKUP BROOM)	32	HOUR	$100.00	$3,200.00			11	$1,100.00
2130.501	WATER	100	M GALLON	$30.00	$3,000.00				
2211.501	AGGREGATE BASE CLASS 5	173	TON	$20.00	$3,460.00				
2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	4304	CU YD	$17.00	$73,168.00			4079	$69,343.00
2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (2,C)	5421	TON	$55.00	$298,155.00			4468	$246,840.00
2501.514	18" RC PIPE CULVERT	112	LIN FT	$34.50	$3,864.00			128	$4,416.00
2501.515	12" RC PIPE APRON	5	EACH	$400.00	$2,000.00			5	$2,000.00
2501.515	18" RC PIPE APRON	4	EACH	$475.00	$1,900.00			4	$1,900.00
2501.515	INSTALL PIPE APRON	2	EACH	$150.00	$300.00			2	$300.00
2503.541	12" RC PIPE SEWER DES 3006 CL V	1203	LIN FT	$28.00	$33,684.00			1158	$32,424.00
2503.541	18" RC PIPE SEWER DES 3006 CL V	768	LIN FT	$30.00	$23,040.00			617	$18,510.00
2503.541	18" RC PIPE SEWER DES 3006 CL III	678	LIN FT	$32.00	$21,696.00			760	$24,320.00
2505.602	CONNECT TO EXISTING SANITARY SEWER	1	EACH	$900.00	$900.00			1	$900.00
2503.602	CONNECT TO EXISTING MANHOLES (SAN)	1	EACH	$2,400.00	$2,400.00			1	$2,400.00
2504.602	ADJUST VALVE BOX	2	EACH	$200.00	$400.00			1	$200.00
2504.602	CONNECT TO EXISTING SEWER SERVICE	3	EACH	$460.00	$1,380.00			4	$1,800.00
2504.602	CONNECT TO EXISTING WATER SERVICE	6	EACH	$510.00	$3,060.00			2	$1,020.00
2503.603	CLEAN AND VIDEO TAPE PIPE SEWER - MAINLINE	2770	LIN FT	$1.25	$3,462.50			2778	$3,472.50
2503.603	CLEAN AND VIDEO TAPE PIPE SEWER - SERVICE	778	LIN FT	$1.25	$972.50			1019	$1,273.75
2504.602	CONNECT TO EXISTING WATER MAIN	2	EACH	$950.00	$1,900.00			4	$3,800.00
2506.501	CONST DRAINAGE STRUCTURE DESIGN SD-48	58.13	LIN FT	$425.00	$24,430.25			51.63	$21,942.75
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	32.71	LIN FT	$250.00	$8,177.50			32.71	$8,177.50
2506.518	CASTING ASSEMBLY	20	EACH	$750.00	$15,000.00			20	$15,000.00
2506.522	ADJUST FRAME AND RING CASTING	9	EACH	$350.00	$3,150.00			9	$3,150.00
2506.602	CONNECT INTO EXISTING STORM SEWER	1	EACH	$500.00	$500.00			1	$500.00
2511.501	CONSTRUCT CONTROL STRUCTURE A	1	EACH	$2,800.00	$2,800.00			0.75	$2,100.00
2511.515	RANDOM RIPRAP CLASS III	61.4	CU YD	$65.00	$3,991.00			33	$2,145.00
2531.501	GEOTEXTILE FILTER TYPE IV	227	SQ YD	$2.00	$454.00			116	$232.00
2531.503	CONCRETE CURB AND GUTTER DESIGN B624	7110	LIN FT	$15.00	$106,650.00			7436	$111,540.00
2531.507	CONCRETE MEDIAN	93	SQ YD	$75.00	$6,975.00			107	$8,025.00
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	183	SQ YD	$55.00	$10,065.00			308	$16,940.00
2531.507	8" CONCRETE DRIVEWAY PAVEMENT	135	SQ YD	$80.00	$8,100.00			160	$9,600.00
2531.604	8" CONCRETE VALLEY GUTTER	114	SQ YD	$66.00	$7,524.00			121.1	$7,992.60
2531.618	TRUNCATED DOMES	164	SQ FT	$40.00	$6,560.00			208	$8,240.00
2540.602	MAIL BOX SUPPORT	15	EACH	$125.00	$1,875.00			15	$1,875.00
2540.602	TEMPORARY POSTAL SERVICE	15	EACH	$100.00	$1,500.00			15	$1,500.00
2557.603	INSTALL FENCE	347	LIN FT	$20.00	$6,940.00				
2563.601	TRAFFIC CONTROL	1	LUMP SUM	$6,000.00	$6,000.00			0.95	$7,600.00
2564.602	INSTALL SIGN	20	EACH	$80.00	$1,600.00			20	$1,600.00
2564.602	INSTALL SIGN PANEL TYPE C	13	EACH	$105.00	$1,365.00			60	$6,300.00
2564.602	FURNISH TYPE C SIGN	22	EACH	$150.00	$3,300.00			60	$9,000.00
2573.502	SILT FENCE, TYPE MS	2222	LIN FT	$2.50	$5,555.00			2255	$5,637.50
2573.530	STORM DRAIN INLET PROTECTION	23	EACH	$225.00	$5,175.00			13	$2,925.00
2573.535	STABILIZED CONSTRUCTION EXIT	8	EACH	$600.00	$4,800.00			6	$3,600.00
2573.560	EROSION CONTROL SUPERVISOR	1	LUMP SUM	$1,500.00	$1,500.00			0.625	$937.50
2575.502	CULVERT END CONTROLS	2	EACH	$250.00	$500.00				
2574.504	FERTILIZER TYPE 1	693	POUND	$1.00	$693.00			800	$800.00
2574.525	COMMON TOPSOIL BORROW	2452	CU YD	$0.01	$24.52			2281	$22.81
2575.501	SEEDING	8.5	ACRE	$800.00	$6,200.00			3.3	$2,640.00
2575.502	SEED MIXTURE 22-111	163	POUND	$4.00	$652.00			180	$720.00
2575.502	SEED MIXTURE 25-131	732	POUND	$3.00	$2,196.00			1010	$3,030.00
2575.502	SEED MIXTURE 33-361	14	POUND	$60.00	$840.00			17.5	$1,050.00
2575.505	SODDING TYPE LAWN	9835	SQ YD	$4.50	$44,707.50			8047	$36,211.50
2575.511	MULCH MATERIAL TYPE 3	6	TON	$425.00	$3,450.00				
2575.518	DISK ANCHORING	4.1	ACRE	$200.00	$820.00				
2575.523	EROSION CONTROL BLANKETS CATEGORY 3	4954	SQ YD	$2.00	$9,908.00			1785	$3,570.00
2575.562	HYDRAULIC MATRIX TYPE MULCH	3160	POUND	$1.30	$4,134.00			6197	$7,939.10
2582.501	PAVEMENT MESSAGE-PAINT	13	EACH	$50.00	$650.00			13	$650.00
2582.502	4" SOLID LINE WHITE-PAINT	715	LIN FT	$0.30	$214.50			417	$125.10
2582.502	8" SOLID LINE WHITE-PAINT	7465	LIN FT	$0.34	$2,538.10			3014	$1,024.76

2582.502	4" SOLID LINE YELLOW-PAINT	1628	LIN FT	$0.30	$488.40			231	$69.30	
2582.502	12" SOLID LINE YELLOW-PAINT	137	LIN FT	$2.50	$342.50			139	$347.50	
2582.502	4" BROKEN LINE YELLOW-PAINT	816	LIN FT	$0.30	$244.80			230	$69.00	
2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT	2275	LIN FT	$0.60	$1,365.60			1717	$1,030.20	
2800.4D	INSULATION (4' x 8' x 2" THICK)	879.2	SQ YD	$20.00	$17,584.00			2071.3	$41,426.00	
2611.4A	6" PVC WATERMAIN PIPE	108	LIN FT	$20.00	$2,160.00			114	$2,280.00	
2611.4A	8" PVC WATERMAIN PIPE	186	LIN FT	$22.00	$4,092.00			314	$6,908.00	
2611.4A	10" PVC WATERMAIN PIPE	1384	LIN FT	$25.00	$34,600.00			1383	$34,575.00	
2611.4A	12" PVC WATERMAIN PIPE	1191	LIN FT	$28.50	$33,943.50			1259	$35,881.50	
2611.4A	1" POLYETHYLENE SERVICE PIPE	48	LIN FT	$13.00	$624.00			20	$260.00	
2611.4A	1.5" POLYETHYLENE SERVICE PIPE	634	LIN FT	$13.00	$8,242.00			935	$12,155.00	
2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	5	EACH	$1,150.00	$5,750.00			8	$9,200.00	
2611.4B	8" GATE VALVE & BOX w/ ADAPTOR	2	EACH	$1,575.00	$3,150.00			4	$6,300.00	
2611.4B	10" GATE VALVE & BOX w/ ADAPTOR	3	EACH	$2,400.00	$7,200.00			3	$7,200.00	
2611.4B	12"BUTTERFLY VALVE & BOX w/ ADAPTOR	1	EACH	$2,000.00	$2,000.00			2	$4,000.00	
2611.4B	VALVE OPERATOR EXTENSION	9	EACH	$140.00	$1,260.00					
2611.4C	1.5" CORPORATION STOP & SADDLE	18	EACH	$655.00	$11,790.00			24	$15,720.00	
2611.4D	1" CURB STOP & BOX	3	EACH	$635.00	$1,905.00			1	$635.00	
2611.4D	1.5" CURB STOP & BOX	18	EACH	$760.00	$13,680.00			24	$18,240.00	
2611.4E	HYDRANT	5	EACH	$4,050.00	$20,250.00			5	$20,250.00	
2611.4G	INSTALL HYDRANT & VALVE	2	EACH	$1,440.00	$2,880.00			2	$2,880.00	
2611.4I	DUCTILE IRON WATERMAIN FITTINGS	3675	POUND	$1.75	$6,431.25			5140	$8,995.00	
2611.4J	HYDRANT EXTENSION (12")	1	EACH	$585.00	$585.00			2	$1,170.00	
2611.4J	HYDRANT EXTENSION (18")	1	EACH	$700.00	$700.00					
2611.4J	HYDRANT EXTENSION (30")	1	EACH	$875.00	$875.00			1	$875.00	
2611.4J	GATE VALVE BOX & ADAPTOR	2	EACH	$435.00	$870.00			2	$870.00	
2621.4A	8" PVC SEWER PIPE (SDR 26)	979	LIN FT	$24.50	$23,985.50			980	$24,010.00	
2621.4A	10" PVC SEWER PIPE (SDR 26)	1791	LIN FT	$27.00	$48,357.00			1795	$48,465.00	
2621.4B	SANITARY SEWER MANHOLE, MnDOT DESIGN 4007C	10	EACH	$2,200.00	$22,000.00			10	$22,000.00	
2621.4B1	MANHOLE EXCESS DEPTH	14.95	LIN FT	$100.00	$1,495.00			14.95	$1,495.00	
2621.4F	4" PVC SERVICE PIPE (SCH 40)	24	LIN FT	$80.00	$1,920.00			38	$3,040.00	
2621.4F	6" PVC SERVICE PIPE (SCH 40)	802	LIN FT	$15.00	$12,030.00			998	$14,970.00	
2621.4G	6" X 6" PVC WYE	7	EACH	$570.00	$3,990.00			11	$6,270.00	
2621.4G	10" X 6" PVC WYE	11	EACH	$690.00	$7,590.00			13	$8,970.00	
ALTERNATE BID A										
2101.501	CLEARING	0.05	ACRE	$15,000.00	$750.00			0.075	$1,125.00	
2101.505	GRUBBING	0.05	ACRE	$15,000.00	$750.00			0.075	$1,125.00	
2105.601	DEWATERING	0.05	LUMP SUM	$70,000.00	$3,500.00			0.05	$3,500.00	
2123.601	COMMON LABORERS	5	HOUR	$85.00	$425.00					
2123.603	MOTOR GRADER	5	HOUR	$160.00	$800.00					
2573.502	SILT FENCE, TYPE MS	50	LIN FT	$2.50	$125.00					
2574.508	FERTILIZER TYPE 1	27	POUND	$1.00	$27.00					
2574.523	COMMON TOPSOIL BORROW	46	CU YD	$20.00	$980.00					
2575.501	SEEDING	0.1	ACRE	$800.00	$80.00					
2575.502	SEED MIXTURE 25-131	27	POUND	$3.00	$81.00					
2575.505	SODDING TYPE LAWN	116	SQ YD	$4.50	$522.00					
2575.562	HYDRAULIC MATRIX TYPE MULCH	142	POUND	$8.00	$1,136.00					
2800.4D	INSULATION (4' x 8' x 2" THICK)	6.3	SQ YD	$20.00	$126.00			3.5	$70.00	
2611.4A	6" PVC WATERMAIN PIPE	6	LIN FT	$47.00	$282.00			7	$329.00	
2611.4A	8" PVC WATERMAIN PIPE	175	LIN FT	$25.00	$4,375.00			116	$2,900.00	
2611.4A	8" PE WATERMAIN PIPE - DIRECTIONAL DRILL	865	LIN FT	$53.00	$45,845.00	613	$32,489.00	822	$45,866.00	
2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	1	EACH	$1,200.00	$1,200.00			1	$1,200.00	
2611.4E	HYDRANT	1	EACH	$4,100.00	$4,100.00			1	$4,100.00	
2611.4I	DUCTILE IRON WATERMAIN FITTINGS	615	POUND	$2.35	$1,445.25			785	$1,844.75	
-	8" WET TAP	1	EACH	$4,300.00	$4,300.00			1	$4,300.00	
CHANGE ORDER 2										
1	INDEPENDENCE ROAD ADDITIONAL GRADING	1	LUMP SUM	$1,440.00	$1,440.00	1	$1,440.00	1	$1,440.00	
2	INGLEWOOD DRIVE ADDITIONAL GRADING	1	LUMP SUM	$5,272.00	$5,272.00	1	$5,272.00	1	$5,272.00	
3	WORK AROUND 8" GAS MAIN	1	LUMP SUM	$1,350.00	$1,350.00	1	$1,350.00	1	$1,350.00	
4	INGLEWOOD DRIVE WATERMAIN LOWERING	1	LUMP SUM	$12,958.38	$12,958.38	1	$12,958.38	1	$12,958.38	
5	FAIRVIEW ROAD FORCEMAIN	1	LUMP SUM	$9,753.87	$9,753.87	1	$9,753.87	1	$9,753.87	
TOTAL:					$1,550,803.62		$88,577.25		$1,563,037.17	

	THIS PERIOD	TOTAL TO DATE
AMOUNT EARNED	$88,577.25	$1,563,037.17
AMOUNT RETAINED	$5,098.62	$114,162.21
RETAINAGE RELEASED		
PREVIOUS PAYMENTS		$1,375,374.33
AMOUNT DUE	$83,480.63	$83,480.63

Estimated Percentage Completed: 101.5%

CONTRACTOR'S CERTIFICATION:
The undersigned Contractor certifies that to the best of their knowledge, information and belief the work covered by this payment estimate has been completed in accordance with the contract documents, that all amounts have been paid by the Contractor for work for which previous payment estimates were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR : R.L. LARSON EXCAVATING, INC.

BY: Gregory A. Pohlmann

Date: 4-26-2016

ENGINEER'S CERTIFICATION:
The undersigned endorses that to the best of their knowledge and belief, the quantities shown in this estimate are correct and the work has been performed in accordance with the contract documents.

ENGINEER: WIDBETH SMITH NOLTING

BY: Aric Welch, P.E.

Date:

APPROVED BY CITY OF BAXTER:

BY: Kelly Steele, Assistant City Administrator / City Clerk

Date:

RECOMMENDED FOR APPROVAL BY CITY OF BAXTER - UTILITIES COMMISSION

BY:

Date:

APPROVED BY CITY OF BAXTER:

BY: Darrel Olson, Mayor

Date:

PARTIAL PAY ESTIMATE 4 - ATTACHMENT A
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AND INDEPENDENCE ROAD IMPROVEMENTS
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
Monday, January 25, 2016

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	DELLWOOD DRIVE AND NOVOTNY ROAD, MUNICIPAL IMPROVEMENT 4063					
					CONTRACT		THIS PERIOD		TOTAL TO DATE	
					QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
BASE BID										
1	2021.501	MOBILIZATION	LUMP SUM	$70,000.00						
2	2101.501	CLEARING	ACRE	$5,000.00	0.55	$38,500.00			0.55	$38,500.00
3	2101.502	CLEARING	TREE	$150.00	0.12	$600.00			0.10	$500.00
4	2101.506	GRUBBING	ACRE	$5,000.00	58	$8,700.00			51	$7,650.00
5	2101.507	GRUBBING	TREE	$150.00	0.12	$600.00			0.10	$500.00
6	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	$10.00	58	$8,700.00			44	$6,600.00
7	2104.501	REMOVE WATER SERVICE PIPE	LIN FT	$10.00	22	$220.00			22	$220.00
8	2104.501	REMOVE CURB AND GUTTER	LIN FT	$5.00						
9	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	$1.80	78	$380.00			89	$445.00
10	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	$6.00	8410	$15,138.00			8410	$15,138.00
11	2104.509	REMOVE CONCRETE APRON	EACH	$50.00					6	$36.00
12	2104.509	REMOVE CATCH BASIN	EACH	$100.00	1	$50.00			1	$50.00
13	2104.509	REMOVE SIGN TYPE C	EACH	$25.00	1	$100.00			1	$100.00
14	2104.509	REMOVE VALVE BOX	EACH	$200.00	6	$150.00	2	$50.00	6	$150.00
15	2104.509	REMOVE CURB STOP & BOX	EACH	$200.00						
16	2104.509	REMOVE DELINEATOR	EACH	$25.00						
17	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	$5.00					10	$50.00
18	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	$3.00	286	$804.00			325	$975.00
19	2104.521	SALVAGE FENCE	LIN FT	$10.00	257	$2,570.00				
20	2104.523	SALVAGE SIGN	EACH	$25.00	10	$250.00			10	$250.00
21	2104.523	SALVAGE HYDRANT & VALVE	EACH	$425.00						
22	2104.523	SALVAGE PIPE APRON	EACH	$100.00						
23	2105.501	COMMON EXCAVATION (P)	CU YD	$10.00	1670	$16,700.00			1670	$16,700.00
24	2105.505	MUCK EXCAVATION	CU YD	$10.00						
25	2105.522	COMMON BORROW (CV)	CU YD	$9.40	2420	$22,748.00	240	$2,256.00	2420	$22,748.00
26	2105.601	DEWATERING	LUMP SUM	$62,000.00	0.8	$49,600.00			0.85	$52,700.00
27	2118.501	AGGREGATE SURFACING CLASS 5	TON	$20.00	26	$520.00				
28	2123.501	COMMON LABORERS	HOUR	$85.00	20	$1,700.00				
29	2123.503	MOTOR GRADER	HOUR	$170.00	20	$3,400.00				
30	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	$100.00	20	$2,000.00			5	$500.00
31	2130.501	WATER	M GALLON	$30.00	100	$3,000.00				
32	2211.501	AGGREGATE BASE CLASS 5	TON	$20.00	173	$3,460.00				
33	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	$17.00	1723	$29,291.00			1723	$29,291.00
34	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (2,C)	TON	$55.00	2483	$136,565.00			1224	$67,320.00
35	2501.514	18" RC PIPE CULVERT	LIN FT	$34.50						
36	2501.515	12" RC PIPE APRON	EACH	$400.00	3	$1,200.00			3	$1,200.00
37	2501.515	18" RC PIPE APRON	EACH	$475.00						
38	2501.573	INSTALL PIPE APRON	EACH	$150.00						
39	2503.541	12" RC PIPE SEWER DES 3006 CL V	LIN FT	$28.00	494	$13,832.00			498	$13,888.00
40	2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT	$30.00	385	$11,550.00			277	$8,310.00
41	2503.541	18" RC PIPE SEWER DES 3006 CL III	LIN FT	$32.00	331	$10,592.00			381	$12,192.00
42	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	$900.00	1	$900.00			1	$900.00
43	2503.602	CONNECT TO EXISTING MANHOLES (SAN)	EACH	$2,400.00	1	$2,400.00			1	$2,400.00
44	2504.602	ADJUST VALVE BOX	EACH	$200.00						
45	2504.602	CONNECT TO EXISTING SEWER SERVICE	EACH	$450.00						
46	2504.602	CONNECT TO EXISTING WATER SERVICE	EACH	$510.00						
47	2503.603	CLEAN AND VIDEO TAPE PIPE SEWER - MAINLINE	LIN FT	$1.25	2549	$3,186.25			2557	$3,196.25
48	2503.603	CLEAN AND VIDEO TAPE PIPE SEWER - SERVICE	LIN FT	$1.25	698	$872.50			893	$1,116.25
49	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	$950.00	2	$1,900.00			2	$1,900.00
50	2506.501	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	$425.00	27.46	$11,670.50			23.98	$10,183.00
51	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	$250.00						
52	2506.516	CASTING ASSEMBLY	EACH	$750.00	7	$5,250.00			7	$5,250.00
53	2506.522	ADJUST FRAME AND RING CASTING	EACH	$350.00	0					
54	2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	$500.00	1	$500.00			1	$500.00
55	2506.602	CONSTRUCT CONTROL STRUCTURE A	EACH	$2,800.00						
56	2511.501	RANDOM RIPRAP CLASS III	CU YD	$65.00	4.4	$286.00				
57	2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	$2.00	9	$18.00				
58	2531.501	CONCRETE CURB AND GUTTER DESIGN B624	LIN FT	$15.00	2838	$42,570.00			3083	$46,395.00
59	2531.503	CONCRETE MEDIAN	SQ YD	$75.00					7	$525.00
60	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	$55.00					23	$1,265.00
61	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	$60.00	125	$7,500.00			151	$9,060.00
62	2531.604	8" CONCRETE VALLEY GUTTER	SQ YD	$66.00						
63	2531.618	TRUNCATED DOMES	SQ FT	$40.00						
64	2540.602	MAIL BOX SUPPORT	EACH	$125.00	13	$1,625.00			13	$1,625.00
65	2540.602	TEMPORARY POSTAL SERVICE	EACH	$100.00	13	$1,300.00			13	$1,300.00
66	2557.603	INSTALL FENCE	LIN FT	$20.00	257	$5,140.00				
67	2563.601	TRAFFIC CONTROL	LUMP SUM	$8,000.00	0.55	$4,400.00			0.50	$4,000.00
68	2564.602	INSTALL SIGN	EACH	$80.00	10	$800.00			10	$800.00
69	2564.602	INSTALL SIGN PANEL TYPE C	EACH	$105.00					18	$1,890.00
70	2564.602	FURNISH TYPE C SIGN	EACH	$150.00	9	$1,350.00			18	$2,700.00
71	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.50	1070	$2,675.00			1050	$2,625.00
72	2573.530	STORM DRAIN INLET PROTECTION	EACH	$225.00	10	$2,250.00				
73	2573.535	STABILIZED CONSTRUCTION EXIT	EACH	$600.00	3	$1,800.00			3	$1,800.00
74	2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	$1,500.00	0.55	$825.00			0.275	$412.50
75	2573.602	CULVERT END CONTROLS	EACH	$250.00	2	$500.00				
76	2574.508	FERTILIZER TYPE 1	POUND	$1.00	244	$244.00			150	$150.00
77	2574.525	COMMON TOPSOIL BORROW	CU YD	$9.01	1105	$11.05			865	$8.65
78	2575.501	SEEDING	ACRE	$800.00	2.8	$2,240.00			0.7	$560.00
79	2575.502	SEED MIXTURE 22-111	POUND	$4.00	79	$316.00				
80	2575.502	SEED MIXTURE 25-131	POUND	$3.00	325	$975.00			210	$630.00
81	2575.502	SEED MIXTURE 33-361	POUND	$80.00						
82	2575.505	SODDING TYPE LAWN	SQ YD	$4.50	5575	$25,087.50			3687	$16,591.50
83	2575.511	MULCH MATERIAL TYPE 3	TON	$425.00	4	$1,700.00				
84	2575.519	DISK ANCHORING	ACRE	$200.00	2	$400.00				
85	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	$2.00	2613	$5,226.00				
86	2575.562	HYDRAULIC MATRIX TYPE MULCH	POUND	$1.30	599	$778.70			2907	$3,779.10
87	2582.501	PAVEMENT MESSAGE-PAINT	EACH	$50.00	1	$50.00				
88	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	$0.30	135	$40.50				
89	2582.502	8" SOLID LINE WHITE-PAINT	LIN FT	$0.34	4306	$1,464.04				
90	2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	$0.30	620	$186.00				
91	2582.502	12" SOLID LINE YELLOW-PAINT	LIN FT	$2.50	65	$162.50				
92	2582.502	4" BROKEN LINE YELLOW-PAINT	LIN FT	$0.30	410	$123.00				
93	2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN FT	$0.60	960	$576.00				
94	2600.4D	INSULATION (4' x 8' x 2" THICK)	SQ YD	$20.00	854.2	$17,084.00			2043.3	$40,866.00
95	2611.4A	6" PVC WATERMAIN PIPE	LIN FT	$20.00	88	$1,760.00			114	$2,280.00
96	2611.4A	8" PVC WATERMAIN PIPE	LIN FT	$22.00	188	$4,062.00			185	$4,070.00
97	2611.4A	10" PVC WATERMAIN PIPE	LIN FT	$25.00	1364	$34,600.00			1383	$34,575.00
98	2611.4A	12" PVC WATERMAIN PIPE	LIN FT	$28.50	1191	$33,943.50			1188	$33,858.00
99	2611.4A	1" POLYETHYLENE SERVICE PIPE	LIN FT	$13.00						
100	2611.4A	1.5" POLYETHYLENE SERVICE PIPE	LIN FT	$13.00	554	$7,202.00			852	$11,076.00
101	2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,150.00	5	$5,750.00			8	$8,900.00
102	2611.4B	8" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,575.00	2	$3,150.00			2	$3,150.00
103	2611.4B	10" GATE VALVE & BOX w/ ADAPTOR	EACH	$2,400.00	3	$7,200.00			3	$7,200.00
104	2611.4B	12"BUTTERFLY VALVE & BOX w/ ADAPTOR	EACH	$2,000.00	1	$2,000.00			2	$4,000.00
105	2611.4B	VALVE OPERATOR EXTENSION	EACH	$140.00	9	$1,260.00				
106	2611.4C	1.5" CORPORATION STOP & SADDLE	EACH	$655.00	16	$10,480.00			22	$14,410.00
107	2611.4D	1" CURB STOP & BOX	EACH	$635.00						
108	2611.4D	1.5" CURB STOP & BOX	EACH	$780.00	16	$12,160.00			22	$16,720.00
109	2611.4E	HYDRANT	EACH	$4,050.00	5	$20,250.00			5	$20,250.00
110	2611.4G	INSTALL HYDRANT & VALVE	EACH	$1,440.00						
111	2611.4I	DUCTILE IRON WATERMAIN FITTINGS	POUND	$1.75	3675	$6,431.25			4025	$7,043.75
112	2611.4J	HYDRANT EXTENSION (12")	EACH	$585.00	1	$585.00			1	$585.00
113	2611.4J	HYDRANT EXTENSION (18")	EACH	$700.00	1	$700.00				
114	2611.4J	HYDRANT EXTENSION (30")	EACH	$875.00						
115	2611.4J	GATE VALVE BOX & ADAPTOR	EACH	$435.00						
116	2621.4A	8" PVC SEWER PIPE (SDR 26)	LIN FT	$24.50	758	$18,571.00			782	$18,669.00
117	2621.4A	10" PVC SEWER PIPE (SDR 26)	LIN FT	$27.00	1791	$48,357.00			1795	$48,465.00
118	2621.4B	SANITARY SEWER MANHOLE, MnDOT DESIGN 4007C	EACH	$2,200.00	9	$19,800.00			9	$19,800.00
119	2621.4B1	MANHOLE EXCESS DEPTH	LIN FT	$100.00	10.95	$1,095.00			10.95	$1,095.00
120	2621.4F	4" PVC SERVICE PIPE (SCH 40)	LIN FT	$80.00						
121	2621.4F	6" PVC SERVICE PIPE (SCH 40)	LIN FT	$15.00	698	$10,470.00			893	$13,395.00
122	2621.4G	6" X 6" PVC WYE	EACH	$570.00	5	$2,850.00			9	$5,130.00
123	2621.4G	10" X 6" PVC WYE	EACH	$690.00	11	$7,590.00			13	$8,970.00

PARTIAL PAY ESTIMATE 4 - ATTACHMENT A
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AND INDEPENDENCE ROAD IMPROVEMENTS
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
Monday, January 25, 2016

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	DELLWOOD DRIVE AND NOVOTNY ROAD, MUNICIPAL IMPROVEMENT 4063					
					CONTRACT		THIS PERIOD		TOTAL TO DATE	
					QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
ALTERNATE BID A										
1A	2101.501	CLEARING	ACRE	$15,000.00	0.05	$750.00			0.075	$1,125.00
2A	2101.506	GRUBBING	ACRE	$15,000.00	0.05	$750.00			0.075	$1,125.00
3A	2105.601	DEWATERING	LUMP SUM	$70,000.00	0.05	$3,500.00			0.05	$3,500.00
4A	2123.501	COMMON LABORERS	HOUR	$85.00	5	$425.00				
5A	2123.503	MOTOR GRADER	HOUR	$160.00	5	$800.00				
6A	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.50	50	$125.00				
7A	2574.506	FERTILIZER TYPE 1	POUND	$1.00	27	$27.00				
8A	2574.525	COMMON TOPSOIL BORROW	CU YD	$20.00	49	$980.00				
9A	2575.501	SEEDING	ACRE	$800.00	0.1	$80.00				
10A	2575.502	SEED MIXTURE 25-131	POUND	$3.00	27	$81.00				
11A	2575.505	SODDING TYPE LAWN	SQ YD	$4.50	116	$522.00				
12A	2575.562	HYDRAULIC MATRIX TYPE MULCH	POUND	$5.00	142	$1,136.00				
13A	2600.4D	INSULATION (4' x 8' x 2" THICK)	SQ YD	$20.00	6.3	$126.00			3.5	$70.00
14A	2611.4A	6" PVC WATERMAIN PIPE	LIN FT	$47.00	6	$282.00			7	$329.00
15A	2611.4A	8" PVC WATERMAIN PIPE	LIN FT	$25.00	175	$4,375.00			116	$2,900.00
16A	2611.4A	8" PE WATERMAIN PIPE - DIRECTIONAL DRILL	LIN FT	$53.00	865	$45,845.00	613	$32,489.00	922	$48,866.00
17A	2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,200.00	1	$1,200.00			1	$1,200.00
18A	2611.4E	HYDRANT	EACH	$4,100.00	1	$4,100.00			1	$4,100.00
19A	2611.4I	DUCTILE IRON WATERMAIN FITTINGS	POUND	$2.35	615	$1,445.25			785	$1,844.75
20A	-	8" WET TAP	EACH	$4,300.00	1	$4,300.00			1	$4,300.00
CHANGE ORDER 3										
1		INDEPENDENCE ROAD ADDITIONAL GRADING	LUMP SUM	$1,440.00						
2		INGLEWOOD DRIVE ADDITIONAL GRADING	LUMP SUM	$5,272.00						
3		WORK AROUND 6" GAS MAIN	LUMP SUM	$1,350.00						
4		INGLEWOOD DRIVE WATERMAIN LOWERING	LUMP SUM	$12,956.36						
5		FAIRVIEW ROAD FORCEMAIN	LUMP SUM	$9,753.87						
TOTALS:						$870,409.54		$34,795.00		$809,442.75
AMOUNT RETAINED:					10% OF AMOUNT EARNED TO DATE:			$3,479.50		$80,944.28
RETAINAGE RELEASED										
PREVIOUS PAYMENTS										$697,182.97
AMOUNT DUE:								$31,315.50		$31,315.50

PARTIAL PAY ESTIMATE 4 - ATTACHMENT A
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AN
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
Monday, January 25, 2016

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	INGLEWOOD DRIVE, MUNICIPAL IMPROVEMENT 4105					
					CONTRACT		THIS PERIOD		TOTAL TO DATE	
					QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
BASE BID										
1	2021.501	MOBILIZATION	LUMP SUM	$70,000.00	0.4	$28,000.00			0.40	$28,000.00
2	2101.501	CLEARING	ACRE	$5,000.00	0.2	$1,000.00			0.35	$1,750.00
3	2101.502	CLEARING	TREE	$150.00					14	$2,100.00
4	2101.506	GRUBBING	ACRE	$5,000.00	0.2	$1,000.00			0.35	$1,750.00
5	2101.507	GRUBBING	TREE	$150.00					17	$2,550.00
6	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	$10.00					45	$450.00
7	2104.501	REMOVE WATER SERVICE PIPE	LIN FT	$10.00	20	$200.00			30	$300.00
8	2104.501	REMOVE CURB AND GUTTER	LIN FT	$5.00					98	$490.00
9	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	$1.80	7636	$13,744.80			7636	$13,744.80
10	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	$6.00	49	$294.00			166	$996.00
11	2104.509	REMOVE CONCRETE APRON	EACH	$50.00						
12	2104.509	REMOVE CATCH BASIN	EACH	$100.00						
13	2104.509	REMOVE SIGN TYPE C	EACH	$25.00	13	$325.00			11	$275.00
14	2104.509	REMOVE VALVE BOX	EACH	$200.00	2	$400.00			2	$400.00
15	2104.509	REMOVE CURB STOP & BOX	EACH	$300.00	3	$900.00			3	$900.00
16	2104.509	REMOVE DELINEATOR	EACH	$25.00	5	$125.00			4	$100.00
17	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	$5.00	441	$2,205.00			27	$135.00
18	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	$3.00	26	$78.00			421	$1,263.00
19	2104.521	SALVAGE FENCE	LIN FT	$10.00	100	$1,000.00			97	$970.00
20	2104.523	SALVAGE SIGN	EACH	$25.00	10	$250.00			10	$250.00
21	2104.523	SALVAGE HYDRANT & VALVE	EACH	$425.00	2	$850.00			2	$850.00
22	2104.523	SALVAGE PIPE APRON	EACH	$100.00	2	$200.00			2	$200.00
23	2105.501	COMMON EXCAVATION (P)	CU YD	$10.00	5241	$52,410.00			5241	$52,410.00
24	2105.505	MUCK EXCAVATION	CU YD	$10.00	1000	$10,000.00			1000	$10,000.00
25	2105.522	COMMON BORROW (CV)	CU YD	$9.40	4771	$44,847.40	320	$3,008.00	5091	$47,855.40
26	2105.601	DEWATERING	LUMP SUM	$62,000.00	0.15	$9,300.00			0.15	$9,300.00
27	2118.501	AGGREGATE SURFACING CLASS 5	TON	$20.00						
28	2123.501	COMMON LABORERS	HOUR	$85.00	10	$850.00				
29	2123.503	MOTOR GRADER	HOUR	$170.00						
30	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	$100.00	10	$1,000.00			5	$500.00
31	2130.501	WATER	M GALLON	$30.00						
32	2211.501	AGGREGATE BASE CLASS 5	TON	$20.00						
33	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	$17.00	2249	$38,233.00			2024	$34,408.00
34	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (2,C)	TON	$55.00	2475	$136,125.00			2751	$151,305.00
35	2501.514	18" RC PIPE CULVERT	LIN FT	$34.50	112	$3,864.00			128	$4,416.00
36	2501.515	12" RC PIPE APRON	EACH	$400.00	2	$800.00			2	$800.00
37	2501.515	18" RC PIPE APRON	EACH	$475.00	4	$1,900.00			4	$1,900.00
38	2501.573	INSTALL PIPE APRON	EACH	$150.00	2	$300.00			2	$300.00
39	2503.541	12" RC PIPE SEWER DES 3006 CL V	LIN FT	$28.00	709	$19,852.00			662	$18,536.00
40	2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT	$30.00	383	$11,490.00			340	$10,200.00
41	2503.541	18" RC PIPE SEWER DES 3006 CL III	LIN FT	$32.00	347	$11,104.00			379	$12,128.00
42	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	$800.00						
43	2503.602	CONNECT TO EXISTING MANHOLES (SAN)	EACH	$2,400.00						
44	2504.602	ADJUST VALVE BOX	EACH	$200.00	2	$400.00			1	$200.00
45	2504.602	CONNECT TO EXISTING SEWER SERVICE	EACH	$450.00	3	$1,350.00			4	$1,800.00
46	2504.602	CONNECT TO EXISTING WATER SERVICE	EACH	$510.00	6	$3,060.00			2	$1,020.00
47	2503.603	CLEAN AND VIDEO TAPE PIPE SEWER - MAINLINE	LIN FT	$1.25						
48	2503.603	CLEAN AND VIDEO TAPE PIPE SEWER - SERVICE	LIN FT	$1.25					38	$47.50
49	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	$950.00					2	$1,900.00
50	2506.501	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	$425.00	27.67	$11,759.75			27.67	$11,759.75
51	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	$250.00	32.71	$8,177.50			32.71	$8,177.50
52	2506.516	CASTING ASSEMBLY	EACH	$750.00	13	$9,750.00			13	$9,750.00
53	2506.522	ADJUST FRAME AND RING CASTING	EACH	$350.00	8	$2,800.00			8	$2,800.00
54	2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	$500.00						
55	2506.602	CONSTRUCT CONTROL STRUCTURE A	EACH	$2,800.00	1	$2,800.00			0.75	$2,100.00
56	2511.501	RANDOM RIPRAP CLASS III	CU YD	$65.00	57	$3,705.00			33	$2,145.00
57	2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	$2.00	218	$436.00			116	$232.00
58	2531.501	CONCRETE CURB AND GUTTER DESIGN B624	LIN FT	$15.00	4272	$64,080.00			4363	$65,445.00
59	2531.503	CONCRETE MEDIAN	SQ YD	$75.00	93	$6,975.00			100	$7,500.00
60	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	55.00	183	$10,065.00			285	$15,675.00
61	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	$60.00	10	$600.00			9	$540.00
62	2531.604	8" CONCRETE VALLEY GUTTER	SQ YD	$66.00	114	$7,524.00			121.1	$7,992.60
63	2531.618	TRUNCATED DOMES	SQ FT	$40.00	164	$6,560.00			206	$8,240.00
64	2540.602	MAIL BOX SUPPORT	EACH	$125.00	2	$250.00			2	$250.00
65	2540.602	TEMPORARY POSTAL SERVICE	EACH	$100.00	2	$200.00			2	$200.00
66	2557.603	INSTALL FENCE	LIN FT	$20.00	90	$1,800.00				
67	2563.601	TRAFFIC CONTROL	LUMP SUM	$8,000.00	0.4	$3,200.00			0.40	$3,200.00
68	2564.602	INSTALL SIGN	EACH	$80.00	10	$800.00			10	$800.00
69	2564.602	INSTALL SIGN PANEL TYPE C	EACH	$105.00	13	$1,365.00			42	$4,410.00
70	2564.602	FURNISH TYPE C SIGN	EACH	$150.00	13	$1,950.00			42	$6,300.00
71	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.50	1152	$2,880.00			1205	$3,012.50
72	2573.550	STORM DRAIN INLET PROTECTION	EACH	$225.00	13	$2,925.00			13	$2,925.00
73	2573.555	STABILIZED CONSTRUCTION EXIT	EACH	$800.00	4	$2,400.00			3	$1,800.00
74	2573.560	EROSION CONTROL SUPERVISOR	LUMP SUM	$1,500.00	0.4	$600.00			0.3	$450.00
75	2573.602	CULVERT END CONTROLS	EACH	$250.00						
76	2574.508	FERTILIZER TYPE 1	POUND	$1.00	369	$369.00			450	$450.00
77	2574.525	COMMON TOPSOIL BORROW	CU YD	$0.01	1148	$11.48			1160	$11.60
78	2575.501	SEEDING	ACRE	$800.00	3.3	$2,640.00			2.1	$1,680.00
79	2575.502	SEED MIXTURE 22-111	POUND	$4.00	84	$336.00			180	$720.00
80	2575.502	SEED MIXTURE 25-131	POUND	$3.00	287	$861.00			500	$1,500.00
81	2575.502	SEED MIXTURE 33-361	POUND	$60.00	14	$840.00			17.5	$1,050.00
82	2575.505	SODDING TYPE LAWN	SQ YD	$4.50	4360	$19,620.00			4360	$19,620.00
83	2575.511	MULCH MATERIAL TYPE 3	TON	$425.00	4	$1,700.00				
84	2575.519	DISK ANCHORING	ACRE	$200.00	2.1	$420.00				
85	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	$2.00	2341	$4,682.00			1765	$3,530.00
86	2575.562	HYDRAULIC MATRIX TYPE MULCH	POUND	$1.30	1771	$2,302.30			1300	$1,690.00
87	2582.501	PAVEMENT MESSAGE-PAINT	EACH	$50.00	12	$600.00			13	$650.00
88	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	$0.30	580	$174.00			417	$125.10
89	2582.502	8" SOLID LINE WHITE-PAINT	LIN FT	$0.34	3158	$1,073.06			3014	$1,024.76
90	2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	$0.30	1008	$302.40			231	$69.30
91	2582.502	12" SOLID LINE YELLOW-PAINT	LIN FT	$2.50	72	$180.00			139	$347.50
92	2582.502	4" BROKEN LINE YELLOW-PAINT	LIN FT	$0.30	336	$100.80			180	$54.00
93	2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN FT	$0.60	1318	$788.60			1717	$1,030.20
94	2600.4D	INSULATION (4' x 8' x 2" THICK)	SQ YD	$20.00	25	$500.00			28	$560.00
95	2611.4A	6" PVC WATERMAIN PIPE	LIN FT	$20.00	20	$400.00				
96	2611.4A	8" PVC WATERMAIN PIPE	LIN FT	$22.00					129	$2,838.00
97	2611.4A	10" PVC WATERMAIN PIPE	LIN FT	$25.00						
98	2611.4A	12" PVC WATERMAIN PIPE	LIN FT	$28.50					71	$2,023.50
99	2611.4A	1" POLYETHYLENE SERVICE PIPE	LIN FT	$13.00	48	$624.00			20	$260.00
100	2611.4A	1.5" POLYETHYLENE SERVICE PIPE	LIN FT	$13.00						
101	2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,150.00					2	$3,180.00
102	2611.4B	8" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,575.00						
103	2611.4B	10" GATE VALVE & BOX w/ ADAPTOR	EACH	$2,400.00						
104	2611.4B	12"BUTTERFLY VALVE & BOX w/ ADAPTOR	EACH	$2,000.00						
105	2611.4B	VALVE OPERATOR EXTENSION	EACH	$140.00						
106	2611.4C	1.5" CORPORATION STOP & SADDLE	EACH	$655.00						
107	2611.4D	1" CURB STOP & BOX	EACH	$635.00	3	$1,905.00			1	$635.00
108	2611.4D	1.5" CURB STOP & BOX	EACH	$760.00						
109	2611.4E	HYDRANT	EACH	$4,050.00						
110	2611.4G	INSTALL HYDRANT & VALVE	EACH	$1,440.00	2	$2,880.00			2	$2,880.00
111	2611.4	DUCTILE IRON WATERMAIN FITTINGS	POUND	$1.75					1115	$1,951.25
112	2611.4J	HYDRANT EXTENSION (12")	EACH	$585.00					1	$585.00
113	2611.4J	HYDRANT EXTENSION (15")	EACH	$700.00						
114	2611.4J	HYDRANT EXTENSION (30")	EACH	$875.00	1	$875.00			1	$875.00
115	2611.4J	GATE VALVE BOX & ADAPTOR	EACH	$435.00	2	$870.00			2	$870.00
116	2621.4A	8" PVC SEWER PIPE (SDR 26)	LIN FT	$24.50						
117	2621.4A	10" PVC SEWER PIPE (SDR 26)	LIN FT	$27.00						
118	2621.4B	SANITARY SEWER MANHOLE, MnDOT DESIGN 4007C	EACH	$2,200.00						
119	2621.4B1	MANHOLE EXCESS DEPTH	LIN FT	$100.00						
120	2621.4F	4" PVC SERVICE PIPE (SCH 40)	LIN FT	$80.00	24	$1,920.00			38	$3,040.00
121	2621.4F	6" PVC SERVICE PIPE (SCH 40)	LIN FT	$115.00						
122	2621.4G	6" X 6" PVC WYE	EACH	$870.00						
123	2621.4G	10" X 6" PVC WYE	EACH	$890.00						

PARTIAL PAY ESTIMATE 4 - ATTACHMENT A
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AN
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
Monday, January 25, 2016

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	INGLEWOOD DRIVE, MUNICIPAL IMPROVEMENT 4105					
					CONTRACT		THIS PERIOD		TOTAL TO DATE	
					QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
ALTERNATE BID A										
1A	2101.501	CLEARING	ACRE	$15,000.00						
2A	2101.506	GRUBBING	ACRE	$15,000.00						
3A	2105.601	DEWATERING	LUMP SUM	$70,000.00						
4A	2123.501	COMMON LABORERS	HOUR	$85.00						
5A	2123.503	MOTOR GRADER	HOUR	$160.00						
6A	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.50						
7A	2574.508	FERTILIZER TYPE 1	POUND	$1.00						
8A	2574.525	COMMON TOPSOIL BORROW	CU YD	$20.00						
9A	2575.501	SEEDING	ACRE	$800.00						
10A	2575.502	SEED MIXTURE 25-131	POUND	$3.00						
11A	2575.505	SODDING TYPE LAWN	SQ YD	$4.50						
12A	2575.562	HYDRAULIC MATRIX TYPE MULCH	POUND	$8.00						
13A	2600.4D	INSULATION (4' x 8' x 2" THICK)	SQ YD	$20.00						
14A	2611.4A	6" PVC WATERMAIN PIPE	LIN FT	$47.00						
15A	2611.4A	8" PVC WATERMAIN PIPE	LIN FT	$25.00						
16A	2611.4A	8" PE WATERMAIN PIPE - DIRECTIONAL DRILL	LIN FT	$53.00						
17A	2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,200.00						
18A	2611.4E	HYDRANT	EACH	$4,100.00						
19A	2611.4	DUCTILE IRON WATERMAIN FITTINGS	POUND	$2.35						
20A	-	8" WET TAP	EACH	$4,300.00						
CHANGE ORDER 3										
1		INDEPENDENCE ROAD ADDITIONAL GRADING	LUMP SUM	$1,440.00						
2		INGLEWOOD DRIVE ADDITIONAL GRADING	LUMP SUM	$5,272.00	1	$5,272.00	1	$5,272.00	1	$5,272.00
3		WORK AROUND 6" GAS MAIN	LUMP SUM	$1,350.00	1	$1,350.00	1	$1,350.00	1	$1,350.00
4		INGLEWOOD DRIVE WATERMAIN LOWERING	LUMP SUM	$12,958.38	1	$12,958.38	1	$12,958.38	1	$12,958.38
5		FAIRVIEW ROAD FORCEMAIN	LUMP SUM	$9,753.87	1	$9,753.87	1	$9,753.87	1	$9,753.87
TOTALS:						$627,370.32		$32,342.25		$564,758.51
AMOUNT RETAINED:					5% OF AMOUNT EARNED TO DATE:			$1,617.12		$33,237.93
RETAINAGE RELEASED										$600,795.45
PREVIOUS PAYMENTS								$30,725.13		$30,725.13
AMOUNT DUE:										

PARTIAL PAY ESTIMATE 4 - ATTACHMENT A
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AN
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
Monday, January 25, 2016

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	INDEPENDENCE ROAD, MUNICIPAL IMPROVEMENT 4107					
					CONTRACT		THIS PERIOD		TOTAL TO DATE	
					QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
BASE BID										
1	2021.501	MOBILIZATION	LUMP SUM	$70,000.00						
2	2101.501	CLEARING	ACRE	$5,000.00	0.05	$3,500.00			0.05	$3,500.00
3	2101.502	CLEARING	TREE	$150.00	0.2	$1,000.00			0.20	$1,000.00
4	2101.506	GRUBBING	ACRE	$5,000.00					1	$150.00
5	2101.507	GRUBBING	TREE	$150.00	0.2	$1,000.00			0.20	$1,000.00
6	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	$10.00					1	$150.00
7	2104.501	REMOVE WATER SERVICE PIPE	LIN FT	$10.00						
8	2104.501	REMOVE CURB AND GUTTER	LIN FT	$5.00						
9	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	$1.80	220	$396.00			225	$405.00
10	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	$6.00						
11	2104.509	REMOVE CONCRETE APRON	EACH	$50.00						
12	2104.509	REMOVE CATCH BASIN	EACH	$100.00						
13	2104.509	REMOVE SIGN TYPE C	EACH	$25.00						
14	2104.509	REMOVE VALVE BOX	EACH	$200.00						
15	2104.509	REMOVE CURB STOP & BOX	EACH	$300.00						
16	2104.509	REMOVE DELINEATOR	EACH	$25.00						
17	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	$5.00						
18	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	$3.00	36	$108.00			36	$108.00
19	2104.521	SALVAGE FENCE	LIN FT	$10.00						
20	2104.523	SALVAGE SIGN	EACH	$25.00						
21	2104.523	SALVAGE HYDRANT & VALVE	EACH	$425.00						
22	2104.523	SALVAGE PIPE APRON	EACH	$100.00						
23	2105.501	COMMON EXCAVATION (P)	CU YD	$10.00	601	$6,010.00			1736	$17,360.00
24	2105.505	MUCK EXCAVATION	CU YD	$10.00						
25	2105.522	COMMON BORROW (CV)	CU YD	$8.40						
26	2105.601	DEWATERING	LUMP SUM	$62,000.00						
27	2118.501	AGGREGATE SURFACING CLASS 5	TON	$20.00						
28	2123.501	COMMON LABORERS	HOUR	$85.00						
29	2123.503	MOTOR GRADER	HOUR	$170.00						
30	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	$100.00	2	$200.00			1	$100.00
31	2130.501	WATER	M GALLON	$30.00						
32	2211.501	AGGREGATE BASE CLASS 5	TON	$20.00						
33	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	$17.00	332	$5,644.00			332	$5,644.00
34	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (2,C)	TON	$55.00	469	$25,465.00			513	$28,215.00
35	2501.514	18" RC PIPE CULVERT	LIN FT	$34.50						
36	2501.515	12" RC PIPE APRON	EACH	$400.00						
37	2501.515	18" RC PIPE APRON	EACH	$475.00						
38	2501.573	INSTALL PIPE APRON	EACH	$150.00						
39	2503.541	12" RC PIPE SEWER DES 3006 CL V	LIN FT	$28.00						
40	2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT	$30.00						
41	2503.541	18" RC PIPE SEWER DES 3006 CL III	LIN FT	$32.00						
42	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	$800.00						
43	2503.602	CONNECT TO EXISTING MANHOLES (SAN)	EACH	$2,400.00						
44	2504.602	ADJUST VALVE BOX	EACH	$200.00						
45	2504.602	CONNECT TO EXISTING SEWER SERVICE	EACH	$450.00						
46	2504.602	CONNECT TO EXISTING WATER SERVICE	EACH	$510.00						
47	2505.603	CLEAN AND VIDEO TAPE PIPE SEWER - MAINLINE	LIN FT	$1.25	221	$276.25			221	$276.25
48	2505.603	CLEAN AND VIDEO TAPE PIPE SEWER - SERVICE	LIN FT	$1.25	88	$100.00			88	$110.00
49	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	$950.00						
50	2506.501	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	$425.00						
51	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	$250.00						
52	2506.516	CASTING ASSEMBLY	EACH	$750.00						
53	2506.522	ADJUST FRAME AND RING CASTING	EACH	$350.00	1	$350.00			1	$350.00
54	2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	$500.00						
55	2506.602	CONSTRUCT CONTROL STRUCTURE A	EACH	$2,800.00						
56	2511.501	RANDOM RIPRAP CLASS III	CU YD	$65.00						
57	2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	$2.00						
58	2531.501	CONCRETE CURB AND GUTTER DESIGN B624	LIN FT	$15.00						
59	2531.503	CONCRETE MEDIAN	SQ YD	$75.00						
60	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	$55.00						
61	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	$60.00						
62	2531.604	8" CONCRETE VALLEY GUTTER	SQ YD	$66.00						
63	2531.618	TRUNCATED DOMES	SQ FT	$40.00						
64	2540.602	MAIL BOX SUPPORT	EACH	$125.00						
65	2540.602	TEMPORARY POSTAL SERVICE	EACH	$100.00						
66	2557.603	INSTALL FENCE	LIN FT	$20.00						
67	2563.601	TRAFFIC CONTROL	LUMP SUM	$6,000.00	0.05	$400.00			0.05	$400.00
68	2564.602	INSTALL SIGN	EACH	$80.00						
69	2564.602	INSTALL SIGN PANEL TYPE C	EACH	$105.00						
70	2564.602	FURNISH TYPE C SIGN	EACH	$150.00						
71	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.50						
72	2573.530	STORM DRAIN INLET PROTECTION	EACH	$225.00						
73	2573.535	STABILIZED CONSTRUCTION EXIT	EACH	$800.00	1	$800.00				
74	2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	$1,500.00	0.05	$75.00			0.05	$75.00
75	2575.602	CULVERT END CONTROLS	EACH	$250.00						
76	2574.508	FERTILIZER TYPE 1	POUND	$1.00	80	$80.00			200	$200.00
77	2574.525	COMMON TOPSOIL BORROW	CU YD	$0.01	201	$2.01			266	$2.66
78	2575.501	SEEDING	ACRE	$800.00	0.4	$320.00			0.5	$400.00
79	2575.502	SEED MIXTURE 22-111	POUND	$4.00						
80	2575.502	SEED MIXTURE 25-131	POUND	$3.00	120	$360.00			300	$900.00
81	2575.502	SEED MIXTURE 33-361	POUND	$60.00						
82	2575.505	SODDING TYPE LAWN	SQ YD	$4.50						
83	2575.511	MULCH MATERIAL TYPE 3	TON	$425.00						
84	2575.519	DISK ANCHORING	ACRE	$200.00						
85	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	$2.00						
86	2575.562	HYDRAULIC MATRIX TYPE MULCH	POUND	$1.30	840	$1,092.00			1900	$2,470.00
87	2582.501	PAVEMENT MESSAGE-PAINT	EACH	$50.00						
88	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	$0.30						
89	2582.502	8" SOLID LINE WHITE-PAINT	LIN FT	$0.34						
90	2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	$0.30						
91	2582.502	12" SOLID LINE YELLOW-PAINT	LIN FT	$2.50						
92	2582.502	4" BROKEN LINE YELLOW-PAINT	LIN FT	$0.30	70	$21.00			50	$15.00
93	2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN FT	$0.60						
94	2600.40	INSULATION (4' x 8' x 2" THICK)	SQ YD	$20.00						
95	2611.4A	6" PVC WATERMAIN PIPE	LIN FT	$20.00						
96	2611.4A	8" PVC WATERMAIN PIPE	LIN FT	$22.00						
97	2611.4A	10" PVC WATERMAIN PIPE	LIN FT	$25.00						
98	2611.4A	12" PVC WATERMAIN PIPE	LIN FT	$28.50						
99	2611.4A	1" POLYETHYLENE SERVICE PIPE	LIN FT	$13.00						
100	2611.4A	1.5" POLYETHYLENE SERVICE PIPE	LIN FT	$13.00	80	$1,040.00			83	$1,079.00
101	2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,150.00						
102	2611.4B	8" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,575.00						
103	2611.4B	10" GATE VALVE & BOX w/ ADAPTOR	EACH	$2,400.00						
104	2611.4B	12"BUTTERFLY VALVE & BOX w/ ADAPTOR	EACH	$2,000.00						
105	2611.4B	VALVE OPERATOR EXTENSION	EACH	$140.00						
106	2611.4C	1.5" CORPORATION STOP & SADDLE	EACH	$655.00	2	$1,310.00			2	$1,310.00
107	2611.4D	1" CURB STOP & BOX	EACH	$635.00						
108	2611.4D	1.5" CURB STOP & BOX	EACH	$760.00	2	$1,520.00			2	$1,520.00
109	2611.4E	HYDRANT	EACH	$4,050.00						
110	2611.4G	INSTALL HYDRANT & VALVE	EACH	$1,440.00						
111	2611.4	DUCTILE IRON WATERMAIN FITTINGS	POUND	$1.75						
112	2611.4J	HYDRANT EXTENSION (12")	EACH	$585.00						
113	2611.4J	HYDRANT EXTENSION (18")	EACH	$700.00						
114	2611.4J	HYDRANT EXTENSION (30")	EACH	$875.00						
115	2611.4J	GATE VALVE BOX & ADAPTOR	EACH	$435.00						
116	2621.4A	8" PVC SEWER PIPE (SDR 26)	LIN FT	$24.50	221	$5,414.50			218	$5,341.00
117	2621.4A	10" PVC SEWER PIPE (SDR 26)	LIN FT	$27.00						
118	2621.4B	SANITARY SEWER MANHOLE, MnDOT DESIGN 4007C	EACH	$2,200.00	1	$2,200.00			1	$2,200.00
119	2621.4B1	MANHOLE EXCESS DEPTH	LIN FT	$100.00	4	$400.00			4	$400.00
120	2621.4F	4" PVC SERVICE PIPE (SCH 40)	LIN FT	$80.00						
121	2621.4F	6" PVC SERVICE PIPE (SCH 40)	LIN FT	$15.00	104	$1,560.00			105	$1,575.00
122	2621.4G	6" X 6" PVC WYE	EACH	$570.00	2	$1,140.00			2	$1,140.00
123	2621.4G	10" X 6" PVC WYE	EACH	$690.00						

PARTIAL PAY ESTIMATE 4 - ATTACHMENT A
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AN
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
Monday, January 25, 2016

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	INDEPENDENCE ROAD, MUNICIPAL IMPROVEMENT 4107					
					CONTRACT		THIS PERIOD		TOTAL TO DATE	
					QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
ALTERNATE BID A										
1A	2101.501	CLEARING	ACRE	$15,000.00						
2A	2101.506	GRUBBING	ACRE	$15,000.00						
3A	2105.601	DEWATERING	LUMP SUM	$70,000.00						
4A	2123.501	COMMON LABORERS	HOUR	$85.00						
5A	2123.503	MOTOR GRADER	HOUR	$160.00						
6A	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.50						
7A	2574.508	FERTILIZER TYPE 1	POUND	$1.00						
8A	2574.525	COMMON TOPSOIL BORROW	CU YD	$20.00						
9A	2575.501	SEEDING	ACRE	$800.00						
10A	2575.502	SEED MIXTURE 25-131	POUND	$3.00						
11A	2575.505	SODDING TYPE LAWN	SQ YD	$4.50						
12A	2575.562	HYDRAULIC MATRIX TYPE MULCH	POUND	$8.00						
13A	2600.4D	INSULATION (4' x 8' x 2" THICK)	SQ YD	$20.00						
14A	2611.4A	6" PVC WATERMAIN PIPE	LIN FT	$47.00						
15A	2611.4A	8" PVC WATERMAIN PIPE	LIN FT	$25.00						
16A	2611.4A	8" PE WATERMAIN PIPE - DIRECTIONAL DRILL	LIN FT	$53.00						
17A	2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,200.00						
18A	2611.4E	HYDRANT	EACH	$4,100.00						
19A	2611.4I	DUCTILE IRON WATERMAIN FITTINGS	POUND	$2.35						
20A	-	6" WET TAP	EACH	$4,300.00						
CHANGE ORDER 3										
1		INDEPENDENCE ROAD ADDITIONAL GRADING	LUMP SUM	$1,440.00	1	$1,440.00	1	$1,440.00	1	$1,440.00
2		INGLEWOOD DRIVE ADDITIONAL GRADING	LUMP SUM	$5,272.00						
3		WORK AROUND 6" GAS MAIN	LUMP SUM	$1,350.00						
4		INGLEWOOD DRIVE WATERMAIN LOWERING	LUMP SUM	$12,958.38						
5		FAIRVIEW ROAD FORCEMAIN	LUMP SUM	$8,753.87						
TOTALS:						$63,023.76		$1,440.00		$78,835.91
AMOUNT RETAINED:										$77,395.91
RETAINAGE RELEASED										$1,440.00
PREVIOUS PAYMENTS										
AMOUNT DUE:								$1,440.00		

PARTIAL PAY ESTIMATE 4 - ATTACHMENT A
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AN
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
Monday, January 25, 2016

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	TOTALS					
					CONTRACT		THIS PERIOD		TOTAL TO DATE	
					QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
BASE BID										
1	2021.501	MOBILIZATION	LUMP SUM	$70,000.00	1	$70,000.00			1	$70,000.00
2	2101.501	CLEARING	ACRE	$5,000.00	0.52	$2,600.00			0.65	$3,250.00
3	2101.502	CLEARING	TREE	$150.00	58	$8,700.00			66	$9,900.00
4	2101.508	GRUBBING	ACRE	$5,000.00	0.52	$2,600.00			0.65	$3,250.00
5	2101.507	GRUBBING	TREE	$150.00	58	$8,700.00			62	$9,300.00
6	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	$10.00	22	$220.00			87	$870.00
7	2104.501	REMOVE WATER SERVICE PIPE	LIN FT	$10.00	20	$200.00			30	$300.00
8	2104.501	REMOVE CURB AND GUTTER	LIN FT	$5.00	76	$380.00			187	$935.00
9	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	$1.80	16266	$29,278.80			16271	$29,287.80
10	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	$6.00	49	$294.00			172	$1,032.00
11	2104.509	REMOVE CONCRETE APRON	EACH	$50.00	1	$50.00			1	$50.00
12	2104.509	REMOVE CATCH BASIN	EACH	$100.00	1	$100.00			1	$100.00
13	2104.509	REMOVE SIGN TYPE C	EACH	$25.00	19	$475.00	2	$50.00	17	$425.00
14	2104.509	REMOVE VALVE BOX	EACH	$200.00	2	$400.00			2	$400.00
15	2104.509	REMOVE CURB STOP & BOX	EACH	$300.00	3	$900.00			3	$900.00
16	2104.509	REMOVE DELINEATOR	EACH	$25.00	5	$125.00			4	$100.00
17	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	$5.00	441	$2,205.00			37	$185.00
18	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	$3.00	330	$990.00			782	$2,346.00
19	2104.521	SALVAGE FENCE	LIN FT	$10.00	357	$3,570.00			87	$870.00
20	2104.523	SALVAGE SIGN	EACH	$25.00	20	$500.00			20	$500.00
21	2104.523	SALVAGE HYDRANT & VALVE	EACH	$425.00	2	$850.00			2	$850.00
22	2104.523	SALVAGE PIPE APRON	EACH	$100.00	2	$200.00			2	$200.00
23	2105.501	COMMON EXCAVATION (P)	CU YD	$10.00	7512	$75,120.00			8647	$86,470.00
24	2105.505	MUCK EXCAVATION	CU YD	$10.00	1000	$10,000.00			1000	$10,000.00
25	2105.522	COMMON BORROW (CV)	CU YD	$8.40	7191	$67,595.40	560	$5,264.00	7511	$70,603.40
26	2105.601	DEWATERING	LUMP SUM	$62,000.00	0.95	$58,900.00			1	$62,000.00
27	2118.501	AGGREGATE SURFACING CLASS 5	TON	$20.00	26	$520.00				
28	2123.501	COMMON LABORERS	HOUR	$85.00	30	$2,550.00				
29	2123.503	MOTOR GRADER	HOUR	$170.00	20	$3,400.00				
30	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	$100.00	32	$3,200.00			11	$1,100.00
31	2130.501	WATER	M GALLON	$30.00	100	$3,000.00				
32	2211.501	AGGREGATE BASE CLASS 5	TON	$20.00	173	$3,460.00				
33	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	$17.00	4304	$73,168.00			4079	$69,343.00
34	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (2,C)	TON	$55.00	5421	$298,155.00			4468	$245,840.00
35	2501.514	15" RC PIPE CULVERT	LIN FT	$34.50	112	$3,864.00			128	$4,416.00
36	2501.515	12" RC PIPE APRON	EACH	$400.00	5	$2,000.00			5	$2,000.00
37	2501.515	18" RC PIPE APRON	EACH	$475.00	4	$1,900.00			4	$1,900.00
38	2501.573	INSTALL PIPE APRON	EACH	$150.00	2	$300.00			2	$300.00
39	2503.541	12" RC PIPE SEWER DES 3006 CL V	LIN FT	$28.00	1203	$33,684.00			1158	$32,424.00
40	2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT	$30.00	768	$23,040.00			617	$18,510.00
41	2503.541	18" RC PIPE SEWER DES 3006 CL III	LIN FT	$32.00	678	$21,696.00			760	$24,320.00
42	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	$900.00	1	$900.00			1	$900.00
43	2503.602	CONNECT TO EXISTING MANHOLES (SAN)	EACH	$2,400.00	1	$2,400.00			1	$2,400.00
44	2504.602	ADJUST VALVE BOX	EACH	$200.00	2	$400.00			1	$200.00
45	2504.602	CONNECT TO EXISTING SEWER SERVICE	EACH	$450.00	3	$1,350.00			4	$1,800.00
46	2504.602	CONNECT TO EXISTING WATER SERVICE	EACH	$510.00	6	$3,060.00			2	$1,020.00
47	2503.603	CLEAN AND VIDEO TAPE PIPE SEWER - MAINLINE	LIN FT	$1.25	2770	$3,462.50			2778	$3,472.50
48	2503.603	CLEAN AND VIDEO TAPE PIPE SEWER - SERVICE	LIN FT	$1.25	778	$972.50			1019	$1,273.75
49	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	$950.00	2	$1,900.00			4	$3,800.00
50	2506.501	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	$425.00	55.13	$23,430.25			51.63	$21,942.75
51	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	$250.00	32.71	$8,177.50			32.71	$8,177.50
52	2506.518	CASTING ASSEMBLY	EACH	$750.00	20	$15,000.00			20	$15,000.00
53	2506.522	ADJUST FRAME AND RING CASTING	EACH	$350.00	9	$3,150.00			9	$3,150.00
54	2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	$500.00	1	$500.00			1	$500.00
55	2506.602	CONSTRUCT CONTROL STRUCTURE A	EACH	$2,800.00	1	$2,800.00			0.75	$2,100.00
56	2511.501	RANDOM RIPRAP CLASS III	CU YD	$65.00	61.4	$3,991.00			33	$2,145.00
57	2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	$2.00	227	$454.00			116	$232.00
58	2531.501	CONCRETE CURB AND GUTTER DESIGN B624	LIN FT	$15.00	7110	$106,650.00			7456	$111,840.00
59	2531.503	CONCRETE MEDIAN	SQ YD	$75.00	93	$6,975.00			107	$8,025.00
60	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	$55.00	183	$10,065.00			308	$16,940.00
61	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	$60.00	135	$8,100.00			160	$9,600.00
62	2531.604	8" CONCRETE VALLEY GUTTER	SQ YD	$66.00	114	$7,524.00			121.1	$7,992.60
63	2531.618	TRUNCATED DOMES	SQ FT	$40.00	164	$6,560.00			206	$8,240.00
64	2540.602	MAIL BOX SUPPORT	EACH	$125.00	15	$1,875.00			15	$1,875.00
65	2540.602	TEMPORARY POSTAL SERVICE	EACH	$100.00	15	$1,500.00			15	$1,500.00
66	2557.603	INSTALL FENCE	LIN FT	$20.00	347	$6,940.00				
67	2563.601	TRAFFIC CONTROL	LUMP SUM	$8,000.00	1	$8,000.00			0.95	$7,600.00
68	2564.602	INSTALL SIGN	EACH	$90.00	20	$1,800.00			20	$1,800.00
69	2564.602	INSTALL SIGN PANEL TYPE C	EACH	$105.00	13	$1,365.00			80	$8,300.00
70	2564.602	FURNISH TYPE C SIGN	EACH	$150.00	22	$3,300.00			60	$9,000.00
71	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.50	2222	$5,555.00			2255	$5,637.50
72	2573.530	STORM DRAIN INLET PROTECTION	EACH	$225.00	23	$5,175.00			13	$2,925.00
73	2573.535	STABILIZED CONSTRUCTION EXIT	EACH	$600.00	8	$4,800.00			6	$3,600.00
74	2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	$1,500.00	1	$1,500.00			0.625	$937.50
75	2573.602	CULVERT END CONTROLS	EACH	$250.00	2	$500.00				
76	2574.508	FERTILIZER TYPE 1	POUND	$1.00	893	$893.00			800	$800.00
77	2574.525	COMMON TOPSOIL BORROW	CU YD	$0.01	2452	$24.52			2291	$22.91
78	2575.501	SEEDING	ACRE	$800.00	6.5	$5,200.00			3.3	$2,640.00
79	2575.502	SEED MIXTURE 22-111	POUND	$4.00	183	$652.00			180	$720.00
80	2575.502	SEED MIXTURE 25-131	POUND	$3.00	732	$2,196.00			1010	$3,030.00
81	2575.502	SEED MIXTURE 33-361	POUND	$60.00	14	$840.00			17.5	$1,050.00
82	2575.505	SODDING TYPE LAWN	SQ YD	$4.50	9935	$44,707.50			8047	$36,211.50
83	2575.511	MULCH MATERIAL TYPE 3	TON	$425.00	8	$3,400.00				
84	2575.519	DISK ANCHORING	ACRE	$200.00	4.1	$820.00				
85	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	$2.00	4654	$9,908.00			1785	$3,590.00
86	2575.562	HYDRAULIC MATRIX TYPE MULCH	POUND	$1.30	3180	$4,134.00			6107	$7,939.10
87	2582.501	PAVEMENT MESSAGE-PAINT	EACH	$50.00	13	$650.00			13	$650.00
88	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	$0.30	715	$214.50			417	$125.10
89	2582.502	8" SOLID LINE WHITE-PAINT	LIN FT	$0.34	7465	$2,538.10			3014	$1,024.76
90	2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	$0.30	1628	$488.40			231	$69.30
91	2582.502	12" SOLID LINE YELLOW-PAINT	LIN FT	$2.50	137	$342.50			139	$347.50
92	2582.502	4" BROKEN LINE YELLOW-PAINT	LIN FT	$0.30	816	$244.80			230	$69.00
93	2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN FT	$0.60	2276	$1,365.60			1717	$1,030.20
94	2600.4D	INSULATION (4' x 8' x 2" THICK)	SQ YD	$20.00	879.2	$17,584.00			2071.3	$41,426.00
95	2611.4A	6" PVC WATERMAIN PIPE	LIN FT	$20.00	108	$2,160.00			114	$2,280.00
96	2611.4A	8" PVC WATERMAIN PIPE	LIN FT	$22.00	188	$4,092.00			314	$6,908.00
97	2611.4A	10" PVC WATERMAIN PIPE	LIN FT	$25.00	1384	$34,600.00			1363	$34,575.00
98	2611.4A	12" PVC WATERMAIN PIPE	LIN FT	$28.50	1191	$33,943.50			1259	$35,881.50
99	2611.4A	1" POLYETHYLENE SERVICE PIPE	LIN FT	$13.00	48	$624.00			20	$260.00
100	2611.4A	1.5" POLYETHYLENE SERVICE PIPE	LIN FT	$13.00	934	$12,142.00			935	$12,155.00
101	2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,150.00	5	$5,750.00			6	$6,900.00
102	2611.4B	8" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,575.00	2	$3,150.00			4	$6,300.00
103	2611.4B	10" GATE VALVE & BOX w/ ADAPTOR	EACH	$2,400.00	3	$7,200.00			3	$7,200.00
104	2611.4B	12"BUTTERFLY VALVE & BOX w/ ADAPTOR	EACH	$2,000.00	1	$2,000.00			2	$4,000.00
105	2611.4B	VALVE OPERATOR EXTENSION	EACH	$140.00	9	$1,260.00				
106	2611.4C	1.5" CORPORATION STOP & SADDLE	EACH	$655.00	18	$11,790.00			24	$15,720.00
107	2611.4D	1" CURB STOP & BOX	EACH	$635.00	3	$1,905.00			1	$635.00
108	2611.4D	1.5" CURB STOP & BOX	EACH	$760.00	18	$13,680.00			24	$18,240.00
109	2611.4E	HYDRANT	EACH	$4,050.00	5	$20,250.00			5	$20,250.00
110	2611.4G	INSTALL HYDRANT & VALVE	EACH	$1,440.00	2	$2,880.00			2	$2,880.00
111	2611.4	DUCTILE IRON WATERMAIN FITTINGS	POUND	$1.75	3675	$6,431.25			5140	$8,995.00
112	2611.4J	HYDRANT EXTENSION (12")	EACH	$585.00	1	$585.00			2	$1,170.00
113	2611.4J	HYDRANT EXTENSION (18")	EACH	$700.00	1	$700.00				
114	2611.4J	HYDRANT EXTENSION (30")	EACH	$875.00	1	$875.00			1	$875.00
115	2611.4J	GATE VALVE BOX & ADAPTOR	EACH	$435.00	2	$870.00			2	$870.00
116	2621.4A	8" PVC SEWER PIPE (SDR 26)	LIN FT	$24.50	979	$23,985.50			980	$24,010.00
117	2621.4A	10" PVC SEWER PIPE (SDR 26)	LIN FT	$27.00	1791	$48,357.00			1795	$48,465.00
118	2621.4B	SANITARY SEWER MANHOLE, MnDOT DESIGN 4007C	EACH	$2,200.00	10	$22,000.00			10	$22,000.00
119	2621.4B1	MANHOLE EXCESS DEPTH	LIN FT	$100.00	14.95	$1,495.00			14.95	$1,495.00
120	2621.4F	4" PVC SERVICE PIPE (SCH 40)	LIN FT	$80.00	24	$1,920.00			38	$3,040.00
121	2621.4F	6" PVC SERVICE PIPE (SCH 40)	LIN FT	$15.00	802	$12,030.00			898	$14,970.00
122	2621.4G	6" X 6" PVC WYE	EACH	$570.00	7	$3,990.00			11	$6,270.00
123	2621.4G	10" X 6" PVC WYE	EACH	$690.00	11	$7,590.00			13	$8,970.00

PARTIAL PAY ESTIMATE 4 - ATTACHMENT A
2015 DELLWOOD DRIVE, NOVOTNY ROAD, INGLEWOOD DRIVE AN
MUNICIPAL PROJECT NUMBERS 4063, 4105 AND 4107
Monday, January 25, 2016

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	TOTALS					
					CONTRACT		THIS PERIOD		TOTAL TO DATE	
					QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
ALTERNATE BID A										
1A	2101.501	CLEARING	ACRE	$15,000.00	0.05	$750.00			0.075	$1,125.00
2A	2101.506	GRUBBING	ACRE	$15,000.00	0.05	$750.00			0.075	$1,125.00
3A	2105.501	DEWATERING	LUMP SUM	$70,000.00	0.05	$3,500.00			0.05	$3,500.00
4A	2123.501	COMMON LABORERS	HOUR	$85.00	5	$425.00				
5A	2123.503	MOTOR GRADER	HOUR	$160.00	5	$800.00				
6A	2573.502	SILT FENCE, TYPE MS	LIN FT	$2.50	50	$125.00				
7A	2574.508	FERTILIZER TYPE 1	POUND	$1.00	27	$27.00				
8A	2574.525	COMMON TOPSOIL BORROW	CU YD	$20.00	49	$980.00				
9A	2575.501	SEEDING	ACRE	$800.00	0.1	$80.00				
10A	2575.502	SEED MIXTURE 25-131	POUND	$3.00	27	$81.00				
11A	2575.505	SODDING TYPE LAWN	SQ YD	$4.50	116	$522.00				
12A	2575.582	HYDRAULIC MATRIX TYPE MULCH	POUND	$8.00	142	$1,136.00				
13A	2800.4D	INSULATION (4' x 8' x 2" THICK)	SQ YD	$20.00	6.3	$126.00			3.5	$70.00
14A	2611.4A	6" PVC WATERMAIN PIPE	LIN FT	$47.00	6	$282.00			7	$329.00
15A	2611.4A	8" PVC WATERMAIN PIPE	LIN FT	$25.00	175	$4,375.00			116	$2,900.00
16A	2611.4A	8" PE WATERMAIN PIPE - DIRECTIONAL DRILL	LIN FT	$55.00	865	$45,845.00	613	$32,489.00	922	$48,888.00
17A	2611.4B	6" GATE VALVE & BOX w/ ADAPTOR	EACH	$1,200.00	1	$1,200.00			1	$1,200.00
18A	2611.4E	HYDRANT	EACH	$4,100.00	1	$4,100.00			1	$4,100.00
19A	2611.4I	DUCTILE IRON WATERMAIN FITTINGS	POUND	$2.35	615	$1,445.25			785	$1,844.75
20A	-	8" WET TAP	EACH	$4,300.00	1	$4,300.00			1	$4,300.00
CHANGE ORDER 3										
1		INDEPENDENCE ROAD ADDITIONAL GRADING	LUMP SUM	$1,440.00	1	$1,440.00	1	$1,440.00	1	$1,440.00
2		INGLEWOOD DRIVE ADDITIONAL GRADING	LUMP SUM	$5,272.00	1	$5,272.00	1	$5,272.00	1	$5,272.00
3		WORK AROUND 6" GAS MAIN	LUMP SUM	$1,350.00	1	$1,350.00	1	$1,350.00	1	$1,350.00
4		INGLEWOOD DRIVE WATERMAIN LOWERING	LUMP SUM	$12,958.38	1	$12,958.38	1	$12,958.38	1	$12,958.38
5		FAIRVIEW ROAD FORCEMAIN	LUMP SUM	$9,753.87	1	$9,753.87	1	$9,753.87	1	$9,753.87
TOTALS:						$1,560,803.62		$68,577.25		$1,553,037.17
AMOUNT RETAINED:								$5,096.62		$114,182.21
RETAINAGE RELEASED								$0.00		
PREVIOUS PAYMENTS										$1,375,374.33
AMOUNT DUE:								$63,480.63		$63,480.63

ISLE DRIVE OFFICE PARK STORMWATER MANAGEMENT PLAN

SWMP GENERAL PARAMETERS

- HYDROLOGY METHOD: SCS TR-55
- DESIGN STORM EVENT: 100 - YEAR - SCS TYPE II-24 HR. (NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES = 6.27")
- ASSUMED GROUNDWATER ELEVATION = 1188.0'
- HYDRAULIC SOIL GROUP A
- REGIONAL PONDS SIZED FOR TRIBUTARY AREAS AT MAX BUILD OUT (88% IMPERVIOUS PER CITY OF BAXTER ORDINANCE 2016)

SOUTH FALCON REGIONAL POND SUMMARY

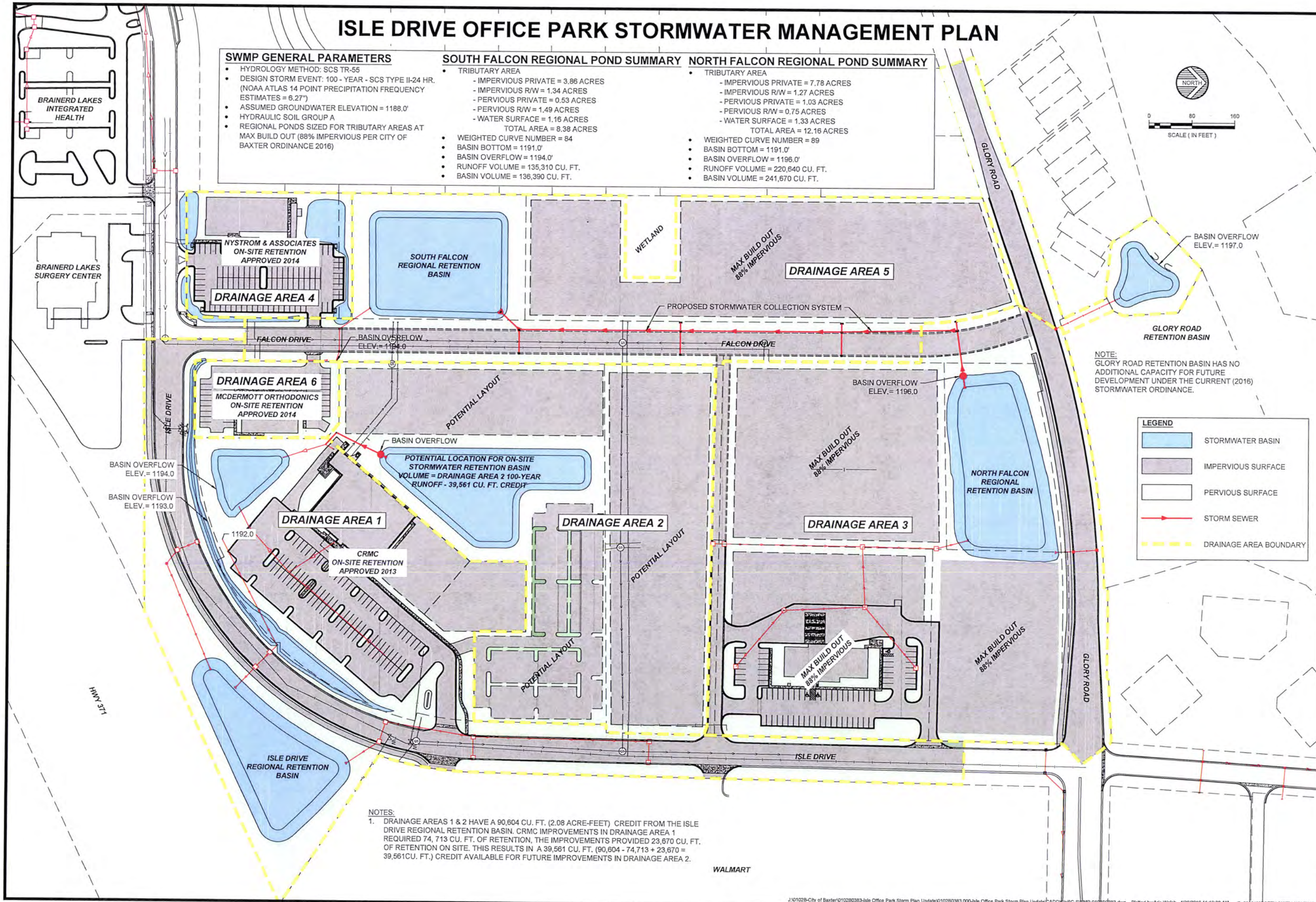
- TRIBUTARY AREA
  - IMPERVIOUS PRIVATE = 3.86 ACRES
  - IMPERVIOUS R/W = 1.34 ACRES
  - PERVIOUS PRIVATE = 0.53 ACRES
  - PERVIOUS R/W = 1.49 ACRES
  - WATER SURFACE = 1.16 ACRES

  TOTAL AREA = 8.38 ACRES
- WEIGHTED CURVE NUMBER = 84
- BASIN BOTTOM = 1191.0'
- BASIN OVERFLOW = 1194.0'
- RUNOFF VOLUME = 135,310 CU. FT.
- BASIN VOLUME = 136,390 CU. FT.

NORTH FALCON REGIONAL POND SUMMARY

- TRIBUTARY AREA
  - IMPERVIOUS PRIVATE = 7.78 ACRES
  - IMPERVIOUS R/W = 1.27 ACRES
  - PERVIOUS PRIVATE = 1.03 ACRES
  - PERVIOUS R/W = 0.75 ACRES
  - WATER SURFACE = 1.33 ACRES

  TOTAL AREA = 12.16 ACRES
- WEIGHTED CURVE NUMBER = 89
- BASIN BOTTOM = 1191.0'
- BASIN OVERFLOW = 1196.0'
- RUNOFF VOLUME = 220,640 CU. FT.
- BASIN VOLUME = 241,670 CU. FT.



NOTE:
GLORY ROAD RETENTION BASIN HAS NO ADDITIONAL CAPACITY FOR FUTURE DEVELOPMENT UNDER THE CURRENT (2016) STORMWATER ORDINANCE.

NOTES:
1. DRAINAGE AREAS 1 & 2 HAVE A 90,604 CU. FT. (2.08 ACRE-FEET) CREDIT FROM THE ISLE DRIVE REGIONAL RETENTION BASIN. CRMC IMPROVEMENTS IN DRAINAGE AREA 1 REQUIRED 74, 713 CU. FT. OF RETENTION, THE IMPROVEMENTS PROVIDED 23,670 CU. FT. OF RETENTION ON SITE. THIS RESULTS IN A 39,561 CU. FT. (90,604 - 74,713 + 23,670 = 39,561CU. FT.) CREDIT AVAILABLE FOR FUTURE IMPROVEMENTS IN DRAINAGE AREA 2.

WIDSETH SMITH NOLTING
Engineering | Architecture | Surveying | Environmental

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ARIC WELCH — DATE: #### — LIC. NO. 41863

DATE	REV#	REVISIONS DESCRIPTION	BY

DATE: APRIL 2016
SCALE: AS SHOWN
DRAWN BY: T.A.P.
CHECKED BY: A.L.W.
JOB NUMBER: 0102B0383.000

ISLE DRIVE OFFICE PARK SWMP
CITY OF BAXTER
BAXTER, MINNESOTA
STORMWATER MANAGEMANT PLAN

SHEET NO. 1
SHEET 1 OF 1

J:\0102B-City of Baxter\0102B0383-Isle Office Park Storm Plan Update\0102B0383.000-Isle Office Park Storm Plan Update\CADD\civil\C-SWMP-0102B0383.dwg Plotted by:Aric Welch 4/26/2016 11:19:28 AM © 2016 WIDSETH SMITH NOLTING

WIDSETH SMITH NOLTING

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Baxter, MN 56425-2720

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Brainerd@wsn.us.com

WidsethSmithNolting.com

MEMO

Date: April 27, 2016
To: **Baxter Utilities Commission**
From: Aric Welch
Cc: Trevor Walter
Gordon Heitke
Project Name: Lift Station No. 8 Reconstruction
Project No.: 0102B0375.000
Subject: **Project Update**

Summary of Work Completed Since Last Update

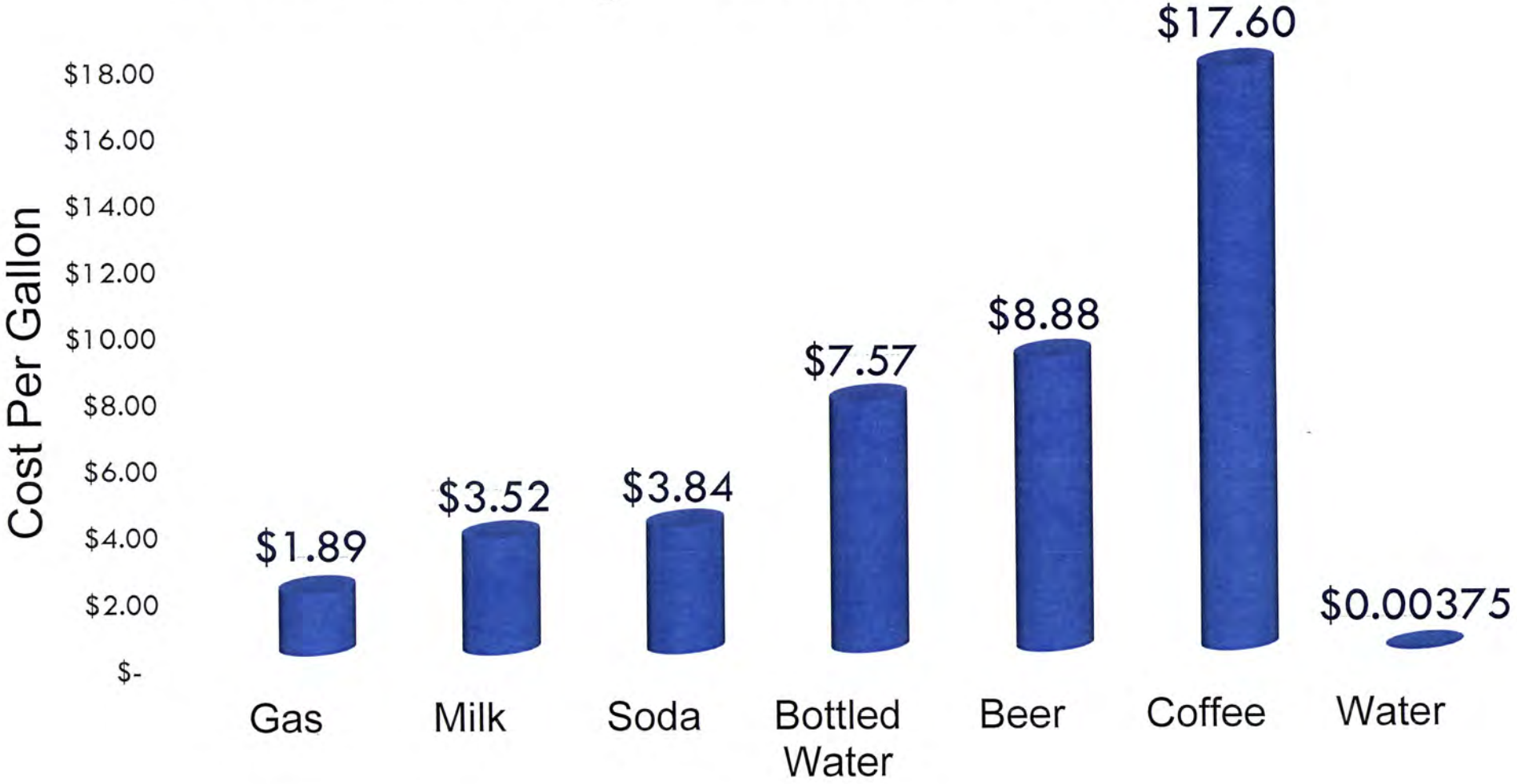
The Council awarded the project to DeChantal Excavating, Inc. on Tuesday, April 19, 2016. The Notice of Award was issued on Wednesday, April 20, 2016 and contract documents were sent to DeChantal Excavating, Inc. for review and signature.

Project Schedule

The Contractor has 15 days to return the signed contract documents and provide the necessary bonds and insurance certificate. We anticipate the contract documents will be signed and the Notice to Proceed will be issued the Week of May 2, 2016.

We will be discussing project schedule with Al DeChantal after the Notice to Proceed is issued. The Substantial Completion date for this project is August 12, 2016. We will request the work on Lift Station No. 8 be completed prior to the start of the 2016 Mill and Overlay Project to avoid marring the new roadway surface and anticipate the work will be completed in June or July.

MN Average Cost Per Gallon



THANK YOU GOLD LEVEL SPONSORS

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Wheelage Tax

Background

The wheelage tax was first authorized by the legislature in 1972 for counties in the Twin Cities metropolitan area at a rate of $5 per vehicle. The authority to use this tax was not immediately widely embraced because the law required a reduction in the general property tax levy equivalent to the revenue generated by the wheelage tax. Over the years, transportation advocates have advocated for changes to the law that would expand the authority to levy the tax beyond the metro area counties and to repeal the requirement of a corresponding reduction in the general property tax levy. In 2008, the legislature repealed the provision requiring an offsetting reduction in the property tax levy, and by 2013, five of the seven metro area counties had adopted the $5 per vehicle wheelage tax.

In subsequent years, the Alliance and other transportation advocates continued to push for expansion of the authority to all 87 counties and a change in the rate to allow the tax to be imposed by counties at a rate up to $20 per vehicle. During the 2013 legislative session, the Transportation Alliance worked with state lawmakers to introduce a transportation funding bill (SF891/HF931) that would provide additional revenue for highways and transit. A provision in the bill included the expansion of the wheelage tax to all 87 counties and the authority to charge up to $20 per vehicle. That provision passed in the final Transportation Appropriations bill of 2013 (Chapter 117; Article 3, section 4). Due to computer programming issues at the Department of Public Safety, the new law restricted the rate of the wheelage tax to $10 per vehicle from January 1, 2014 through December 31, 2017, but after January 1, 2018, all counties will be able to charge an amount up to $20 per vehicle annually in any increment of a whole dollar.

Current Law Provisions

- Tax revenue generated by the wheelage tax must be deposited in the county road and bridge fund and must be used for highway purposes within the meaning of Article 14 of the Minnesota Constitution. Revenue generated through the wheelage tax does not have to be spent exclusively on the State Aid system. Tax revenues must be used for transportation needs, including highway preservation projects and expansion projects
- The following vehicles are subject the wheelage tax: passenger vehicles, pick-up trucks, one ton trucks, buses, class 2 city buses, school buses, farm trucks, concrete pump/sweepers, prorate trucks, commercial zone trucks, van pools, commercial trucks and prorate foreign trucks.
- The following vehicles are exempt from the wheelage tax: motorcycles, vertical motorcycles, recreational vehicles, prorate (MN trailer), mopeds, contract trailers, semi-trailers, farm trailers, state owned tax exempt and tax exempt vehicles, utility trailers, street rods, pioneers, classics, collector and classic motorcycles.
- A county board may provide for the collection of the wheelage tax by resolution by county officials or it may request that the tax be collected by the state registrar of motor vehicles. If the tax is made collectible by the state registrar, it needs to be certified by the county auditor to the registrar no later than August 1 in the year before the calendar year or years for which the tax is levied.

The following table shows the present wheelage tax status of each of Minnesota's 87 counties. Fifty-one counties – shown in green – have approved the $10 wheelage tax. Four counties – shown in orange – once had adopted the wheelage tax but have since discontinued it. Thirty-two counties – shown in blue – have yet to adopt the tax.

rate of tax imposed under this section starting only on the first day of a calendar quarter, and only after the commissioner has notified sellers at least 60 days prior to the change.

- The political subdivision shall apply the rate change for sales tax imposed under this section to purchases from printed catalogs, wherein the purchaser computed the tax based upon local tax rates published in the catalog, starting only on the first day of a calendar quarter, and only after the commissioner has notified sellers at least 120 days prior to the change.
- The tax shall be collected by the state and the commissioner of revenue shall remit the proceeds of the tax, less refunds and a proportionate share of the cost of collection, at least quarterly, to the political subdivision.

Counties That Have Approved the Local Option Sales Tax

The following table shows the 14 Minnesota counties that adopted a local option sales tax in 2014 or 2015, the tax rate, and the revenue generated in 2015.

Table 2: Actual 2015 Revenue from Adopted Local Option Sales Tax, by County

County	Effective Date	Rate	2015 Revenue
Olmsted *	1/1/2014	0.25%	$6,413,535
Rice	1/1/2014	0.5%	$3,055,057
Beltrami	4/1/2014	0.5%	$3,422,592
Wadena	4/1/2014	0.5%	$667,293
Becker	7/1/2014	0.5%	$2,132,982
Douglas	10/1/2014	0.5%	$3,144,199
Todd	1/1/2015	0.5%	$601,483
Fillmore	1/1/2015	0.5%	$726,243
Steele	4/1/2015	0.5%	$1,574,305
Carlton	4/1/2015	0.5%	$1,101,908
St. Louis County	4/1/2015	0.5%	$10,044,074
Hubbard	7/1/2015	0.5%	$427,917
Lyon	10/1/2015	0.5%	$291,343
Scott	10/1/2015	0.5%	$1,173,975
Metro Counties	2008	0.25%	$11,688,216

*The tax for Olmsted County is imposed at a 0.25 percent rate under a different law (Minn. Stat. § 469.46) to fund transportation improvements related to the Destination Medical Center in Rochester.

An additional eight counties have adopted a local option sales tax that will become effective in 2016. Those counties are shown in the table below.

Table 3: Counties That Have Adopted the Local Option Sales Tax Effective in 2016

County	Effective Date	Rate	County	Effective Date	Rate
Freeborn	1/1/2016	0.5%	Cass	4/1/2016	0.5%
Otter Tail	1/1/2016	0.5%	Chisago	4/1/2016	0.5%
Blue Earth	4/1/2016	0.5%	Crow Wing	4/1/2016	0.5%
Brown	4/1/2016	0.5%	Wabasha	4/1/2016	0.5%

*Projections are estimates and intended for planning purposes only.

2014 Minnesota Sales Tax Totals by County

County	Gross Sales	Taxable Sales	.5% Increase
Aitkin	$390,176,108	$110,689,918	$553,450
Anoka	$12,717,993,183	$3,047,497,155	$15,237,486
Becker	$1,073,892,310	$321,953,337	$1,609,767
Beltrami	$1,576,289,158	$502,796,252	$2,513,981
Benton	$1,764,841,592	$350,859,265	$1,754,296
Big Stone	$110,750,886	$24,320,080	$121,600
Blue Earth	$5,180,370,371	$1,137,242,952	$5,686,215
Brown	$1,559,308,128	$258,170,721	$1,290,854
Carlton	$956,329,531	$207,119,162	$1,035,596
Carver	$3,444,112,080	$692,180,546	$3,460,903
Cass	$632,410,345	$222,915,262	$1,114,576
Chippewa	$519,766,524	$110,558,427	$552,792
Chisago	$1,345,862,640	$260,829,490	$1,304,147
Clay	$2,115,266,881	$414,556,324	$2,072,782
Clearwater	$356,552,261	$38,705,874	$193,529
Cook	$210,890,256	$101,680,020	$508,400
Cottonwood	$824,533,769	$66,163,082	$330,815
Crow Wing	$2,720,240,881	$914,665,700	$4,573,329
Dakota	$19,935,373,014	$4,570,606,863	$22,853,034
Dodge	$676,577,874	$87,143,154	$435,716
Douglas	$2,127,660,572	$543,165,874	$2,715,829
Faribault	$483,182,726	$79,535,064	$397,675
Fillmore	$861,118,187	$150,221,335	$751,107
Freeborn	$1,781,512,552	$280,753,686	$1,403,768
Goodhue	$1,753,938,436	$337,049,473	$1,685,247
Grant	$571,748,932	$33,541,682	$167,708
Hennepin	$90,141,031,777	$21,550,024,346	$107,750,122
Houston	$306,475,298	$77,380,790	$386,904
Hubbard	$454,750,724	$150,872,561	$754,363
Isanti	$1,088,043,030	$359,567,631	$1,797,838
Itasca	$1,446,111,790	$400,663,659	$2,003,318
Jackson	$527,153,731	$63,120,613	$315,603
Kanabec	$249,008,381	$57,867,573	$289,338
Kandiyohi	$2,257,382,847	$545,713,549	$2,728,568
Kittson	$161,583,230	$24,406,426	$122,032

County	Gross Sales	Taxable Sales	.5% Increase
Wabasha	$548,271,406	$102,737,744	$513,689
Wadena	$672,319,635	$128,216,985	$641,085
Waseca	$416,322,484	$95,186,259	$475,931
Washington	$11,070,167,568	$2,154,733,411	$10,773,667
Watonwan	$614,989,860	$55,017,594	$275,088
Wilkin	$371,373,330	$20,749,588	$103,748
Winona	$2,273,932,385	$394,234,540	$1,971,173
Wright	$4,555,313,362	$1,093,300,428	$5,466,502
Yellow Medicine	$381,197,758	$47,229,657	$236,148
Non-Minnesota Co.	$73,051,745,790	$12,185,996,626	$60,929,983
Total	$348,160,806,054	$73,865,027,871	$369,325,139
	Tax Enacted		
Source: Minnesota Department of Revenue, Tax Research Division, April 2016			

Vehicle Excise Tax

The 2008 legislation granted additional sales taxing authority to counties in Greater Minnesota by allowing a single county or group of counties acting under a joint powers agreement to impose a local sales tax of up to ½ cent and a $20 excise tax on commercial sales of motor vehicles.

Sales of motor vehicles are subject to the state's Motor Vehicles Sales Tax, not the general sales tax, so sales of motor vehicles are not subject to a county approved local option sales tax dedicated to transportation.

[Note: the more detailed background and current law provisions included in the discussion of the half-cent local option sales tax on page 8 are relevant here, since both the half-cent local option sales tax and the $20/vehicle excise tax are contained in the same law.]

Ten counties have imposed the $20 vehicle excise tax.

Table 5: Actual 2015 Revenue Generated by $20 Vehicle Excise Tax, by County

County	Effective Date	2015 Revenue *
Anoka	7/1/2008	$853,462
Dakota	7/1/2008	$1,029,371
Hennepin	7/1/2008	$2,786,133
Ramsey	7/1/2008	$1,158,077
Washington	7/1/2008	$621,858
Beltrami	4/1/2014	$78,120
St. Louis *	4/1/2015	$209,640
Carlton *	4/1/2015	$30,475
Scott *	10/1/2015	$25,360
Otter Tail *	1/1/2016	--

* These county's excise tax became effective after Jan 1, 2015, so 2015 revenues represent partial year only.

County	2014 Car & Light Truck Sales	Estimated Annual Revenue from $20/Vehicle Excise Tax	County	2014 Car & Light Truck Sales	Estimated Annual Revenue from $20/Vehicle Excise Tax
Hubbard	908	$18,163	Stearns	6,154	$123,072
Isanti	1,606	$32,128	Steele	1,553	$31,059
Itasca	1,987	$39,750	Stevens	407	$8,131
Jackson	482	$9,634	Swift	493	$9,869
Kanabec	695	$13,904	Todd	1,061	$21,227
Kandiyohi	1,832	$36,648	Traverse	171	$3,428
Kittson	238	$4,761	Wabasha	1,085	$21,693
Koochiching	592	$11,834	Wadena	680	$13,599
Lac Qui Parle	355	$7,092	Waseca	827	$16,539
Lake	506	$10,120	Washington (1)	--	$621,858
Lake of the Woods	203	$4,057	Watonwan	515	$10,305
Le Sueur	1,394	$27,870	Wilkin	328	$6,566
Lincoln	300	$6,008	Winona	1,812	$36,245
Lyon	1,101	$22,016	Wright	5,193	$103,862
Mahnomen	178	$3,568	Yellow Medicine	507	$10,136
Marshall	490	$9,809			

Notes:
(1) Anoka, Beltrami, Dakota, Hennepin, Ramsey, Washington Counties estimates are actual $20/vehicle excise tax revenue collected in 2015.
(2) Carlton, St. Louis, and Scott Counties have adopted the $20/vehicle excise tax, effective April 2015.
(3) Otter Tail County has adopted the $20/vehicle excise tax, effective 1/1/2016.

THANK YOU

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HR Green

Laborers District Council of MN & ND

LHB

International Union of Operating Engineers Local 49

SEH

The Safety of Your Water

The City of Baxter is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2015. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources. The City of Baxter must distribute this report annually to its customers as required by the Minnesota Department of Health.

Baxter's Water Supply: Source of Water

The City of Baxter provides drinking water to its residents from the following groundwater sources:

- Purchases treated water from the City of Brainerd which obtains its water from wells in the Quaternary Water Table aquifer
- Four wells ranging from 121 to 136 feet deep, that draws water from the Quaternary Water Table aquifer.

The water provided to customers may meet drinking water standards, but the Minnesota Department of Health has also made a determination as to how vulnerable the source of water may be to future contamination incidents. If you wish to obtain the entire source water assessment regarding your drinking water, please call 651-201-4700 or 1-800-818-9318 during normal business hours. Also, you can view it on line at www.health.state.mn.us/divs/eh/water/swp/swa.

Please call (218) 454-5115 if you have questions about the City of Baxter drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water.

Important Information for you to better understand this report:

Definitions:

Key to abbreviations:

MCLG - Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MCL - Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MRDL - Maximum Residual Disinfectant Level.

MRDLG - Maximum Residual Disinfectant Level Goal.

AL - Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow.

90th Percentile Level - This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. (For example, in a situation in which 10 samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples.) Note: In situations in which only 5 samples are taken, the average of the two with the highest levels is taken to determine the 90th percentile level.

ppm - Parts per million, which can also be expressed as milligrams per liter (mg/l).

ppb - Parts per billion, which can also be expressed as micrograms per liter (μg/l).

N/A - Not Applicable (does not apply).

Water Quality Roundup: Results of Monitoring

No contaminants were detected at levels that violated federal drinking water standards. However, some contaminants were detected in trace amounts that were below legal limits. The table that follows shows the contaminants that were detected in trace amounts last year. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2015. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.)

Results of 2015 Water Quality Analyses:

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant
			Range (2015)	Average /Result*	
Barium (ppm) (06/17/2014)	2	2	N/A	.09	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride (ppm)	4	4	.85-1.1	1.1	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAA5) (ppb)	0	60	22.1 - 26	26	By-product of drinking water disinfection.
TTHM (Total trihalomethanes) (ppb)	0	80	35.1-49.1	49.1	By-product of drinking water disinfection.

**This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.*

Everyone is Responsible for Ensuring the Continued Safety of our Water:

We all need to work together to protect our precious water resources. This includes taking steps to prevent problem tomorrow.

Protecting Our Area's Water Resources:

- Help identify land uses and potential sources of contamination on your property (wells, tanks, septic systems, hazardous wastes, etc.)
- Make sure any potential sources of contaminations under your control meet local, state and federal regulations.
- Seal unused wells on your property, according to Minnesota Well Code. See the Minnesota Department of Health website for more information. Owners of active wells should refer to the Well Owner's Handbook for proper construction, maintenance and sampling information.
- Use hazardous products only as directed and dispose of them properly when no longer needed. Visit the Crow Wing County website for information on handling and disposal of wastes.
- Practice proper turf management techniques and avoid over-fertilization of your lawns or gardens. Visit the Minnesota Department of Agriculture website for more information.
- Report spills or illegal dumping of hazardous wastes, fuels, or chemicals to law enforcement.

Customer Questions Welcome:

An often asked question is the hardness of the City of Baxter's tap water. In 2015, the average hardness was 13 grains/gallon.

If you have any questions about Baxter's drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water; please call the Public Works Department at (218) 454-5115, or you may email questions or comments to publicwork@baxtermn.gov.

If you have questions about your monthly utility bill, please call the Utility Billing Department at (218) 454-5121, or you may email questions or comments to ub@baxtermn.us.

For more information about drinking water:

Minnesota Department of Health – www.health.state.mn.us
U.S. Environmental Protection Agency – www.epa.gov/drink

WSB & Associates, Inc.

Infrastructure ■ Engineering ■ Planning ■ Construction

15574 Edgewood Drive
Suite 103
Baxter, MN 56401
Tel: 218-824-3960

Memorandum

To: ***Trevor Walter, PE, Public Works Director / City Engineer***
Josh Doty, Community Development Director
City of Baxter, Minnesota

From: ***Chuck Rickart, PE, PTOE, Project Manager***
WSB & Associates, Inc.

Date: ***April 27, 2016***

Re: ***HJ Development – Central Lakes Crossing***
Traffic Engineering Review and Analysis
City of Baxter
WSB Project No. 2037- 013

Introduction

The purpose of this study is to determine the potential transportation impacts for two sites within the Central Lakes Crossing development area, proposed by HJ Development. One site is located south of TH 210 and west of TH 371 on Elder Drive, just south of Costco. The second site is located south of Glory road and west of TH 371 in the Walmart parking lot. ***Figure 1*** shows the project locations.

The proposed sites will be developed with retail and restaurant uses. Site 1 on Elder Drive will include 89,000 sf with four separate retail uses ranging from 10,000 sf to 40,000 sf. Site 2 on Glory Road will include 7,011 sf with four separate spaces, three restaurant sites and one retail site ranging from 1,200 sf to 2,299 sf. The proposed site plans are shown on ***Figure 2*** and ***Figure 3***.

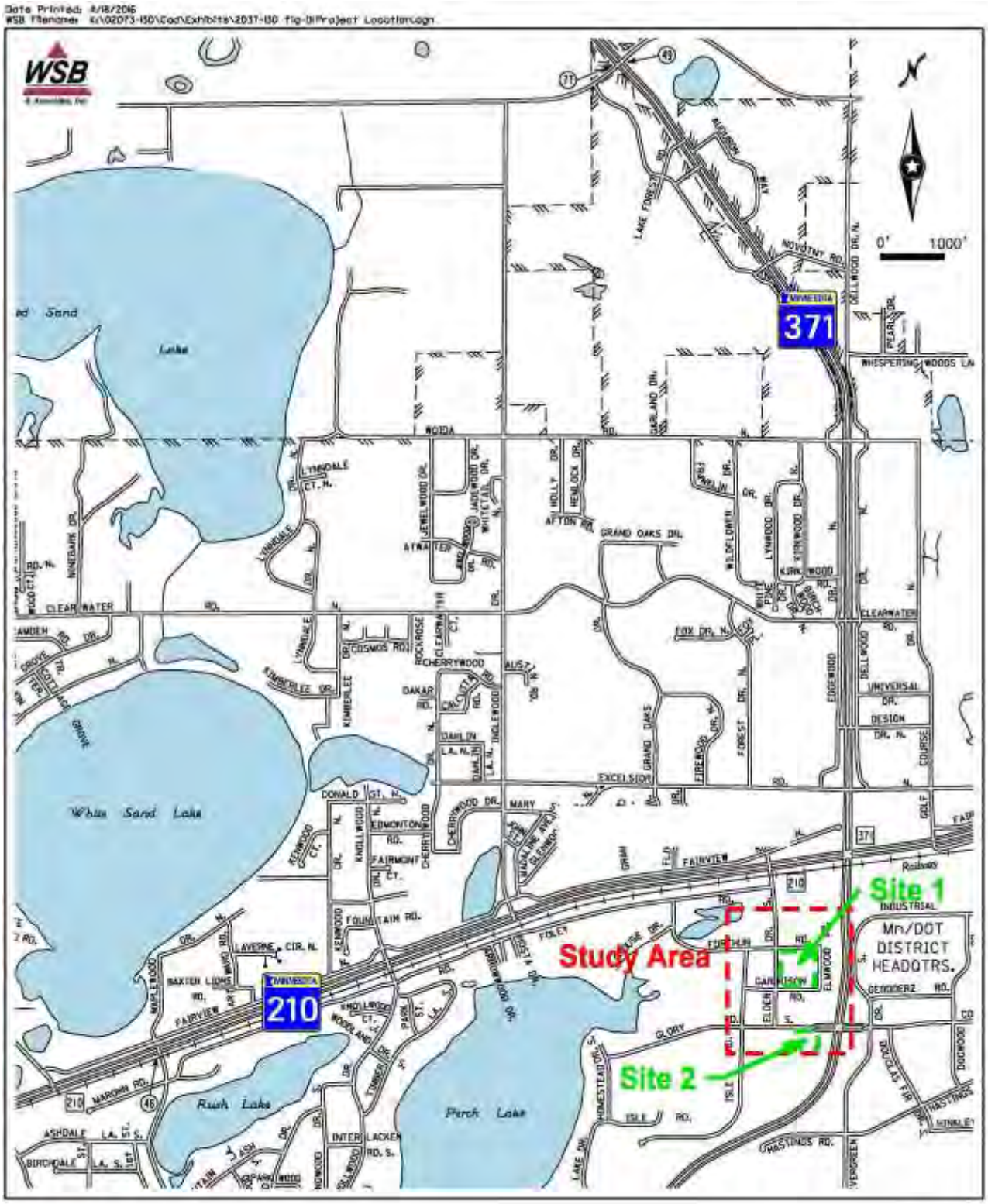
The transportation impacts of the existing and proposed traffic condition were evaluated on Elder Drive and Glory Road at the following intersections.

- Elder Drive at Forthun Road
- Elder Drive at Garrison Road
- Elder Drive at Glory Road
- Glory Road at Walmart East Access
- Glory Road at TH 371

The City prepared the *Elder Drive/Isle Drive Transportation Study* that analyzed the impacts of anticipated area developments and recommended roadway improvements. Since the completion of the Study in March of 2013 several developments have occurred as well as several transportation improvements have been completed.

The original study identified future land use and traffic conditions adjacent to Elder Drive and Isle Drive both north and south of Glory Road. The Traffic Engineering Review and Analysis in this Study for the proposed HJ development areas was conducted to determine the impacts the sites will have on; the area traffic operations, lane geometry/traffic control, access locations, right of way needs based on the previously completed analysis and recommendations.

The following sections of this memorandum document the findings, conclusions and recommendations for the future traffic operation adjacent to the proposed HJ development area sites.



BAXTER

HJ Development Transportation Study
City of Baxter, Minnesota

Figure 1
Project Location

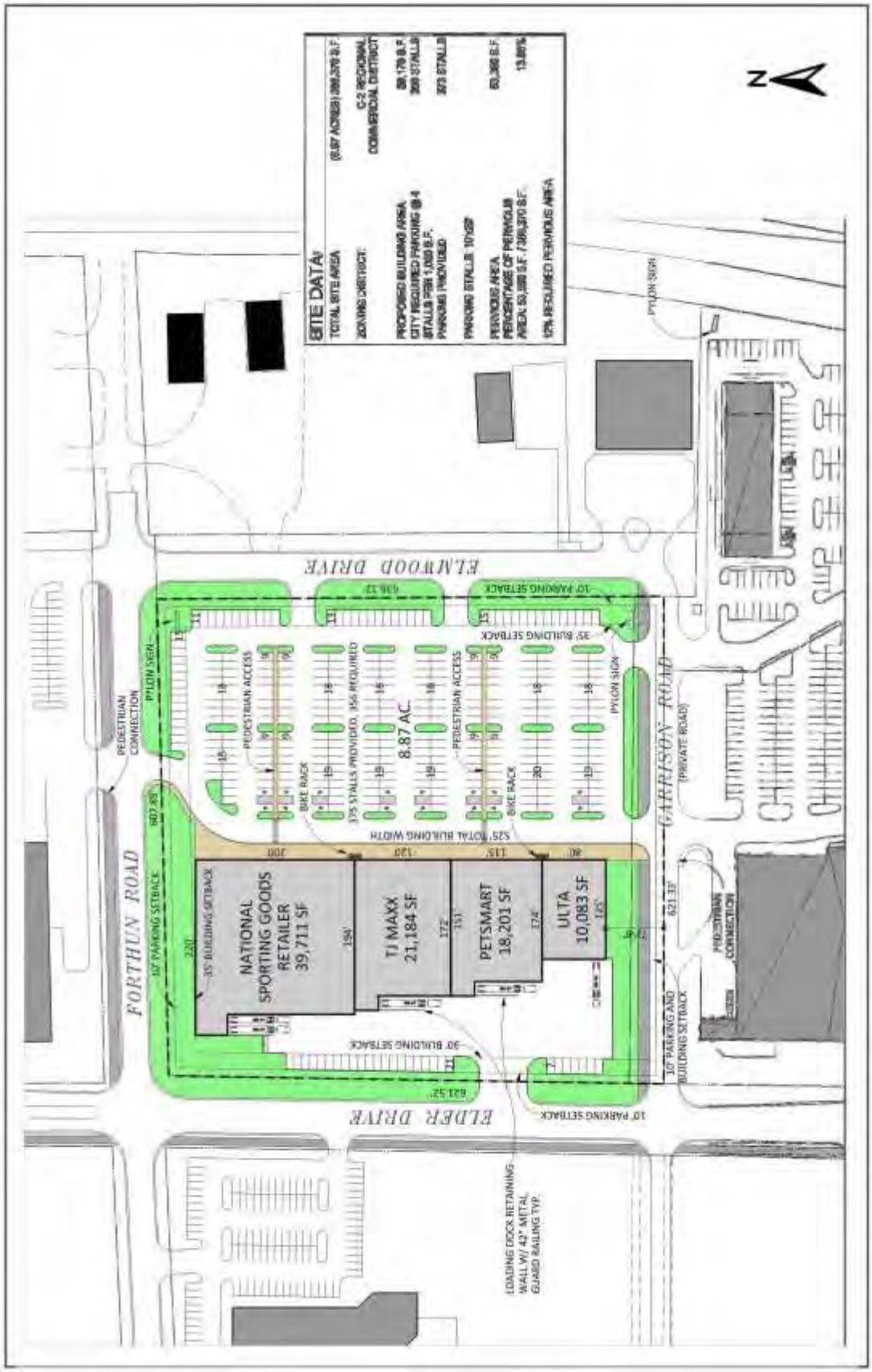


Figure 2
Site 1 Plan

BAXTER

HJ Development Transportation Study
City of Baxter, Minnesota

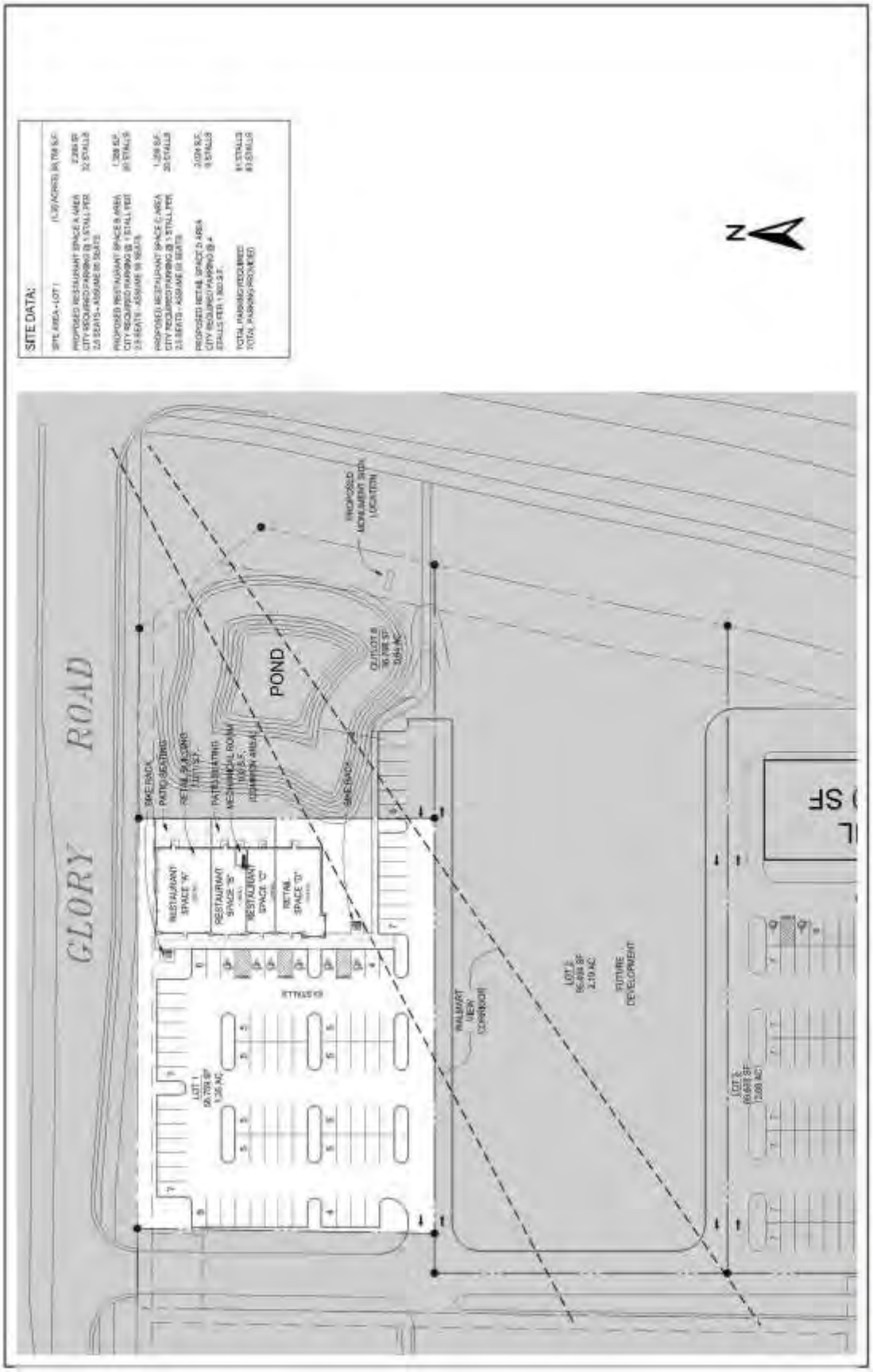


Figure 3
Site 2 Plan

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HJ Development Transportation Study
City of Baxter, Minnesota

Existing Traffic Characteristics

Glory Road is an east/west street extending from the Homestead Drive near Perch Lake to TH 371. East of TH 371 Glory Road turns into College Road and extends into the City of Brainerd. West of TH 371 Glory Road has a 72 foot to 80 foot cross section with two lanes in each direction and left and right turn lanes at TH 371, Wal-Mart Entrance/Elder Drive and Isle Drive. West of Isle Drive Glory Road narrows to a 44 foot two lane section. Traffic signal control is provided at the Elder Drive/Wal-Mart Entrance and TH 371 intersections. A 30mph speed limit is posted on Glory Road.

Elder Drive is a north/south street extending from Glory Road to TH 210. The street has a primary 44 foot two-lane urban cross section with no turn lanes. It was upgraded with the Costco development to include left turn lanes at Foley Road and Forthun Road. The intersection of TH 210 provides "3/4" access with a right-in/right-out on Elder Drive and a left turn from TH 210. The left turn movement from Elder Drive to TH 210 is not provided. The right turn out movement is controlled with a Stop sign. The intersection of Glory Road is signalized with left and right turn lanes provided on all the approaches. A 30mph speed limit is posted on Elder Drive.

Elder Drive at Forthun Road – Side Street Stop control
- NB Elder Drive approaching Forthun Rd – one right/through, one left
- SB Elder Drive approaching Forthun Rd – one right/through, one left
- WB Forthun Rd approaching Elder Dr – one right/through/left lane
- EB Forthun Rd approaching Elder Dr - one right/through/left lane

Elder Drive at Garrison Road – Side Street Stop control
- NB Elder Drive approaching Garrison Rd – one right/through, one left
- SB Elder Drive approaching Garrison Rd - one right/through, one left
- WB Garrison Rd approaching Elder Dr – one right/through/left lane
- EB Garrison Rd approaching Elder Dr - one right/through/left lane

Elder Drive at Glory Road – Traffic Signal control
- NB Elder Drive approaching Glory Rd – one right, one through, one left
- SB Elder Drive approaching Glory Rd – one right, one through, one left
- WB Glory Rd approaching Elder Dr – one right/through, one through, one left lane
- EB Glory Rd approaching Elder Dr - one right, two through, one left lane

Glory Road at Walmart East Access – Side Street Stop control
- WB Glory Rd approaching Walmart Access – two through lanes
- EB Glory Rd approaching Walmart Access – one right/through, one through
- NB Walmart Access approaching Glory Rd – one right lane

Glory Road at TH 371 – Traffic Signal control
- WB Glory Rd approaching TH 371 – one right, two through, one left
- EB Glory Rd approaching TH 371 – one right, two through, one left
- NB 371 approaching Glory Rd – one right, two through, one left
- SB 371 approaching Glory Rd – one right, two through, two left

Peak hour turning movement and daily counts were conducted during the week of April 4, 2016. These counts were used as the existing baseline conditions for the area. ***Figure 4*** shows the existing intersections that were analyzed as part of this traffic study, with the existing 2016 AM and PM peak hour and traffic volumes and intersection lane geometrics.

Background (Non Development) Traffic Growth

Traffic growth in the vicinity of a proposed site will occur between existing conditions and any given future year due to other development within the region. This background growth must be accounted for and included in future year traffic forecasts. Reviewing the historical traffic counts in the area, traffic has stayed somewhat constant or dropped in the past few years. However, in order to account for some background growth in traffic the Crow Wing County State Aid traffic growth projection factor of 1.7 over a 20 year period was used to project traffic from the 2016 counts to the 2018 and 2030 analysis years.

Area Development Site Trip Generation

The *Isle Drive/Elder Drive Area Transportation Study* outlined future development in the area west of TH 371 and south of TH 210. Since the study was completed in 2013 several developments have been completed. ***Figure 5*** shows the anticipated development areas. ***Table 1***on the following page shows the updated land use and traffic generation for the development area. The trip generation used to estimate the proposed traffic is based on rates for other similar land uses as documented in the Institute of Transportation Engineers *Trip Generation Manual, 9th* Edition. The table shows the Daily, AM and PM peak hour trip generation for the anticipated area development.

Development Site Trip Generation

The estimated trip generation from the proposed HJ Development project is shown on the next page in ***Table 2.*** The trip generation used to estimate the proposed site traffic is also based on rates for other similar land uses as documented in the Institute of Transportation Engineers *Trip Generation Manual, 9th* Edition. The table shows the weekday AM and PM peak hour trip generation for the proposed development.

Trip Distribution

The direction of approach/departure for the proposed future traffic was based on:

- Previous traffic and transportation studies in the area
- Anticipated origins and destinations for specific land use (i.e. location of commercial uses in relationship to residential).
- Existing travel patterns and future roadway connections.

Based on these parameters the following general traffic distribution was used:

- 20% north
- 20% west
- 35% east
- 25% south

Table 1 – Future Area Trip Generation

Area	Planned Use	Size	Unit	ADT			PM Peak Hour		
				Total	In	Out	Total	In	Out
1	Costco	Completed Development							
	Gas Station	Completed Development							
	Bank	4,000	SF	593	296	296	103	52	52
	Fast Food	6,000	SF	2,977	1,488	1,488	203	106	97
	Retail	17,500	SF	751	376	376	65	32	33
2	Commercial / Retail	Proposed HJ Development							
3	Restaurant	Completed Development							
4	Commercial / Retail	100,000	SF	4,294	2,147	2,147	373	183	190
5	Commercial / Retail	Proposed HJ Development							
	Commercial / Retail	90,000	SF	3,865	1,932	1,932	336	164	171
6	Office / Service	60,000	SF	661	330	330	89	15	74
7	Medical Office	80,000	SF	2,890	1,445	1,445	277	75	202
8	Residential	120	Lots	1,148	574	574	121	76	45
	Office	50,000	SF	550	275	275	74	47	27
	Office	Completed Development							
9	Medical Office / Office	250,000	SF	7,863	3,931	3,931	1,295	350	945
10	Office / Service	325,000	SF	3,578	1,789	1,789	484	82	402
11	Commercial / Retail	250,000	SF	10,735	5,368	5,368	933	457	476
Total New Trips				**39,905**	**19,952**	**19,952**	**4,353**	**1,639**	**2,715**

Source: Institute of Transportation Engineers Trip Generation Manual, 9th Edition

.

Table 2 - Estimated HJ Development Site Trip Generation

Area	Planned Use	Size	Unit	ADT			PM Peak Hour		
				Total	In	Out	Total	In	Out
Site 1 – Elder Drive									
2	Retail	89,000	SF	3,822	1,911	1,911	332	163	169
Total New Trips Site 1				**3,822**	**1,911**	**1,911**	**332**	**163**	169
Site 2 – Glory Road									
5	Restaurant (3 sites)	180	Seats	515	257	258	47	32	15
5	Retail	2,024	SF	87	44	43	8	4	4
Total New Trips Site 2				**602**	**301**	**301**	**55**	**36**	**19**

Source: Institute of Transportation Engineers Trip Generation Manual, 9th Edition

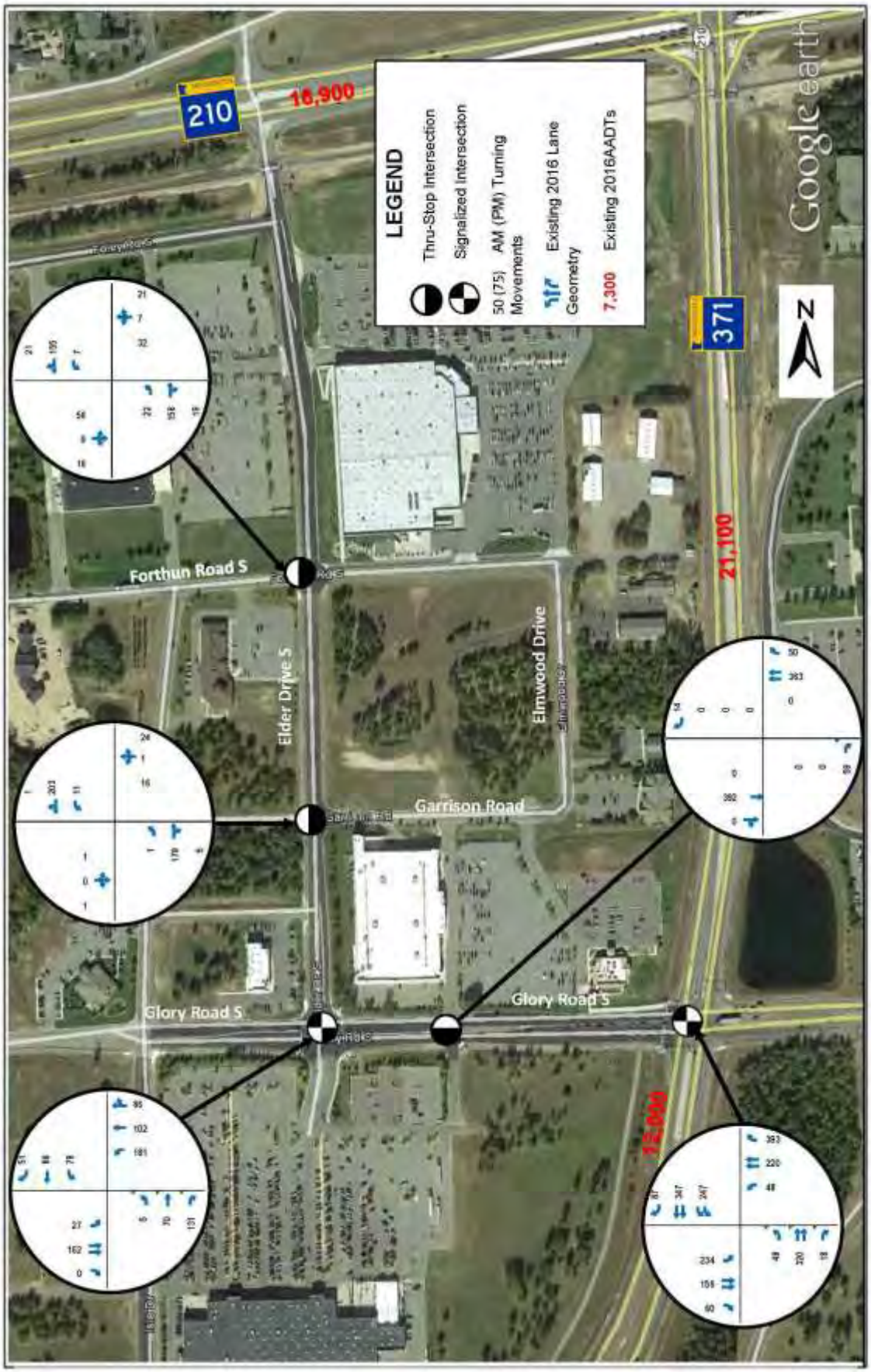

Figure 4
2016 Existing Conditions Traffic Volumes

HJ Development Transportation Study
City of Baxter, Minnesota

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HJ Development
Transportation Study
City of Baxter, Minnesota

Future Land Use Areas

Figure 5

Projected Traffic Volumes

The traffic forecasts were prepared by adding the projected annual background traffic growth and the projected non-development traffic to the existing 2016 traffic counts to determine the "No-Build" traffic conditions. The anticipated site development traffic was then added to the no-build to determine the "Build" traffic conditions. ***Figures 6 - 7*** shows the projected 2018 and 2030 Build PM peak hour traffic volumes.

Traffic Operations

This section describes the methodology used to assess the operations and provides a summary of traffic operations for each scenario.

Analysis Methodology

The intersection and driveways was evaluated during the PM peak hour using Synchro/SimTraffic micro simulation software. The results are derived from established methodologies documented in the Highway Capacity Manual (HCM) 2010. The software was used to evaluate the characteristics of the roadway network including lane geometrics, turning movement volumes, traffic control, and estimated average peak hour vehicle delays and queues.

One of the primary measures of effectiveness used to evaluate intersection traffic operations, as defined in the HCM, is Level of Service (LOS) – a qualitative letter grade, A – F, based on seconds of vehicle delay due to a traffic control device at an intersection. By definition, LOS A conditions represent high quality operations (i.e., motorists experience very little delay or interference) and LOS F conditions represent very poor operations (i.e., extreme delay or severe congestion).

Figure 8 depicts a graphical interpretation of delay times that define level of service. The delay thresholds are lower for un-signalized intersections than signalized intersections due to the public's perception of acceptable delays for different traffic controls as indicated in the HCM. In accordance with the Minnesota Department of Transportation (MnDOT) guidelines, this analysis used the LOS D/E boundary as an indicator of acceptable traffic operations.

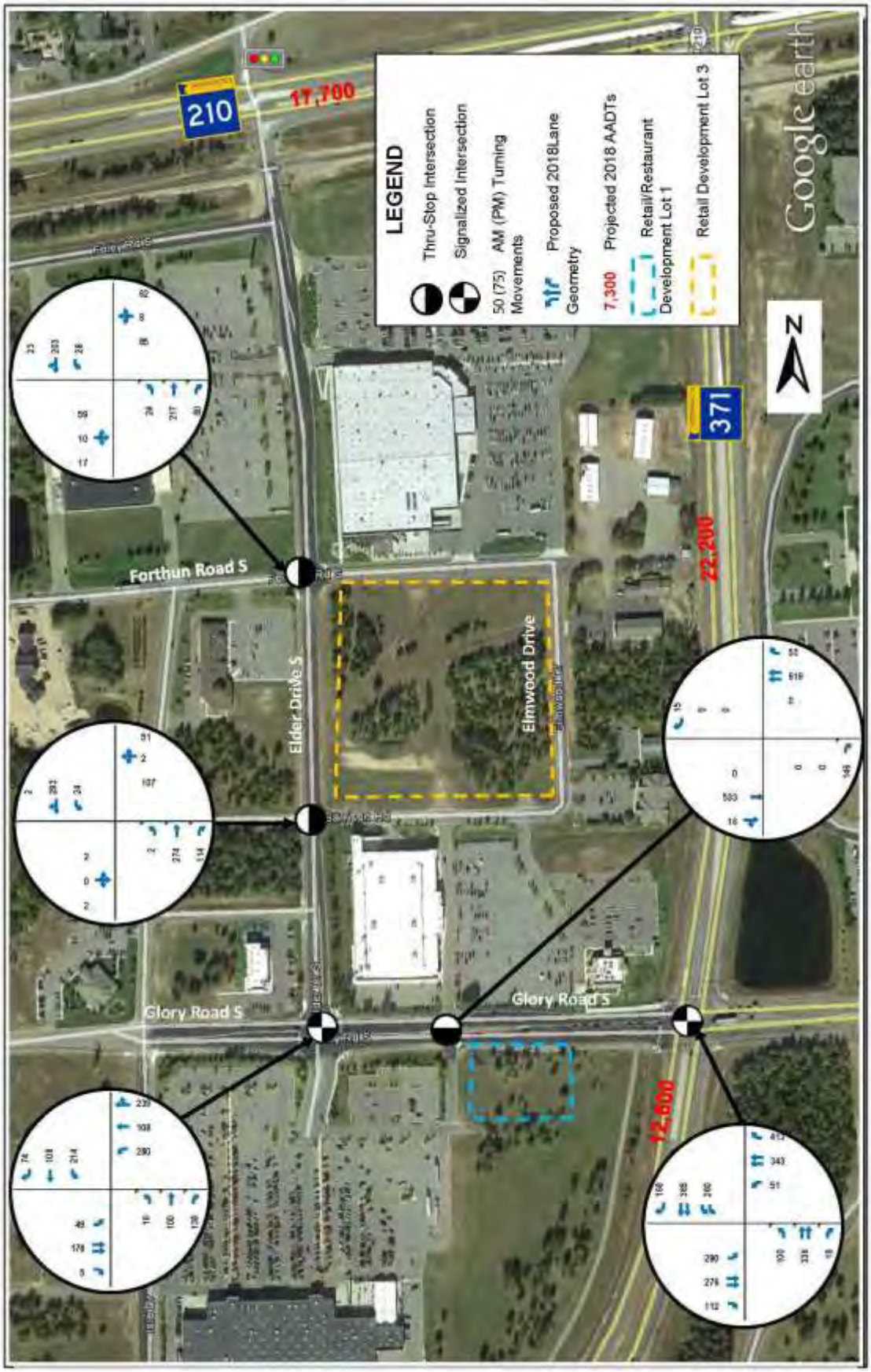

Figure 6
2018 Proposed Development Traffic Volumes

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HJ Development Transportation Study
City of Baxter, Minnesota

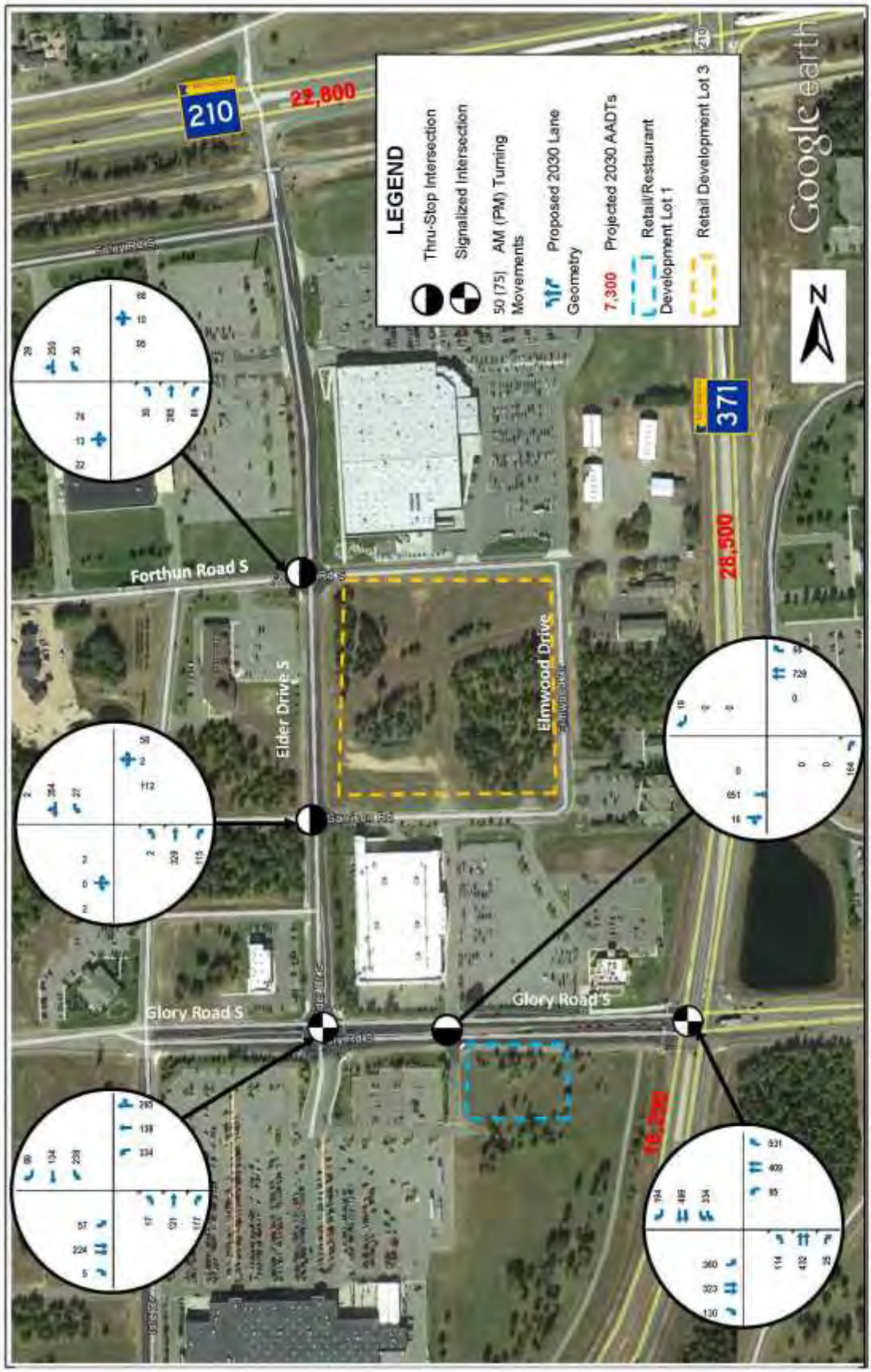

Figure 7
2030 Proposed Development Traffic Volumes

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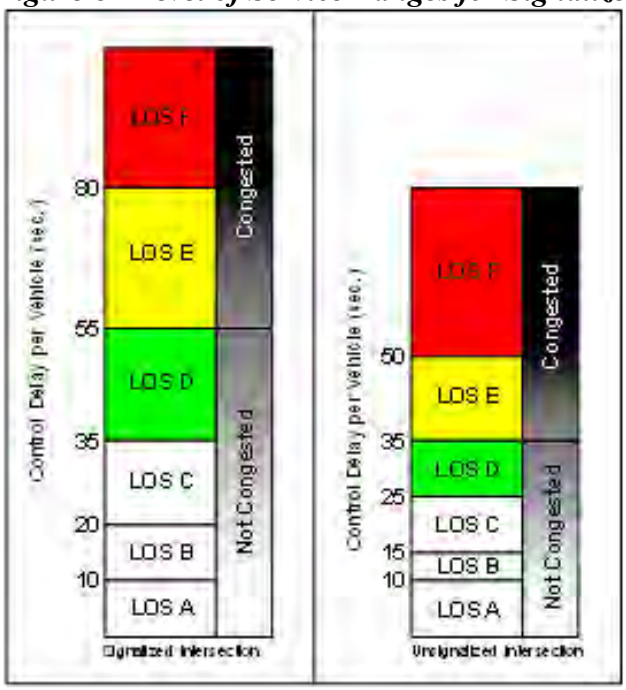
HJ Development Transportation Study
City of Baxter, Minnesota

Figure 8 - Level of Service Ranges for Signalized and Un-signalized Intersections



SOURCE: Level of Service thresholds from the Highway Capacity Manual, 2000.

<u>Existing Level of Service Summary</u>

Table 3, below, summarizes the existing LOS at the primary intersections in the study area based on the current lane geometry, traffic control and 2016 traffic volumes. The table shows that all intersections are operating at an overall LOS C or better during the weekday PM peak hours with all movements operating at LOS C or better except the northbound TH 371 left turn to westbound Glory Road which is operating at a LOS D with 51 sec of delay and the eastbound Glory Road to northbound TH 371 left which is operating at a LOS D with 42 sec of delay.

Table 3 – Existing (2016) Level of Service

Intersection	PM Peak Hour	
	LOS	Delay (sec/veh)
Elder Drive at Forthun Road	A (A)	2
Elder Drive at Garrison Road	A (A)	1
Elder Drive at Glory Road	B (C)	12
Glory Road at Walmart Access	A (A)	2
Glory Road at TH 371	C (D)	26

B = Overall LOS, (C) = Worst movement LOS Source: WSB & Associates, Inc.

In addition to the operations analysis field observations have shown that, specifically for the eastbound Glory Road approach to TH 371 during peak times, vehicle queues are backing up past the end of the existing left turn lane. In some cases vehicles are using the eastbound through lane as a second left turn lane. This is a condition that was allowed during construction of Glory Road in the summer of 2015, with a split signal phasing for the Glory Road approaches.

By restriping the eastbound Glory Road approach and providing split phasing for the Glory Road approaches the overall intersection would remain at a LOS C, however the eastbound Glory Road to northbound TH 371 left turn movement would improve from a LOS D to a LOS C.

Forecast Traffic Operations

A capacity and LOS analysis was completed for the study area intersections for 2018 which is the year after the proposed HJ Development would be fully developed and for the 2030 conditions which represents the City's Comprehensive Plan development time frame. The results of the analysis are discussed below and shown in ***Table 4*** and ***Table 5***.

Table 4 – Forecasted No Build, shows that all intersections would continue to operate at overall LOS C or better in 2018 and 2030 during the weekday PM peak hour without the HJ Development traffic. Overall delays will increase slightly from the existing conditions to the 2030 conditions. However, with the increase in traffic, the two movements at the TH 371 and Glory Road intersection that show some concern are:

- The northbound left turn from TH 371 to westbound Glory Road would continue to operate at a LOS D with 57 sec of delay in 2018 and LOS E with 64 sec of delay by 2030, and;

- The eastbound left turn from Glory Road to northbound TH 371 would continue to operate at LOS D with 44 sec of delay in 2018 and LOS D with 52 sec of delay by 2030.

Restriping the intersection and providing split phasing for the Glory Road approaches to TH 371 and, providing a dual left turn lane for northbound TH 371 to westbound Glory Road, similar to southbound TH 371, would improve both movements to a LOS C in 2018 and 2030.

Table 4 – Forecasted No Build - Level of Service

Intersection	2018 PM Peak Hour		2030 PM Peak Hour	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Elder Drive at Forthun Road	A (A)	2	A (B)	3
Elder Drive at Garrison Road	A (A)	2	A (B)	3
Elder Drive at Glory Road	B (C)	13	B (C)	16
Glory Road at Walmart Access	A (A)	2	A (A)	2
Glory Road at TH 371	C (D)	29	C (E)	32

B = Overall LOS, (C) = Worst movement LOS Source: WSB & Associates, Inc.

Table 5 – Forecasted Build, shows that, assuming the addition of the HJ Development traffic, all intersections would continue to operate at overall LOS C or better in 2018 and 2030 during the weekday PM peak hour except the TH 371 at Glory Road intersection which would operate at an overall LOS D in 2030. Overall LOS and delays do not show any other significant changes from the no- build condition. However, with the increase in traffic, the movements at the TH 371 and Glory Road intersection that continue to show concern are:

- The northbound left turn from TH 371 to westbound Glory Road would operate at a LOS E with 62 sec of delay in 2018 and LOS F with 84 sec of delay by 2030, and;

- The eastbound left turn from Glory Road to northbound TH 371 would operate at LOS E with 58 sec of delay in 2018 and LOS E with 62 sec of delay by 2030.

Similar to the no-build condition, by restriping the intersection and providing a split phasing for the Glory Road approaches to TH 371 and, providing a dual left turn lane for northbound TH 371 to westbound Glory Road, similar to southbound TH 371, would improve both movements to a LOS C in 2018 and 2030.

Table 5 – Forecasted Build Access Alternative 1 - Level of Service

Intersection	2018 PM Peak Hour		2030 PM Peak Hour	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Elder Drive at Forthun Road	A (B)	3	A (B)	3
Elder Drive at Garrison Road	A (B)	3	A (B)	3
Elder Drive at Glory Road	B (C)	16	B (D)	19
Glory Road at Walmart Access	A (A)	2	A (A)	3
Glory Road at TH 371	C (E)	33	D (F)	36

B = Overall LOS, (C) = Worst movement LOS Source: WSB & Associates, Inc.

Site Plan Review

Based on a review of the proposed development site plans as shown in ***Figure 2*** and ***Figure 3*** we offer the following comments:

1. The proposed development site plan for Site 1on Elder Drive shows driveway access from all four surrounding roadways. Each access location was reviewed with the following conclusions:

    a. One access driveway is proposed on Elder Drive. This driveway is shown approximately 160 feet north of Garrison Road. The City's access spacing guidelines indicated 330 feet to 660 feet for access spacing on a Major Collector such as Elder Drive. The distance between Garrison Road and Forthun Road is approximately 650 feet. Based on these requirements the driveway should be moved north to approximately half way between Garrison Road and Forthun Road.

b. One access driveway is proposed on Forthun Road approximately 400 feet east of Elder Drive and 200 feet west of Elmwood Drive. This driveway is also lined up with the existing access to Costco on the north side of Forthun Road. Based on the proposed driveway location there are no concerns with this access.

c. Two access driveways are proposed on Garrison Road. One driveway is located approximately 340 feet east of Elder Drive and one approximately 75 feet west of Elmwood Drive. Both driveways line up with the existing driveways to the JC Penney development south of Garrison Road. The City's access spacing guidelines indicate that on local City streets 100 foot minimum access spacing be provided based on speed, traffic volume, site design, etc. Based on this guideline the east driveway closest to Elmwood Drive is below the 100 foot minimum distance. However, based on the very low traffic volume and its location across from the JC Penney driveway, it is not a concern allowing the driveway at this location.

d. Two access driveways are proposed on Elmwood Drive, one approximately 220 feet north of Garrison Road and one approximately 170 feet south of Forthun Road. The City's access spacing guidelines indicate that on local City streets a 100 foot minimum access spacing is provided based on speed, traffic volume, site design, etc. Both driveways meet this guideline, therefore no concern exist with these access locations.

2. In order to accommodate northbound truck traffic turning into the proposed Site 1 from Elder Drive a right turn lane should be provided at the proposed site driveway.

3. Right turn lanes should be provided on Elder Drive at Forthun Road and Garrison Road. By eliminating the turning traffic from the through lane, the safety of both through and right turn traffic on Elder Drive will be improved.

4. In order to accommodate left turning traffic at Forthun Road, Garrison Road and the proposed site driveway, a continuous center left turn lane should be provided on Elder Drive. Similar to the addition of the right turn lanes, the addition of these lanes will improve safety of both through and left turning traffic.

5. Additional right-of-way should be provided to accommodate the proposed site plans.
   a. On Elder Drive an additional 10 feet of right-of-way should be provided to insure available space for construction of the recommended turn lanes.

   b. In the southeast corner of Elder Drive at Forthun Road and the southwest corner of Forthun Road at Elmwood Drive a 30 foot by 30 foot site corner should be provided to accommodate any future improvements in the intersections.

   c. Existing right-of-way and/or easements should be shown on the Site 2 plan adjacent to Glory Road and the existing Paul Bunyan Regional Trail.

6. Truck turning radius templets should be provided showing that trucks will be able to make all maneuvers in/out and through both Site 1 on Elder Drive and Site 2 on Glory Road.

Pedestrian System Review

The pedestrian trail and sidewalk system for both site plans was review. The we offer the following comments:

1. Development Site 1 on Elder Drive:

    a. A pedestrian path is shown on the north side of Garrison Road from Elmwood Drive to Elder Drive. A stripped pedestrian crossing with ADA compliant pedestrian ramps should be provided across Elder Drive to the existing path on the west side of the road.

    b. A sidewalk is shown adjacent to the building between Garrison Road and Forthun Road. ADA compliant pedestrian ramps should be provided for crossing both roadways.

2. Development Site 2 on Glory Road:

    a. A sidewalk is shown adjacent to the proposed building, a connection to the existing path adjacent to Glory Road and a connection to the parking lot south of the building should be provided.

Conclusions / Recommendations

Based on the analysis documented in this memorandum, WSB has concluded the following:

- The proposed HJ Development project includes the development of two sites, one on Elder Drive that is anticipated to include 89,000 sf of retail space and one on Glory Road that is anticipated to include 2024 sf of retail space and three restaurant sites totaling 180 seats. The developments are anticipated to generate an additional 4,424 daily trips and 387 PM peak hour trips.

- Additional trips will also be generated from future development in the Isle Drive / Elder Drive corridors west of TH 371 between TH 210 and south of CSAH 48, as outlined in the *Isle Drive / Elder Drive Transportation Study*. These future uses are anticipated to generate an additional 4,353 PM peak hour trips by the year 2030 in the area.

- Existing traffic operations analysis shows that all intersection are operating at an overall LOS C or better during the weekday PM peak hour with all movements operating at LOS C or better except the northbound TH 371 left turn to westbound Glory Road which is operating at a LOS D with 51 sec of delay and the eastbound Glory Road to northbound TH 371 left turn which is operating at a LOS D with 42 sec of delay.

- Intersection traffic operations for the future no-build condition show that all intersections would continue to operate at overall LOS C or better in 2018 and 2030 during the weekday PM peak hour without the HJ Development traffic. However, with the increase in traffic; the northbound left turn from TH 371 to westbound Glory Road would continue to operate at a LOS D with 57 sec of delay in 2018 and LOS E with 64 sec of delay by 2030, and; the eastbound left turn from Glory Road to northbound TH 371 would continue to operate at LOS D with 44 sec of delay in 2018 and LOS D with 52 sec of delay by 2030.

- Intersection traffic operations for the future build condition show that, assuming the addition of the HJ Development traffic, all intersections would continue to operate at overall LOS C or better in 2018 and 2030 during the weekday PM peak hour except the TH 371 at Glory Road intersection which would operate at an overall LOS D in 2030. However, with the increase in traffic; the northbound left turn from TH 371 to westbound Glory Road would operate at a LOS E with 62 sec of delay in 2018 and LOS F with 84 sec of delay by 2030, and; the eastbound left turn from Glory Road to northbound TH 371 would operate at LOS E with 58 sec of delay in 2018 and LOS E with 62 sec of delay by 2030.

- The proposed development site plan for Site 1on Elder Drive shows driveway access from all four surrounding roadways. The proposed access locations on Forthun Road, Garrison Road and Elmwood Drive are shown in acceptable locations. The access driveway on Elder Drive should be moved north to provide improved safety and spacing.

- Additional right-of-way and/or easements will be required to accommodate proposed and future anticipated improvements.

- Both development site plans provide pedestrian accommodations on site. However, connections to the local and regional systems are needed.

Based on these conclusions and the traffic analysis and review of the site plans the following is recommended.

1. The proposed site access driveway on Elder Drive from development Site 1 should be moved north to approximately half way between Garrison Road and Forthun Road.

2. Provide a continuous center left turn lane on Elder Drive from Forthun Rd to Garrison Rd including a left turn into the proposed Site access driveway.

3. Provide northbound right turn lanes on Elder Drive at Forthun Rd, Garrison Rd and the proposed Site access driveway.

4. Provide an additional 10 feet of right-of-way on Elder Drive adjacent to development Site 1, and; provide a 30 foot by 30 foot site corner in the southeast corner of Elder Drive at Forthun Road and the southwest corner of Forthun Road at Elmwood Drive.

5. Include existing right-of-way and/or easements on development Site 2 plan adjacent to Glory Road and the existing Paul Bunyan Regional Trail.

6. Work with MnDOT to provide improvements at the intersection of TH 371 at Glory Road:

    a. Short term - Update the traffic signal, including restriping the eastbound Glory Road approach and providing split phasing for the Glory Road approaches. By 2018 or with additional development in the Central Lakes Crossing development area.

    b. Long term – Widen the eastbound Glory Road approach to provide dual left turn lanes. By 2030 or with future development analysis indicating need for the improvements.

    c. Long term - Plan for a future dual left turn lane northbound on TH 371 to eastbound Glory Road similar to southbound TH 371. By 2030 or with future development analysis indicating need for the improvements.

7. Provided pedestrian connection improvements:

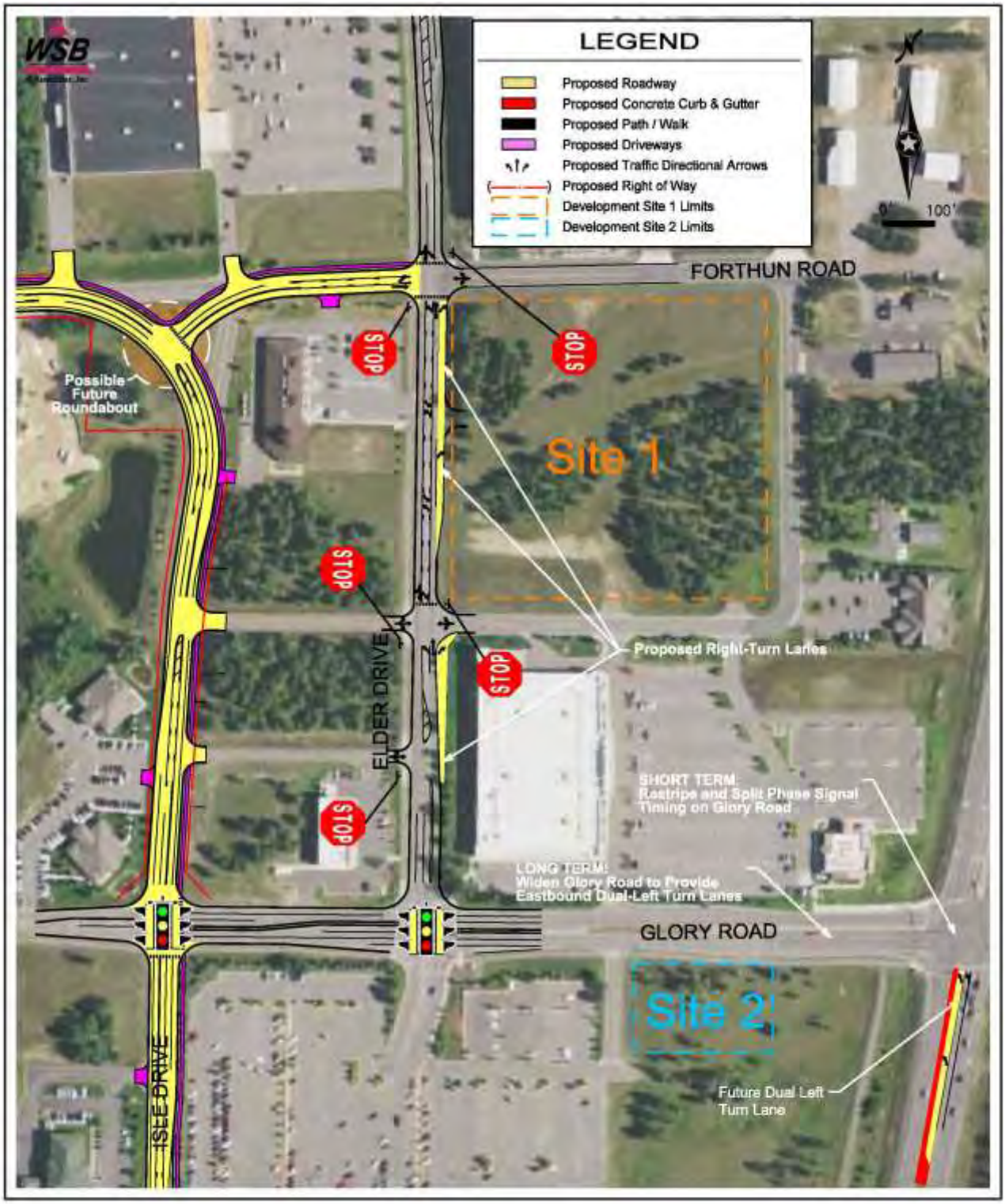
    a. A stripped pedestrian crossing with ADA compliant pedestrian ramps across Elder Drive to the existing path on the west side of the road.

    b. ADA compliant pedestrian ramps should be provided for crossing both Forthun Road and Garrison Road at the Site access driveways.

    c. A connection to the existing path adjacent to Glory Road from the sidewalk adjacent to the proposed buildings.

    d. A connection from the sidewalk adjacent to the proposed buildings to the parking lot south of the buildings.

Figure 9 shows the recommended area improvements to accommodate the future full build traffic conditions.



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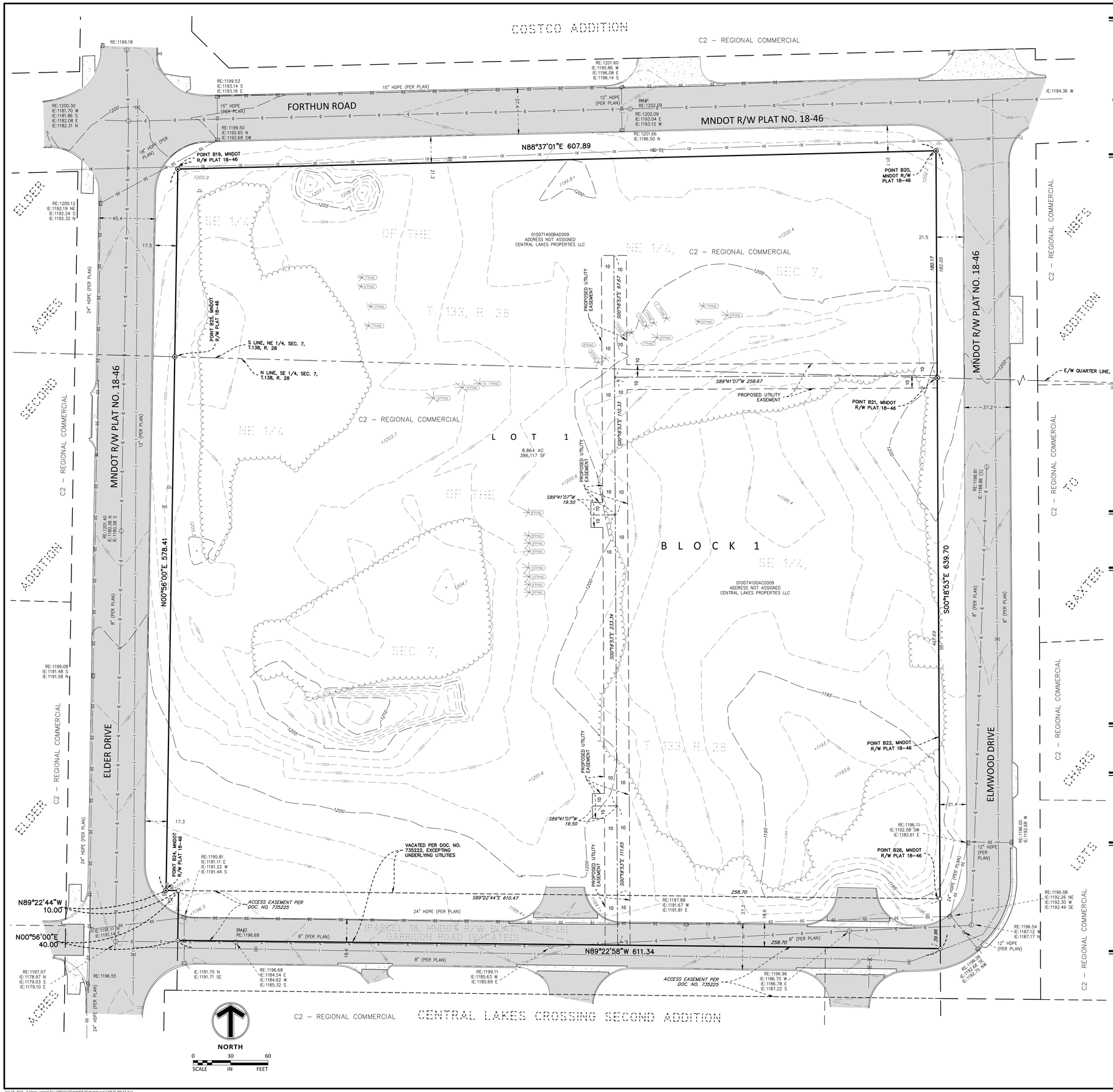
HJ Development Transportation Study
City of Baxter, Minnesota

Figure 9
Proposed Roadway Improvements



LEGEND

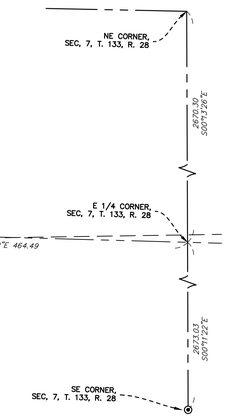
- SET MAG NAIL
- SET MONUMENT MARKED LS 21729
- FOUND RIGHT-OF-WAY MONUMENT
- FOUND CAST IRON MONUMENT
- GATE VALVE / HYDRANT
- SANITARY MANHOLE
- STORM MANHOLE
- STORM CATCH BASIN
- FLARED END SECTION
- TRANSFORMER
- LIGHT
- SIGN
- CABLE TV BOX
- BOUNDARY LINE
- RIGHT-OF-WAY LINE
- UNDERLYING / ADJACENT LOT
- TIE LINE
- SECTION LINE
- WATERMAIN
- SANITARY SEWER
- STORM SEWER
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEPHONE
- EASEMENT LINE
- SETBACK LINE
- TREE LINE
- CONCRETE CURB
- BITUMINOUS SURFACE
- CONCRETE SURFACE
- DECIDUOUS TREE
- CONIFEROUS TREE
- SPOT ELEVATION
- CONTOUR

BENCHMARKS

1. The vertical datum is based on NAVD88. The originating bench marks are PERCH MNDOT and DURGIN MNDOT, both referenced from the MnDOT Geodetic Database

BENCHMARK #1
Sanitary sewer manhole rim elevation at north line of surveyed property. Elev.=1202.09

BENCHMARK #2
Sanitary sewer manhole rim elevation at southwest corner of surveyed property. Elev.=1196.68



SURVEY NOTES

1. The bearing system for this survey is based on the Crow Wing County coordinate system, City of Baxter Coordinate Database designated NAD83 (1988 Adjust). The east west quarter line of Section 7, Township 133, Range 28 is assumed to bear South 88 degrees 25 minutes 09 seconds East.
2. Field work was completed on 04/05/2016.

DESCRIPTION

That part of the Southeast Quarter of the Northeast Quarter (SE 1/4 NE 1/4) and that part of the Northeast Quarter of the Southeast Quarter (NE 1/4 SE 1/4), all in Section Seven (7), Township One Hundred Thirty-Three (133), Range Twenty-Eight (28), Crow Wing County, Minnesota, described as follows:

Commencing at Point B-19 as shown on MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46, dated February 26, 1988, filed March 16, 1988, in the Crow Wing County Recorder's office as Document No. 524940, thence Easterly to Point B-20 on said plat, thence Southerly to Point B-26 on said plat, thence Westerly to Point B-24 on said plat, thence Northerly to the point of beginning, and there ending. Containing 8.31 acres, more or less.

TOGETHER WITH: That part of Parcel 18, MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46, Crow Wing County, Minnesota, according to the recorded plat thereof, described as follows:

Beginning at Point B26, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46; thence South 00 degrees 18 minutes 53 seconds East, bearing based on the City of Baxter Coordinate Database NAD 83/88, 39.96 feet along the southerly extension of a line drawn from Point B22, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46 through said Point B26; thence North 89 degrees 22 minutes 58 seconds West 611.33 feet to the intersection with a line distant 10.00 feet east of as measured at right angles to and parallel with a line drawn from Point B13, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46; thence North 00 degrees 56 minutes 00 seconds East 40.00 feet along said parallel line to its intersection with a line drawn from said Point B24 to said Point B26; thence South 89 degrees 22 minutes 44 seconds East 610.46 feet along said line to the point of beginning.

LOT SUMMARY

LOT 1, BLOCK 1:	386,117 S.F.
TOTAL SITE AREA:	386,117 S.F.

SITE SETBACKS

ZONE: C2 - REGIONAL COMMERCIAL PER CITY OF BAXTER ZONING MAP DATED 05/30/2014.

MINIMUM BUILDING SETBACKS

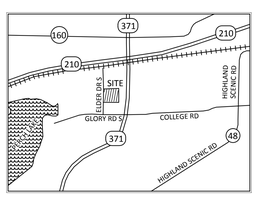
FRONT:	35 FT.
SIDE:	10 FT. INTERIOR/ 35 FT. CORNER
REAR:	30 FT.

DEVELOPMENT NOTES

1. ALL AREAS ARE ROUNDED TO THE NEAREST SQUARE FOOT.
2. STREET NAMES ARE SUBJECT TO APPROVAL BY THE CITY.
3. DRAINAGE AND UTILITY EASEMENTS SHALL BE PROVIDED AS REQUIRED. DRAINAGE AND UTILITY EASEMENTS WILL BE PROVIDED OVER ALL PUBLIC UTILITIES AND UP TO 1 FOOT ABOVE THE HIGH WATER LEVEL OF ALL PONDS.
4. OWNER/SUBDIVIDER:
   H.J. DEVELOPMENT L.L.P.
   15600 WAYZATA BLVD E, WAYZATA , MN 55391
   HJDEVELOPMENT.COM
   (952) 476 9400

   SURVEYOR/DESIGNER:
   SAMBATEK, INC.

VICINITY MAP



Sambatek
www.sambatek.com
12800 Whitewater Drive, Suite 300
Minnetonka, MN 55343
763.476.6010 telephone
763.476.8532 facsimile
Engineering | Surveying | Planning | Environmental

Client
HJ DEVELOPMENT

Project
ELMWOOD ADDITION

Location
BAXTER, MN

Certification

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed LAND SURVEYOR under the laws of the State of Minnesota.

Mark R. Salo
Registration No. 43933 Date: 04/18/2016

If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek's, Minnetonka, MN office.

Summary

Designed:	Drawn: DL
Approved: MRS	Book / Page: 721/65
Phase:	Initial Issued: MM/DD/YYYY

Revision History

No.	Date	By	Submittal / Revision

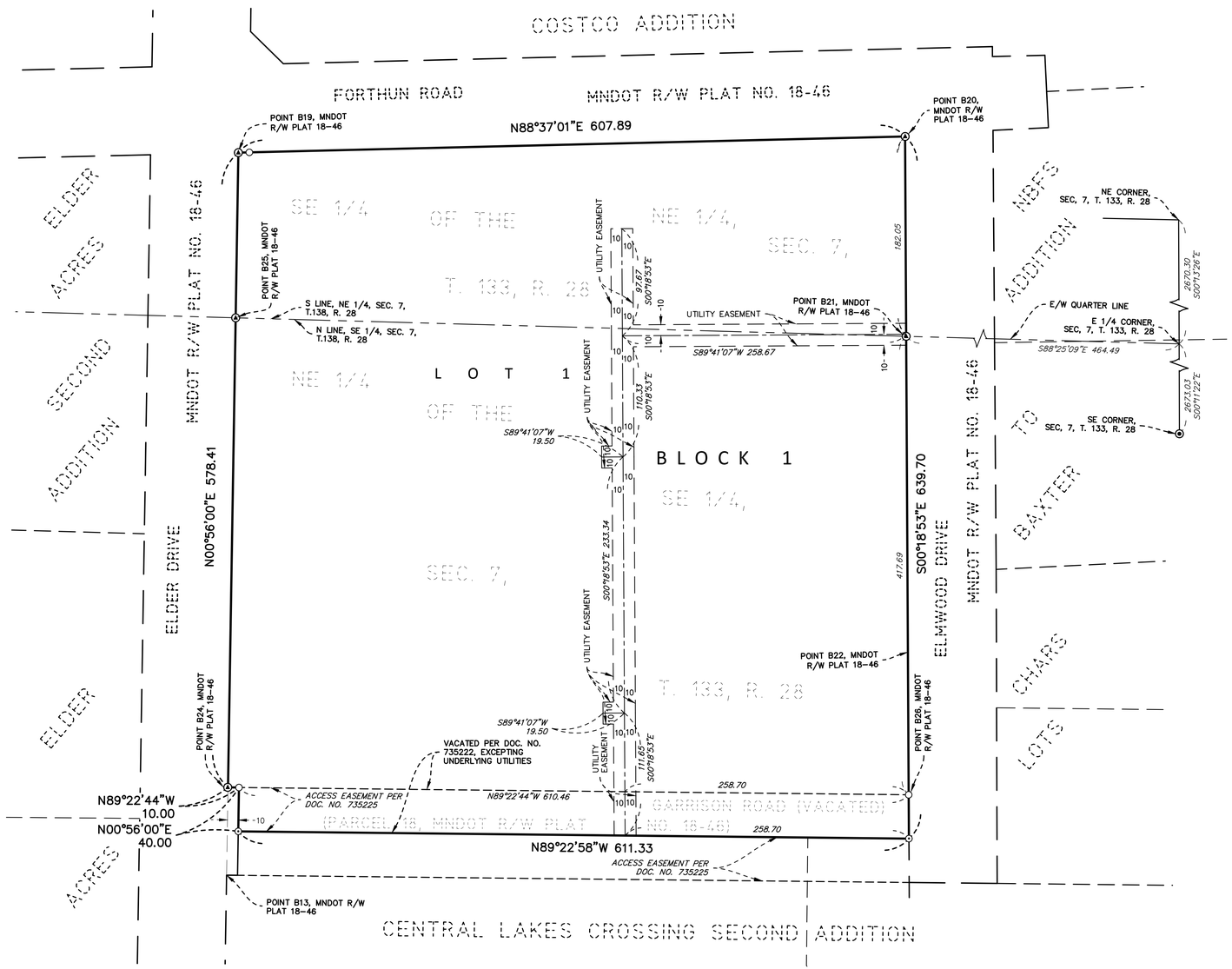
Sheet Title
PRELIMINARY PLAT

Sheet No. Revision
1/1

Project No. HJD20525

Apr 18, 2016 - 3:22pm - User:573 L:\PROJECTS\HJD20525\dwg\Survey\20525-PPLAT.dwg

ELMWOOD ADDITION



KNOW ALL PERSONS BY THESE PRESENTS: That H.J. Development L.L.P., a Minnesota limited liability partnership, owner of the following described property:

That part of the Southeast Quarter of the Northeast Quarter (SE 1/4 NE 1/4) and that part of the Northeast Quarter of the Southeast Quarter (NE 1/4 SE 1/4), all in Section Seven (7), Township One Hundred Thirty-Three (133), Range Twenty-Eight (28), Crow Wing County, Minnesota, described as follows:

Commencing at Point B-19 as shown on MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46, dated February 26, 1988, filed March 16, 1988, in the Crow Wing County Recorder's office as Document No. 524940, thence Easterly to Point B-20 on said plat, thence Southerly to Point B-26 on said plat, thence Westerly to Point B-24 on said plat, thence Northerly to the point of beginning, and there ending. Containing 8.31 acres, more or less.

TOGETHER WITH: That part of Parcel 18, MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46, Crow Wing County, Minnesota, according to the recorded plat thereof, described as follows:

Beginning at Point B26, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46; thence South 00 degrees 18 minutes 53 seconds East, bearing based on the City of Baxter Coordinate Database NAD 83/88, 39.96 feet along the southerly extension of a line drawn from Point B22, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46 through said Point B26; thence North 89 degrees 22 minutes 58 seconds West 611.33 feet to the intersection with a line distant 10.00 feet east of as measured at right angles to and parallel with a line drawn from Point B13, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46; thence North 00 degrees 56 minutes 00 seconds East 40.00 feet along said parallel line to its intersection with a line drawn from said Point B24 to said Point B26; thence South 89 degrees 22 minutes 44 seconds East 610.46 feet along said line to the point of beginning.

Has caused the same to be surveyed and platted as ELMWOOD ADDITION and does hereby dedicate to the public for public use the utility easements as created by this plat.

In witness whereof said H.J. Development L.L.P., a Minnesota limited liability partnership, has caused these presents to be signed by its proper officer this _____ day of _____, 20___.

SIGNED: H.J. Development L.L.P., a Minnesota limited liability partnership

By: _____, as _____

STATE OF MINNESOTA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____, as _____ of H.J. Development L.L.P., a Minnesota limited liability partnership, on behalf of the partnership.

_____
Notary Public, _____ County, Minnesota
My Commission Expires _____

I Mark R. Salo do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.1, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____, 20_____

_____
Mark R. Salo, Licensed Land Surveyor, Minnesota License No. 43933

STATE OF MINNESOTA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20_____, by Mark R. Salo.

_____
Notary Public, _____ County, Minnesota
My Commission Expires _____

CITY OF BAXTER, CITY COUNCIL, BAXTER, MINNESOTA

This plat of ELMWOOD ADDITION was approved and accepted by the City Council of the City of Baxter, Minnesota at a regular meeting thereof held this _____ day of _____, 20___, and said plat is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd. 2.

City Council, City of Baxter, Minnesota

By: _____ Mayor By: _____ Clerk

COUNTY AUDITOR/TREASURER, CROW WING COUNTY, MINNESOTA

Pursuant to Minnesota Statutes, Section 505.021, Subd. 9, taxes payable in the year_____ on the land hereinbefore described have been paid. Also, pursuant to Minnesota Statutes, Section 272.12, there are no delinquent taxes and transfer entered this _____ day of _____, 20_____.

_____ By: _____, Deputy
Auditor/Treasurer, Crow Wing County, Minnesota

NORTH

0 60 120
SCALE IN FEET

○ DENOTES 1/2 INCH BY 14 INCH IRON MONUMENT SET AND MARKED BY LICENSE NO. 43933.

⊙ DENOTES MAG NAIL SET.

DENOTES MNDOT RIGHT OF WAY MONUMENT FOUND.

DENOTES SECTION CORNER MONUMENT.

THE EAST WEST QUARTER LINE OF SECTION 7 IS ASSUMED TO HAVE A BEARING OF SOUTH 88 DEGREES 25 MINUTES 09 SECONDS EAST.

SAMBATEK, INC.
ENGINEERING, PLANNING AND LAND SURVEYING

Preliminary Site Development Plans

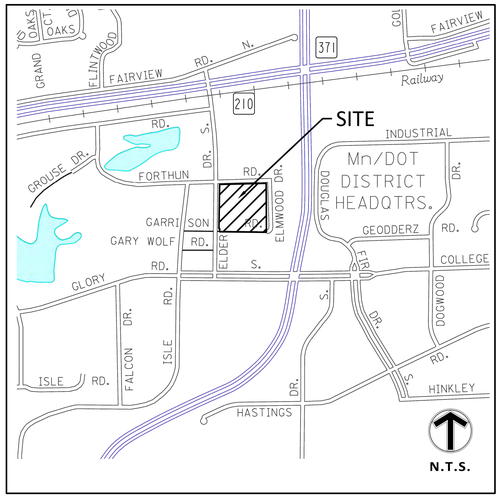
for

Central Lakes Crossing Junior Box Retail

Baxter, Minnesota

Presented by:

HJ Development, LLP



VICINITY MAP
NO SCALE

CONSULTANT CONTACT LIST:

DEVELOPER/OWNER
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WAYZATA, MN 55391
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FAX 952-476-9401
CONTACT: CHRIS MOE

CIVIL ENGINEER
SAMBATEK
12800 WHITEWATER DRIVE, SUITE 300
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FAX 763-476-8532
CONTACT: MIKE BULTMAN

ARCHITECT
POPE ARCHITECTS
1295 BANDANA BLVD N, SUITE 200
ST. PAUL, MN 55108-2735
TEL 651-642-9200
FAX 651-642-1101
CONTACT: DAN POLLASTRINI

SURVEYOR
SAMBATEK
12800 WHITEWATER DRIVE, SUITE 300
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FAX 763-476-8532
CONTACT: RICK BLOM

LANDSCAPING
SAMBATEK
12800 WHITEWATER DRIVE, SUITE 300
MINNETONKA, MN 55343
TEL 763-476-6010
FAX 763-476-8532
CONTACT: JOSH MCKINNEY, PLA

SHEET INDEX

SHEET	DESCRIPTION
C1.01	TITLE SHEET
C2.01	EXISTING CONDITIONS
C3.01	SITE PLAN
C4.01	GRADING PLAN
C5.01	EROSION & SEDIMENT CONTROL PLAN
C6.01	UTILITY PLAN
C7.01	CIVIL DETAILS
L1.01	LANDSCAPE PLAN
L1.02	LANDSCAPE DETAILS

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Client

HJ DEVELOPMENT, LLP

15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391

Project

CENTRAL LAKES CROSSING JUNIOR BOX RETAIL

Location

BAXTER, MN

SE QUADRANT OF ELDER DRIVE S AND FORTHUN ROAD S

Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

PRELIMINARY

Michael G. Bultman
Registration No. 44830 Date: 04/19/2016

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary

Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issued: 04/19/2016

Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

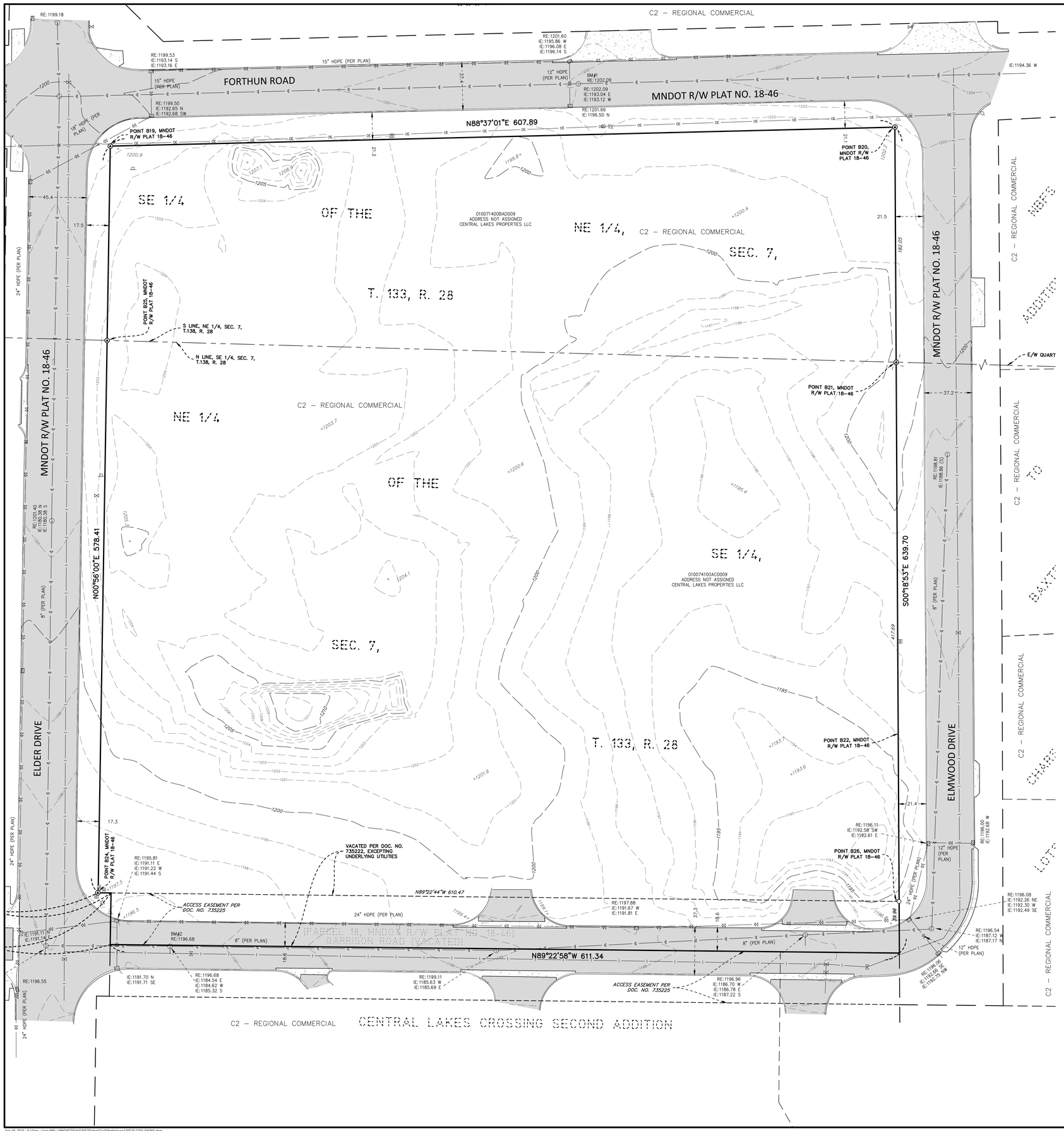
Sheet Title

TITLE SHEET

Sheet No. Revision

C1.01

Project No. HJD20525



LEGEND

FOUND MONUMENT	WATERMAIN	EASEMENT LINE
SET MONUMENT MARKED LS 47481	SANITARY SEWER	SETBACK LINE
ELECTRIC METER	STORM SEWER	RESTRICTED ACCESS
LIGHT	FLARED END SECTION	CONCRETE CURB
AIR CONDITIONER	ELECTRIC TRANSFORMER	BUILDING LINE
GUY ANCHOR	TELEPHONE PEDESTAL	BUILDING CANOPY
HANDICAP STALL	GAS METER	BITUMINOUS SURFACE
UTILITY POLE	OVERHEAD WIRE	CONCRETE SURFACE
POST	CHAIN LINK FENCE	LANDSCAPE SURFACE
SIGN	IRON FENCE	DECIDUOUS TREE
	WIRE FENCE	CONIFEROUS TREE
	WOOD FENCE	

BENCHMARKS

1. The vertical datum is based on NAVD88. The originating bench marks are PERCH MNDOT and DURGIN MNDOT, both referenced from the MnDOT Geodetic Database

BENCHMARK #1
Sanitary sewer manhole rim elevation at north line of surveyed property. Elev.=1202.09

BENCHMARK #2
Sanitary sewer manhole rim elevation at southwest corner of surveyed property. Elev.=1196.68

SURVEY NOTES

1. The bearing system for this survey is based on the Crow Wing County coordinate system, City of Baxter Coordinate Database designated NAD83 (1988 Adjust). The east west quarter line of Section 7, Township 133, Range 28 is assumed to bear South 88 degrees 25 minutes 09 seconds East.

2. Field work was completed on 04/05/2016.

DESCRIPTION

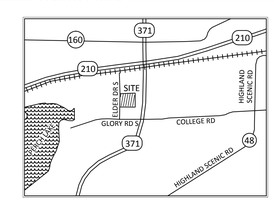
That part of the Southeast Quarter of the Northeast Quarter (SE 1/4 NE 1/4) and that part of the Northeast Quarter of the Southeast Quarter (NE 1/4 SE 1/4), all in Section Seven (7), Township One Hundred Thirty-Three (133), Range Twenty-Eight (28), Crow Wing County, Minnesota, described as follows:

Commencing at Point B-19 as shown on MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46, dated February 26, 1988, filed March 16, 1988, in the Crow Wing County Recorder's office as Document No. 524940, thence Easterly to Point B-20 on said plat, thence Southerly to Point B-26 on said plat, thence Westerly to Point B-24 on said plat, thence Northerly to the point of beginning, and there ending. Containing 8.31 acres, more or less.

TOGETHER WITH: That part of Parcel 18, MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46, Crow Wing County, Minnesota, according to the recorded plat thereof, described as follows:

Beginning at Point B26, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46; thence South 00 degrees 18 minutes 53 seconds East, bearing based on the City of Baxter Coordinate Database NAD 83/88, 39.96 feet along the southerly extension of a line drawn from Point B22, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46 through said Point B26; thence North 89 degrees 22 minutes 58 seconds West 611.33 feet to the intersection with a line distant 10.00 feet east of as measured at right angles to and parallel with a line drawn from Point B13, said MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 18-46; thence North 00 degrees 56 minutes 00 seconds East 40.00 feet along said parallel line to its intersection with a line drawn from said Point B24 to said Point B26; thence South 89 degrees 22 minutes 44 seconds East 610.46 feet along said line to the point of beginning.

VICINITY MAP



NORTH

0 30 60
SCALE IN FEET

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Project

CENTRAL LAKES CROSSING JUNIOR BOX RETAIL

Location

BAXTER, MN

SE QUADRANT OF ELDER DRIVE S AND FORTHUN ROAD S

Certification

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed LAND SURVEYOR under the laws of the State of Minnesota.

Mark R. Salo
Registration No. 43933 Date: 04/18/2016

If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek's, Minnetonka, MN office.

Summary

Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issued: 04/19/2016

Revision History

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	04/19/16	JMW	City Submittal

Sheet Title

EXISTING CONDITIONS

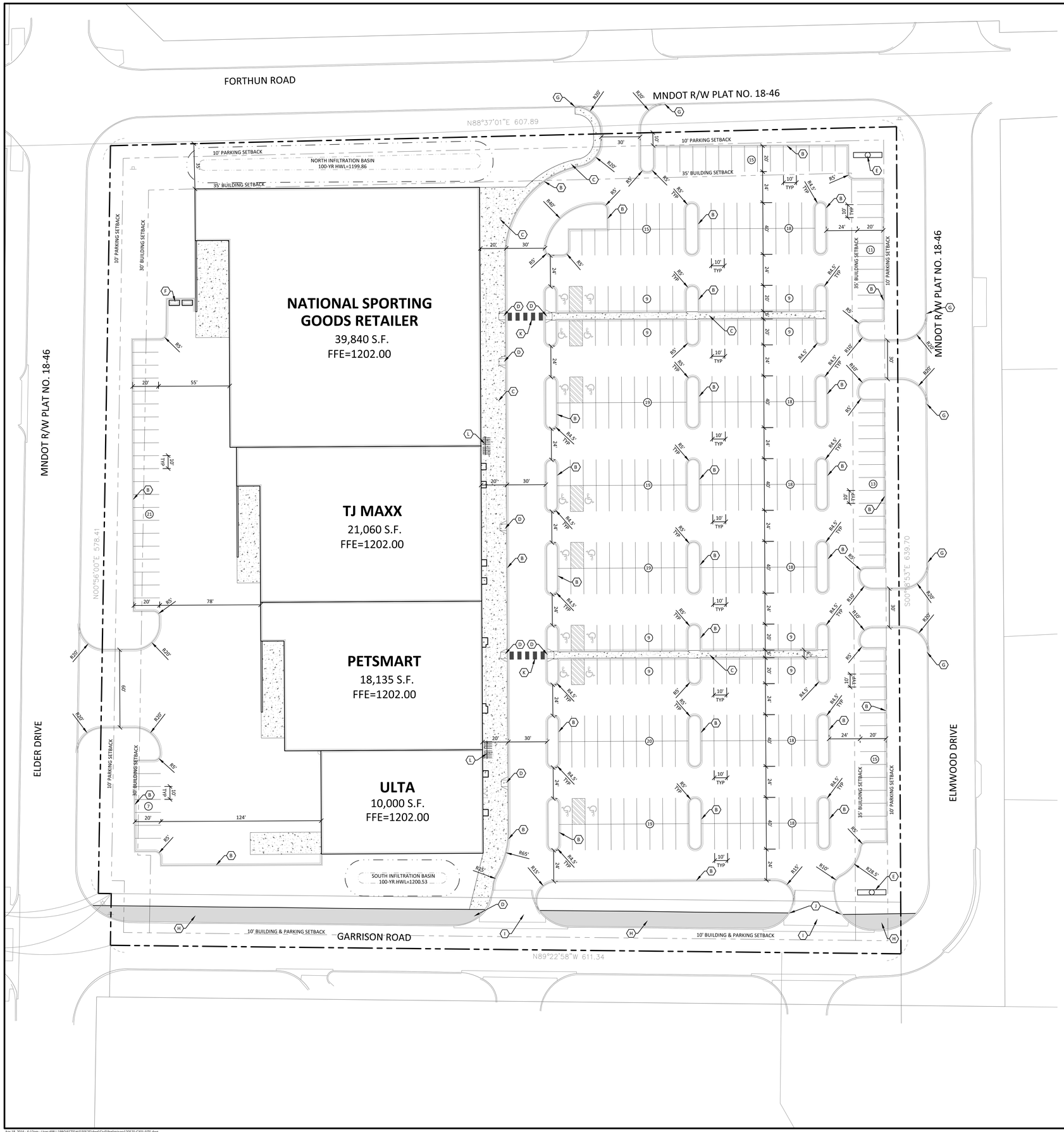
Sheet No. Revision

C2.01

Project No.

HJD20525

Apr 18, 2016 - 6:12pm - User:498 L:\PROJECTS\HJD20525\dwg\Civil\Preliminary\20525-C201-EXCND.dwg



LEGEND

	PROPOSED	EXISTING
PROPERTY LIMIT		
CURB & GUTTER		
EASEMENT		
BUILDING		
TREELINE		
SIGN		
PIPE BOLLARD		
NUMBER OF PARKING STALLS PER ROW	XX	
KEY NOTE	XX	

STANDARD DUTY ASPHALT PAVING
HEAVY DUTY ASPHALT PAVING
CONCRETE PAVING

DEVELOPMENT SUMMARY

AREA		
GROSS SITE AREA	386,117 SF	8.86 AC
PERVIOUS AREA	63,221 SF	1.45 AC
PERCENT PERVIOUS		16.4%
PARKING SUMMARY		
PARKING REQUIRED (4 STALLS PER 1,000 SF)		356 STALLS
PARKING PROVIDED		373 STALLS

DEVELOPMENT NOTES

1. ALL DIMENSIONS ARE ROUNDED TO THE NEAREST TENTH FOOT.
2. ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.
3. ALL AREAS ARE ROUNDED TO THE NEAREST SQUARE FOOT.
4. ALL PARKING STALLS TO BE 10' IN WIDTH AND 20' IN LENGTH UNLESS OTHERWISE INDICATED.
5. SEE ARCHITECTURAL PLANS FOR PYLON SIGN DETAILS
6. REFER TO FINAL PLAT FOR LOT BOUNDARIES, LOT NUMBERS, LOT AREAS, AND LOT DIMENSIONS.
7. ALL GRADIENTS ON SIDEWALKS ALONG THE ADA ROUTE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% (1:20), EXCEPT AT CURB RAMPS (1:12), AND A MAXIMUM CROSS SLOPE OF 2.08% (1:48). THE MAXIMUM SLOPE IN ANY DIRECTION ON AN ADA PARKING STALL OR ACCESS ISLE SHALL BE 2.08% (1:48). THE CONTRACTOR SHALL REVIEW AND VERIFY THE GRADIENT IN THE FIELD ALONG THE ADA ROUTES PRIOR TO PLACING CONCRETE OR BITUMINOUS PAVEMENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE GRADIENT IN THE FIELD VERSUS THE DESIGN GRADIENT AND COORDINATE WITH GRADING CONTRACTOR.
8. "NO PARKING" SIGNS SHALL BE PLACED ALONG ALL DRIVEWAYS AS REQUIRED BY CITY.

KEY NOTES

A. BUILDING, STOOPS, STAIRS (SEE ARCHITECTURAL PLANS)
B. B-612 CONCRETE CURB AND GUTTER
C. CONCRETE SIDEWALK
D. ACCESSIBLE RAMP
E. PYLON SIGN (SEE ARCHITECTURAL PLANS)
F. TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS)
G. CONNECT TO EXISTING CURB
H. 12' WIDE BITUMINOUS TRAIL
I. EXISTING CURB CUT
J. 2' NOSE DOWN CURB
K. CROSSWALK
L. BIKE RACK

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WAYZATA, MN 55391

Project
CENTRAL LAKES CROSSING JUNIOR BOX RETAIL

Location
BAXTER, MN

SE QUADRANT OF ELDER DRIVE S AND FORTHUN ROAD S

Certification
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PRELIMINARY

Michael G. Bu[illegible]
Registration No. [illegible]50 Date: 04/19/2016
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issued: 04/19/2016

Revision History

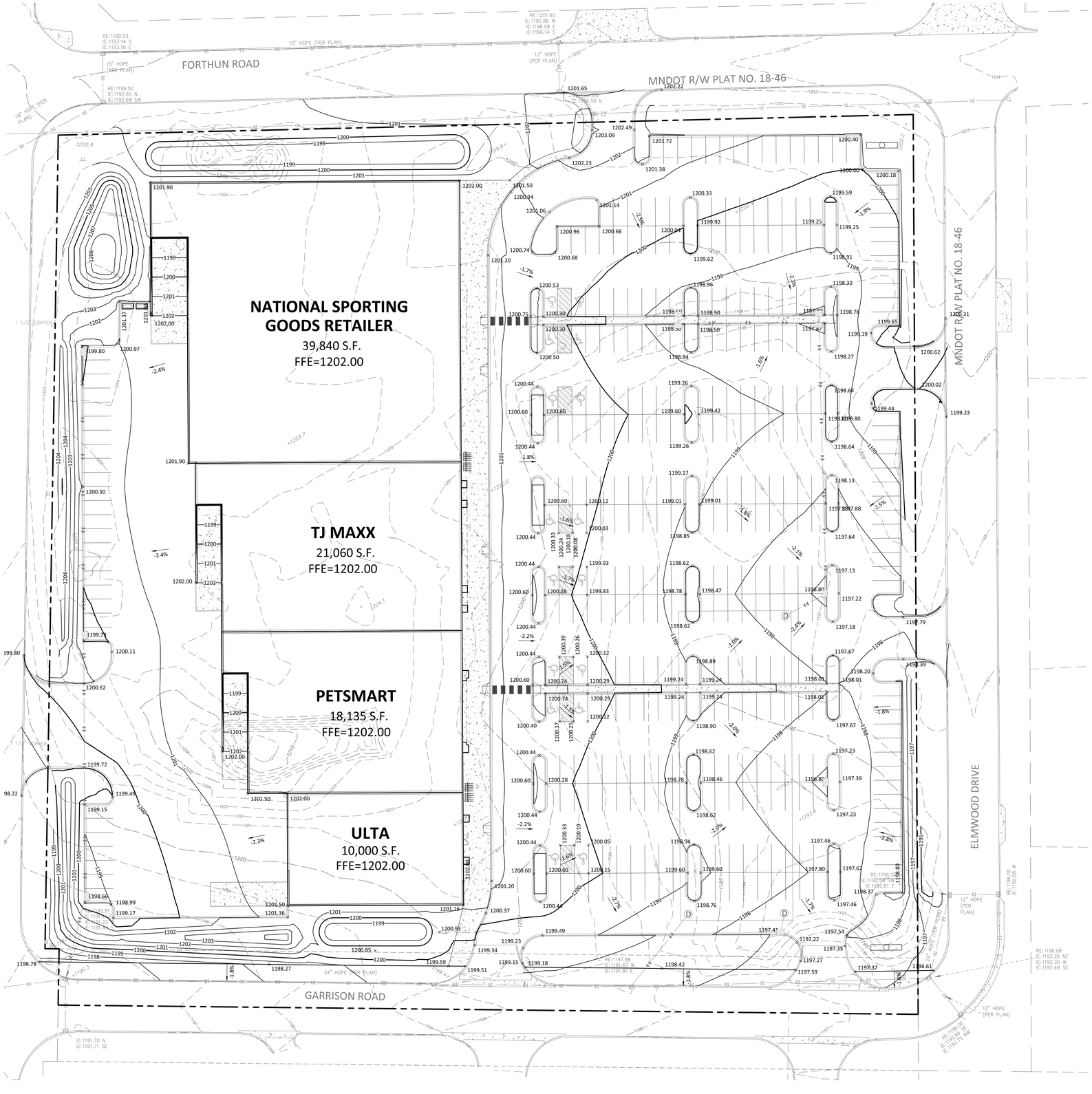
No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title
SITE PLAN

Sheet No. Revision
C3.01

Project No. HJD20525

Apr 18, 2016 - 6:12pm - User:498 L:\PROJECTS\HJD20525\dwg\Civil\Preliminary\20525-C301-SITE.dwg



LEGEND

	PROPOSED	EXISTING
PROPERTY LIMIT		
CURB & GUTTER		
STORM SEWER		
DRAINTILE		
BUILDING		
RETAINING WALL		
WETLAND LIMITS		
TREELINE		
SPOT ELEVATION	902.5	902.5
CONTOUR	902	902
RIP RAP		
OVERFLOW ELEV.	EOF	
SOIL BORINGS	902.5	902.5

GRADING NOTES

1. PROPOSED CONTOURS ARE TO FINISHED SURFACE ELEVATION. SPOT ELEVATIONS ALONG PROPOSED CURB DENOTE GUTTER GRADE.
2. ALL GRADIENT ON SIDEWALKS ALONG THE ADA ROUTE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% (1:20), EXCEPT AT CURB RAMPS (1:12), AND A MAXIMUM CROSS SLOPE OF 2.08% (1:48). MAXIMUM SLOPE IN ANY DIRECTION ON AN ADA PARKING STALL OR ACCESS AISLE SHALL BE IN 2.08% (1:48). CONTRACTOR SHALL REVIEW AND VERIFY THE GRADIENT IN THE FIELD ALONG THE ADA ROUTES PRIOR TO PLACING CONCRETE OR BITUMINOUS. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE GRADIENT IN THE FIELD VERSUS THE DESIGN GRADIENT. COORDINATE ALL WORK WITH PAVING CONTRACTOR.

NORTH

0 30 60
SCALE IN FEET

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WAYZATA, MN 55391

Project

CENTRAL LAKES CROSSING JUNIOR BOX RETAIL

Location

BAXTER, MN

SE QUADRANT OF ELDER DRIVE S AND FORTHUN ROAD S

Certification

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PRELIMINARY

Michael G. Bu[illegible]
Registration No. [illegible]60 Date: 04/19/2016

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary

Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issued: 04/19/2016

Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title

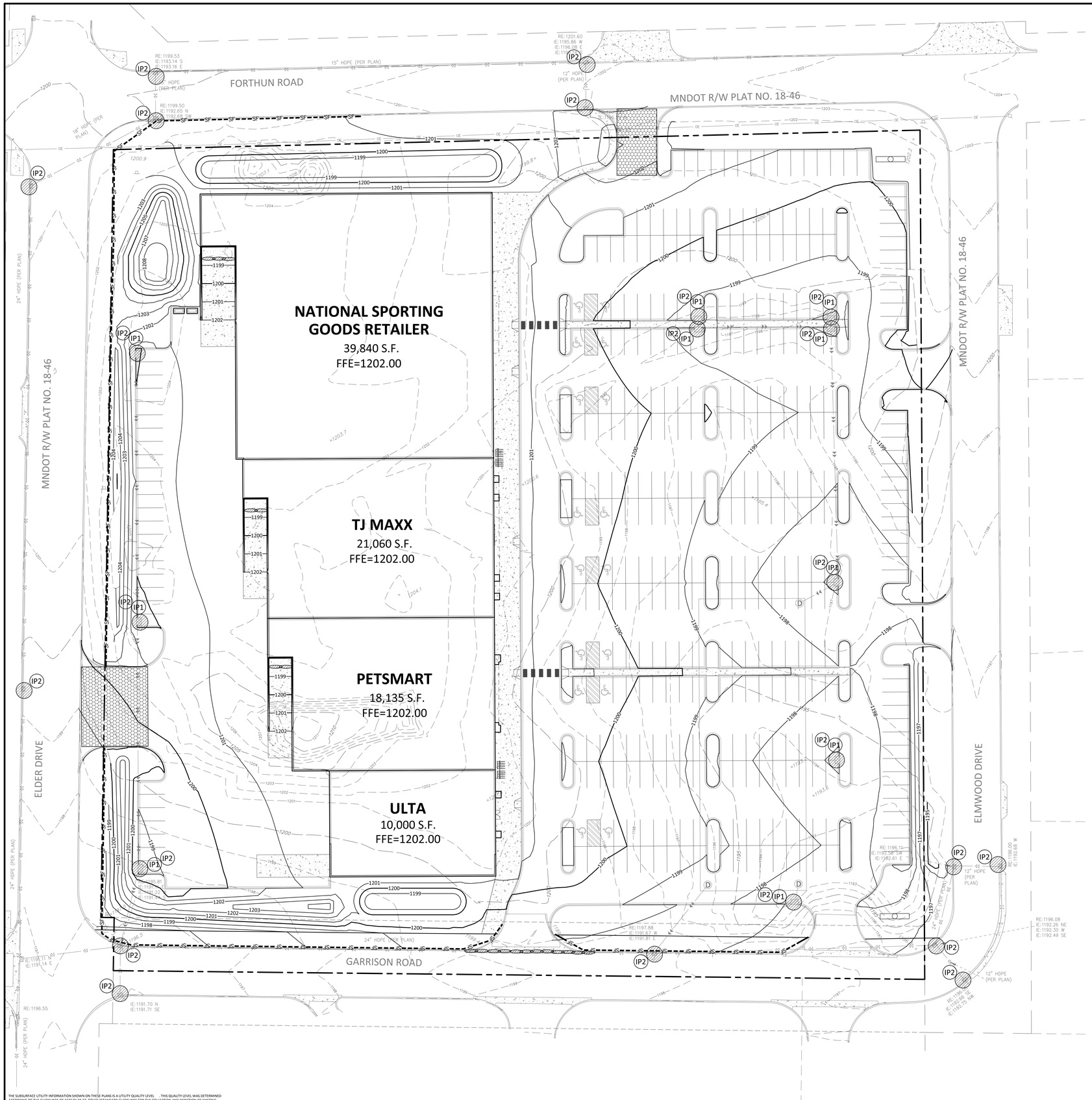
GRADING PLAN

Sheet No. Revision

C4.01

Project No. HJD20525

Apr 18, 2016 - 6:12pm - User:498 L:\PROJECTS\HJ020525\dwg\Civil\Preliminary\20525-C401-GRADE.dwg



LEGEND

	PROPOSED	EXISTING
CURB & GUTTER		
STORM SEWER		
DRAINTILE		
CONTOUR	902	902
RIP RAP		
OVERFLOW ELEV.	EOF 902.5	
SILT FENCE	SF	SF
SILT DIKE	SD	SD
LIMITS OF DISTURBANCE		
SOIL BORINGS		S1 5 902.5
DIRECTION OF OVERLAND FLOW		
BIO-ROLL		
INLET PROTECTION DEVICE 1	IP-1	
INLET PROTECTION DEVICE 2	IP-2	
TEMPORARY STONE CONSTRUCTION ENTRANCE		

SEQUENCE OF CONSTRUCTION

PHASE I:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
2. PREPARE TEMPORARY PARKING AND STORAGE AREA.
3. CONSTRUCT THE SILT FENCES ON THE SITE.
4. INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.
6. CLEAR AND GRUB THE SITE.
7. BEGIN GRADING THE SITE.
8. START CONSTRUCTION OF BUILDING PAD AND STRUCTURES.

PHASE II:

1. TEMPORARILY SEED DENUDED AREAS.
2. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.
3. INSTALL RIP RAP AROUND OUTLET STRUCTURES.
4. INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.
5. PREPARE SITE FOR PAVING.
6. PAVE SITE.
7. INSTALL INLET PROTECTION DEVICES.
8. COMPLETE GRADING AND INSTALL PERMANENT SEEDING AND PLANTING.
9. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED), IF REQUIRED BY THE CONTRACT

NOTE TO CONTRACTOR

THE EROSION CONTROL PLAN SHEETS ALONG WITH THE REST OF THE SWPPP MUST BE KEPT ONSITE UNTIL THE NOTICE OF TERMINATION IS FILED WITH THE MPCA. THE CONTRACTOR MUST UPDATE THE SWPPP, INCLUDING THE EROSION CONTROL PLAN SHEETS AS NECESSARY TO INCLUDE ADDITIONAL REQUIREMENTS, SUCH AS ADDITIONAL OR MODIFIED BMPS DESIGNED TO CORRECT PROBLEMS IDENTIFIED. AFTER FILING THE NOTICE OF TERMINATION, THE SWPPP, INCLUDING THE EROSION CONTROL PLAN SHEETS, AND ALL REVISIONS TO IT MUST BE SUBMITTED TO THE OWNER, TO BE KEPT ON FILE IN ACCORDANCE WITH THE RECORD RETENTION REQUIREMENTS DESCRIBED IN THE SWPPP NARRATIVE.

AREA SUMMARY IN ACRES

PAVEMENT AREA	5.37 AC±
BUILDING AREA	2.04 AC±
SEEDED AREA	1.22 AC±
TOTAL DISTURBED	8.86 AC±
PRE - CONSTRUCTION IMPERVIOUS	0.00 AC±
POST - CONSTRUCTION IMPERVIOUS	7.64 AC±

EROSION CONTROL MATERIALS QUANTITIES

ITEM	UNIT	QUANTITY
SILT FENCE	LINEAR FEET	1,230
BIO-ROLL	LINEAR FEET	200
CONSTRUCTION ENTRANCE	UNIT	2
INLET PROTECTION DEVICE (IP-1)	UNIT	10
INLET PROTECTION DEVICE (IP-2)	UNIT	22

THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL . . . THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF ASCE/CI 38-02, TITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, BY CONTACTING THE NOTIFICATION CENTER (GOPHER STATE ONE FOR MINNESOTA). THE CONTRACTOR AND/OR SUBCONTRACTOR AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MIGHT BE OCCASIONED BY HIS OR HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES (UNDERGROUND AND OVERHEAD).

IF THE CONTRACTOR ENCOUNTERS ANY DRAIN TILE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, INVERT AND IF THE TILE LINE IS ACTIVE. NO DRAIN TILE SHALL BE BACKFILLED WITHOUT APPROVAL FROM THE PROJECT ENGINEER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

NORTH

0 30 60
SCALE IN FEET

Apr 18, 2016 - 6:13pm - User:498 L:\PROJECTS\H020525\dwg\Civil\Preliminary\20525-C501-EROS.dwg

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PRELIMINARY

Michael G. Bubnick
Registration No. 43260 Date: 04/19/2016

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Summary

Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issued: 04/19/2016

Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

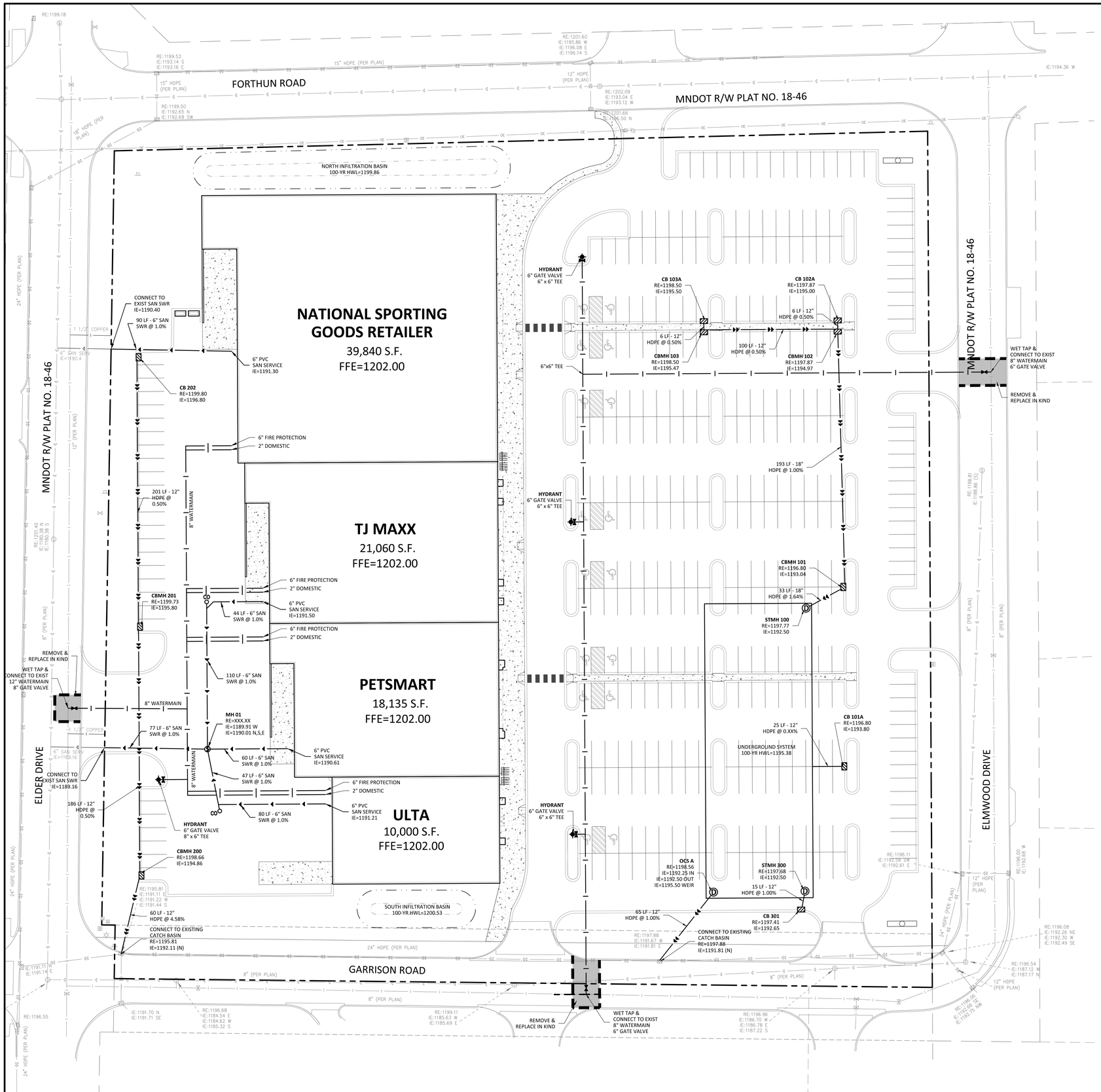
Sheet Title

EROSION & SEDIMENT CONTROL PLAN

Sheet No. Revision

C5.01

Project No. HJD20525



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Apr 18, 2016 - 6:13pm - User:498 L:\PROJECTS\HJD20525\dwg\Civil\Preliminary\20525-C601-UTIL.dwg

LEGEND

	PROPOSED	EXISTING
CURB & GUTTER		
STORM SEWER		
SANITARY SEWER		
FORCEMAIN (SAN.)		
WATERMAIN		
EASEMENT		
DRAINTILE		
GAS LINE	GL	GL
ELECTRIC	UE	UE
TELEPHONE	UT	UT

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PRELIMINARY

Michael G. Bu[illegible]
Registration No. [illegible]30 Date: 04/19/2016

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	04/19/16	JMW	City Submittal

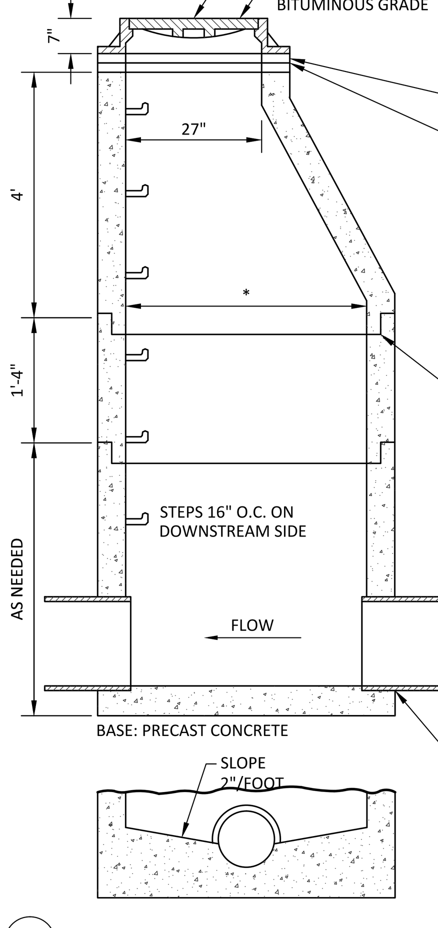
Sheet Title

UTILITY PLAN

Sheet No. Revision

C6.01

Project No. HJD20525



NOTES:

1. MANHOLES 8' DEEP OR GREATER, THE PRECAST SECTION IMMEDIATELY BELOW THE CONE SECTION, SHALL BE 1'-4" (16") IN HEIGHT
2. PROVIDE STEPS IN ALL MANHOLES OVER 4.5 FEET IN DEPTH

* SEE STORM SEWER STRUCTURE SCHEDULE FOR MANHOLE DIAMETER.
USE T-SECTION MANHOLE WHERE POSSIBLE (MNDOT DESIGN J) WITH OFFSET CONE CONNECTION OR PRECAST SLAB.

01 STORM SEWER MANHOLE
N.T.S.

SS-01
04/12
NO SCALE

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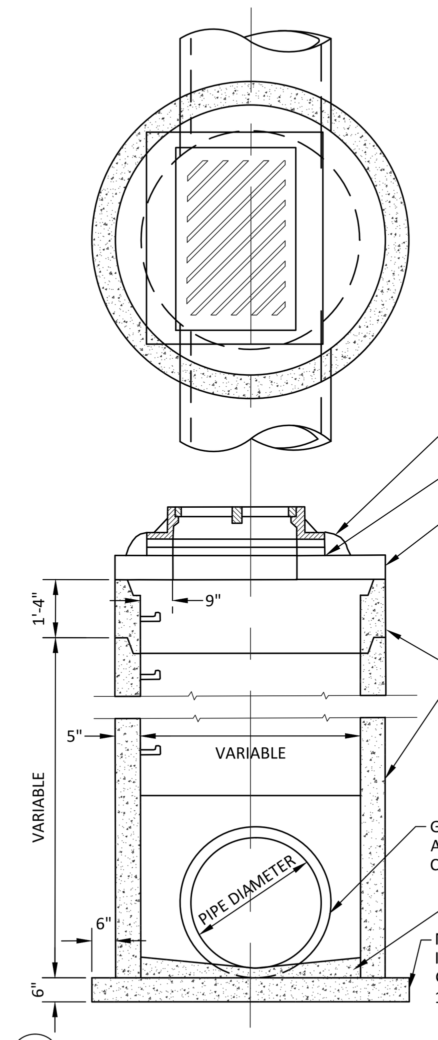

NOTE: SEE STORM SEWER STRUCTURE SCHEDULE FOR CASTING TYPE.

24"X 36" SLAB OPENING
PROVIDE 27" DIAMETER OPENING IF ROUND CASTING TO BE PROVIDED. SEE STORM SEWER STRUCTURE SCHEDULE FOR DIMENSIONS FROM BACK OF CURB TO CENTER OF STRUCTURE.

DIMENSION FROM BACK OF CURB TO CENTER OF PIPE. FOR A 24" GRATE OPENING.
4' DIA. M.H.-9" IN FROM BACK OF CURB
6' DIA. M.H.-3" BEHIND BACK OF CURB
8' DIA. M.H.-15" BEHIND BACK OF CURB

FULL BED OF MORTAR BETWEEN RINGS, AND A 6" COLLAR ON THE OUTSIDE OF THE RINGS

MINIMUM OF 2, MAXIMUM OF 4 CONCRETE ADJUSTING RINGS

PRECAST REINFORCED CONCRETE SLAB
THICKNESS: 6" FOR 42" TO 48" DIA.
8" FOR 54" TO 102" DIA.
12" FOR 108" TO 120" DIA.

ALL JOINTS IN MANHOLE TO HAVE "O" RING RUBBER GASKETS.

PRECAST CONCRETE MANHOLE SECTIONS

MANHOLE STEPS NEENAH R1981J OR EQUAL, 16" O.C.- ALUMINUM STEPS APPROVED.

DOGHOUSES SHALL BE GROUTED ON BOTH THE OUTSIDE AND THE INSIDE.

GASKETED, FLEXIBLE, WATERTIGHT CONNECTION AT ALL PIPE CONNECTIONS UNLESS GROUTED CONNECTION IS APPROVED BY THE ENGINEER

GROUT BOTTOM

MINIMUM SLAB THICKNESS 6" FOR 14' DEPTH. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14' AND REINFORCE WITH 6"x6", 10/10 MESH

02 CATCH BASIN MANHOLE
N.T.S.

SS-02
04/12
NO SCALE

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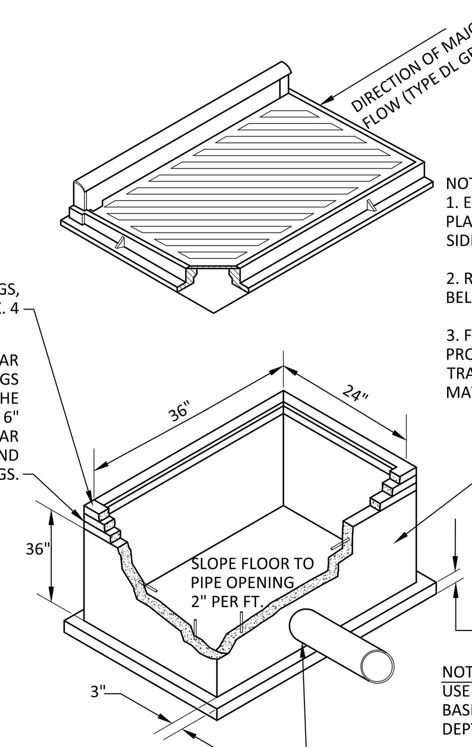
CATCH BASIN CASTING ASSEMBLY
(SEE STORM SEWER SCHEDULE FOR CASTING TYPE)



NOTE:
1. EXPANSION MATERIALS TO BE PLACED IN SECOND JOINT, BOTH SIDES OF CATCH BASIN.
2. RECESS CATCH BASIN 0.1' BELOW GUTTER GRADE LINE.
3. FOR SURMOUNTABLE CURB, PROVIDE FACE OF CURB TRANSITION APPROX. 10' TO MATCH CASTING.

NOTE:
USE 4 FT. DIAMETER CATCH BASIN MANHOLE WHEN DEPTH EXCEEDS 4.5 FT.

03 24"x36" CATCH BASIN
N.T.S.

SS-05
05/06
NO SCALE

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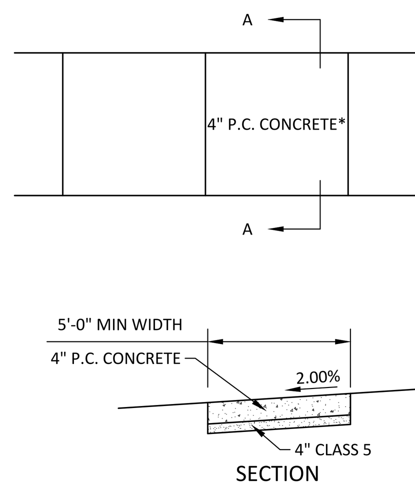

GENERAL NOTES FOR CONCRETE CONSTRUCTION:

1. THE CONCRETE SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF MN/DOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION".
2. SIDEWALK CONTROL JOINTS SHALL BE LOCATED AT 5 FEET ON CENTER. SIDEWALK EXPANSION JOINTS SHALL BE LOCATED AT A MAXIMUM OF 100 FEET ON CENTER, AND WHERE SIDEWALK ABUTS CURB, STRUCTURES, AND OTHER FIXED OBJECTS. SEAL ALL EXPANSION JOINTS. BROOM FINISH SHALL BE PERPENDICULAR TO THE LINE OF TRAFFIC.

*THE THICKNESS SHALL BE INCREASED TO A MINIMUM DEPTH OF __ INCHES AT DRIVEWAY CROSSINGS.

04 CONCRETE SIDEWALK
N.T.S.

C-14
12/11
NO SCALE

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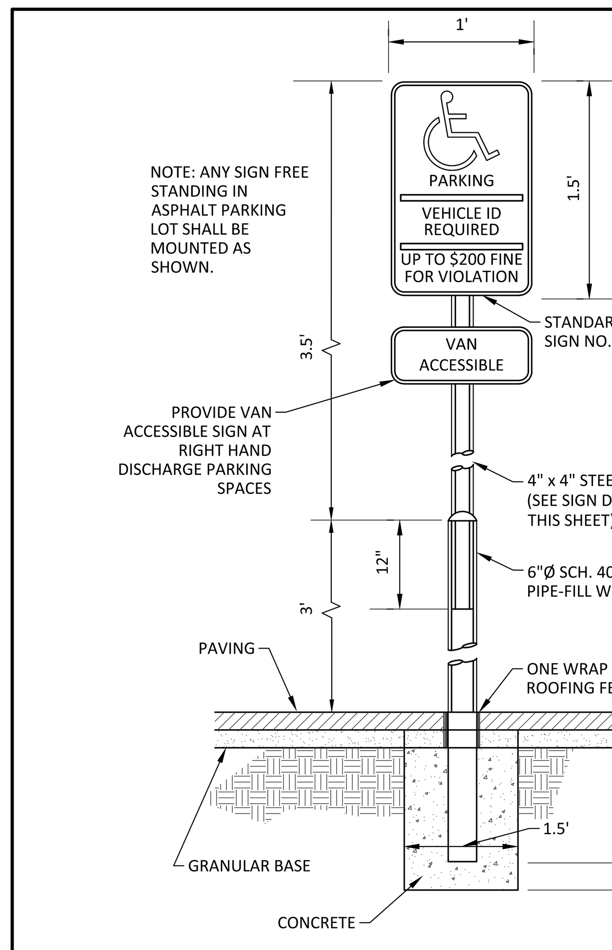

NOTE: ANY SIGN FREE STANDING IN ASPHALT PARKING LOT SHALL BE MOUNTED AS SHOWN.

05 ACCESSIBLE PARKING SIGN
N.T.S.

M-02
REV. 10/08
NO SCALE

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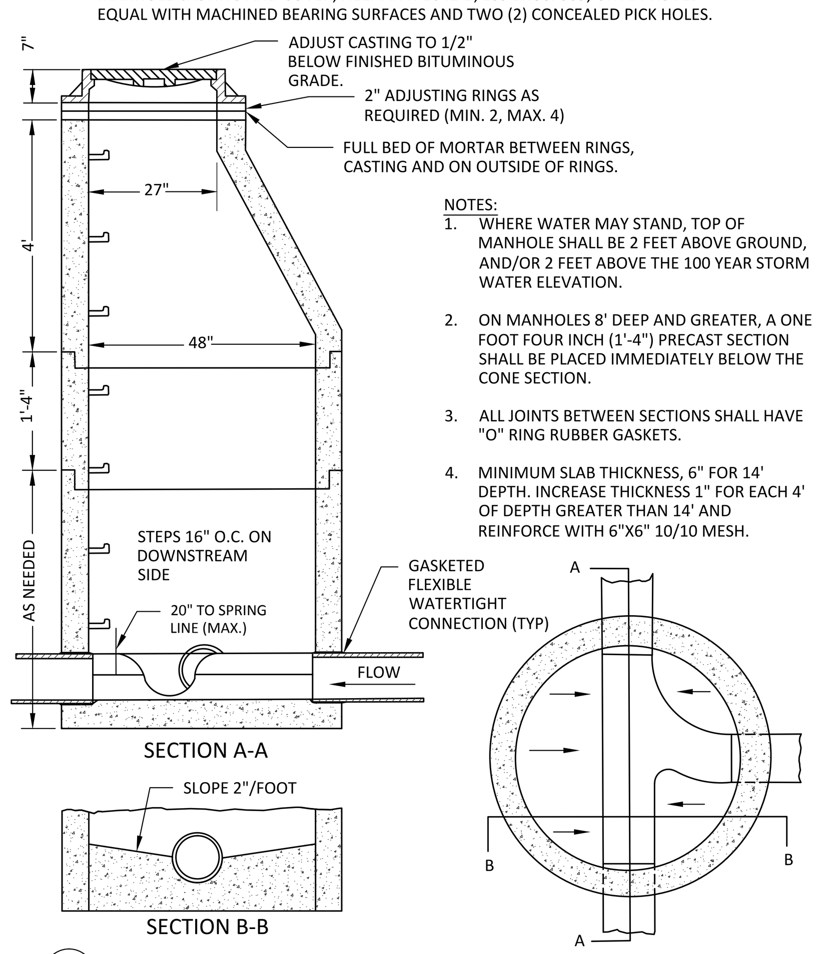
MANHOLE CASTING AND COVER, NEENAH R-1642-B, ESS BROS. 309, OR APPROVED EQUAL WITH MACHINED BEARING SURFACES AND TWO (2) CONCEALED PICK HOLES.



NOTES:
1. WHERE WATER MAY STAND, TOP OF MANHOLE SHALL BE 2 FEET ABOVE GROUND, AND/OR 2 FEET ABOVE THE 100 YEAR STORM WATER ELEVATION.
2. ON MANHOLES 8' DEEP AND GREATER, A ONE FOOT FOUR INCH (1'-4") PRECAST SECTION SHALL BE PLACED IMMEDIATELY BELOW THE CONE SECTION.
3. ALL JOINTS BETWEEN SECTIONS SHALL HAVE "O" RING RUBBER GASKETS.
4. MINIMUM SLAB THICKNESS, 6" FOR 14' DEPTH. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14' AND REINFORCE WITH 6"X6" 10/10 MESH.

06 STANDARD SANITARY SEWER MANHOLE
N.T.S.

S-01
05/06
NO SCALE

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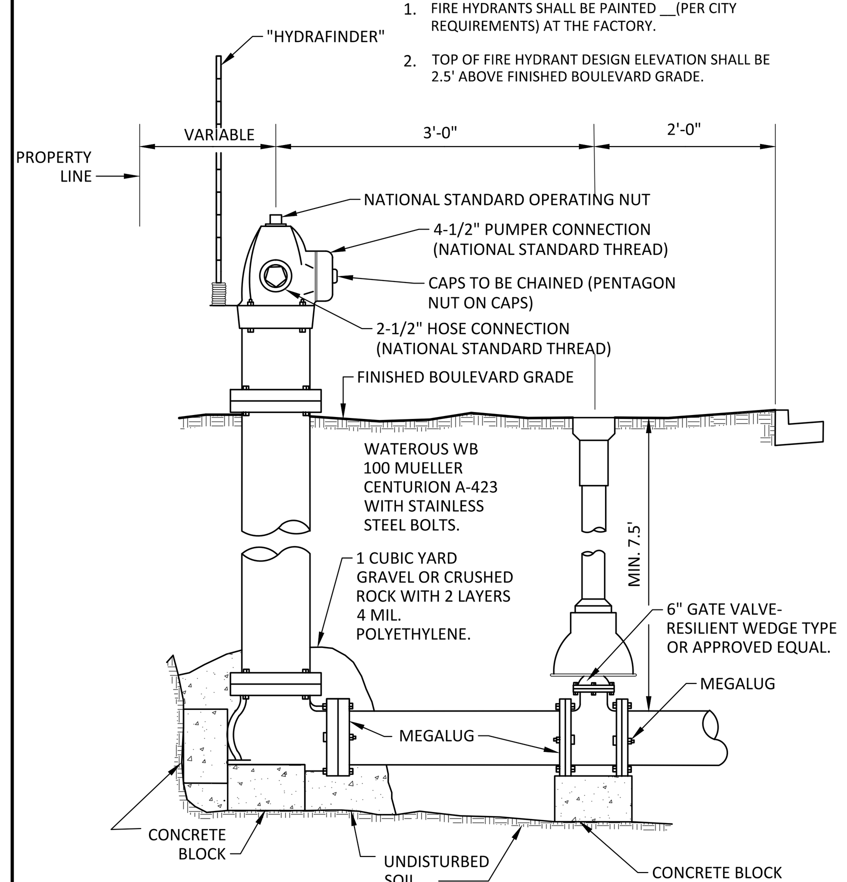
NOTES:
1. FIRE HYDRANTS SHALL BE PAINTED __(PER CITY REQUIREMENTS) AT THE FACTORY.
2. TOP OF FIRE HYDRANT DESIGN ELEVATION SHALL BE 2.5' ABOVE FINISHED BOULEVARD GRADE.



07 TYPICAL FIRE HYDRANT AND GATE VALVE INSTALLATION
N.T.S.

W-01
05/06
NO SCALE

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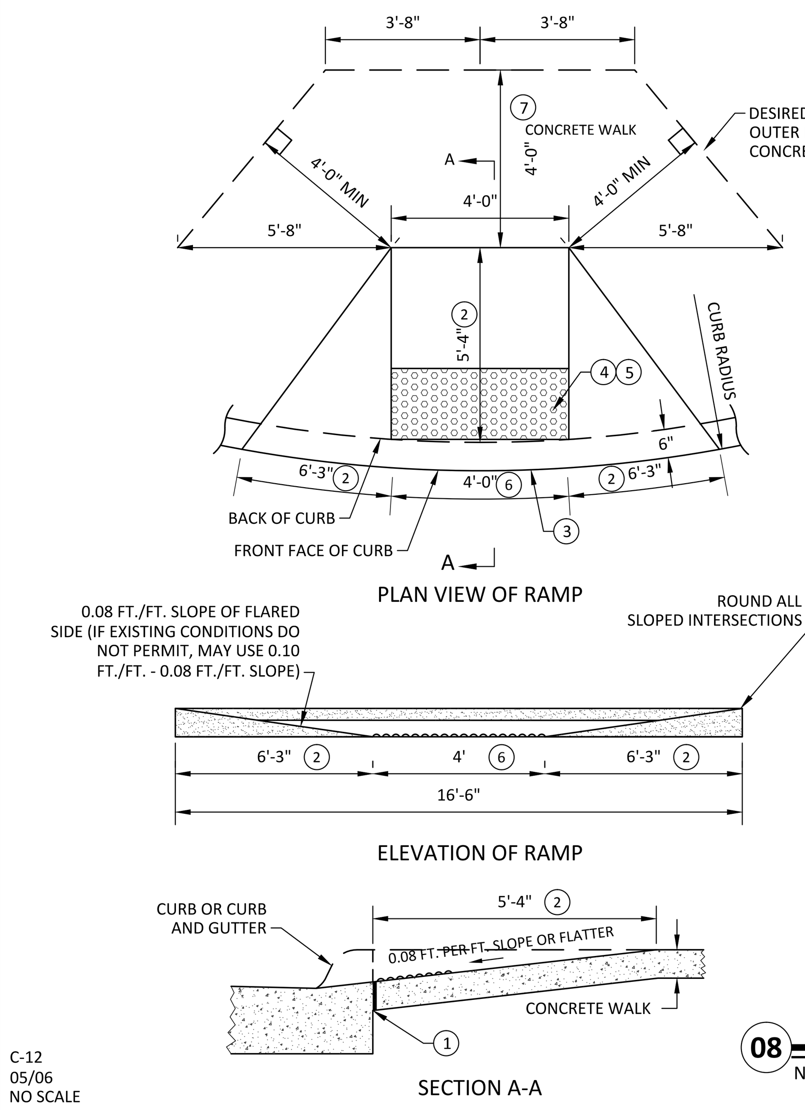

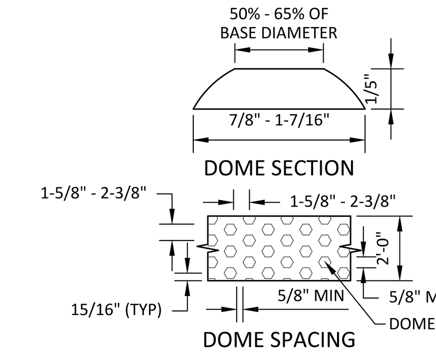

NOTE:

THE CURB AND CURB TRANSITION ON THE RAMP WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER. THE RAMP AREA WILL BE PAID AS SQUARE FEET OF CONCRETE WALK, UNLESS SPECIFIED OTHERWISE. THE TRUNCATED DOME AREA WILL BE CONSIDERED INCIDENTAL.

1. 1/2 INCH PREFORMED JOINT FILLER MATERIAL, AASHTO M 213.
2. VARIES WITH CURB HEIGHT. EXAMPLE SHOWN IS FOR 6" CURB HEIGHT.
3. 6" TO 8" IS THE REQUIRED OFFSET OF THE DETECTABLE WARNINGS/TRUNCATED DOME AREA FROM THE FRONT FACE OF CURB, OR PLACE THE DETECTABLE WARNINGS AT THE BACK OF CURB.
4. ADA REQUIRED TRUNCATED DOME AREA SHALL BE 2' 0" MIN. IN DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH (3' 0" OR 4' 0" TYP.) OF THE CURB RAMP. THIS 2' 0" BY 3' 0" OR 4' 0" WIDTH (TYP.) TRUNCATED DOME AREA SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKING SURFACE. THE ENTIRE TRUNCATED DOME AREA SHALL BE A LIGHT COLOR (LIGHT GRAY, WHITE, OR YELLOW) WHEN THE ADJACENT SIDEWALK IS A DARK COLOR. THE ENTIRE TRUNCATED DOME AREA SHALL BE A DARK COLOR (RED, BLACK, DARK GRAY, OR BRIGHT YELLOW) WHEN THE ADJACENT SIDEWALK IS A "WHITE" OR LIGHT GRAY CEMENT COLOR.
5. THE TRUNCATED DOME AREA MAY BE EITHER GRANITE PANEL OR STAMPED CONCRETE, INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS. GRANITE PANELS SHALL BE 2" NOMINAL THICKNESS WITH SANDED TEXTURED FINISH, FREE OF ANY CRACKS, CHIPS OR COLOR DEFORMATIONS. STAMPED CONCRETE SHALL MEET REQUIREMENTS OF 3A36 CONCRETE MIX AND HAVE INTEGRATED HOMOGENEOUS COLORING.
6. 4' 0" FOR NEW CONSTRUCTION. 3' 0" ALLOWED FOR RETROFITS OR PRESERVATION PROJECTS.
7. WHEN POSSIBLE, PROVIDE A PATH OF TRAVEL 4'0" WIDE BEHIND THE PEDESTRIAN RAMP. A RELATIVELY FLAT (2% MAXIMUM SLOPE) 4' X 4' LANDING WILL ALLOW WHEELCHAIRS TO NAVIGATE AROUND THE PEDESTRIAN RAMP.

08 PEDESTRIAN CURB RAMP
N.T.S.

C-12
05/06
NO SCALE

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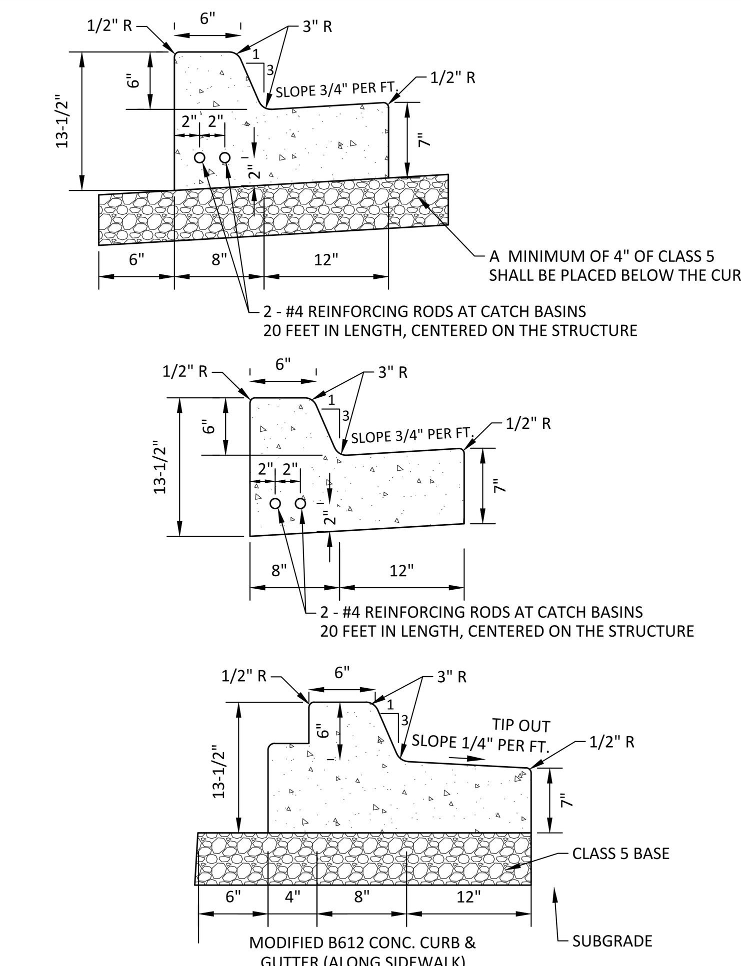

09 B612 CONCRETE CURB & GUTTER
N.T.S.

C-01
12/11
NO SCALE

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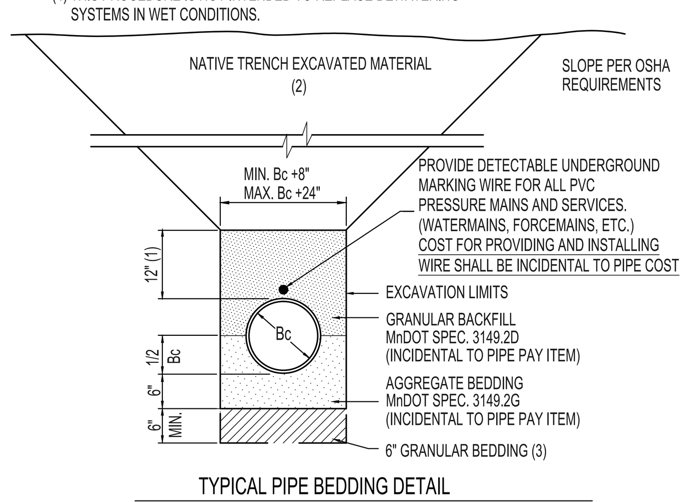
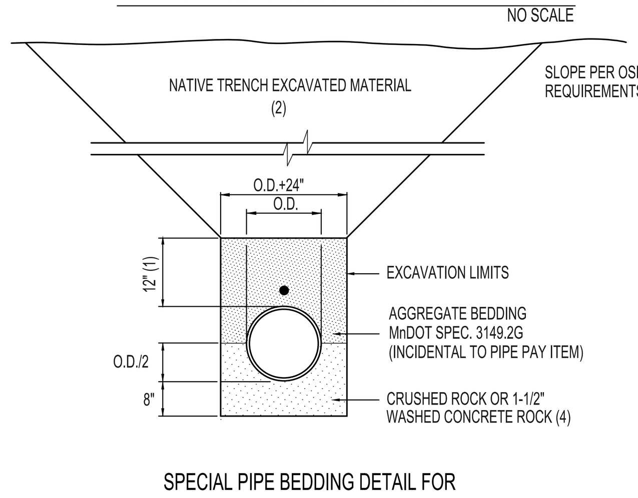
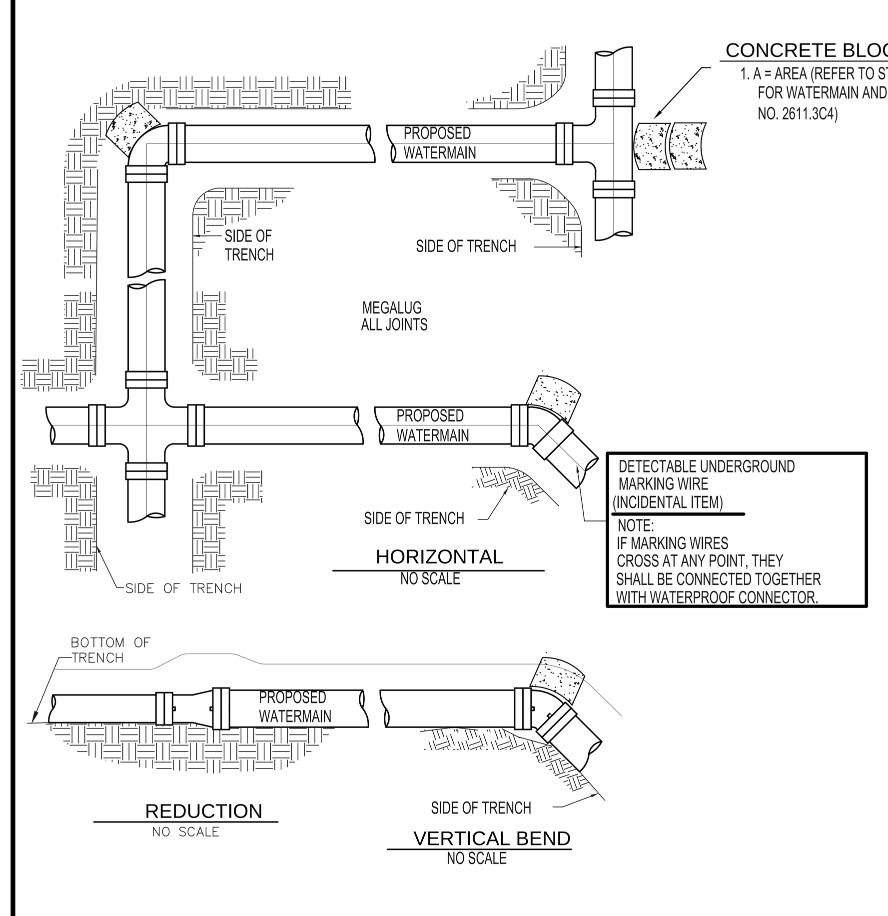
NOTES:
(1) IF THIS DIMENSION DECREASES THE BEDDING CONDITIONS WILL CHANGE. A HIGHER LEVEL BEDDING CONDITION SHALL BE SOLELY AT THE CONTRACTOR'S EXPENSE.
(2) GRANULAR MATERIAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM.
(3) FOR ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHOULD BE OVER EXCAVATED A MINIMUM OF 6" & REFILLED WITH GRANULAR MATERIAL. THIS ITEM WILL BE ELIGIBLE FOR EXTRA PAYMENT, IF REQUIRED.
(4) THIS PROCEDURE IS NOT INTENDED TO REPLACE DEWATERING SYSTEMS IN WET CONDITIONS.



TYPICAL PIPE BEDDING DETAIL
NO SCALE

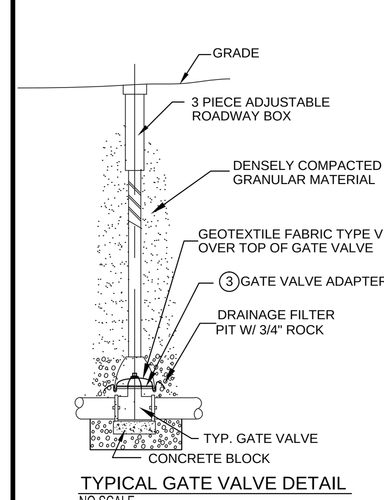


SPECIAL PIPE BEDDING DETAIL FOR TRENCH STABILIZATION WHERE REQUIRED
NO SCALE

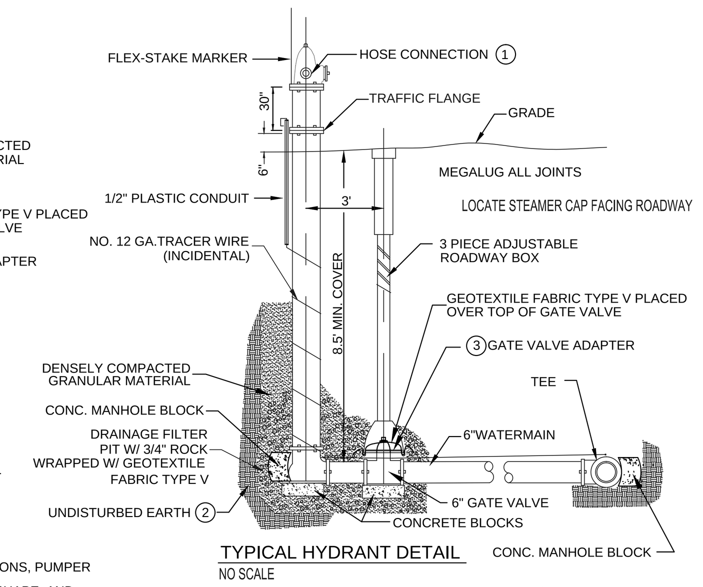


CONCRETE BLOCK NOTES:
1. A = AREA (REFER TO STANDARD SPECIFICATIONS FOR WATERMAIN AND SERVICE LINE INSTALLATION NO. 2611.3C4)

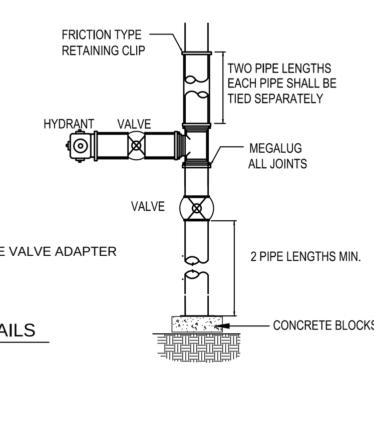
THRUST BLOCKING & MECHANICAL RESTRAINT DETAILS
NO SCALE



TYPICAL GATE VALVE DETAIL
NO SCALE



TYPICAL HYDRANT DETAIL
NO SCALE



NOTES:
1. VERIFY DIAMETER OF HOSE CONNECTIONS, PUMPER CONNECTION, OPERATING NUT SIZE AND SHAPE, AND CONNECTION THREADING WITH OWNER,FURNISH KEEPER CHAINS.
2. IN IMPERVIOUS SOIL, SUCH AS CLAY, EXCAVATE A DRAINAGE PIT 2' IN DIAMETER, 3' IN DEPTH BELOW HYD BASE & FILL WITH FILTER AGGREGATE. COMPACT UNDER & AROUND HYD. BASE UP TO 6" ABOVE WASTE DRAIN. PLUG DRAIN HOLES IF WATER TABLE IS ABOVE BOTTOM OF HYDRANT. ATTACH METAL TAG TO HYDRANT INDICATING DRAIN HOLES ARE PLUGGED.
3. ALL VALVE BOXES SHALL BE INSTALLED UPON THE GATE VALVE WITH THE USE OF A GATE VALVE ADAPTER AS MANUFACTURED BY ADAPTER INC. OR APPROVED EQUAL.
THE GATE VALVE ADAPTER SHALL BE INCIDENTAL TO VALVE AND BOX INSTALLATION

TYPICAL HYDRANT & DEAD END HYDRANT DETAILS
NO SCALE

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Engineering | Surveying | Planning | Environmental

Client
HJ DEVELOPMENT, LLP
15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391

Project
CENTRAL LAKES CROSSING JUNIOR BOX RETAIL

Location
BAXTER, MN
SE QUADRANT OF ELDER DRIVE S AND FORTHUN ROAD S

Certification
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

PRELIMINARY

Michael G. Bult[illegible]
Registration No. [illegible]60 Date: 04/19/2016
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issued: 04/19/2016

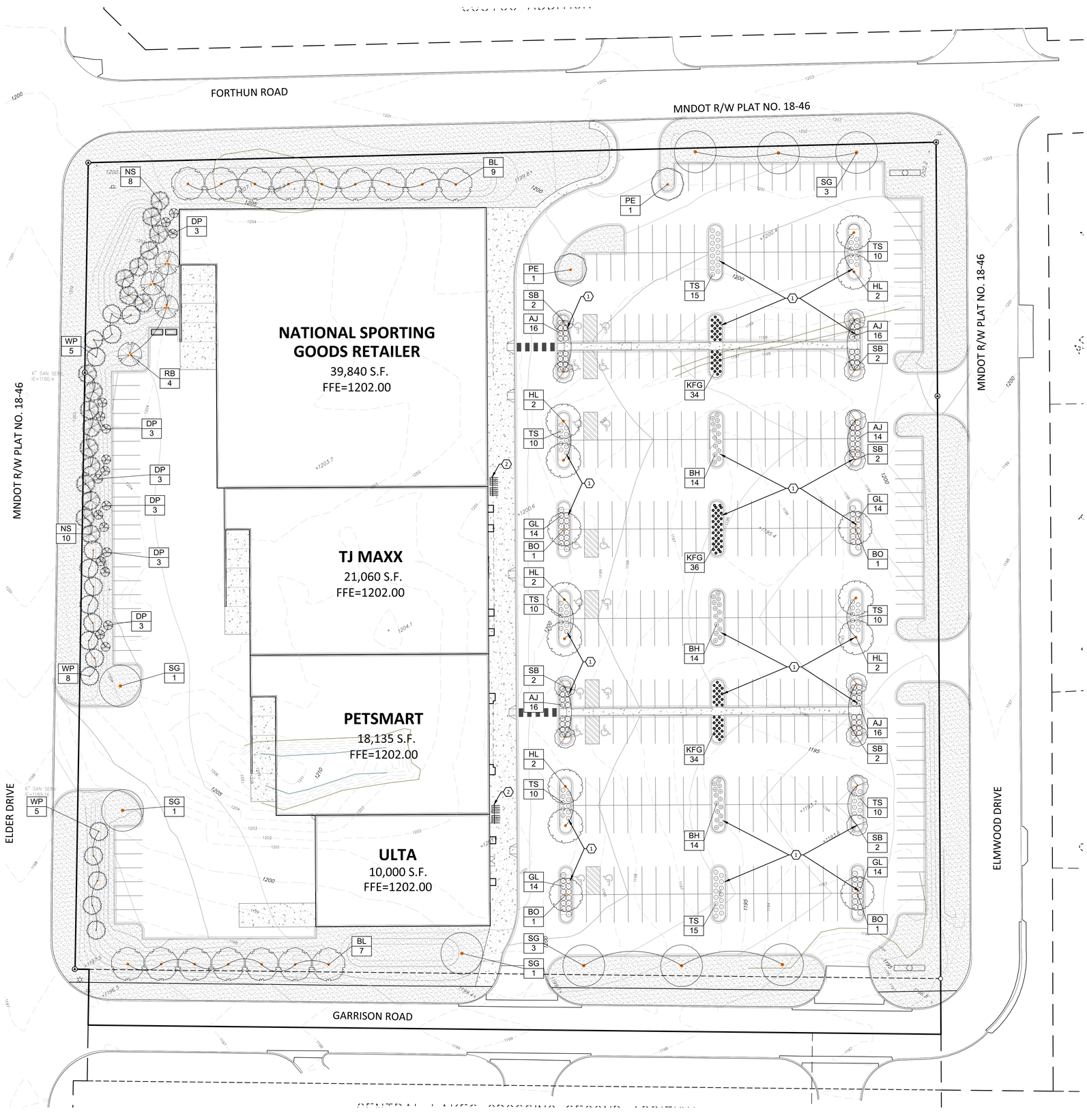
Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title
CIVIL DETAILS

Sheet No. Revision
C7.01

Project No. HJD20525



PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
	SG	Acer freemanii `Sienna Glen` / Sienna Glen Maple	B & B	2.5"Cal		9
	RB	Betula nigra `Cully` TM / Heritage Birch	B & B	2.5"Cal		2
	DP	Betula platyphylla `Fargo` TM / Dakota Pinnacle Birch	B & B	2"Cal		21
	HL	Gleditsia triacanthos `Skyline` / Skyline Honey Locust	B & B	2.5"Cal		10
	BO	Quercus macrocarpa / Burr Oak	B & B	2.5"Cal		4
	BL	Tilia americana `Boulevard` / Boulevard Linden	B & B	2.5"Cal		16
	PE	Ulmus americana `Princeton` / American Elm	B & B	2.5"Cal		2
CONIFERS	CODE	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
	NS	Picea abies / Norway Spruce	B & B		10`	18
	WP	Pinus strobus / White Pine	B & B		10`	18
ORN. TREES	CODE	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
	SB	Amelanchier canadensis `Autumn Brilliance` / Autumn Brilliance Serviceberry	B & B	2"Cal		12
SHRUBS	CODE	BOTANICAL NAME / COMMON NAME	CONT			QTY
	BH	Diervilla lonicera / Dwarf Bush Honeysuckle	5 gal			42
	AJ	Juniperus horizontalis `Compacta` / Andorra Compact Juniper	5 gal			78
	GL	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	5 gal			56
	TS	Spiraea betulifolia `Tor` / Birchleaf Spirea	5 gal			90
GRASSES	CODE	BOTANICAL NAME / COMMON NAME	CONT			QTY
	KFG	Calamagrostis x acutiflora `Karl Foerster` / Feather Reed Grass	1 gal			104
GROUND COVERS	CODE	BOTANICAL NAME / COMMON NAME	QTY			
	TUR HIG	Turf Sod Highland Sod / Sod	94,657 sf			

LANDSCAPE LEGEND

1. 3/4" DRESSER TRAP ROCK
2. PROPOSED BIKE RACK- FINAL LOCATION TBD

CITY LANDSCAPE CODE

- ONE OVERSTORY DECIDUOUS OR CONIFEROUS TREE IS REQUIRED FOR EVERY 1,500 SQUARE FEET OF BUILDING FLOOR AREA.
- 30% OF TOTAL TREES MUST BE CONIFEROUS.
- A MINIMUM OF ONE SHRUB IS REQUIRED FOR EVERY 450 SQUARE FEET OF BUILDING FLOOR AREA.

PROPOSED BUILDING FLOOR AREA = 89,035 SQ. FT.

PLANT TYPE	REQUIRED	PROVIDED
OVERSTORY TREES	59 TOTAL	41
CONIFEROUS TREES		26
ORNAMENTAL TREES	0	12
SHRUBS	197	266

NORTH

0 30 60
SCALE IN FEET

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Client

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15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391

Project

CENTRAL LAKES CROSSING JUNIOR BOX RETAIL

Location

BAXTER, MN

SE QUADRANT OF ELDER DRIVE S AND FORTHUN ROAD S

Certification

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed LANDSCAPE ARCHITECT under the laws of the State of Minnesota.

PRELIMINARY

Joshua J. McKee
Registration No. 44254 Date: 04/19/16

This certification is not valid unless wet signed in blue ink. If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek, Minnetonka, MN office.

Summary

Designed: AAA Drawn: AAA
Approved: AAA Book / Page:
Phase: PRELIMINARY Initial Issued: 04/19/2016

Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title

LANDSCAPE PLAN

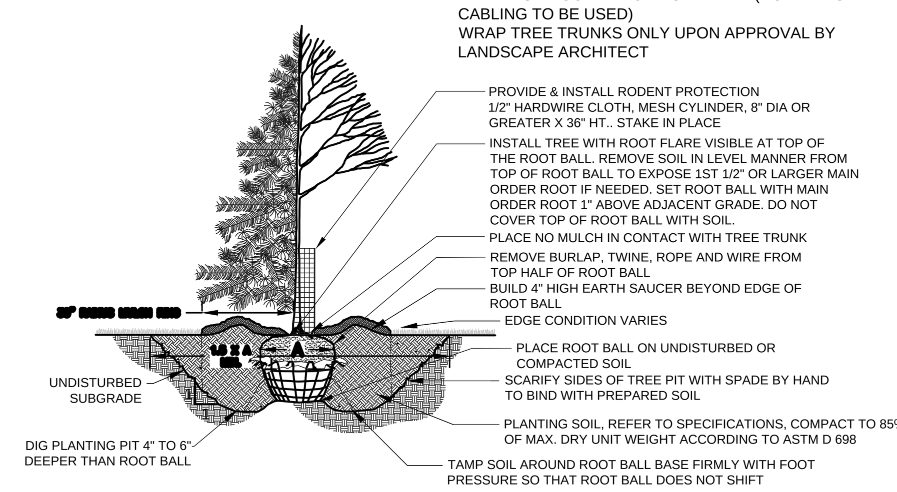
Sheet No. Revision

L1.01

Project No. HJD20525

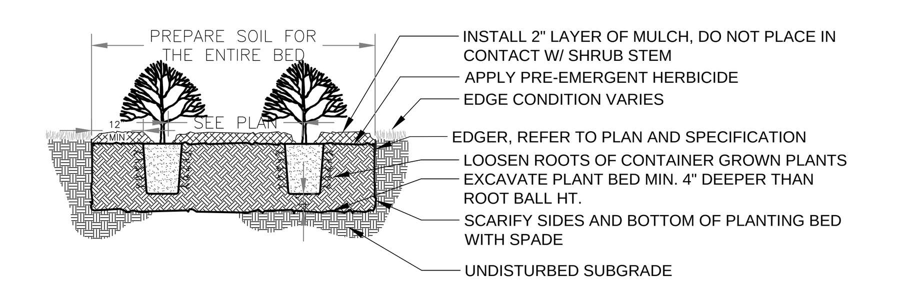
Apr 18, 2016 - 6:14pm - User:498 L:\PROJECTS\HJD20525\dwg\Civil\Preliminary\20525-L101-LAND.dwg

NOTE:
CONTRACTOR SHALL MAINTAIN TREES IN A PLUMB POSITION THROUGHOUT THE WARRANTY PERIOD. IF STAKING IS REQUIRED BY SITE CONDITIONS, CONTRACTOR TO USE 2 OR 3 STAKE METHOD WITH 1" WEBBING AROUND TRUNK OF THREE (NO WIRE OR CABLING TO BE USED)
WRAP TREE TRUNKS ONLY UPON APPROVAL BY LANDSCAPE ARCHITECT



1 L1.02 TREE PLANTING DETAIL

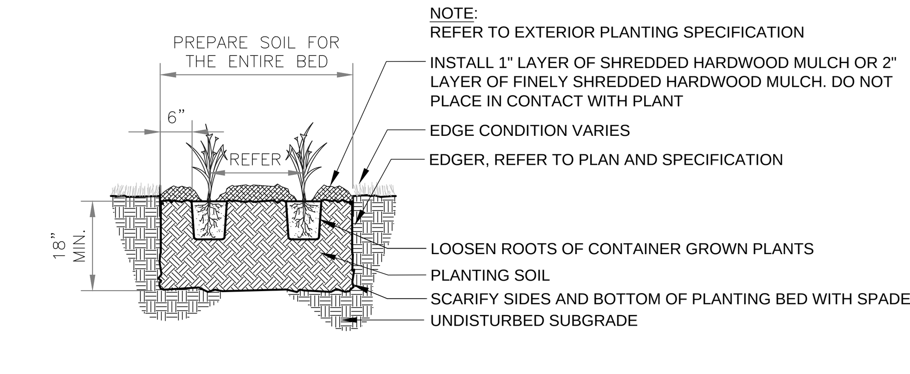
NTS



2 L1.02 SHRUB PLANTING DETAIL2

NTS

NOTE:
REFER TO EXTERIOR PLANTING SPECIFICATION



3 L1.02 PERENNIAL PLANTING DETAIL

NTS

NOTES

GENERAL NOTES:

1. THE CONTRACTOR SHALL INSPECT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF THE WORK.
2. THE CONTRACTOR SHALL VERIFY PLAN LAYOUT AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN OR INTENT OF THE LAYOUT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES, REGULATIONS, AND PERMITS GOVERNING THE WORK.
4. THE CONTRACTOR SHALL PROTECT EXISTING ROADS, CURBS/GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING CONSTRUCTION. DAMAGE TO SAME SHALL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
5. LOCATE AND VERIFY ALL UTILITIES, INCLUDING IRRIGATION LINES, WITH THE OWNER FOR PROPRIETARY UTILITIES AND GOPHER STATE ONE CALL 48 HOURS BEFORE DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGES TO SAME. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS TO FACILITATE PLANT RELOCATION.
6. **THE LANDSCAPE CONTRACTOR SHALL COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.**
7. THE CONTRACTOR SHALL REVIEW THE SITE FOR DEFICIENCIES IN SITE CONDITIONS WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR WARRANTY. UNDESIRABLE SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK.
8. THE PLAN TAKES PRECEDENCE OVER THE LANDSCAPE LEGEND IF DISCREPANCIES EXIST. QUANTITIES SHOWN IN THE PLANTING SCHEDULE ARE FOR THE CONTRACTOR'S CONVENIENCE. CONTRACTOR TO VERIFY QUANTITIES SHOWN ON THE PLAN.
9. THE SPECIFICATIONS TAKE PRECEDENCE OVER THE PLANTING NOTES AND GENERAL NOTES.
10. EXISTING TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED TO THE DRIP LINE FROM ALL CONSTRUCTION TRAFFIC, STORAGE OF MATERIALS ETC. WITH 4' HT. ORANGE PLASTIC SAFETY FENCING ADEQUATELY SUPPORTED BY STEEL FENCE POSTS 6' O.C. MAXIMUM SPACING.
11. LONG-TERM STORAGE OF MATERIALS OR SUPPLIES ON-SITE WILL NOT BE ALLOWED.
12. CONTRACTOR SHALL REQUEST IN WRITING, A FINAL ACCEPTANCE INSPECTION.

PLANTING NOTES:

1. NO PLANTS SHALL BE INSTALLED UNTIL FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
2. A GRANULAR PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL PLANT BEDS AT THE MANUFACTURERS RECOMMENDED RATE PRIOR TO PLANT INSTALLATION.
3. ALL PLANTING STOCK SHALL CONFORM TO THE "AMERICAN STANDARD FOR NURSERY STOCK," ANSI-Z60, LATEST EDITION, OF THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS.
4. OVERSTORY TREES SHALL BEGIN BRANCHING NO LOWER THAN 6' ABOVE PAVED SURFACES.
5. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASE AND BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE LANDSCAPE LEGEND.
6. PLANT MATERIALS TO BE INSTALLED PER PLANTING DETAILS.
7. ALL TREES MUST BE STRAIGHT TRUNKED AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
8. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS WHICH ARE DEEMED UNSATISFACTORY BEFORE, DURING, OR AFTER INSTALLATION.
9. NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE ACCEPTED UNLESS APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.
10. ALL PLANT MATERIAL QUANTITIES, SHAPES OF BEDS AND LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN AND ADJUSTED TO CONFORM TO THE EXACT CONDITIONS OF THE SITE. THE LANDSCAPE ARCHITECT SHALL APPROVE THE STAKING LOCATION OF ALL PLANT MATERIALS PRIOR TO INSTALLATION.
11. ALL PLANTING AREAS MUST BE COMPLETELY MULCHED AS SPECIFIED.
12. MULCH: SHREDDED HARDWOOD MULCH, CLEAN AND FREE OF NOXIOUS WEEDS OR OTHER DELETERIOUS MATERIAL, IN ALL MASS PLANTING BEDS AND FOR TREES, UNLESS INDICATED AS ROCK MULCH ON DRAWINGS. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT PRIOR TO DELIVERY ON-SITE FOR APPROVAL. DELIVER MULCH ON DAY OF INSTALLATION. USE 4" FOR SHRUB BEDS, AND 3" FOR PERENNIAL/GROUND COVER BEDS, UNLESS OTHERWISE DIRECTED.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MULCHES AND PLANTING SOIL QUANTITIES TO COMPLETE THE WORK SHOWN ON THE PLAN.
14. USE ANTI-DESICCANT (WILTPRUF OR APPROVED EQUAL) ON DECIDUOUS PLANTS MOVED IN LEAF AND FOR EVERGREENS MOVED ANYTIME. APPLY AS PER MANUFACTURER'S INSTRUCTION. ALL EVERGREENS SHALL BE SPRAYED IN THE LATE FALL FOR WINTER PROTECTION DURING WARRANTY PERIOD.
14. PLANTING SOIL FOR TREES, SHRUBS AND GROUND COVERS: FERTILE FRIABLE LOAM CONTAINING A LIBERAL AMOUNT (4% MIN.) OF HUMUS AND CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. IT SHALL COMPLY WITH MNDOT SPECIFICATION 3877 TYPE B SELECT TOPSOIL. MIXTURE SHALL BE FREE FROM HARDPACK SUBSOIL, STONES, CHEMICALS, NOXIOUS WEEDS, ETC. SOIL MIXTURE SHALL HAVE A PH BETWEEN 6.1 AND 7.5 AND 10-0-10 FERTILIZER AT THE RATE OF 3 POUNDS PER CUBIC YARD. IN PLANTING BEDS INCORPORATE THIS MIXTURE THROUGHOUT THE ENTIRE BED IN A 6" LAYER AND ROTO-TILLING IT INTO THE TOP 12" OF SOIL AT A 1:1 RATIO.ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE HEELED IN AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE REJECTED.
15. ALL PLANTS SHALL BE GUARANTEED FOR TWO COMPLETE GROWING SEASONS (APRIL 1 - NOVEMBER 1), UNLESS OTHERWISE SPECIFIED. THE GUARANTEE SHALL COVER THE FULL COST OF REPLACEMENT INCLUDING LABOR AND PLANTS.
16. CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 3 DAYS PRIOR TO PLANNED DELIVERY. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 24 HOURS IN ADVANCE OF BEGINNING PLANT INSTALLATION.
17. SEASONS/TIME OF PLANTING AND SEEDING: NOTE: THE CONTRACTOR MAY ELECT TO PLANT IN OFF-SEASONS ENTIRELY AT HIS/HER RISK. DECIDUOUS

17.1.	POTTED PLANTS:	4/1 - 6/1; 9/21 - 11/1
17.2.	DECIDUOUS /B&B:	4/1 - 6/1; 9/21 - 11/1
17.3.	EVERGREEN POTTED PLANTS:	4/1 - 6/1; 9/21-11/1
17.4.	EVERGREEN B&B:	4/1 - 5/1; 9/21 - 11/1
17.5.	TURF/LAWN SEEDING:	4/1 - 6/1; 7/20 - 9/20

18. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PORTION OF THE WORK IS IN PLACE. PLANT MATERIAL SHALL BE PROTECTED AND MAINTAINED UNTIL THE INSTALLATION OF THE PLANTS IS COMPLETE, INSPECTION HAS BEEN MADE, AND PLANTINGS ARE ACCEPTED EXCLUSIVE OF THE GUARANTEE. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RE-SETTING PLANTS TO PROPER GRADE AND KEEPING PLANTS IN A PLUMB POSITION. AFTER ACCEPTANCE, THE OWNER SHALL ASSUME MAINTENANCE RESPONSIBILITIES. HOWEVER, THE CONTRACTOR SHALL CONTINUE TO BE RESPONSIBLE FOR KEEPING THE TREES PLUMB THROUGHOUT THE GUARANTEE PERIOD.
19. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO TOTAL ACCEPTANCE OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL LANDSCAPE LEGEND SPECIFICATIONS.
20. WATERING: MAINTAIN A WATERING SCHEDULE WHICH WILL THOROUGHLY WATER ALL PLANTS ONCE A WEEK. IN EXTREMELY HOT, DRY WEATHER, WATER MORE OFTEN AS REQUIRED BY INDICATIONS OF HEAT STRESS SUCH AS WILTING LEAVES. CHECK MOISTURE UNDER MULCH PRIOR TO WATERING TO DETERMINE NEED. CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR WATER.

TURF NOTES:

TURF ESTABLISHMENT SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROVISIONS OF THE MN/DOT 2105 AND 2575 EXCEPT AS MODIFIED BELOW:

1. ALL AREAS TO RECEIVE SOD SHALL ALSO RECEIVE 4" OF TOPSOIL PRIOR TO INSTALLING SOD. TOPSOIL SHALL BE FREE OF TREE ROOTS, STUMPS, BUILDING MATERIAL, AND TRASH, AND SHALL BE FREE OF STONES LARGER THAN $1\frac{1}{2}$" INCHES IN ANY DIMENSION.
2. WHERE SOD ABUTS PAVED SURFACES, FINISHED GRADE OF SOD/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC.
3. SOD SHALL BE LAID PARALLEL TO THE CONTOURS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, SOD SHALL BE STAKED SECURELY.
4. ALL DISTURBED AREAS TO BE TURF SEEDED, ARE TO RECEIVE 4" TOP SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. FOR SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES INSTALL EROSION CONTROL BLANKET.
5. ALL DISTURBED AREAS TO RECEIVE NATIVE SEED, ARE TO RECEIVE PLANTING SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. FOR SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES INSTALL EROSION CONTROL BLANKET.

IRRIGATION NOTES:

1. IRRIGATION SYSTEM TO BE DESIGN/BUILD. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL OF SYSTEM LAYOUT PRIOR TO INSTALLATION.
2. ALL SOD TO RECEIVE SPRAY OR ROTOR IRRIGATION HEADS WITH MINIMUM DESIGN OF 1" IRRIGATION PER WEEK.
3. ALL PLANT BEDS TO RECEIVE DRIP LINE IRRIGATION , WITH A MINIMUM DESIGN OF .25" IRRIGATION PER WEEK.
4. CONTRACTOR TO INSTALL A TOTAL OF 4 QUICK COUPLERS AT THE CORNERS OF THE PROPERTY. A 2.5" TYPE K SOURCE PIPE IS PROVIDED BY MECHANICAL.

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Client

HJ DEVELOPMENT, LLP

15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391

Project

CENTRAL LAKES CROSSING JUNIOR BOX RETAIL

Location

BAXTER, MN

SE QUADRANT OF ELDER DRIVE S AND FORTHUN ROAD S

Certification

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed LANDSCAPE ARCHITECT under the laws of the State of Minnesota.

PRELIMINARY

Joshua J. McKinney
Registration No. 53234 Date: 04/19/16

This certification is not valid unless wet signed in blue ink. If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek, Minnetonka, MN office.

Summary

Designed: AAA Drawn: AAA
Approved: AAA Book / Page:
Phase: PRELIMINARY Initial Issued: 04/19/2016

Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title

LANDSCAPE DETAILS

Sheet No. Revision

L1.02

Project No. HJD20525

Elmwood

Sambatek

Engineering | Surveying | Planning | Environmental

APR 19 2016

PRELIMINARY STORMWATER MANAGEMENT PLAN

FOR

CENTRAL LAKES CROSSING

JUNIOR BOX RETAIL
BAXTER, MINNESOTA

PREPARED BY: JOSH OLSON

MIKE BULTMAN, PE

4/19/2016

12800 Whitewater Drive, Suite 300, Minnetonka, MN 55343 | 763.476.6010

2401 46th Avenue Southeast, Suite 202, Mandan, ND 58554 | 701.390.4293

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PROJECT INTRODUCTION

The proposed project located at the southeast quadrant of Elder Drive and Forthun Road, includes developing the site for four retail stores and associated parking lot. The LGU for the project is the City of Baxter and the MPCA. The City of Baxter requires that the 100-year rainfall event be retained and infiltrated on-site, which exceeds the MPCA's requirement of 1 inch of runoff per square foot of impervious area.

EXISTING CONDITIONS

The existing 8.86 acre site is undeveloped land that is vegetated with trees and native grass. The east side of the lot has an incidental basin and most of the runoff is retained on site. There is some runoff directly to the street on the west side. The site consists of sandy soils classified as Hydraulic Soil Group type A soils, which are ideal for high infiltration rates. The stormwater management system appears to be the incidental basin, and due to the sandy soils, most of the water is captured and infiltrates on-site.

PROPOSED CONDITIONS

As a result of construction, approximately 7.64 acres of impervious surface area will be developed. These areas will consist of building, parking surfaces and drive aisles. Infiltration areas will be strategically placed to collect runoff from the proposed development. Two infiltration basins, to the north and south will collect some roof runoff and an underground infiltration will collect the eastern portion of the site. It is proposed that the west side of the site will flow directly into the City storm sewer, which routes to a regional stormwater management system downstream. Per conversations with the City of Baxter, the City storm system along Elder Drive has additional capacity to handle 0.28 acre-feet of storage from the 100-year storm event. The remaining volume from the west side of our site is proposed to be treated by expanding the regional pond located west of Isle Drive.

RATE CONTROL, WATER QUALITY & VOLUME REDUCTION

The City of Baxter requires that new developments must be designed to retain the volume of water generated from a 100-year rain event on site. Furthermore, the City stated that a downstream regional system can accommodate a total 0.28 acre-feet of runoff for a 100-year rain event from the site. The MPCA requires that 1 in of runoff from the new impervious surface must be infiltrated on site. Water quality will be met through the process of infiltration and the offsite regional system. A summary of the calculations meeting these requirements can be found below. The drainage maps and HydroCAD calculations can be found in the appendices.

SUMMARY OF HYDROCAD CALCULATIONS

BMP	Inflow Volume (acre-feet)	Retained Volume (cfs)	100-Year Runoff (cfs)
Underground System	2.51	2.51	0.00
North Basin	0.23	0.23	0.00
South Basin	0.11	0.11	0.00
To City Storm	0.77	0.00	13.83

The City states that 0.28 acre-feet of water can be routed to the downstream regional system, therefore **the regional system will need to be upsized by <u>0.49 acre-feet</u> of volume.** (0.77-0.28 af = 0.49 af)

MPCA VOLUME REDUCTION REQUIREMENT

$$Required\ Infiltration\ Volume(ft^3) = V_{inf} = 1(in) * \frac{1\ ft}{12\ in} * New\ Impervious\ Area\ (ft^2)$$

$$V_{inf}(ft^3) = 1\ (in) * \frac{1\ ft}{12\ in} * 322{,}897\ (ft^2) = 26{,}908\ ft^3$$

Volume Control Analysis

New Impervious Surface	322,897	sf
Design Infiltration/Filtration Rainfall Event	2.5	in
Required Infiltration/Filtration Volume	**26,908**	**cf**
Maximum Allowable Infiltration Rate	2.5	in/hr
Required Drawdown Time	48	hrs
Maximum Live Storage Depth	**10**	**ft**
Provided Volume Below Outlet	**68,483**	**cf**

Erosion & Sediment Control

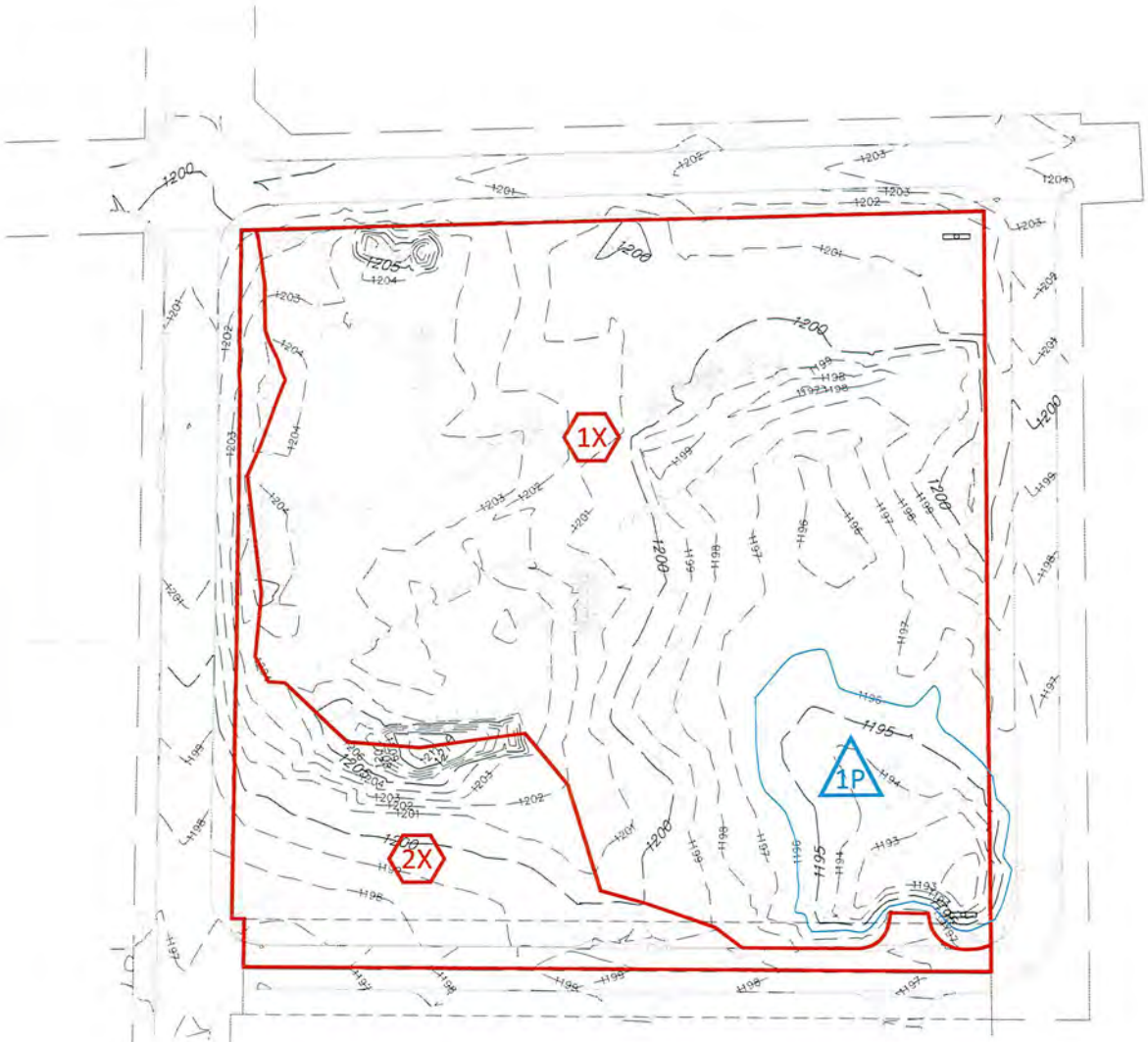
A comprehensive Stormwater Pollution Prevent Plan (SWPPP) meeting the requirements of the 2013 MPCS NPDES permit will be developed as part of the final proposed plans.

Summary

The proposed Central Lakes Crossing project will meet the requirements of the City of Baxter and the MPCA through construction of infiltration basins, underground infiltration system and the expansion of the regional stormwater management sytem. These BMPs will provide the required rate control, water quality, and volume reduction improvements prior to discharging stormwater runoff from the site to downstream receiving waters.

If you have any questions, comments, or additional information regarding this report, please contact me at jolson@sambatek.com or 763-476-6010.

APPENDIX A – DRAINAGE MAPS



LEGEND

- XX — LINK
- XX — POND
- XX — REACH
- XX — SUB-CATCHMENT

NORTH

0 100
SCALE IN FEET

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HJ DEVELOPMENT

Project
CENTRAL LAKES CROSSING

Location
BAXTER, MINNESOTA

Certification

Summary
Approved: MB Drawn: JO

Revision History
No. Date By Submittal / Rev.

Sheet Title
EXISTING DRAINAGE MAP

Sheet No. Revision
1/2

Project No. HJD20525

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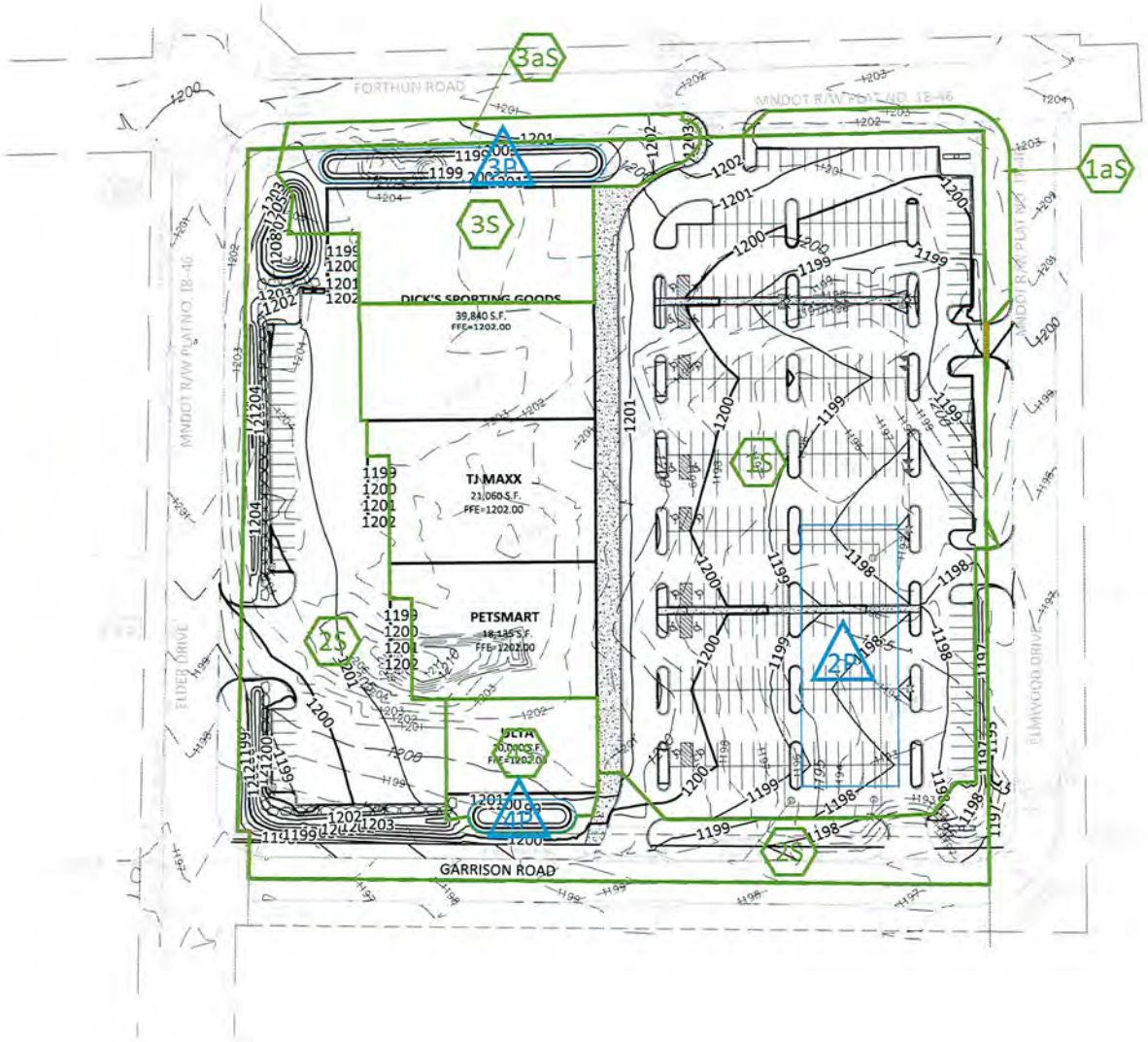

LEGEND

- XX LINK
- XX POND
- XX REACH
- XX SUB-CATCHMENT

NORTH

0 100
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Location
BAXTER, MINNESOTA

Certification

Summary
Approved: MB Drawn: JO

Revision History
No. Date By Submittal / Rev.

Sheet Title
PROPOSED DRAINAGE MAP

Sheet No. Revision
2/2

Project No. HJD20525

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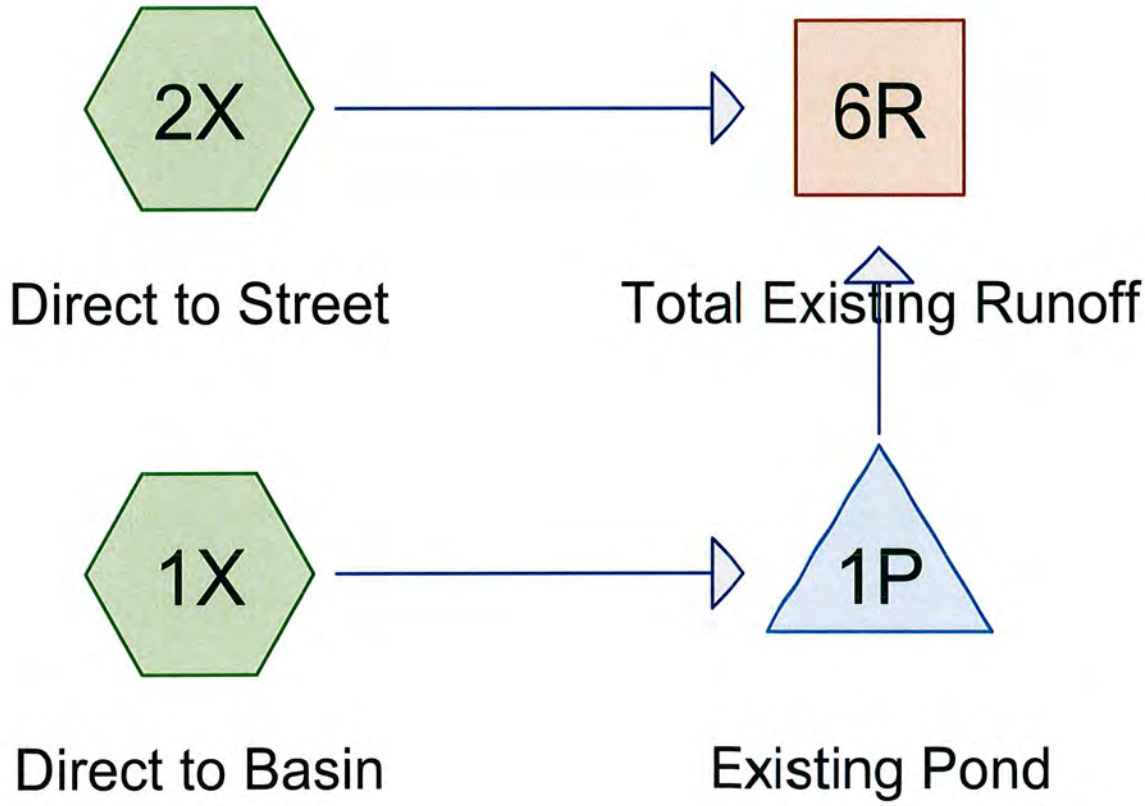
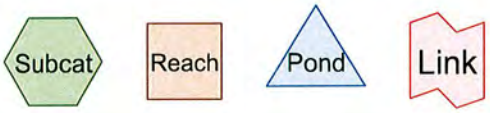
APPENDIX B – HYDROCAD CALCULATIONS

EXISTING





Routing Diagram for 20525-HydroCAD
Prepared by Microsoft, Printed 4/14/2016
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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.544	39	>75% Grass cover, Good, HSG A (1X, 2X)
0.320	98	Paved parking, HSG A (2X)
8.864	**41**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
8.864	HSG A	1X, 2X
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
8.864		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
8.544	0.000	0.000	0.000	0.000	8.544	>75% Grass cover, Good	1X, 2X
0.320	0.000	0.000	0.000	0.000	0.320	Paved parking	2X
8.864	**0.000**	**0.000**	**0.000**	**0.000**	**8.864**	**TOTAL AREA**	

Time span=5.00-48.00 hrs, dt=0.05 hrs, 861 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1X: Direct to Basin Runoff Area=311,303 sf 0.00% Impervious Runoff Depth=0.52"
Tc=10.0 min CN=39 Runoff=2.62 cfs 0.311 af

Subcatchment2X: Direct to Street Runoff Area=74,814 sf 18.62% Impervious Runoff Depth=1.27"
Tc=10.0 min CN=50 Runoff=2.92 cfs 0.182 af

Reach 6R: Total Existing Runoff Inflow=2.92 cfs 0.182 af
Outflow=2.92 cfs 0.182 af

Pond 1P: Existing Pond Peak Elev=1,194.14' Storage=13,552 cf Inflow=2.62 cfs 0.311 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 8.864 ac Runoff Volume = 0.493 af Average Runoff Depth = 0.67"
96.39% Pervious = 8.544 ac 3.61% Impervious = 0.320 ac

Summary for Subcatchment 1X: Direct to Basin

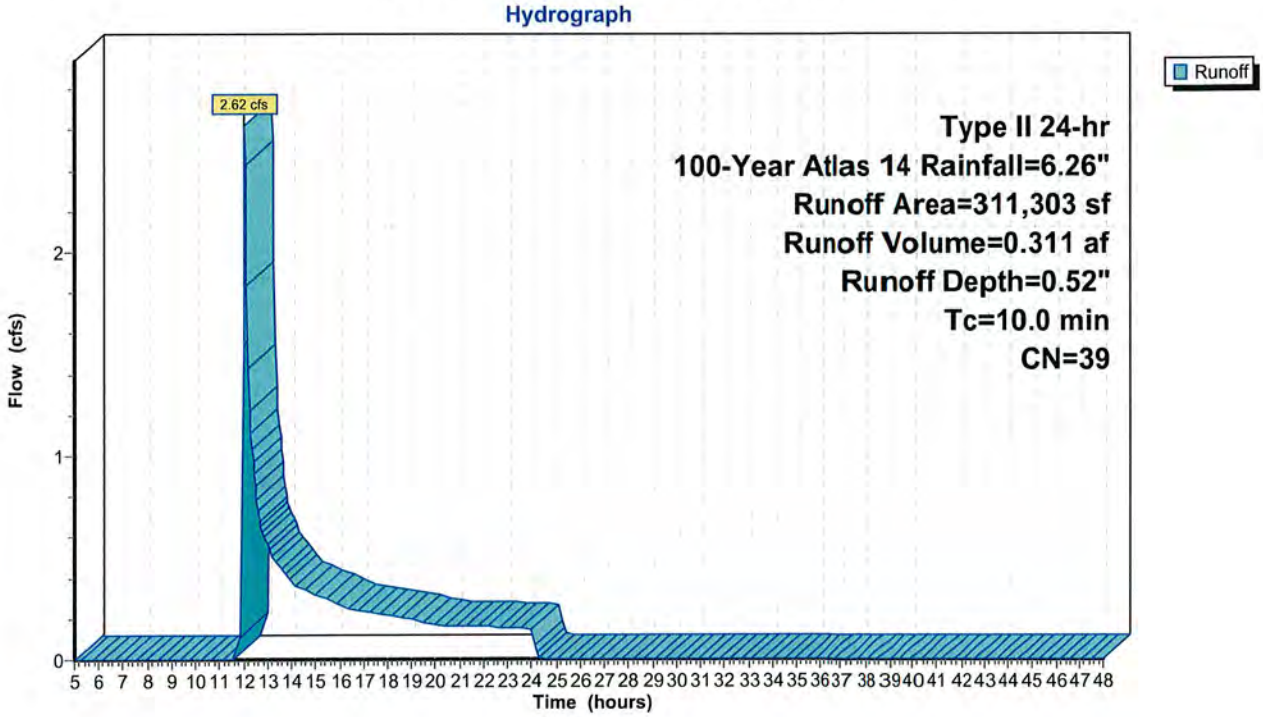
Runoff = 2.62 cfs @ 12.07 hrs, Volume= 0.311 af, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Atlas 14 Rainfall=6.26"

Area (sf)	CN	Description
311,303	39	>75% Grass cover, Good, HSG A
311,303		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1X: Direct to Basin



Summary for Subcatchment 2X: Direct to Street

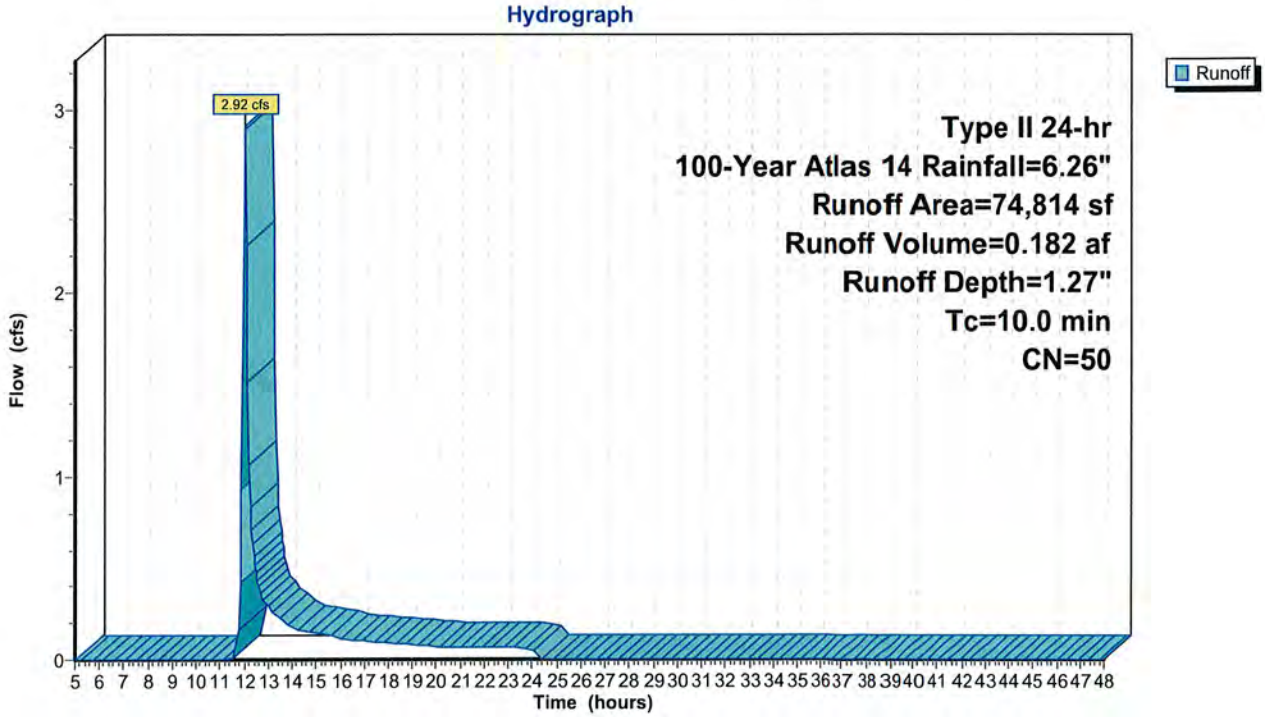
Runoff = 2.92 cfs @ 12.04 hrs, Volume= 0.182 af, Depth= 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Atlas 14 Rainfall=6.26"

Area (sf)	CN	Description
13,927	98	Paved parking, HSG A
60,887	39	>75% Grass cover, Good, HSG A
74,814	50	Weighted Average
60,887		81.38% Pervious Area
13,927		18.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2X: Direct to Street



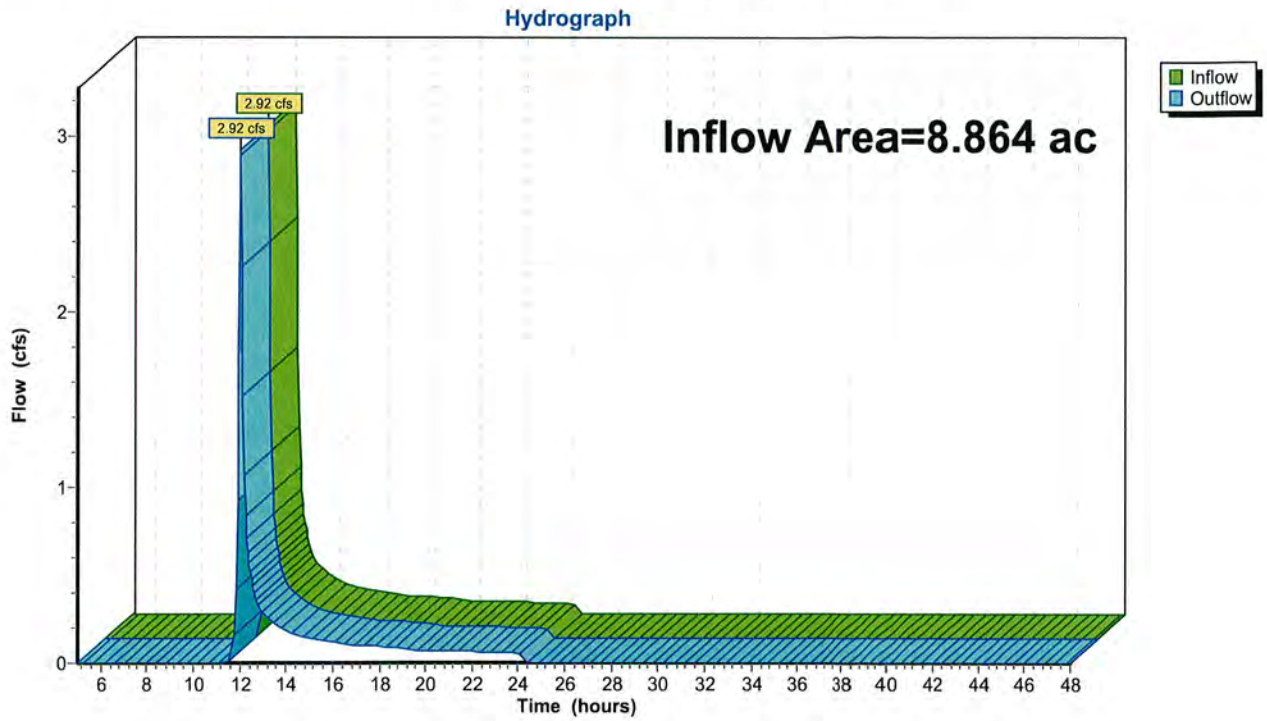
Summary for Reach 6R: Total Existing Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	8.864 ac,	3.61% Impervious,	Inflow Depth =	0.25"	for 100-Year Atlas 14 event
Inflow =	2.92 cfs @	12.04 hrs, Volume=	0.182 af		
Outflow =	2.92 cfs @	12.04 hrs, Volume=	0.182 af,	Atten= 0%,	Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Reach 6R: Total Existing Runoff



Summary for Pond 1P: Existing Pond

Inflow Area =	7.147 ac,	0.00% Impervious,	Inflow Depth =	0.52"	for 100-Year Atlas 14 event
Inflow =	2.62 cfs @	12.07 hrs, Volume=	0.311 af		
Outflow =	0.00 cfs @	5.00 hrs, Volume=	0.000 af,	Atten= 100%,	Lag= 0.0 min
Primary =	0.00 cfs @	5.00 hrs, Volume=	0.000 af		

Routing by Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,194.14' @ 24.60 hrs Surf.Area= 13,322 sf Storage= 13,552 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

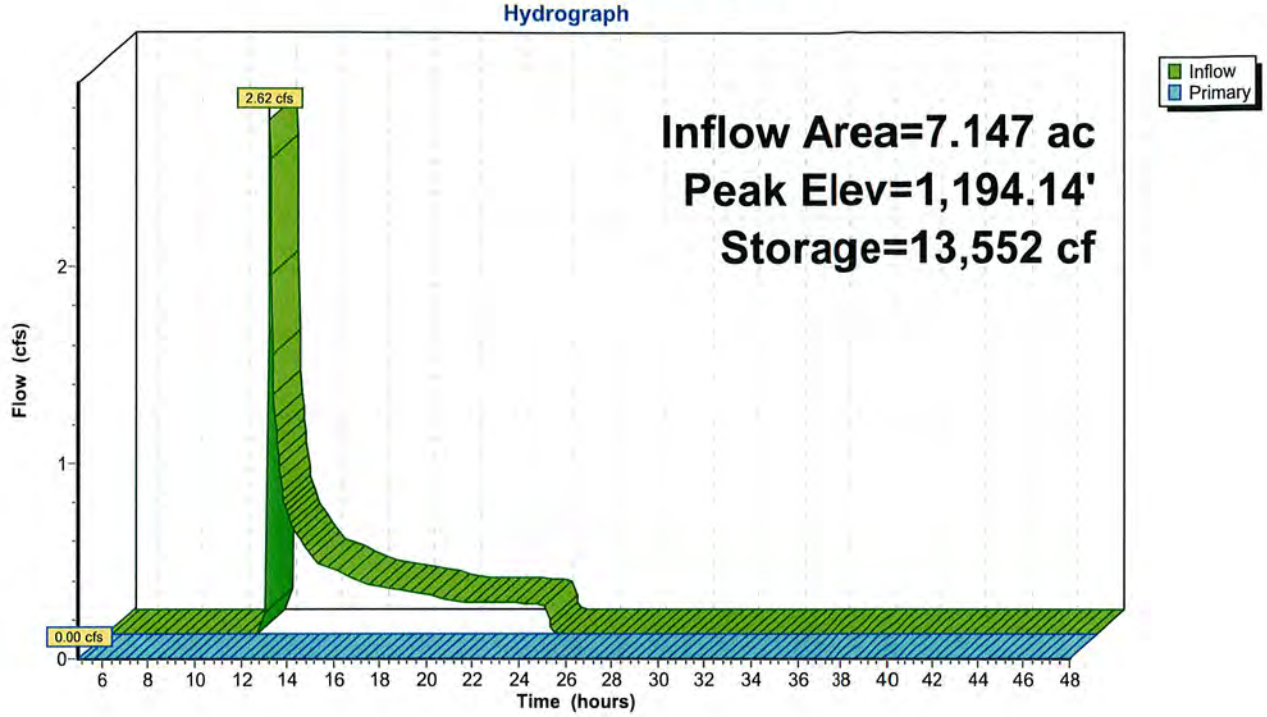
Volume	Invert	Avail.Storage	Storage Description
#1	1,192.00'	57,007 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

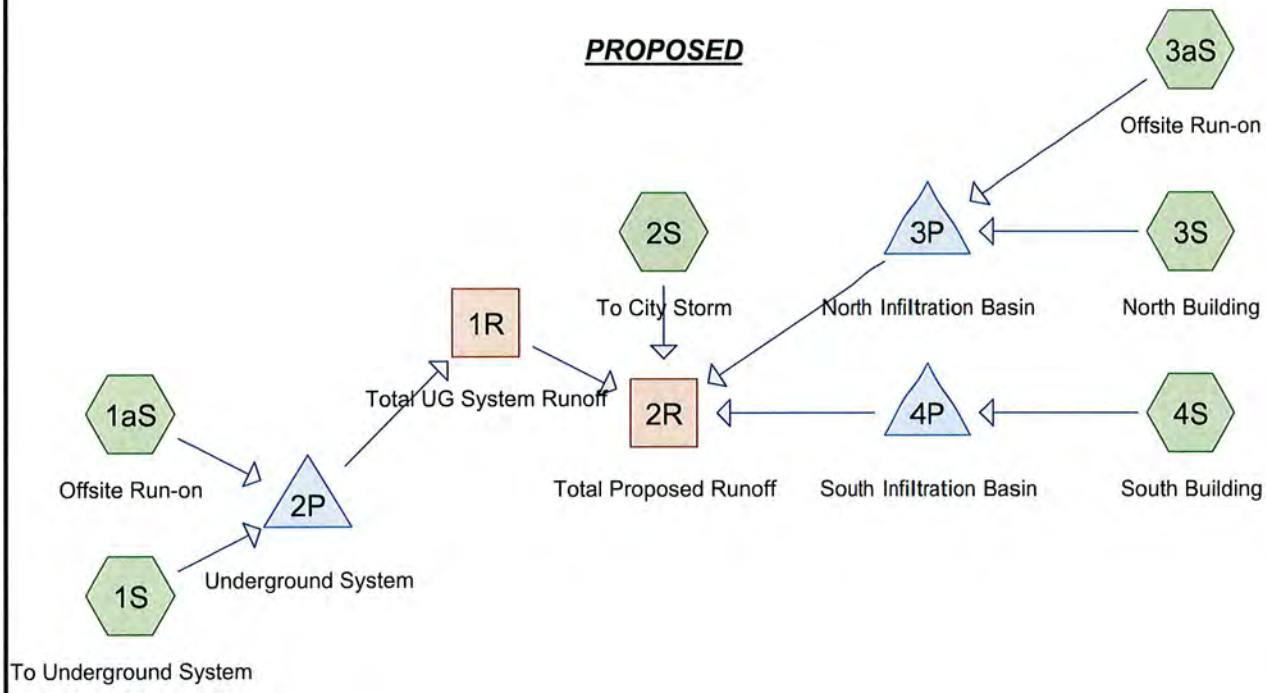
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,192.00	913	0	0
1,193.00	5,421	3,167	3,167
1,194.00	11,906	8,664	11,831
1,195.00	22,283	17,095	28,925
1,196.00	33,881	28,082	57,007

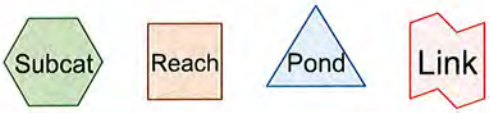
Device	Routing	Invert	Outlet Devices
#1	Primary	1,195.90'	**20.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=1,192.00' (Free Discharge)
└─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Existing Pond







Routing Diagram for 20525-HydroCAD
Prepared by Microsoft, Printed 4/14/2016
HydroCAD® 10.00-16 s/n 01876 © 2015 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.788	39	>75% Grass cover, Good, HSG A (1aS, 1S, 2S, 3aS, 3S, 4S)
6.716	98	Paved parking, HSG A (1aS, 1S, 2S)
0.699	98	Unconnected roofs, HSG A (3S, 4S)
9.202	**87**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
9.202	HSG A	1aS, 1S, 2S, 3aS, 3S, 4S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
9.202		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
1.788	0.000	0.000	0.000	0.000	1.788	>75% Grass cover, Good	1aS, 1S, 2S, 3aS, 3S, 4S
6.716	0.000	0.000	0.000	0.000	6.716	Paved parking	1aS, 1S, 2S
0.699	0.000	0.000	0.000	0.000	0.699	Unconnected roofs	3S, 4S
9.202	**0.000**	**0.000**	**0.000**	**0.000**	**9.202**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	2P	1,192.00	1,191.80	10.0	0.0200	0.013	24.0	0.0	0.0

Time span=5.00-48.00 hrs, dt=0.05 hrs, 861 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1aS: Offsite Run-on Runoff Area=7,624 sf 0.96% Impervious Runoff Depth=0.58"
Tc=10.0 min CN=40 Runoff=0.08 cfs 0.008 af

Subcatchment1S: To Underground Runoff Area=238,296 sf 93.68% Impervious Runoff Depth>5.48"
Tc=10.0 min CN=94 Runoff=41.35 cfs 2.500 af

Subcatchment2S: To City Storm Runoff Area=100,472 sf 68.90% Impervious Runoff Depth=4.02"
Tc=10.0 min CN=80 Runoff=13.83 cfs 0.772 af

Subcatchment3aS: Offsite Run-on Runoff Area=7,111 sf 0.00% Impervious Runoff Depth=0.52"
Tc=10.0 min CN=39 Runoff=0.06 cfs 0.007 af

Subcatchment3S: North Building Runoff Area=33,861 sf 60.36% Impervious Runoff Depth=3.50"
Tc=10.0 min CN=75 Runoff=4.11 cfs 0.227 af

Subcatchment4S: South Building Runoff Area=13,489 sf 74.13% Impervious Runoff Depth=4.33"
Tc=10.0 min CN=83 Runoff=1.98 cfs 0.112 af

Reach 1R: Total UG System Runoff Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Reach 2R: Total Proposed Runoff Inflow=13.83 cfs 0.772 af
Outflow=13.83 cfs 0.772 af

Pond 2P: Underground System Peak Elev=1,195.37' Storage=1.213 af Inflow=41.41 cfs 2.509 af
Discarded=2.51 cfs 2.509 af Primary=0.00 cfs 0.000 af Outflow=2.51 cfs 2.509 af

Pond 3P: North Infiltration Basin Peak Elev=1,199.86' Storage=4,628 cf Inflow=4.16 cfs 0.234 af
Discarded=0.30 cfs 0.234 af Primary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.234 af

Pond 4P: South Infiltration Basin Peak Elev=1,200.53' Storage=2,436 cf Inflow=1.98 cfs 0.112 af
Discarded=0.12 cfs 0.112 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.112 af

Total Runoff Area = 9.202 ac Runoff Volume = 3.627 af Average Runoff Depth = 4.73"
19.43% Pervious = 1.788 ac 80.57% Impervious = 7.414 ac

Summary for Subcatchment 1aS: Offsite Run-on

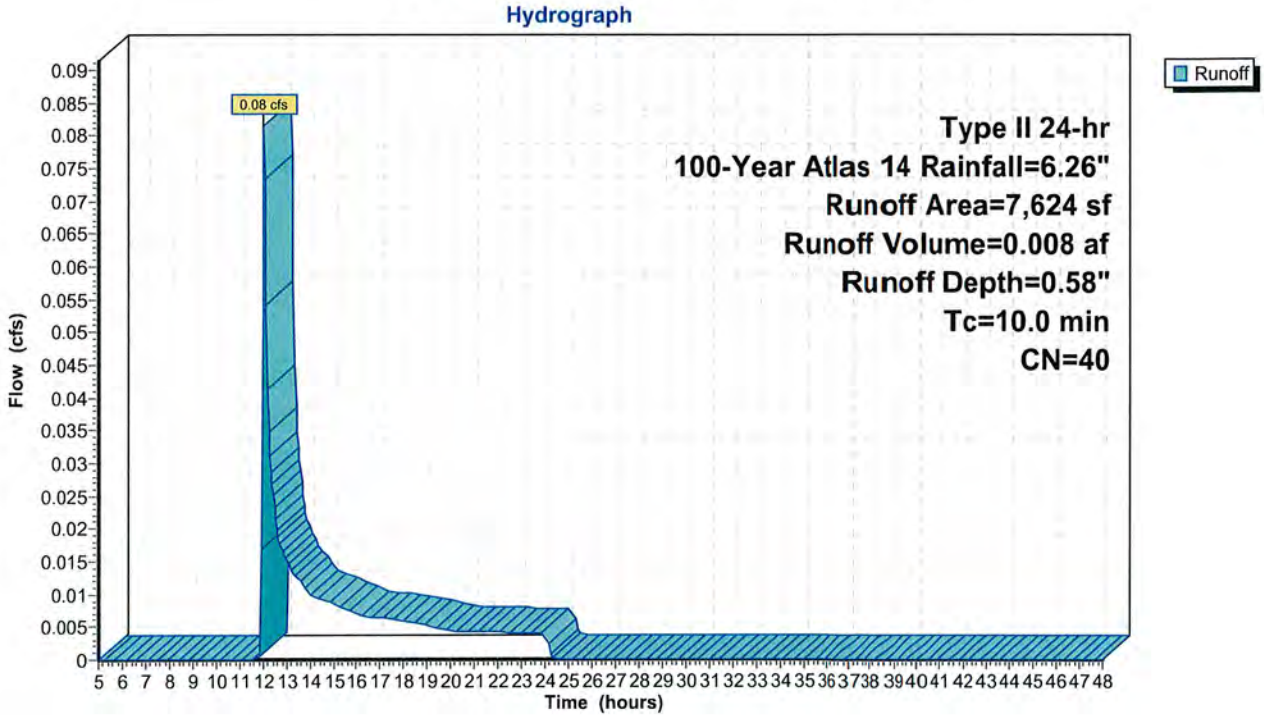
Runoff = 0.08 cfs @ 12.07 hrs, Volume= 0.008 af, Depth= 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Atlas 14 Rainfall=6.26"

Area (sf)	CN	Description
73	98	Paved parking, HSG A
7,551	39	>75% Grass cover, Good, HSG A
7,624	40	Weighted Average
7,551		99.04% Pervious Area
73		0.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1aS: Offsite Run-on



Summary for Subcatchment 1S: To Underground System

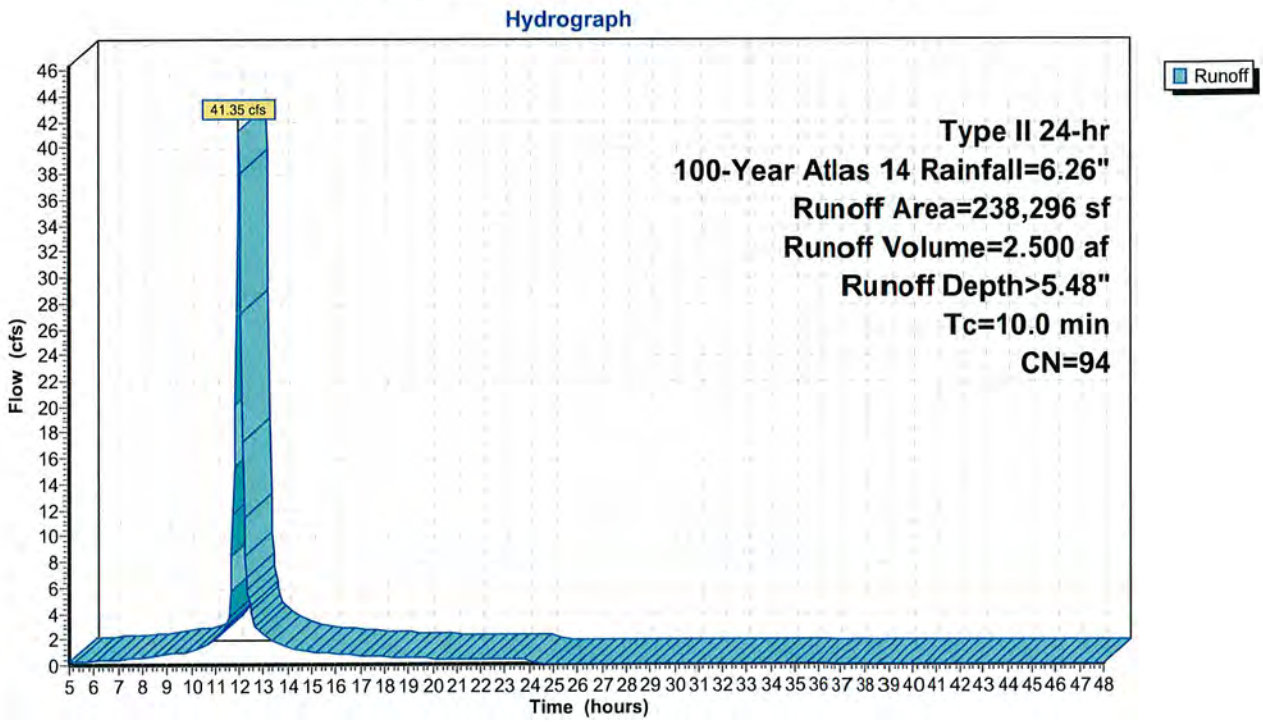
Runoff = 41.35 cfs @ 12.01 hrs, Volume= 2.500 af, Depth> 5.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Atlas 14 Rainfall=6.26"

Area (sf)	CN	Description
223,235	98	Paved parking, HSG A
15,061	39	>75% Grass cover, Good, HSG A
238,296	94	Weighted Average
15,061		6.32% Pervious Area
223,235		93.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: To Underground System



Summary for Subcatchment 2S: To City Storm

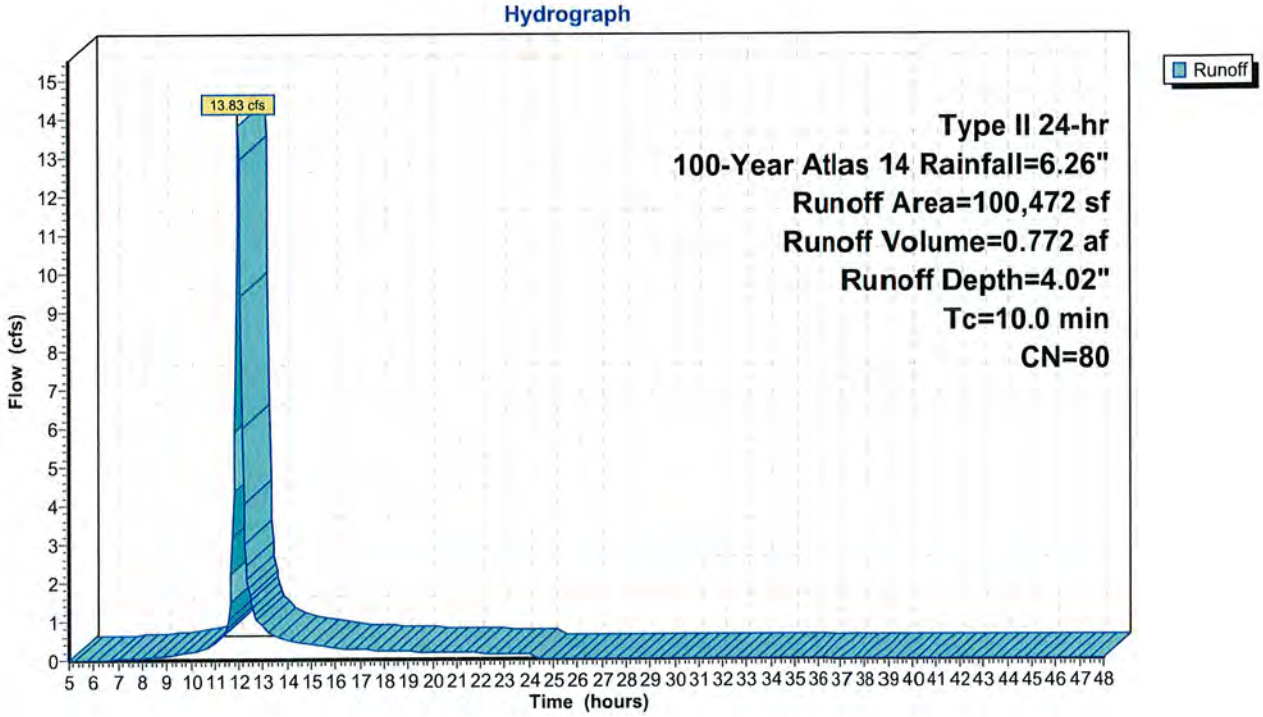
Runoff = 13.83 cfs @ 12.01 hrs, Volume= 0.772 af, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Atlas 14 Rainfall=6.26"

Area (sf)	CN	Description
69,222	98	Paved parking, HSG A
31,250	39	>75% Grass cover, Good, HSG A
100,472	80	Weighted Average
31,250		31.10% Pervious Area
69,222		68.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: To City Storm



Summary for Subcatchment 3aS: Offsite Run-on

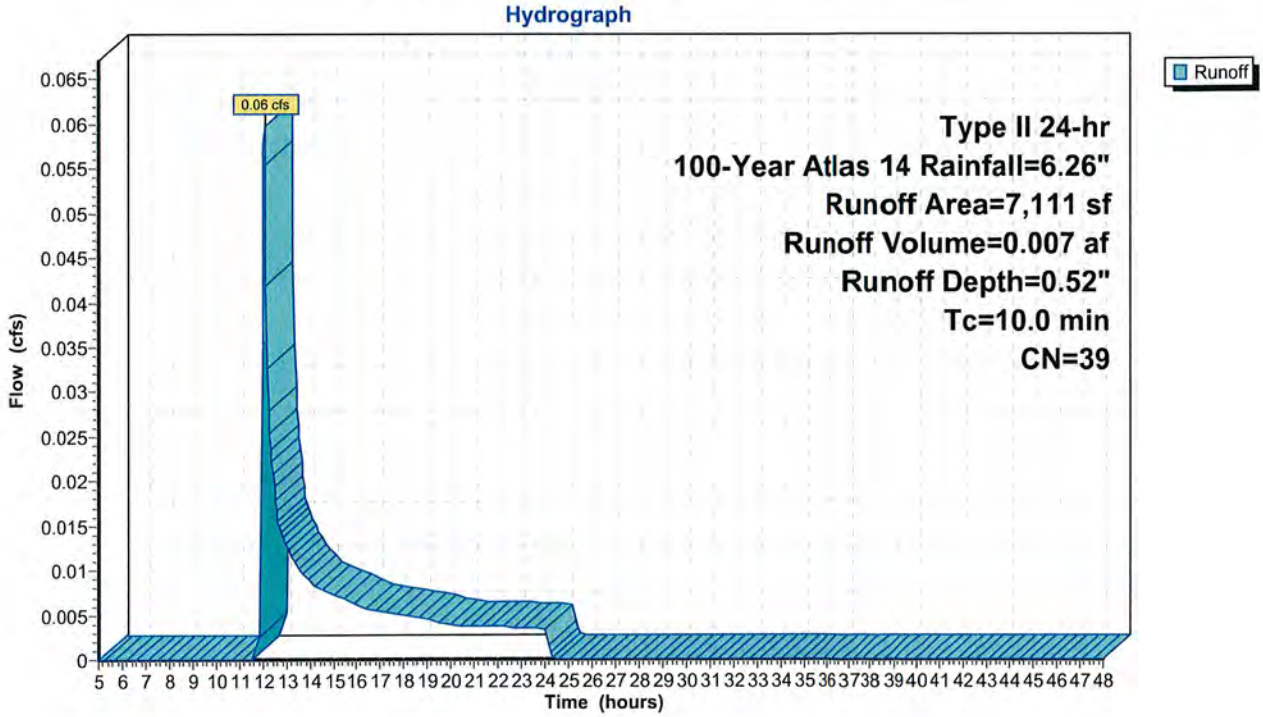
Runoff = 0.06 cfs @ 12.07 hrs, Volume= 0.007 af, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Atlas 14 Rainfall=6.26"

Area (sf)	CN	Description
7,111	39	>75% Grass cover, Good, HSG A
7,111		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3aS: Offsite Run-on



Summary for Subcatchment 3S: North Building

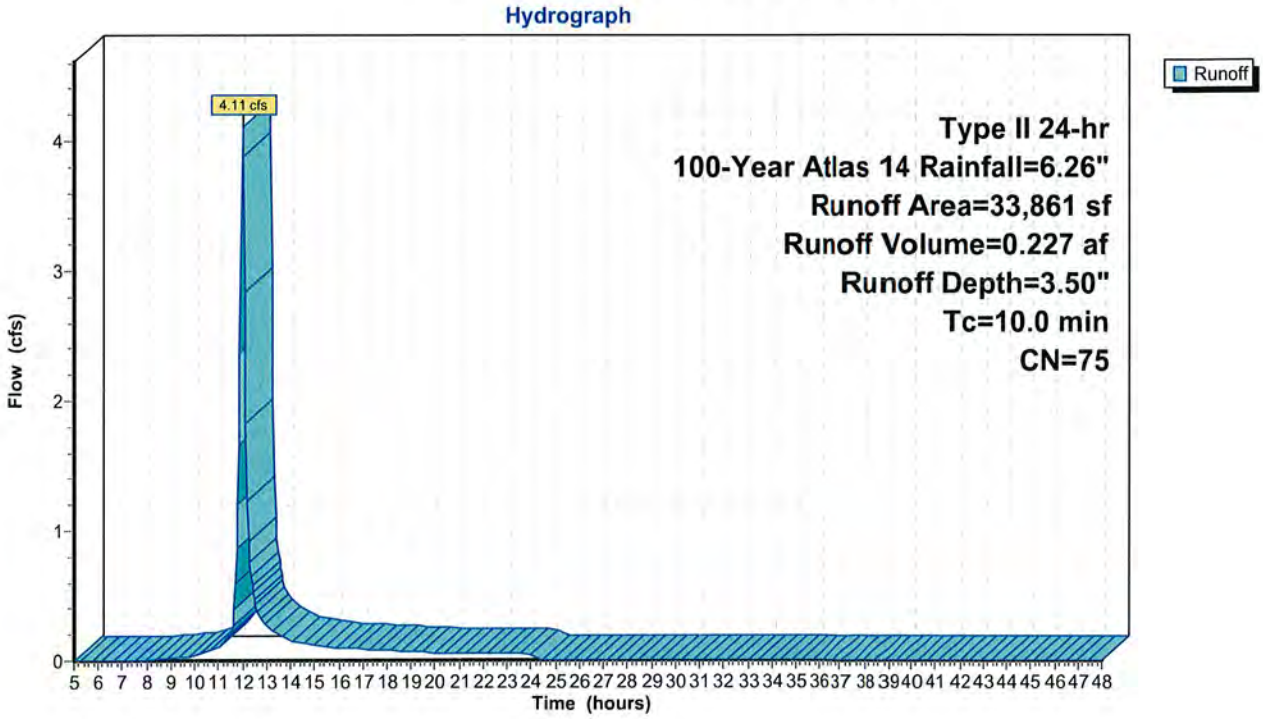
Runoff = 4.11 cfs @ 12.01 hrs, Volume= 0.227 af, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Atlas 14 Rainfall=6.26"

Area (sf)	CN	Description
20,440	98	Unconnected roofs, HSG A
13,421	39	>75% Grass cover, Good, HSG A
33,861	75	Weighted Average
13,421		39.64% Pervious Area
20,440		60.36% Impervious Area
20,440		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: North Building



Summary for Subcatchment 4S: South Building

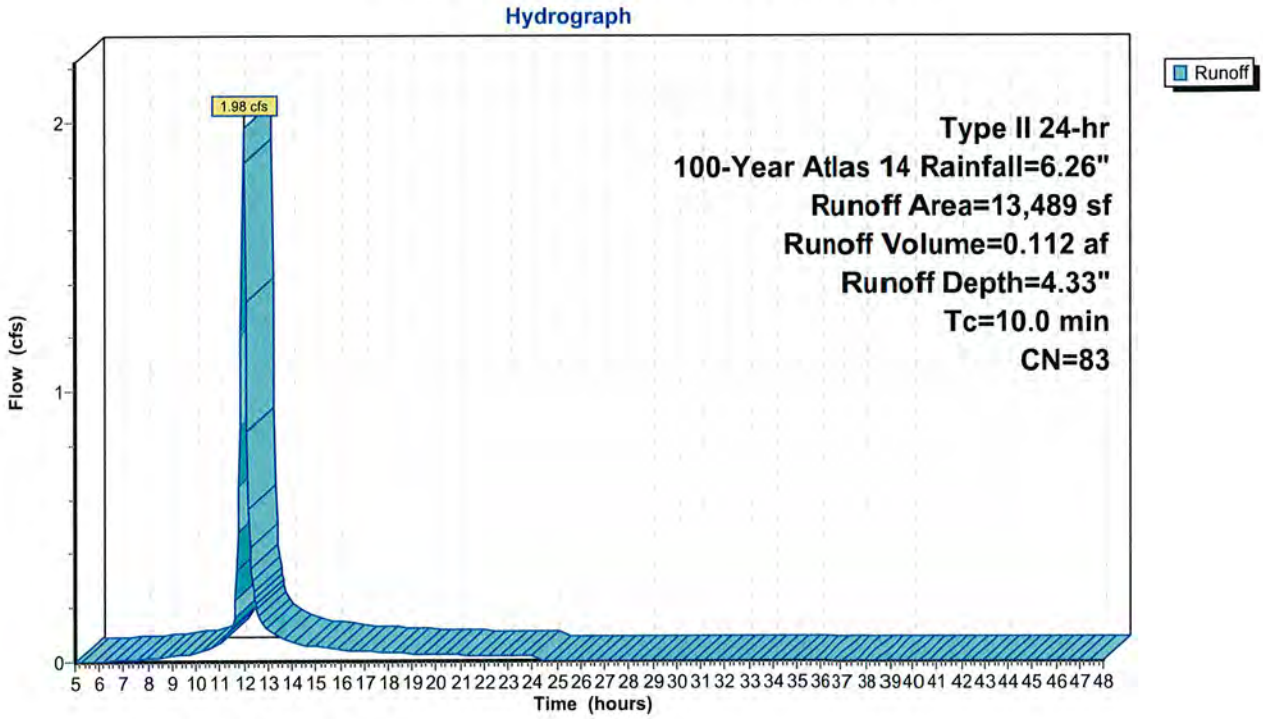
Runoff = 1.98 cfs @ 12.01 hrs, Volume= 0.112 af, Depth= 4.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Atlas 14 Rainfall=6.26"

Area (sf)	CN	Description
10,000	98	Unconnected roofs, HSG A
3,489	39	>75% Grass cover, Good, HSG A
13,489	83	Weighted Average
3,489		25.87% Pervious Area
10,000		74.13% Impervious Area
10,000		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 4S: South Building



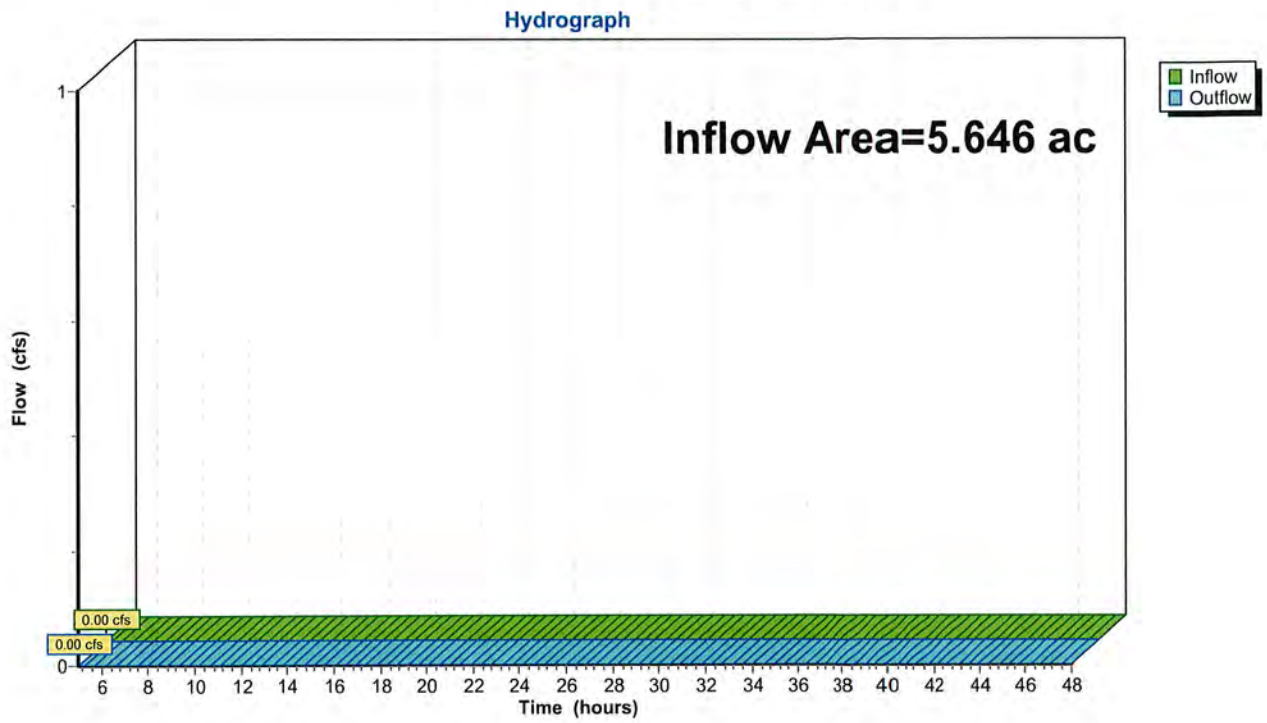
Summary for Reach 1R: Total UG System Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	5.646 ac, 90.81% Impervious, Inflow Depth = 0.00" for 100-Year Atlas 14 event				
Inflow =	0.00 cfs @	5.00 hrs, Volume=	0.000 af		
Outflow =	0.00 cfs @	5.00 hrs, Volume=	0.000 af, Atten= 0%, Lag= 0.0 min		

Routing by Stor-Ind+Trans method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Reach 1R: Total UG System Runoff



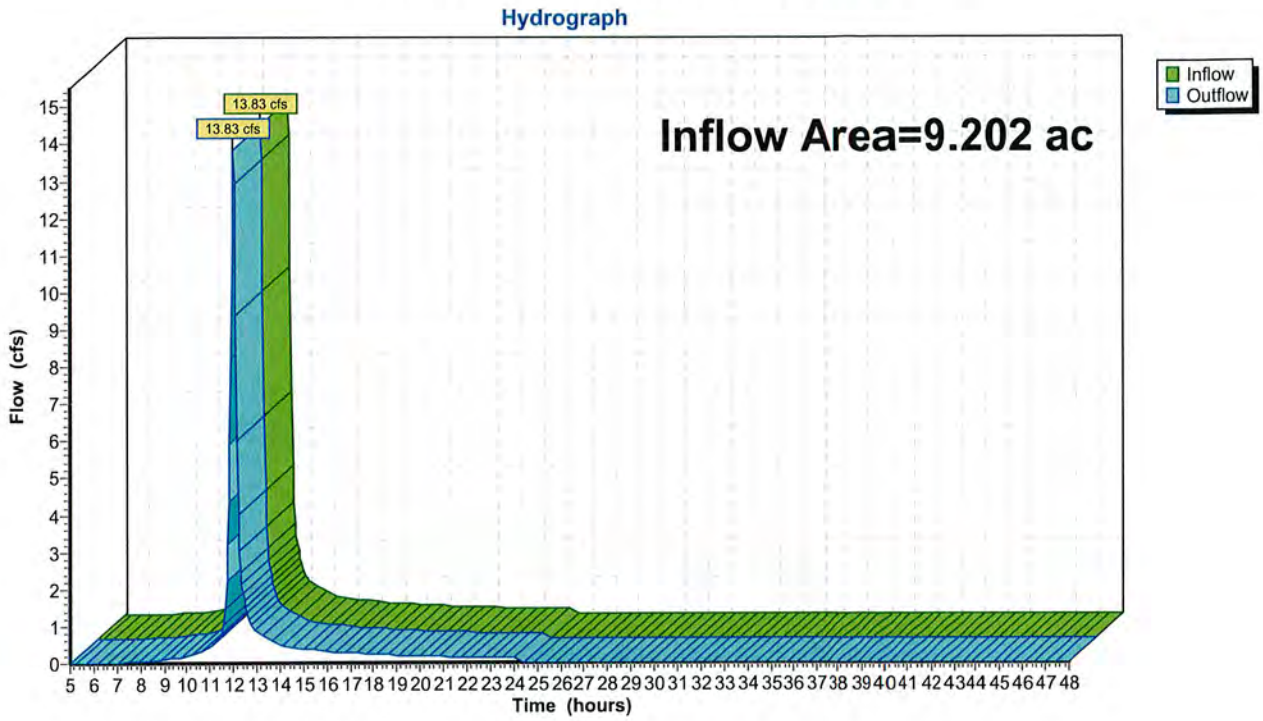
Summary for Reach 2R: Total Proposed Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 9.202 ac, 80.57% Impervious, Inflow Depth = 1.01" for 100-Year Atlas 14 event
Inflow = 13.83 cfs @ 12.01 hrs, Volume= 0.772 af
Outflow = 13.83 cfs @ 12.01 hrs, Volume= 0.772 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Reach 2R: Total Proposed Runoff



Summary for Pond 2P: Underground System

[82] Warning: Early inflow requires earlier time span

Inflow Area =	5.646 ac,	90.81% Impervious,	Inflow Depth >	5.33"	for 100-Year Atlas 14 event
Inflow =	41.41 cfs @	12.01 hrs,	Volume=	2.509 af	
Outflow =	2.51 cfs @	12.92 hrs,	Volume=	2.509 af,	Atten= 94%, Lag= 54.6 min
Discarded =	2.51 cfs @	12.92 hrs,	Volume=	2.509 af	
Primary =	0.00 cfs @	5.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,195.37' @ 12.92 hrs Surf.Area= 0.406 ac Storage= 1.213 af
Flood Elev= 1,195.50' Surf.Area= 0.406 ac Storage= 1.235 af

Plug-Flow detention time= 220.2 min calculated for 2.505 af (100% of inflow)
Center-of-Mass det. time= 219.8 min (994.6 - 774.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	1,191.00'	0.557 af	**80.08'W x 220.80'L x 5.50'H Field A** 2.233 af Overall - 0.840 af Embedded = 1.392 af x 40.0% Voids
#2A	1,191.75'	0.840 af	**ADS_StormTech MC-3500 d +Cap**x 330 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 11 Rows of 30 Chambers Cap Storage= +14.9 cf x 2 x 11 rows = 327.8 cf
		1.397 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,191.00'	**2.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 1,188.00'
#2	Primary	1,192.00'	**24.0" Round Culvert** L= 10.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,192.00' / 1,191.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#3	Device 2	1,195.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=2.51 cfs @ 12.92 hrs HW=1,195.37' (Free Discharge)
└─**1=Exfiltration** (Controls 2.51 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=1,191.00' (Free Discharge)
└─**2=Culvert** (Controls 0.00 cfs)
  └─**3=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond 2P: Underground System - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-3500 d +Cap (ADS StormTech®MC-3500 d rev 03/14 with Cap storage)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 11 rows = 327.8 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

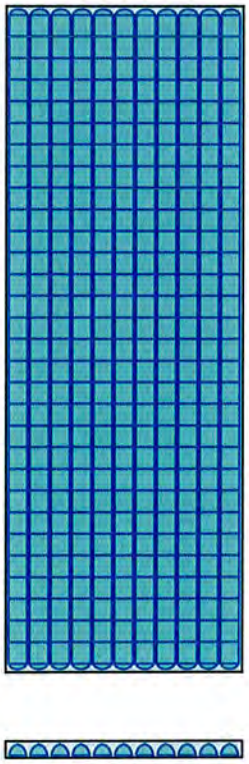
30 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 218.80' Row Length +12.0" End Stone x 2 = 220.80' Base Length
11 Rows x 77.0" Wide + 9.0" Spacing x 10 + 12.0" Side Stone x 2 = 80.08' Base Width
9.0" Base + 45.0" Chamber Height + 12.0" Cover = 5.50' Field Height

330 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 11 Rows = 36,611.9 cf Chamber Storage

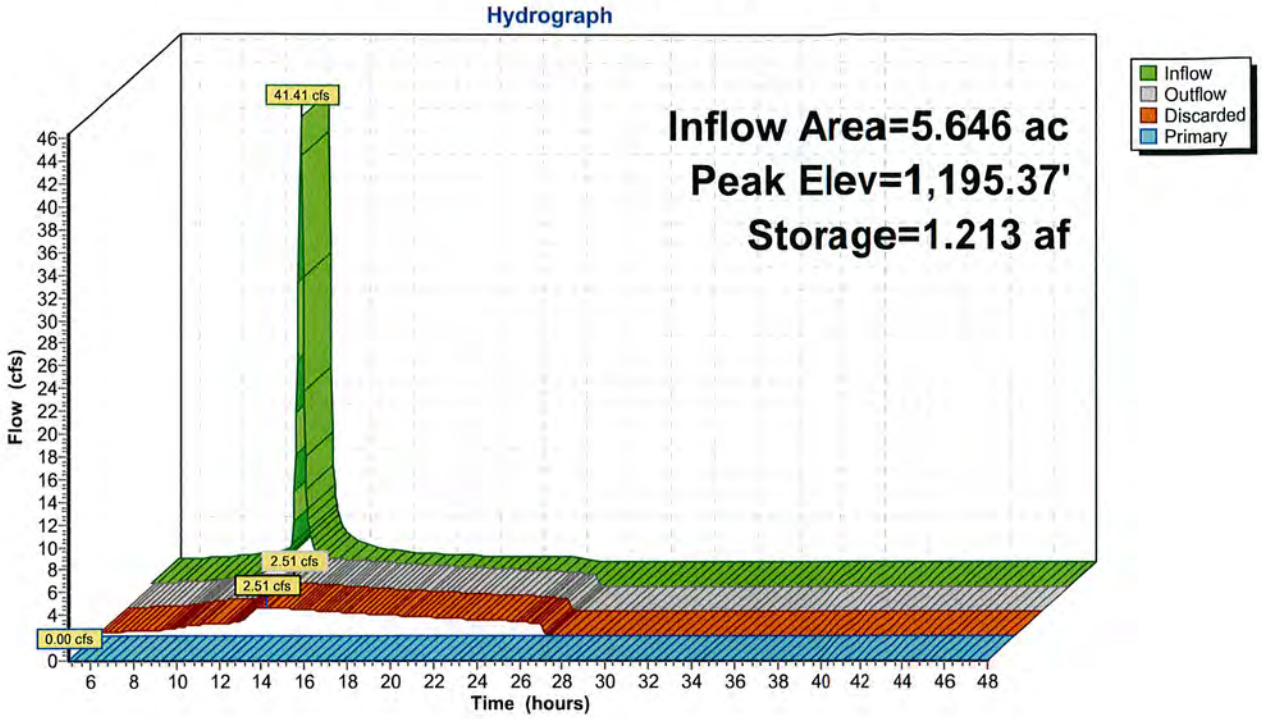
97,253.2 cf Field - 36,611.9 cf Chambers = 60,641.3 cf Stone x 40.0% Voids = 24,256.5 cf Stone Storage

Chamber Storage + Stone Storage = 60,868.4 cf = 1.397 af
Overall Storage Efficiency = 62.6%
Overall System Size = 220.80' x 80.08' x 5.50'

330 Chambers
3,602.0 cy Field
2,246.0 cy Stone



Pond 2P: Underground System



Summary for Pond 3P: North Infiltration Basin

Inflow Area =	0.941 ac, 49.89% Impervious, Inflow Depth = 2.99" for 100-Year Atlas 14 event				
Inflow =	4.16 cfs @	12.02 hrs,	Volume=	0.234 af	
Outflow =	0.30 cfs @	12.94 hrs,	Volume=	0.234 af,	Atten= 93%, Lag= 55.4 min
Discarded =	0.30 cfs @	12.94 hrs,	Volume=	0.234 af	
Primary =	0.00 cfs @	5.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,199.86' @ 12.94 hrs Surf.Area= 4,683 sf Storage= 4,628 cf
Flood Elev= 1,201.00' Surf.Area= 6,941 sf Storage= 11,250 cf

Plug-Flow detention time= 167.0 min calculated for 0.234 af (100% of inflow)
Center-of-Mass det. time= 166.8 min (995.9 - 829.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,198.50'	11,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

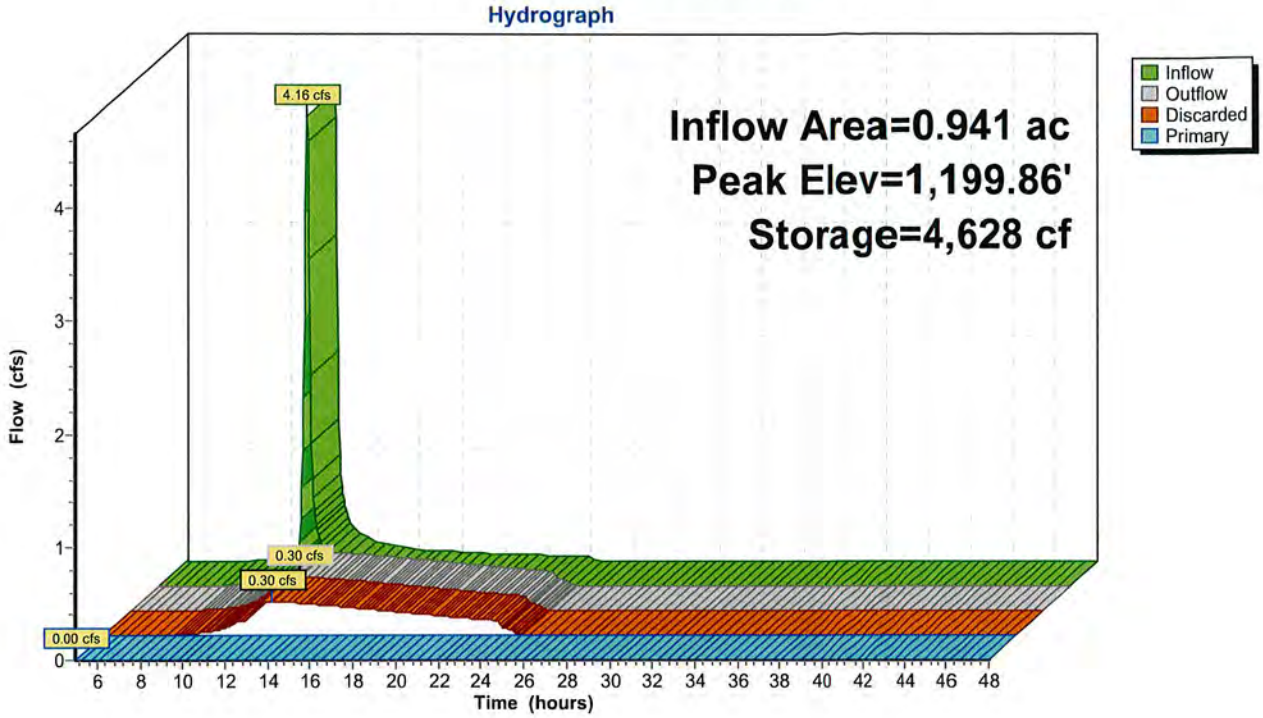
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,198.50	2,149	0	0
1,199.00	3,057	1,302	1,302
1,200.00	4,949	4,003	5,305
1,201.00	6,941	5,945	11,250

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,198.50'	**2.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 1,188.00'
#2	Primary	1,200.99'	**20.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.30 cfs @ 12.94 hrs HW=1,199.86' (Free Discharge)
└**1=Exfiltration** (Controls 0.30 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=1,198.50' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: North Infiltration Basin



Summary for Pond 4P: South Infiltration Basin

Inflow Area =	0.310 ac, 74.13% Impervious, Inflow Depth = 4.33" for 100-Year Atlas 14 event				
Inflow =	1.98 cfs @	12.01 hrs,	Volume=	0.112 af	
Outflow =	0.12 cfs @	12.96 hrs,	Volume=	0.112 af,	Atten= 94%, Lag= 56.8 min
Discarded =	0.12 cfs @	12.96 hrs,	Volume=	0.112 af	
Primary =	0.00 cfs @	5.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,200.53' @ 12.96 hrs Surf.Area= 1,937 sf Storage= 2,436 cf
Flood Elev= 1,201.00' Surf.Area= 2,307 sf Storage= 3,436 cf

Plug-Flow detention time= 224.2 min calculated for 0.112 af (100% of inflow)
Center-of-Mass det. time= 224.2 min (1,029.4 - 805.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,198.50'	3,436 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

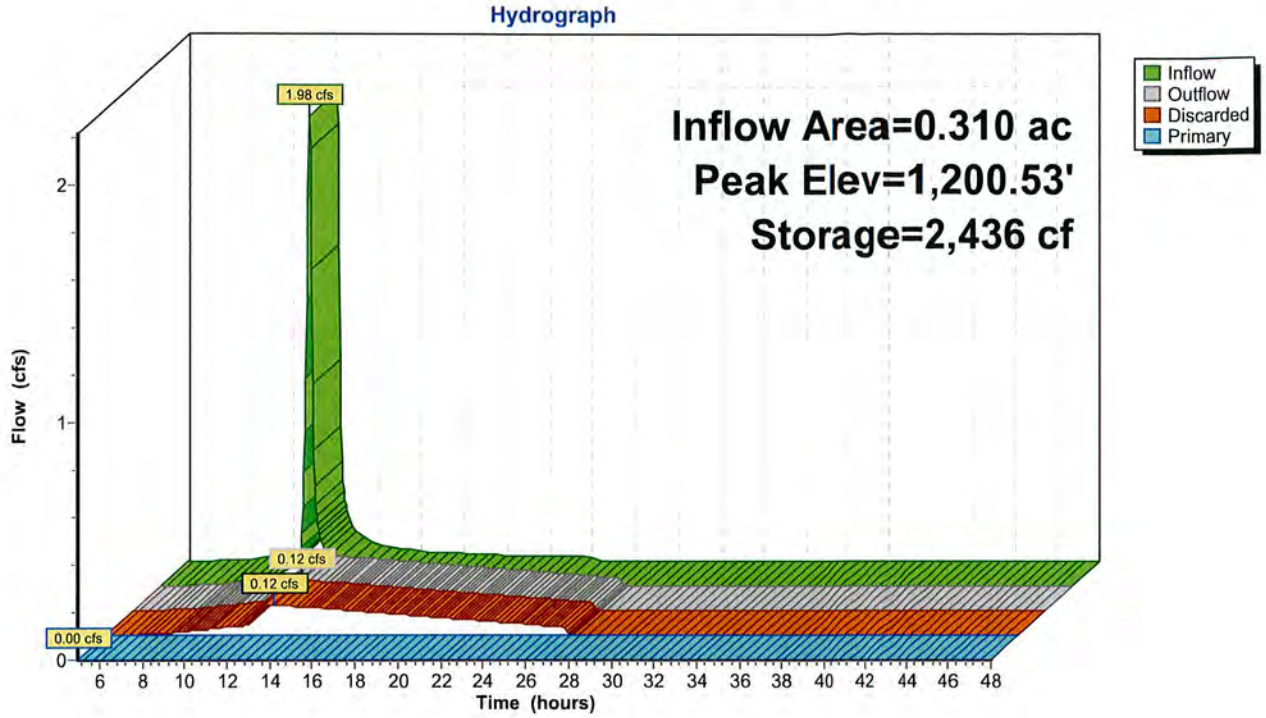
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,198.50	533	0	0
1,199.00	837	343	343
1,200.00	1,521	1,179	1,522
1,201.00	2,307	1,914	3,436

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,198.50'	**2.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 1,188.00'
#2	Primary	1,200.99'	**50.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.12 cfs @ 12.96 hrs HW=1,200.53' (Free Discharge)
└**1=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=1,198.50' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: South Infiltration Basin



APPENDIX C – GEOTECHNICAL REPORT

A Geotechnical Evaluation Report

Proposed Retail Development
Southeast Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

Prepared for

Central Lakes Properties, LLC

Professional Certification:
I hereby certify that this plan, specification or report was prepared by me and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Mark L. Jenkins, PE
Professional Engineer
License Number: 41770
November 2, 2005

Project SP-05-04334

Braun Intertec Corporation

BRAUN
INTERTEC

Braun Intertec Corporation
1826 Buerkle Road
Saint Paul, MN 55110

Phone: 651.487.3245
Fax: 651.487.1812
Web: brauninterlec.com

November 2, 2005

Project SP-05-04334

Mr. Dennis Klohs
Central Lakes Properties, LLC
5200 Wilson Road
Suite 201
Minneapolis, MN 55424

Re: Geotechnical Evaluation
Proposed Retail Development
Southeast Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

Dear Mr. Klohs:

We are pleased to present the attached geotechnical evaluation report for the proposed retail development located in the southeast quadrant of Elder Drive and Forthun Road in Baxter, Minnesota. Our results and recommendations are summarized below. More detailed information is contained in the attached report.

Summary of Results

For this evaluation, we drilled 12 penetration test borings to a depth of about 20 feet. The borings initially encountered 6 to 24 inches of topsoil, with an average thickness of about 12 inches. The topsoil consisted of poorly graded sand with silt and silty sand, all with traces of roots. Some of the topsoil was slightly organic. Beneath the topsoil, the borings encountered alluvial (water-deposited) soils to their termination depths. The alluvium consisted of poorly graded sand and poorly graded sand with silt, with isolated layers of silty sand. Penetration resistance testing indicated that the alluvium was very loose to medium dense, but loose overall.

Based on the information obtained from the borings, the groundwater is currently between elevations of 1188 and 1190 ½; typically at the depths where cave-in was observed.

Summary of Recommendations

The surface vegetation, root zone and slightly organic topsoil are considered unsuitable for support of buildings. We recommend those materials be removed from beneath proposed structures and be replaced with compacted backfill. Being typically loose, we recommend the exposed sands be thoroughly surface-compacted prior to placement of additional fill or structural components.

The surface vegetation, root zone and slightly organic topsoil are considered unsuitable for direct support of pavements. We recommend those materials be removed from within at least 3 feet of pavement subgrade elevations and be replaced with compacted backfill. It is our opinion that topsoil more than 3 feet below pavement subgrade elevations may remain in place beneath proposed pavements provided the surface vegetation and heavy root zone are removed, and provided the exposed surface is stable enough to support the placement and compaction of subsequent fill.

AAVEQE
Printed on recycled paper with soy ink.

Remarks

We appreciate the opportunity to be of service to you on this project. If you have questions about the attached report, please call us at 651.487.3245.

Sincerely,

BRAUN INTERTEC CORPORATION

Mark L. Jenkins, PE
Senior Engineer

Loren W. Braun, PE
Senior Engineer

Attachment:
Geotechnical Evaluation Report

Sp0504334

Table of Contents

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Appendix
Boring Location Sketch
Log of Boring Sheets
Descriptive Terminology

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A. Introduction

A.1. Situation

Central Lakes Properties, LLC is planning a retail development in the southeast quadrant of Elder Drive and Forthun Road in Baxter, Minnesota. The proposed retail development currently includes four buildings encompassing approximately 15,400, 25,000, 27,000 and 36,000 square feet of area. The buildings are planned to be situated on the western, northwestern and northern portions of the site, with the primary parking area situated on the central and southeastern portions of the site. A stormwater detention/infiltration pond is proposed for the far northwestern portion of the site.

A.2. Project Goals

Our goals for this geotechnical evaluation included characterizing subsurface conditions throughout the site, and helping Central Lakes Properties, LLC and their consultants to design proposed building foundations, slabs and pavements, and prepare plans and specifications for this project. Our work scope also included performing a Phase I Environmental Site Assessment for this site. The environmental evaluation will be summarized in a separate report.

A.3. Scope of Services

Based on our project goals, we developed a scope of services for this project and submitted it in the form of a Cost Estimate to Mr. Dennis Klohs of Central Lakes Properties on August 30, 2005, who provided verbal authorization to proceed shortly thereafter. Our scope of services was performed under the terms of our March 1, 2003, General Conditions, and was limited to the tasks described below.

A.3.a. Reconnaissance

We performed a cursory reconnaissance of the site primarily to evaluate equipment access to prospective borings, stake the boring locations and clear those locations of underground utilities through a meet with Gopher State One Call.

The site was observed to be relatively level and was covered with sparse vegetation. A wooded area was located on the eastern portion of the site. A small mound observed on the southwestern portion of the site appeared to be fill.

A.3.b. Borings

We performed 12 penetration test borings to a depth of about 20 feet each on an evenly distributed grid pattern across this site.

AA/EOE
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Penetration resistance tests were performed as the borings were advanced. Penetration resistances, measured in blows-per-foot (BPF), provide an empirical means of estimating relative material density, consistency, strength and compaction. The depths at which the penetration resistance tests were performed are shown on the Log of Boring sheets included in the Appendix.

A.3.c. Surveying

Figure 1, in the Appendix, is a copy of a site plan submitted to us by Widseth Smith Nolting, which shows the configuration of the proposed commercial development on the site and indicates the approximate locations of our soil borings. Braun Intertec selected the boring locations, staked their locations and measured their surface elevations relative to the tops of the hydrants located at the southeast corner of Elder Drive and Garrison Road (elevation = 1199.11) and the northeast corner of Elder Drive and Forthun Road (elevation = 1201.42). Widseth Smith and Nolting provided us with the elevations of the tops of the hydrants, which we used to determine the boring elevations.

A.3.d. Engineering Evaluation and Analysis

The results of the field data were analyzed to help formulate recommendations for building and subgrade preparation, and for the design of foundations, slabs and pavements. Our analysis and recommendations are summarized below.

B. Results

B.1. Log of Boring Sheets

The attached Log of Boring sheets classify and describe the materials encountered, and present the results of penetration resistance tests and groundwater measurements. Geologic origins assigned to the strata shown on the logs were determined from a review of material classifications, penetration resistance and other in-situ tests, laboratory tests and geologic publications pertinent to the site and general area.

B.2. Materials Summary

The types of materials encountered by the borings are described below. The materials are described in the order they were encountered, i.e., beginning at the ground surface.

B.2.a Topsoil

The borings encountered topsoil at the surface consisting of poorly graded sand with silt and silty sand, typically with traces of roots. Portions of the topsoil were slightly organic. The topsoil layer ranged in thickness between 6 and 24 inches, with an average thickness of about 12 inches. The topsoil was brown to dark brown, and was moist.

B.2.b. Alluvium

Having penetrated the topsoil, the borings encountered and terminated in alluvium (water-deposited soils) consisting of poorly graded sand and poorly graded sand with silt, with isolated layers of silty sand. The alluvium was light brown to brown, and was moist to waterbearing at depth (at and below the groundwater level).

B.3. Penetration Resistance Data

Results of the penetration resistance tests performed in the materials encountered by the borings are summarized below in Table 1. Interpretive comments are provided to illustrate the engineering implications of the penetration resistances.

Table 1. Penetration Resistance Data Summary

Material	Classification	Range of Penetration Resistances	Comments
Alluvial Soils	Poorly graded sand, poorly graded sand with silt and silty sand	2 to 28 BPF, with an average of 8 BPF	Very loose to medium dense and loose overall

B.4. Groundwater Measurements

Groundwater was observed in the borings and at the depths shown below in Table 3, as the borings were advanced and/or after auger withdrawal. Estimated groundwater elevations were determined from comparisons of the measured depths to groundwater and surface elevations, and were rounded to the highest 1/2-foot.

Table 3. Groundwater Measurements Summary

Boring Number	Surface Elevation	Depth to Groundwater During Drilling (ft)	Approximate Cave-In Depth After Auger Withdrawal (ft)	Estimated Groundwater Elevation
ST-1	1202.8	15 ½	13	1190
ST-2	1201.9	12 ½	11 ½	1190 ½
ST-3	1200.6	12 ½	11	1190
ST-4	1193.6	8	5 ½	1188
ST-5	1202.1	14 ½	13	1189 ½
ST-6	1201.3	12 ½	12	1189 ½

Table 3. Groundwater Measurements Summary (continued)

Boring Number	Surface Elevation	Depth to Groundwater During Drilling (ft)	Approximate Cave-In Depth After Auger Withdrawal (ft)	Estimated Groundwater Elevation
ST-7	1196.5	8	7 ½	1189
ST-8	1202.4	13 ½	13	1189 ½
ST-9	1201.2	12 ½	12	1189 ½
ST-10	1199.2	12 ½	10 ½	1189
ST-11	1200.2	12 ½	10	1190 ½
ST-12	1197.5	10	9	1188 ½

Based on the information obtained from the borings, the boring data suggests that groundwater is currently between elevations of about 1188 and 1190 ½; typically at the depths where cave-in was observed.

C. Evaluation and Analyses

C.1. Design Details

C.1.a. Building Construction, Foundation Loading and Settlement Tolerances

It is our understanding that the currently proposed development includes four retail buildings and associated pavements as shown on the attached sketch. We assume the buildings will be single-story, steel-frame structures with masonry or pre-cast bearing walls and slab on grade floors. We also assume that foundation loading will not exceed 6 kips per lineal foot for bearing walls or 150 kips for columns. Slab-on-grade loading is not expected to exceed 200 pounds per square foot.

Structures of the type proposed for this development can generally tolerate up to 1 inch or more of total settlement and ½ inch of differential settlement (between adjacent columns or along a span of about 40 feet).

C.1.b. Pavement Types and Traffic Loads

We assume that the pavements will service typical commercial/retail traffic consisting primarily of automobiles and light trucks in standard-duty areas; with heavy-duty pavements provided for truck access routes and main drive lanes. Based on a 20-year design, we have assumed that traffic loads will be 50,000 equivalent 18-kip single axle loads (ESALs) for standard-duty pavements and 250,000 ESALs for heavy-duty pavements.

C.1.c. Anticipated Grade Changes

Existing surface grades at the boring locations ranged between elevations of about 1193 ½ and 1203. The existing surface grades at our boring locations performed in proposed building areas ranged between about 1197 ½ and 1203. Finished floor elevations for the proposed retail buildings have not been established at this time, but we assume they will be established at about elevation 1200, which would result in required fills of up to about 2 ½ feet and cuts of up to about 3 feet to attain finished floor elevation. We do not have information on proposed pavement subgrade elevations, but assume they will generally be within about 5 feet of existing surface grades.

C.1.d. Precautions Regarding Changed Information

We have attempted to describe our understanding of the proposed construction to the extent it was reported to us by others. Depending on the extent of available information, assumptions may have been made based on our experience with similar projects. If we have not correctly recorded or interpreted the project details, we should be notified. New or changed information could require additional evaluation, analyses and/or recommendations.

C.2. Building Support

After removing the surface vegetation, root zone and topsoil from the building areas, we expect that alluvial sands will be exposed. Being typically loose, we recommend that prior to placing additional fill or structural components, the exposed alluvial sands be moisture conditioned to near their optimum moisture contents and then be thoroughly surface compacted with a large vibratory smooth-drum roller with at least two passes in each of two perpendicular directions.

Similarly, prior to placing formwork or reinforcing steel, we recommend that the alluvial sands exposed in the footing excavation bottoms be thoroughly compacted with a vibratory plate, or turtle-type, compactor.

C.3. Pavement Support

After removing the surface vegetation and root zone from the pavement areas, as well as removing the higher organic topsoil from within 3 feet of pavement subgrades, we anticipate that alluvial sands will be exposed. Prior to placing additional fill or pavements, we recommend the exposed alluvial sands be moisture conditioned to near their optimum moisture contents and then be thoroughly surface compacted with a large smooth-drum vibratory roller with at least two passes in each of two perpendicular directions.

C.4. Reusing On-Site Materials

The topsoil is considered unsuitable for use as engineered fill in building and pavement areas and should be placed in landscaped areas if not hauled off site. Consideration could be given to using low-organic topsoil (defined as having an organic content of less than 5 percent) at depths greater than 3 feet below pavement subgrade elevations provided they can be adequately compacted. Topsoil with an organic content of less than 3 percent is considered suitable for use as engineered fill in building and pavement areas.

The native alluvial sands are considered suitable for use as engineered fill in building and pavement areas. Sands exhumed from above groundwater may require some wetting to facilitate compaction, while those exhumed from below groundwater will likely require drying to facilitate compaction.

C.5. Groundwater Considerations

Considering that groundwater is currently between elevations of about 1188 and 1190 ½, excavations that terminate above that elevation, such as those anticipated for general site grading and footing construction are not anticipated to encounter hydrostatic groundwater. Where perched groundwater is encountered above that elevation, we anticipate that those excavations can be adequately dewatered with conventional sumps and pumps. For utilities where excavations extend about 2 feet or more below groundwater, well points will likely be required to provide adequate dewatering capacity.

C.6. Consideration for Unfavorable Weather

The relatively clean alluvial sands on this site are considered good materials for earthwork operations during more typically less favorable periods, such as late fall, winter and early spring, when moisture-sensitive soils are problematic; however, being typically fine-grained, they will be sensitive to moisture. Although the sandy soils on this site are considered nonfrost-susceptible to slightly frost-susceptible, they will freeze, however, and earthwork operations during freezing periods will need to follow proper standard construction practices, i.e., no placement of concrete or additional fill on frozen soils, and not allowing frost to penetrate beneath footings. Furthermore, the sands are typically below their optimum moisture contents, and moisture-conditioning by wetting during freezing periods, although possible, is also problematic.

D. Recommendations

D.1. Building and Pavement Subgrade Preparation

D.1.a. Excavations

We recommend removing the surface vegetation, root zone and topsoil from the proposed building areas. Although not encountered by the borings, existing fill appeared evident (mounded) over a small area located on the southwestern portion of the site. Where encountered, we recommend existing fill be removed from the proposed building areas and be replaced with compacted backfill. Estimated excavations depths to remove topsoil material from the proposed building areas are anticipated to range between about 6 and 24 inches, with an average depth of about 12 inches.

Estimated excavation depths should be considered the minimum necessary to provide a stable platform on which to spread and compact replacement backfill. Depending on construction conditions, excavations may have to be extended locally to remove wet, loose, soft or otherwise unstable soils that become disturbed during the excavation process and lose strength.

To provide lateral support to replacement backfill, additional required fill and the structural loads they will support, the excavations should be adequately oversized. We recommend oversizing (widening) the excavations at least ½ foot horizontally beyond building and pavement perimeters for each foot the excavations extend below bottom-of-footing or pavement subgrade elevations.

After removal of unsuitable materials and/or cutting to grade, and prior to placement of additional fill or structural components, we recommend the exposed alluvial sands be moisture conditioned to within 3 percentage points of their optimum moisture contents and then thoroughly compacted with a large smooth-drum vibratory roller with a dynamic force of at least 10 tons with at least two passes in each of two perpendicular directions to at least 98 percent of the standard Proctor maximum dry density, ASTM D 698.

The alluvial sands encountered on this site are considered to be Type C materials under Department of Labor and Occupational Safety and Health Administration (OSHA) guidelines. Excavation sideslopes in these materials should therefore be maintained at gradients equal to or flatter than 1½:1 (horizontal:vertical).

D.1.b. Stabilization of Haul Roads for Construction

It has been our experience that clean sands, such as those encountered on this site, will not support construction traffic.

To support construction traffic, we recommend that temporary haul roads be constructed with a minimum of 4 inches of compacted aggregate base meeting Mn/DOT Specification 3138 for Class 5. The haul roads should be wide enough to accommodate the anticipated construction traffic.

D.1.c. Excavation Dewatering

For excavations that terminate above the hydrostatic groundwater level, we anticipate that conventional sumps and pumps will provide adequate dewatering capacity. Where excavations extend about 2 feet or more below groundwater, however, we anticipate that well-points will likely be required to adequately dewater excavations to those depths.

D.1.d. Selecting Replacement Backfill and Additional Required Fill

On-site alluvial sands free of organic soil and debris can be considered for reuse as backfill and fill.

We recommend that imported material, if needed to replace unsuitable on-site materials or balance cut and fill quantities, consist of sand with no more than 12 percent by weight particles passing the #200 sieve, meeting the requirements of Mn/DOT Specification 3149.2B2 Select Granular Borrow.

Where excavation bottoms are wet or submerged, we initially recommend backfilling to a height no less than 2 feet above the excavation bottom or water surface with coarse sand having less than 50 percent of the particles by weight passing a #40 sieve, and less than 5 percent of the particles passing a #200 sieve.

D.1.e. Placement and Compaction of Backfill and Fill

We recommend spreading backfill and fill in 4- to 8-inch lifts, depending on the composition of the material and the type of compactor used. We recommend compacting backfill and fill in accordance with the criteria presented below in Table 6.

Table 6. Compaction Recommendations Summary

Reference	Relative Compaction, percent (ASTM D 698 – std. Proctor)	Moisture Content Variance from Optimum, percentage points
Below foundation subgrade elevations	98	± 3
Below slab subgrade elevations	98	± 3
Below pavements, within 3' of subgrade elevations	100	± 2
Below pavements, more than 3' feet below subgrade elevations	95	± 3
Below landscaped surfaces	90	± 4

For utility trench backfill within building and pavement areas, apply appropriate building and pavement area compaction criteria.

D.2. Spread Footing Foundations

D.2.a. Embedment Depth

For frost protection, perimeter footings of heated structures should be embedded at least 42 inches below the lowest exterior grade, or below frost penetration depth for winter construction. Interior footings may be placed directly below floor slabs. Unheated footings associated with canopies, stoops or sidewalks should be embedded at least 60 inches below the lowest exterior grade.

D.2.b. Subgrade Improvement

Prior to placing formwork or reinforcing steel, we recommend surface compacting the sands exposed in footing excavation bottoms with a vibratory plate, or turtle-type, compactor. Surface compaction will help densify the soils and reduce the risk of adverse settlement.

D.2.c. Net Allowable Bearing Pressure

In our opinion, spread footings supported on compacted engineered fill or compacted alluvial sands can be sized to exert a net allowable bearing pressure up to 3,000 pounds per square foot (psf). This value includes a safety factor of 3 with regard to bearing capacity failure. The net allowable bearing pressure can be increased by one-third its value for occasional transient loads, but not for repetitive loads due to traffic, or for other live loads from snow or occupancy. We recommend the perimeter footings have a minimum width of 16 inches and column footings have a minimum width of 36 inches.

D.2.d. Settlement

We estimate that total and differential settlements among new footings will be less than ¾ and ½ inch, respectively, under the assumed loads.

D.3. Retaining Walls

D.3.a. Drainage Control

We recommend installing subdrains behind the retaining walls, adjacent to the wall footings, below the slab elevation. Preferably the subdrains should consist of perforated pipes embedded in washed gravel, which in turn is wrapped in filter fabric. Perforated pipes encased in a filter "sock" and embedded in washed gravel, however, may also be considered.

We recommend routing the subdrains to a sump and pump capable of routing any accumulated groundwater to a storm sewer or other suitable disposal site.

D.3.b. Selection, Placement and Compaction of Backfill

Unless a drainage composite is placed against the backs of the retaining walls, we recommend that backfill placed within 2 horizontal feet of the walls consist of sand having less than 50 percent of the particles by weight passing a #40 sieve and less than 5 percent of the particles by weight passing a #200 sieve.

Backfill placed more than 2 feet away from retaining walls may consist of suitable existing fill or imported granular material selected in accordance with the recommendations provided above in Section D.1.

We recommend a walk behind compactor be used to compact the backfill placed within about 5 feet of the retaining walls. Further away than that, a self-propelled compactor can be used.

D.3.c. Configuring and Resisting Lateral Loads

We recommend designing flexible retaining walls to support an equivalent fluid pressure of 40 pounds per square foot per foot of depth (pcf). Rigid retaining walls should be designed to support an equivalent fluid pressure of 60 pcf. These values are based on a wet unit backfill weight of 125 pcf, an internal friction angle of 32 degrees, and assume active and at-rest earth pressure conditions, respectively.

Resistance to lateral earth pressures will be provided by passive resistance against the retaining wall footings, and by sliding resistance along the bottoms of the wall footings. We recommend assuming a passive pressure equal to 412 pcf and a sliding coefficient equal to 0.6. A factor of safety has not been applied to those values.

D.4. Interior Slabs

D.4.a. Subgrade Modulus

After removal of unsuitable materials and placement of required backfill and additional fill to establish building subgrade elevation, slab subgrades are anticipated to consist of compacted alluvial sands or compacted engineered fill (poorly graded sand with silt and poorly graded sand). Although the relatively clean sands possess good strength characteristics, they will likely not be stable enough to support construction traffic. To provide a more uniform, stable platform on which to construct interior floor slabs, enhance the level of support offered by the slab subgrades, and allow conventional slab designs to be used, we recommend supporting the slabs on a cushion of stabilizing aggregate. In order to support construction traffic, we recommend that the stabilizing aggregate consist of at least 4 inches of aggregate base. The aggregate base should consist of Mn/DOT Specification 3138 for Class 5 aggregate base, crusher fines or other well-graded granular material. No material containing recycled bituminous should be used under interior slabs. We recommend compacting the stabilizing aggregates to at least 95 percent of their standard Proctor maximum dry densities.

D.4.b. Moisture Vapor Protection

Excess transmission of water vapor could cause floor dampness, certain types of floor bonding agents to separate, or mold to form under floor coverings. We recommend placing a vapor retarder or barrier below slabs where floor coverings or coatings less permeable than concrete will be used, or if moisture is a concern.

We recommend placing the vapor retarder or barrier directly below the concrete, and taking the following precautions to help limit concrete shrinkage and curling:

- Using the largest maximum aggregate size and/or coarse aggregate as possible,
- Using the lowest practical slump and limiting the use of retempering water,
- Using the lowest necessary cement content to reduce top-to-bottom moisture differentials,
- Carefully curing the concrete,
- Optimizing the spacing of control joints,
- Cutting control joints as soon as practical.

Regardless of where the vapor retarder or barrier is placed, we recommend consulting with floor covering manufacturers regarding the appropriate type, use and installation of the vapor retarder or barrier to preserve warranty assurances.

We recommend that the vapor retarder or barrier be observed prior to concrete placement so that holes, tears or gaps in the vapor retarder or barrier can be identified and patched or realigned as needed. We further recommend performing moisture vapor transmission tests after the concrete slabs have cured, but before flooring is installed. Flooring manufacturers typically recommend upper limits of moisture vapor transmission that can be used to set schedules for flooring installation but, more importantly, may impact warranties.

D.5. Exterior Slabs

Assuming the implementation of the recommendations provided above, we anticipate that exterior slabs will be underlain with poorly graded sand or poorly graded sand with silt. These materials are considered only slightly frost susceptible. As such, it is our opinion that special subgrade treatment other than the removal of topsoil and silt will not be required. We recommend, however, sloping exterior slabs to drain away from the buildings, and that exterior slabs consist of at least 4 inches of air-entrained concrete.

D.6. Pavements

D.6.a. Subgrade Preparation Recommendations

Prior to placing pavement materials, we recommend that pavement subgrades be proofrolled with a loaded dump truck or other heavy vehicle. The proofroll will help detect areas of loose or soft subgrade materials that require additional compactive effort or removal and replacement with compacted backfill. Because of the relatively clean sands that exist on this site, the proofroll will likely need to be performed after the aggregate base has been placed.

D.6.b. Design Sections

Assuming that pavement subgrades will ultimately consist of poorly graded sand and poorly graded sand with silt, we recommend that the pavement section for automobile and light truck parking areas include at least 3 inches of bituminous and 6 inches of Class 5 aggregate base. For main drive lanes and truck access areas, we recommend at least 4 inches of bituminous and 6 inches of Class 5 aggregate base. These pavement sections are based on an assumed design life, and the traffic volumes reported above in Section C and an R-value of 50. The performance life is defined as the period of time before an overlay or reconstruction is required; the actual life will vary based on variation of weather conditions, pavement maintenance, and variations in actual versus assumed traffic volumes.

D.7. Utilities

D.7.a. Subgrade Stabilization

The subgrade soils anticipated at utility invert depths (assumed to be less than about 12 feet) will consist of alluvial sands. Those soils are generally considered suitable for support of the anticipated utilities, provided they are not allowed to become wet or disturbed. Prior to installation of utilities, we recommend utility trenches be thoroughly compacted with a vibratory plate, or turtle-type, compactor.

Where utilities extend close to or below groundwater, at least 12 inches of stabilizing aggregates (3/4 inch minus material) may need to be placed in trench bottoms to provide a stable working platform.

D.7.b. Selection, Placement and Compaction of Backfill

We recommend selecting, placing and compacting utility backfill in accordance with the recommendations provided above in Section D.1.

D.7.c. Corrosion Potential

In general, the soils on this site are not considered corrosive to metallic conduit or concrete. It is our opinion that corrosion protection or use of non-corrosive materials is not warranted. We recommend using Type I cement.

D.8. Construction Observations and Testing

D.8.a. Observations

We recommend having a geotechnical engineer observe all excavations related to subgrade preparations, and footing, slab and pavement construction. The purpose of the observations is to evaluate the competence of the materials exposed in the excavations, and the adequacy of required excavation oversizing.

D.8.b. Materials Testing

We recommend density tests be taken in all backfill and fill placed below footings, slabs and pavements, beside foundation walls, and behind retaining walls. We recommend Marshall tests on bituminous mixes to evaluate strength and air voids, and density tests to evaluate compaction. We also recommend slump, air content and strength tests of Portland cement concrete.

D.8.c. Cold Weather Precautions

If site grading and construction is anticipated during cold weather, all snow and ice should be removed from cut and fill areas prior to additional grading. No fill should be placed on frozen subgrades. No frozen soils should be used as fill.

Concrete delivered to the site should meet the temperature requirements of ASTM Test Method C 94. Concrete should not be placed on frozen subgrades. Concrete should be protected from freezing until the necessary strength is attained. Frost should not be permitted to penetrate below footings.

E. Procedures

E.1. Penetration Test Borings

The penetration test borings were drilled with (what kind of rig) equipped with hollow-stem auger. The borings were performed in accordance with ASTM Test Method D 1586. Penetration test samples were taken at 2 ½- or 5-foot intervals. Actual sample intervals and corresponding depths are shown on the boring logs.

E.2. Materials Classification and Testing

E.2.a. Visual and Manual Classification

Materials encountered in the borings (test pits) were visually and manually classified in accordance with ASTM Test Method D 2488. A chart explaining the classification system is attached. Samples were sealed in jars or bags and returned to our facility for review and storage.

E.2.b. Laboratory Testing

The results of the laboratory tests performed on boring samples are noted on or follow the appropriate attached Log of Boring sheets. The tests were performed in accordance with ASTM and AASHTO procedures.

E.3. Groundwater Measurements

The drillers checked for groundwater as the borings were advanced, and again after auger withdrawal. The boreholes were then backfilled or allowed to remain open for an extended period of observation as noted on the boring logs.

F. Qualifications

F.1. Variations in Subsurface Conditions

F.1.a. Material Strata

Our evaluation, analyses and recommendations were developed from a limited amount of site and subsurface information. It is not standard engineering practice to retrieve material samples from borings continuously with depth, and therefore strata boundaries and thicknesses must be inferred to some extent. Strata boundaries may also be gradual transitions, and can be expected to vary in depth, elevation and thickness away from the boring locations.

Variations in subsurface conditions present among borings may not be revealed until additional exploration work is completed, or construction commences. If any such variations are revealed, our recommendations should be re-evaluated. Such variations could increase construction costs, and a contingency should be provided to accommodate them.

F.1.b. Groundwater Levels

Groundwater measurements were made under the conditions reported herein and shown on the boring logs, and interpreted in the text of this report. It should be noted that the observation period was relatively short, and groundwater can be expected to fluctuate in response to rainfall, flooding, irrigation, seasonal freezing and thawing, surface drainage modifications and other seasonal and annual factors.

F.2. Continuity of Professional Responsibility

F.2.a. Plan Review

This report is based on a limited amount of information, and a number of assumptions were necessary to help us develop our recommendations. It is recommended that our firm review the geotechnical aspects of the designs and specifications, and evaluate whether the design is as expected, if any design changes sign have affected the validity of our recommendations, and if our recommendations have been correctly interpreted and implemented in the designs and specifications.

F.2.b. Construction Observations and Testing

It is recommended that we be retained to perform observations and tests during construction. This will allow correlation of the subsurface conditions encountered during construction with those encountered by the borings, and provide continuity of professional responsibility.

F.3. Standard of Care

This report is for the exclusive use of the parties to which it has been addressed. Without written approval, we assume no responsibility to other parties regarding this report. Our evaluation, analyses and recommendations may not be appropriate for other parties or projects.

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

Appendix

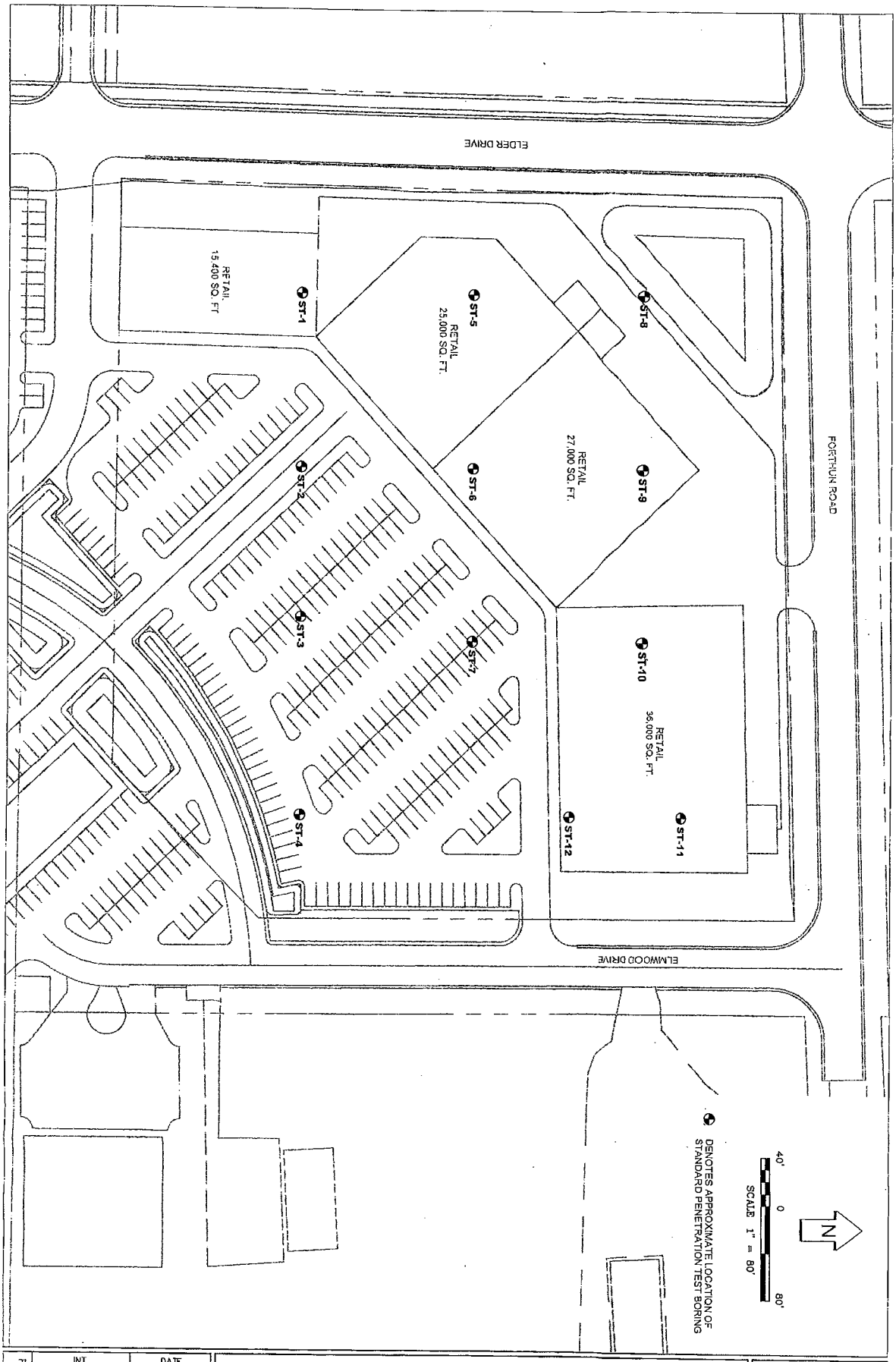

FIGURE NO.	INT		DATE
	DRAWN BY: BJB		10-28-05
	APP'D BY: MJ		10-28-05
	JOB NO. SP0504334		
	DWG. NO. SP0504334A	SHEET	OF
	SCALE 1" = 80'		

SOIL BORING LOCATION SKETCH
PROPOSED RETAIL DEVELOPMENT IN BAXTER
SOUTHEAST QUADRANT OF ELDER DRIVE & FORTHUN ROAD
BAXTER, MINNESOTA

BRAUN INTERTEC

BRAUN[SM]
INTERTEC

LOG OF BORING

Braun Project SP-05-04334 **Geotechnical Evaluation** **Proposed Commercial Development** **SE Quadrant of Elder Drive and Forthun Road** **Baxter, Minnesota**	BORING: **ST-1** LOCATION: See attached sketch.
DRILLER: D. Ruchti — METHOD: 3 1/4" HSA, Autohmr	DATE: **9/12/05** — SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1202.8	0.0					
1201.8	1.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, brown, moist. (Topsoil)			Benchmark: The surface elevations of Borings ST-1 through ST-4 were referenced to the top of the hydrant on the SE corner of Elder & Garrison, elevation = 1199.11. The surface elevations of Borings ST-5 through ST-12 were referenced to the top of the hydrant on the NE corner of Elder & Forthun, elevation = 1201.42.
		SP	POORLY GRADED SAND, fine-grained, light brown, moist to 15 1/2', then waterbearing, loose to medium dense. (Alluvium)	11		
				7		
				8		
				5		
				10		
				13	▽	An open triangle in the water level (WL) column indicates the depth at which groundwater was observed while drilling. Groundwater levels fluctuate. please refer to the discussion in our report.
1184.8	18.0	SP	POORLY GRADED SAND, fine- to medium-grained, trace of Gravel, light brown, waterbearing, medium dense. (Alluvium)	12		
1182.3	20.5		END OF BORING.			
			Water down 15 1/2 feet with 19 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 13 feet immediately after withdrawal of auger.			
			Water not observed to cave-in depth of 13 feet 2 days after withdrawal of auger.			
			Boring then backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG SP0504334.GPJ BRAUN.GDT 11/2/05 08:58

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LOG OF BORING

Braun Project SP-05-04334 **Geotechnical Evaluation** **Proposed Commercial Development** **SE Quadrant of Elder Drive and Forthun Road** **Baxter, Minnesota**	BORING: **ST-2** LOCATION: See attached sketch.

DRILLER: D. Ruchti	METHOD: 3 1/4" HSA, Autohmr	DATE: **9/12/05**	SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1201.9	0.0					
1200.9	1.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, light brown, moist, loose. (Alluvium)	10		
				8		
1195.9	6.0					
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, light brown, moist, loose. (Alluvium)	7		
				8		
1190.9	11.0					
		SM	SILTY SAND, fine-grained, brown, wet to waterbearing, loose. (Alluvium)	9	▽	
1187.9	14.0					
		SP	POORLY GRADED SAND, fine-grained, light brown, waterbearing, medium dense. (Alluvium)	11		
				28		
1181.4	20.5					
			END OF BORING. Water observed at 12 1/2 feet while drilling. Water down 14 feet with 19 feet of hollow-stem auger in the ground. Water not observed to cave-in depth of 11 1/2 feet 2 days after withdrawal of auger. Boring then backfilled. (Alluvium)			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG SP0504334.GPJ BRAUN.GDT 11/2/05 08:58

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LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-3**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: 9/12/05 | SCALE: 1" = 4'

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1200.6	0.0					
1199.9	0.7	SP-SM	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, slightly Organic, dark brown, moist. (Topsoil)			
1198.6	2.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, brown, moist. (Topsoil)	5		
1196.6	4.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, light brown, moist, loose. (Alluvium)	6		
1194.6	6.0	SP	POORLY GRADED SAND, fine-grained, light brown, moist, loose. (Alluvium)			
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, light brown, moist to 12 1/2', then waterbearing, loose. (Alluvium)	8		
				6		
				7	▽	
				8		
1180.1	20.5			7		

END OF BORING.

Water observed at 12 1/2 feet while drilling.

Water down 14 feet with 19 feet of hollow-stem auger in the ground.

Water not observed to cave-in depth of 11 feet immediately after withdrawal of auger.

Water not observed to cave-in depth of 11 feet after 2 days.

Boring then backfilled.

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG SP0504334.GPJ BRAUN.GDT 11/2/05 08:58

BRAUN[SM]
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LOG OF BORING

Braun Project SP-05-04334 **Geotechnical Evaluation** **Proposed Commercial Development** **SE Quadrant of Elder Drive and Forthun Road** **Baxter, Minnesota**	BORING: **ST-4** LOCATION: See attached sketch.

DRILLER: D. Ruchti	METHOD: 3 1/4" HSA, Autohmr	DATE: **9/13/05**	SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1193.6	0.0					
1193.0	0.6	SM	SILTY SAND, fine-grained, trace of Roots, slightly Organic, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, light brown, moist, loose. (Alluvium)	6		
				6		
1187.6	6.0					
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, wet to 8', then waterbearing, loose. (Alluvium)	9	▽	
1184.6	9.0					
		SP	POORLY GRADED SAND, fine- to medium-grained, light brown, waterbearing, very loose to loose. (Alluvium)	2		
1182.6	11.0					
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown to gray, waterbearing, loose. (Alluvium)	6		
				6		
				8*		* no recovery
1173.1	20.5					
			END OF BORING.			
			Water down 8 feet with 8 1/2 feet of hollow-stem auger in the ground.			
			Water down 12 feet with 19 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 5 1/2 feet immediately after withdrawal of auger.			
			Boring then backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

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LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-5**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: **9/12/05** | SCALE: **1" = 4'**

Elev. feet 1202.1	Depth feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1201.6	0.5	SP-SM	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, slightly Organic, dark brown, moist. (Topsoil)			
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, moist, loose. (Alluvium)	6		
1198.1	4.0	SP	POORLY GRADED SAND, fine-grained, light brown, moist to 14', then waterbearing, loose to medium dense. (Alluvium)	8		
				6		
				8		
				22		
				12	▽	
1181.6	20.5			7		
			END OF BORING.			
			Water observed at 14 1/2 feet while drilling.			
			Water down 14 1/2 feet with 19 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 13 feet immediately after withdrawal of auger.			
			Boring then backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

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LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-6**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: **9/12/05** | SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1201.3	0.0					
1200.3	1.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, slightly Organic, dark brown, moist. (Topsoil)			
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, moist, loose. (Alluvium)	6		
1197.3	4.0	SP	POORLY GRADED SAND, fine-grained, brown, moist to 12 1/2', then waterbearing, loose. (Alluvium)	7		
				4		
				5		
				6	▽	
1187.3	14.0	SP	POORLY GRADED SAND, fine- to medium-grained, light brown, waterbearing, loose. (Alluvium)	6		
1183.3	18.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, waterbearing, loose. (Alluvium)	8		
1180.8	20.5		END OF BORING.			

Water observed at 12 1/2 feet while drilling.

Water down 14 feet with 19 feet of hollow-stem auger in the ground.

Water not observed to cave-in depth of 12 feet 1 day after withdrawal of auger.

Boring then backfilled.

(See Descriptive Terminology sheet for explanation of abbreviations)

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LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-7**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: **9/13/05** | SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1196.5	0.0					
1195.8	0.7	SP-SM / SP	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, slightly Organic, dark brown, moist. (Topsoil)			
			POORLY GRADED SAND, fine-grained, light brown, moist to 8', then waterbearing, loose. (Alluvium)	5		
				9		
				6	▽	
1187.5	9.0					
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, waterbearing, very loose. (Alluvium)	4		
				3		
1182.5	14.0					
		SP-SM	POORLY GRADED SAND with SILT, fine- to medium-grained, brown, waterbearing, loose. (Alluvium)	6		
				8		
1176.0	20.5					
			END OF BORING.			
			Water observed at 8 feet while drilling.			
			Water down 13 feet with 19 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 7 1/2 feet immediately after withdrawal of auger.			
			Boring then backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

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BRAUN℠
INTERTEC

LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-8**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: **9/13/05** | SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1202.4	0.0					
1201.4	1.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, light brown, moist to 13 1/2', then waterbearing, loose to medium dense. (Alluvium)	8		
				9		
				3		
				9		
				22	▽	
				14		
				16		
1181.9	20.5					
			END OF BORING.			
			Water observed at 13 1/2 feet while drilling.			
			Water down 14 1/2 feet with 19 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 13 feet immediately after withdrawal of auger.			
			Water not observed to cave-in depth of 13 feet 1 day after withdrawal of auger.			
			Boring then backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG SP0504334.GPJ BRAUN.GDT 11/2/05 08:58

BRAUN[SM]
INTERTEC

LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-9**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: **9/13/05** | SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1201.2	0.0					
1200.1	1.1	SP-SM	POORLY GRADED SAND with SILT, fine-grained, trace of Roots, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, light brown, moist to 12 1/2', then waterbearing, loose to medium dense. (Alluvium)	10		
				7		
				6		
				12		
				12	▽	
1187.2	14.0					
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, light brown, waterbeairng, medium dense. (Alluvium)	16		
				11		
1180.7	20.5					

END OF BORING.

Water observed at 12 1/2 feet while drilling.

Water down 14 feet with 19 feet of hollow-stem auger in the ground.

Water not observed to cave-in depth of 12 feet immediately after withdrawal of auger.

Boring then backfilled.

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG SP0504334.GPJ BRAUN.GDT 11/2/05 08:58

BRAUN INTERTEC

LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-10**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: **9/13/05** | SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1199.2	0.0					
1198.4	0.8	SM	SILTY SAND, fine-grained, trace of Roost, slightly Organic, dark brown, moist. (Topsoil)			
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, moist, loose. (Alluvium)	5		
1195.2	4.0					
		SP	POORLY GRADED SAND, fine-grained, light brown, moist, loose. (Alluvium)	6		
				6		
				6		
1188.2	11.0					
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, moist to 12 1/2', then waterbearing, very loose. (Alluvium)	4	▽	
1185.2	14.0					
		SP	POORLY GRADED SAND, fine- to medium-grained, light brown, waterbearing, loose. (Alluvium)	7		
				10		
1178.7	20.5					
			END OF BORING.			
			Water observed at 12 1/2 feet while drilling.			
			Water down 12 1/2 feet with 19 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 10 1/2 feet immediately after withdrawal of auger.			
			Boring then backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG SP0504334.GPJ BRAUN.GDT 11/2/05 08:58

BRAUN[SM]
INTERTEC

LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-11**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: **9/13/05** | SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1200.2	0.0					
1199.6	0.6	SM	SILTY SAND, fine-grained, trace of Roots, slightly Organic, dark brown, moist. (Topsoil)			
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, moist, loose. (Alluvium)	6		
1196.2	4.0					
		SP	POORLY GRADED SAND, fine-grained, light brown, moist to 12 1/2', then waterbearing, very looe to loose. (Alluvium)	6		
				4		
				8		
				6	▽	
1186.2	14.0					
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, waterbearing, medium dense. (Alluvium)	14		
				15		
1179.7	20.5					
			END OF BORING.			
			Water observed at 12 1/2 feet while drilling.			
			Water down 13 feet with 19 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 10 feet immediately after withdrawal of auger.			
			Boring then backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG SP0504334.GPJ BRAUN.GDT 11/2/05 08:58

BRAUN INTERTEC

LOG OF BORING

Braun Project SP-05-04334
Geotechnical Evaluation
Proposed Commercial Development
SE Quadrant of Elder Drive and Forthun Road
Baxter, Minnesota

BORING: **ST-12**

LOCATION: See attached sketch.

DRILLER: D. Ruchti | METHOD: 3 1/4" HSA, Autohmr | DATE: 9/13/05 | SCALE: 1" = 4'

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1197.5	0.0					
1196.5	1.0	SM	SILTY SAND, fine-grained, trace of Roots, slightly Organic, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, light brown, moist, loose. (Alluvium)	6		
				6		
				7		
1188.5	9.0					
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, waterbearing, loose. (Alluvium)	7	▽	
				6		
				7		
1177.0	20.5			6		
			END OF BORING.			
			Water observed at 10 feet while drilling.			
			Water down 14 feet with 19 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 9 feet immediately after withdrawal of auger.			
			Boring then backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG SP0504334.GPJ BRAUN.GDT 11/2/05 08:58

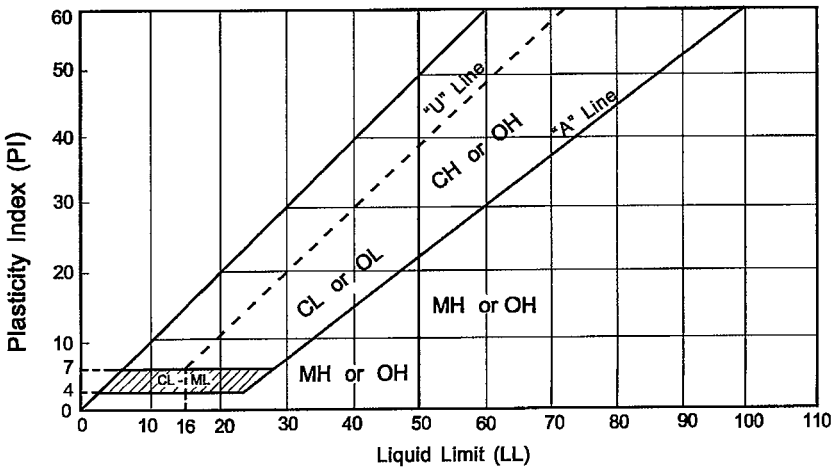
Descriptive Terminology

Rev. 10/04

Standard D 2487 - 00
Classification of Soils for Engineering Purposes
(Unified Soil Classification System)

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [a]				Soils Classification	
				Group Symbol	Group Name [b]
Coarse-grained Soils more than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines [e]	$C_u \geq 4$ and $1 \leq C_c \leq 3$ [c]	GW	Well-graded gravel [d]
			$C_u < 4$ and/or $1 > C_c > 3$ [c]	GP	Poorly graded gravel [d]
		Gravels with Fines More than 12% fines [e]	Fines classify as ML or MH	GM	Silty gravel [d f g]
			Fines classify as CL or CH	GC	Clayey gravel [d f g]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines [i]	$C_u \geq 6$ and $1 \leq C_c \leq 3$ [c]	SW	Well-graded sand [h]
			$C_u < 6$ and/or $1 > C_c > 3$ [c]	SP	Poorly graded sand [h]
		Sands with Fines More than 12% [i]	Fines classify as ML or MH	SM	Silty sand [f g h]
			Fines classify as CL or CH	SC	Clayey sand [f g h]
Fine-grained Soils 50% or more passed the No. 200 sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI > 7 and plots on or above "A" line [j]	CL	Lean clay [k l m]
			PI < 4 or plots below "A" line [j]	ML	Silt [k l m]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OL	Organic clay [k l m n]
				OL	Organic silt [k l m o]
	Silts and clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line	CH	Fat clay [k l m]
			PI plots below "A" line	MH	Elastic silt [k l m]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OH	Organic clay [k l m p]
				OH	Organic silt [k l m q]
Highly Organic Soils		Primarily organic matter, dark in color and organic odor		PT	Peat

a. Based on the material passing the 3-in (75mm) sieve.
b. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders or both" to group name.
c. $C_u = D_{60} / D_{10}$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
d. If soil contains ≥15% sand, add "with sand" to group name.
e. Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay
f. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.
g. If fines are organic, add "with organic fines" to group name.
h. If soil contains ≥15% gravel, add "with gravel" to group name.
i. Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay
j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.
k. If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
l. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.
m. If soil contains ≥ 30% plus No. 200 predominantly gravel, add "gravelly" to group name.
n. PI ≥ 4 and plots on or above "A" line.
o. PI < 4 or plots below "A" line.
p. PI plots on or above "A" line.
q. PI plots below "A" line.



Particle Size Identification

Boulders ..... over 12"
Cobbles ..... 3" to 12"
Gravel
Coarse ..... 3/4" to 3"
Fine ..... No. 4 to 3/4"
Sand
Coarse ..... No. 4 to No. 10
Medium ..... No. 10 to No. 40
Fine ..... No. 40 to No. 200
Silt ..... < No. 200, PI < 4 or below "A" line
Clay ..... < No. 200, PI ≥ 4 and on or above "A" line

Relative Density of Cohesionless Soils

Very loose ..... 0 to 4 BPF
Loose ..... 5 to 10 BPF
Medium dense ..... 11 to 30 BPF
Dense ..... 31 to 50 BPF
Very dense ..... over 50 BPF

Consistency of Cohesive Soils

Very soft ..... 0 to 1 BPF
Soft ..... 2 to 3 BPF
Rather soft ..... 4 to 5 BPF
Medium ..... 6 to 8 BPF
Rather stiff ..... 9 to 12 BPF
Stiff ..... 13 to 16 BPF
Very stiff ..... 17 to 30 BPF
Hard ..... over 30 BPF

Drilling Notes

Standard penetration test borings were advanced by 3□" or 6□" ID hollow-stem augers unless noted otherwise, Jetting water was used to clean out auger prior to sampling only where indicated on logs. Standard penetration test borings are designated by the prefix "ST" (Split Tube). All samples were taken with the standard 2" OD split-tube sampler, except where noted.

Power auger borings were advanced by 4" or 6" diameter continuous-flight, solid-stem augers. Soil classifications and strata depths were inferred from disturbed samples augered to the surface and are, therefore, somewhat approximate. Power auger borings are designated by the prefix "B."

Hand auger borings were advanced manually with a 1"" or 3□" diameter auger and were limited to the depth from which the auger could be manually withdrawn. Hand auger borings are indicated by the prefix "H."

BPF: Numbers indicate blows per foot recorded in standard penetration test, also known as "N" value. The sampler was set 6" into undisturbed soil below the hollow-stem auger. Driving resistances were then counted for second and third 6" increments and added to get BPF. Where they differed significantly, they are reported in the following form: 2/12 for the second and third 6" increments, respectively.

WH: WH indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WR: WR indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

TW indicates thin-walled (undisturbed) tube sample.

Note: All tests were run in general accordance with applicable ASTM standards.

Laboratory Tests

DD	Dry density, pcf	OC	Organic content, %
WD	Wet density, pcf	S	Percent of saturation, %
MC	Natural moisture content, %	SG	Specific gravity
LL	Liqiuid limit, %	C	Cohesion, psf
PL	Plastic limit, %	∅	Angle of internal friction
PI	Plasticity index, %	qu	Unconfined compressive strength, psf
P2000	% passing 200 sieve	qp	Pocket penetrometer strength, tsf

BRAUN INTERTEC

MEMO

WIDSETH SMITH NOLTING

Brainerd/Baxter
7804 Industrial Park Road
PO Box 2720
Baxter, MN 56425-2720

218.829.5117
218.829.2517
Brainerd@wsn.us.com

WidsethSmithNolting.com

Date: April 27, 2016
To: **Trevor Walter, City of Baxter**
From: Aric Welch
Cc:
Project Name: Central Lakes Crossing - Junior Box Retail
Project No.: 0102B0000.000
Subject: **Stormwater Management Plan Review**

We have completed our review of the Preliminary Stormwater Management Plan for Central Lakes Crossing, Junior Box Retail, Baxter, MN dated April 19, 2016. The plan was professionally prepared by Sambatek and we offer the following comments:

The plan was reviewed for compliance with the City of Baxter's stormwater requirements. Stormwater retention on-site is proposed to consist of two smaller above ground infiltration basins and a larger underground infiltration system/basin. The site has a credit of 0.28 acre-feet in the regional stormwater basin located west of Isle Drive. The owner is proposing to retain 2.85 acre-feet of storage of the 3.62 acre-feet of runoff on-site from the 100-year event. The remaining 0.49 (3.62-2.85-0.28) acre-feet of runoff will be collected by the regional pond located west of Isle Drive, which the owner proposes to expand by that amount.

The following items should be clarified and/or addressed:

1. Plans for the expansion of the regional pond should be reviewed. A minimum of 0.49 acre-feet of additional storage should be provided.

2. The stormwater calculations indicated a curve number of 39 for the above ground infiltration basins which represents a grass cover condition. Infiltration basins should be modeled as a water surface with a curve number of 98, especially when considering a 100-year storm event. However the proposed infiltration basins on this project are relatively small and the difference in curve numbers would have a relatively small impact on the stormwater runoff and retention requirements for the entire site.

3. The stormwater calculations indicate runoff discharge from the basins through exfiltration (infiltration during the storm event). The City of Baxter typically does not allow the use of exfiltration and the entire 100-year storm event must be held in the basin prior to infiltration (i.e. frozen ground conditions). However, the City has an exception for underground infiltration systems, which may allow the use of exfiltration. The proposed north above ground infiltration basin volume will provide enough storage without the use of exfiltration. The proposed south above ground infiltration basin volume will not provide enough storage without the use of exfiltration, the developer would have to provide an additional 0.033 acre-feet (1307 cu. ft.) of storage for this drainage area or in the expansion of the regional pond.

If you have any questions please do not hesitate to call.

LEGEND

- FOUND MONUMENT
- FOUND CAST IRON MONUMENT
- FOUND RIGHT-OF-WAY MONUMENT
- SET MONUMENT MARKED LS 21729
- GATE VALVE / HYDRANT
- SANITARY MANHOLE
- STORM MANHOLE
- STORM CATCH BASIN
- FLARED END SECTION
- TRANSFORMER
- LIGHT
- SIGN
- BOUNDARY LINE
- RIGHT-OF-WAY LINE
- UNDERLYING / ADJACENT LOT
- TIE LINE
- SECTION LINE
- WATERMAIN
- SANITARY SEWER
- STORM SEWER
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEPHONE
- EASEMENT LINE
- SETBACK LINE
- TREE LINE
- CONCRETE CURB
- BITUMINOUS SURFACE
- CONCRETE SURFACE
- DECIDUOUS TREE
- CONIFEROUS TREE
- SPOT ELEVATION
- CONTOUR

BENCHMARKS

1. The vertical datum is based on NAVD88. The originating bench marks are PERCH MNDOT and DURGIN MNDOT, both referenced from the MnDOT Geodetic Database

   BENCHMARK #1
   Top nut of hydrant at west line of surveyed property. Elev.=1202.09

   BENCHMARK #2
   Top nut of hydrant at southwest corner of surveyed property. Elev.=1201.93

SURVEY NOTES

1. The bearing system for this survey is based on the north line of Outlot A, CENTRAL LAKES CROSSING having an assumed bearing of North 89 degrees 47 minutes 19 seconds West .
2. This survey was prepared without the benefit of a title commitment or abstract and the surveyor has made no independent search for easements of record, encumbrances, restrictive covenants, ownership title evidence or any other facts that an accurate title search may disclose. Therefore, this survey may be revised by showing that which would be cited in a title commitment and then illustrated on the survey.
3. Field work was completed on 04/05/2016.

DESCRIPTION

Outlot A, CENTRAL LAKES CROSSING, according to the recorded plat thereof, Crow Wing County, Minnesota.

LOT SUMMARY

LOT 1, BLOCK 1:	58,806 S.F.
LOT 2, BLOCK 1:	344,362 S.F.
OUTLOT A:	12,216 S.F.
OUTLOT B:	37,104 S.F.
TOTAL SITE AREA:	452,488 S.F.

SITE SETBACKS

ZONE: C2 - REGIONAL COMMERCIAL PER CITY OF BAXTER ZONING MAP DATED 05/30/2014.

MINIMUM BUILDING SETBACKS

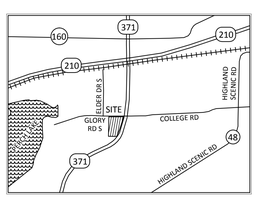
FRONT:	35 FT.
SIDE:	10 FT. INTERIOR/ 35 FT. CORNER
REAR:	30 FT.

DEVELOPMENT NOTES

1. ALL AREAS ARE ROUNDED TO THE NEAREST SQUARE FOOT.
2. STREET NAMES ARE SUBJECT TO APPROVAL BY THE CITY.
3. DRAINAGE AND UTILITY EASEMENTS SHALL BE PROVIDED AS REQUIRED. DRAINAGE AND UTILITY EASEMENTS WILL BE PROVIDED OVER ALL PUBLIC UTILITIES AND UP TO 1 FOOT ABOVE THE HIGH WATER LEVEL OF ALL PONDS.
4. OWNER/SUBDIVIDER:
   H.J. DEVELOPMENT L.L.P.
   15600 WAYZATA BLVD E. WAYZATA , MN 55391
   HJDEVELOPMENT.COM
   (952) 476 9400

   SURVEYOR/DESIGNER:
   SAMBATEK, INC.

VICINITY MAP



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Minnetonka, MN 55343
763.476.6010 telephone
763.476.8532 facsimile
Engineering | Surveying | Planning | Environmental

Client
HJ DEVELOPMENT

Project
CENTRAL LAKES 3RD ADDITION

Location
BAXTER, MN

Certification

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed LAND SURVEYOR under the laws of the State of Minnesota.

Mark R. Salo
Registration No. 43933 Date: 04/18/2016

If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek's, Minnetonka, MN office.

Summary

Designed: Drawn: DL
Approved: MRS Book / Page: 721/65
Phase: Initial Issued: MM/DD/YYYY

Revision History

No.	Date	By	Submittal / Revision

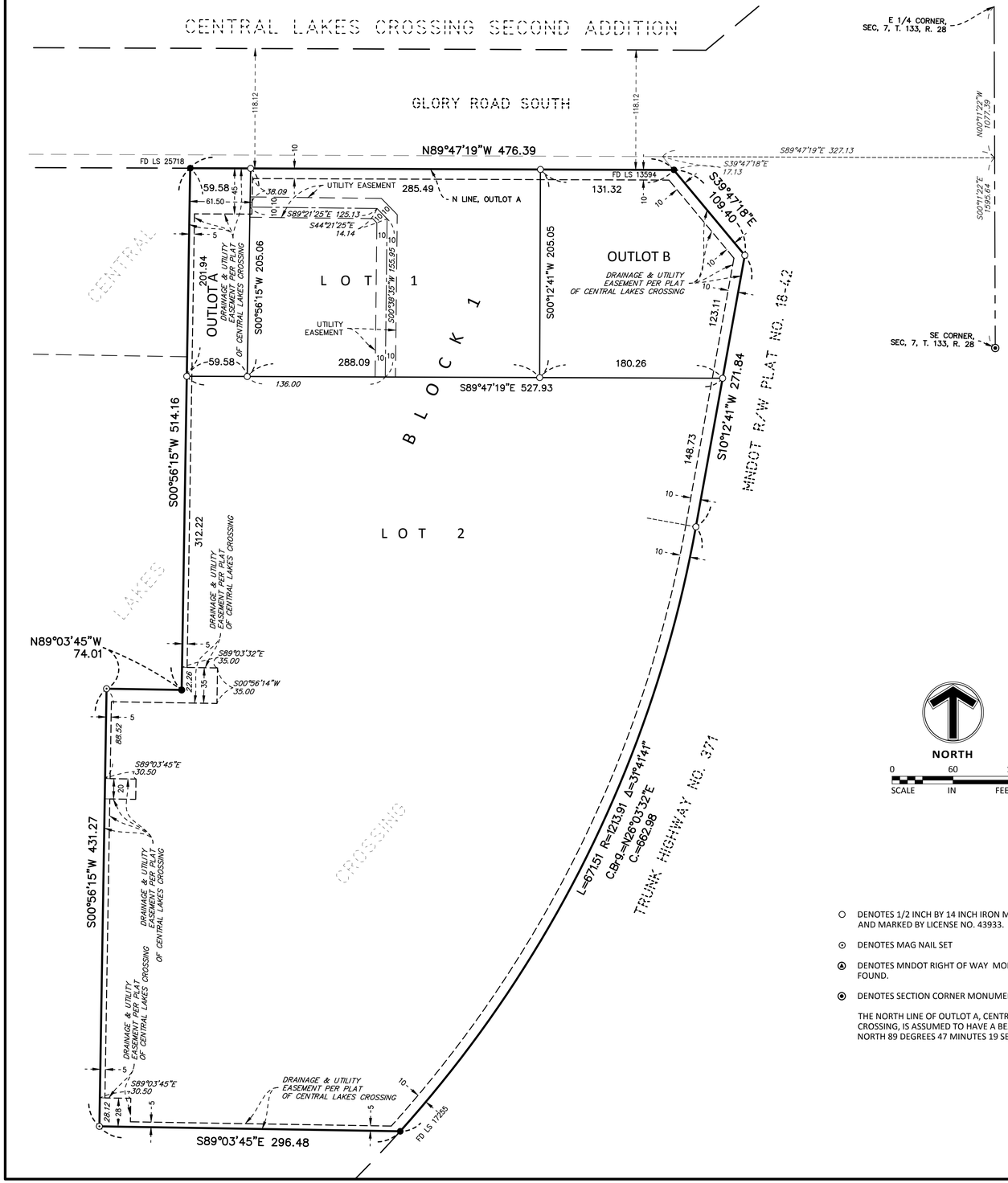
Sheet Title
PRELIMINARY PLAT

Sheet No. **Revision**
1/1

Project No. HJD20525

Apr 15, 2016 - 12:35pm - User:573 L:\PROJECTS\HJD20525\dwg\Survey\JD526-PPLAT.dwg

CENTRAL LAKES CROSSING 3RD ADDITION



○ DENOTES 1/2 INCH BY 14 INCH IRON MONUMENT SET AND MARKED BY LICENSE NO. 43933.

⊙ DENOTES MAG NAIL SET

Ⓐ DENOTES MNDOT RIGHT OF WAY MONUMENT FOUND.

◉ DENOTES SECTION CORNER MONUMENT.

THE NORTH LINE OF OUTLOT A, CENTRAL LAKES CROSSING, IS ASSUMED TO HAVE A BEARING OF NORTH 89 DEGREES 47 MINUTES 19 SECONDS WEST.

KNOW ALL PERSONS BY THESE PRESENTS: That H.J. Development L.L.P., a Minnesota limited liability partnership, owner of the following described property:

Outlot A, CENTRAL LAKES CROSSING, according to the recorded plat thereof, Crow Wing County, Minnesota

Has caused the same to be surveyed and platted as CENTRAL LAKES CROSSING 3RD ADDITION and does hereby donate to the public for public use the utility easements as created by this plat.

In witness whereof said H.J. Development L.L.P., a Minnesota limited liability partnership, has caused these presents to be signed by its proper officer this _____ day of _____, 20___.

SIGNED: H.J. Development L.L.P., a Minnesota limited liability partnership

By: _____, as _____

STATE OF MINNESOTA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____, as _____ of H.J. Development L.L.P., a Minnesota limited liability partnership, on behalf of the partnership.

_____
Notary Public, _____ County, Minnesota
My Commission Expires _____

I Mark R. Salo do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.1, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____ , 20_____

_____
Mark R. Salo, Licensed Land Surveyor, Minnesota License No. 43933

STATE OF MINNESOTA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20_____, by Mark R. Salo.

_____
Notary Public, _____ County, Minnesota
My Commission Expires _____

CITY OF BAXTER, CITY COUNCIL, BAXTER, MINNESOTA

This plat of CENTRAL LAKES CROSSING 3RD ADDITION was approved and accepted by the City Council of the City of Baxter, Minnesota at a regular meeting thereof held this _____ day of _____, 20___, and said plat is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd. 2.

City Council, City of Baxter, Minnesota

By: _____ Mayor By: _____ Clerk

COUNTY AUDITOR/TREASURER, CROW WING COUNTY, MINNESOTA

Pursuant to Minnesota Statutes, Section 505.021, Subd. 9, taxes payable in the year_____ on the land hereinbefore described have been paid. Also, pursuant to Minnesota Statutes, Section 272.12, there are no delinquent taxes and transfer entered this _____ day of _____, 20_____.

_____ By: _____ , Deputy
Auditor/Treasurer, Crow Wing County, Minnesota

SAMBATEK, INC.
ENGINEERING, PLANNING AND LAND SURVEYING

Preliminary Site Development Plans

for

Central Lakes Crossing Multi-Tenant

Baxter, Minnesota

Presented by:

HJ Development, LLP

CONSULTANT CONTACT LIST:

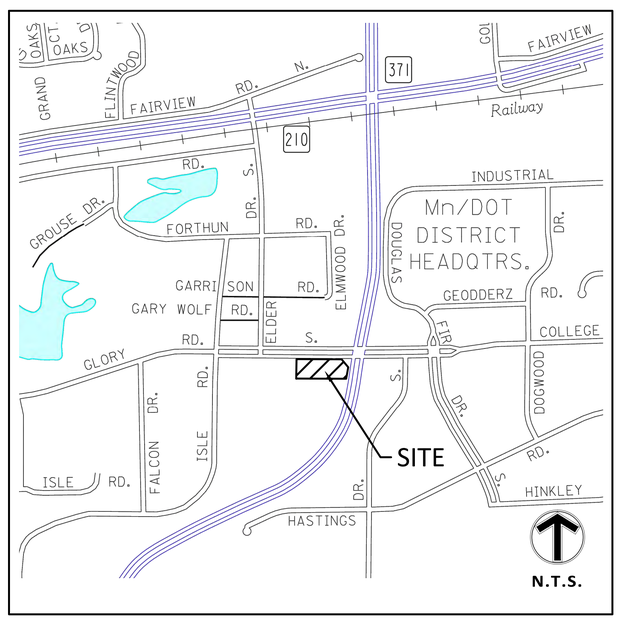
DEVELOPER
HJ DEVELOPMENT, LLP
15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391
TEL 952-476-9400
FAX 952-476-9401
CONTACT: CHRIS MOE

CIVIL ENGINEER
SAMBATEK
12800 WHITEWATER DRIVE, SUITE 300
MINNETONKA, MN 55343
TEL 763-476-6010
FAX 763-476-8532
CONTACT: MIKE BULTMAN

ARCHITECT
POPE ARCHITECTS
1295 BANDANA BLVD N, SUITE 200
ST. PAUL, MN 55108-2735
TEL 651-642-9200
FAX 651-642-1101
CONTACT: DAN POLLASTRINI

SURVEYOR
SAMBATEK
12800 WHITEWATER DRIVE, SUITE 300
MINNETONKA, MN 55343
TEL 763-476-6010
FAX 763-476-8532
CONTACT: RICK BLOM

LANDSCAPING
SAMBATEK
12800 WHITEWATER DRIVE, SUITE 300
MINNETONKA, MN 55343
TEL 763-476-6010
FAX 763-476-8532
CONTACT: JOSH MCKINNEY, PLA



VICINITY MAP
NO SCALE

SHEET INDEX

SHEET	DESCRIPTION
C1.01	TITLE SHEET
C2.01	EXISTING CONDITIONS
C3.01	SITE PLAN
C4.01	GRADING PLAN
C5.01	EROSION & SEDIMENT CONTROL PLAN
C6.01	UTILITY PLAN
C7.01	CIVIL DETAILS
C7.02	CIVIL DETAILS
L1.01	LANDSCAPE PLAN
L1.02	LANDSCAPE DETAILS

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Client
HJ DEVELOPMENT, LLP
15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391

Project
CENTRAL LAKES CROSSING MULTI-TENANT

Location
BAXTER, MN

SW QUADRANT OF HIGHWAY 371 AND GLORY ROAD S

Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

PRELIMINARY

Michael G. Bultman
Registration No. 20600 Date: 04/19/2016

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issue: 04/19/2016

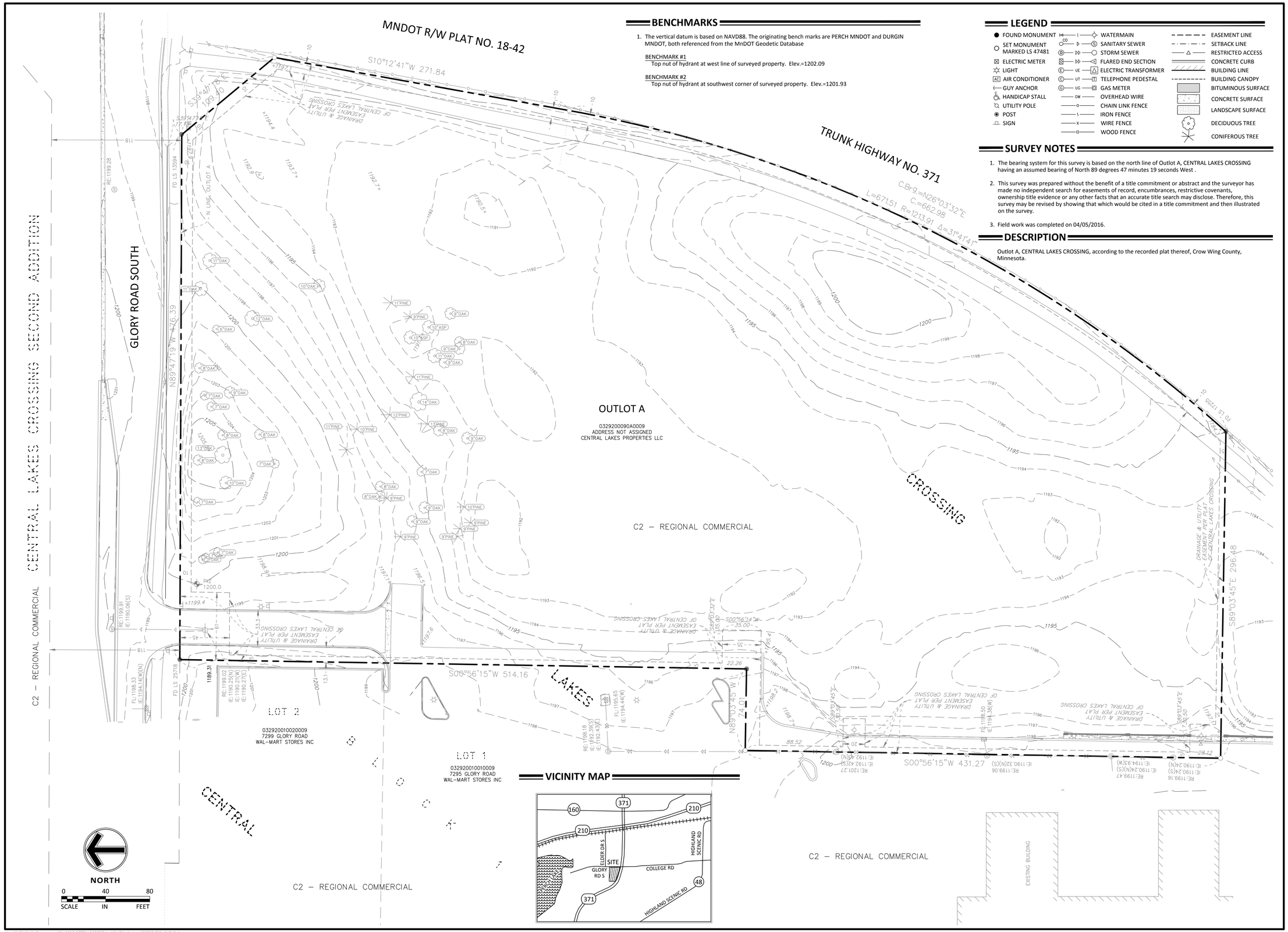
Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title
TITLE SHEET

Sheet No. Revision
C1.01

Project No. HJD20526



VICINITY MAP

BENCHMARKS

1. The vertical datum is based on NAVD88. The originating bench marks are PERCH MNDOT and DURGIN MNDOT, both referenced from the MnDOT Geodetic Database

BENCHMARK #1
Top nut of hydrant at west line of surveyed property. Elev.=1202.09

BENCHMARK #2
Top nut of hydrant at southwest corner of surveyed property. Elev.=1201.93

LEGEND

- FOUND MONUMENT
- SET MONUMENT MARKED LS 47481
- ELECTRIC METER
- LIGHT
- AIR CONDITIONER
- GUY ANCHOR
- HANDICAP STALL
- UTILITY POLE
- POST
- SIGN
- WATERMAIN
- SANITARY SEWER
- STORM SEWER
- FLARED END SECTION
- ELECTRIC TRANSFORMER
- TELEPHONE PEDESTAL
- GAS METER
- OVERHEAD WIRE
- CHAIN LINK FENCE
- IRON FENCE
- WIRE FENCE
- WOOD FENCE
- EASEMENT LINE
- SETBACK LINE
- RESTRICTED ACCESS
- CONCRETE CURB
- BUILDING LINE
- BUILDING CANOPY
- BITUMINOUS SURFACE
- CONCRETE SURFACE
- LANDSCAPE SURFACE
- DECIDUOUS TREE
- CONIFEROUS TREE

SURVEY NOTES

1. The bearing system for this survey is based on the north line of Outlot A, CENTRAL LAKES CROSSING having an assumed bearing of North 89 degrees 47 minutes 19 seconds West .
2. This survey was prepared without the benefit of a title commitment or abstract and the surveyor has made no independent search for easements of record, encumbrances, restrictive covenants, ownership title evidence or any other facts that an accurate title search may disclose. Therefore, this survey may be revised by showing that which would be cited in a title commitment and then illustrated on the survey.
3. Field work was completed on 04/05/2016.

DESCRIPTION

Outlot A, CENTRAL LAKES CROSSING, according to the recorded plat thereof, Crow Wing County, Minnesota.

Sambatek
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763.476.8532 facsimile
Engineering | Surveying | Planning | Environmental

Client
HJ DEVELOPMENT, LLP
15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391

Project
CENTRAL LAKES CROSSING MULTI-TENANT

Location
BAXTER, MN

SW QUADRANT OF HIGHWAY 371 AND GLORY ROAD S

Certification

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed LAND SURVEYOR under the laws of the State of Minnesota.

Mark R. Salo
Registration No. 43933 Date: 04/18/2016

If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek's, Minnetonka, MN office.

Summary

Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issue: 04/19/2016

Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title
EXISTING CONDITIONS

Sheet No. Revision
C2.01

Project No. HJD20526

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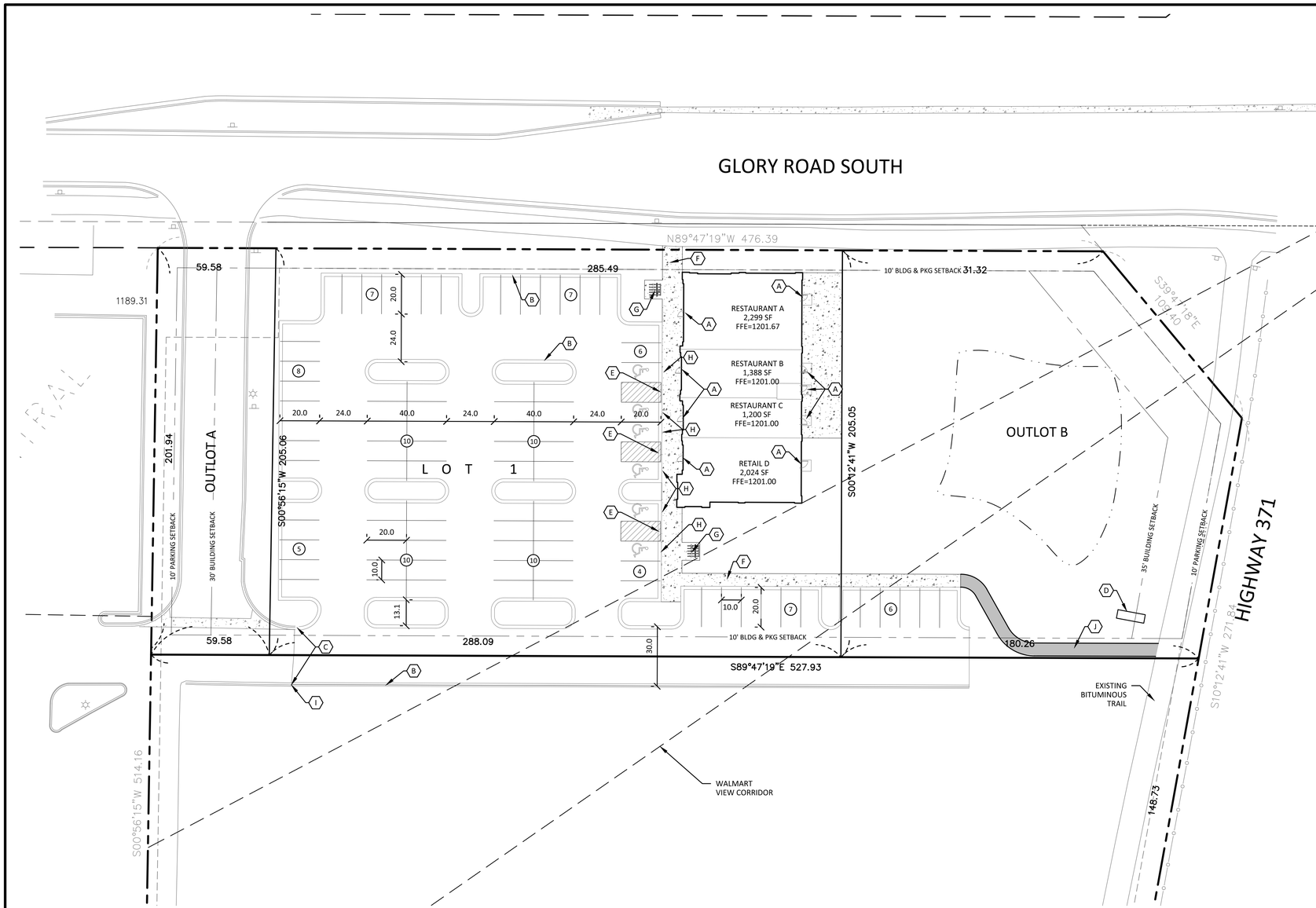

LEGEND

	PROPOSED	EXISTING
PROPERTY LIMIT		
CURB & GUTTER		
EASEMENT		
BUILDING		
RETAINING WALL		
WETLAND LIMITS		WL
TREELINE		
SAWCUT LINE		
SIGN		
PIPE BOLLARD		
NUMBER OF PARKING STALLS PER ROW	XX	
KEY NOTE	XX	

STANDARD DUTY ASPHALT PAVING
HEAVY DUTY ASPHALT PAVING
CONCRETE PAVING

DEVELOPMENT SUMMARY

AREA		
GROSS SITE AREA	108,126 SF	2.48 AC
PERVIOUS AREA	11,979 SF	0.28 AC
PERCENT PERVIOUS		20.4%
PARKING STALLS		
HC STALLS		6 STALLS
10'x20' STALLS		84 STALLS

DEVELOPMENT NOTES

1. ALL DIMENSIONS ARE ROUNDED TO THE NEAREST TENTH FOOT.
2. ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.
3. ALL AREAS ARE ROUNDED TO THE NEAREST SQUARE FOOT.
4. ALL PARKING STALLS TO BE 10' IN WIDTH AND 20' IN LENGTH UNLESS OTHERWISE INDICATED.
5. SEE ARCHITECTURAL PLANS FOR PYLON SIGN DETAILS
6. REFER TO FINAL PLAT FOR LOT BOUNDARIES, LOT NUMBERS, LOT AREAS, AND LOT DIMENSIONS.
7. ALL GRADIENTS ON SIDEWALKS ALONG THE ADA ROUTE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% (1:20), EXCEPT AT CURB RAMPS (1:12), AND A MAXIMUM CROSS SLOPE OF 2.08% (1:48). THE MAXIMUM SLOPE IN ANY DIRECTION ON AN ADA PARKING STALL OR ACCESS ISLE SHALL BE 2.08% (1:48). THE CONTRACTOR SHALL REVIEW AND VERIFY THE GRADIENT IN THE FIELD ALONG THE ADA ROUTES PRIOR TO PLACING CONCRETE OR BITUMINOUS PAVEMENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE GRADIENT IN THE FIELD VERSUS THE DESIGN GRADIENT AND COORDINATE WITH GRADING CONTRACTOR.
8. "NO PARKING" SIGNS SHALL BE PLACED ALONG ALL DRIVEWAYS AS REQUIRED BY CITY.

KEY NOTES

A. BUILDING, STOOPS, STAIRS SEE ARCHITECTURAL PLANS
B. B-612 CONCRETE CURB AND GUTTER
C. CONNECT TO EXISTING CURB
D. MONUMENT SIGN
E. FLAT CURB SECTION
F. CONCRETE SIDEWALK
G. BIKE RACK
H. ACCESSIBLE PARKING SIGN
I. 2' CURB CUT FOR DRAINAGE
J. BITUMINOUS TRAIL

NORTH

0 30 60
SCALE IN FEET

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WAYZATA, MN 55391

Project
CENTRAL LAKES CROSSING MULTI-TENANT

Location
BAXTER, MN

SW QUADRANT OF HIGHWAY 371 AND GLORY ROAD S

Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

PRELIMINARY

Michael G. Bulten
Registration No. 20800 Date: 04/19/2016

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issue: 04/19/2016

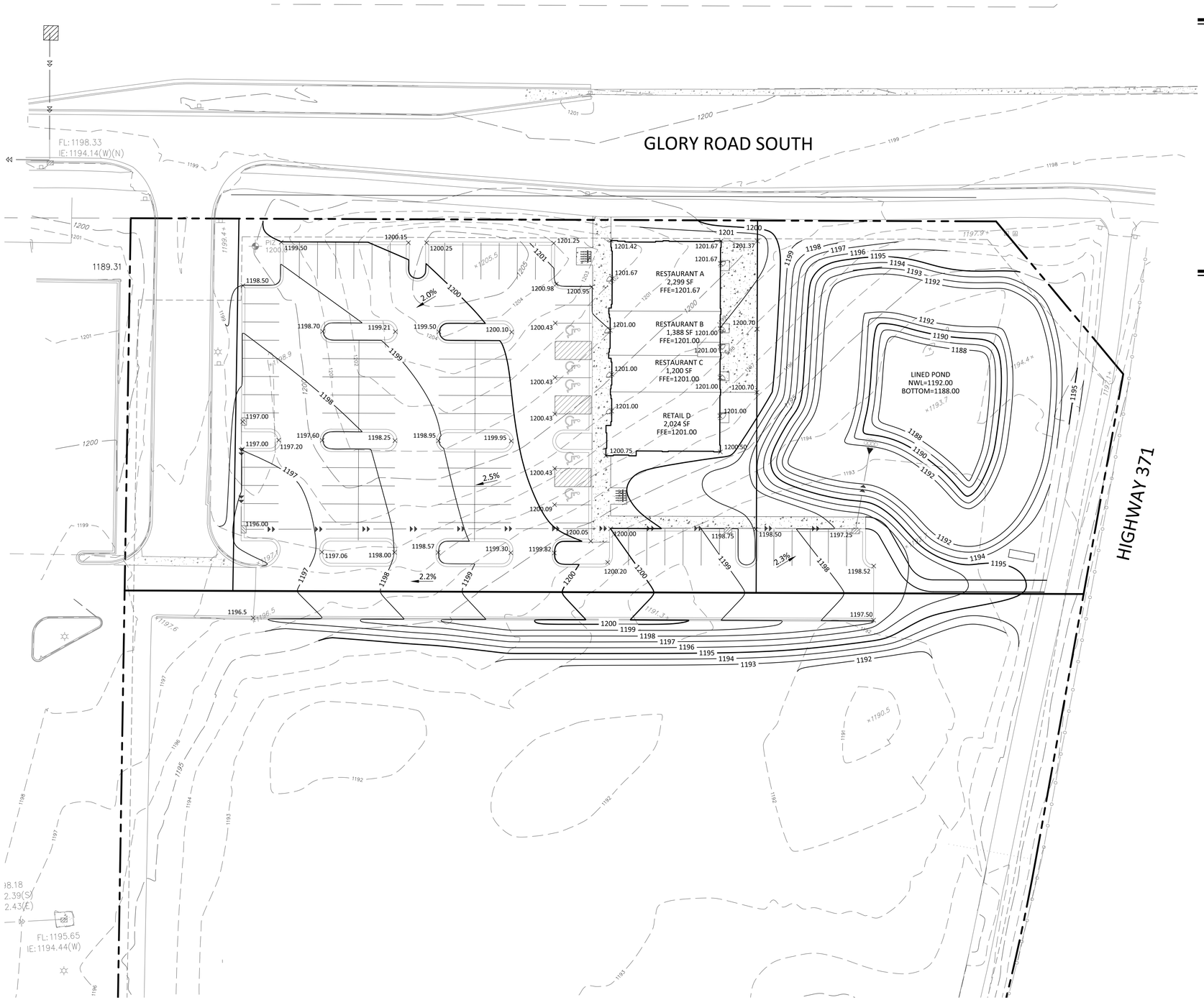
Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title
SITE PLAN

Sheet No. Revision
C3.01

Project No. HJD20526



LEGEND

	PROPOSED	EXISTING
PROPERTY LIMIT		
CURB & GUTTER		
STORM SEWER		
DRAINTILE		
BUILDING		
RETAINING WALL		
WETLAND LIMITS		WL
TREELINE		
SPOT ELEVATION	902.5	902.5
CONTOUR	902	902
RIP RAP		
OVERFLOW ELEV.	EOF 902.5	
SOIL BORINGS		ST 5 902.5

GRADING NOTES

1. PROPOSED CONTOURS ARE TO FINISHED SURFACE ELEVATION. SPOT ELEVATIONS ALONG PROPOSED CURB DENOTE GUTTER GRADE.
2. ALL GRADIENT ON SIDEWALKS ALONG THE ADA ROUTE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% (1:20), EXCEPT AT CURB RAMPS (1:12), AND A MAXIMUM CROSS SLOPE OF 2.08% (1:48). MAXIMUM SLOPE IN ANY DIRECTION ON AN ADA PARKING STALL OR ACCESS AISLE SHALL BE IN 2.08% (1:48). CONTRACTOR SHALL REVIEW AND VERIFY THE GRADIENT IN THE FIELD ALONG THE ADA ROUTES PRIOR TO PLACING CONCRETE OR BITUMINOUS. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE GRADIENT IN THE FIELD VERSUS THE DESIGN GRADIENT. COORDINATE ALL WORK WITH PAVING CONTRACTOR.

THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL . THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF ASCE/CI 38-02, TITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, BY CONTACTING THE NOTIFICATION CENTER (GOPHER STATE ONE FOR MINNESOTA). THE CONTRACTOR AND/OR SUBCONTRACTOR AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MIGHT BE OCCASIONED BY HIS OR HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES (UNDERGROUND AND OVERHEAD).

IF THE CONTRACTOR ENCOUNTERS ANY DRAIN TILE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, INVERT AND IF THE TILE LINE IS ACTIVE. NO DRAIN TILE SHALL BE BACKFILLED WITHOUT APPROVAL FROM THE PROJECT ENGINEER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

NORTH

0 30 60
SCALE IN FEET

Apr 18, 2016 - 6:16pm - User:498 L:\PROJECTS\HJD20526\dwg\Civil\Preliminary\20526-C401-GRADE.dwg

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Engineering | Surveying | Planning | Environmental

Client
HJ DEVELOPMENT, LLP
15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391

Project
CENTRAL LAKES CROSSING MULTI-TENANT

Location
BAXTER, MN

SW QUADRANT OF HIGHWAY 371 AND GLORY ROAD S

Certification

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

PRELIMINARY

Michael G. Bultman
Registration No. 20800 Date: 04/19/2016

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Summary

Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issue: 04/19/2016

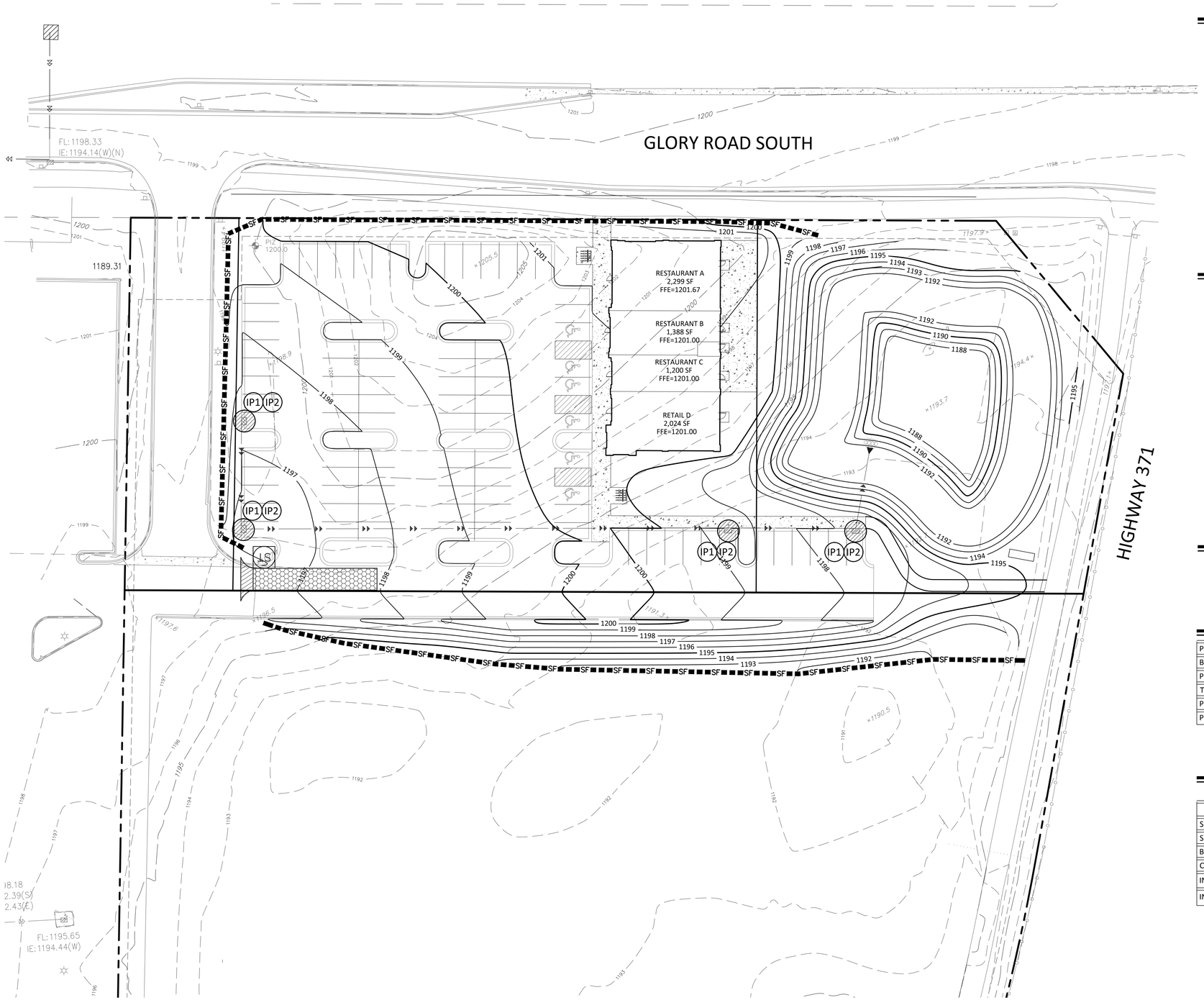
Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title
GRADING PLAN

Sheet No. Revision
C4.01

Project No. HJD20526



LEGEND

	PROPOSED	EXISTING
PROPERTY LIMIT		
CURB & GUTTER		
STORM SEWER		
DRAINTILE		
BUILDING		
RETAINING WALL		
WETLAND LIMITS		WL
TREELINE		
SPOT ELEVATION	902.5 x	902.5 x
CONTOUR	902	902
RIP RAP		
OVERFLOW ELEV.	EOF 902.5	
SOIL BORINGS		ST 5 902.5
SILT FENCE	SF SF	
INLET PROTECTION DEVICE 1	IP-1	
INLET PROTECTION DEVICE 2	IP–2	
TEMPORARY STONE CONSTRUCTION ENTRANCE		

SEQUENCE OF CONSTRUCTION

PHASE I:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
2. PREPARE TEMPORARY PARKING AND STORAGE AREA.
3. CONSTRUCT THE SILT FENCES ON THE SITE.
4. INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.
6. CLEAR AND GRUB THE SITE.
7. BEGIN GRADING THE SITE.
8. START CONSTRUCTION OF BUILDING PAD AND STRUCTURES.

PHASE II:

1. TEMPORARILY SEED DENUDED AREAS.
2. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.
3. INSTALL RIP RAP AROUND OUTLET STRUCTURES.
4. INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.
5. PREPARE SITE FOR PAVING.
6. PAVE SITE.
7. INSTALL INLET PROTECTION DEVICES.
8. COMPLETE GRADING AND INSTALL PERMANENT SEEDING AND PLANTING.
9. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED), IF REQUIRED BY THE CONTRACT

NOTE TO CONTRACTOR

THE EROSION CONTROL PLAN SHEETS ALONG WITH THE REST OF THE SWPPP MUST BE KEPT ONSITE UNTIL THE NOTICE OF TERMINATION IS FILED WITH THE MPCA, THE CONTRACTOR MUST UPDATE THE SWPPP, INCLUDING THE EROSION CONTROL PLAN SHEETS AS NECESSARY TO INCLUDE ADDITIONAL REQUIREMENTS, SUCH AS ADDITIONAL OR MODIFIED BMPS DESIGNED TO CORRECT PROBLEMS IDENTIFIED. AFTER FILING THE NOTICE OF TERMINATION, THE SWPPP, INCLUDING THE EROSION CONTROL PLAN SHEETS, AND ALL REVISIONS TO IT MUST BE SUBMITTED TO THE OWNER, TO BE KEPT ON FILE IN ACCORDANCE WITH THE RECORD RETENTION REQUIREMENTS DESCRIBED IN THE SWPPP NARRATIVE.

AREA SUMMARY IN ACRES

PAVEMENT AREA	1.20 AC±
BUILDING AREA	0.16 AC±
PERVIOUS AREA	1.01 AC±
TOTAL DISTURBED	2.47 AC±
PRE - CONSTRUCTION IMPERVIOUS	0.04 AC±
POST - CONSTRUCTION IMPERVIOUS	1.35 AC±

EROSION CONTROL MATERIALS QUANTITIES

ITEM	UNIT	QUANTITY
SILT FENCE	LINEAR FEET	930
SILT DIKE	LINEAR FEET	0
BIO-ROLL	LINEAR FEET	0
CONSTRUCTION ENTRANCE	UNIT	1
INLET PROTECTION DEVICE (IP-1)	UNIT	4
INLET PROTECTION DEVICE (IP-2)	UNIT	4

THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL . THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF ASCE/CI 38-02, TITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, BY CONTACTING THE NOTIFICATION CENTER (GOPHER STATE ONE FOR MINNESOTA). THE CONTRACTOR AND/OR SUBCONTRACTOR AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MIGHT BE OCCASIONED BY HIS OR HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES (UNDERGROUND AND OVERHEAD).

IF THE CONTRACTOR ENCOUNTERS ANY DRAIN TILE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, INVERT AND IF THE TILE LINE IS ACTIVE. NO DRAIN TILE SHALL BE BACKFILLED WITHOUT APPROVAL FROM THE PROJECT ENGINEER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

NORTH

0 30 60
SCALE IN FEET

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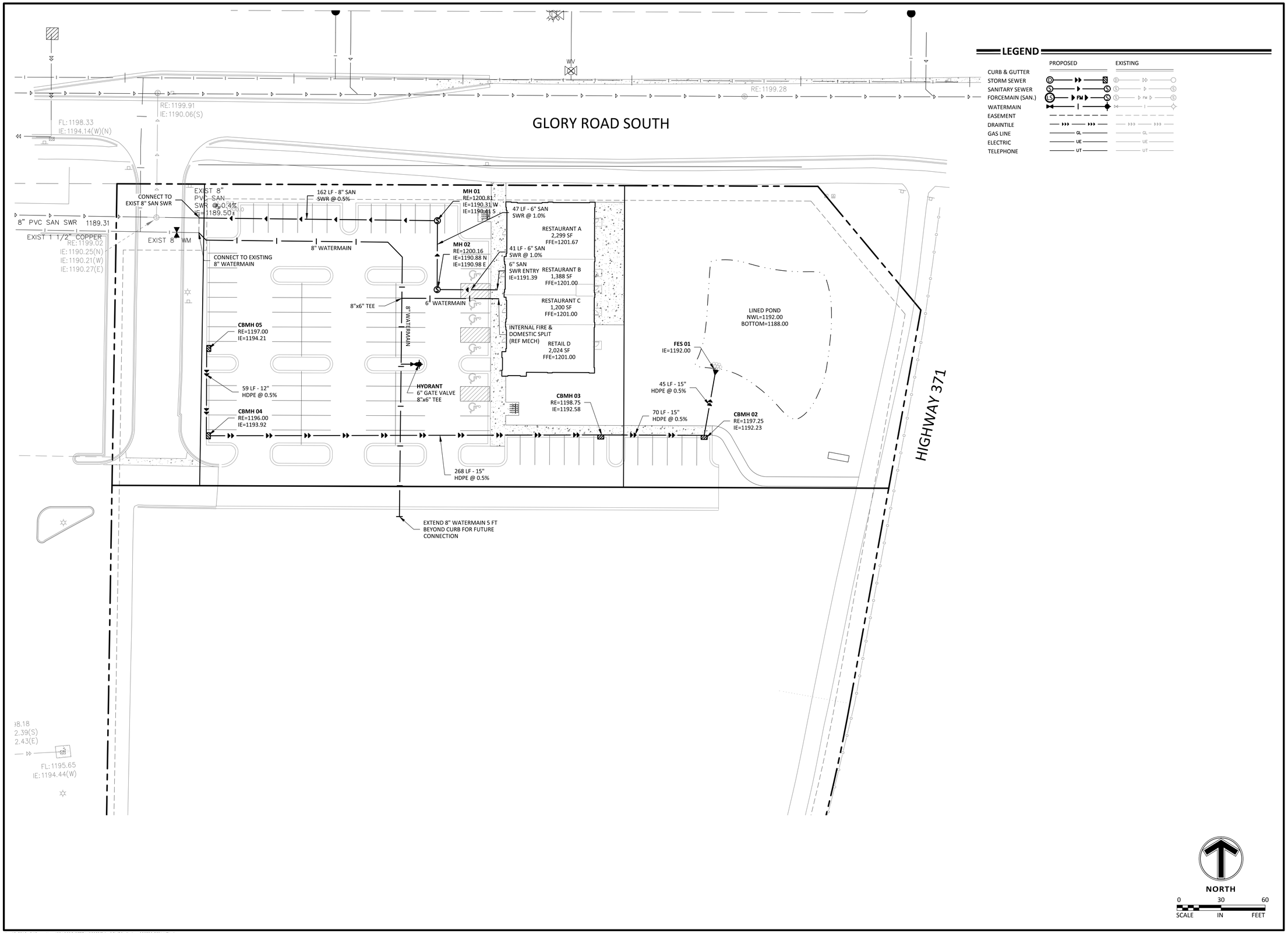
Sheet Title
EROSION & SEDIMENT CONTROL PLAN

Sheet No. Revision
C5.01

Project No. HJD20526



LEGEND

	PROPOSED	EXISTING
CURB & GUTTER		
STORM SEWER	D	D
SANITARY SEWER	S	S
FORCEMAIN (SAN.)	LS FM S	S FM
WATERMAIN		
EASEMENT		
DRAINTILE		
GAS LINE	GL	GL
ELECTRIC	UE	UE
TELEPHONE	UT	UT

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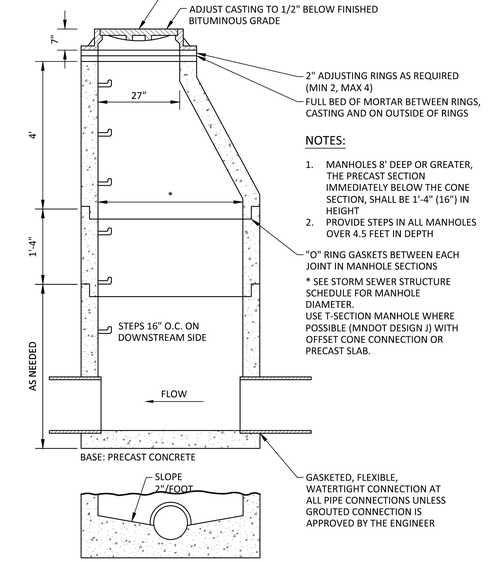
Sheet Title
UTILITY PLAN

Sheet No. Revision
C6.01

Project No. HJD20526

Apr 18, 2016 - 6:16pm - User:498 L:\PROJECTS\HJD20526\dwg\Civil\Preliminary\20526-C601-UTIL.dwg

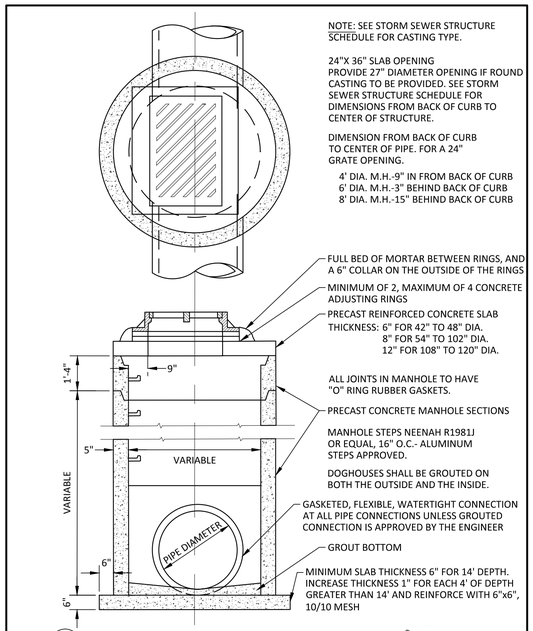


NOTES:

1. MANHOLES 8' DEEP OR GREATER, THE PRECAST SECTION IMMEDIATELY BELOW THE CONE SECTION, SHALL BE 1'-4" (16") IN HEIGHT
2. PROVIDE STEPS IN ALL MANHOLES OVER 4.5 FEET IN DEPTH

SS-01
04/12
NO SCALE

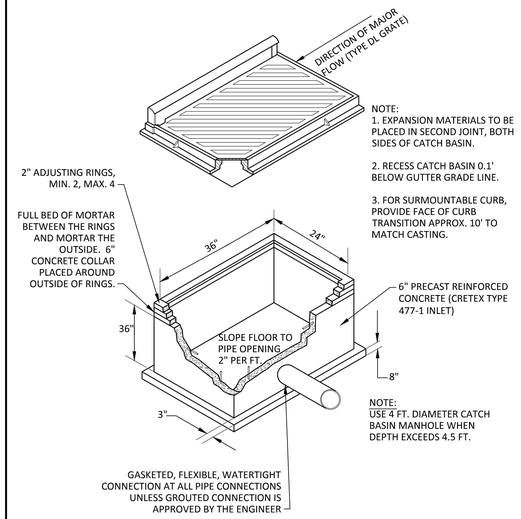
01 STORM SEWER MANHOLE
N.T.S.



SS-02
04/12
NO SCALE

02 CATCH BASIN MANHOLE
N.T.S.

CATCH BASIN CASTING ASSEMBLY
(SEE STORM SEWER SCHEDULE FOR CASTING TYPE)



NOTE:
1. EXPANSION MATERIALS TO BE PLACED IN SECOND JOINT, BOTH SIDES OF CATCH BASIN.

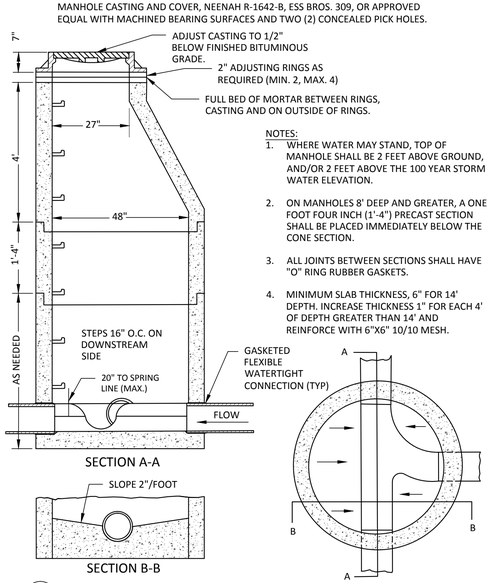
2. RECESS CATCH BASIN 0.1' BELOW GUTTER GRADE LINE.

3. FOR SURMOUNTABLE CURB, PROVIDE FACE OF CURB TRANSITION APPROX. 10' TO MATCH CASTING.

NOTE:
USE 4 FT. DIAMETER CATCH BASIN MANHOLE WHEN DEPTH EXCEEDS 4.5 FT.

03 24"x36" CATCH BASIN
N.T.S.

SS-05
05/06
NO SCALE



NOTES:
1. WHERE WATER MAY STAND, TOP OF MANHOLE SHALL BE 2 FEET ABOVE GROUND, AND/OR 2 FEET ABOVE THE 100 YEAR STORM WATER ELEVATION.

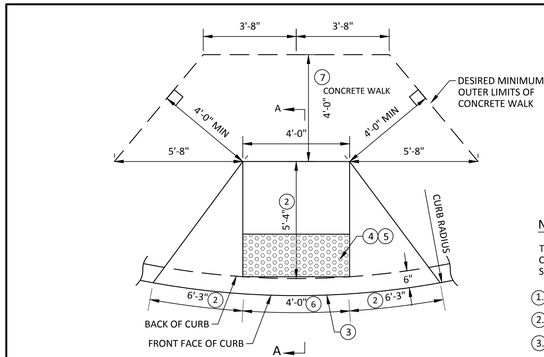
2. ON MANHOLES 8' DEEP AND GREATER, A ONE FOOT FOUR INCH (1'-4") PRECAST SECTION SHALL BE PLACED IMMEDIATELY BELOW THE CONE SECTION.

3. ALL JOINTS BETWEEN SECTIONS SHALL HAVE "O" RING RUBBER GASKETS.

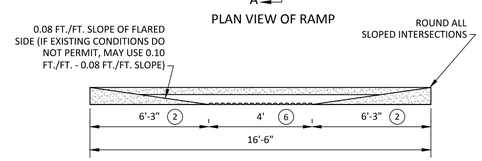
4. MINIMUM SLAB THICKNESS, 6" FOR 14' DEPTH. INCREASE THICKNESS 1" FOR EACH 4' OF DEPTH GREATER THAN 14' AND REINFORCE WITH 6"X6" 10/10 MESH.

06 STANDARD SANITARY SEWER MANHOLE
N.T.S.

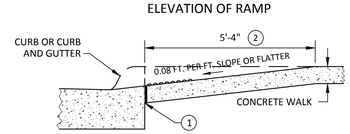
S-01
05/06
NO SCALE



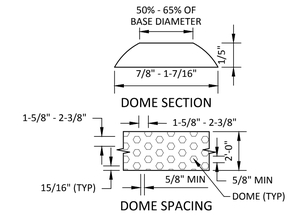
PLAN VIEW OF RAMP



ELEVATION OF RAMP



SECTION A-A



NOTE:

THE CURB AND CURB TRANSITION ON THE RAMP WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER. THE RAMP AREA WILL BE PAID AS SQUARE FEET OF CONCRETE WALK, UNLESS SPECIFIED OTHERWISE. THE TRUNCATED DOME AREA WILL BE CONSIDERED INCIDENTAL.

1. 1/2 INCH PREFORMED JOINT FILLER MATERIAL, AASHTO M 213.
2. VARIES WITH CURB HEIGHT. EXAMPLE SHOWN IS FOR 6" CURB HEIGHT.
3. 6" TO 8" IS THE REQUIRED OFFSET OF THE DETECTABLE WARNINGS/TRUNCATED DOME AREA FROM THE FRONT FACE OF CURB, OR PLACE THE DETECTABLE WARNINGS AT THE BACK OF CURB.
4. ADA REQUIRED TRUNCATED DOME AREA SHALL BE 2' 0" MIN. IN DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH (3' 0" OR 4' 0" TYP.) OF THE CURB RAMP. THIS 2' 0" BY 3' 0" OR 4' 0" WIDTH (TYP.) TRUNCATED DOME AREA SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKING SURFACE. THE ENTIRE TRUNCATED DOME AREA SHALL BE A LIGHT COLOR (LIGHT GRAY, WHITE, OR YELLOW) WHEN THE ADJACENT SIDEWALK IS A DARK COLOR. THE ENTIRE TRUNCATED DOME AREA SHALL BE A DARK COLOR (RED, BLACK, DARK GRAY, OR BRIGHT YELLOW) WHEN THE ADJACENT SIDEWALK IS A "WHITE" OR LIGHT GRAY CEMENT COLOR.
5. THE TRUNCATED DOME AREA MAY BE EITHER GRANITE PANEL OR STAMPED CONCRETE, INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS. GRANITE PANELS SHALL BE 2" NOMINAL THICKNESS WITH SANDED TEXTURED FINISH, FREE OF ANY CRACKS, CHIPS OR COLOR DEFORMATIONS. STAMPED CONCRETE SHALL MEET REQUIREMENTS OF 3A36 CONCRETE MIX AND HAVE INTEGRATED HOMOGENEOUS COLORING.
6. 4' 0" FOR NEW CONSTRUCTION. 3' 0" ALLOWED FOR RETROFITS OR PRESERVATION PROJECTS.
7. WHEN POSSIBLE, PROVIDE A PATH OF TRAVEL 4'0" WIDE BEHIND THE PEDESTRIAN RAMP. A RELATIVELY FLAT (2% MAXIMUM SLOPE) 4' X 4' LANDING WILL ALLOW WHEELCHAIRS TO NAVIGATE AROUND THE PEDESTRIAN RAMP.

08 PEDESTRIAN CURB RAMP
N.T.S.

C-12
05/06
NO SCALE

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C7.01

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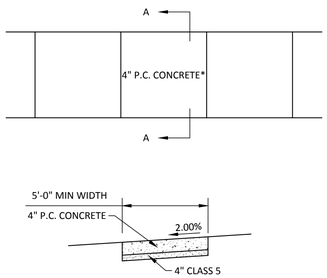

GENERAL NOTES FOR CONCRETE CONSTRUCTION:

1. THE CONCRETE SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF MN/DOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION".
2. SIDEWALK CONTROL JOINTS SHALL BE LOCATED AT 5 FEET ON CENTER. SIDEWALK EXPANSION JOINTS SHALL BE LOCATED AT A MAXIMUM OF 100 FEET ON CENTER, AND WHERE SIDEWALK ABUTS CURB, STRUCTURES, AND OTHER FIXED OBJECTS. SEAL ALL EXPANSION JOINTS. BROOM FINISH SHALL BE PERPENDICULAR TO THE LINE OF TRAFFIC.

*THE THICKNESS SHALL BE INCREASED TO A MINIMUM DEPTH OF ___ INCHES AT DRIVEWAY CROSSINGS.

04 CONCRETE SIDEWALK
N.T.S.

C-14
12/11
NO SCALE

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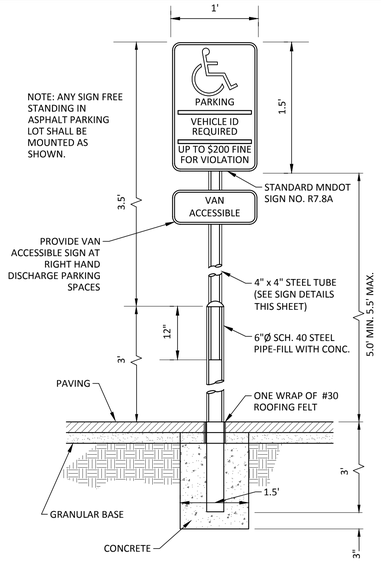

05 ACCESSIBLE PARKING SIGN
N.T.S.

M-02
REV. 10/08
NO SCALE

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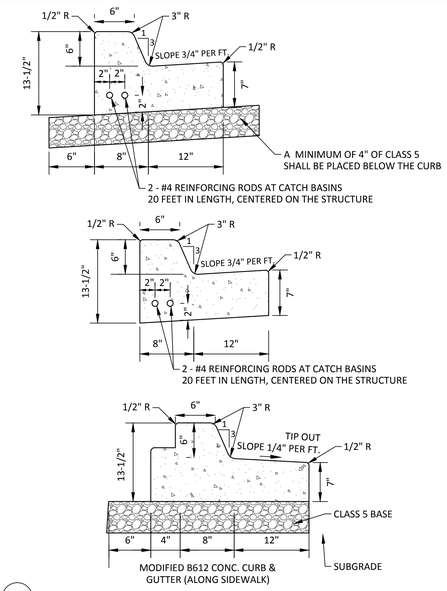

09 B612 CONCRETE CURB & GUTTER
N.T.S.

C-01
12/11
NO SCALE

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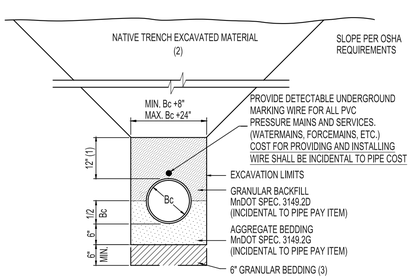
NOTES:

(1) IF THIS DIMENSION DECREASES THE BEDDING CONDITIONS WILL CHANGE. A HIGHER LEVEL BEDDING CONDITION SHALL BE SOLELY AT THE CONTRACTOR'S EXPENSE.

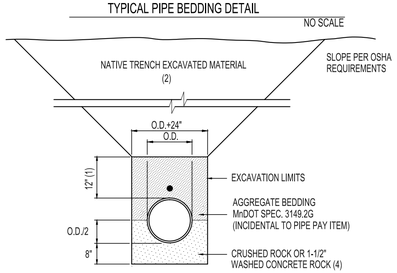
(2) GRANULAR MATERIAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM.

(3) FOR ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHOULD BE OVER EXCAVATED A MINIMUM OF 6" & REFILLED WITH GRANULAR MATERIAL. THIS ITEM WILL BE ELIGIBLE FOR EXTRA PAYMENT, IF REQUIRED.

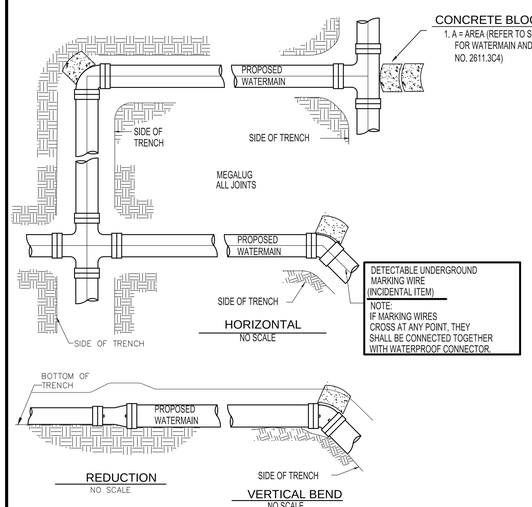
(4) THIS PROCEDURE IS NOT INTENDED TO REPLACE DEWATERING SYSTEMS IN WET CONDITIONS.



TYPICAL PIPE BEDDING DETAIL
NO SCALE



SPECIAL PIPE BEDDING DETAIL FOR TRENCH STABILIZATION WHERE REQUIRED
NO SCALE



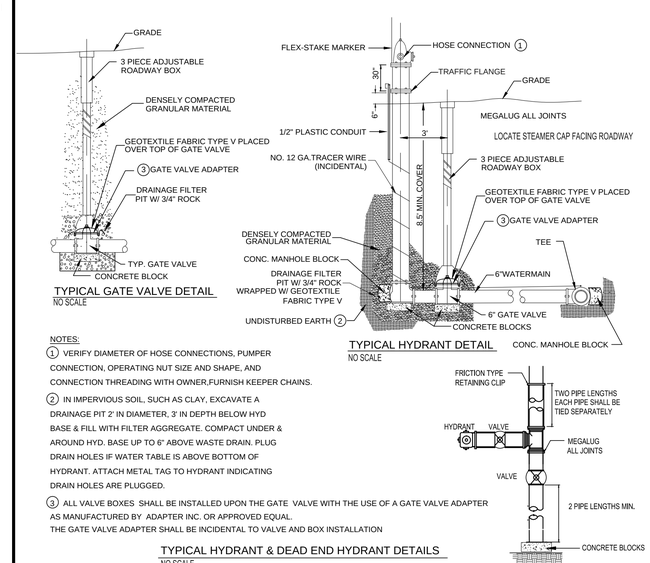
HORIZONTAL
NO SCALE

REDUCTION
NO SCALE

VERTICAL BEND
NO SCALE

CONCRETE BLOCK NOTES:
1. A = AREA (REFER TO STANDARD SPECIFICATIONS FOR WATERMAIN AND SERVICE LINE INSTALLATION NO. 2611.3C4)

THRUST BLOCKING & MECHANICAL RESTRAINT DETAILS
NO SCALE



TYPICAL GATE VALVE DETAIL
NO SCALE

TYPICAL HYDRANT DETAIL
NO SCALE

NOTES:

1 VERIFY DIAMETER OF HOSE CONNECTIONS, PUMPER CONNECTION, OPERATING NUT SIZE AND SHAPE, AND CONNECTION THREADING WITH OWNER,FURNISH KEEPER CHAINS.

2 IN IMPERVIOUS SOIL, SUCH AS CLAY, EXCAVATE A DRAINAGE PIT 2' IN DIAMETER, 3' IN DEPTH BELOW HYD BASE & FILL WITH FILTER AGGREGATE. COMPACT UNDER & AROUND HYD. BASE UP TO 6" ABOVE WASTE DRAIN. PLUG DRAIN HOLES IF WATER TABLE IS ABOVE BOTTOM OF HYDRANT. ATTACH METAL TAG TO HYDRANT INDICATING DRAIN HOLES ARE PLUGGED.

3 ALL VALVE BOXES SHALL BE INSTALLED UPON THE GATE VALVE WITH THE USE OF A GATE VALVE ADAPTER AS MANUFACTURED BY ADAPTER INC. OR APPROVED EQUAL. THE GATE VALVE ADAPTER SHALL BE INCIDENTAL TO VALVE AND BOX INSTALLATION

TYPICAL HYDRANT & DEAD END HYDRANT DETAILS
NO SCALE

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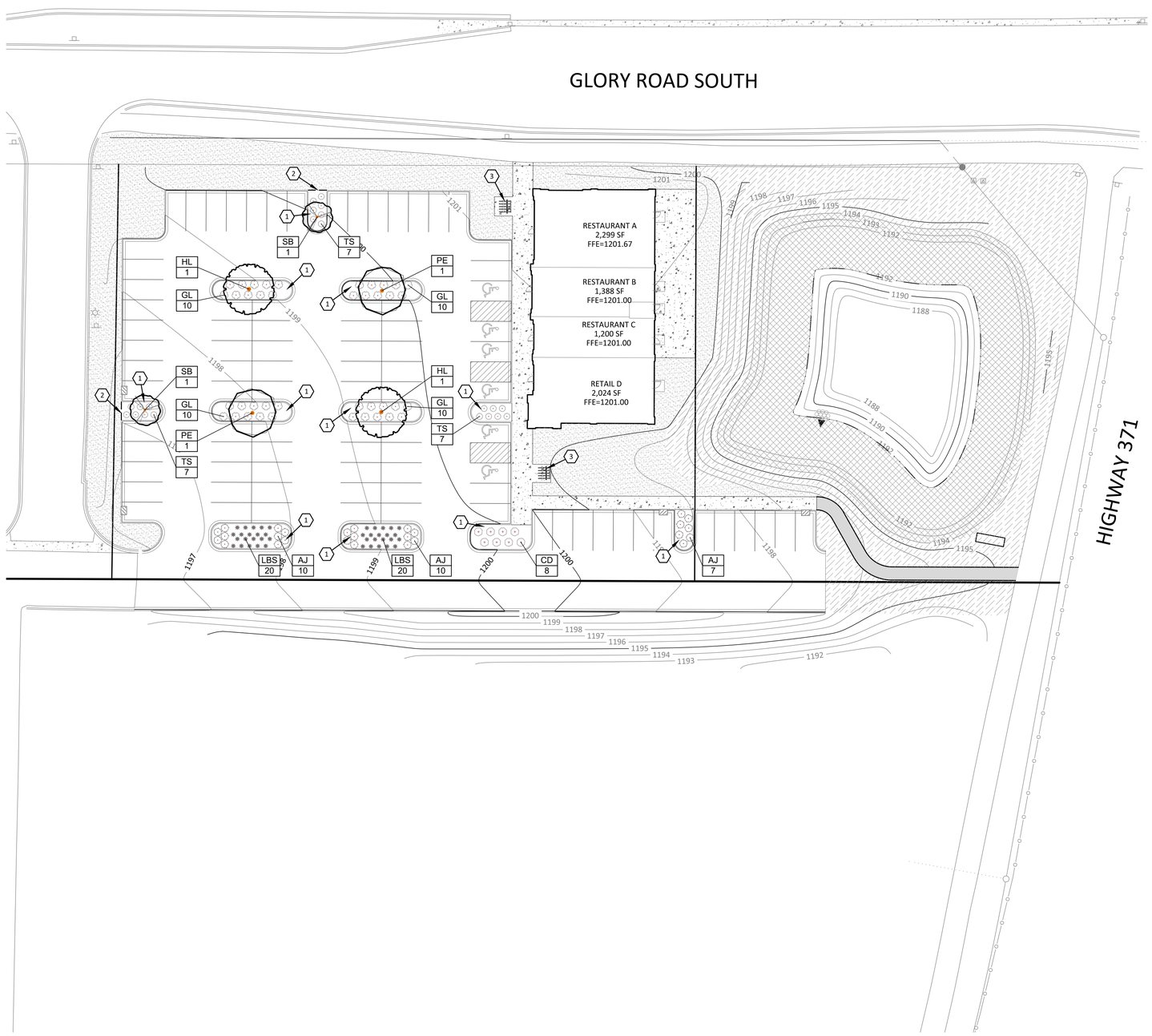

PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
	WS	Betula papyrifera `Whitespire` / Whitespire Birch	B & B	2.5"Cal		3
	HL	Gleditsia triacanthos `Skyline` / Skyline Honey Locust	B & B	2.5"Cal		2
	SO	Quercus bicolor / Swamp White Oak	B & B	2.5"Cal		1
	PE	Ulmus americana `Princeton` / American Elm	B & B	2.5"Cal		2
CONIFERS	**CODE**	**BOTANICAL NAME / COMMON NAME**	**CONT**	**CAL**	**SIZE**	**QTY**
	WP	Pinus strobus / White Pine	B & B		6`	1
ORN. TREES	**CODE**	**BOTANICAL NAME / COMMON NAME**	**CONT**	**CAL**	**SIZE**	**QTY**
	SB	Amelanchier canadensis `Autumn Brilliance` / Autumn Brilliance Serviceberry	B & B	2"Cal		2
SHRUBS	**CODE**	**BOTANICAL NAME / COMMON NAME**	**CONT**			**QTY**
	RD	Cornus baileyi / Bailey`s Red-twig Dogwood	5 gal			12
	CD	Cornus sericea `Alleman`s Compact` / Dwarf Red Twig Dogwood	5 gal			8
	AJ	Juniperus horizontalis `Compacta` / Andorra Compact Juniper	5 gal			27
	GL	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	5 gal			40
	TS	Spiraea betulifolia `Tor` / Birchleaf Spirea	5 gal			21
GRASSES	**CODE**	**BOTANICAL NAME / COMMON NAME**	**CONT**			**QTY**
	LBS	Schizachyrium scoparium `Blue Heaven` / Blue Heaven Little Bluestem	1 gal			40
GROUND COVERS	**CODE**	**BOTANICAL NAME / COMMON NAME**	**QTY**			
	TUR DRO	Turf Seed Drought Tolerant Dwarf Fescue Blend	14,310 sf			
	TUR MN	Turf Seed MN 33-361 / Stormwater Basin Seed Mix	12,054 sf			
	TUR HIG	Turf Sod Highland Sod / Sod	14,318 sf			

LANDSCAPE LEGEND

1. ¾" DRESSER TRAP ROCK
2. — — — — STEEL EDGER
3. PROPOSED BIKE RACK. EXACT LOCATION TBD.

CITY LANDSCAPE CODE

- ONE OVERSTORY DECIDUOUS OR CONIFEROUS TREE IS REQUIRED FOR EVERY 1,500 SQUARE FEET OF BUILDING FLOOR AREA.
- 30% OF TOTAL TREES MUST BE CONIFEROUS.
- A MINIMUM OF ONE SHRUB IS REQUIRED FOR EVERY 450 SQUARE FEET OF BUILDING FLOOR AREA.

PROPOSED BUILDING FLOOR AREA = 7,011 SQ. FT.

PLANT TYPE	REQUIRED	PROVIDED
OVERSTORY TREES	4	10
CONIFEROUS TREES	2	1
SHRUBS	15	108

NORTH

0 30 60
SCALE IN FEET

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WAYZATA, MN 55391

Project
CENTRAL LAKES CROSSING MULTI-TENANT

Location
BAXTER, MN

SW QUADRANT OF HIGHWAY 371 AND GLORY ROAD S

Certification
I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed LANDSCAPE ARCHITECT under the laws of the State of Minnesota.

PRELIMINARY

Joshua J. McKinney
Registration No. 53204 Date: 04/19/16

This certificate is not valid unless wet signed in blue ink. If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek, Minnetonka, MN office.

Summary
Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issue: 04/19/2016

Revision History

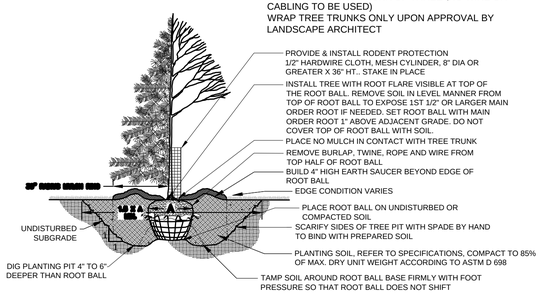
No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title
LANDSCAPE PLAN

Sheet No. Revision
L1.01

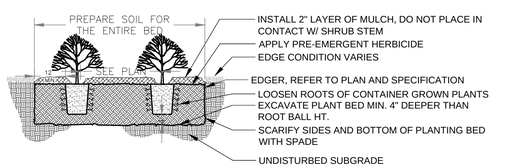
Project No. HJD20526

NOTE:
CONTRACTOR SHALL MAINTAIN TREES IN A PLUMB POSITION THROUGHOUT THE WARRANTY PERIOD. IF STAKING IS REQUIRED BY SITE CONDITIONS, CONTRACTOR TO USE 2 OR 3 STAKE METHOD WITH 1" WEBBING AROUND TRUNK OF THREE (NO WIRE OR CABLING TO BE USED)
WRAP TREE TRUNKS ONLY UPON APPROVAL BY LANDSCAPE ARCHITECT



1 #### TREE PLANTING DETAIL

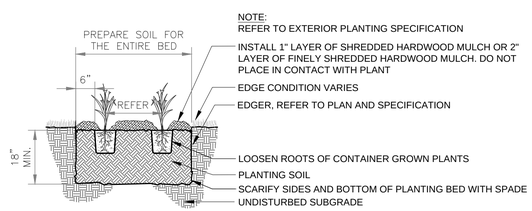
NTS



2 L00 SHRUB PLANTING DETAIL2

NTS

NOTE:
REFER TO EXTERIOR PLANTING SPECIFICATION



3 L101 PERENNIAL PLANTING DETAIL

NTS

NOTES

GENERAL NOTES:

1. THE CONTRACTOR SHALL INSPECT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF THE WORK.
2. THE CONTRACTOR SHALL VERIFY PLAN LAYOUT AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN OR INTENT OF THE LAYOUT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES, REGULATIONS, AND PERMITS GOVERNING THE WORK.
4. THE CONTRACTOR SHALL PROTECT EXISTING ROADS, CURBS/GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING CONSTRUCTION. DAMAGE TO SAME SHALL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
5. LOCATE AND VERIFY ALL UTILITIES, INCLUDING IRRIGATION LINES, WITH THE OWNER FOR PROPRIETARY UTILITIES AND GOPHER STATE ONE CALL 48 HOURS BEFORE DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGES TO SAME. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS TO FACILITATE PLANT RELOCATION.
6. **THE LANDSCAPE CONTRACTOR SHALL COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.**
7. THE CONTRACTOR SHALL REVIEW THE SITE FOR DEFICIENCIES IN SITE CONDITIONS WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR WARRANTY. UNDESIRABLE SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK.
8. THE PLAN TAKES PRECEDENCE OVER THE LANDSCAPE LEGEND IF DISCREPANCIES EXIST. QUANTITIES SHOWN IN THE PLANTING SCHEDULE ARE FOR THE CONTRACTOR'S CONVENIENCE. CONTRACTOR TO VERIFY QUANTITIES SHOWN ON THE PLAN.
9. THE SPECIFICATIONS TAKE PRECEDENCE OVER THE PLANTING NOTES AND GENERAL NOTES.
10. EXISTING TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED TO THE DRIP LINE FROM ALL CONSTRUCTION TRAFFIC, STORAGE OF MATERIALS ETC. WITH 4' HT. ORANGE PLASTIC SAFETY FENCING ADEQUATELY SUPPORTED BY STEEL FENCE POSTS 6' O.C. MAXIMUM SPACING.
11. LONG-TERM STORAGE OF MATERIALS OR SUPPLIES ON-SITE WILL NOT BE ALLOWED.
12. CONTRACTOR SHALL REQUEST IN WRITING, A FINAL ACCEPTANCE INSPECTION.

PLANTING NOTES:

1. NO PLANTS SHALL BE INSTALLED UNTIL FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
2. A GRANULAR PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL PLANT BEDS AT THE MANUFACTURERS RECOMMENDED RATE PRIOR TO PLANT INSTALLATION.
3. ALL PLANTING STOCK SHALL CONFORM TO THE "AMERICAN STANDARD FOR NURSERY STOCK," ANSI-Z60, LATEST EDITION, OF THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS.
4. OVERSTORY TREES SHALL BEGIN BRANCHING NO LOWER THAN 6' ABOVE PAVED SURFACES.
5. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASE AND BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE LANDSCAPE LEGEND.
6. PLANT MATERIALS TO BE INSTALLED PER PLANTING DETAILS.
7. ALL TREES MUST BE STRAIGHT TRUNKED AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
8. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS WHICH ARE DEEMED UNSATISFACTORY BEFORE, DURING, OR AFTER INSTALLATION.
9. NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE ACCEPTED UNLESS APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.
10. ALL PLANT MATERIAL QUANTITIES, SHAPES OF BEDS AND LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN AND ADJUSTED TO CONFORM TO THE EXACT CONDITIONS OF THE SITE. THE LANDSCAPE ARCHITECT SHALL APPROVE THE STAKING LOCATION OF ALL PLANT MATERIALS PRIOR TO INSTALLATION.
11. ALL PLANTING AREAS MUST BE COMPLETELY MULCHED AS SPECIFIED.
12. MULCH: SHREDDED HARDWOOD MULCH, CLEAN AND FREE OF NOXIOUS WEEDS OR OTHER DELETERIOUS MATERIAL, IN ALL MASS PLANTING BEDS AND FOR TREES, UNLESS INDICATED AS ROCK MULCH ON DRAWINGS. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT PRIOR TO DELIVERY ON-SITE FOR APPROVAL. DELIVER MULCH ON DAY OF INSTALLATION. USE 4" FOR SHRUB BEDS, AND 3" FOR PERENNIAL/GROUND COVER BEDS, UNLESS OTHERWISE DIRECTED.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MULCHES AND PLANTING SOIL QUANTITIES TO COMPLETE THE WORK SHOWN ON THE PLAN.
14. USE ANTI-DESICCANT (WILTPRUF OR APPROVED EQUAL) ON DECIDUOUS PLANTS MOVED IN LEAF AND FOR EVERGREENS MOVED ANYTIME. APPLY AS PER MANUFACTURER'S INSTRUCTION. ALL EVERGREENS SHALL BE SPRAYED IN THE LATE FALL FOR WINTER PROTECTION DURING WARRANTY PERIOD.
14. PLANTING SOIL FOR TREES, SHRUBS AND GROUND COVERS: FERTILE FRIABLE LOAM CONTAINING A LIBERAL AMOUNT (4% MIN.) OF HUMUS AND CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. IT SHALL COMPLY WITH MNDOT SPECIFICATION 3877 TYPE B SELECT TOPSOIL. MIXTURE SHALL BE FREE FROM HARDPACK SUBSOIL, STONES, CHEMICALS, NOXIOUS WEEDS, ETC. SOIL MIXTURE SHALL HAVE A PH BETWEEN 6.1 AND 7.5 AND 10-0-10 FERTILIZER AT THE RATE OF 3 POUNDS PER CUBIC YARD. IN PLANTING BEDS INCORPORATE THIS MIXTURE THROUGHOUT THE ENTIRE BED IN A 6" LAYER AND ROTO-TILLING IT INTO THE TOP 12" OF SOIL AT A 1:1 RATIO.ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE HEELED IN AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE REJECTED.
15. ALL PLANTS SHALL BE GUARANTEED FOR TWO COMPLETE GROWING SEASONS (APRIL 1 - NOVEMBER 1), UNLESS OTHERWISE SPECIFIED. THE GUARANTEE SHALL COVER THE FULL COST OF REPLACEMENT INCLUDING LABOR AND PLANTS.
16. CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 3 DAYS PRIOR TO PLANNED DELIVERY. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 24 HOURS IN ADVANCE OF BEGINNING PLANT INSTALLATION.
17. SEASONS/TIME OF PLANTING AND SEEDING: NOTE: THE CONTRACTOR MAY ELECT TO PLANT IN OFF-SEASONS ENTIRELY AT HIS/HER RISK. DECIDUOUS

17.1.	POTTED PLANTS:	4/1 - 6/1; 9/21 - 11/1
17.2.	DECIDUOUS /B&B:	4/1 - 6/1; 9/21 - 11/1
17.3.	EVERGREEN POTTED PLANTS:	4/1 - 6/1; 9/21-11/1
17.4.	EVERGREEN B&B:	4/1 - 5/1; 9/21 - 11/1
17.5.	TURF/LAWN SEEDING:	4/1 - 6/1; 7/20 - 9/20

18. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PORTION OF THE WORK IS IN PLACE. PLANT MATERIAL SHALL BE PROTECTED AND MAINTAINED UNTIL THE INSTALLATION OF THE PLANTS IS COMPLETE, INSPECTION HAS BEEN MADE, AND PLANTINGS ARE ACCEPTED EXCLUSIVE OF THE GUARANTEE. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RE-SETTING PLANTS TO PROPER GRADE AND KEEPING PLANTS IN A PLUMB POSITION. AFTER ACCEPTANCE, THE OWNER SHALL ASSUME MAINTENANCE RESPONSIBILITIES. HOWEVER, THE CONTRACTOR SHALL CONTINUE TO BE RESPONSIBLE FOR KEEPING THE TREES PLUMB THROUGHOUT THE GUARANTEE PERIOD.
19. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO TOTAL ACCEPTANCE OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL LANDSCAPE LEGEND SPECIFICATIONS.
20. WATERING: MAINTAIN A WATERING SCHEDULE WHICH WILL THOROUGHLY WATER ALL PLANTS ONCE A WEEK. IN EXTREMELY HOT, DRY WEATHER, WATER MORE OFTEN AS REQUIRED BY INDICATIONS OF HEAT STRESS SUCH AS WILTING LEAVES. CHECK MOISTURE UNDER MULCH PRIOR TO WATERING TO DETERMINE NEED. CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR WATER.

TURF NOTES:

TURF ESTABLISHMENT SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROVISIONS OF THE MN/DOT 2105 AND 2575 EXCEPT AS MODIFIED BELOW:

1. ALL AREAS TO RECEIVE SOD SHALL ALSO RECEIVE 4" OF TOPSOIL PRIOR TO INSTALLING SOD. TOPSOIL SHALL BE FREE OF TREE ROOTS, STUMPS, BUILDING MATERIAL, AND TRASH, AND SHALL BE FREE OF STONES LARGER THAN 1 1/2" INCHES IN ANY DIMENSION.
2. WHERE SOD ABUTS PAVED SURFACES, FINISHED GRADE OF SOD/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC.
3. SOD SHALL BE LAID PARALLEL TO THE CONTOURS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, SOD SHALL BE STAKED SECURELY.
4. ALL DISTURBED AREAS TO BE TURF SEEDED, ARE TO RECEIVE 4" TOP SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. FOR SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES INSTALL EROSION CONTROL BLANKET.
5. ALL DISTURBED AREAS TO RECEIVE NATIVE SEED, ARE TO RECEIVE PLANTING SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. FOR SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES INSTALL EROSION CONTROL BLANKET.

IRRIGATION NOTES:

1. IRRIGATION SYSTEM TO BE DESIGN/BUILD. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL OF SYSTEM LAYOUT PRIOR TO INSTALLATION.
2. ALL SOD TO RECEIVE SPRAY OR ROTOR IRRIGATION HEADS WITH MINIMUM DESIGN OF 1" IRRIGATION PER WEEK.
3. ALL PLANT BEDS TO RECEIVE DRIP LINE IRRIGATION , WITH A MINIMUM DESIGN OF .25" IRRIGATION PER WEEK.
4. CONTRACTOR TO INSTALL A TOTAL OF 4 QUICK COUPLERS AT THE CORNERS OF THE PROPERTY. A 2.5" TYPE K SOURCE PIPE IS PROVIDED BY MECHANICAL.

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Engineering | Surveying | Planning | Environmental

Client
HJ DEVELOPMENT, LLP
15600 WAYZATA BLVD, SUITE 201
WAYZATA, MN 55391

Project
CENTRAL LAKES CROSSING MULTI-TENANT

Location
BAXTER, MN

SW QUADRANT OF HIGHWAY 371 AND GLORY ROAD S

Certification
I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed LANDSCAPE ARCHITECT under the laws of the State of Minnesota.

PRELIMINARY

Joshua J. McKinney
Registration No. 41224 Date: 04/19/16

This certification is not valid unless wet signed in blue ink. If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek, Minnetonka, MN office.

Summary
Designed: MGB Drawn: JMW
Approved: Book / Page:
Phase: PRELIMINARY Initial Issue: 04/19/2016

Revision History

No.	Date	By	Submittal / Revision
	04/19/16	JMW	City Submittal

Sheet Title
LANDSCAPE DETAILS

Sheet No. Revision
L1.02

Project No. HJD20526

Glory

Sambatek

Engineering | Surveying | Planning | Environmental

PRELIMINARY STORMWATER MANAGEMENT PLAN

FOR

CENTRAL LAKES CROSSING
MULTI-TENANT RETAIL
BAXTER, MN

APR 19 2016

PREPARED BY: JESSICA TELLO

MIKE BULTMAN, PE

APRIL 19, 2016

PROJECT INTRODUCTION

The proposed project is a multi-tenant retail center located in Baxter, MN. The site is west of Highway 371 and south of Glory Rd South. The proposed development is subject to stormwater management requirements from the City of Baxter and the Minnesota Pollution Control Agency (MPCA). The City of Baxter requires that the 100-year rainfall event be retained and infiltrated on-site, which exceeds the MPCA's requirement of 1 inch of runoff per square foot of impervious area.

EXISTING CONDITIONS

The existing site is partially wooded open space. Soils onsite consist of poorly graded sands which may be classified as Hydraulic Soil Group type A soils. These soils are ideal for infiltration. Existing impervious surfaces consist of an entrance drive to the Walmart Supercenter to the west and a sidewalk along the eastern property edge. The existing site drains south towards an outlot. There are no existing stormwater management systems on site.

PROPOSED CONDITIONS

The proposed site contains a multi-tenant retail development with associated parking. New impervious generated onsite is 49,128 sf. Runoff onsite will be captured by a curb and gutter system, routed through a pipe network, and discharged into a wet basin with an infiltration shelf. The wet portion of the pond will be lined to maintain water for aesthetic purposes. The infiltration shelf is sized to infiltrate the entire 100 year rainfall event. No rainwater runoff will be discharged from the site. In the occurrence of a larger rainfall event, an emergency overflow located along the southern edge of the infiltration basin will discharge overland south. The infiltration shelf has an additional capacity of approximately 32,000 cf of infiltration for future development of the Outlot to the south.

VOLUME REDUCTION

The City of Baxter encourages infiltration of the entire 100 year rainfall event. For the proposed development this volume is equal to 24,991 cubic feet of water. An infiltration rate of 2.0 in/hr was used to model the sandy soils based on infiltration rates on neighboring sites approved by the City of Baxter. A double-ring infiltrometer test will be performed for this site and the infiltration rate will be modified to match the results of the test after a safety factor is applied. The infiltration shelf has a square footage of 8,699 sf and is capable of infiltrating the 26,577 cf of volume generated by the 100 year rainfall event onsite. Additionally, the infiltration shelf has capacity for approximately 32,000 cf from future developments.

EMERGENCY OVERFLOW

The grading plan contains an emergency overflow located along the southern edge of the infiltration basin. This EOF flows overland south to an existing depression.

EROSION & SEDIMENT CONTROL

A comprehensive Stormwater Pollution Prevent Plan (SWPPP) meeting the requirements of the 2013 MPCS NPDES permit will be developed as part of the final proposed plans.

SUMMARY

The proposed Central Lakes Crossing project will meet the requirements of the City of Baxter the MPCA through construction of an infiltration shelf. This BMP will provide the required, and volume reduction improvements and will not discharge water to any downstream waterbodies.

If you have any questions, comments, or additional information regarding this report, please contact me at mbultman@sambatek.com or 763-398-0867.

APPENDIX A
DRAINAGE MAPS

LEGEND

- XX LINK
- XX POND
- XX REACH
- XX SUB-CATCHMENT

NORTH

0 60
SCALE IN FEET

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Client

HJ DEVELOPMENT

Project

CENTRAL LAKES CROSSING

Location

BAXTER, MN

Certification

Summary

Approved: MB Drawn: JCLT

Revision History

No.	Date	By	Submittal / Rev.

Sheet Title

EXISTING DRAINAGE MAP

Sheet No. Revision

1/2

Project No. HJD20526

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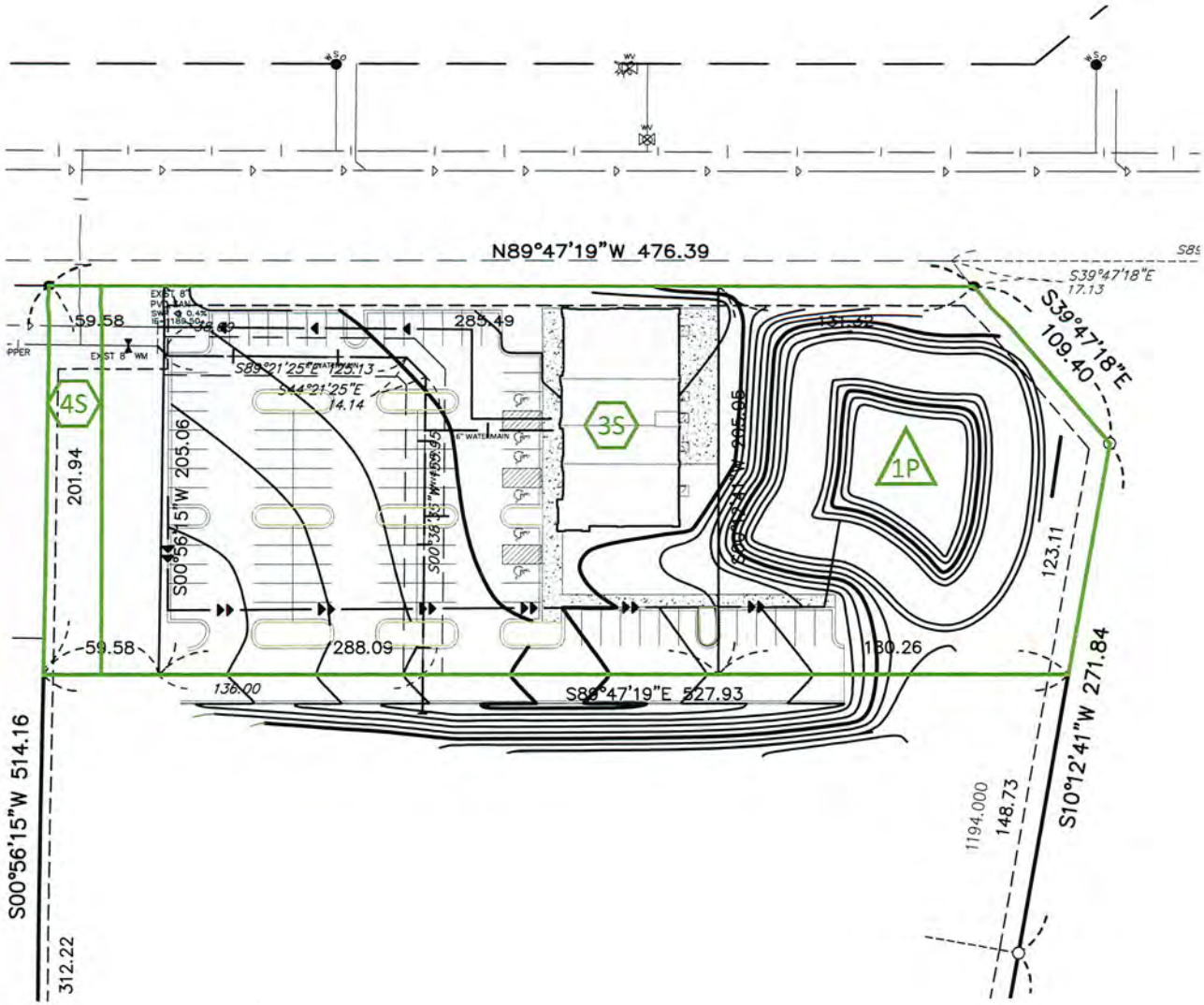

LEGEND

- XX LINK
- XX POND
- XX REACH
- XX SUB-CATCHMENT

NORTH

0 60
SCALE IN FEET

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CLIENT

Project

CENTRAL LAKES CROSSING

Location

BAXTER, MN

Certification

Summary

Approved: MB Drawn: JCLT

Revision History

No. Date By Submittal / Rev.

Sheet Title

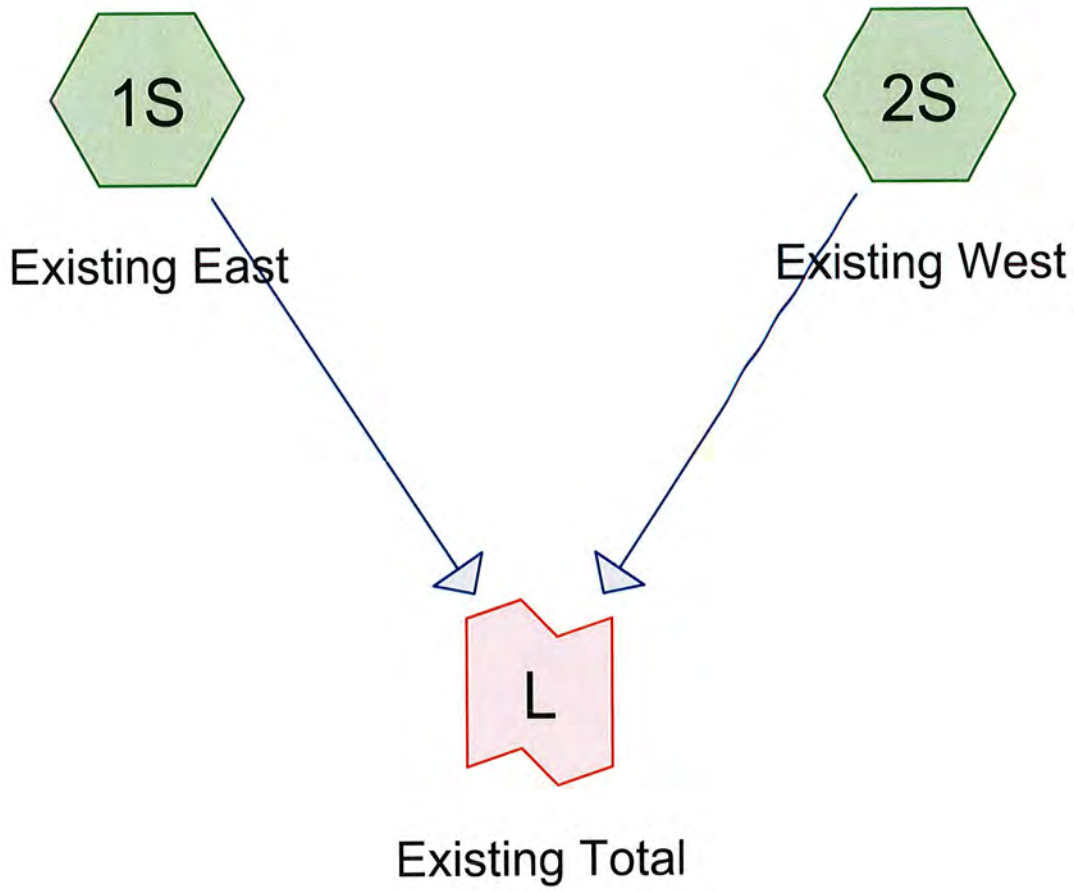
PROPOSED DRAINAGE MAP

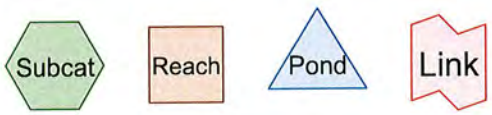
Sheet No. Revision

2/2

Project No. HJD20526

APPENDIX B
HYDROCAD REPORTS





Routing Diagram for 20526_HydroCAD
Prepared by Sambatek, Printed 4/15/2016
HydroCAD® 10.00-16 s/n 01876 © 2015 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.270	39	>75% Grass cover, Good, HSG A (1S, 2S)
0.175	98	Existing Drive, HSG A (1S, 2S)
0.038	98	Existing Sidewalk, HSG A (2S)
2.482	**44**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.482	HSG A	1S, 2S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
2.482		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
2.270	0.000	0.000	0.000	0.000	2.270	>75% Grass cover, Good	1S, 2S
0.175	0.000	0.000	0.000	0.000	0.175	Existing Drive	1S, 2S
0.038	0.000	0.000	0.000	0.000	0.038	Existing Sidewalk	2S
2.482	**0.000**	**0.000**	**0.000**	**0.000**	**2.482**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing East Runoff Area=5,834 sf 59.56% Impervious Runoff Depth=0.69"
Tc=7.0 min CN=74 Runoff=0.15 cfs 0.008 af

Subcatchment2S: Existing West Runoff Area=102,292 sf 5.66% Impervious Runoff Depth=0.00"
Flow Length=350' Tc=14.3 min CN=42 Runoff=0.00 cfs 0.000 af

Link L: Existing Total Inflow=0.15 cfs 0.008 af
Primary=0.15 cfs 0.008 af

Total Runoff Area = 2.482 ac Runoff Volume = 0.008 af Average Runoff Depth = 0.04"
91.43% Pervious = 2.270 ac 8.57% Impervious = 0.213 ac

Summary for Subcatchment 1S: Existing East

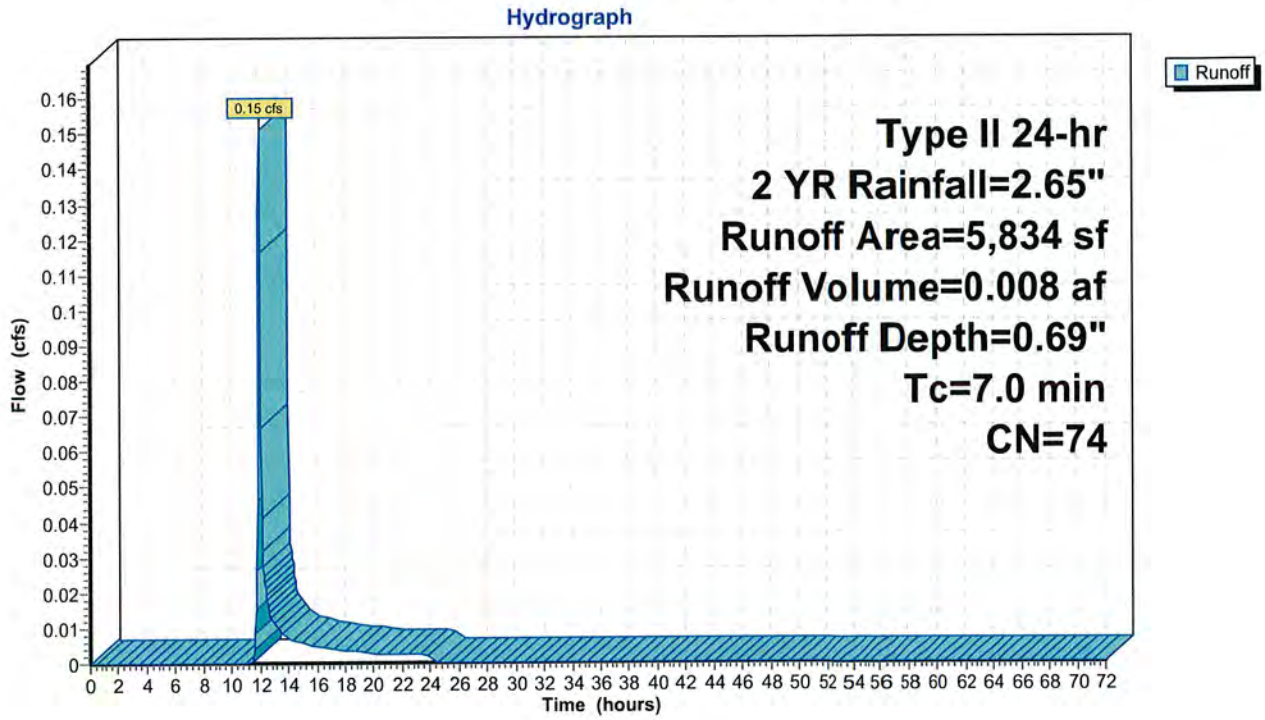
Runoff = 0.15 cfs @ 11.99 hrs, Volume= 0.008 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YR Rainfall=2.65"

	Area (sf)	CN	Description
*	3,475	98	Existing Drive, HSG A
	2,359	39	>75% Grass cover, Good, HSG A
	5,834	74	Weighted Average
	2,359		40.44% Pervious Area
	3,475		59.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Subcatchment 1S: Existing East



Summary for Subcatchment 2S: Existing West

[45] Hint: Runoff=Zero

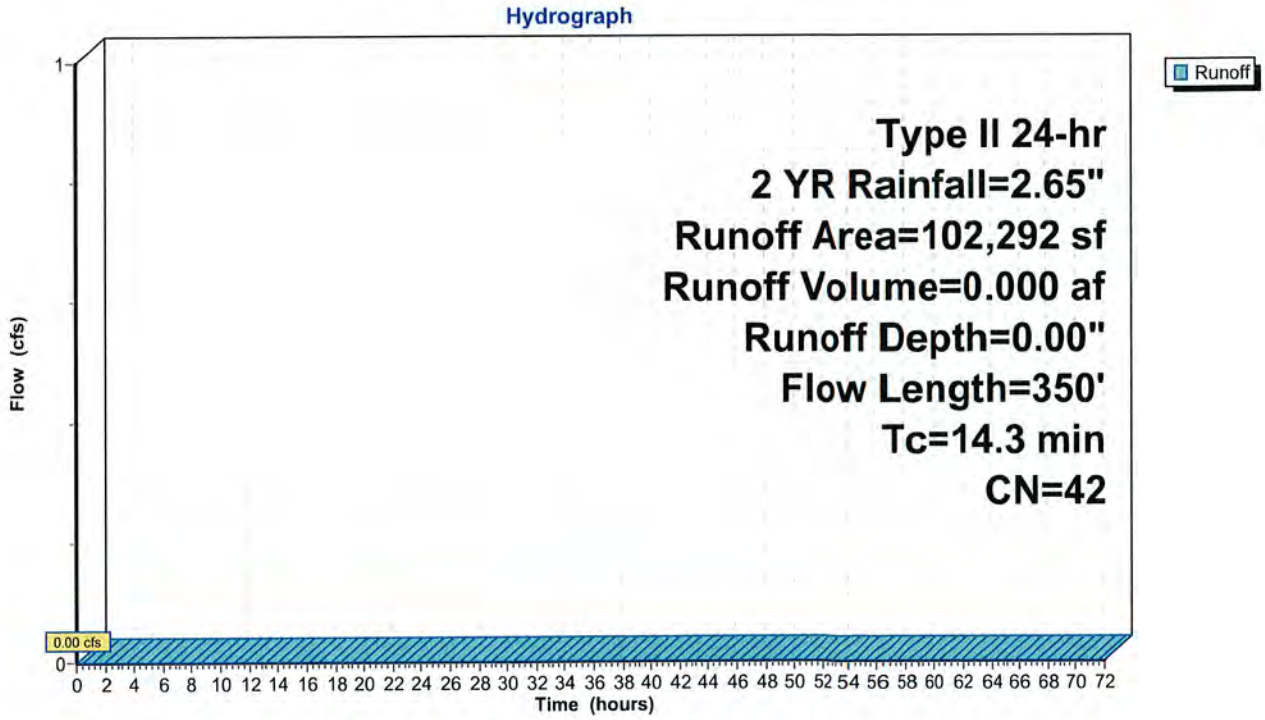
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YR Rainfall=2.65"

	Area (sf)	CN	Description
*	4,129	98	Existing Drive, HSG A
*	1,658	98	Existing Sidewalk, HSG A
	96,505	39	>75% Grass cover, Good, HSG A
	102,292	42	Weighted Average
	96,505		94.34% Pervious Area
	5,787		5.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"
3.4	250	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	350	Total			

Subcatchment 2S: Existing West

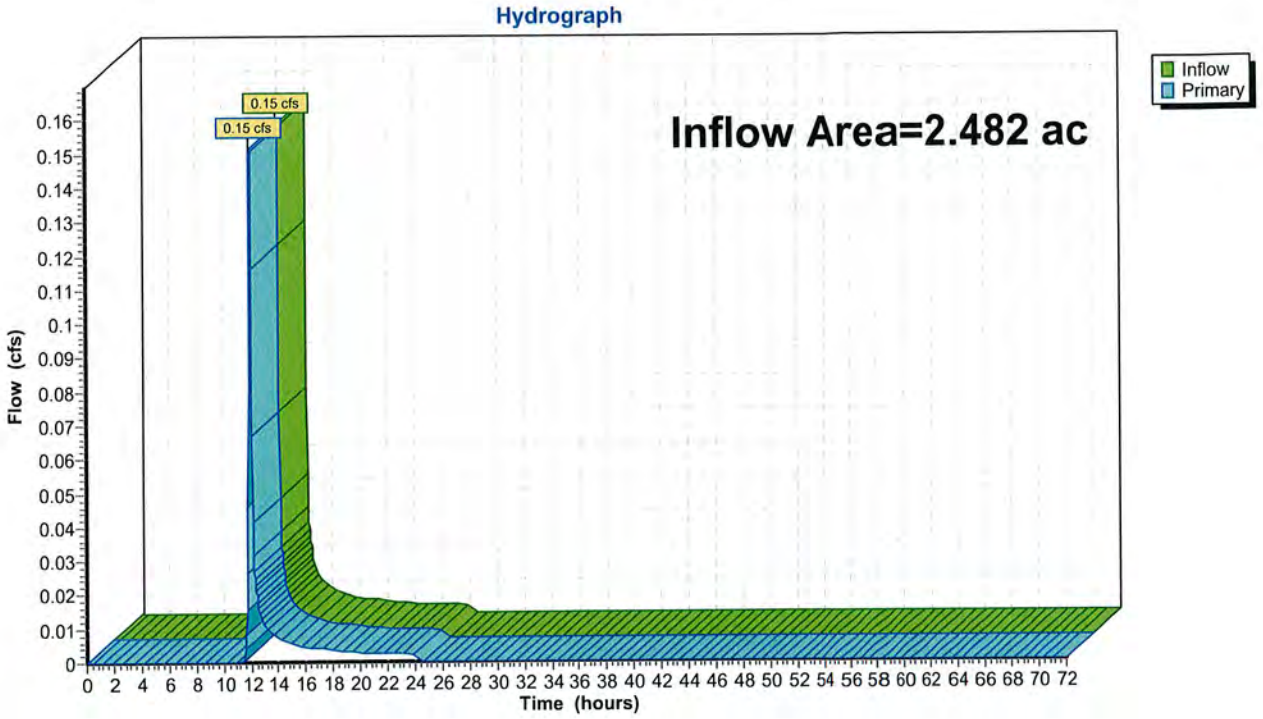


Summary for Link L: Existing Total

Inflow Area =	2.482 ac,	8.57% Impervious,	Inflow Depth =	0.04"	for 2 YR event
Inflow =	0.15 cfs @	11.99 hrs, Volume=	0.008 af		
Primary =	0.15 cfs @	11.99 hrs, Volume=	0.008 af,	Atten= 0%,	Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link L: Existing Total



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing East Runoff Area=5,834 sf 59.56% Impervious Runoff Depth=1.51"
Tc=7.0 min CN=74 Runoff=0.34 cfs 0.017 af

Subcatchment2S: Existing West Runoff Area=102,292 sf 5.66% Impervious Runoff Depth=0.08"
Flow Length=350' Tc=14.3 min CN=42 Runoff=0.02 cfs 0.016 af

Link L: Existing Total Inflow=0.34 cfs 0.033 af
Primary=0.34 cfs 0.033 af

Total Runoff Area = 2.482 ac Runoff Volume = 0.033 af Average Runoff Depth = 0.16"
91.43% Pervious = 2.270 ac 8.57% Impervious = 0.213 ac

Summary for Subcatchment 1S: Existing East

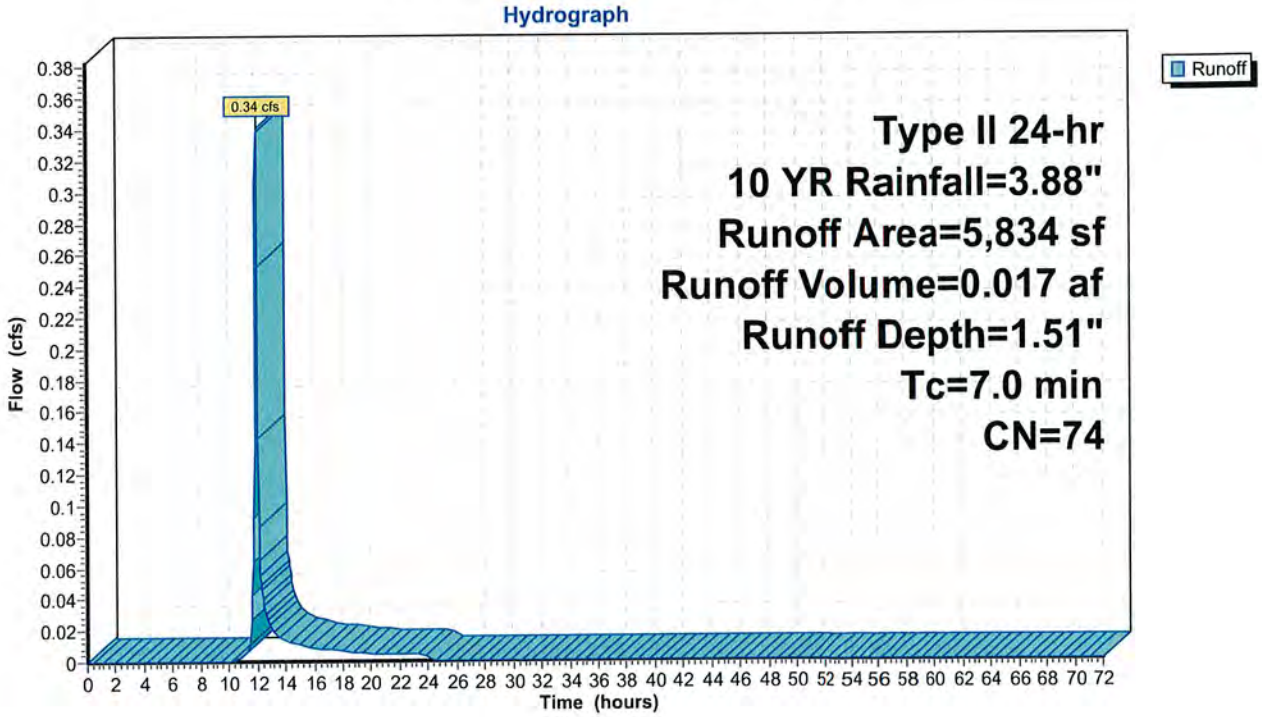
Runoff = 0.34 cfs @ 11.99 hrs, Volume= 0.017 af, Depth= 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YR Rainfall=3.88"

	Area (sf)	CN	Description
*	3,475	98	Existing Drive, HSG A
	2,359	39	>75% Grass cover, Good, HSG A
	5,834	74	Weighted Average
	2,359		40.44% Pervious Area
	3,475		59.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Subcatchment 1S: Existing East



Summary for Subcatchment 2S: Existing West

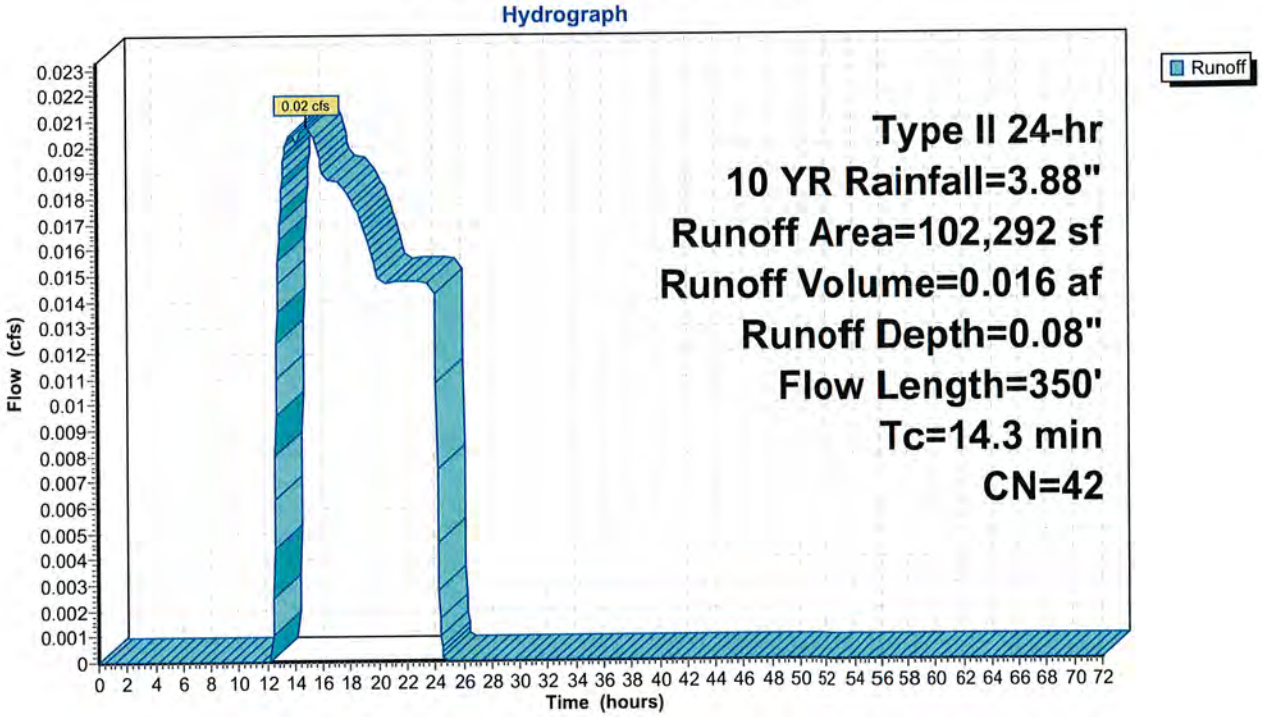
Runoff = 0.02 cfs @ 15.00 hrs, Volume= 0.016 af, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YR Rainfall=3.88"

	Area (sf)	CN	Description
*	4,129	98	Existing Drive, HSG A
*	1,658	98	Existing Sidewalk, HSG A
	96,505	39	>75% Grass cover, Good, HSG A
	102,292	42	Weighted Average
	96,505		94.34% Pervious Area
	5,787		5.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"
3.4	250	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	350	Total			

Subcatchment 2S: Existing West

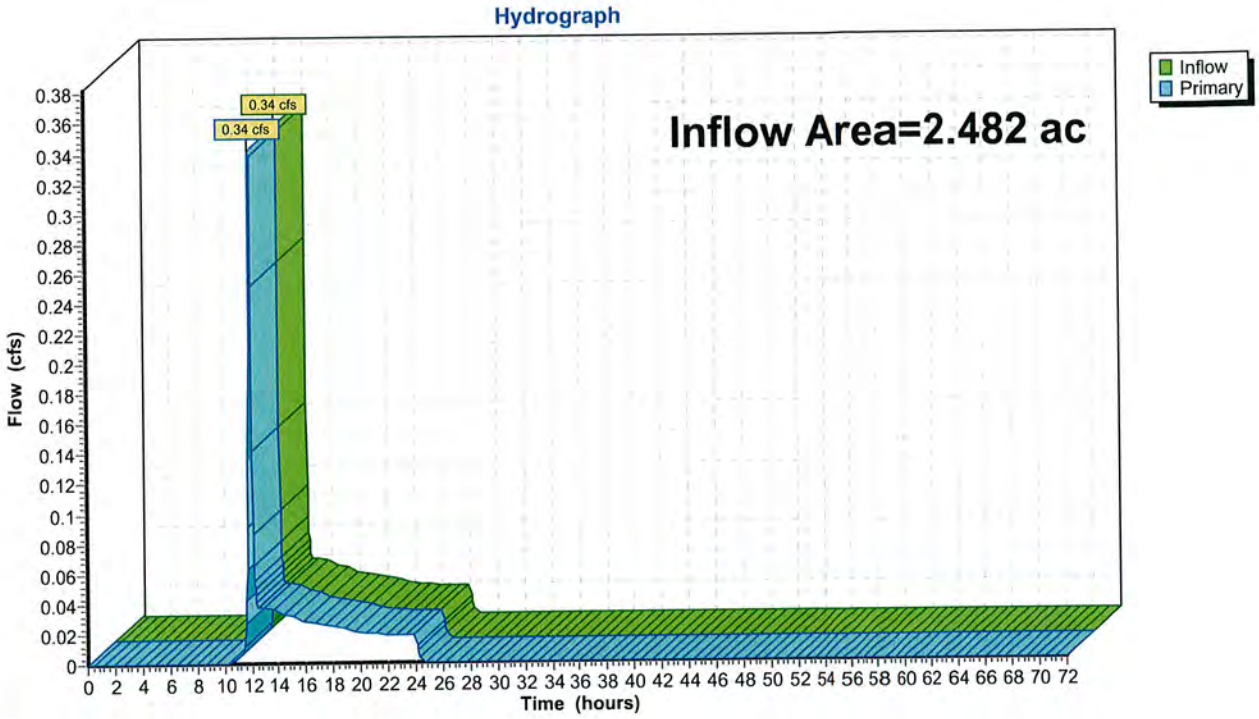


Summary for Link L: Existing Total

Inflow Area =	2.482 ac,	8.57% Impervious,	Inflow Depth =	0.16"	for 10 YR event
Inflow =	0.34 cfs @	11.99 hrs, Volume=	0.033 af		
Primary =	0.34 cfs @	11.99 hrs, Volume=	0.033 af,	Atten= 0%,	Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link L: Existing Total



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Existing East Runoff Area=5,834 sf 59.56% Impervious Runoff Depth=3.41"
Tc=7.0 min CN=74 Runoff=0.77 cfs 0.038 af

Subcatchment2S: Existing West Runoff Area=102,292 sf 5.66% Impervious Runoff Depth=0.71"
Flow Length=350' Tc=14.3 min CN=42 Runoff=1.31 cfs 0.139 af

Link L: Existing Total Inflow=1.63 cfs 0.177 af
Primary=1.63 cfs 0.177 af

Total Runoff Area = 2.482 ac Runoff Volume = 0.177 af Average Runoff Depth = 0.86"
91.43% Pervious = 2.270 ac 8.57% Impervious = 0.213 ac

Summary for Subcatchment 1S: Existing East

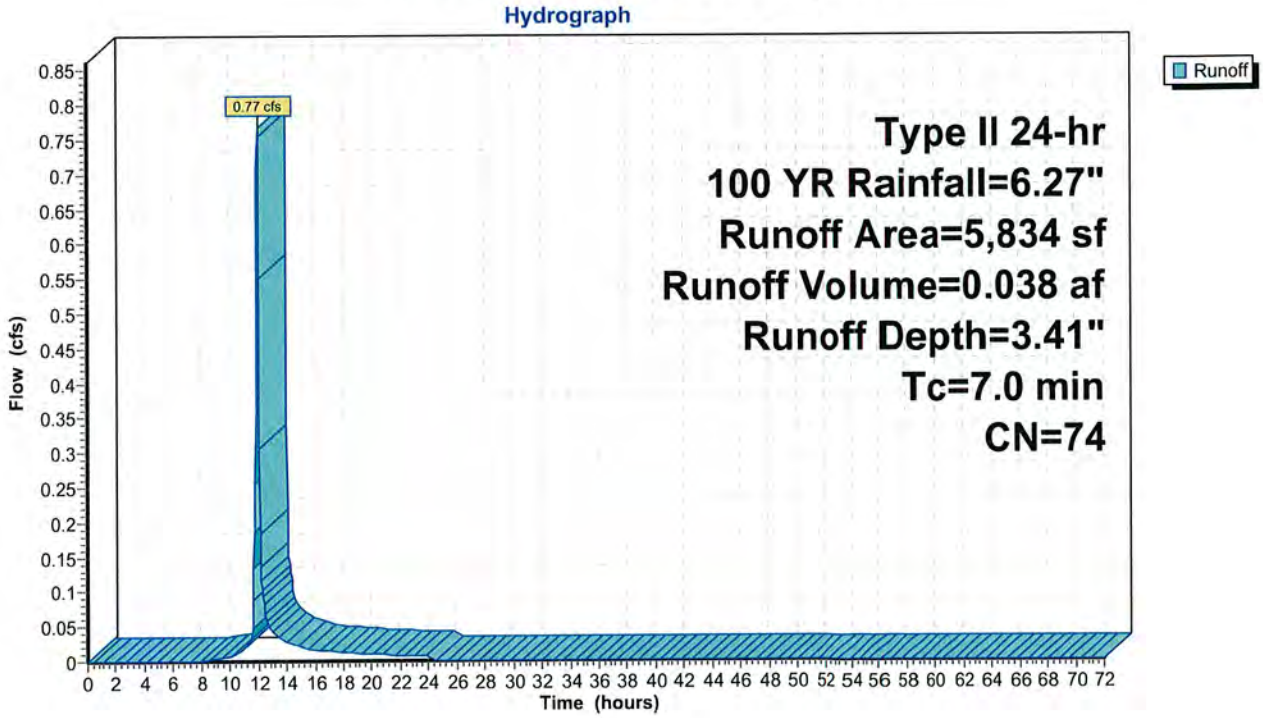
Runoff = 0.77 cfs @ 11.98 hrs, Volume= 0.038 af, Depth= 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YR Rainfall=6.27"

	Area (sf)	CN	Description
*	3,475	98	Existing Drive, HSG A
	2,359	39	>75% Grass cover, Good, HSG A
	5,834	74	Weighted Average
	2,359		40.44% Pervious Area
	3,475		59.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Subcatchment 1S: Existing East



Summary for Subcatchment 2S: Existing West

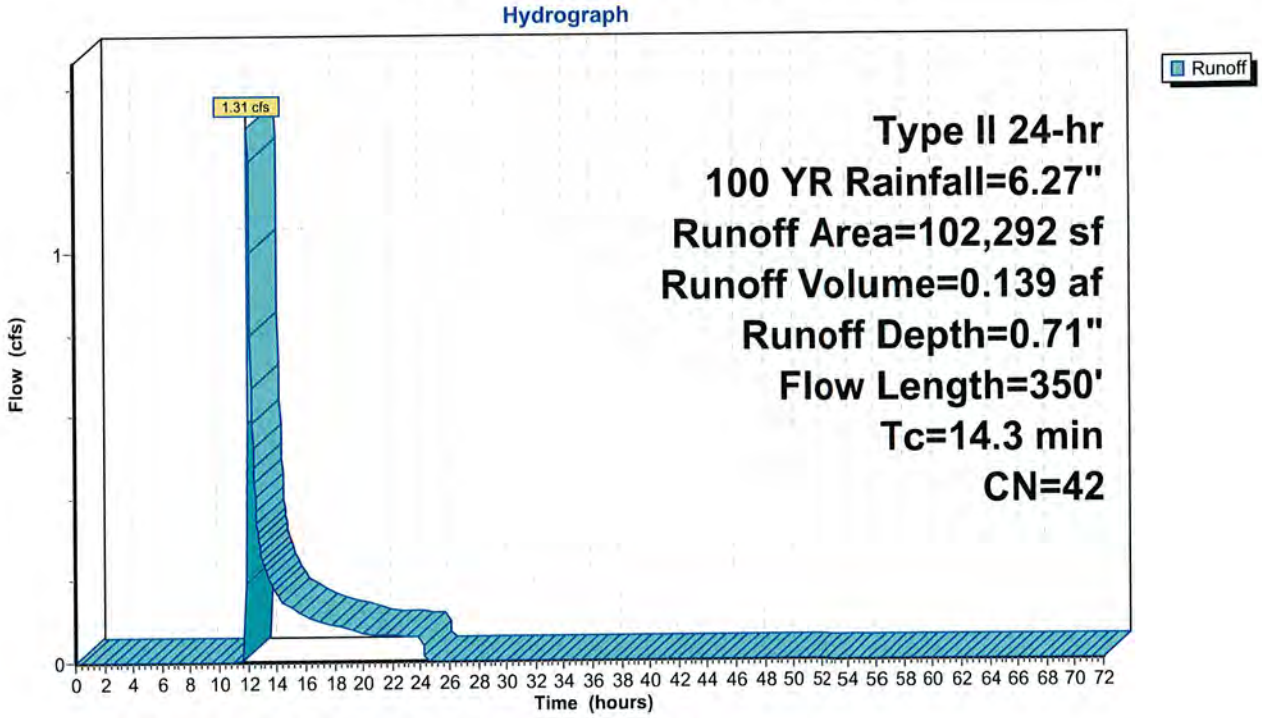
Runoff = 1.31 cfs @ 12.11 hrs, Volume= 0.139 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YR Rainfall=6.27"

	Area (sf)	CN	Description
*	4,129	98	Existing Drive, HSG A
*	1,658	98	Existing Sidewalk, HSG A
	96,505	39	>75% Grass cover, Good, HSG A
	102,292	42	Weighted Average
	96,505		94.34% Pervious Area
	5,787		5.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"
3.4	250	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	350	Total			

Subcatchment 2S: Existing West

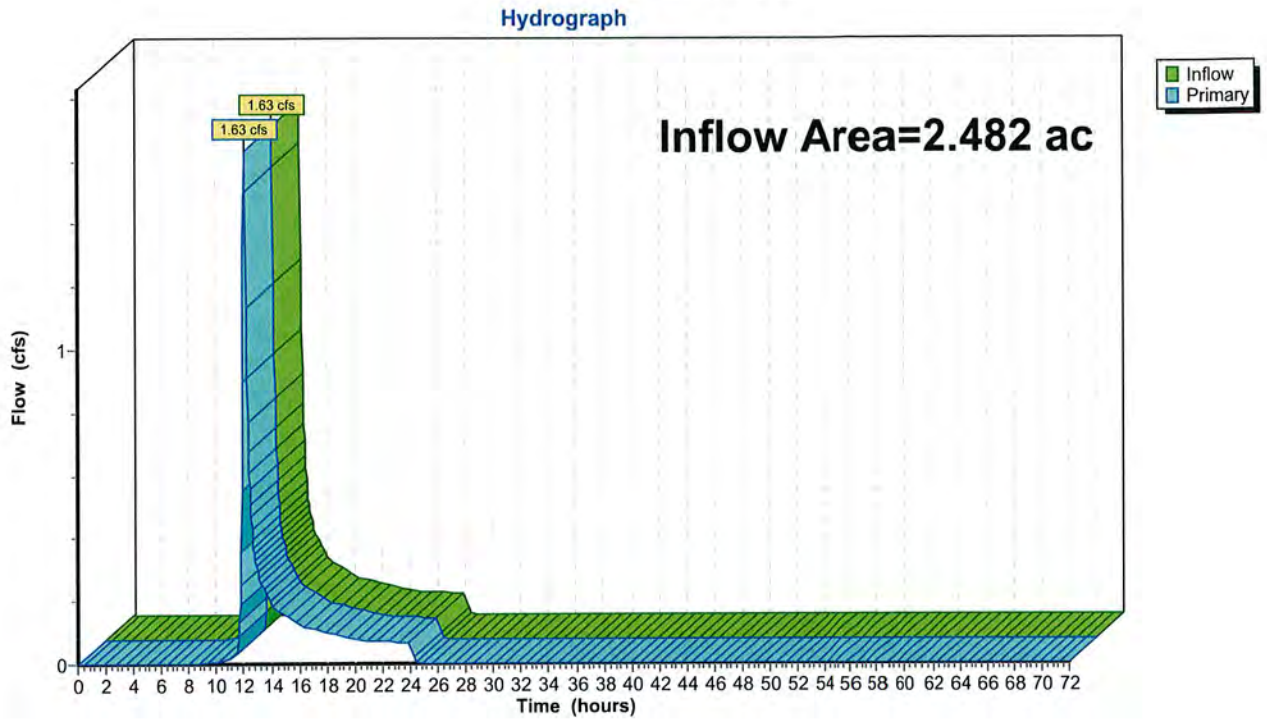


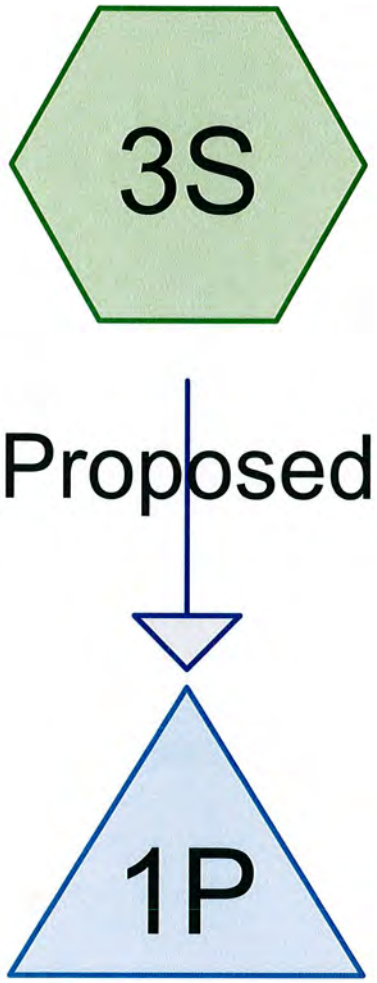
Summary for Link L: Existing Total

Inflow Area =	2.482 ac,	8.57% Impervious,	Inflow Depth =	0.86"	for 100 YR event
Inflow =	1.63 cfs @	12.07 hrs, Volume=	0.177 af		
Primary =	1.63 cfs @	12.07 hrs, Volume=	0.177 af,	Atten= 0%,	Lag= 0.0 min

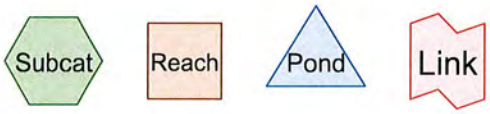
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link L: Existing Total





Infiltration Basin



Routing Diagram for 20526_HydroCAD
Prepared by Sambatek, Printed 4/18/2016
HydroCAD® 10.00-16 s/n 01876 © 2015 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.088	39	>75% Grass cover, Good, HSG A (3S)
0.133	98	Existing Drive, HSG A (3S)
1.128	98	Paved parking, HSG A (3S)
2.348	**71**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.348	HSG A	3S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
2.348		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
1.088	0.000	0.000	0.000	0.000	1.088	>75% Grass cover, Good	3S
0.133	0.000	0.000	0.000	0.000	0.133	Existing Drive	3S
1.128	0.000	0.000	0.000	0.000	1.128	Paved parking	3S
2.348	**0.000**	**0.000**	**0.000**	**0.000**	**2.348**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment3S: Proposed Runoff Area=102,295 sf 53.69% Impervious Runoff Depth=0.57"
Tc=7.0 min CN=71 Runoff=2.08 cfs 0.111 af

Pond 1P: Infiltration Basin Peak Elev=1,192.07' Storage=21,447 cf Inflow=2.08 cfs 0.111 af
Discarded=0.41 cfs 0.111 af Primary=0.00 cfs 0.000 af Outflow=0.41 cfs 0.111 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.111 af Average Runoff Depth = 0.57"
46.31% Pervious = 1.088 ac 53.69% Impervious = 1.261 ac

Summary for Subcatchment 3S: Proposed

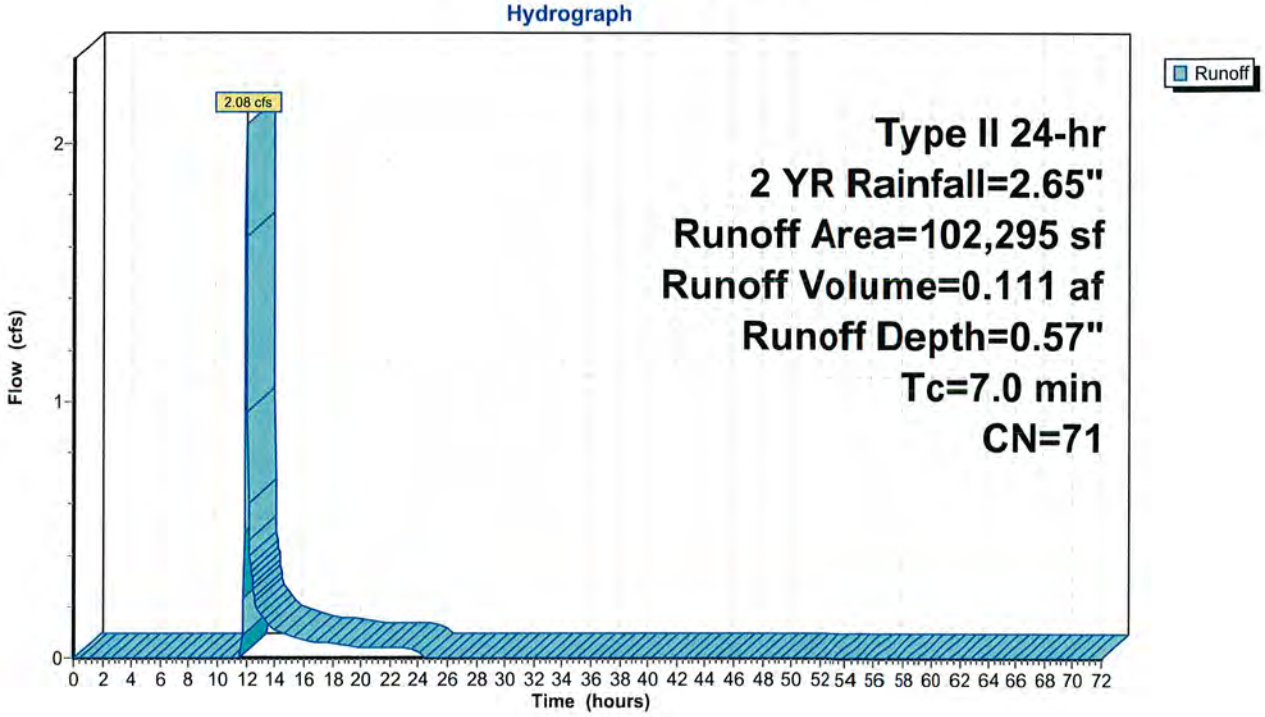
Runoff = 2.08 cfs @ 12.00 hrs, Volume= 0.111 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YR Rainfall=2.65"

	Area (sf)	CN	Description
*	5,790	98	Existing Drive, HSG A
	49,128	98	Paved parking, HSG A
	47,377	39	>75% Grass cover, Good, HSG A
	102,295	71	Weighted Average
	47,377		46.31% Pervious Area
	54,918		53.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Subcatchment 3S: Proposed



Summary for Pond 1P: Infiltration Basin

Inflow Area =	2.348 ac, 53.69% Impervious, Inflow Depth = 0.57" for 2 YR event				
Inflow =	2.08 cfs @	12.00 hrs,	Volume=	0.111 af	
Outflow =	0.41 cfs @	12.25 hrs,	Volume=	0.111 af,	Atten= 80%, Lag= 14.9 min
Discarded =	0.41 cfs @	12.25 hrs,	Volume=	0.111 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 1,192.00' Surf.Area= 7,074 sf Storage= 20,360 cf
Peak Elev= 1,192.07' @ 12.25 hrs Surf.Area= 15,874 sf Storage= 21,447 cf (1,087 cf above start)
Flood Elev= 1,194.90' Surf.Area= 21,695 sf Storage= 73,511 cf (53,151 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 17.0 min (902.3 - 885.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,188.00'	75,694 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

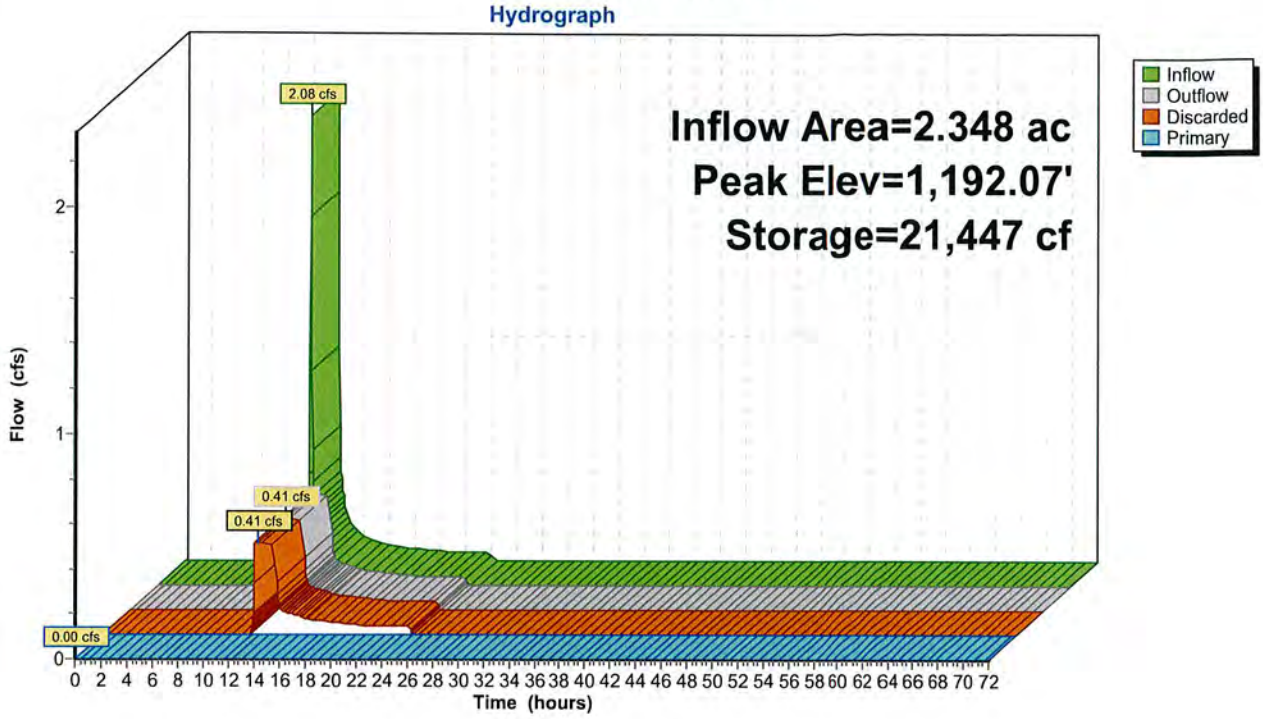
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,188.00	3,312	0	0
1,189.00	4,121	3,717	3,717
1,190.00	5,025	4,573	8,290
1,191.00	6,021	5,523	13,813
1,192.00	7,074	6,548	20,360
1,192.01	15,774	114	20,474
1,193.00	17,382	16,412	36,886
1,194.00	19,127	18,255	55,141
1,195.00	21,980	20,554	75,694

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,192.00'	**2.000 in/hr Exfiltration over Surface area from 1,192.00' - 1,192.01'** Conductivity to Groundwater Elevation = 1,187.00' Excluded Surface area = 7,074 sf
#2	Primary	1,194.90'	**10.0' long x 7.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.40 2.52 2.70 2.68 2.68 2.67 2.66 2.65 2.65 2.65 2.66 2.65 2.66 2.68 2.70 2.73 2.78

Discarded OutFlow Max=0.41 cfs @ 12.25 hrs HW=1,192.07' (Free Discharge)
└─**1=Exfiltration** (Controls 0.41 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,192.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Infiltration Basin



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment3S: Proposed Runoff Area=102,295 sf 53.69% Impervious Runoff Depth=1.31"
Tc=7.0 min CN=71 Runoff=5.17 cfs 0.257 af

Pond 1P: Infiltration Basin Peak Elev=1,192.27' Storage=24,583 cf Inflow=5.17 cfs 0.257 af
Discarded=0.42 cfs 0.257 af Primary=0.00 cfs 0.000 af Outflow=0.42 cfs 0.257 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.257 af Average Runoff Depth = 1.31"
46.31% Pervious = 1.088 ac 53.69% Impervious = 1.261 ac

Summary for Subcatchment 3S: Proposed

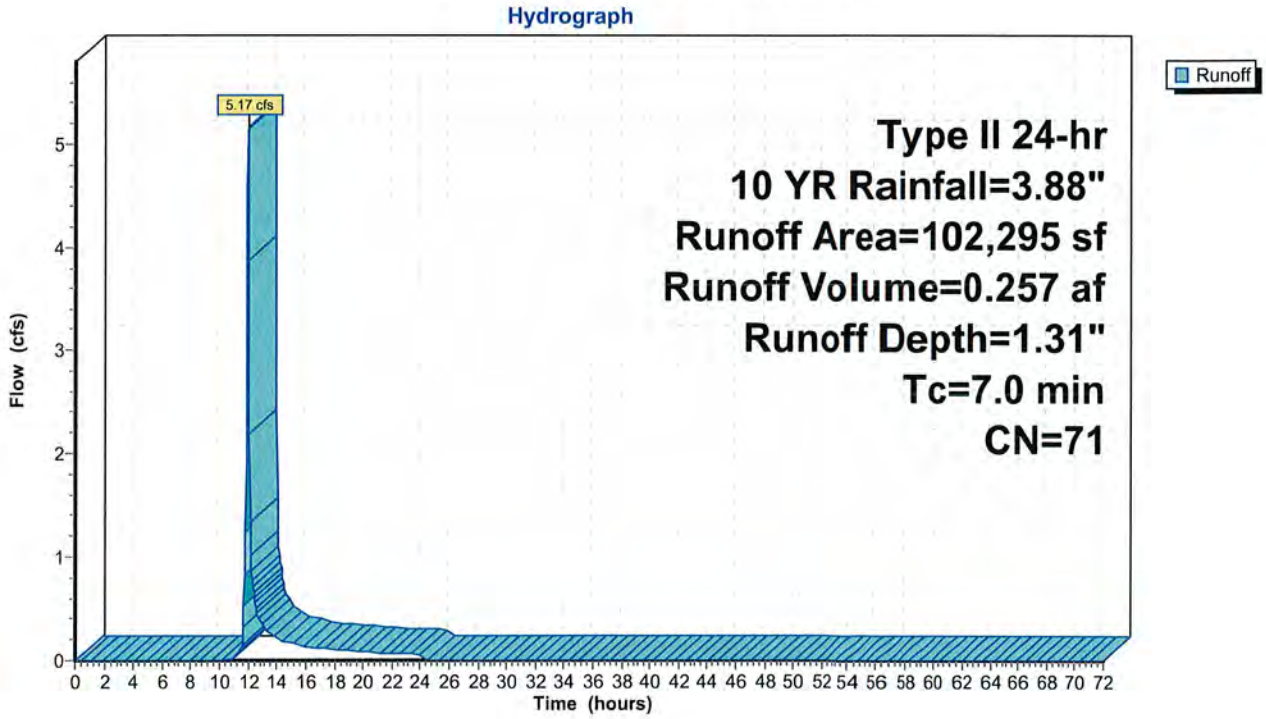
Runoff = 5.17 cfs @ 11.99 hrs, Volume= 0.257 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YR Rainfall=3.88"

	Area (sf)	CN	Description
*	5,790	98	Existing Drive, HSG A
	49,128	98	Paved parking, HSG A
	47,377	39	>75% Grass cover, Good, HSG A
	102,295	71	Weighted Average
	47,377		46.31% Pervious Area
	54,918		53.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Subcatchment 3S: Proposed



Summary for Pond 1P: Infiltration Basin

Inflow Area =	2.348 ac, 53.69% Impervious, Inflow Depth = 1.31" for 10 YR event				
Inflow =	5.17 cfs @	11.99 hrs,	Volume=	0.257 af	
Outflow =	0.42 cfs @	12.70 hrs,	Volume=	0.257 af,	Atten= 92%, Lag= 42.8 min
Discarded =	0.42 cfs @	12.70 hrs,	Volume=	0.257 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 1,192.00' Surf.Area= 7,074 sf Storage= 20,360 cf
Peak Elev= 1,192.27' @ 12.70 hrs Surf.Area= 16,192 sf Storage= 24,583 cf (4,223 cf above start)
Flood Elev= 1,194.90' Surf.Area= 21,695 sf Storage= 73,511 cf (53,151 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 84.0 min (941.1 - 857.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,188.00'	75,694 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

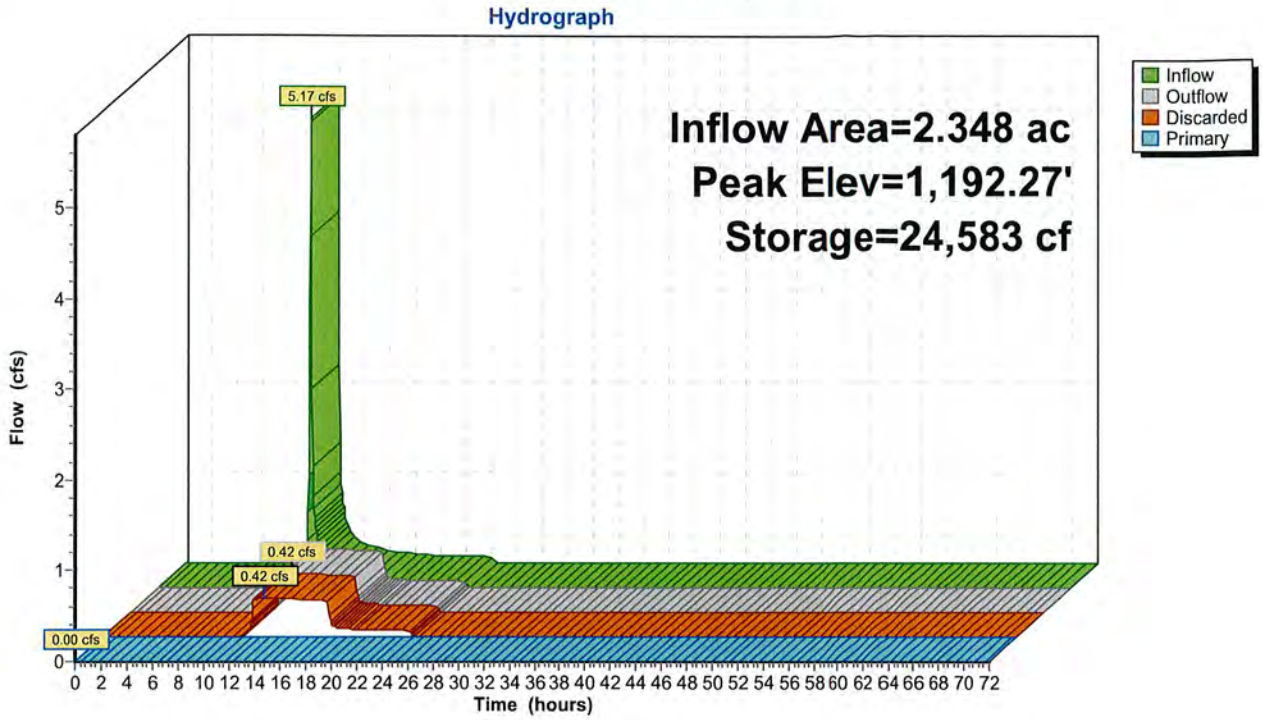
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,188.00	3,312	0	0
1,189.00	4,121	3,717	3,717
1,190.00	5,025	4,573	8,290
1,191.00	6,021	5,523	13,813
1,192.00	7,074	6,548	20,360
1,192.01	15,774	114	20,474
1,193.00	17,382	16,412	36,886
1,194.00	19,127	18,255	55,141
1,195.00	21,980	20,554	75,694

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,192.00'	**2.000 in/hr Exfiltration over Surface area from 1,192.00' - 1,192.01'** Conductivity to Groundwater Elevation = 1,187.00' Excluded Surface area = 7,074 sf
#2	Primary	1,194.90'	**10.0' long x 7.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.40 2.52 2.70 2.68 2.68 2.67 2.66 2.65 2.65 2.65 2.66 2.65 2.66 2.68 2.70 2.73 2.78

Discarded OutFlow Max=0.42 cfs @ 12.70 hrs HW=1,192.27' (Free Discharge)
└─**1=Exfiltration** (Controls 0.42 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,192.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Infiltration Basin



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment3S: Proposed Runoff Area=102,295 sf 53.69% Impervious Runoff Depth=3.12"
Tc=7.0 min CN=71 Runoff=12.38 cfs 0.610 af

Pond 1P: Infiltration Basin Peak Elev=1,192.83' Storage=33,879 cf Inflow=12.38 cfs 0.610 af
Discarded=0.47 cfs 0.610 af Primary=0.00 cfs 0.000 af Outflow=0.47 cfs 0.610 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.610 af Average Runoff Depth = 3.12"
46.31% Pervious = 1.088 ac 53.69% Impervious = 1.261 ac

Summary for Subcatchment 3S: Proposed

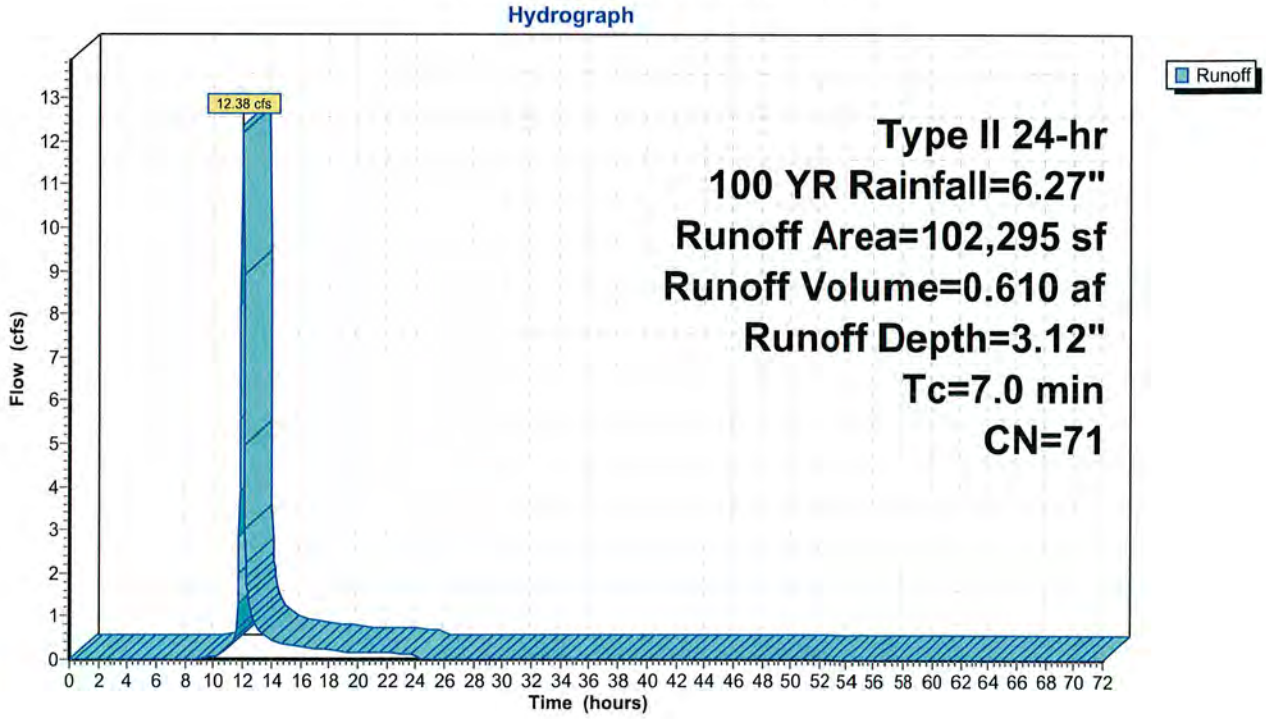
Runoff = 12.38 cfs @ 11.99 hrs, Volume= 0.610 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YR Rainfall=6.27"

	Area (sf)	CN	Description
*	5,790	98	Existing Drive, HSG A
	49,128	98	Paved parking, HSG A
	47,377	39	>75% Grass cover, Good, HSG A
	102,295	71	Weighted Average
	47,377		46.31% Pervious Area
	54,918		53.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Subcatchment 3S: Proposed



Summary for Pond 1P: Infiltration Basin

Inflow Area =	2.348 ac, 53.69% Impervious, Inflow Depth = 3.12" for 100 YR event				
Inflow =	12.38 cfs @	11.99 hrs,	Volume=	0.610 af	
Outflow =	0.47 cfs @	13.88 hrs,	Volume=	0.610 af,	Atten= 96%, Lag= 113.9 min
Discarded =	0.47 cfs @	13.88 hrs,	Volume=	0.610 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 1,192.00' Surf.Area= 7,074 sf Storage= 20,360 cf
Peak Elev= 1,192.83' @ 13.88 hrs Surf.Area= 17,099 sf Storage= 33,879 cf (13,519 cf above start)
Flood Elev= 1,194.90' Surf.Area= 21,695 sf Storage= 73,511 cf (53,151 cf above start)

Plug-Flow detention time= 821.4 min calculated for 0.143 af (23% of inflow)
Center-of-Mass det. time= 302.2 min (1,133.7 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,188.00'	75,694 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

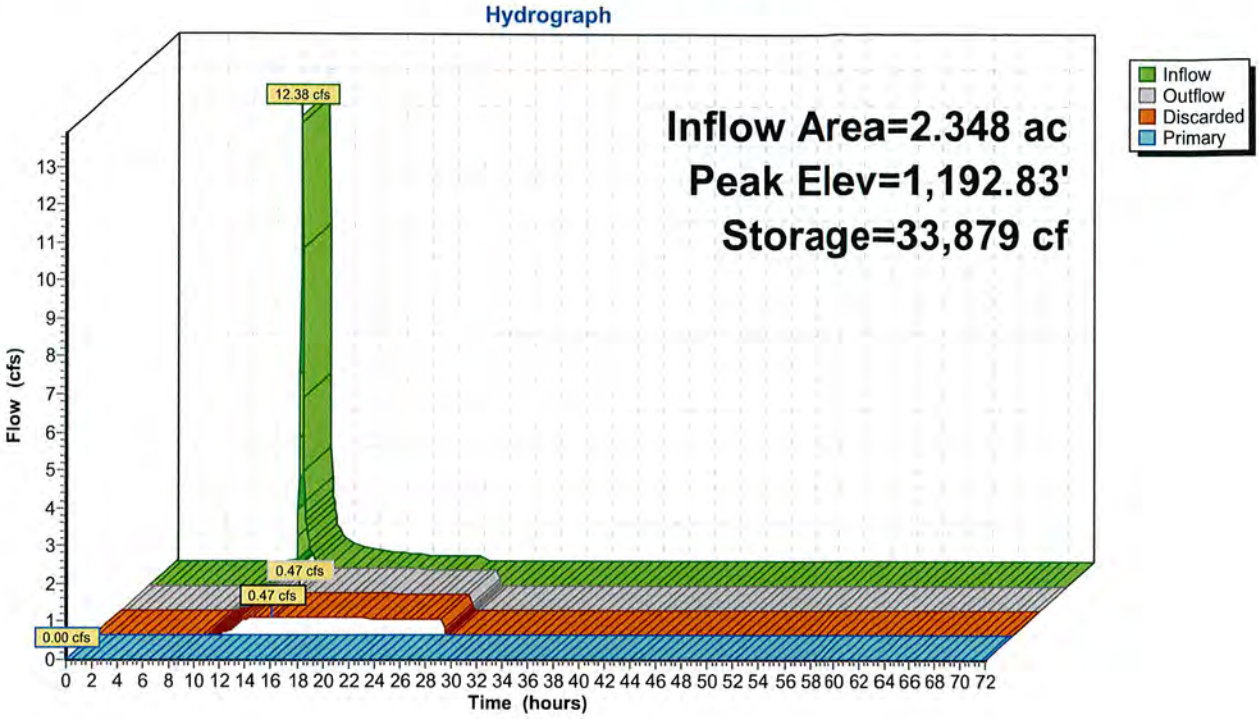
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,188.00	3,312	0	0
1,189.00	4,121	3,717	3,717
1,190.00	5,025	4,573	8,290
1,191.00	6,021	5,523	13,813
1,192.00	7,074	6,548	20,360
1,192.01	15,774	114	20,474
1,193.00	17,382	16,412	36,886
1,194.00	19,127	18,255	55,141
1,195.00	21,980	20,554	75,694

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,192.00'	**2.000 in/hr Exfiltration over Surface area from 1,192.00' - 1,192.01'** Conductivity to Groundwater Elevation = 1,187.00' Excluded Surface area = 7,074 sf
#2	Primary	1,194.90'	**10.0' long x 7.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.40 2.52 2.70 2.68 2.68 2.67 2.66 2.65 2.65 2.65 2.66 2.65 2.66 2.68 2.70 2.73 2.78

Discarded OutFlow Max=0.47 cfs @ 13.88 hrs HW=1,192.83' (Free Discharge)
└**1=Exfiltration** (Controls 0.47 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,192.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond 1P: Infiltration Basin



APPENDIX C
GEOTECHNICAL REPORT

Date: February 16, 1999

Project: City of Baxter
Isle Road Improvements
WSN No. 102B142

Subject: A Geotechnical Evaluation Report for
Widseth Smith Nolting Assoc., Inc. (WSN)
Proposed Trunk Highway 210 Utility Improvements
Baxter, Minnesota
Prepared by Braun Intertec Corporation
Dated January 6, 1998
Project BDXX-97-366B

A copy of this above report is given by the City to the party indicated below with the following understanding:

This report was prepared for WSN and the City, and ONLY for roadway and utility improvements within a specific Right-of-Way corridor.

Any use of this report, or interpretations from this report, other than for these improvements within this corridor is done completely at your own risk.

The City, WSN, and Braun do not guarantee the use of nor interpretations from this report for any other reason than what it was intended for.

Braun, within their report, also indicates certain restrictions on the use and interpretation of this report.

Baxter City Engineer (WSN)
Kevin Wernberg, P.E.

Developer's Representative
Dennis Klohs

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A Geotechnical Evaluation Report for Widseth Smith Nolting Assoc., Inc.

Proposed Trunk Highway 210 Utility Improvements
Baxter, Minnesota

Project BDXX-97-366B
January 6, 1998

Braun Intertec Corporation

BRAUN℠
INTERTEC

Braun Intertec Corporation
1520 24th Avenue North
P.O. Box 189
St. Cloud, Minnesota 56302-0189
320-253-9940 Fax: 253-3054

Engineers and Scientists Serving the Built and Natural Environments®

January 6, 1998

Project BDXX-97-366B

Mr. Kevin Wernberg, PE
Widseth Smith Nolting & Assoc., Inc.
P.O. Box 2720
Baxter, MN 56425-2720

Dear Mr. Wernberg:

Re: Geotechnical Evaluation for the Proposed Trunk Highway 210 Utility Improvements, Baxter, Minnesota

We have completed the geotechnical evaluation you authorized on October 24, 1997. The purpose of the evaluation was to assist your firm in preparing plans and specifications for the proposed utilities and streets. The evaluation was completed in general accordance with our November 6 confirmation-of-authorization letter to you.

Summary of Results

Twenty standard penetration test borings were completed for the proposed improvements. Generally the borings were completed along or adjacent to Minnesota Trunk Highway 210. Starting from the surface, the borings generally encountered 1/2 to 4 feet of silty sand and poorly graded sand topsoil or fills. Borings ST-10 and ST-11 encountered bituminous and aggregate base at the surface. A second layer of bituminous was encountered at the 2 1/2 foot depth in Boring ST-10. No fill was encountered in Boring ST-20 and the poorly graded sand in Boring ST-13 was considered possible fill. Beneath the fills, poorly graded sands with occasional layers of silty sand were encountered. Groundwater was observed in the borings at depths ranging from 2 to 19 feet.

Summary of Recommendations

Based on the borings, it is our opinion the naturally deposited sands (both natural and fill) will be suitable for support of the proposed utilities and roadways. Dewatering will be required where utilities are installed below the groundwater level. We recommend the groundwater table be drawn down to at least 1 foot below the bottoms of the trenches prior to excavating. Excavated soils, except for topsoil, can be reused as trench backfill.

Near Borings ST-1 through ST-4, jacking the pipes under existing roadways or railroad tracks is desired. Based on the borings, it is our opinion that jacking the pipes at these locations will be possible.

A drainage ditch will be constructed near Boring ST-13 and a holding pond will be constructed near Boring ST-17. The sand soils encountered in these borings appear to be suitable for their construction. We anticipate storm water entering the pond will seep into the groundwater system, causing temporary mounding of the groundwater table in the vicinity of the pond. We recommend the effects of this mounding be evaluated if there are any basements near the pond or if basements are planned.

Lift stations are proposed near Borings ST-7 and ST-20. The soils at the proposed base elevations appear suitable for their support. Groundwater was encountered above the base elevation at these locations; dewatering will be required at these locations. It is our opinion the lift station base slab placed at Boring ST-7 at a depth of approximately 30 feet may be designed for a net allowable bearing pressure up to 5,000 pounds per square foot (psf). The lift station base slab placed at Boring ST-20 at a depth of approximately 22 feet may be designed for a net allowable bearing pressure up to 2,500 psf. We recommend the lift stations be designed to resist hydrostatic pressures associated with a groundwater level within 5 feet of the ground surface.

Where new roadways will be constructed, we recommend the topsoil be completely stripped from the proposed alignments. Where existing roadways will be reconstructed, we recommend that topsoil within the upper three feet of the subgrade will be completely removed. This criterion was not met at the locations of Borings ST-3, ST-9, ST-10, ST-11 and ST-21. Compacted backfill and fill should then be placed to desired grades. We recommend the reconstructed pavements and the new pavements be designed for a poorly graded sand subgrade with an assumed resistance (R) value of 70.

General

Please refer to the attached report for a more detailed summary of our analyses and recommendations. If we can provide additional assistance, or observation and testing services during construction, please call Mr. Darin Hyatt at (320) 253-9940.

Sincerely,

Darin E. Hyatt
Project Engineer

Bruce M. Thorson, PE
Principal/Senior Engineer
deh\bmt:lal\reports\97-366B
Attachment:
Geotechnical Evaluation Report

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Engineers and Scientists Serving the Built and Natural Environments®

A. Introduction

A.1. Project

The City of Baxter is planning to install new utilities and construct/reconstruct streets in an area adjacent to Minnesota Trunk Highway 210 and west of Minnesota Highway 371.

A.2. Purpose of This Evaluation

The purpose of this geotechnical evaluation was to assist Widseth Smith Nolting & Assoc., Inc. (WSN), civil engineering consultants for the City of Baxter, in designing the proposed utilities and pavements, and in preparing plans and specifications for their construction.

A.3. Scope

The desired scope of services was outlined in a meeting between Mr. Kevin Wernberg of WSN and Mr. Thomas Henkemeyer of our firm on October 24, 1997. Mr. Wernberg accepted our verbal proposal and authorized us to proceed. The desired scope of services was subsequently summarized in the confirmation-of-authorization-for-geotechnical-evaluation letter we sent to Mr. Wernberg on November 6, 1997. Our services were provided under the terms of our General Conditions dated February 1, 1996.

Our scope of services was limited to:

- coordinating the locating of underground utilities near the boring locations,
- conducting twenty-one penetration test borings to depths ranging from 15 to 35 feet along the existing and proposed alignments,
- classifying the samples and preparing boring logs,
- grouting holes which encountered a waterbearing layer below a depth of 25 feet, in accordance with the Minnesota Well Code,
- analyzing the results of the field tests,
- formulating recommendations for earthwork, utility installation and pavement construction/reconstruction,
- discussing the results and recommendations with Mr. Wernberg, and
- submitting a geotechnical evaluation report containing logs of the borings, our analysis of the field tests, and recommendations for utility installation and pavement construction/reconstruction.

During the field work, the location of proposed Boring ST-19 was unaccessible to our drill rig, therefore, it was eliminated from the boring program.

A.4. Documents Provided

Mr. Wernberg provided us with three partial city maps indicating the proposed boring locations and the desired depths. Neither the date nor the date they were prepared was indicated on the maps.

A.5. Locations and Elevations

The borings were performed adjacent to stakes placed by a survey crew from WSN. The locations are shown on the sketch in the appendix of this report. The planned locations of Borings ST-16, ST-17 and ST-18 were not accessible to our truck-mounted drill rig because of soft soil conditions and/or trees. We offset the locations as indicated on the Log of Boring sheets. The locations we drilled were designated with an "A" suffix.

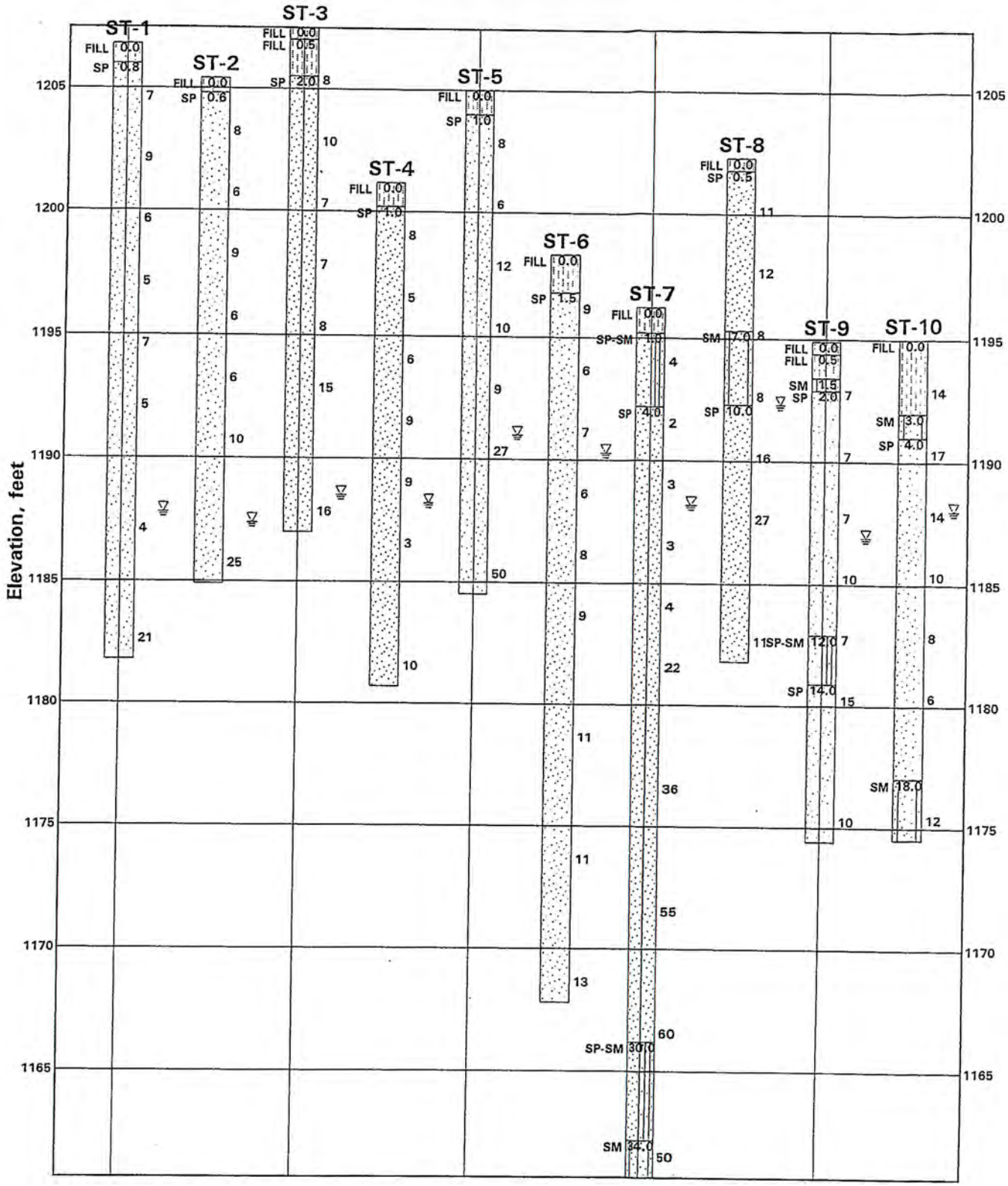
The ground surface elevations at the staked borings were provided by a survey crew from WSN. The offset boring location elevations were also provided by WSN.

B. Results

B.1. Logs

Log of Boring sheets indicating the depths and identifications of the various soil strata, penetration resistances and groundwater observations are included in the Appendix. Fence diagrams summarizing the borings follows this page. The strata changes were inferred from the changes in the penetration test samples and auger cuttings. It should be noted that the depths shown as changes between the strata are only approximate. The changes are likely transitions and the depths of the changes vary between the borings.

Geologic origins presented for each stratum on the Log of Boring sheets are based on the soil types, blows per foot, and available common knowledge of the depositional history of the site. Because of the complex glacial and post-glacial depositional environments, geologic origins are frequently difficult to ascertain. A detailed investigation of the geologic history of the site was not performed.



Fence Diagram: Point to Point

(Horizontal distances not to scale)

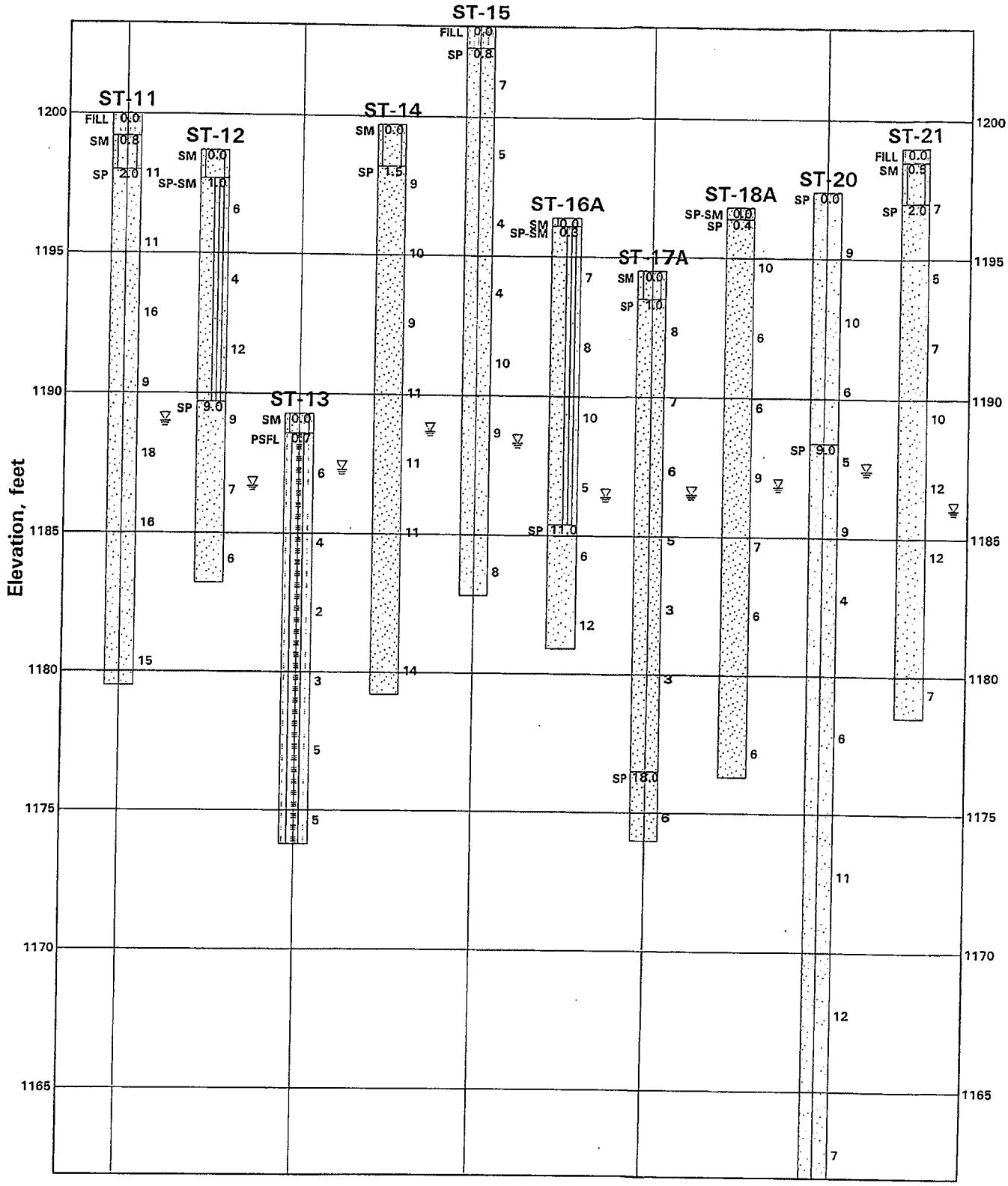
Braun Project BDXX-97-366B

Geotechnical Evaluation
Proposed T.H. 210 Utility Improvements
Trunk Highway 210
Baxter, Minnesota

Braun Intertec Corporation

January 5, 1998

Figure 1



Fence Diagram: Point to Point

(Horizontal distances not to scale)

Braun Project BDXX-97-366B

Geotechnical Evaluation
Proposed T.H. 210 Utility Improvements
Trunk Highway 210
Baxter, Minnesota

Braun Intertec Corporation

January 5, 1998

Figure 2

B.2. Site Conditions

The borings were performed adjacent to Trunk Highway 210 west of Minnesota Highway 371. The borings were conducted either adjacent to the existing pavement, through an existing pavement section, or along a proposed roadway. Borings ST-1, ST-2, ST-4, ST-5, ST-6, ST-7, ST-8, ST-9, ST-15, ST-20 and ST-21 were conducted adjacent to existing roadways. Borings ST-3, ST-10 and ST-11 were conducted through an existing pavement. Borings ST-12, ST-13, ST-14, ST-16A, ST-17A and ST-18A were conducted at proposed roadway locations.

B.3. Soils

The general soil profile encountered in the borings was 0.3 to 4 feet of silty sand and poorly graded sand topsoil or fills underlain by alluvial deposited poorly graded sands with occasional strata of silty sand. Borings ST-10 and ST-11 encountered bituminous and aggregate base at the surface. Boring ST-10 encountered a second layer of bituminous at the 2 1/2 foot depth. No fill was encountered in Boring ST-20 and the soil profile of Boring ST-13 was considered possible fill. It was considered possible fill because it did not appear to be natural soil but not buried topsoil or other positive indicator was found to confirm our opinion.

The penetration resistances in the fills and possible fills ranged from 2 to 14 blows per foot (BPF), indicating they ranged from very loose to medium dense. The penetration resistances recorded in the alluvial silty sands and poorly graded sands ranged from 2 to 60 BPF, indicating they ranged from very loose to very dense. Generally, however, the soils were loose to medium dense.

B.4. Groundwater

Groundwater was observed at depths ranging from 3 to 19 feet while drilling. After the hollow-stem auger had reached the bottoms of the holes, groundwater was observed 4 to 20 feet below the surface. After the auger had been withdrawn from the holes, groundwater was not observed to cave-in depths ranging from 5 to 17 feet, except in Boring ST-12, where groundwater was observed at a depth of about 2 feet. Based on these observations, it is our opinion the groundwater surface ranged from about elevation 1192 1/2 to 1186. Water levels above elevation 1190 were located north of Highway 210. Seasonal and annual fluctuations of the groundwater levels should be anticipated.

C. Analyses and Recommendations

C.1. Proposed Construction

Mr. Wernberg indicated the proposed construction will consist of installing new watermains, sanitary sewers and storm sewers, and reconstructing existing roadways or constructing new roadways. The sanitary sewers will be polyvinyl chloride (PVC) pipes placed approximately 5 to 10 feet below grades. The storm sewers will be concrete or high density polyethylene (HDPE) placed 5 to 6 feet deep. The new watermains will be PVC pipes placed a minimum of 8 1/2 feet deep.

Although most of the borings were performed adjacent to existing roadways, Mr. Wernberg indicated the new utilities will generally be placed within existing or new roadways.

A holding pond is proposed near Boring ST-17 and lift stations are proposed near Borings ST-7 and ST-20.

After utilities have been installed, Mr. Wernberg indicated existing streets will be reconstructed and new streets will be constructed. We have assumed the vertical and horizontal alignments of the existing roadways will remain approximately the same. The pavements will have a Mn/DOT 10-ton design.

Where utilities cross under Highway 210 or the railroad, jacking is being considered.

If our understanding of the proposed construction is not correct, if the proposed grades differ from the proposed given values, we should be informed. Additional analyses and revised recommendations may be necessary.

C.2. Discussion

The surficial topsoils encountered along the proposed alignments should be completely removed from beneath the proposed pavements. We also recommend topsoil encountered within the upper three feet of the existing pavement subgrades be completely removed. Topsoil was encountered within 3 feet of the surface in Borings ST-3, ST-9, ST-10, ST-11 and ST-21. Based on the borings, it is our opinion the proposed utilities and pavements can be supported on the nonorganic soils encountered below the topsoils in the borings, or on backfills and fills placed over the nonorganic soils below the topsoils. Dewatering will likely be necessary for installing utilities below the groundwater level.

The borings performed near the proposed lift stations indicate they can be supported on the natural sands at the proposed base grades. Dewatering will be required to install lift stations.

Based on Borings ST-1 to ST-4, it is our opinion that jacking utility pipes under Highway 210 and the railroad will be feasible.

C.3. Utilities

C.3.a. Subgrade. The borings indicate poorly graded sands or silty sands will likely be present at invert depths. These soils appear to generally be suitable for support of the proposed utilities. The silty sands, however, may become unstable when wet. Where unstable soils are encountered at invert grade, subexcavation of these materials to a depth of 1 to 2 feet and replacement with a coarse sand or gravel is recommended. If open graded gravel ("rock") is used, we recommend a geotextile be used to separate the gravel and the unstable sand soils.

C.3.b. Dewatering. Where the excavation extends only 1 to 2 feet below groundwater in sand soils, it is our opinion that it can be drawn down with sumps dug alongside the trench. Where the excavation extends more than 1 to 2 feet below groundwater in sand soils, it is our opinion that a sand point dewatering system or wells will be required. The groundwater levels should be pulled down to at least 1 foot below the bottoms of the trenches prior to excavation.

C.3.c. Bedding Material. It is our opinion the poorly graded sand soils may be used as bedding for the pipes. We recommend that the silty sand not be used as bedding beneath the pipe.

C.3.d. Backfill. The excavated materials may be reused as backfill above the bedding. Silty sand soils excavated from below groundwater, however, will be wet. It will be necessary to dry these soils in order to achieve the compaction recommended below. If the soils cannot be dried, they should be removed from the alignment and replaced by drier soils.

C.3.e. Compaction. In proposed landscape areas, we recommend that the backfill be compacted to a minimum of 90 percent of its maximum dry density determined in accordance with American Society for Testing and Materials (ASTM) Method of Test D 698 (standard Proctor). Below proposed pavements, the backfill should be compacted to a minimum of 95 percent. The upper 3 feet should be compacted to a minimum of 100 percent.

C.3.f. Shrinkage. Sand soils typically shrink 10 to 20 percent between excavation and final placement. Silty sand soils typically shrink 20 to 30 percent between excavation and final placement. It appears that it will be necessary to import "make-up" material to compensate for this shrinkage.

C.4. Pavements

C.4.a. Subgrade Preparation. We recommend existing bituminous material and topsoil within 3 feet of the bottom of the aggregate base of the proposed pavements be removed. Subexcavation of topsoil should extend to at least 1 foot behind the curbs. Topsoil more than 3 feet below final grades may be left in place if the subsequent fill can be adequately compacted.

After stripping the bituminous and topsoil, we recommend that the upper 6 inches of the resulting subgrade be scarified, moisture-conditioned to a moisture content near optimum, and compacted to a minimum of 95 percent of its standard Proctor maximum dry density. Where fill is required, we recommend that it be similarly moisture-conditioned and compacted. If there are areas which cannot be compacted, we recommend that the unstable materials be subexcavated to a depth of 2 feet and be replaced by materials which can be compacted. Backfills and fills within 3 feet of the bottoms of the proposed pavements should be compacted to a minimum of 100 percent.

C.4.b. Anticipated Subgrade. After the preparation, we anticipate the subgrades will be compacted poorly graded sands. Laboratory tests to determine the resistance (R) values of these soils were not included in our scope of services. Table 7-5.03H of the Minnesota Department of Transportation (Mn/DOT) *Road Design Manual* indicates an R value of 70 may be assumed for poorly graded sand.

C.4.d. Materials and Compaction. We recommend specifying crushed gravel base meeting the requirements of Mn/DOT Specification 3138 for Class 5. We recommend that the bituminous meet the requirements of Specification 2331. We recommend that the crushed gravel base be compacted to a minimum of 100 percent of its standard Proctor maximum dry density. We recommend that the asphaltic concrete surface be compacted to a minimum of 95 percent of its Marshall density. We recommend Portland cement concrete meet the requirements of Specification 2301.

C.5. Lift Stations

C.5.a. Design Information. Two lift stations will be constructed. They will be of precast concrete construction. Lift Station 10 will be constructed near Boring ST-7 and bear at an approximate elevation of 1166.2, 30 feet below the existing surface. Lift Station 11 will be constructed near Boring ST-20 and bear at approximate elevation 1175.4, about 22 feet below the existing surface.

C.5.b. Soil Bearing Capacity. At the given elevations, it is our opinion that the anticipated poorly graded sands will support a lift station base slab designed for a *net* allowable bearing pressure up to 5,000 pounds per square foot (psf) for lift station 10 and a *net* allowable bearing pressure up to 2,500 psf for lift station 11. These *net* allowable bearing capacities incorporate a theoretical factor of safety of at least three with regards to punching failure. To determine the gross allowable bearing capacity, we recommend assuming the total and effective weights of the sand backfill will be 110 and 50 pounds per cubic foot respectively.

C.5.c. Dewatering. Dewatering will be required to construct the lift stations. Because of the depths, wells may be required. The poorly graded sand at the base slab elevation in Boring ST-7 contained a little silt and was very dense. Also, it was underlain by semipermeable silty sand. It may be necessary to place a layer of drainage rock over the bottom of the excavation to complete the dewatering. We recommend a geotextile be used to separate the drainage rock from the poorly graded sand.

C.5.d. Hydrostatic Uplift. We recommend the lift stations be designed to resist hydrostatic forces associated with a groundwater level about 5 feet below the ground surface.

Resistance to uplift will be provided by the weight of the lift station, soil backfill over any projection of the base slab, and backfill within the frustrum of an inverted cone extending upward and outward at an angle of 30 degrees from the base slab. Unit backfill weights given above may be used. We recommend the forces resisting uplift be at least one and one-half times the uplift forces to provide an adequate factor of safety.

C.5.e. Backfill. Poorly graded sands from the excavations can be used. If future settlement is a concern, the backfill should be compacted to a minimum of 95 percent of its maximum dry density determined in accordance with American Society for Testing and Materials (ASTM) Test Method D 698 (standard Proctor). Beneath pavements, the upper 3 feet should be compacted to at least 100 percent.

C.6. Pipe Jacking

Borings ST-1 through ST-4 did not encounter boulders, rock or hard or dense soils. Thus, it is our opinion pipe jacking operations can be conducted. Dewatering may be required.

C.7. Ponds and Drainage Ditch

Near Boring ST-13, a drainage ditch will be constructed. Near Boring ST-17, a holding pond will be constructed. These borings encountered relatively free-draining sand soils. We anticipate storm water entering the holding pond will seep into the ground. Temporary mounding of the groundwater table in the vicinity of the pond should be anticipated. We recommend the effect of this mounding be evaluated if there are any basements near the pond or if basements are planned.

Groundwater was encountered 8 feet below the surface in Boring ST-17A. Unless the proposed pond is designed to maintain a depth of at least 4 feet, we anticipate wetland type vegetational will develop.

Sand is easily eroded. We recommend rip-rap or some other form of erosion protection be provided for the inlet and outlets.

D. Construction

D.1. Excavation

It is our opinion that the soils encountered by the borings can be excavated with a backhoe, front-end loader or scraper. The borings indicate that the sand soils in the sidewalls of the excavations will be Type C soils under Department of Labor Occupational Safety and Health Administration (OSHA) guidelines.

D.2. Observations

A geotechnical engineer should be retained to observe all excavation and pavement subgrades. These observations are recommended to evaluate if the subgrade soils are similar to those encountered by the borings and adequate to support the proposed construction. Oversizing of subexcavations should be checked. These observations should be conducted prior to placing backfill or fill.

D.3. Backfills and Fills

Site soils which will be excavated and reused as backfills and fills generally appear to be dry of optimum. We anticipate it will be necessary to wet these soils to achieve the recommended compaction. Soils excavated from below groundwater, however, will need to be dried somewhat before they are placed as backfill or fill. We recommend that backfills and fills be placed in lifts not exceeding 4 to 12 inches in thickness, depending upon the size of the compactor and material used.

D.4. Testing

We recommend density testing be performed in all backfill and fill placed beneath pavements. We also recommend density testing of the compacted pavement subgrade and gravel base course. Samples of proposed backfill and fill materials should be submitted to our testing laboratory at least three days prior to placement for evaluation of their suitability and determination of their optimum moisture contents and maximum dry densities.

We recommend at least one density test be performed for every 10,000 square feet of pavement area, with at least one test for every 2 vertical feet of backfill and fill placed. At least one compaction test should be taken for every 300 feet of utility trench backfill at vertical intervals not exceeding 2 feet.

D.5. Cold Weather

If site grading is anticipated during cold weather, we recommend good winter construction practices be observed. All snow and ice should be removed from cut and fill areas prior to grading.

Roadbed embankments should not be constructed during periods when the embankment material freezes while being placed and compacted, nor should any embankment material be placed on soil that is frozen to a depth greater than 4 inches. When the foundation soils are frozen to a depth exceeding 4 inches, at a time when weather conditions are such that embankment construction could be continued without the material freezing as it is being placed and compacted, the contractor may be permitted to excavate the frozen foundation soil and proceed with the embankment construction for so long as the weather will permit with the understanding that the additional costs involved shall be borne by the contractor. The frozen soil should be pulverized or wasted and replaced with other suitable soil, as may be necessary to construct the embankments as specified.

E. Procedures

E.1. Drilling and Sampling

E.1.a. Sampling. We performed the penetration test borings were performed on November 3 and 5, and December 12, 1997, with a truck-mounted core and auger drill equipped with 3 1/4-inch inside diameter hollow-stem auger. Sampling for the borings was conducted in general accordance with ASTM D 1586, "Penetration Test and Split-Barrel Sampling of Soils." We advanced the boreholes with the hollow-stem auger to the desired test depth. A 140-pound hammer falling 30 inches was then used to drive the standard 2-inch split-barrel sampler a total penetration of 1 1/2 feet below the tip of the hollow-stem auger. The blows for the last foot of penetration were recorded and are an index of soil strength characteristics. Samples were taken at 2 1/2-foot vertical intervals to the 15-foot depth and then at 5-foot intervals to the termination depths of the borings. A representative portion of each sample was then sealed in a glass jar.

E.1.b. Sealing and Environmental Bore Holes. Two of the borings, ST-7 and ST-20, encountered a water-bearing layer below a depth of 25 feet. By Minnesota statute, these borings are considered "environmental bore holes." As required, they were sealed with bentonite grout. Well and Boring Sealing Records were prepared. They will be reviewed by a Braun Intertec Registered Monitoring Well Contractor and submitted to the Minnesota Department of Health (MDH) within 30 days of the completion of the borings. Preliminary copies of the sealing records have been included in the Appendix.

E.2. Soil Classifications

The drill crew chief visually and manually classified the soils encountered in the borings in accordance with ASTM D 2488, "Description and Identification of Soils (Visual-Manual Procedures)." A summary of the ASTM classification system is included in the Appendix. All samples were then returned to our laboratory for review of the field classifications by a geotechnical engineer. Representative samples will remain in our St. Cloud office for a period of 60 days to be available for your examination. These samples will then be discarded unless we are notified in writing to retain them longer.

E.3. Groundwater Observations

Immediately after taking the final samples in the bottoms of the borings, the crew probed the holes through the hollow-stem auger to check for the presence of groundwater. Immediately after withdrawal of the auger, the holes were again probed and the depths to water or cave-ins were noted. The borings were then immediately backfilled.

F. General Recommendations

F.1. Basis of Recommendations

The analyses and recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated on the attached sketch. Often, variations occur between these borings, the nature and extent of which do not become evident until additional exploration or construction is conducted. A re-evaluation of the recommendations in this report should be made after performing on-site observations during construction to note the characteristics of any variations. The variations may result in additional foundation costs, and it is suggested that a contingency be provided for this purpose.

It is recommended that we be retained to perform the observation and testing program for the earthwork phase of this project. This will allow correlation of the soil conditions encountered during construction to the soil borings, and will provide continuity of professional responsibility.

F.2. Review of Design

This report is based on the design of the proposed improvements as related to us for preparation of this report. It is recommended that we be retained to review the geotechnical aspects of the designs and specifications. With the review, we will evaluate whether any changes in design have affected the validity of the recommendations, and whether our recommendations have been correctly interpreted and implemented in the design and specifications.

F.3. Groundwater Fluctuations

We made water level observations in the borings at the times and under the conditions stated on the boring logs. These data were interpreted in the text of this report. The period of observation was relatively short, and fluctuation in the groundwater level may occur due to rainfall, flooding, irrigation, spring thaw, drainage, and other seasonal and annual factors not evident at the time the observations were made. Design drawings and specifications and construction planning should recognize the possibility of fluctuations.

F.4. Use of Report

This report is for the exclusive use of the City of Baxter and WSN to use to design the proposed structure and prepare construction documents. In the absence of our written approval, we make no representation and assume no responsibility to other parties regarding this report. The data, analyses and recommendations may not be appropriate for other structures or purposes. We recommend that parties contemplating other structures or purposes contact us.

F.5. Level of Care

Services performed by Braun Intertec Corporation personnel for this project have been conducted with that level of care and skill ordinarily exercised by members of the profession currently practicing in this area under similar budget and time restraints. No warranty, expressed or implied, is made.

Professional Certification

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Bruce M. Thorson, PE
Principal/Senior Engineer
Registration Number: 10376
January 6, 1998

Appendix

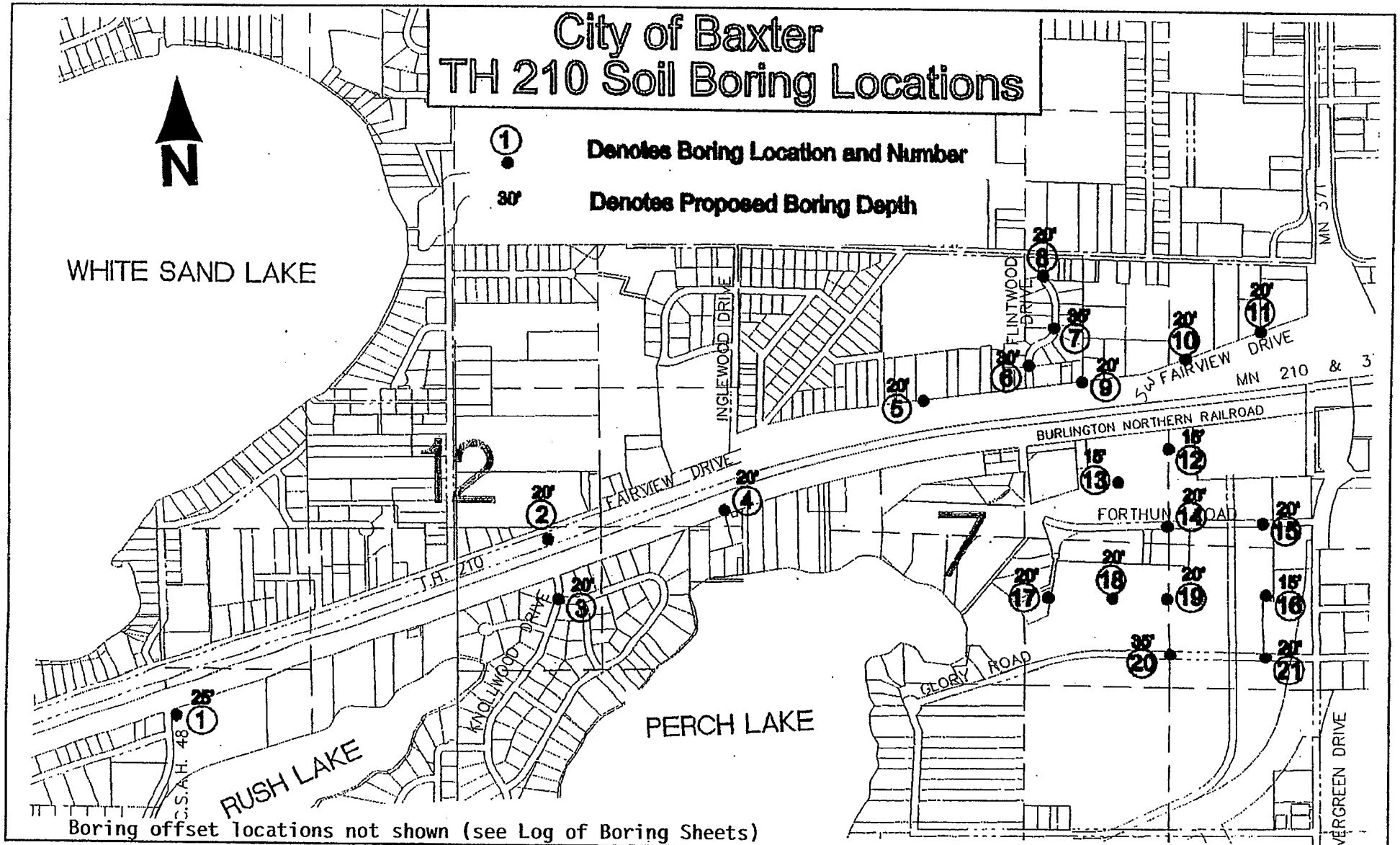


FIGURE NO.	INT	DATE
	DRAWN BY:	12/23/97
	APP'D BY:	
	JOB No. BDXX-97-366B	
	DWG. No.	SHEET / OF
	SCALE --	1 / 1

Geotechnical Evaluation
Proposed Trunk Highway 210 Utility Improvements
Trunk Highway 210
Baxter, Minnesota

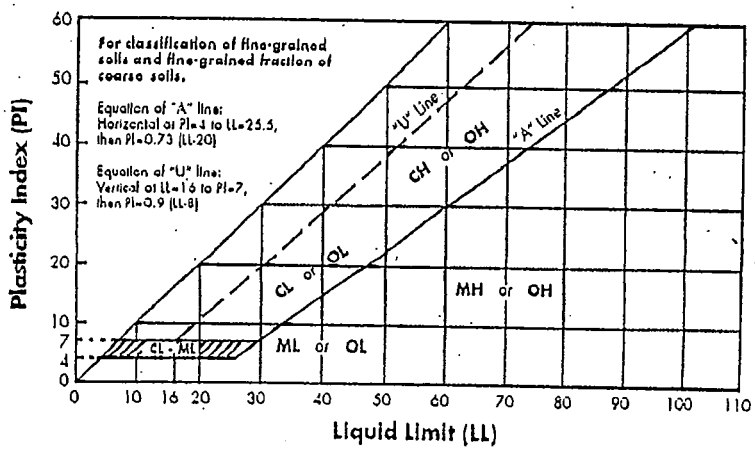
BRAUN INTERTEC

Descriptive Terminology

Standard D 2487 - 93
Classification of Soils for Engineering Purposes
(Unified Soil Classification System)

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [a]				Soil Classification [a]	
				Group Symbol	Group Name [b]
Coarse-grained Soils more than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines [c]	$C_u \geq 4$ and $1 \leq C_c \leq 3$ [d]	GW	Well-graded gravel [f]
			$C_u < 4$ and/or $1 > C_c > 3$ [e]	GP	Poorly graded gravel [f]
		Gravels with Fines More than 12% fines [c]	Fines classify as ML or MH	GM	Silty gravel [f,g,h]
			Fines classify as CL or CH	GC	Clayey gravel [f,g,h]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines [i]	$C_u \geq 6$ and $1 \leq C_c \leq 3$ [d]	SW	Well-graded sand [i]
			$C_u < 6$ and/or $1 > C_c > 3$ [e]	SP	Poorly graded sand [i]
		Sands with Fines More than 12% fines [d]	Fines classify as ML or MH	SM	Silty sand [g,h,i]
			Fines classify as CL or CH	SC	Clayey sand [g,h,i]
Fine-grained Soils 50% or more passed the No. 200 sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI > 7 and plots on or above "A" line [j]	CL	Lean clay [k,l,m]
			PI < 4 or plots below "A" line [j]	ML	Silt [k,l,m]
		organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OL	Organic clay [k,l,m,n] Organic silt [k,l,m,o]
	Silts and Clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line	CH	Fat clay [k,l,m]
			PI plots below "A" line	MH	Elastic silt [k,l,m]
		organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OH	Organic clay [k,l,m,p] Organic silt [k,l,m,q]
Highly Organic Soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

a. Based on the material passing the 3-in (75-mm) sieve.
b. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both," to group name.
c. Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay
d. Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay
e. $C_u = D_{60}/D_{10}$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
f. If soil contains ≥ 15% sand, add "with sand" to group name.
g. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.
h. If fines are organic, add "with organic fines" to group name.
i. If soil contains ≥ 15% gravel, add "with gravel" to group name.
j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.
k. If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
l. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.
m. If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
n. PI ≥ 4 and plots on or above "A" line.
o. PI < 4 or plots below "A" line.
p. PI plots on or above "A" line.
q. PI plots below "A" line.



Laboratory Tests

DD	Dry density, pcf	OC	Organic content, %
WD	Wet density, pcf	S	Percent of saturation, %
MC	Natural moisture content, %	SG	Specific gravity
LL	Liquid limit, %	C	Cohesion, psf
PL	Plastic limit, %	Ø	Angle of internal friction
PI	Plasticity index, %	qu	Unconfined compressive strength, psf
P200	% passing 200 sieve	qp	Pocket penetrometer strength, tsf

Particle Size Identification

Boulders	over 12"
Cobbles	3" to 12"
Gravel	
Coarse	3/4" to 3"
Fine	No. 4 to 3/4"
Sand	
Coarse	No. 4 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Silt	No. 200 to .005 mm
Clay	less than .005 mm

Relative Density of Cohesionless Soils

very loose	0 to 4 BPF
loose	5 to 10 BPF
medium dense	11 to 30 BPF
dense	31 to 50 BPF
very dense	over 50 BPF

Consistency of Cohesive Soils

very soft	0 to 1 BPF
soft	2 to 3 BPF
rather soft	4 to 5 BPF
medium	6 to 8 BPF
rather stiff	9 to 12 BPF
stiff	13 to 16 BPF
very stiff	17 to 30 BPF
hard	over 30 BPF

Drilling Notes

Standard penetration test borings were advanced by 3 1/4" or 6 1/4" ID hollow-stem augers unless noted otherwise. Jetting water was used to clean out auger prior to sampling only where indicated on logs. Standard penetration test borings are designated by the prefix "ST" (Split Tube).

Power auger borings were advanced by 4" or 6" diameter, continuous-flight, solid-stem augers. Soil classifications and strata depths were inferred from disturbed samples augered to the surface and are, therefore, somewhat approximate. Power auger borings are designated by the prefix "B".

Hand auger borings were advanced manually with a 1 1/2" diameter auger and were limited to the depth from which the auger could be manually withdrawn. Hand auger borings are indicated by the prefix "H".

Sampling: All samples were taken with the standard 2" OD split-tube sampler, except where noted. TW indicates thin-walled (undisturbed) tube sample.

BPF: Numbers indicate blows per foot recorded in standard penetration test, also known as "N" value. The sampler was set 6" into undisturbed soil below the hollow-stem auger. Driving resistances were then counted for second and third 6" increments and added to get BPF. Where they differed significantly, they are reported in the following form: 2/12 for the second and third 6" increments, respectively.

WH: WH indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WR: WR indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

Note: All tests were run in general accordance with applicable ASTM standards.

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Rev. 2/97

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-1
		LOCATION:	See attached sketch.

DRILLER:	B. Ruchti	METHOD:	3 1/4" HSA, Autohmr.	DATE:	11/5/97	SCALE:	1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet 1206.8	Depth, feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1206.0	0.8	FILL	FILL: Poorly Graded Sand, fine-grained, with Silt, a trace of Gravel, brown, moist.			Ground surface elevations at the boring locations were provided by WSN.
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, very loose to medium dense. (Alluvium)	7		
				9		
				6		
				5		
				7		
				5		
				4	▽	The triangle in the WL column indicates the highest level at which groundwater was observed while drilling. Groundwater levels fluctuate.
1181.8	25.0			21		
			END OF BORING Water observed at 19 ft. while drilling. Water down 20 ft. with 24 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 16 ft. immediately after withdrawal of auger.*			*Boring then backfilled.

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-2
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1205.4	0.0					
1204.8	0.6	FILL SP	FILL: Poorly Graded Sand, fine-grained, with Silt, a trace of Gravel, brown, moist. POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, loose to medium dense. (Alluvium)			
				8		
				6		
				9		
				6		
				6		
				10		
					▽	
1184.9	20.5			25		
			END OF BORING Water observed at 19 ft. while drilling. Water down 18 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 17 ft. immediately after withdrawal of auger. Boring then backfilled with bentonite.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-3
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA; Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1207.5	0.0					
1207.0	0.5	FILL	FILL: 2" of Bituminous over 3" of Aggregate Base.			
		FILL	FILL: Silty Sand, fine-grained, dark brown, moist.			
1205.5	2.0					
		SP	POORLY GRADED SAND, very fine-grained, brown, moist to wet to waterbearing, loose to medium dense. (Alluvium)	8		
				10		
				7		
				7		
				8		
				15		
					▽	
1187.0	20.5			16		
			END OF BORING Water observed at 19 ft. while drilling. Water down 19 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 17 ft. immediately after withdrawal of auger. Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-4
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet 1201.2	Depth, feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1200.2	1.0	FILL	FILL: Poorly Graded Sand, fine-grained, with Silt, brown.			
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, very loose to loose. (Alluvium)	8		
				5		
				6		
				9		
				9	▽	
				3		
1180.7	20.5			10		
			END OF BORING Water observed at 13 ft. while drilling. Water down 14 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 12 ft. immediately after withdrawal of auger. Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-5
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet 1205.0	Depth, feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1204.0	1.0	FILL	FILL: Poorly Graded Sand, fine-grained, with Silt, brown, moist.			
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet, loose to dense. (Alluvium)	8		
				6		
				12		
				10		
				9		
				27	▽	
1184.5	20.5			50		

END OF BORING

Water observed at 14 ft. while drilling.

Water down 16 ft. with 19 ft. of hollow-stem auger in the ground.

Water not observed to cave-in depth of 13 ft. immediately after withdrawal of auger.

Boring then backfilled.

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-6
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet 1198.3	Depth, feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1196.8	1.5	FILL	FILL: Poorly Graded Sand, fine-grained, with Silt, dark brown, moist.			
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, loose to medium dense. (Alluvium)	9		
				6		
				7	▽	
				6		
				8		
				9		
				11		
				11		*Water observed at 8 ft. while drilling. Water not observed to cave-in depth of 6 ft. immediately after withdrawal of auger.
1167.8	30.5			13		Boring then backfilled.
			END OF BORING*			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-7
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1196.2	0.0					
1195.2	1.0	FILL	FILL: Poorly Graded Sand, fine-grained, with Silt, brown, moist.			
		SP-SM	POORLY GRADED SAND, fine-grained, with SILT, brown, moist, very loose. (Alluvium)	4		
1192.2	4.0					
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, very loose to very dense. (Alluvium)	2		
				3	▽	
				3		
				4		
				22		
				36		
				55		
1166.2	30.0			60		
		SP-SM	POORLY GRADED SAND, fine-grained, with SILT, gray. (Alluvium)			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-7 (cont.)
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
			Poorly Graded Sand (Continued)			
1162.2	34.0					
		SM	SILTY SAND, fine-grained, gray, moist, dense. (Alluvium)	50		
1160.7	35.5					
			END OF BORING			
			Water observed 8 ft. while drilling.			
			Water not observed to cave-in depth of 8 ft. immediately after withdrawal of auger.			
			Boring then backfilled with bentonite.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-8
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1202.3	0.0					
1201.8	0.5	FILL	FILL: Poorly Graded Sand, fine-grained, with Silt, brown, moist.			
		SP	POORLY GRADED SAND, fine-grained, brown, moist, medium dense. (Alluvium)	11		
				12		
1195.3	7.0					
		SM	SILTY SAND, very fine-grained, brown, moist, loose. (Alluvium)	8		
1192.3	10.0					
		SP	POORLY GRADED SAND, fine-grained, brown, wet to waterbearing, loose to medium dense. (Alluvium)	8	▽	
				16		
				27		
1181.8	20.5			11		

END OF BORING

Water observed at 10 ft. while drilling.

Water down 13 ft. with 19 ft. of hollow-stem auger in the ground.

Water not observed to cave-in depth of 10 ft. immediately after withdrawal of auger.

Boring then backfilled.

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-9
		LOCATION:	See attached sketch.
DRILLER:	B. Ruchti	METHOD:	3 1/4" HSA, Autohmr.
DATE:	11/5/97	SCALE:	1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1194.9	0.0					
1194.4	0.5	FILL	FILL: Silty Sand, fine- to medium-grained, a trace of Gravel, brown, moist.			
1193.4	1.5	FILL				
1192.9	2.0	SM	FILL: Poorly Graded Sand, fine-grained, brown, moist.			
		SP	SILTY SAND, fine-grained, dark brown, moist. (Topsoil)	7		
			POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, loose. (Alluvium)	7		
				7	▽	
			-gray at 10 ft.	10		
1182.9	12.0					
		SP-SM	POORLY GRADED SAND, fine-grained, with SILT, brown, waterbearing, loose. (Alluvium)	7		
1180.9	14.0					
		SP	POORLY GRADED SAND, fine-grained, brown, waterbearing, medium dense to loose. (Alluvium)	15		
1174.4	20.5			10		

END OF BORING

Water observed at 8 ft. while drilling.

Water down 9 ft. with 19 ft. of hollow-stem auger in the ground.

Water not observed to cave-in depth of 5 ft. immediately after withdrawal of auger.

Boring then backfilled.

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-10
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1195.0	0.0	FILL	FILL: 4" of Bituminous over Poorly Graded Sand, fine- to medium-grained, with Silt, brown, moist.			
1192.0	3.0		-bituminous at 2.5 ft.	14		
1191.0	4.0	SM	SILTY SAND, fine-grained, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, brown to gray, moist to wet to waterbearing, medium dense to loose. (Alluvium)	17		
				14	▽	
				10		
			-gray at 12 1/2 ft.	8		
				6		
1177.0	18.0					
		SM	SILTY SAND, very fine-grained, gray, waterbearing, medium dense. (Alluvium)			
1174.5	20.5			12		
			END OF BORING Water observed at 7 ft. while drilling. Water down 11 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 6 ft. immediately after withdrawal of auger. Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-11
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/5/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1200.0	0.0					
1199.2	0.8	FILL	FILL: 4" of Bituminous over 4" of Aggregate Base.			
1198.0	2.0	SM	SILTY SAND, fine-grained, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, medium dense to loose. (Alluvium)	11		
				11		
				16		
				9	▽	
				18		
				16		
1179.5	20.5			15		
			END OF BORING Water observed at 11 ft. while drilling. Water down 13 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 10 ft. immediately after withdrawal of auger. Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-12
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 12/12/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1198.7	0.0					
1197.7	1.0	SM	SILTY SAND, fine-grained, dark brown, moist. (Topsoil)			
		SP-SM	POORLY GRADED SAND, fine-grained, with SILT, brown, moist, very loose to medium dense. (Alluvium)	6 4 12		
1189.7	9.0					
		SP	POORLY GRADED SAND, fine-grained, brown, wet to waterbearing, loose. (Alluvium)	9 7 6	▽	
1183.2	15.5					
			END OF BORING Water observed at 12 ft. while drilling. Water down 14 ft. with 14 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 7 ft. immediately after withdrawal of auger. Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-13
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 12/12/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet 1189.3	Depth, feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1188.6	0.7	SM	SILTY SAND, fine-grained, dark brown, moist. (Topsoil)			
		PSFL	POSSIBLE FILL: Poorly Graded Sand, fine-grained, gray with rust, waterbearing, very loose to loose.	6	▽	
				4		
				2		
			-with layer of Silty Sand with roots at 10 ft.	3		
				5		
1173.8	15.5		-trace of roots at 15 ft.	5		

END OF BORING

Water observed at 3 ft. while drilling.

Water down 4 ft. with 14 ft. of hollow-stem auger in the ground.

Water observed at 2 ft. immediately after withdrawal of auger.

Boring then backfilled.

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-14
		LOCATION:	See attached sketch.
DRILLER: B. Knapek	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/3/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet 1199.7	Depth, feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1198.2	1.5	SM	SILTY SAND, fine-grained, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, loose to medium dense. (Alluvium)	9		
				10		
				9		
				11	▽	
				11		
				11		
1179.2	20.5			14		
			END OF BORING Water observed at 11 ft. while drilling. Water down 15 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 12 ft. immediately after withdrawal of auger. Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-15
		LOCATION:	See attached sketch.
DRILLER: B. Knapek	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/3/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet 1203.3	Depth, feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1202.5	0.8	FILL	FILL: Poorly Graded Sand, fine-grained, with Silt, brown, moist.			
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, loose to very loose. (Alluvium)	7		
				5		
				4		
				4		
				10		
				9	▽	
1182.8	20.5			8		
			END OF BORING Water observed at 15 ft. while drilling. Water down 17 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 10 ft. immediately after withdrawal of auger. Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-16A
		LOCATION:	Offset 35 ft. W of staked location. See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 12/12/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1196.4	0.0					
1196.1	0.3	SM	SILTY SAND, fine-grained, black, moist. (Topsoil)			
		SP-SM	POORLY GRADED SAND with SILT, moist to waterbearing, loose. (Alluvium)	7		
				8		
				10		
				5	▽	
1185.4	11.0					
		SP	POORLY GRADED SAND, fine-grained, gray, waterbearing, loose to medium dense. (Alluvium)	6		
1180.9	15.5			12		
			END OF BORING			
			Water observed at 10 ft. while drilling.			
			Water down 13 ft. with 14 ft. of hollow-stem auger in the ground.			
			Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-17A
		LOCATION:	Offset 50 ft. N of original position. See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 12/12/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1194.5	0.0					
1193.5	1.0	SM	SILTY SAND, fine-grained, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, moist to wet to waterbearing, very loose to loose. (Alluvium)	8		
				7		
				6	▽	
			-iron stained at 10 ft.	5		
				3		
				3		
1176.5	18.0					
		SP	POORLY GRADED SAND, fine-grained, gray, waterbearing, loose. (Alluvium)			
1174.0	20.5			6		

END OF BORING

Water observed at 8 ft. while drilling.

Water down 11 ft. with 19 ft. of hollow-stem auger in the ground.

Water not observed to cave-in depth of 5 ft. immediately after withdrawal of auger.

Boring then backfilled.

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-18A
		LOCATION:	Offset 20 ft. W of staked location. See attached sketch.
DRILLER:	B. Ruchti	METHOD:	3 1/4" HSA, Autohmr.
DATE:	12/12/97	SCALE:	1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1196.8	0.0					
1196.4	0.4	SP-SM SP	POORLY GRADED SAND, very fine-grained, with SILT, dark brown, moist. (Topsoil)			
			POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, loose. (Alluvium)	10		
				6		
				6		
				9	▽	
				7		
				6		
1176.3	20.5			6		
			END OF BORING Water observed at 10 ft. while drilling. Water down 11 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 7 ft. immediately after withdrawal of auger. Boring then backfilled.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-19
		LOCATION:	See attached sketch.
DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 12/12/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
			Unaccessable to drill rig, therefore omitted from boring program.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-20
		LOCATION:	See attached sketch.
DRILLER: B. Knapek	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/3/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1197.4	0.0	SP	POORLY GRADED SAND, fine-grained, brown, moist to wet, loose. (Alluvium)	9 10 6		
1188.4	9.0	SP	POORLY GRADED SAND, fine-grained, brown, wet to waterbearing, very loose to medium dense. (Alluvium)	5 9 4 6 11 12	▽	

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-20 (cont.)
		LOCATION:	See attached sketch.
DRILLER: B. Knapek	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/3/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
			Poorly Graded Sand (Continued)			
1161.9	35.5			7		
			END OF BORING Water observed at 10 ft while drilling. Boring then backfilled with bentonite.			

LOG OF BORING

PROJECT:	BDXX-97-366B Geotechnical Evaluation Proposed T.H. 210 Utility Improvements Trunk Highway 210 Baxter, Minnesota	BORING:	ST-21
		LOCATION:	See attached sketch.
DRILLER: B. Knapek	METHOD: 3 1/4" HSA, Autohmr.	DATE: 11/3/97	SCALE: 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev., feet	Depth, feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
1199.0	0.0					
1198.5	0.5	FILL	FILL: Poorly Graded Sand, fine-grained, brown, moist.			
1197.0	2.0	SM	SILTY SAND, fine-grained, dark brown, moist. (Topsoil)			
		SP	POORLY GRADED SAND, fine-grained, brown, moist to wet to waterbearing, loose to medium dense. (Alluvium)	7		
				5		
				7		
				10		
				12	▽	
				12		
1178.5	20.5			7		
			END OF BORING Water observed at 13 ft. while drilling. Water down 15 ft. with 19 ft. of hollow-stem auger in the ground. Water not observed to cave-in depth of 9 ft. immediately after withdrawal of auger. Boring then backfilled.			

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING SEALING RECORD

Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No.
Minnesota Unique No. or W-series No.
(Leave blank if not known)

H 108078

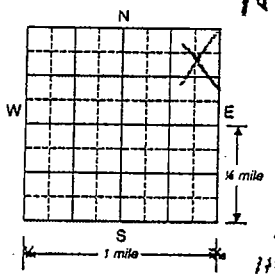
WELL OR BORING LOCATION

County Name: CROW WING

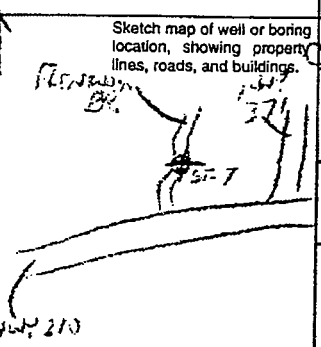
Township Name	Township No.	Range No.	Section No.	Fraction (sm. → lg.)
CROW WING	133N	29W	7	¼ NE ¼ NE ¼

Numerical Street Address or Fire Number and City of Well or Boring Location

Show exact location of well or boring in section grid with "X".



Sketch map of well or boring location, showing property lines, roads, and buildings.



Date Sealed: NOV. 5 1997

Date Well or Boring Constructed: NOV. 5 1997

Depth Before Sealing: 30 ½ ft.

Original Depth: 30 ½ ft.

AQUIFER(S): ☒ Single Aquifer ☐ Multiaquifer

WELL/BORING: ☐ Water Supply Well ☐ Monit. Well ☒ Env. Bore Hole ☐ Other

STATIC WATER LEVEL: ☐ Measured ☒ Estimated 9 ft. ☒ below ☐ above land surface

CASING TYPE(S): ☐ Steel ☐ Plastic ☐ Tile ☐ Other N/A

CASING

Diameter	Depth	Set in oversize hole?	Annualar space initially grouted?
in. from	to ft.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Unknown
in. from N/A	to ft.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Unknown
in. from	to ft.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Unknown

SCREEN/OPEN HOLE

Screen from N/A to ft. Open Hole from to ft.

OBSTRUCTION/DEBRIS/FILL

☐ Obstruction ☐ Debris ☐ Fill ☐ No Obstruction

Type of Obstruction/Debris/Fill N/A

Obstruction/Debris/Fill removed? ☐ Yes ☐ No

PUMP

Type N/A

☐ Removed ☐ Not Present ☐ Other

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE:

☐ No Annular Space Exits

☐ Annular space grouted with tremie pipe

☐ Casing Perforation/Removal

in. from N/A to ft. ☐ Perforated ☐ Removed

in. from to ft. ☐ Perforated ☐ Removed

Type of perforator

☐ Other

GROUTING MATERIAL(S)

Grouting Material BENTONITE from 0 to 30½ ft. yards bags

from to ft. yards bags

from to ft. yards bags

from to ft. yards bags

PROPERTY OWNER'S NAME: CITY OF BAXTER

Property owner's mailing address if different than well location address indicated above.

P.O. BOX 2626
BAXTER, MN 56425

WELL OWNER'S NAME

Well owner's mailing address if different than property owner's address indicated above.

GEOLOGICAL MATERIAL	COLOR	HARDNESS OF FORMATION	FROM	TO
Not known, indicate estimated formation log from nearby well or boring.				
SAND	BRN		0	1'
SAND	GRN	Fine to Med	1	30½

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING

SEALED BORING
ST-7

UNSEALED WELLS AND BORINGS

Other unsealed well or boring on property? ☐ Yes ☒ No

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION

This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

BRAIN INTAKE CORP. — *Contractor Business Name*

[illegible] — *License or Registration No.*

Authorized Representative Signature

11/21/97 — *Date*

BRAD RUNATE — *Name of Person Sealing Well or Boring*

LL CONTRACTOR COPY H 108078

HE-01434-02

10/95

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING SEALING RECORD

Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No.
Minnesota Unique No. or W-series No.
(Leave blank if not known)

H 108079

WELL OR BORING LOCATION

County Name: CROW WING

Township Name	Township No.	Range No.	Section No.	Fraction (sm. → lg.)
CROW WING	133N	28W	7	NE/4 NE/4

Numerical Street Address or Fire Number and City of Well or Boring Location: GLORY ROAD

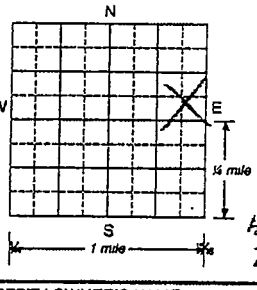
Date Sealed: NOV. 3 1997

Date Well or Boring Constructed: NOV. 3 1997

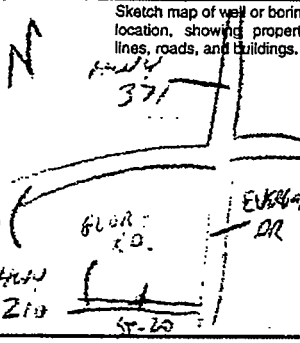
Depth Before Sealing: 30 1/2 ft.

Original Depth: 30 1/2 ft.

Show exact location of well or boring in section grid with "X".



Sketch map of well or boring location, showing property lines, roads, and buildings.



AQUIFER(S): ☒ Single Aquifer ☐ Multiaquifer

WELL/BORING: ☐ Water Supply Well ☐ Monit. Well ☒ Env. Bore Hole ☐ Other

STATIC WATER LEVEL: ☐ Measured ☒ Estimated — 10 ft. ☒ below ☐ above land surface

CASING TYPE(S): ☒ Steel ☐ Plastic ☐ Tile ☐ Other N/A

CASING

Diameter	Depth	Set in oversize hole?	Annualar space initially grouted?
in. from	to ft.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Unknown
in. from	to ft.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Unknown
in. from	to ft.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Unknown

N/A

SCREEN/OPEN HOLE: Screen from N/A to ft. Open Hole from to ft.

OBSTRUCTION/DEBRIS/FILL: ☐ Obstruction ☐ Debris ☐ Fill ☒ No Obstruction

Type of Obstruction/Debris/Fill: N/A

Obstruction/Debris/Fill removed? ☐ Yes ☐ No

PUMP: Type N/A ☐ Removed ☐ Not Present ☐ Other

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE:

☐ No Annular Space Exits
☐ Annular space grouted with tremie pipe
☐ Casing Perforation/Removal

in. from N/A to ft. ☐ Perforated ☐ Removed

in. from to ft. ☐ Perforated ☐ Removed

Type of perforator

☐ Other

PROPERTY OWNER'S NAME: CITY OF BAXTER

Property owner's mailing address if different than well location address indicated above.

P.O. BOX 2626
BAXTER, MN 56425

WELL OWNER'S NAME

Well owner's mailing address if different than property owner's address indicated above.

GEOLOGICAL MATERIAL	COLOR	HARDNESS OF FORMATION	FROM	TO
SAND	BRN	Loose to med.	0	30 1/2

If not known, indicate estimated formation log from nearby well or boring.

GROUTING MATERIAL(S)

Grouting Material BENTONITE from 0 to 30 1/2 ft. yards bags

from to ft. yards bags

from to ft. yards bags

from to ft. yards bags

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING

SEALED BOTTOM
ST. 20

UNSEALED WELLS AND BORINGS

Other unsealed well or boring on property? ☐ Yes ☐ No

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION

This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

GRAM INTERTEL CORP — MN

Contractor Business Name — *License or Registration No.*

Authorized Representative Signature — 12/2/97 *Date*

BRIAN KNAPEK

Name of Person Sealing Well or Boring

WELL CONTRACTOR COPY H 108079

MEMO

WIDSETH SMITH NOLTING

Brainerd/Baxter
7804 Industrial Park Road
PO Box 2720
Baxter, MN 56425-2720

218.829.5117
218.829.2517
Brainerd@wsn.us.com

WidsethSmithNolting.com

Date: April 27, 2016
To: **Trevor Walter, City of Bater**
From: Aric Welch
Cc:
Project Name: Central Lakes Crossing - Multi-Tenant Retail
Project No.: 0102B0000.000
Subject: **Stormwater Management Plan Review**

We have completed our review of the Preliminary Stormwater Management Plan for Central Lakes Crossing, Multi-Tenant Retail, Baxter, MN dated April 19, 2016. The plan was professionally prepared by Sambatek and we offer the following comments:

The Stormwater Management Plan (SWMP) has been reviewed for compliance with the City of Baxter's stormwater ordinance. Stormwater retention on-site is proposed to consist of a wet basin with an infiltration shelf. The wet portion of the pond will lined due to lack of separation from groundwater and to maintain water for aesthetic purposes. The main stormwater retention will be from the infiltration shelf, which is more than adequately sized for the proposed improvements. Due to infiltration basin capacity, the owner is allocating the additional capacity for future development to the south of the proposed lot.

Although the proposed infiltration basin is more than adequately sized and the SWMP meets the City stormwater ordinance, it is recommended that the following be addressed so that the City will have a more accurate stormwater retention volume that the site can allocate for future development to the south of the proposed development.

The following items shall be clarified and/or addressed:

1. Runoff from catchment area 4s should be included in the drainage for the infiltration basin. Area 4s is a part of the parcel and the runoff is collected on site and conveyed through the storm sewer into the proposed infiltration basin.

2. A portion of the proposed improvements (southern half of the south east-west drive isle) is not included in the stormwater calculations for the proposed improvements. This area drains off site onto the adjacent south parcel. It shall be noted in the SWMP that this area shall be included in the calculations for the development of that site.

3. The stormwater calculations indicate the infiltration basin and wet pond have a curve number of 39 which represents a grass cover condition, infiltration basins and wet ponds should be modeled as a water surface with a curve number of 98, especially when considering a 100-year storm event. The proposed infiltration basin on this project is relatively large and the difference in curve numbers would have relatively large impact on the stormwater runoff for the entire site.

4. The stormwater calculations indicate runoff discharge in the basins through exfiltration (i.e. infiltration during the storm event). It is our understanding that the City of Baxter does not allow this method to be used for above ground infiltration areas.

If you have any questions please do not hesitate to call.

WSB & Associates, Inc.

Infrastructure ■ Engineering ■ Planning ■ Construction

15574 Edgewood Drive
Suite 103
Baxter, MN 56401
Tel: 218-824-3960

Memorandum

To: ***Trevor Walter, PE, Public Works Director / City Engineer***
Josh Doty, Community Development Director
City of Baxter, Minnesota

From: ***Chuck Rickart, PE, PTOE, Project Manager***
WSB & Associates, Inc.

Date: ***April 27, 2016***

Re: ***HJ Development – Central Lakes Crossing***
Traffic Engineering Review and Analysis
City of Baxter
WSB Project No. 2037- 013

Introduction

The purpose of this study is to determine the potential transportation impacts for two sites within the Central Lakes Crossing development area, proposed by HJ Development. One site is located south of TH 210 and west of TH 371 on Elder Drive, just south of Costco. The second site is located south of Glory road and west of TH 371 in the Walmart parking lot. ***Figure 1*** shows the project locations.

The proposed sites will be developed with retail and restaurant uses. Site 1 on Elder Drive will include 89,000 sf with four separate retail uses ranging from 10,000 sf to 40,000 sf. Site 2 on Glory Road will include 7,011 sf with four separate spaces, three restaurant sites and one retail site ranging from 1,200 sf to 2,299 sf. The proposed site plans are shown on ***Figure 2*** and ***Figure 3***.

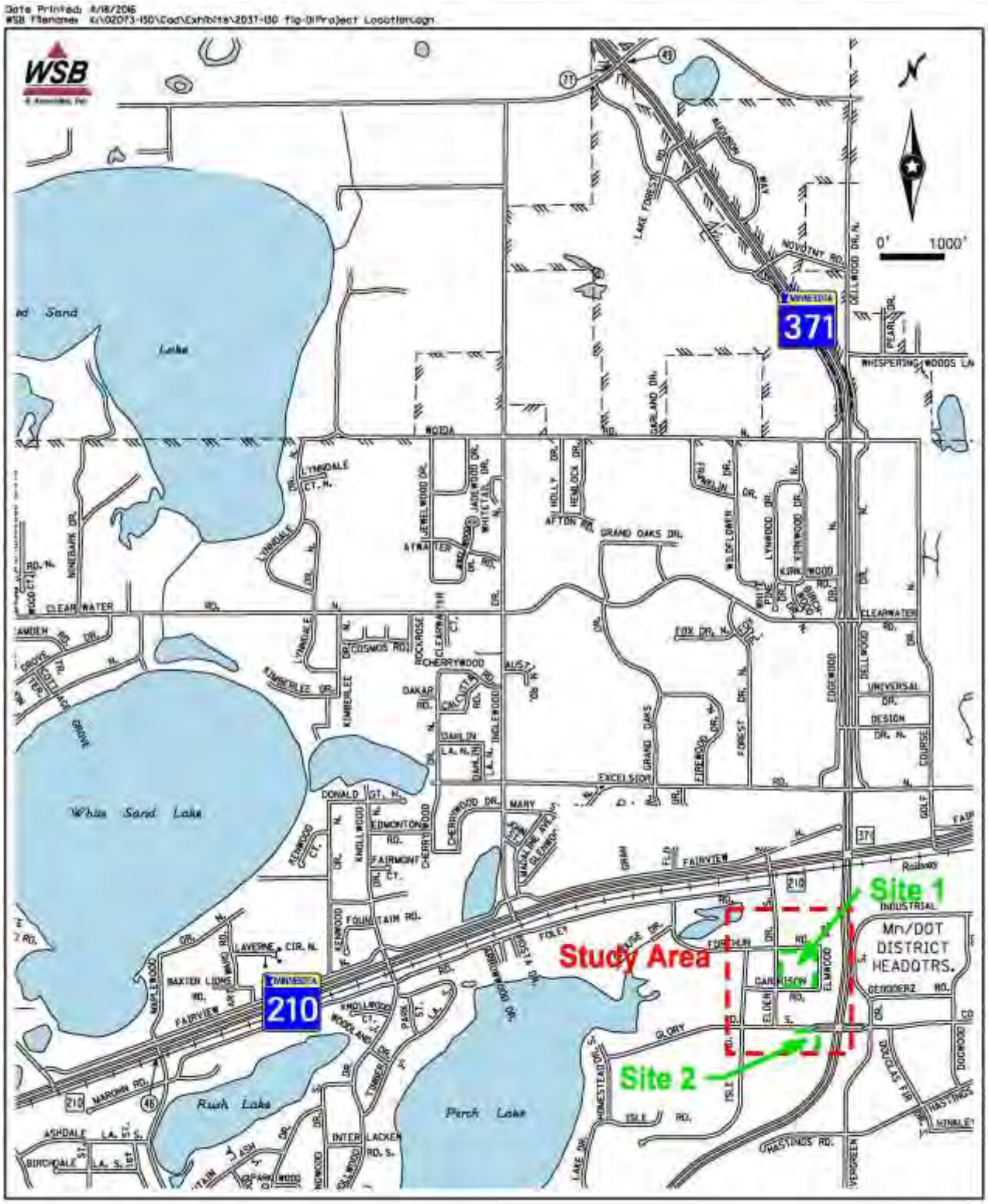
The transportation impacts of the existing and proposed traffic condition were evaluated on Elder Drive and Glory Road at the following intersections.

- Elder Drive at Forthun Road
- Elder Drive at Garrison Road
- Elder Drive at Glory Road
- Glory Road at Walmart East Access
- Glory Road at TH 371

The City prepared the *Elder Drive/Isle Drive Transportation Study* that analyzed the impacts of anticipated area developments and recommended roadway improvements. Since the completion of the Study in March of 2013 several developments have occurred as well as several transportation improvements have been completed.

The original study identified future land use and traffic conditions adjacent to Elder Drive and Isle Drive both north and south of Glory Road. The Traffic Engineering Review and Analysis in this Study for the proposed HJ development areas was conducted to determine the impacts the sites will have on; the area traffic operations, lane geometry/traffic control, access locations, right of way needs based on the previously completed analysis and recommendations.

The following sections of this memorandum document the findings, conclusions and recommendations for the future traffic operation adjacent to the proposed HJ development area sites.



BAXTER

HJ Development Transportation Study
City of Baxter, Minnesota

Figure 1
Project Location

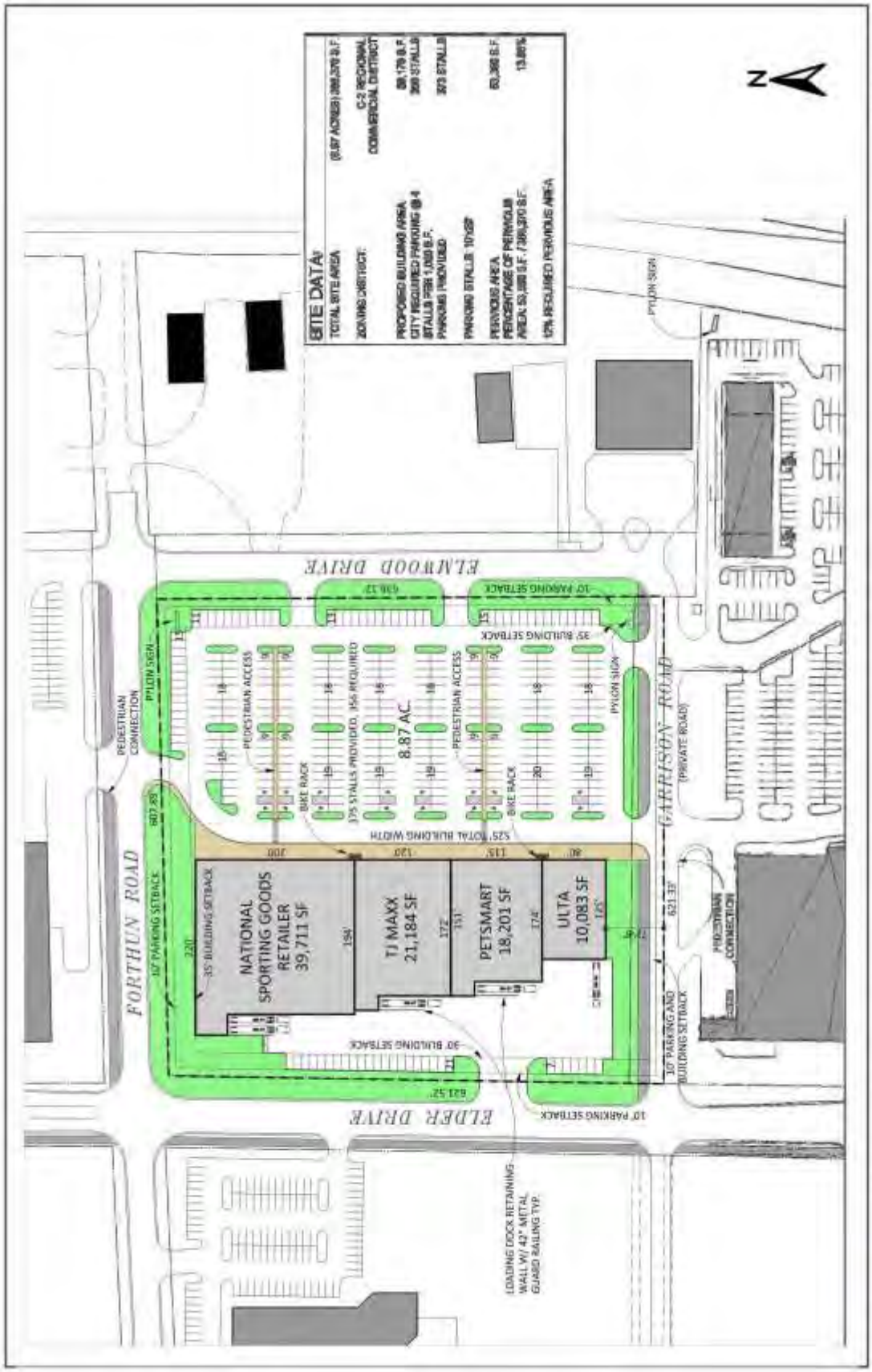


Figure 2
Site 1 Plan

BAXTER

HJ Development Transportation Study
City of Baxter, Minnesota

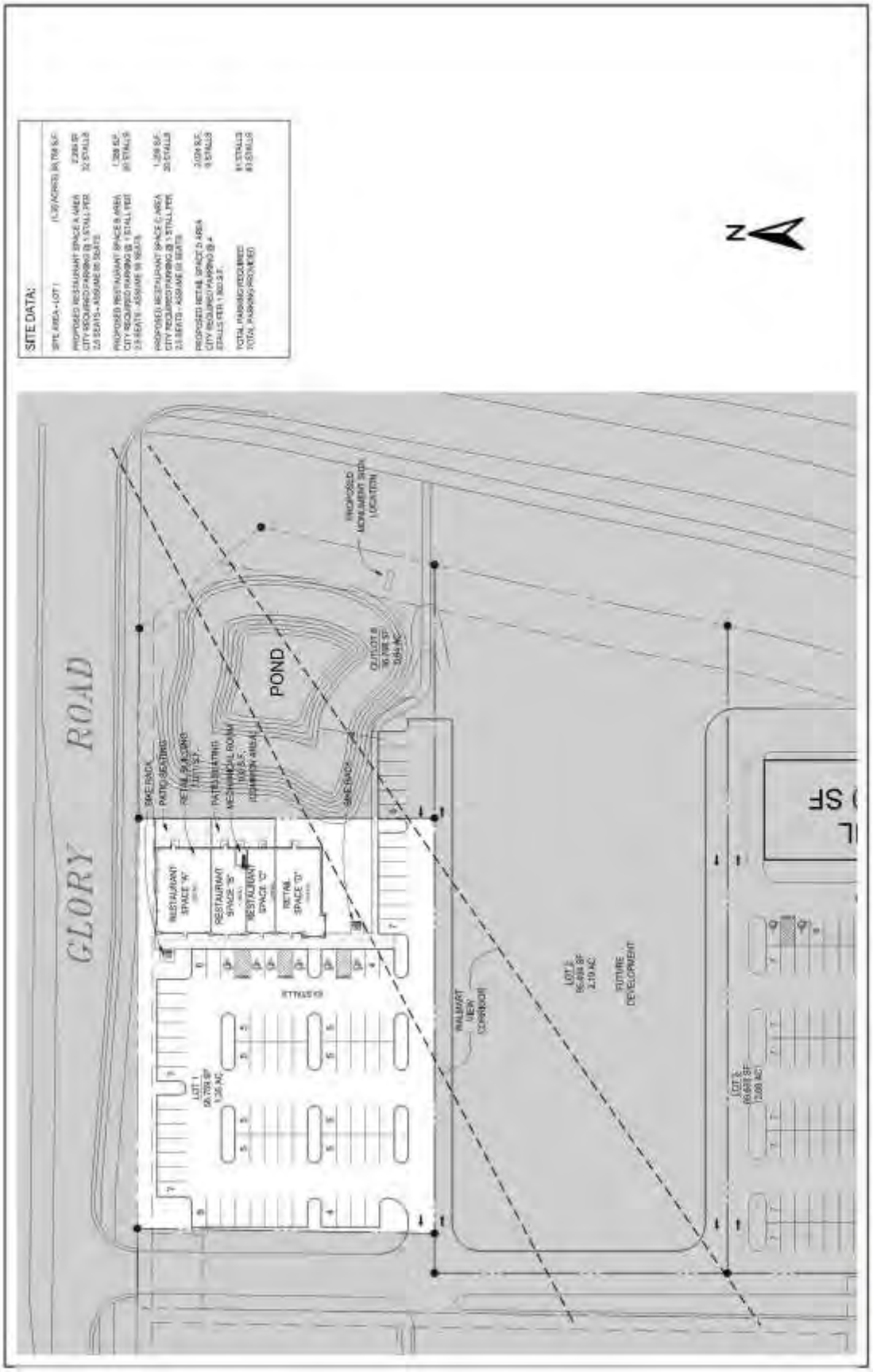


Figure 3
Site 2 Plan

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Existing Traffic Characteristics

Glory Road is an east/west street extending from the Homestead Drive near Perch Lake to TH 371. East of TH 371 Glory Road turns into College Road and extends into the City of Brainerd. West of TH 371 Glory Road has a 72 foot to 80 foot cross section with two lanes in each direction and left and right turn lanes at TH 371, Wal-Mart Entrance/Elder Drive and Isle Drive. West of Isle Drive Glory Road narrows to a 44 foot two lane section. Traffic signal control is provided at the Elder Drive/Wal-Mart Entrance and TH 371 intersections. A 30mph speed limit is posted on Glory Road.

Elder Drive is a north/south street extending from Glory Road to TH 210. The street has a primary 44 foot two-lane urban cross section with no turn lanes. It was upgraded with the Costco development to include left turn lanes at Foley Road and Forthun Road. The intersection of TH 210 provides "3/4" access with a right-in/right-out on Elder Drive and a left turn from TH 210. The left turn movement from Elder Drive to TH 210 is not provided. The right turn out movement is controlled with a Stop sign. The intersection of Glory Road is signalized with left and right turn lanes provided on all the approaches. A 30mph speed limit is posted on Elder Drive.

Elder Drive at Forthun Road – Side Street Stop control
- NB Elder Drive approaching Forthun Rd – one right/through, one left
- SB Elder Drive approaching Forthun Rd – one right/through, one left
- WB Forthun Rd approaching Elder Dr – one right/through/left lane
- EB Forthun Rd approaching Elder Dr - one right/through/left lane

Elder Drive at Garrison Road – Side Street Stop control
- NB Elder Drive approaching Garrison Rd – one right/through, one left
- SB Elder Drive approaching Garrison Rd - one right/through, one left
- WB Garrison Rd approaching Elder Dr – one right/through/left lane
- EB Garrison Rd approaching Elder Dr - one right/through/left lane

Elder Drive at Glory Road – Traffic Signal control
- NB Elder Drive approaching Glory Rd – one right, one through, one left
- SB Elder Drive approaching Glory Rd – one right, one through, one left
- WB Glory Rd approaching Elder Dr – one right/through, one through, one left lane
- EB Glory Rd approaching Elder Dr - one right, two through, one left lane

Glory Road at Walmart East Access – Side Street Stop control
- WB Glory Rd approaching Walmart Access – two through lanes
- EB Glory Rd approaching Walmart Access – one right/through, one through
- NB Walmart Access approaching Glory Rd – one right lane

Glory Road at TH 371 – Traffic Signal control
- WB Glory Rd approaching TH 371 – one right, two through, one left
- EB Glory Rd approaching TH 371 – one right, two through, one left
- NB 371 approaching Glory Rd – one right, two through, one left
- SB 371 approaching Glory Rd – one right, two through, two left

Peak hour turning movement and daily counts were conducted during the week of April 4, 2016. These counts were used as the existing baseline conditions for the area. ***Figure 4*** shows the existing intersections that were analyzed as part of this traffic study, with the existing 2016 AM and PM peak hour and traffic volumes and intersection lane geometrics.

Background (Non Development) Traffic Growth

Traffic growth in the vicinity of a proposed site will occur between existing conditions and any given future year due to other development within the region. This background growth must be accounted for and included in future year traffic forecasts. Reviewing the historical traffic counts in the area, traffic has stayed somewhat constant or dropped in the past few years. However, in order to account for some background growth in traffic the Crow Wing County State Aid traffic growth projection factor of 1.7 over a 20 year period was used to project traffic from the 2016 counts to the 2018 and 2030 analysis years.

Area Development Site Trip Generation

The *Isle Drive/Elder Drive Area Transportation Study* outlined future development in the area west of TH 371 and south of TH 210. Since the study was completed in 2013 several developments have been completed. ***Figure 5*** shows the anticipated development areas. ***Table 1***on the following page shows the updated land use and traffic generation for the development area. The trip generation used to estimate the proposed traffic is based on rates for other similar land uses as documented in the Institute of Transportation Engineers *Trip Generation Manual, 9th* Edition. The table shows the Daily, AM and PM peak hour trip generation for the anticipated area development.

Development Site Trip Generation

The estimated trip generation from the proposed HJ Development project is shown on the next page in ***Table 2.*** The trip generation used to estimate the proposed site traffic is also based on rates for other similar land uses as documented in the Institute of Transportation Engineers *Trip Generation Manual, 9th* Edition. The table shows the weekday AM and PM peak hour trip generation for the proposed development.

Trip Distribution

The direction of approach/departure for the proposed future traffic was based on:

- Previous traffic and transportation studies in the area
- Anticipated origins and destinations for specific land use (i.e. location of commercial uses in relationship to residential).
- Existing travel patterns and future roadway connections.

Based on these parameters the following general traffic distribution was used:

- 20% north
- 20% west
- 35% east
- 25% south

Table 1 – Future Area Trip Generation

Area	Planned Use	Size	Unit	ADT			PM Peak Hour		
				Total	In	Out	Total	In	Out
1	Costco	Completed Development							
	Gas Station	Completed Development							
	Bank	4,000	SF	593	296	296	103	52	52
	Fast Food	6,000	SF	2,977	1,488	1,488	203	106	97
	Retail	17,500	SF	751	376	376	65	32	33
2	Commercial / Retail	Proposed HJ Development							
3	Restaurant	Completed Development							
4	Commercial / Retail	100,000	SF	4,294	2,147	2,147	373	183	190
5	Commercial / Retail	Proposed HJ Development							
	Commercial / Retail	90,000	SF	3,865	1,932	1,932	336	164	171
6	Office / Service	60,000	SF	661	330	330	89	15	74
7	Medical Office	80,000	SF	2,890	1,445	1,445	277	75	202
8	Residential	120	Lots	1,148	574	574	121	76	45
	Office	50,000	SF	550	275	275	74	47	27
	Office	Completed Development							
9	Medical Office / Office	250,000	SF	7,863	3,931	3,931	1,295	350	945
10	Office / Service	325,000	SF	3,578	1,789	1,789	484	82	402
11	Commercial / Retail	250,000	SF	10,735	5,368	5,368	933	457	476
Total New Trips				**39,905**	**19,952**	**19,952**	**4,353**	**1,639**	**2,715**

Source: Institute of Transportation Engineers Trip Generation Manual, 9th Edition

.

Table 2 - Estimated HJ Development Site Trip Generation

Area	Planned Use	Size	Unit	ADT			PM Peak Hour		
				Total	In	Out	Total	In	Out
Site 1 – Elder Drive									
2	Retail	89,000	SF	3,822	1,911	1,911	332	163	169
Total New Trips Site 1				**3,822**	**1,911**	**1,911**	**332**	**163**	169
Site 2 – Glory Road									
5	Restaurant (3 sites)	180	Seats	515	257	258	47	32	15
5	Retail	2,024	SF	87	44	43	8	4	4
Total New Trips Site 2				**602**	**301**	**301**	**55**	**36**	**19**

Source: Institute of Transportation Engineers Trip Generation Manual, 9th Edition

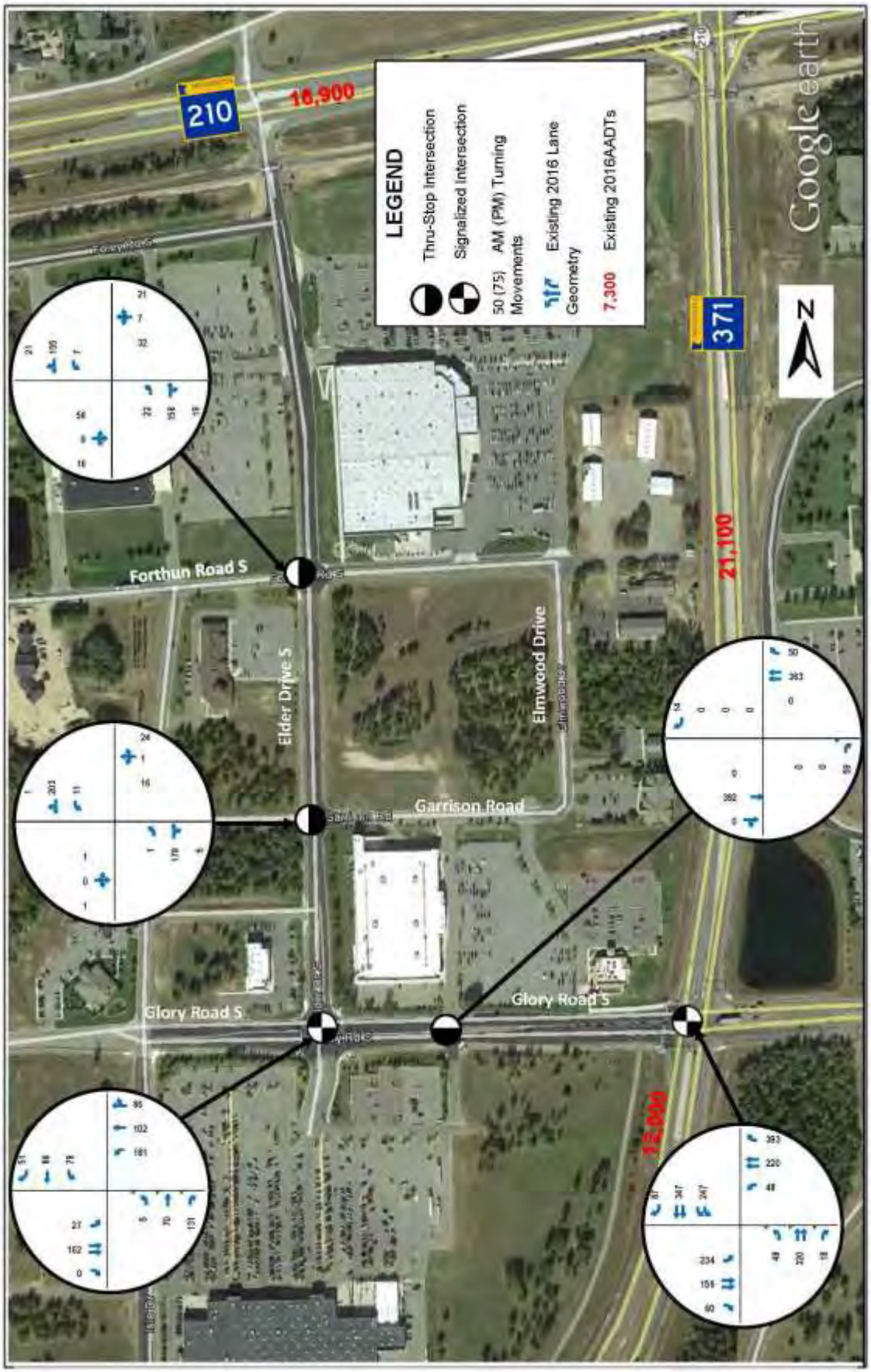

Figure 4
2016 Existing Conditions Traffic Volumes

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Future Land Use Areas

Figure 5

Projected Traffic Volumes

The traffic forecasts were prepared by adding the projected annual background traffic growth and the projected non-development traffic to the existing 2016 traffic counts to determine the "No-Build" traffic conditions. The anticipated site development traffic was then added to the no-build to determine the "Build" traffic conditions. ***Figures 6 - 7*** shows the projected 2018 and 2030 Build PM peak hour traffic volumes.

Traffic Operations

This section describes the methodology used to assess the operations and provides a summary of traffic operations for each scenario.

Analysis Methodology

The intersection and driveways was evaluated during the PM peak hour using Synchro/SimTraffic micro simulation software. The results are derived from established methodologies documented in the Highway Capacity Manual (HCM) 2010. The software was used to evaluate the characteristics of the roadway network including lane geometrics, turning movement volumes, traffic control, and estimated average peak hour vehicle delays and queues.

One of the primary measures of effectiveness used to evaluate intersection traffic operations, as defined in the HCM, is Level of Service (LOS) – a qualitative letter grade, A – F, based on seconds of vehicle delay due to a traffic control device at an intersection. By definition, LOS A conditions represent high quality operations (i.e., motorists experience very little delay or interference) and LOS F conditions represent very poor operations (i.e., extreme delay or severe congestion).

Figure 8 depicts a graphical interpretation of delay times that define level of service. The delay thresholds are lower for un-signalized intersections than signalized intersections due to the public's perception of acceptable delays for different traffic controls as indicated in the HCM. In accordance with the Minnesota Department of Transportation (MnDOT) guidelines, this analysis used the LOS D/E boundary as an indicator of acceptable traffic operations.

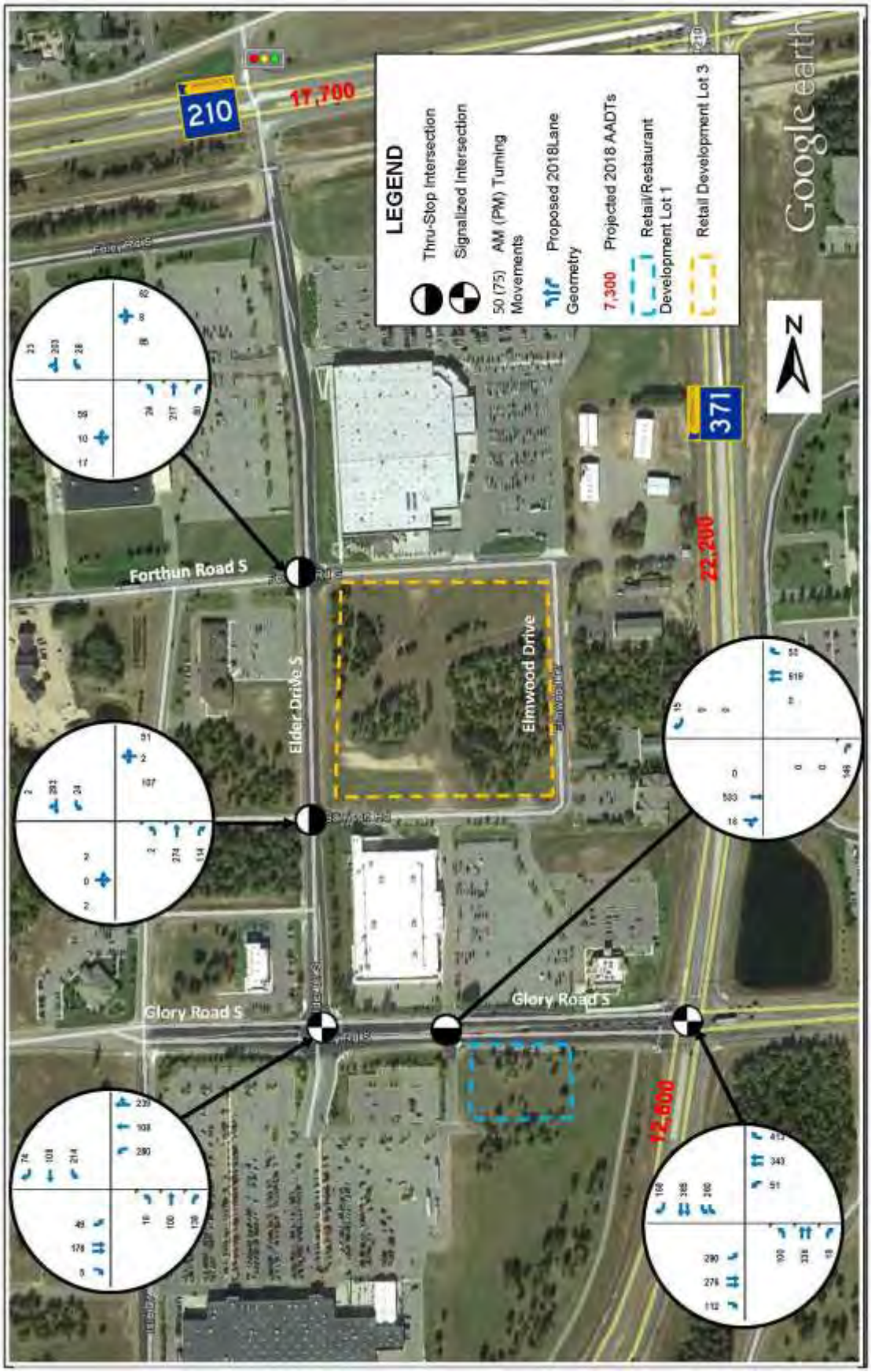

Figure 6
2018 Proposed Development Traffic Volumes

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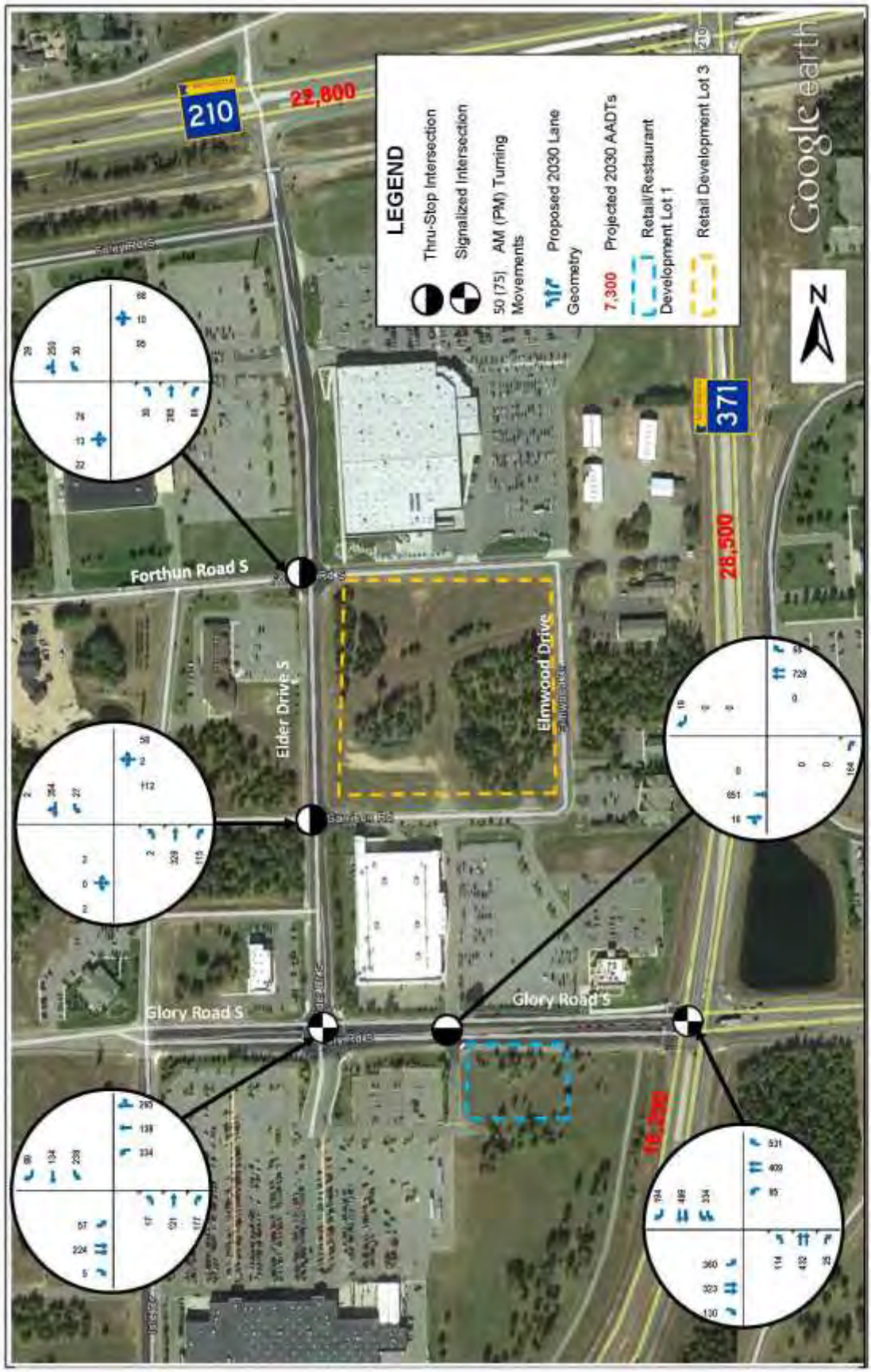

Figure 7
2030 Proposed Development Traffic Volumes

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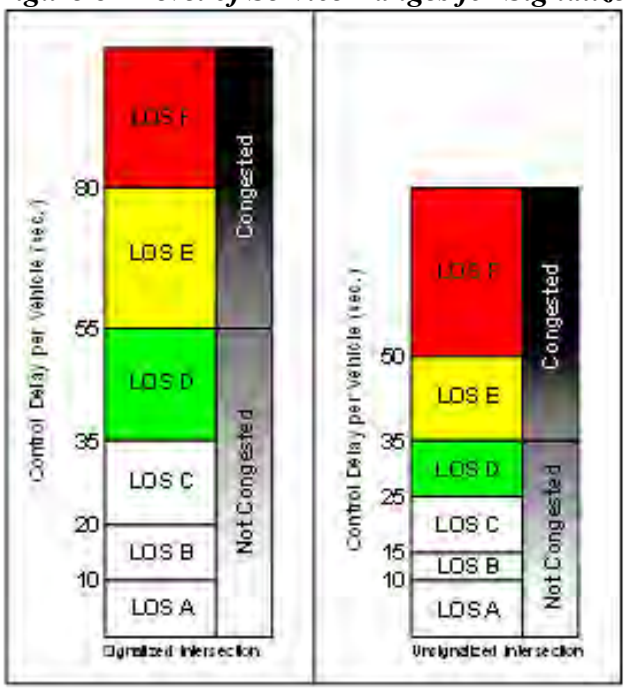
Figure 8 - Level of Service Ranges for Signalized and Un-signalized Intersections



SOURCE: Level of Service thresholds from the Highway Capacity Manual, 2000.

<u>Existing Level of Service Summary</u>

Table 3, below, summarizes the existing LOS at the primary intersections in the study area based on the current lane geometry, traffic control and 2016 traffic volumes. The table shows that all intersections are operating at an overall LOS C or better during the weekday PM peak hours with all movements operating at LOS C or better except the northbound TH 371 left turn to westbound Glory Road which is operating at a LOS D with 51 sec of delay and the eastbound Glory Road to northbound TH 371 left which is operating at a LOS D with 42 sec of delay.

Table 3 – Existing (2016) Level of Service

Intersection	PM Peak Hour	
	LOS	Delay (sec/veh)
Elder Drive at Forthun Road	A (A)	2
Elder Drive at Garrison Road	A (A)	1
Elder Drive at Glory Road	B (C)	12
Glory Road at Walmart Access	A (A)	2
Glory Road at TH 371	C (D)	26

B = Overall LOS, (C) = Worst movement LOS Source: WSB & Associates, Inc.

In addition to the operations analysis field observations have shown that, specifically for the eastbound Glory Road approach to TH 371 during peak times, vehicle queues are backing up past the end of the existing left turn lane. In some cases vehicles are using the eastbound through lane as a second left turn lane. This is a condition that was allowed during construction of Glory Road in the summer of 2015, with a split signal phasing for the Glory Road approaches.

By restriping the eastbound Glory Road approach and providing split phasing for the Glory Road approaches the overall intersection would remain at a LOS C, however the eastbound Glory Road to northbound TH 371 left turn movement would improve from a LOS D to a LOS C.

Forecast Traffic Operations

A capacity and LOS analysis was completed for the study area intersections for 2018 which is the year after the proposed HJ Development would be fully developed and for the 2030 conditions which represents the City's Comprehensive Plan development time frame. The results of the analysis are discussed below and shown in ***Table 4*** and ***Table 5***.

Table 4 – Forecasted No Build, shows that all intersections would continue to operate at overall LOS C or better in 2018 and 2030 during the weekday PM peak hour without the HJ Development traffic. Overall delays will increase slightly from the existing conditions to the 2030 conditions. However, with the increase in traffic, the two movements at the TH 371 and Glory Road intersection that show some concern are:

- The northbound left turn from TH 371 to westbound Glory Road would continue to operate at a LOS D with 57 sec of delay in 2018 and LOS E with 64 sec of delay by 2030, and;

- The eastbound left turn from Glory Road to northbound TH 371 would continue to operate at LOS D with 44 sec of delay in 2018 and LOS D with 52 sec of delay by 2030.

Restriping the intersection and providing split phasing for the Glory Road approaches to TH 371 and, providing a dual left turn lane for northbound TH 371 to westbound Glory Road, similar to southbound TH 371, would improve both movements to a LOS C in 2018 and 2030.

Table 4 – Forecasted No Build - Level of Service

Intersection	2018 PM Peak Hour		2030 PM Peak Hour	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Elder Drive at Forthun Road	A (A)	2	A (B)	3
Elder Drive at Garrison Road	A (A)	2	A (B)	3
Elder Drive at Glory Road	B (C)	13	B (C)	16
Glory Road at Walmart Access	A (A)	2	A (A)	2
Glory Road at TH 371	C (D)	29	C (E)	32

B = Overall LOS, (C) = Worst movement LOS Source: WSB & Associates, Inc.

Table 5 – Forecasted Build, shows that, assuming the addition of the HJ Development traffic, all intersections would continue to operate at overall LOS C or better in 2018 and 2030 during the weekday PM peak hour except the TH 371 at Glory Road intersection which would operate at an overall LOS D in 2030. Overall LOS and delays do not show any other significant changes from the no- build condition. However, with the increase in traffic, the movements at the TH 371 and Glory Road intersection that continue to show concern are:

- The northbound left turn from TH 371 to westbound Glory Road would operate at a LOS E with 62 sec of delay in 2018 and LOS F with 84 sec of delay by 2030, and;

- The eastbound left turn from Glory Road to northbound TH 371 would operate at LOS E with 58 sec of delay in 2018 and LOS E with 62 sec of delay by 2030.

Similar to the no-build condition, by restriping the intersection and providing a split phasing for the Glory Road approaches to TH 371 and, providing a dual left turn lane for northbound TH 371 to westbound Glory Road, similar to southbound TH 371, would improve both movements to a LOS C in 2018 and 2030.

Table 5 – Forecasted Build Access Alternative 1 - Level of Service

Intersection	2018 PM Peak Hour		2030 PM Peak Hour	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Elder Drive at Forthun Road	A (B)	3	A (B)	3
Elder Drive at Garrison Road	A (B)	3	A (B)	3
Elder Drive at Glory Road	B (C)	16	B (D)	19
Glory Road at Walmart Access	A (A)	2	A (A)	3
Glory Road at TH 371	C (E)	33	D (F)	36

B = Overall LOS, (C) = Worst movement LOS Source: WSB & Associates, Inc.

Site Plan Review

Based on a review of the proposed development site plans as shown in ***Figure 2*** and ***Figure 3*** we offer the following comments:

1. The proposed development site plan for Site 1on Elder Drive shows driveway access from all four surrounding roadways. Each access location was reviewed with the following conclusions:

    a. One access driveway is proposed on Elder Drive. This driveway is shown approximately 160 feet north of Garrison Road. The City's access spacing guidelines indicated 330 feet to 660 feet for access spacing on a Major Collector such as Elder Drive. The distance between Garrison Road and Forthun Road is approximately 650 feet. Based on these requirements the driveway should be moved north to approximately half way between Garrison Road and Forthun Road.

b. One access driveway is proposed on Forthun Road approximately 400 feet east of Elder Drive and 200 feet west of Elmwood Drive. This driveway is also lined up with the existing access to Costco on the north side of Forthun Road. Based on the proposed driveway location there are no concerns with this access.

c. Two access driveways are proposed on Garrison Road. One driveway is located approximately 340 feet east of Elder Drive and one approximately 75 feet west of Elmwood Drive. Both driveways line up with the existing driveways to the JC Penney development south of Garrison Road. The City's access spacing guidelines indicate that on local City streets 100 foot minimum access spacing be provided based on speed, traffic volume, site design, etc. Based on this guideline the east driveway closest to Elmwood Drive is below the 100 foot minimum distance. However, based on the very low traffic volume and its location across from the JC Penney driveway, it is not a concern allowing the driveway at this location.

d. Two access driveways are proposed on Elmwood Drive, one approximately 220 feet north of Garrison Road and one approximately 170 feet south of Forthun Road. The City's access spacing guidelines indicate that on local City streets a 100 foot minimum access spacing is provided based on speed, traffic volume, site design, etc. Both driveways meet this guideline, therefore no concern exist with these access locations.

2. In order to accommodate northbound truck traffic turning into the proposed Site 1 from Elder Drive a right turn lane should be provided at the proposed site driveway.

3. Right turn lanes should be provided on Elder Drive at Forthun Road and Garrison Road. By eliminating the turning traffic from the through lane, the safety of both through and right turn traffic on Elder Drive will be improved.

4. In order to accommodate left turning traffic at Forthun Road, Garrison Road and the proposed site driveway, a continuous center left turn lane should be provided on Elder Drive. Similar to the addition of the right turn lanes, the addition of these lanes will improve safety of both through and left turning traffic.

5. Additional right-of-way should be provided to accommodate the proposed site plans.
   a. On Elder Drive an additional 10 feet of right-of-way should be provided to insure available space for construction of the recommended turn lanes.

   b. In the southeast corner of Elder Drive at Forthun Road and the southwest corner of Forthun Road at Elmwood Drive a 30 foot by 30 foot site corner should be provided to accommodate any future improvements in the intersections.

   c. Existing right-of-way and/or easements should be shown on the Site 2 plan adjacent to Glory Road and the existing Paul Bunyan Regional Trail.

6. Truck turning radius templets should be provided showing that trucks will be able to make all maneuvers in/out and through both Site 1 on Elder Drive and Site 2 on Glory Road.

Pedestrian System Review

The pedestrian trail and sidewalk system for both site plans was review. The we offer the following comments:

1. Development Site 1 on Elder Drive:

    a. A pedestrian path is shown on the north side of Garrison Road from Elmwood Drive to Elder Drive. A stripped pedestrian crossing with ADA compliant pedestrian ramps should be provided across Elder Drive to the existing path on the west side of the road.

    b. A sidewalk is shown adjacent to the building between Garrison Road and Forthun Road. ADA compliant pedestrian ramps should be provided for crossing both roadways.

2. Development Site 2 on Glory Road:

    a. A sidewalk is shown adjacent to the proposed building, a connection to the existing path adjacent to Glory Road and a connection to the parking lot south of the building should be provided.

Conclusions / Recommendations

Based on the analysis documented in this memorandum, WSB has concluded the following:

- The proposed HJ Development project includes the development of two sites, one on Elder Drive that is anticipated to include 89,000 sf of retail space and one on Glory Road that is anticipated to include 2024 sf of retail space and three restaurant sites totaling 180 seats. The developments are anticipated to generate an additional 4,424 daily trips and 387 PM peak hour trips.

- Additional trips will also be generated from future development in the Isle Drive / Elder Drive corridors west of TH 371 between TH 210 and south of CSAH 48, as outlined in the *Isle Drive / Elder Drive Transportation Study*. These future uses are anticipated to generate an additional 4,353 PM peak hour trips by the year 2030 in the area.

- Existing traffic operations analysis shows that all intersection are operating at an overall LOS C or better during the weekday PM peak hour with all movements operating at LOS C or better except the northbound TH 371 left turn to westbound Glory Road which is operating at a LOS D with 51 sec of delay and the eastbound Glory Road to northbound TH 371 left turn which is operating at a LOS D with 42 sec of delay.

- Intersection traffic operations for the future no-build condition show that all intersections would continue to operate at overall LOS C or better in 2018 and 2030 during the weekday PM peak hour without the HJ Development traffic. However, with the increase in traffic; the northbound left turn from TH 371 to westbound Glory Road would continue to operate at a LOS D with 57 sec of delay in 2018 and LOS E with 64 sec of delay by 2030, and; the eastbound left turn from Glory Road to northbound TH 371 would continue to operate at LOS D with 44 sec of delay in 2018 and LOS D with 52 sec of delay by 2030.

- Intersection traffic operations for the future build condition show that, assuming the addition of the HJ Development traffic, all intersections would continue to operate at overall LOS C or better in 2018 and 2030 during the weekday PM peak hour except the TH 371 at Glory Road intersection which would operate at an overall LOS D in 2030. However, with the increase in traffic; the northbound left turn from TH 371 to westbound Glory Road would operate at a LOS E with 62 sec of delay in 2018 and LOS F with 84 sec of delay by 2030, and; the eastbound left turn from Glory Road to northbound TH 371 would operate at LOS E with 58 sec of delay in 2018 and LOS E with 62 sec of delay by 2030.

- The proposed development site plan for Site 1on Elder Drive shows driveway access from all four surrounding roadways. The proposed access locations on Forthun Road, Garrison Road and Elmwood Drive are shown in acceptable locations. The access driveway on Elder Drive should be moved north to provide improved safety and spacing.

- Additional right-of-way and/or easements will be required to accommodate proposed and future anticipated improvements.

- Both development site plans provide pedestrian accommodations on site. However, connections to the local and regional systems are needed.

Based on these conclusions and the traffic analysis and review of the site plans the following is recommended.

1. The proposed site access driveway on Elder Drive from development Site 1 should be moved north to approximately half way between Garrison Road and Forthun Road.

2. Provide a continuous center left turn lane on Elder Drive from Forthun Rd to Garrison Rd including a left turn into the proposed Site access driveway.

3. Provide northbound right turn lanes on Elder Drive at Forthun Rd, Garrison Rd and the proposed Site access driveway.

4. Provide an additional 10 feet of right-of-way on Elder Drive adjacent to development Site 1, and; provide a 30 foot by 30 foot site corner in the southeast corner of Elder Drive at Forthun Road and the southwest corner of Forthun Road at Elmwood Drive.

5. Include existing right-of-way and/or easements on development Site 2 plan adjacent to Glory Road and the existing Paul Bunyan Regional Trail.

6. Work with MnDOT to provide improvements at the intersection of TH 371 at Glory Road:

    a. Short term - Update the traffic signal, including restriping the eastbound Glory Road approach and providing split phasing for the Glory Road approaches. By 2018 or with additional development in the Central Lakes Crossing development area.

    b. Long term – Widen the eastbound Glory Road approach to provide dual left turn lanes. By 2030 or with future development analysis indicating need for the improvements.

    c. Long term - Plan for a future dual left turn lane northbound on TH 371 to eastbound Glory Road similar to southbound TH 371. By 2030 or with future development analysis indicating need for the improvements.

7. Provided pedestrian connection improvements:

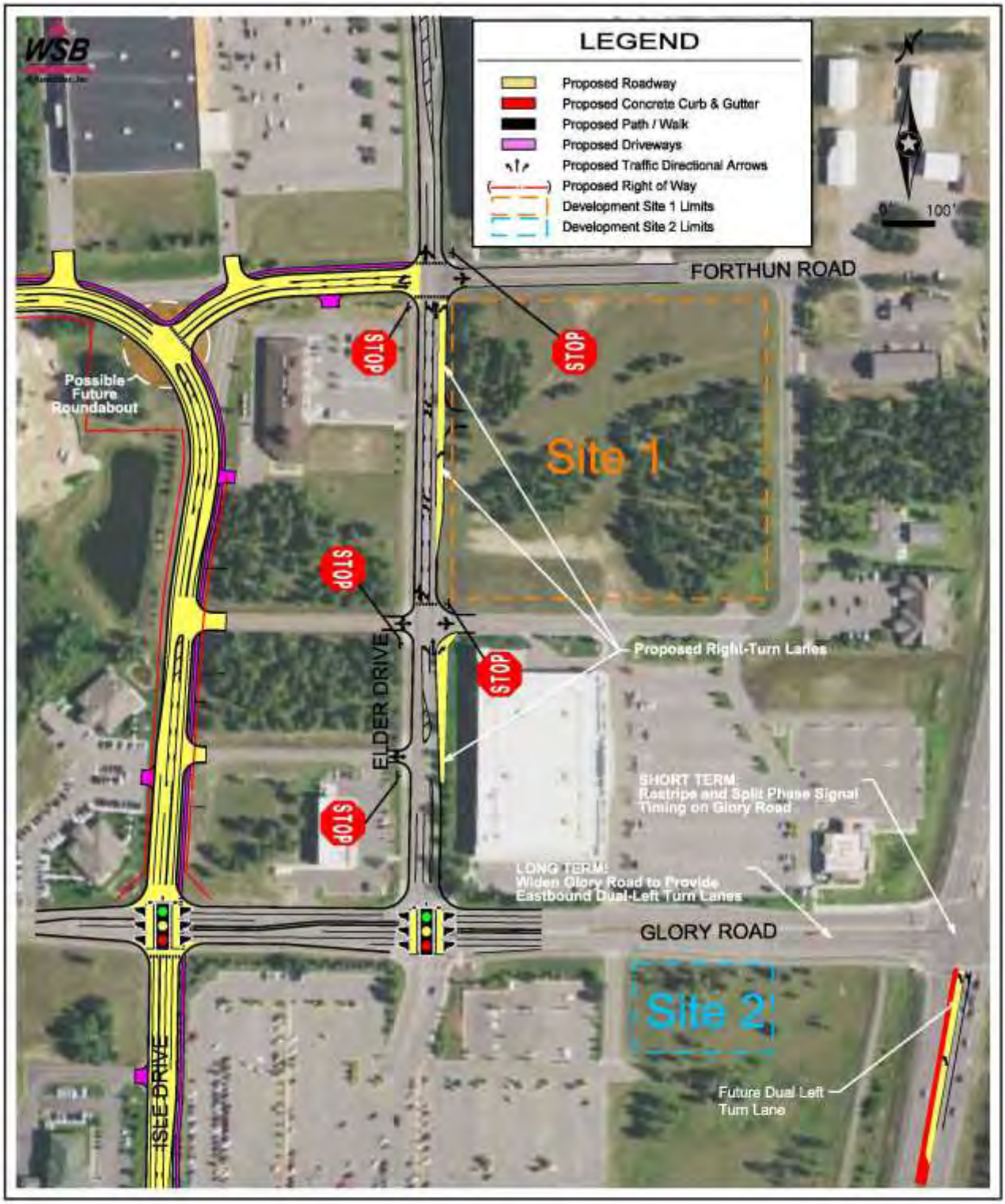
    a. A stripped pedestrian crossing with ADA compliant pedestrian ramps across Elder Drive to the existing path on the west side of the road.

    b. ADA compliant pedestrian ramps should be provided for crossing both Forthun Road and Garrison Road at the Site access driveways.

    c. A connection to the existing path adjacent to Glory Road from the sidewalk adjacent to the proposed buildings.

    d. A connection from the sidewalk adjacent to the proposed buildings to the parking lot south of the buildings.

Figure 9 shows the recommended area improvements to accommodate the future full build traffic conditions.



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City of Baxter, Minnesota

Figure 9
Proposed Roadway Improvements

CROW WING COUNTY
MINNESOTA

April 20, 2016

City of Baxter
C/o Public Works Director
P.O. Box 2626
13190 Memorywood Drive
Baxter, MN 56425

RE: Future County Highway Projects

A new version of our Five-Year Highway Improvement Plan (HIP) has been adopted that now lists projects through 2020. Our department has made a concerted effort to share with all local agencies the projects that are proposed within their jurisdiction. The projects proposed within your jurisdiction, and the assigned project managers for each, are listed below. I have not included 2016 projects in this letter. Feel free to share this information as you please.

2017

CSAH 48 from TH 210 to College Drive – this will be a resurfacing project with other improvements as needed. We have already had numerous discussions on this project, with more to come. Luke Wehseler is the Project Manager. Email – luke.wehseler@crowwing.us

Numerous First Assessment District (FAD) roadways are scheduled for simple overlays between 2016 and 2020 if the City has any interest in partnering on any resurfacing in the area. Also, we will continue with our annual pavement marking and seal coat contracts. The FAD roads are listed below.

2017 – Gilbert Lake Rd., Smith Rd., Sandberg Rd., Pine Circle Rd., Blakeman Rd., Jean St., Paul Rd.
2018 – Bonnie Rd., North Long Lake Rd., Stallman Rd., East Shore Dr.
2019 – Gould Gray Rd., Bernard Rd., Johnson Rd.
2020 – Donaldson Rd., St. Columbo Rd., Soder Rd., Round Lake Rd.

Additional information will be provided as the projects are designed. Feel free to contact me at any time to discuss the projects and to be put in contact with the correct project manager.

Sincerely,

Robert Hall

Robert Hall

Robert Hall
Assistant County Engineer
Highway Department
16589 County Road 142
Brainerd, MN 56401

Office: (218) 824-1110
Cell: (218) 838-0964
Fax: (218) 824-1111
www.crowwing.us

2016-2020

Highway Improvement Plan

CSAH 36 RECONSTRUCTION

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Purpose of Highway Improvement Plan (HIP)

Purpose

The primary purpose of the HIP is to provide a mid range planning document that can easily be shared with the public allowing both the residents and visitors of Crow Wing County to plan for future roadway improvements. It also is intended to provide a transparent method to relay how roadway improvement priorities are established and how limited roadway funding is utilized.

Each HIP also includes a yearly report on the condition of the County roadway system and its performance compared to established performance targets related to ride quality. Each HIP also contains a priority listing of county, township, and municipal bridges that are in need of rehabilitation or replacement.

Responsibilities and Roadway Descriptions

Responsibilities

The Crow Wing County Highway Department is responsible for the maintenance and administration of over 610 miles of county roads, secondary roads and 84 bridges. This includes activities such as engineering design, construction management, signing, and routine maintenance of all kinds (snowplowing, patching potholes, crack sealing, mowing roadsides, cleaning culverts, etc).

Roadway Descriptions

The county roadway system is comprised of two different categories. There are about 380 miles of County State Aid Highways (CSAH) which are supported by the Minnesota Highway Users Tax Distribution Fund. This is made up primarily of gas tax and vehicle license or registration fees. There are about 180 miles of County Roads (CR) which are supported entirely by local property taxes. This is referred to as the County Road & Bridge Levy.

In Crow Wing County, the County State Aid Highways (CSAH) are identified by one and two digit numbers, such as CSAH 1 between Pine River and Emily, or CSAH 11 from Pequot Lakes to Breezy Point. The County Roads (CR) are identified by three digit numbers such as CR 142 located near the County Highway Department complex.

In addition to CSAHs and CRs, the Crow Wing County Highway Department is responsible for the construction and maintenance of about 60 miles of township level roadways. These are primarily located in the unorganized territories that make up the First and Second Assessment Districts. In these areas, the County acts as the road authority in the absence of an organized Township Board. Where appropriate, this five-year Highway Improvement Plan incorporates planned roadway improvements in these areas.

Primary Funding Sources

Federal Funds – Funds assigned to projects through federal transportation legislation, federally sponsored safety programs or other special federal programs.

State Aid (SA) Funds (Regular) – Annual allocation to the county from state gas tax and vehicle license or registration fees. Regular SA funds may be utilized for any element related to roadway construction or rehabilitation on the CSAH system. These funds may not be used on the CR system.

State Aid (SA) Funds (Municipal) – Annual allocation to the county from state gas tax and vehicle license or registration fees. Municipal SA funds are designated to be utilized for any element related to roadway construction or rehabilitation on the CSAH system located within the established boundaries of a municipality. These funds may not be used on the CR system or in areas outside of a municipality.

County Road and Bridge Levy - Funds generated directly from Crow Wing County tax revenue. These levy funds are primarily intended to maintain the CR system but may also be used to supplement other funding sources.

Local Option Sales Tax – In late 2015 the Crow Wing County Board authorized the implementation of a ½ percent county-wide sales tax. State statue stipulates revenue generated from this tax is to be dedicated to fund specific transportation related projects. County Board resolution 2015-68 further stipulates the tax will end December 31, 2025 or when all of the identified projects are funded; whichever occurs first. Please refer to pages 32 and 33 for maps depicting projects authorized for sales tax expenditures.

Primary Funding Sources

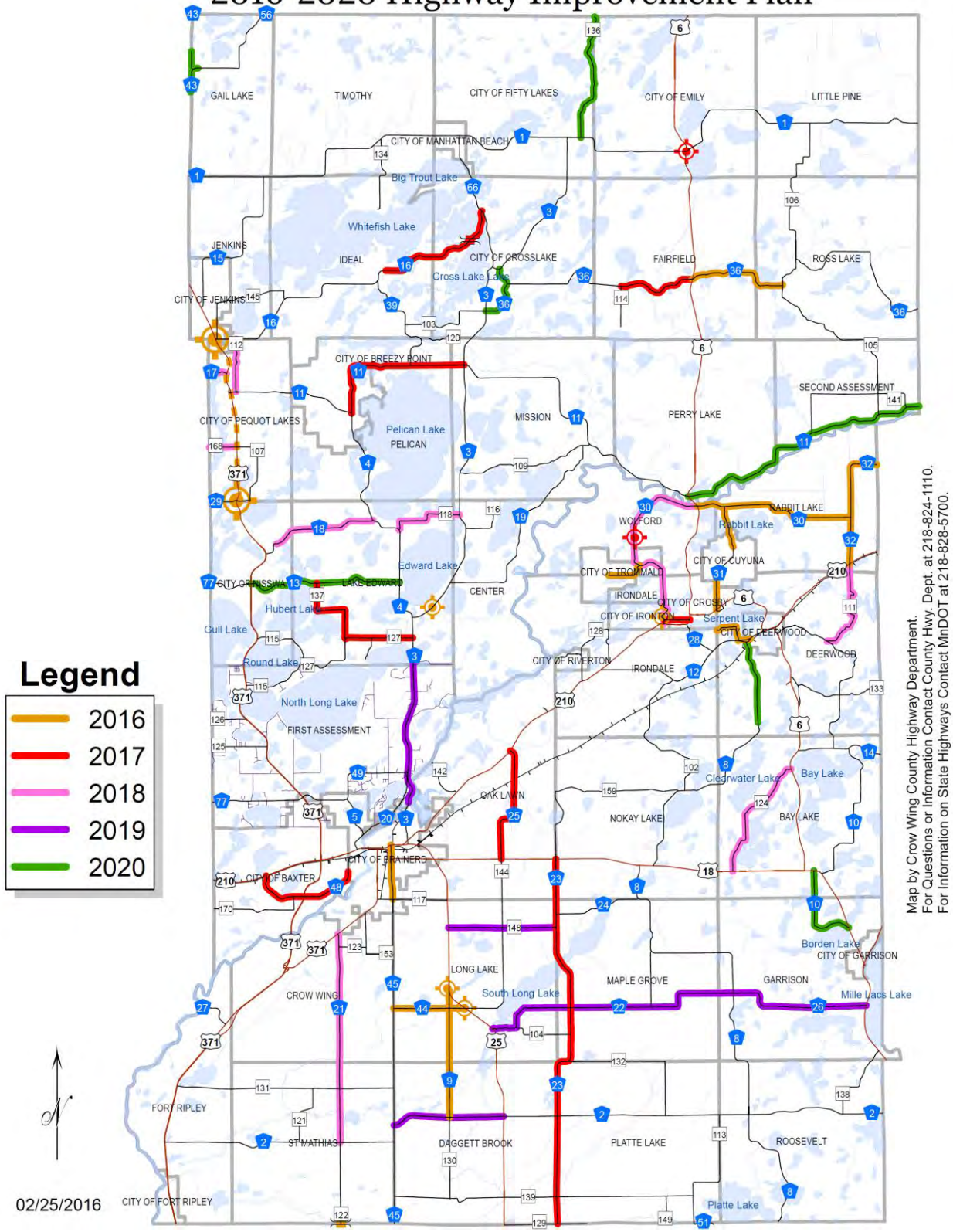
First Assessment District (FAD) Road and Bridge Levy - Funds generated directly from township level tax revenue. These funds are designated to be utilized for any element related to roadway construction or rehabilitation within the FAD only. These funds are not intended to be used on the CR or CSAH system.

Bridge Bonding – Funding allocated by State legislative action to complete specific bridge construction projects on any County, Township or Municipal roadway within the County. Bridge bonding is normally only allocated after a complete set of bridge design plans has been developed.

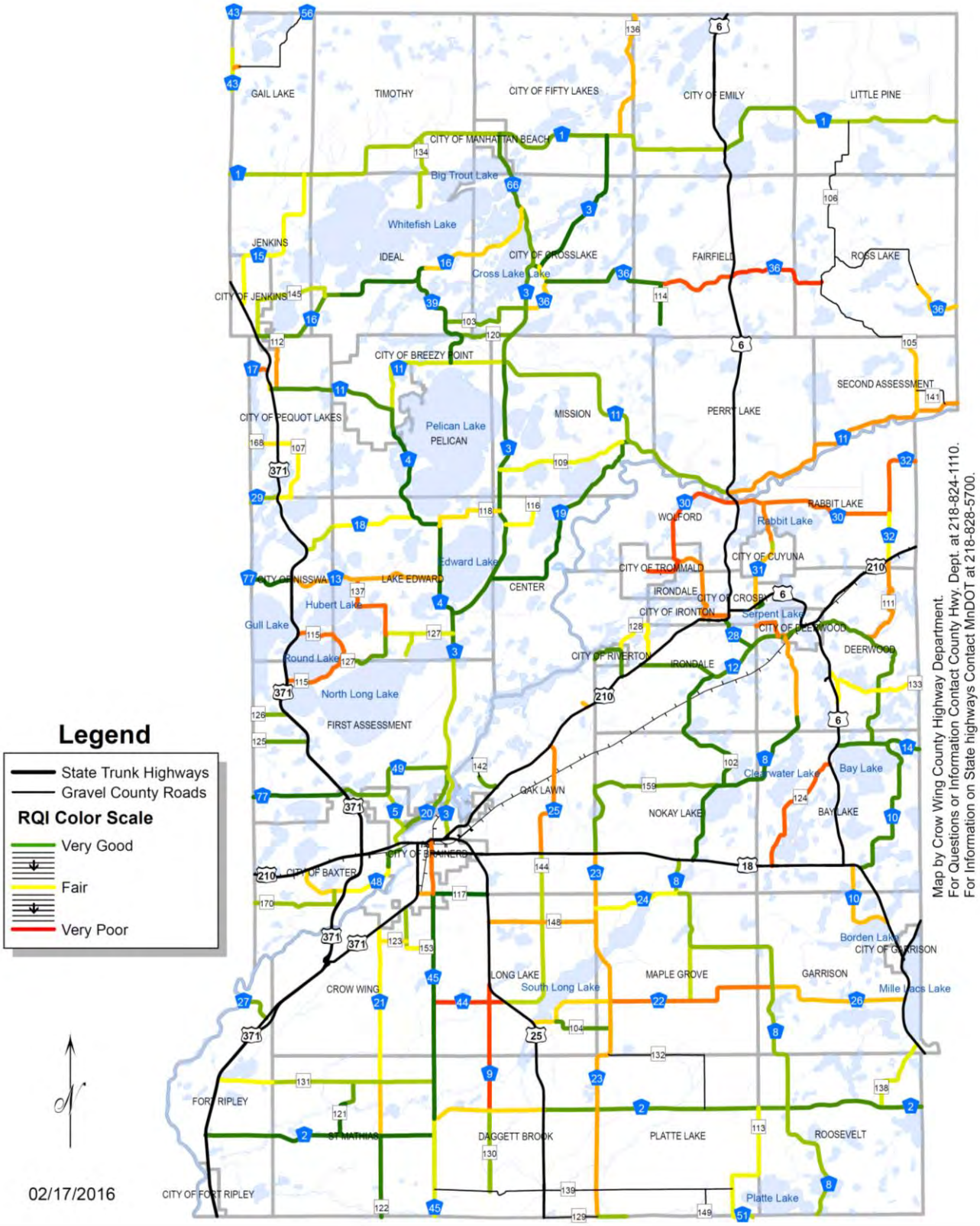
2016-2020 Highway Improvement Plan Summary

- **$50.6M** Total Investment (CWC/CR/FAD/SAD)
- **$4.2M** Federal Transportation Bill
- **$21.4M** County State Aid
- **$9.4M** CWC Road & Bridge Levy
- **$2.5** First Assessment District Road & Bridge Levy
- **$11.7M** Local Sales Tax
- **$400K** State Bridge Funding
- **$1.0M** Local Cost Sharing
- **175 Miles of Roads**
  - 133 Miles County State Aid Highway (1 & 2 Digit Roads)
  - 26 Miles County Roads (3 Digit Roads)
  - 15 Miles First Assessment District Roads
  - 55 Miles Sales Tax
- **2 Bridges**

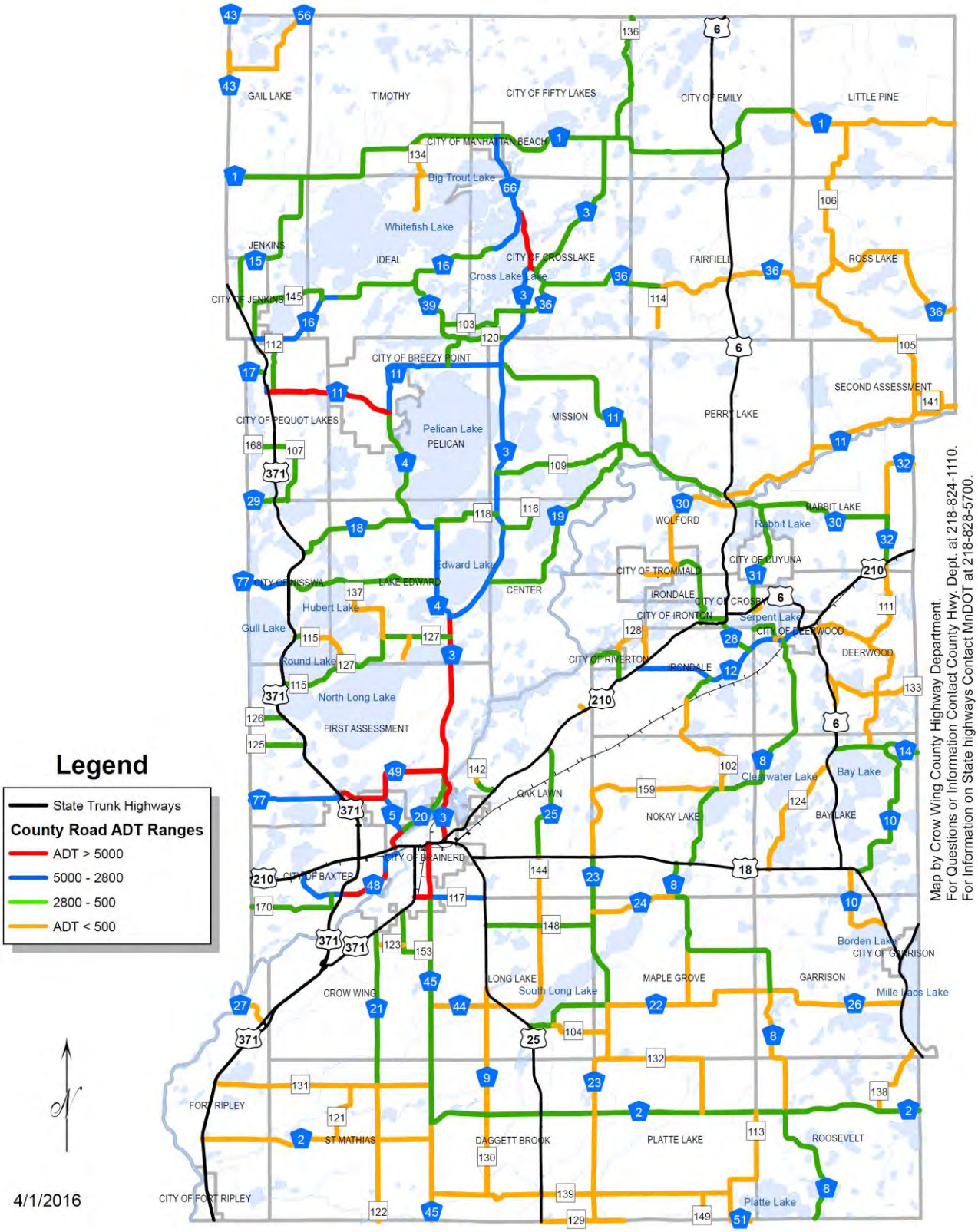
CROW WING COUNTY
2016-2020 Highway Improvement Plan



CROW WING COUNTY
Ride Quality Index



CROW WING COUNTY
Average Daily Traffic Ranges



SUMMARY OF CHANGES SINCE LAST HIP

PROPOSED 2016 PROGRAM

2016 RECONSTRUCTION			
FAD 309	018-592-003	Reconstruction of Dellwood Drive from Novotny Road to CSAH 49	Changed from resurfacing to reconstruction
2016 RESURFACING			
CSAH 31	018-631-005	Resurfacing No. and So. Of Cuyuna	Moved up from 2018 due to Local Option Sales Tax
CSAH 34	018-634-001	Resurfacing from CSAH 30 to Trommald	Moved up from 2017 due to Local Option Sales Tax
CSAH 3	018-003-09	Bass Lake Road/Clow improvements	Inserted to improve safety at Clow Stamping

PROPOSED 2017 PROGRAM

2017 RESURFACING			
CSAH 11	018-611-026	Resurfacing from CSAH 4 to CSAH 3	Moved up from 2018 due to Local Option Sales Tax
CSAH 23	018-623-013	Resurfacing from County Line to TH 18	Moved up from 2018 due to Local Option Sales Tax
CSAH 36	018-636-017	Resurfacing from CR 114 to TH 6	Moved up from 2019 due to Local Option Sales Tax
TH 371	018-000-000	Partial payment to Pequot Lakes for turn backs	Moved up from 2018 in accordance with signed agreement with Pequot Lakes

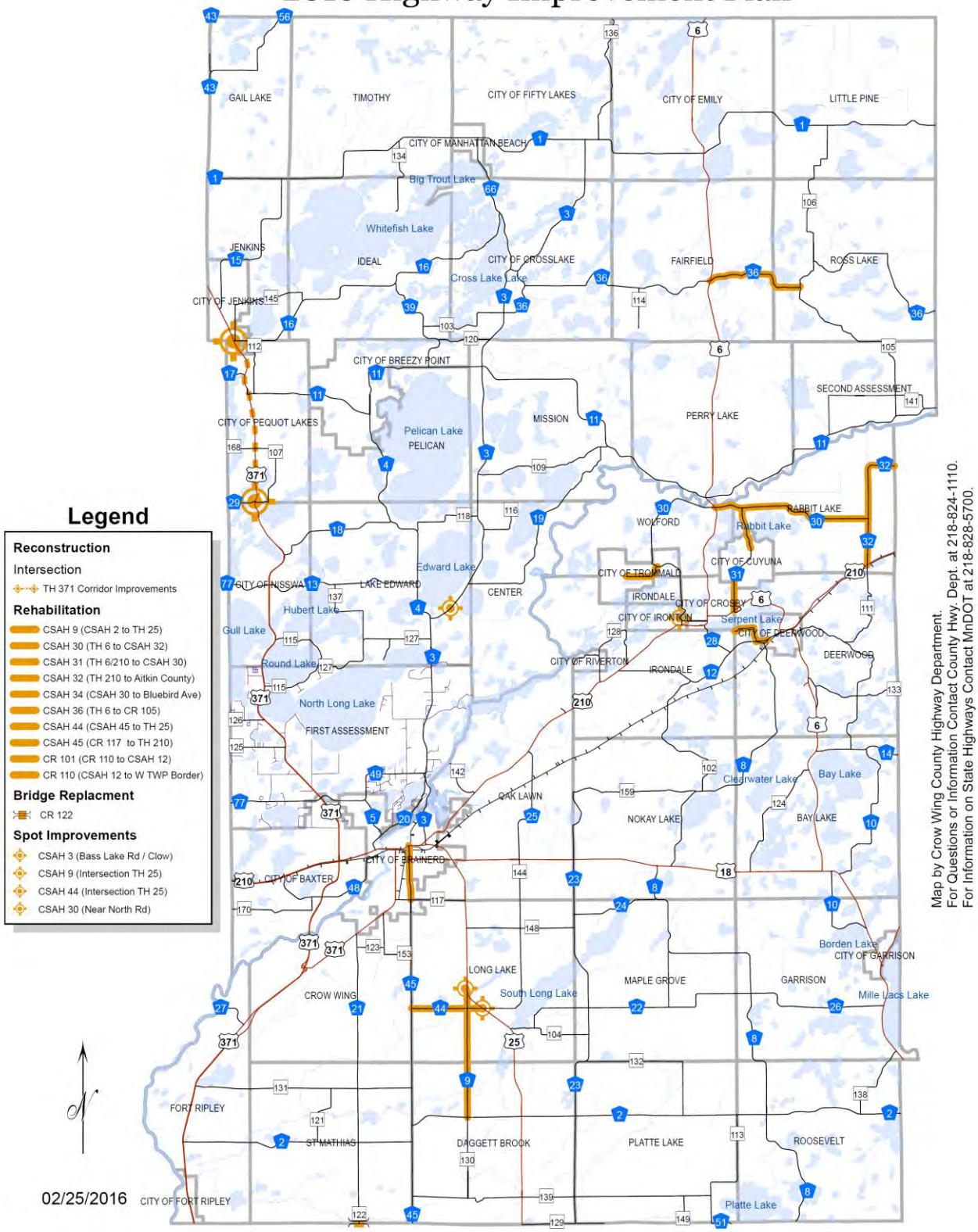
PROPOSED 2018 PROGRAM

2018 RESURFACING			
CSAH 17	018-617-000	Resurfacing from County Line to TH 371	Added due to Local Option Sales Tax
CSAH 21	018-621-000	Resurfacing from CSAH 2 to TH 371	Added due to Local Option Sales Tax
CR 112	018-112-000	Resurfacing from TH 371 Bypass to CSAH 16	Added due to Local Option Sales Tax
CR 124	18-124-02	Resurfacing from TH 18 to TH 6	Moved up from 2019 due to Local Option Sales Tax
CR 168	018-168-000	Resurfacing from County Line to TH 371	Added due to Local Option Sales Tax

PROPOSED 2019 PROGRAM

2019 RESURFACING			
CSAH 2	018-602-000	Resurfacing from CSAH 45 to TH 25	Added due to Local Option Sales Tax
CSAH 22	018-622-000	Resurfacing from TH 25 to CSAH 8	Added due to Local Option Sales Tax
CSAH 26	018-626-000	Resurfacing from CSAH 8 to TH 169	Added due to Local Option Sales Tax
CR 148	18-148-000	Resurfacing from TH 25 to CSAH 23	Added due to Local Option Sales Tax

CROW WING COUNTY
2016 Highway Improvement Plan

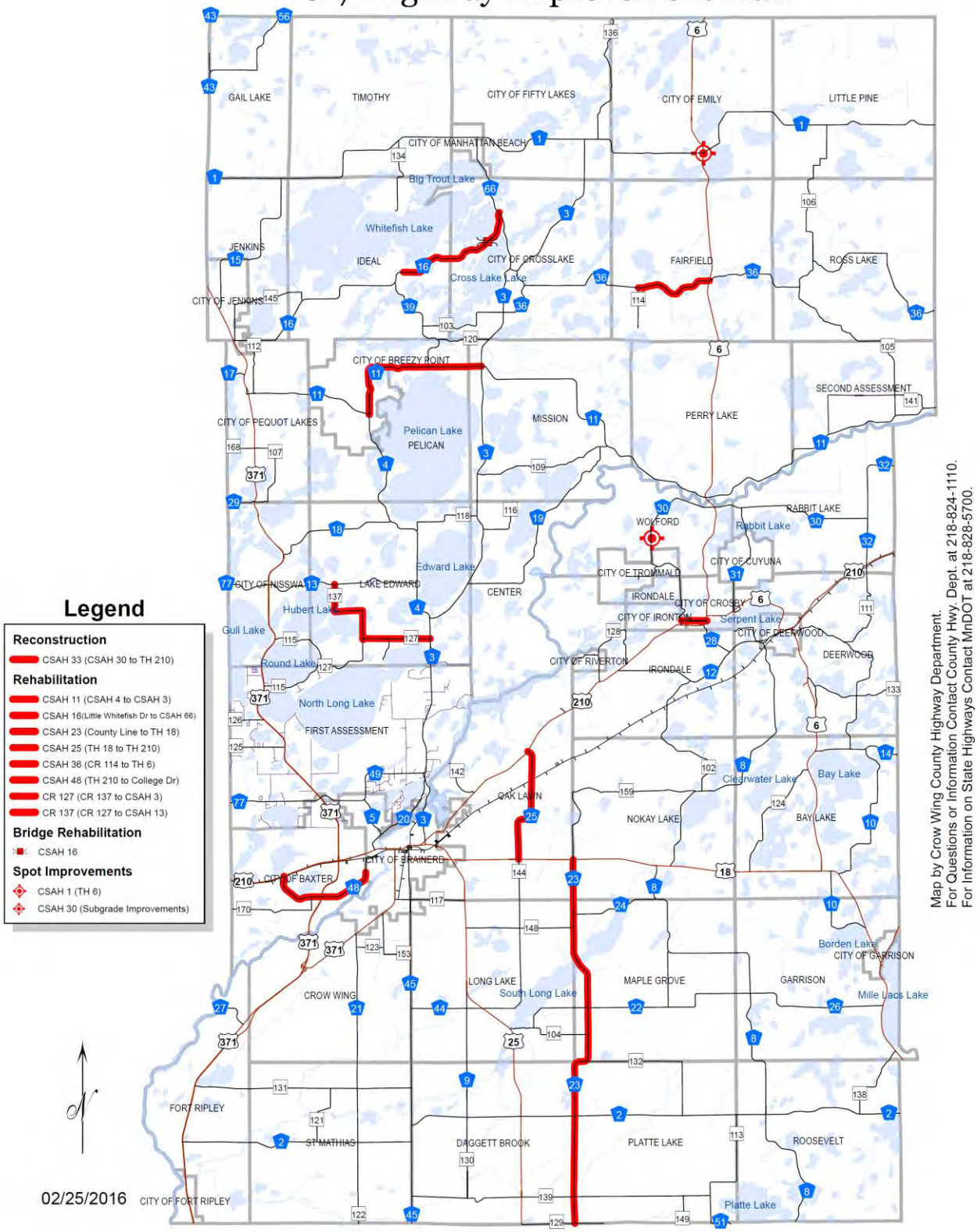


PROPOSED 2016 PROGRAM

2016 RESURFACING		
CSAH 9	018-609-003	Resurfacing from CSAH 2 to TH 25
CSAH 30	018-630-000	Resurfacing from TH 6 to CSAH 32
★ CSAH 31	018-631-005	Resurfacing No. and So. Of Cuyuna
CSAH 32	018-632-000	Resurfacing from TH 210 to East County Line
CSAH 34	018-634-001	Resurfacing from CSAH 30 to Trommald
CSAH 36	018-636-015	Resurfacing from TH 6 to CR 105
CSAH 44	018-644-001	Resurfacing from CSAH 45 to TH 25
CSAH 45	018-645-007	Resurfacing from CR 117 to TH 210
CR 101	18-101-02	Resurfacing from CR 110 to CSAH 12
CR 110	18-110-02	Resurfacing from CSAH 12 to west limit of Deerwood TWP
2016 BRIDGE REPLACEMENT		
SAD 267	018-599-033	Spruce Grove Road culvert/bridge replacement
2016 SPOT IMPROVEMENTS		
Various	018-070-011	CSAH 9/TH 25 and CSAH 44/CR 144/TH 25 Intersection Improvements
CSAH 3	018-003-09	Bass Lake Road/Clow improvements
CSAH 30	018-030-07	Storm Sewer Outlet Repair near North Road
2016 OTHER PROJECTS		
★ Co. Wide	18-200-65	Annual pavement marking project
Co. Wide	018-070-012	Six inch wet reflective, grooved-in pavement markings
★ Co. Wide	18-200-66	Preventative maintenance surface treatments
TH 371	18-371-02	Phase I Env. Assessment
★ CR 115	18-115-000	CR 115 Project Set-aside
★ CSAH 3	18-003-000	Mill Ave. Bridge Set-aside
Co. Wide	18-000-000	Safety Improvements Set-aside
2016 RIGHT OF WAY		
CSAH 33	018-633-003	R/W Purchase for CSAH 33 Reconstruction

★ Project Funded with Local Option Sales Tax

CROW WING COUNTY
2017 Highway Improvement Plan

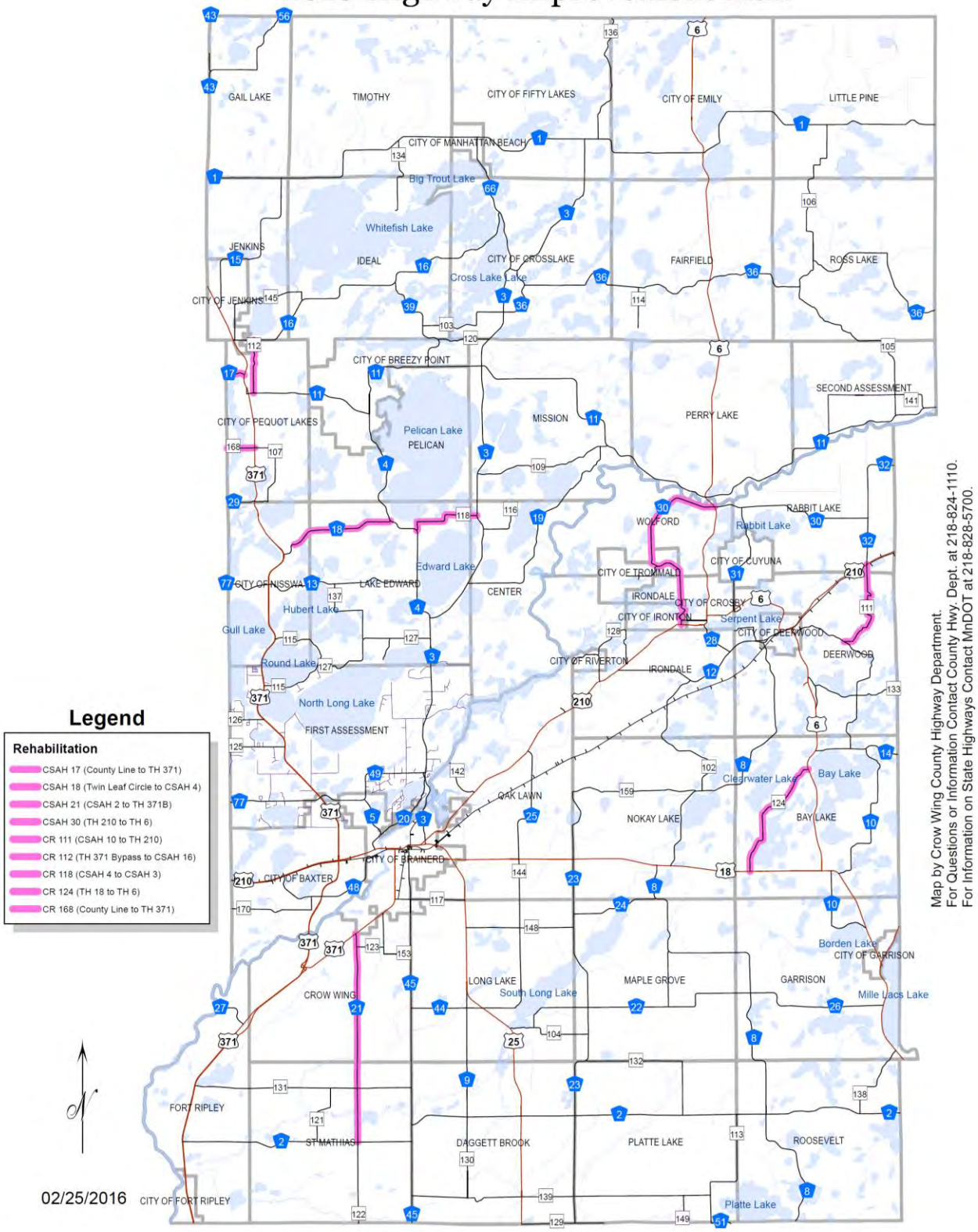


PROPOSED 2017 PROGRAM

2017 RECONSTRUCTION		
CSAH 33	018-633-003	Reconstruction from CSAH 30 to TH 210
CSAH 48	018-648-011	CSAH 48/Isle Drive Intersection (payback Baxter for 2015 construction)
2017 RESURFACING		
CSAH 11	018-611-026	Resurfacing from CSAH 4 to CSAH 3
CSAH 16	018-616-019	Resurfacing from Whitefish Dr. to CSAH 66
★ CSAH 23	018-623-013	Resurfacing from County Line to TH 18
CSAH 25	018-625-005	Resurfacing from TH 18 to TH 210
★ CSAH 36	018-636-017	Resurfacing from CR 114 to TH 6
CSAH 48	018-648-013	Resurfacing from TH 210 to College Drive
CR 127	18-127-05	Resurfacing from CR 137 to CSAH 3
CR 137	18-137-02	Resurfacing from CR 127 to CSAH 13
2017 BRIDGE REPLACEMENT		
CSAH 16	018-616-019	Bridge #18501 Deck Rehabilitation
2017 SPOT IMPROVEMENTS		
CSAH 1	018-601-015	CSAH 1/TH 6 Intersection Revision Emily
CSAH 30	018-630-009	Swamp Treatment and Culvert Repair 2.0 miles north of CSAH 34
Co. Wide	018-070-000	Unidentified HSIP Project
2017 OTHER PROJECTS		
★ Co. Wide	018-200-000	Annual pavement marking project
★ Co. Wide	018-000-000	Preventative maintenance surface treatments
TH 371	018-000-000	Partial payment to PL for turnbacks
★ CR 115	018-115-000	CR 115 Project Set-aside
★ CSAH 3	018-000-000	Mill Ave. Bridge Set-aside
TH 371	018-000-000	Phase II Env. Assessment
Co. Wide	018-000-000	Safety Improvements Set-aside
2017 ENGINEERING		
CSAH 33	018-633-003	Construction Engineering

★ Project Funded with Local Option Sales Tax

CROW WING COUNTY
2018 Highway Improvement Plan

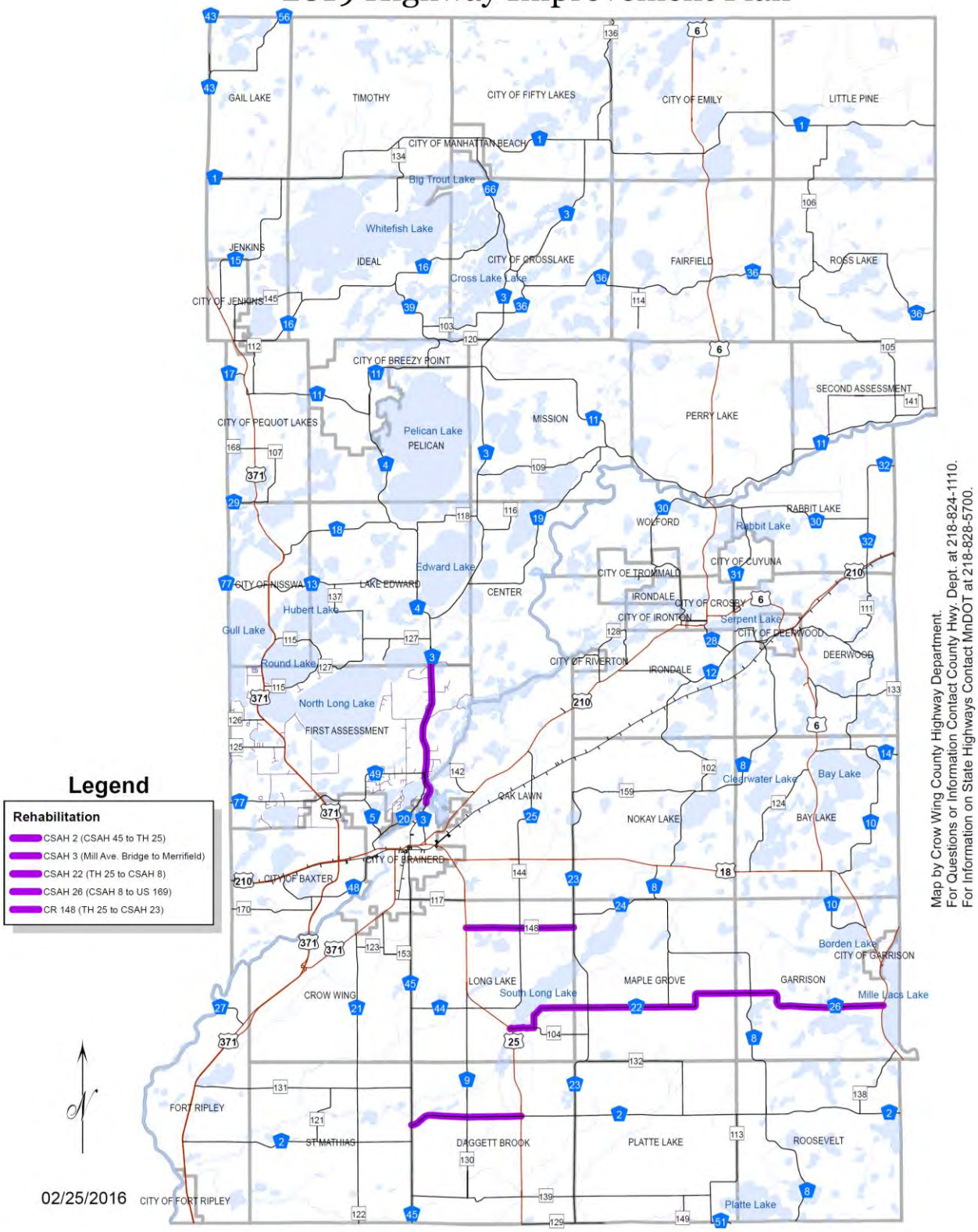


PROPOSED 2018 PROGRAM

2018 RESURFACING			
	CSAH 17	018-617-000	Resurfacing from County Line to TH 371
	CSAH 18	018-618-010	Resurfacing from Twin Leaf Circle to CSAH 4 (FED. APP.)
	CSAH 21	018-621-000	Resurfacing from CSAH 2 to TH 371
	CSAH 30	018-630-010	Resurfacing from TH 210 to TH 6
	CR 111	18-111-03	Resurfacing from CSAH 10 to TH 210
★	CR 112	018-112-000	Resurfacing from TH 371 Bypass to CSAH 16
★	CR 118	18-118-03	Resurfacing from CSAH 4 to CSAH 3
★	CR 124	18-124-02	Resurfacing from TH 18 to TH 6
★	CR 168	018-168-000	Resurfacing from County Line to TH 371
2018 SPOT IMPROVEMENTS			
	Co. Wide	018-070-013	Six inch wet reflective, grooved-in pavement markings
2018 OTHER PROJECTS			
★	Co. Wide	018-200-000	Annual pavement marking project
★	Co. Wide	018-000-000	Preventative maintenance surface treatments
★	CR 115	018-115-000	CR 115 Project Set-aside
★	CSAH 3	018-003-000	Mill Ave. Bridge Set-aside
	Co. Wide	018-000-000	Safety Improvements Set-aside
	TH 371	018-000-000	Final payback to PL for turnbacks

★ Project Funded with Local Option Sales Tax

CROW WING COUNTY
2019 Highway Improvement Plan

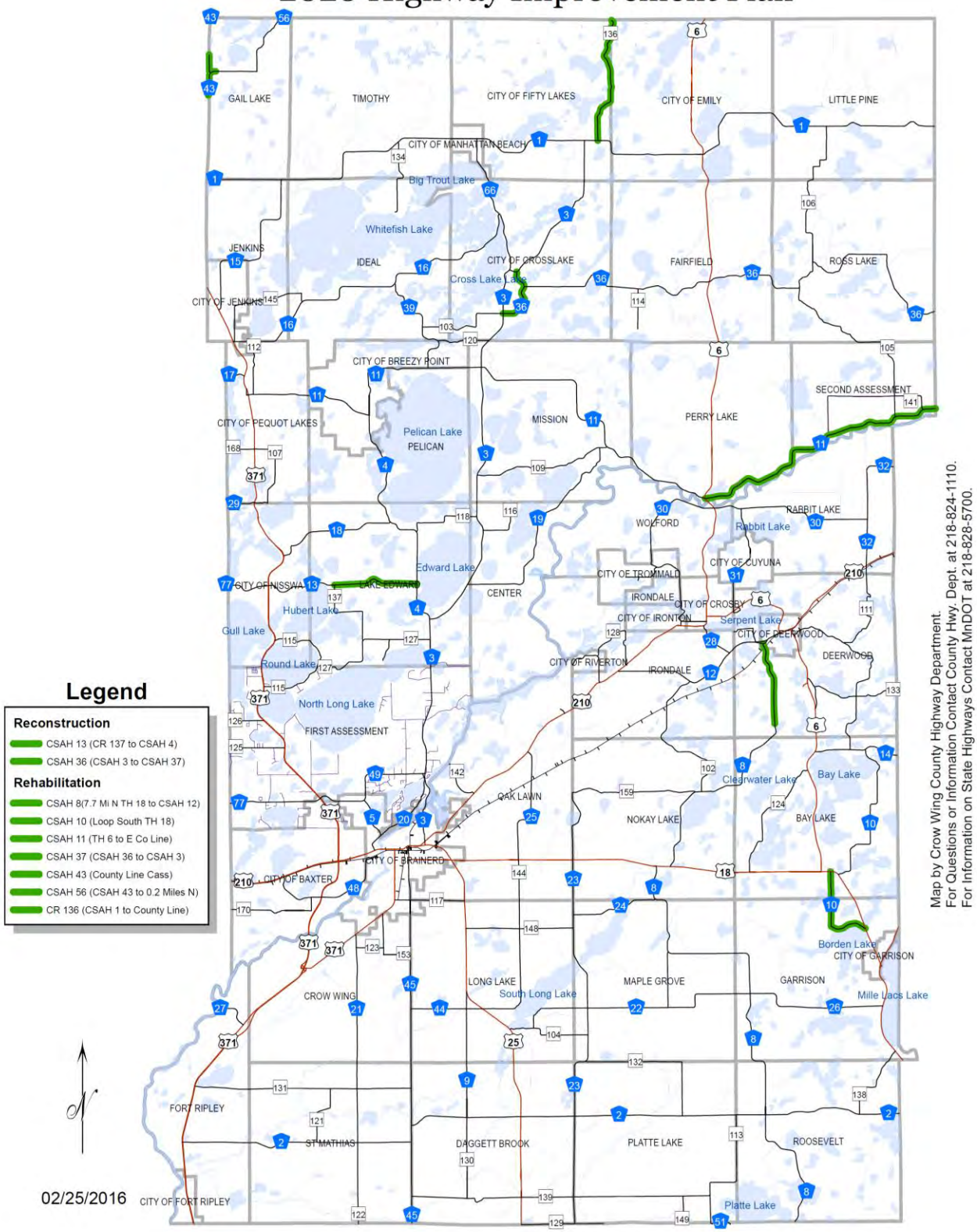


PROPOSED 2019 PROGRAM

2019 RESURFACING		
★ CSAH 2	018-602-000	Resurfacing from CSAH 45 to TH 25
CSAH 3	018-603-023	Resurfacing from Mill Ave. Bridge to Merrifield
CSAH 22	018-622-000	Resurfacing from TH 25 to CSAH 8
★ CSAH 26	018-626-000	Resurfacing from CSAH 8 to TH 169
★ CR 148	18-148-000	Resurfacing from TH 25 to CSAH 23
2019 SPOT IMPROVEMENTS		
Co. Wide	018-000-000	Unidentified HSIP Project
2019 OTHER PROJECTS		
★ Co. Wide	018-200-000	Annual pavement marking project
★ Co. Wide	018-000-000	Preventative maintenance surface treatments
CSAH 3	018-603-023	Construction and Design Engineering
★ CR 115	018-115-000	CR 115 Project Set-aside
★ CSAH 3	018-000-000	Mill Ave. Bridge Set-aside
Co. Wide	018-000-000	Safety Improvements Set-aside
2019 RIGHT OF WAY		
CSAH 13	018-613-000	R/W Purchase for CSAH 13 Reconstruction
CSAH 36	018-636-000	R/W Purchase for CSAH 36 Reconstruction

★ Project Funded with Local Option Sales Tax

CROW WING COUNTY
2020 Highway Improvement Plan

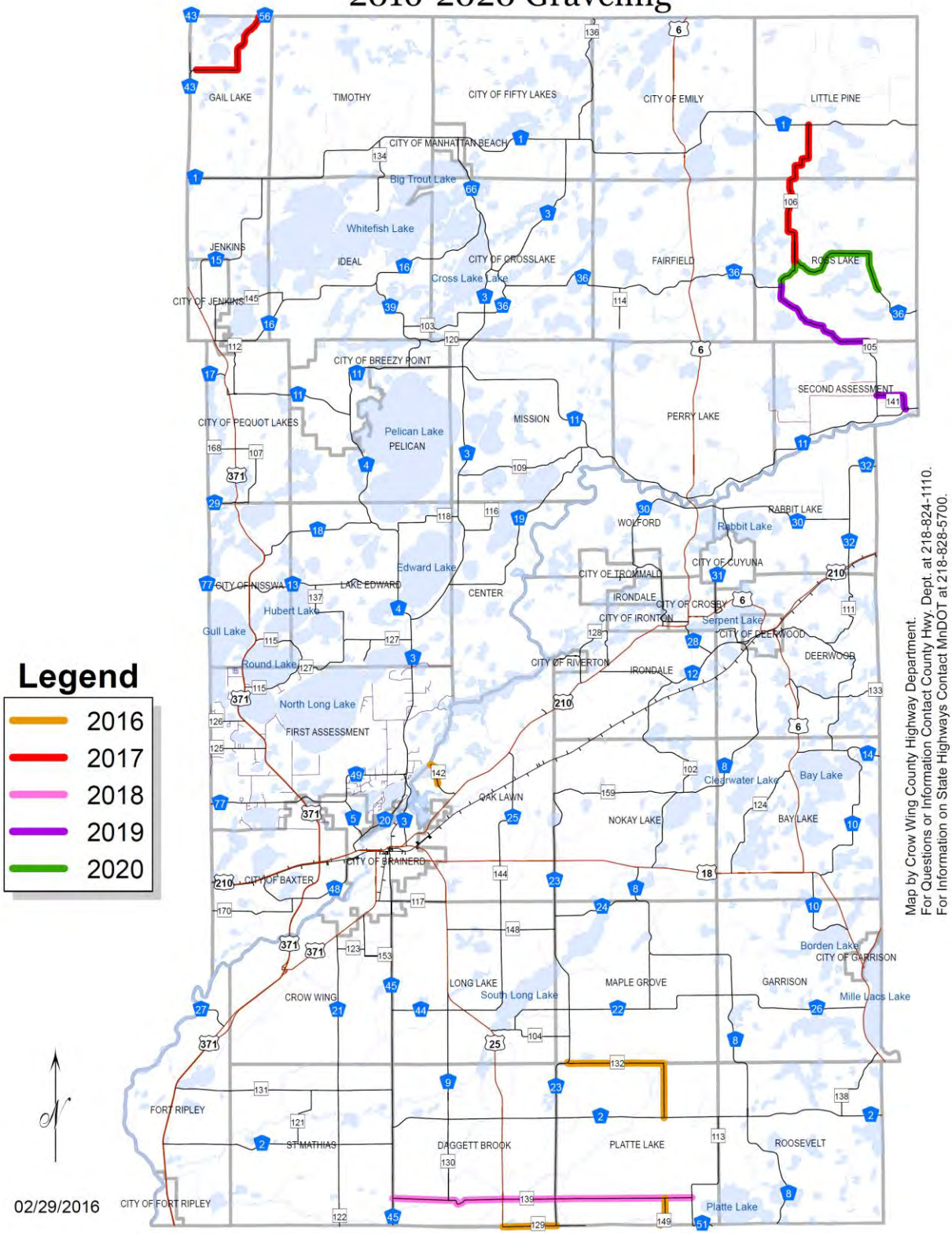


PROPOSED 2020 PROGRAM

2020 RECONSTRUCTION		
CSAH 13	018-613-000	Reconstruction from CR 137 to CSAH 4
CSAH 36	018-636-000	Reconstruction from CSAH 3 to CSAH 37
2020 RESURFACING		
CSAH 8	018-608-000	Resurfacing from 7.7 mi. N. TH 18 to CSAH 12
CSAH 10	018-610-000	Loop south of TH 18
★ CSAH 11	018-611-000	Resurfacing from TH 6 to County line
CSAH 37	018-637-000	Resurfacing from CSAH 36 to CSAH 3
CSAH 43	018-643-000	Cost Share with Cass County Project
CSAH 56	018-656-000	Resurfacing from CSAH 43 to 0.2 mi. E.
★ CR 136	18-136-000	CSAH 1 to North Couthy Line
2020 SPOT IMPROVEMENTS		
Co. Wide	018-000-000	Unidentified HSIP Project
2020 OTHER PROJECTS		
★ Co. Wide	018-200-000	Annual pavement marking project
★ Co. Wide	018-000-000	Preventative maintenance surface treatments
CSAH 13	018-613-000	Construction and Design Engineering
★ CR 115	018-115-000	CR 115 Project Set-aside
★ CSAH 3	018-000-000	Mill Ave. Bridge Set-aside
Co. Wide	018-000-000	Safety Improvements Set-aside
2020 ENGINEERING		
CSAH 13	018-613-000	Construction Engineering
CSAH 36	018-636-000	Construction Engineering

★ Project Funded with Local Option Sales Tax

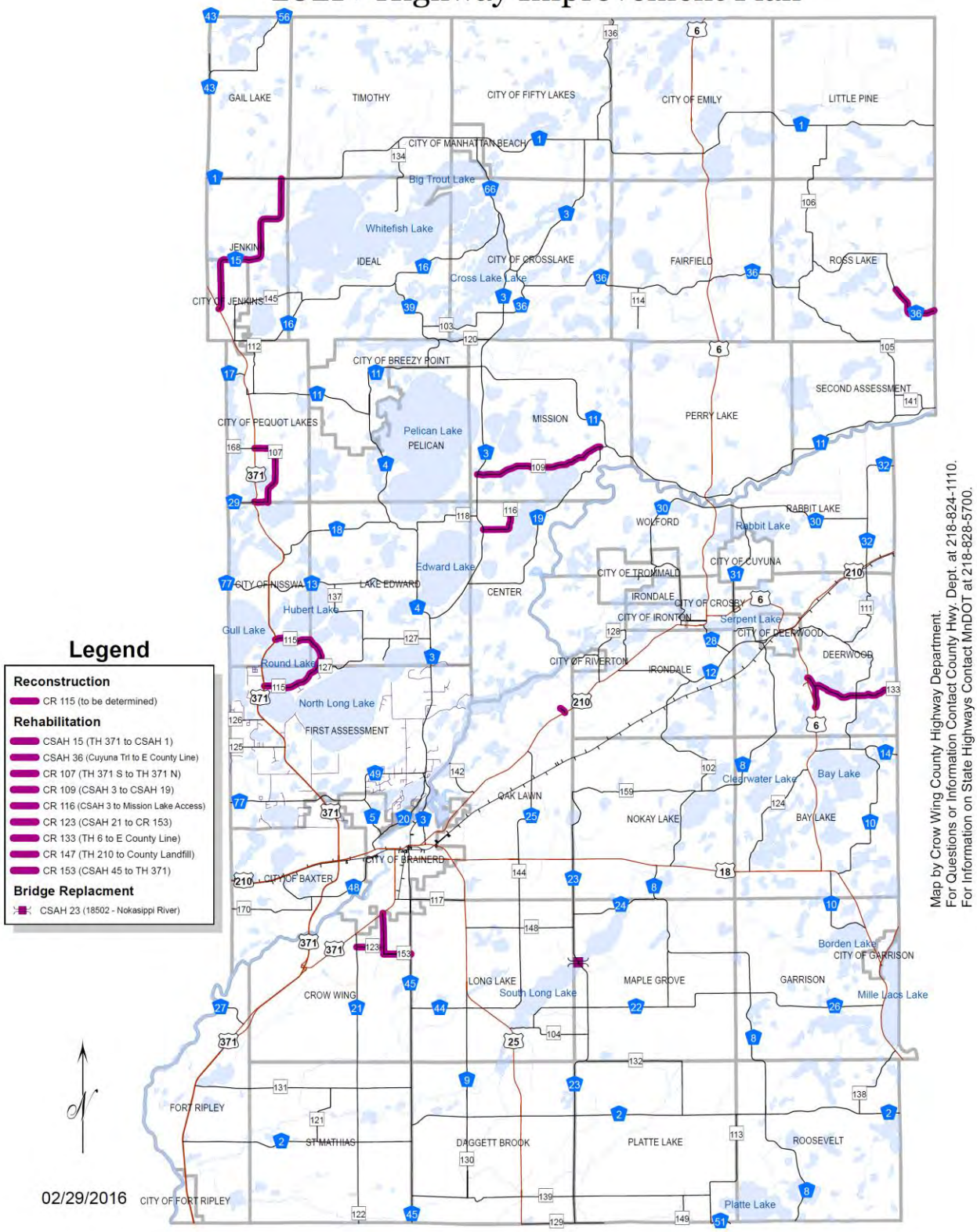
CROW WING COUNTY
2016-2020 Graveling



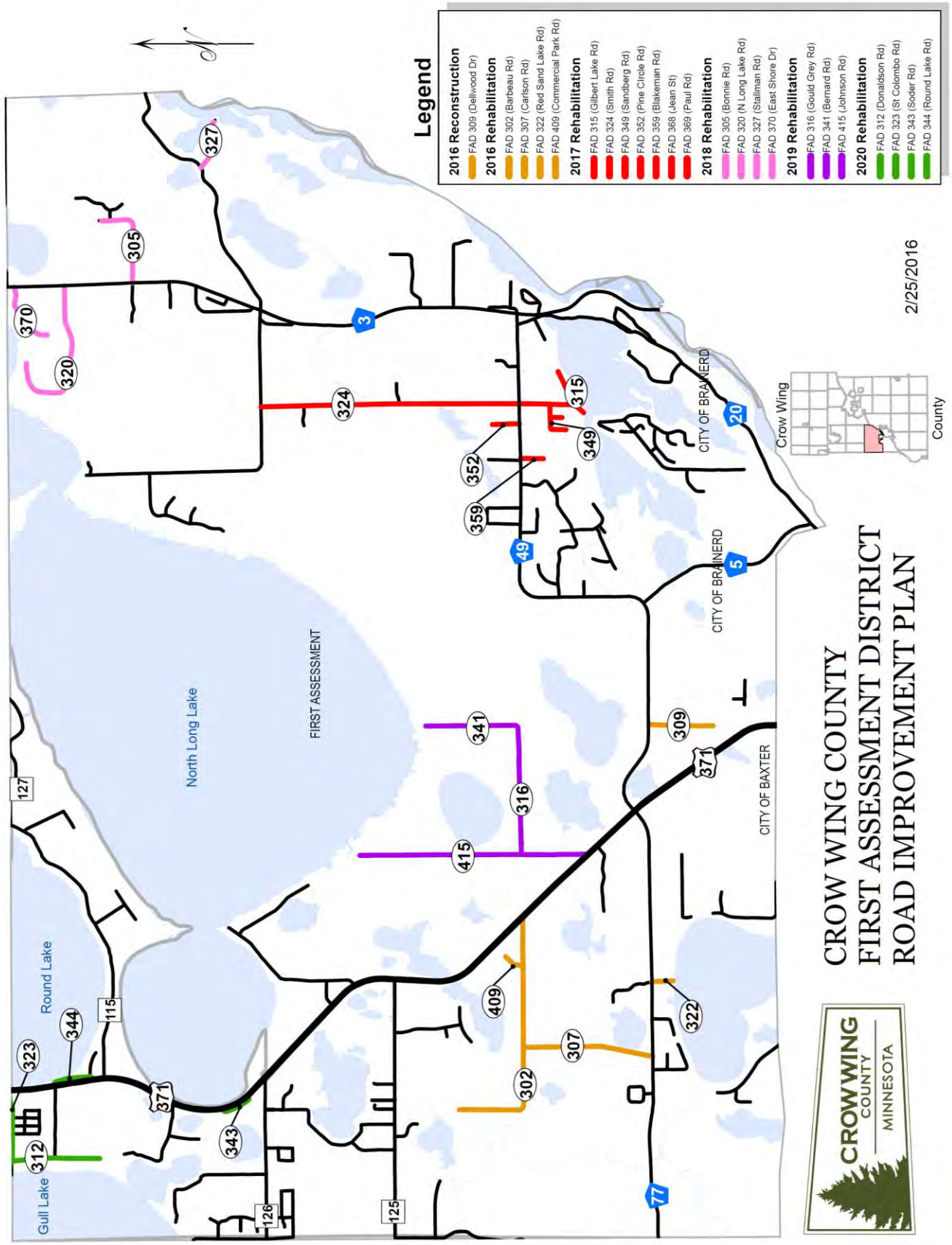
County Gravel Road Improvement Plan

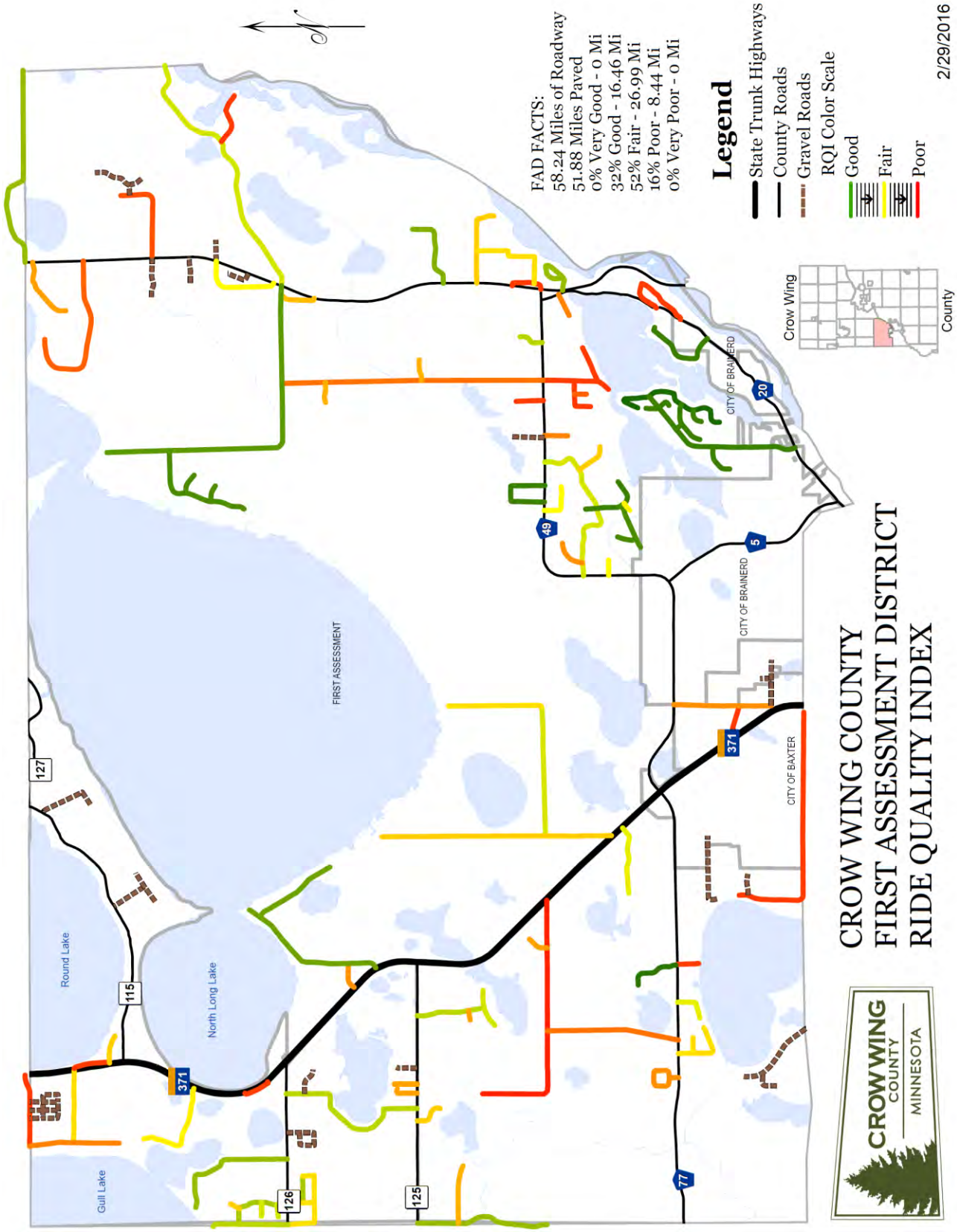
PROPOSED 2016 REGRAVELING	
CR 129	State Highway 25 to CSAH 23
CR 132	CSAH-23 to CSAH 2
CR 142	1.58 miles west of State Highway 210 to French Rapids
CR 149	CR-139 to South County Line
PROPOSED 2017 REGRAVELING	
CR 106	CSAH 36 to CSAH 1
CSAH 56	0.2 Miles North CSAH 43 to North County Line
PROPOSED 2018 REGRAVELING	
CR 139	CSAH 45 to CR 113
PROPOSED 2019 REGRAVELING	
CR 105	McNeal Road to CSAH 36
CR 141	CR 105 to CSAH 11
PROPOSED 2020 REGRAVELING	
CSAH 36	CR 105 to CR 106
CSAH 36	CR 106 to Cuyuna Trail

CROW WING COUNTY
2021+ Highway Improvement Plan



Notes


Legend
2016 Reconstruction
FAD 309 (Dellwood Dr)
2016 Rehabilitation
FAD 302 (Barbeau Rd)
FAD 307 (Carlson Rd)
FAD 322 (Red Sand Lake Rd)
FAD 409 (Commercial Park Rd)
2017 Rehabilitation
FAD 315 (Gilbert Lake Rd)
FAD 324 (Smith Rd)
FAD 349 (Sandberg Rd)
FAD 352 (Pine Circle Rd)
FAD 359 (Blakeman Rd)
FAD 368 (Jean St)
FAD 369 (Paul Rd)
2018 Rehabilitation
FAD 305 (Bonnie Rd)
FAD 320 (N Long Lake Rd)
FAD 327 (Stallman Rd)
FAD 370 (East Shore Dr)
2019 Rehabilitation
FAD 316 (Gould Grey Rd)
FAD 341 (Bernard Rd)
FAD 415 (Johnson Rd)
2020 Rehabilitation
FAD 312 (Donaldson Rd)
FAD 323 (St Colombo Rd)
FAD 343 (Soder Rd)
FAD 344 (Round Lake Rd)
2/25/2016
Crow Wing County
CROW WING COUNTY
FIRST ASSESSMENT DISTRICT
ROAD IMPROVEMENT PLAN
CROW WING COUNTY MINNESOTA
North Long Lake
Round Lake
Gull Lake
FIRST ASSESSMENT
CITY OF BRAINERD
CITY OF BAXTER
3
20
49
5
371
77
127
115
126
125
327
305
370
320
324
315
349
352
359
341
316
415
309
409
307
302
322
323
312
344
343


CROW WING COUNTY
FIRST ASSESSMENT DISTRICT
RIDE QUALITY INDEX
CROW WING COUNTY MINNESOTA
FAD FACTS:
58.24 Miles of Roadway
51.88 Miles Paved
0% Very Good - 0 Mi
32% Good - 16.46 Mi
52% Fair - 26.99 Mi
16% Poor - 8.44 Mi
0% Very Poor - 0 Mi
Legend
State Trunk Highways
County Roads
Gravel Roads
RQI Color Scale
Good
Fair
Poor
2/29/2016
Crow Wing County
FIRST ASSESSMENT
CITY OF BRAINERD
CITY OF BRAINERD
CITY OF BAXTER
Round Lake
North Long Lake
Gull Lake
127
115
371
126
125
49
5
20
371
77

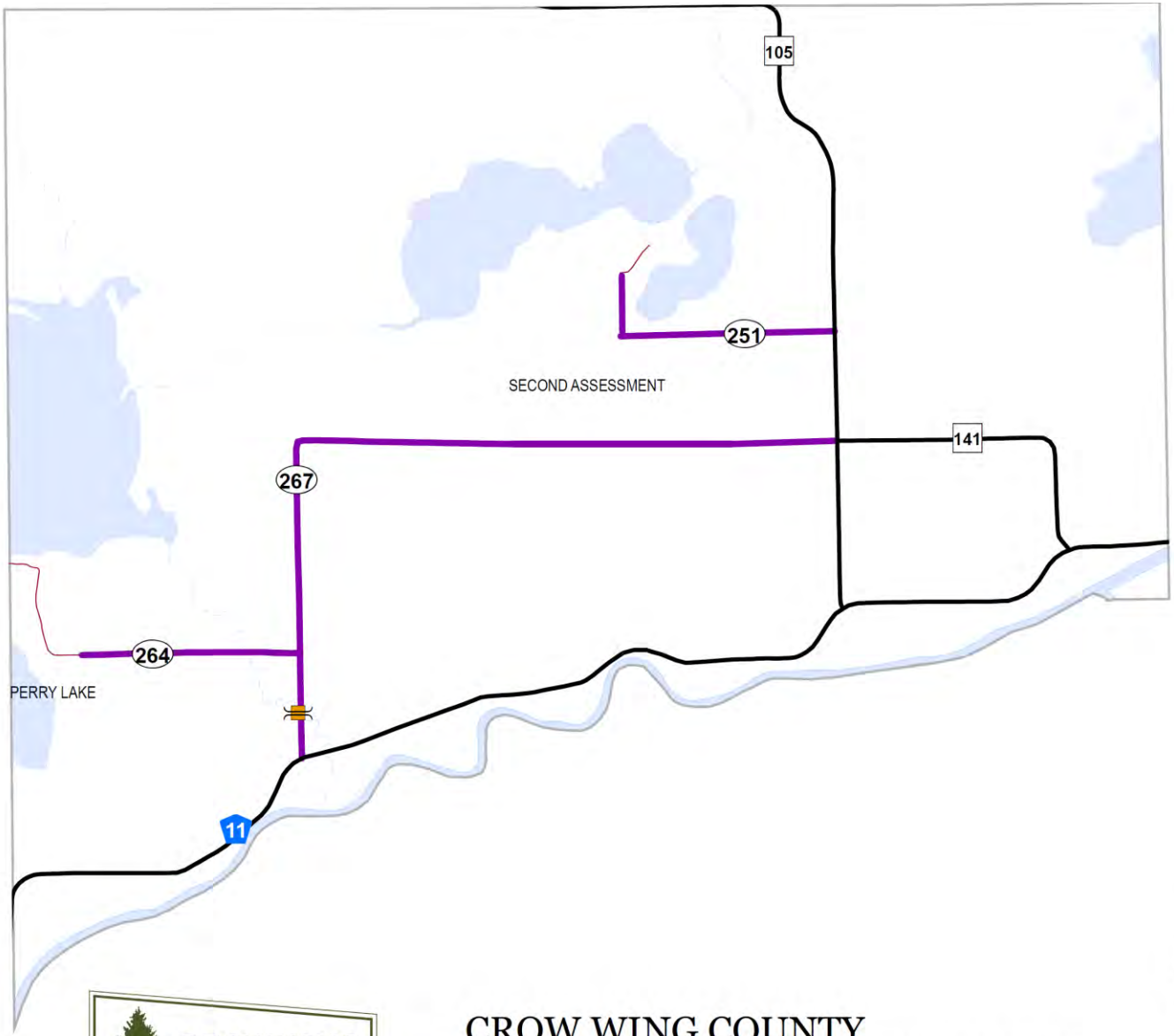
FAD/SAD PROPOSED 2016 PROGRAM		
2016 RECONSTRUCTION		
FAD 309	018-592-003	Reconstruction of Dellwood Drive from Novotny Road to CSAH 49
2016 RESURFACING		
FAD 302	18-300-02	Resurfacing Barbeau Road from NW end to TH 371
FAD 307	18-300-02	Resurfacing from CSAH 77 to Bareau Rd.
FAD 322	18-300-02	Resurfacing Red Sand Lake Rd. from CSAH 77 to Public Landing
FAD 409	18-300-02	Resurfacing Commercial Park Dr. from Barbeua Rd. to cul-de-sac
2016 BRIDGE REPLACEMENT		
SAD 267	018-599-033	Spruce Grove Road culvert/bridge replacement
2016 OTHER PROJECTS		
Co. Wide	18-200-65	Annual pavement marking project

FAD/SAD PROPOSED 2017 PROGRAM		
2017 RESURFACING		
FAD 315	18-300-03	Resurfacing Gilbert Lake Road from CSAH 49 to end
FAD 324	18-300-03	Resurfacing Smith Road from CSAH 49 to Legionville Road
FAD 349	18-300-03	Resurfacing Sandberg Rd. from Gilbert Lake Rd. to Paul St.
FAD 352	18-300-03	Resurfacing Pine Circle from CSAH 49 to end
FAD 359	18-300-03	Resurfacing Blakeman Rd. from CSAH 49 to end
FAD 368	18-300-03	Resurfacing Jean St. from Gilbert Lake Rd. to end
FAD 369	18-300-03	Resurfacing Paul St. from Gilbert Lake Rd. to end

FAD/SAD PROPOSED 2018 PROGRAM		
2018 RESURFACING		
FAD 305	018-300-04	Resurfacing Bonnie Road from CSAH 3 to 0.72 miles east
FAD 320	018-300-04	Resurfacing No. Long Lake Rd. from CSAH 3 to 1.25 miles west
FAD 327	018-300-04	Resurfacing Stallman Rd. from Exec. Acres. Rd. to east end
FAD 370	018-300-04	Resurfacing East Shore Dr. from CSAH 3 to end
2018 OTHER PROJECTS		
Co. Wide	018-200-000	Annual pavement marking project

FAD/SAD PROPOSED 2019 PROGRAM		
2019 RESURFACING		
FAD 316	18-300-05	Resurfacing Gould Grey Rd. from Johnson Rd. to Bernard Rd.
FAD 341	18-300-05	Resurfacing Bernard Rd. from Gould Grey Rd. to N. end
FAD 415	18-300-05	Resurfacing Johnson Rd. from TH 371 to N. end
2019 OTHER PROJECTS		
Co. Wide	018-200-000	Annual pavement marking project

FAD/SAD PROPOSED 2020 PROGRAM		
2020 RESURFACING		
FAD 312	18-300-06	Resurfacing Donaldson Road
FAD 323	18-300-06	Resurfacing St. Columbo Road
FAD 343	18-300-06	Resurfacing Soder Road
FAD 344	18-300-06	Resurfacing Round Lake Road
2020 OTHER PROJECTS		
Co. Wide	018-200-000	Annual pavement marking project



Legend

2016 Bridge Replacment

- SAD 267 (Spruce Grove Rd)

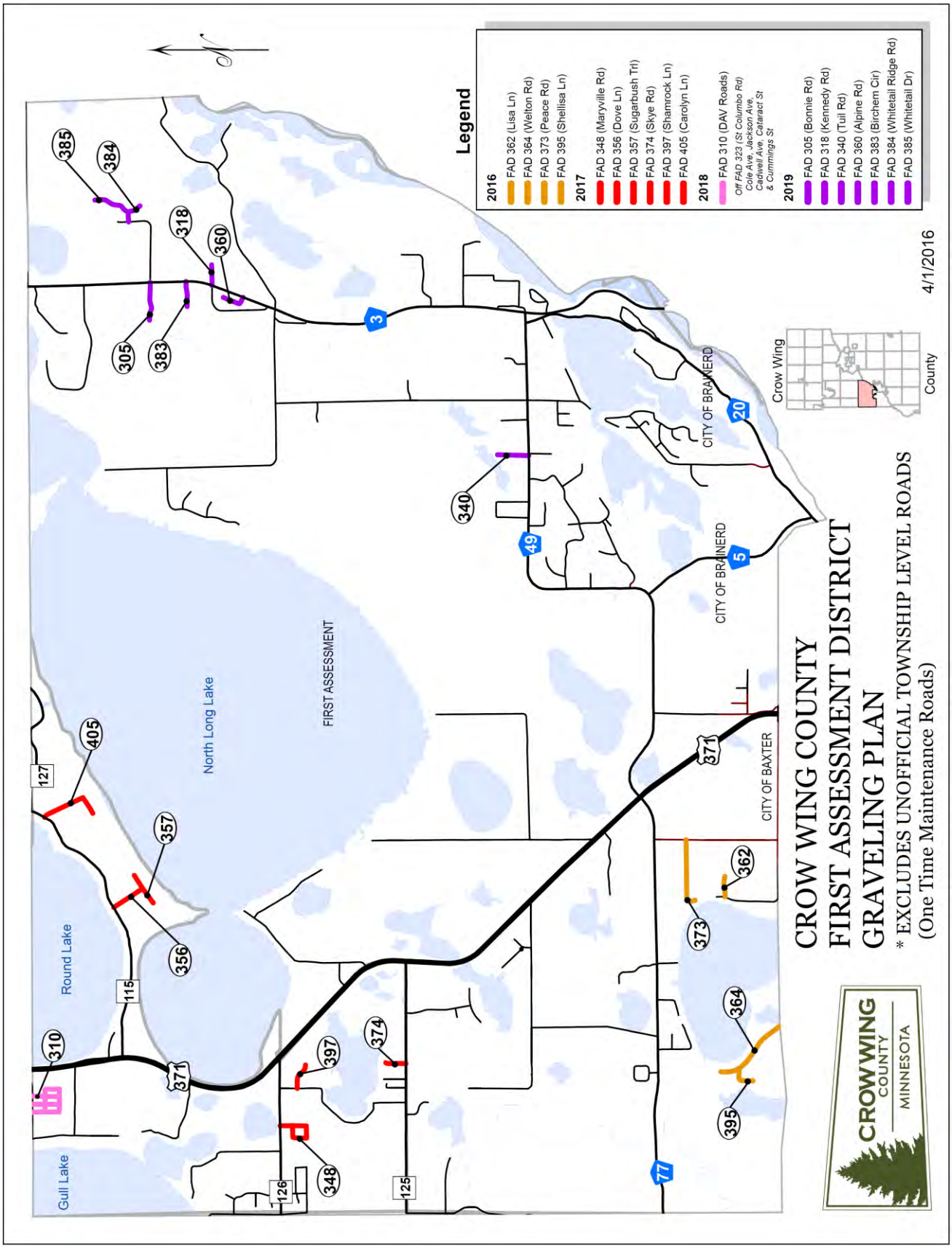
2019 Graveling

- SAD 251 (Burgstaler Rd)
- SAD 251 (Caroll Dr)
- SAD 264 (Dean Lake Rd)
- SAD 267 (Spruce Grove Rd)

CROW WING COUNTY MINNESOTA

CROW WING COUNTY
SECOND ASSESSMENT DISTRICT
ROAD IMPROVEMENT PLAN

3/29/2016


CROW WING COUNTY
FIRST ASSESSMENT DISTRICT
GRAVELING PLAN
* EXCLUDES UNOFFICIAL TOWNSHIP LEVEL ROADS
(One Time Maintenance Roads)
Legend
2016
FAD 362 (Lisa Ln)
FAD 364 (Welton Rd)
FAD 373 (Peace Rd)
FAD 395 (Shellisa Ln)
2017
FAD 348 (Maryville Rd)
FAD 356 (Dove Ln)
FAD 357 (Sugarbush Trl)
FAD 374 (Skye Rd)
FAD 397 (Shamrock Ln)
FAD 405 (Carolyn Ln)
2018
FAD 310 (DAV Roads)
Off FAD 323 (St Columbo Rd)
Cole Ave, Jackson Ave,
Cadwell Ave, Cataract St
& Cummings St
2019
FAD 305 (Bonnie Rd)
FAD 318 (Kennedy Rd)
FAD 340 (Tuil Rd)
FAD 360 (Alpine Rd)
FAD 383 (Birchem Cir)
FAD 384 (Whitetail Ridge Rd)
FAD 385 (Whitetail Dr)
4/1/2016
Crow Wing
County
CITY OF BRAINERD
CITY OF BRAINERD
CITY OF BAXTER
FIRST ASSESSMENT
North Long Lake
Round Lake
Gull Lake
CROW WING
COUNTY
MINNESOTA

FAD Gravel Road Improvement Plan

PROPOSED 2016 GRAVELING	
FAD 362	Lisa Lane From Garrett Lane to 0.16 Miles East
FAD 364	Welton Road From North Baxter Limit to 0.61 Miles North
FAD 373	Peace Road From Inglewood Drive to 0.55 Miles West
FAD 395	Shelisa Lane From Welton Road to 0.18 Miles West and South
PROPOSED 2017 GRAVELING	
FAD 348	Maryville Road From CR 126 to 0.49 Miles South
FAD 356	Dove Lane From CR 115 to 0.28 Miles SE
FAD 357	Sugar Bush Trail From Dove Lane to 0.16 Miles North and South
FAD 374	Skye Road From CR 125 to 0.16 Miles North
FAD 397	Shamrock Lane From Hartley Lake Road to 0.20 Miles East
FAD 405	Carolyn Lane From CR 115 to 0.43 Miles South and West
PROPOSED 2018 GRAVELING	
FAD 310	DAV Roads South of St. Columbo
PROPOSED 2019 GRAVELING	
FAD 305	Bonnie Road From CSAH 3 to 0.3 Miles West
FAD 318	Kennedy Road from CSAH 3 to 0.16 Miles East
FAD 340	Tuil Road From CSAH 49 to 0.25 Miles North
FAD 360	Alpine Road From CSAH 3 to Cul-De-Sac
FAD 383	Birchem Circle from CSAH 3 to 0.17 Miles West
FAD 384	Whitetail Ridge Road From Bonnie Road to 0.18 Miles East and South
FAD 385	Whitetail Drive from Whitetail Ridge Road to 0.28 Miles North
PROPOSED 2020 GRAVELING	
	None

Pavement Condition Ratings

In Crow Wing County, a roadway's pavement condition is quantified using its Ride Quality Index (RQI) which is closely related to the overall roughness of that road section. Considerations are also given to the level of surface distress that it may be experiencing. Most commonly these take the form of roadway cracking and rutting and can be closely related to the roughness on some roadways. Generally RQI is used to determine when rehabilitation is needed. Understanding the type and cause of the surface distress helps determine what form of rehabilitation is needed.

Crow Wing County uses the following RQI figures to classify each of its roadways:

RIDE QUALITY INDEX (RQI) RANGES	
CATEGORY	RQI
VERY GOOD	81-100
GOOD	61-80
FAIR	41-60
POOR	21-40
VERY POOR	0-20

Note: Users commonly begin to complain when RQI drops below 50

The RQI and surface distress of each County State Aid Highway (CSAH) and County Road (CR) is measured by the Minnesota Department of Transportation (MnDOT) every four years. This serves as the basis of Crow Wing County's pavement management program. Using this data, well defined RQI deterioration curves (mathematical formulas) have been developed to project pavement condition between the years of these actual measurements.

Roadway Improvement Priority

Roadway improvement priority is based on a combination of traffic volume expressed as Average Annual Daily Traffic (AADT) and Ride Quality Index (RQI). The following RQI thresholds are intended to assist decision makers determine when roadways in each category will be considered for resurfacing or other forms of rehabilitation. In general, higher volume roadways are expected to maintain higher standards of smoothness or RQI.

Crow Wing County uses the following RQI threshold categories to assist setting roadway improvement priorities. In general, roadways with larger deviations from these established thresholds will receive higher priority while competing for limited funding resources. Roadways allowed to drop below these thresholds without being improved are defined as deferred.

County State Aid Highway (CSAH)		
ADT	RQI	Goal
≥ 5000	60	Maintain Good/Very Good Rating for all High Volume CSAHs
≥ 2800<5000	56	Maintain Fair/Good rating for all Moderate Volume CSAHs
≥ 500<2800	52	Maintain Fair/Good rating for all Moderate Volume CSAHs
<500	48	Maintain Fair Rating for all Low Volume CSAHs

County Roads (CR)		
ADT	RQI	Goal
≥ 5000	60	Maintain Good/Very Good Rating for all High Volume CRs
≥ 2800<5000	56	Maintain Fair/Good rating for all Moderate Volume CRs
≥ 500<2800	52	Maintain Fair/Good rating for all Moderate Volume CRs
<500	48	Maintain Fair Rating for all Low Volume CRs

A comprehensive list of roadway priorities is included on pages 30 and 31. Please note that most roadways currently in a deferred status are scheduled for improvement over the next five years. Those listed with large RQI threshold deviations have been in deferred status for several years due primarily to limited transportation funding.

2016 County State Aid Highway (CSAH) Priority List

Road	From	To	Length Miles	2015 RQI	Last Project	Age	Condition Rating	RQI Threshold	RQI Delta	ADT Range	Functional Class	Year Programmed
CSAH 36	TH-6	CR-105	3.70	22	6/1/51	64	Poor	48	-26	0 - 500	Rural Major and Urban Collector	2016
CSAH 44	CSAH-45	TH-25	2.60	24	6/1/93	22	Poor	48	-24	0 - 500	Rural Minor Collector	2016
CSAH 9	CSAH-2	TH-25	4.50	25	95-52	20-63	Poor	48	-23	0 - 500	Local	2016
CSAH 45	CR-117	TH-210	2.00	37	6/1/97	18	Poor	60	-23	11000 - 5000	Minor Arterial	2016
CSAH 30	CSAH-34	TH 6	4.56	27	6/1/87	28	Poor	48	-21	0 - 500	Rural Major and Urban Collector	2018
CSAH 34	1ST AVE W	CSAH 30	1.37	27	6/1/55	60	Poor	48	-21	0 - 500	Rural Minor Collector	2016
CSAH 36	CR-114	TH-6	3.00	29	6/1/88	27	Poor	48	-19	0 - 500	Rural Major and Urban Collector	2017
CSAH 30	TH 6	CSAH 32	5.80	34	6/1/89	26	Poor	52	-18	2800 - 500	Rural Major and Urban Collector	2016
CSAH 33	CSAH-30	TH-210	0.95	34	6/1/90	25	Poor	52	-18	2800 - 500	Local	2017
CSAH 17	W CO LN	TH-371	0.84	35	6/1/94	21	Poor	52	-17	2800 - 500	Rural Major and Urban Collector	2018
CSAH 31	NORTH ST CUYUNA	CSAH-30	1.60	36	6/1/95	20	Poor	52	-16	2800 - 500	Rural Minor Collector	2016
CSAH 30	TH-210	CSAH-34	3.11	37	6/1/91	24	Poor	52	-15	2800 - 500	Rural Major and Urban Collector	2018
CSAH 25	TH-18	TH-210	4.40	38	6/1/89	26	Poor	52	-14	2800 - 500	Rural Major and Urban Collector	2017
CSAH 32	CSAH 30	E CO LN	2.88	34	6/1/92	23	Poor	48	-14	0 - 500	Rural Major and Urban Collector	2016
CSAH 22	CSAH-23	CSAH-8	6.50	37	6/1/97	18	Poor	48	-11	0 - 500	Rural Major and Urban Collector	2019
CSAH 13	TH-371	CSAH-4	5.80	41	6/1/98	17	Fair	52	-11	2800 - 500	Rural Major and Urban Collector	2020
CSAH 8	7.7 MI N TH-18	CSAH-12	3.10	41	6/1/95	20	Fair	52	-11	2800 - 500	Rural Major and Urban Collector	2020
CSAH 48	TH-210	TH-371	2.00	47	6/1/96	19	Fair	56	-9	5000 - 2800	Rural Major and Urban Collector	2017
CSAH 11	N JCT TH-371	S JCT TH-371	0.29	47	6/1/90	25	Fair	56	-9	5000 - 2800	Rural Major and Urban Collector	2018
CSAH 16	WEST SHORE DRIVE	CSAH-66	1.82	47	6/1/91	24	Fair	56	-9	5000 - 2800	Rural Major and Urban Collector	2017
CSAH 31	TH-210	SOUTH STREET CUYU	2.31	43	6/1/91	24	Fair	52	-9	2800 - 500	Rural Minor Collector	2016
CSAH 56	CSAH-43	0.2 MI N	0.20	39	6/1/88	27	Poor	48	-9	0 - 500	Rural Minor Collector	2020
CSAH 23	CSAH-22	TH-18	5.60	43	6/1/94	21	Fair	52	-9	2800 - 500	Rural Major and Urban Collector	2017
CSAH 11	TH-6	E CO LINE	10.00	40	6/1/97	18	Poor	48	-8	0 - 500	Rural Major and Urban Collector	2020
CSAH 48	TH-371	COLLEGE DR	2.08	52	6/1/96	19	Fair	60	-8	11000 - 5000	Rural Major and Urban Collector	2017
CSAH 16	0.6 MI E CSAH-39	WEST SHORE DRIVE	3.16	46	6/1/89	26	Fair	52	-6	2800 - 500	Rural Major and Urban Collector	2017
CSAH 23	S CO LN	CSAH-2	4.00	42	6/1/94	21	Fair	48	-6	0 - 500	Rural Major and Urban Collector	2017
CSAH 36	CSAH-3	CSAH-37	1.60	47	01-84	14-30	Fair	52	-5	2800 - 500	Rural Major and Urban Collector	2020
CSAH 2	CSAH-45	TH-25	4.20	47	6/1/97	18	Fair	52	-5	2800 - 500	Rural Major and Urban Collector	2019
CSAH 22	TH-25	CSAH-23	3.60	47	6/1/98	17	Fair	52	-5	2800 - 500	Rural Major and Urban Collector	2019
CSAH 23	CSAH-2	CSAH-22	4.40	43	6/1/94	21	Fair	48	-5	0 - 500	Rural Major and Urban Collector	2017
CSAH 26	CSAH-8	TH-169	5.30	44	6/1/92	23	Fair	48	-4	0 - 500	Rural Major and Urban Collector	2019
CSAH 10	S JCT TH-18	N JCT TH-18	3.40	45	6/1/95	20	Fair	48	-3	0 - 500	Rural Major and Urban Collector	2020
CSAH 21	CSAH-2	CR-131	2.00	46	6/1/87	28	Fair	48	-2	0 - 500	Rural Minor Collector	2018
CSAH 36	CUYUNA TRAIL	E CO LN	2.10	46	6/1/05	10	Fair	48	-2	0 - 500	Rural Major and Urban Collector	2021+
CSAH 21	CR-131	TH-371	5.80	50	6/1/87	28	Fair	52	-2	2800 - 500	Rural Minor Collector	2018
CSAH 3	N LIMS BRAINERD	CRYSTAL LAKE ROAD	5.70	59	6/1/98	17	Fair	60	-1	11000 - 5000	Minor Arterial	2019
CSAH 37	CSAH-36	CSAH-3	0.67	51	6/1/86	29	Fair	52	-1	2800 - 500	Rural Minor Collector	2020
CSAH 11	CSAH-4	CSAH-3	5.95	55	6/1/96	19	Fair	56	-1	5000 - 2800	Rural Major and Urban Collector	2017
CSAH 20	TH-210	BEAVER DAM RD	0.70	60	6/1/03	12	Fair	60	0	11000 - 5000	Rural Major and Urban Collector	2021+
CSAH 18	TWIN LEAF CIRCLE	CSAH-4	3.55	52	6/1/89	26	Fair	52	0	2800 - 500	Rural Major and Urban Collector	2018

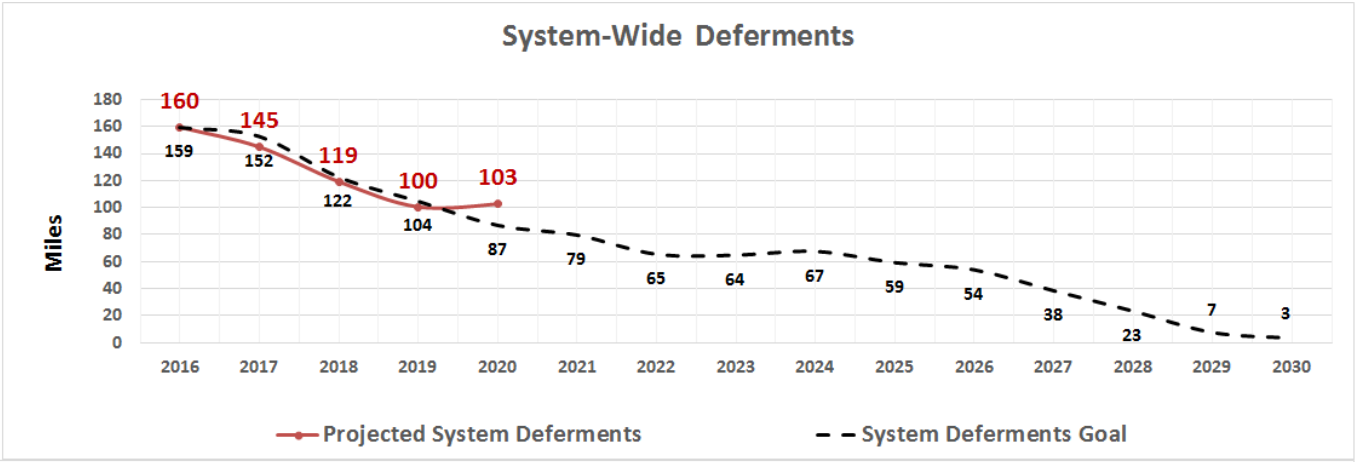
2016 County Road (CR) Priority List

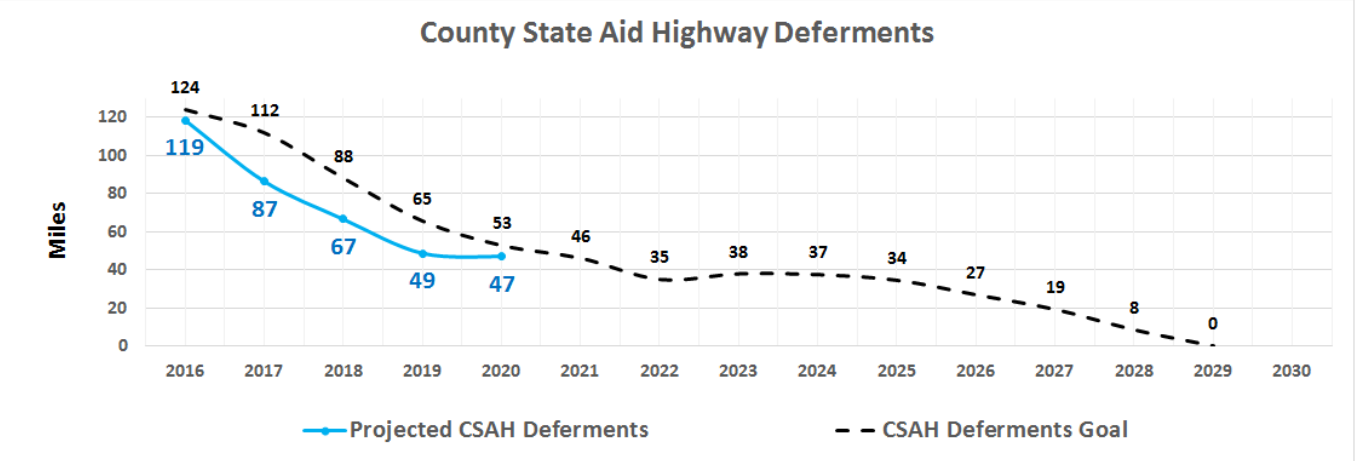
Road	From	To	Length Miles	2015 RQI	Last Project	Age	Condition Rating	RQI Threshold	RQI Delta	ADT Range	Functional Class	Year Programmed
CR 110	CSAH-12	W LIM DEERWOOD TWP	1.28	34	6/1/01	14	Poor	52	-18	2800 - 500	Local	2016
CR 115	S JCT TH-371	CR 127	2.32	35	6/1/85	30	Poor	52	-17	2800 - 500	Rural Minor Collector	2021+
CR 115	CR 127	N JCT TH-371	2.51	35	6/1/85	30	Poor	48	-13	0 - 500	Rural Minor Collector	2021+
CR 124	TH-18	TH-6	4.93	31	6/1/93	22	Poor	48	-17	0 - 500	Local	2018
CR 137	CR-127	CSAH-13	3.12	34	6/1/92	23	Poor	48	-14	0 - 500	Rural Minor Collector	2017
CR 117	TH-371	CSAH-45	0.65	48	6/1/04	11	Fair	60	-12	11000 - 5000	Rural Major and Urban Collector	2021+
CR 112	CSAH-11	CSAH-16	2.00	41	6/1/95	20	Fair	52	-11	2800 - 500	Local	2018
CR 101	CR-110	CSAH-12	0.44	38	6/1/01	14	Poor	48	-10	0 - 500	Local	2016
CR 148	TH-25	CSAH-23	4.00	42	6/1/99	16	Fair	52	-10	2800 - 500	Local	2019
CR 136	CSAH-1	N CO LN	5.00	44	6/1/00	15	Fair	52	-8	2800 - 500	Rural Minor Collector	2020
CR 111	CSAH-10	TH-210	3.83	40	6/1/02	13	Poor	48	-8	0 - 500	Local	2018
CR 147	TH-210	CO LANDFILL	0.15	44	6/1/01	14	Fair	48	-4	0 - 500	Local	2021+
CR 118	CSAH-4	CSAH-3	2.65	49	6/1/84	31	Fair	52	-3	2800 - 500	Local	2018
CR 168	N JCT TH-371	W CO LN	1.00	49	6/1/95	20	Fair	52	-3	2800 - 500	Local	2018
CR 107	S JCT TH-371	N JCT TH-371	3.25	50	6/1/97	18	Fair	52	-2	2800 - 500	Local	2021+
CR 105	CSAH-11	MCNEAL ROAD	3.10	46	6/1/00	15	Fair	48	-2	0 - 500	Rural Minor Collector	2021+
CR 116	CSAH-3	MISSION LAKE ACCESS	1.37	51	6/1/98	17	Fair	52	-1	2800 - 500	Local	2021+
CR 123	CSAH-21	CR-153	2.29	49	6/1/01	14	Fair	48	1	0 - 500	Local	2021+
CR 153	CSAH-45	1 MI WEST	1.00	53	6/1/10	5	Fair	52	1	2800 - 500	Local	2021+
CR 133	S JCT TH-6	E CO LN	4.50	50	6/1/04	11	Fair	48	2	0 - 500	Local	2021+
CR 109	CSAH-3	CSAH-19	4.86	54	6/1/00	15	Fair	52	2	2800 - 500	Rural Minor Collector	2021+
CR 128	TH-210	CSAH-59	2.87	51	6/1/98	17	Fair	48	3	0 - 500	Local	2021+
CR 127	CR-137	CSAH-3	2.50	55	6/1/95	20	Fair	52	3	2800 - 500	Rural Minor Collector	2017

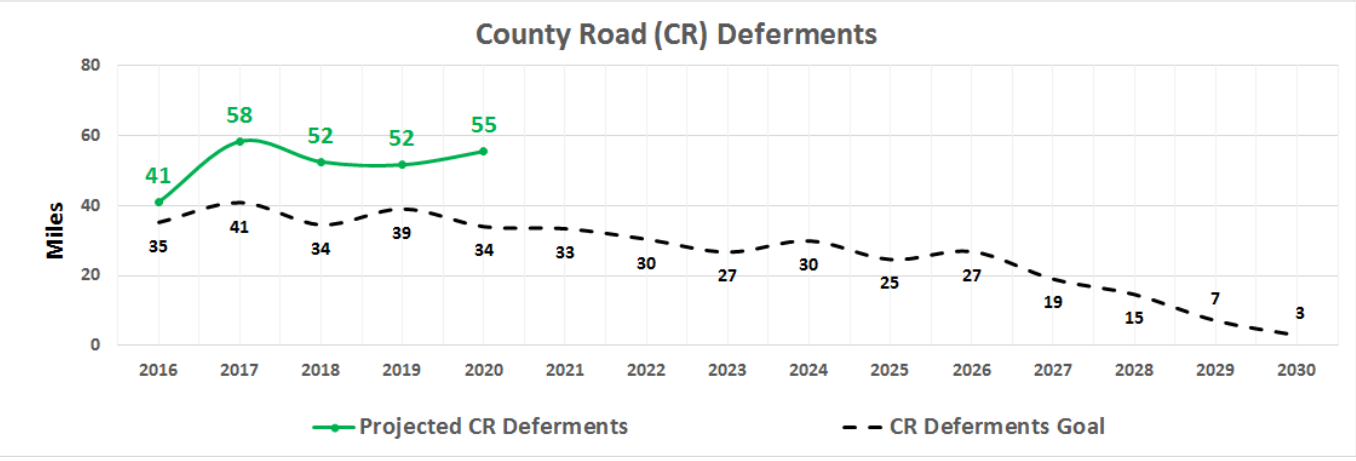
Roadway Improvement Deferments

In 2015 Crow Wing County started to place an increased focus on eliminating the occurrences of roadway improvement deferments. The goal is to have zero deferments by 2030. The implementation of the 2016-2025 county-wide sales tax was specifically intended to generate the transportation funding necessary make roadway improvements as soon as the RQI threshold is reached. Please refer to page 33 for a graphical depiction of how the roadway improvements contained in this document are advancing Crow Wing County's goal of eliminating deferments by 2030.

Deferment Elimination Progress







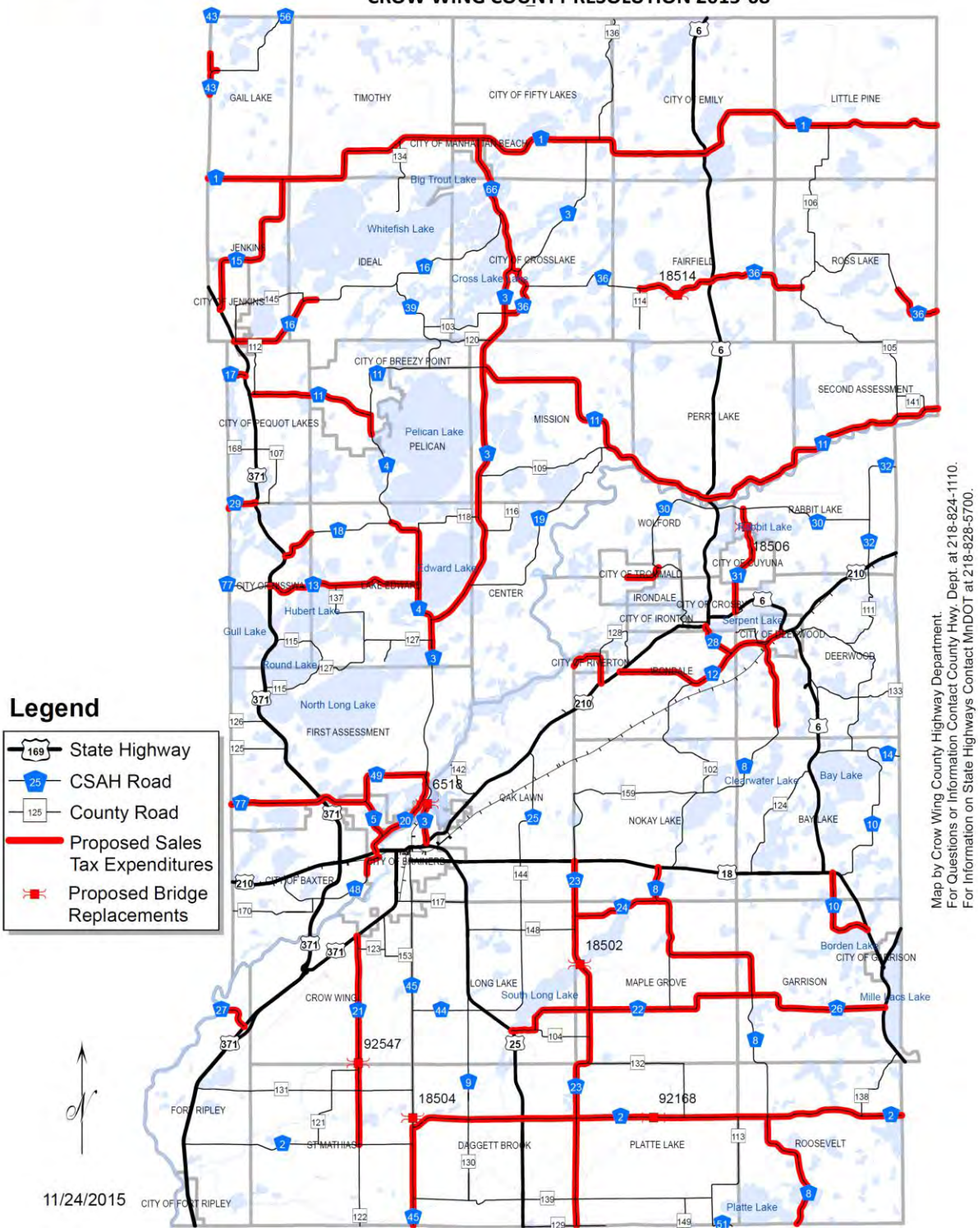
ADOPTED 12/15/15

2016-2025 COUNTY STATE AID HIGHWAY (CSAH) SALES TAX IMPLEMENTATION PLAN

CROW WING COUNTY MINNESOTA

ATTACHMENT B

CROW WING COUNTY RESOLUTION 2015-68

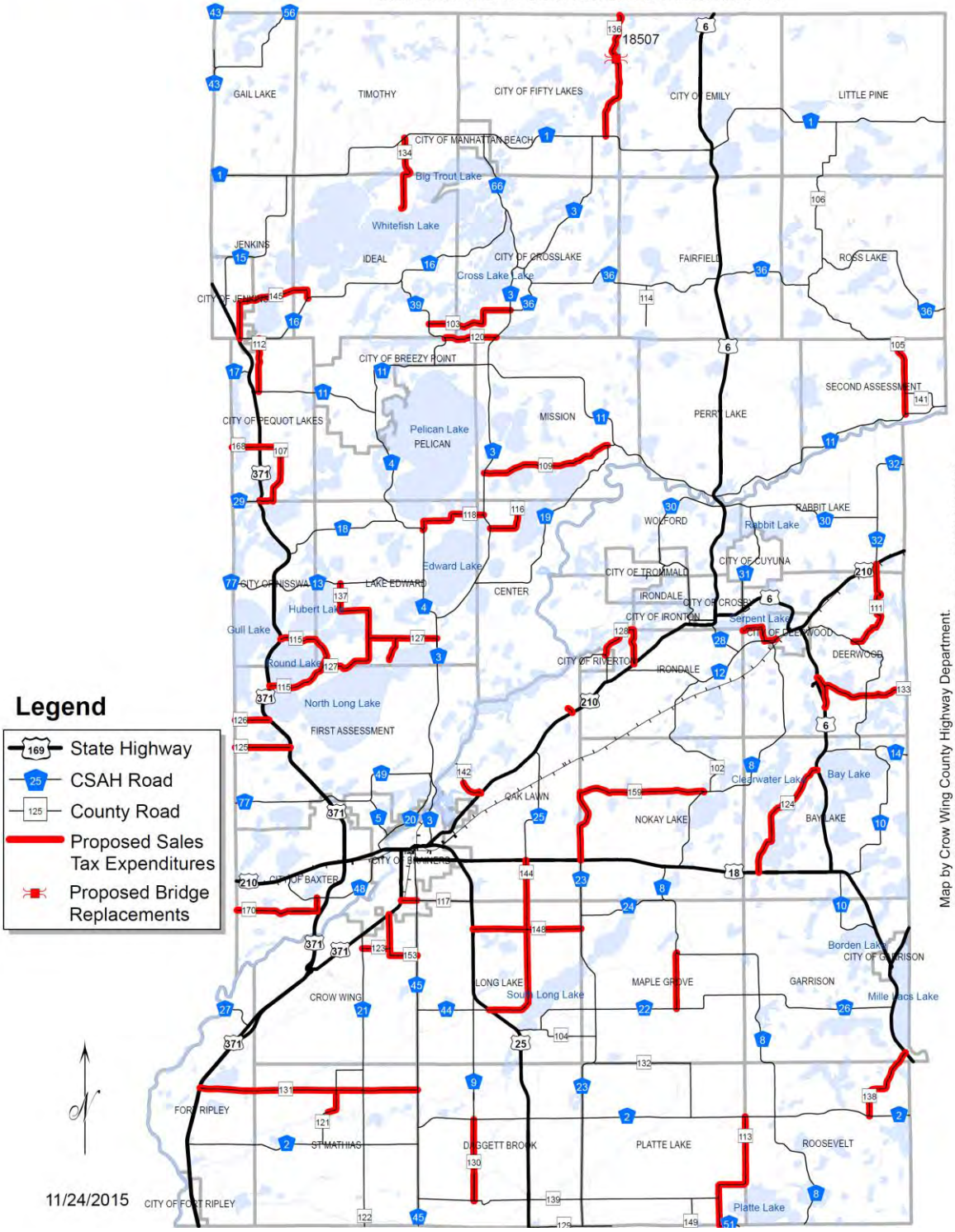


2016-2025 COUNTY ROAD (CR) SALES TAX IMPLEMENTATION PLAN

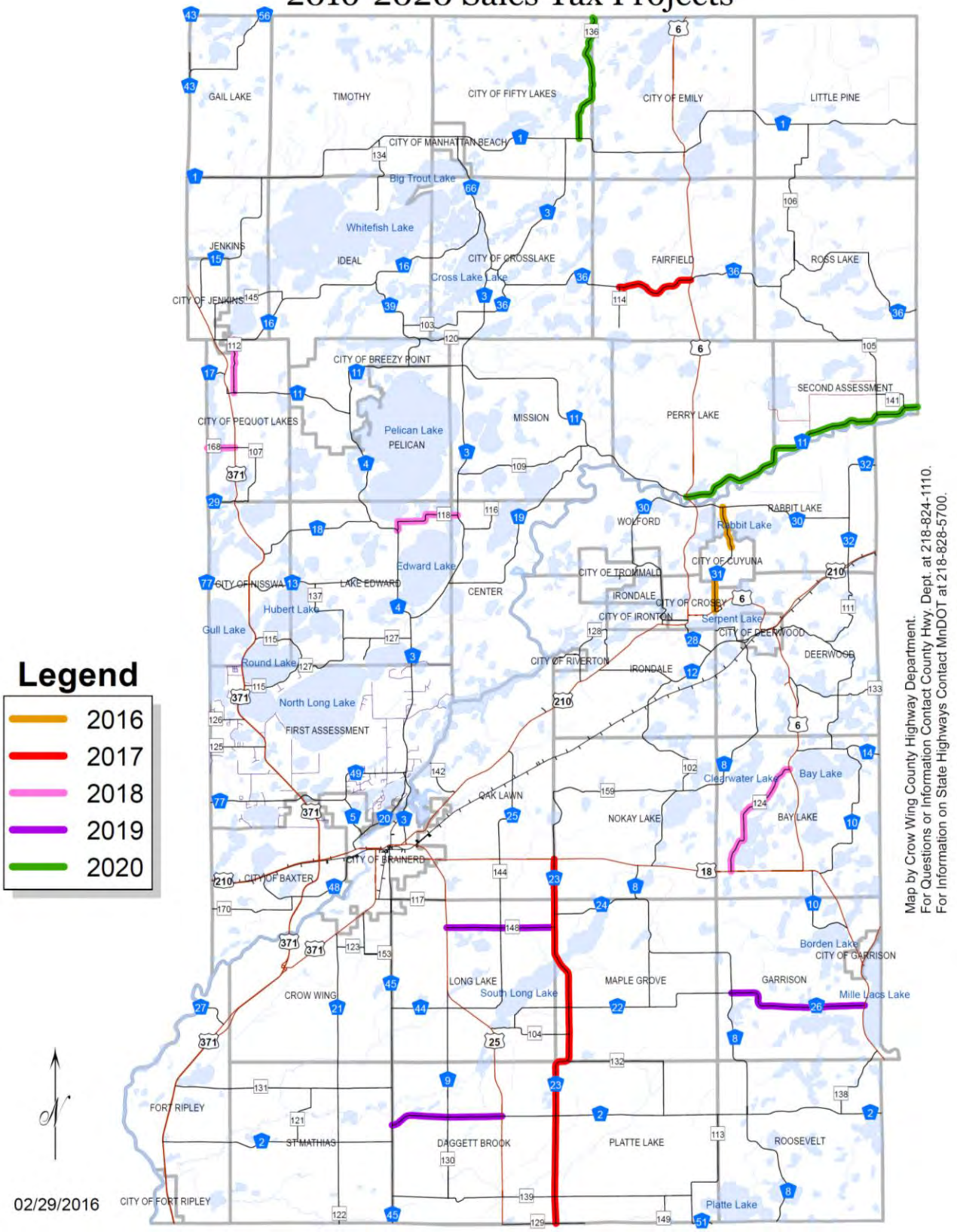
CROW WING COUNTY MINNESOTA

ATTACHMENT A

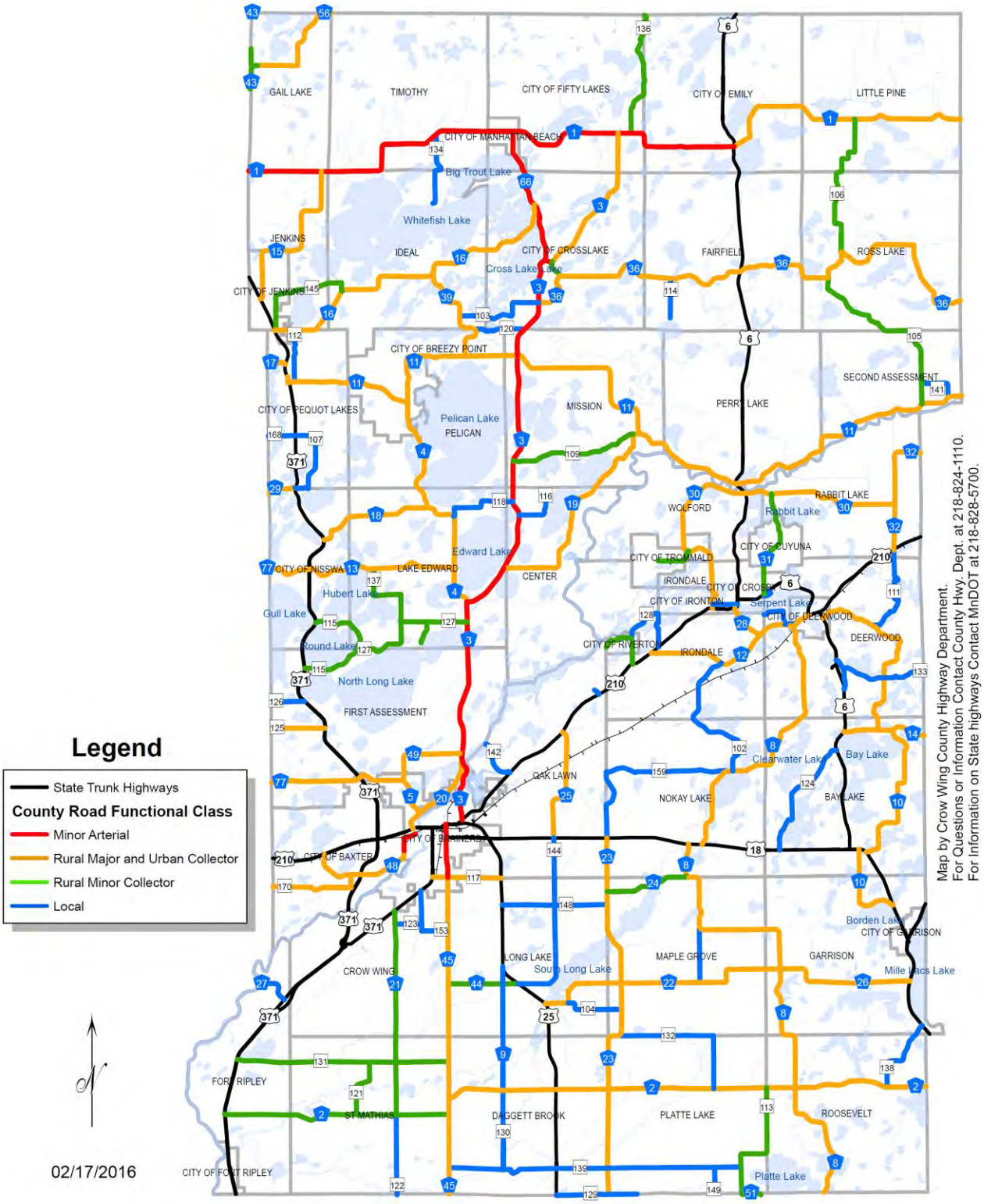
CROW WING COUNTY RESOLUTION 2015-68



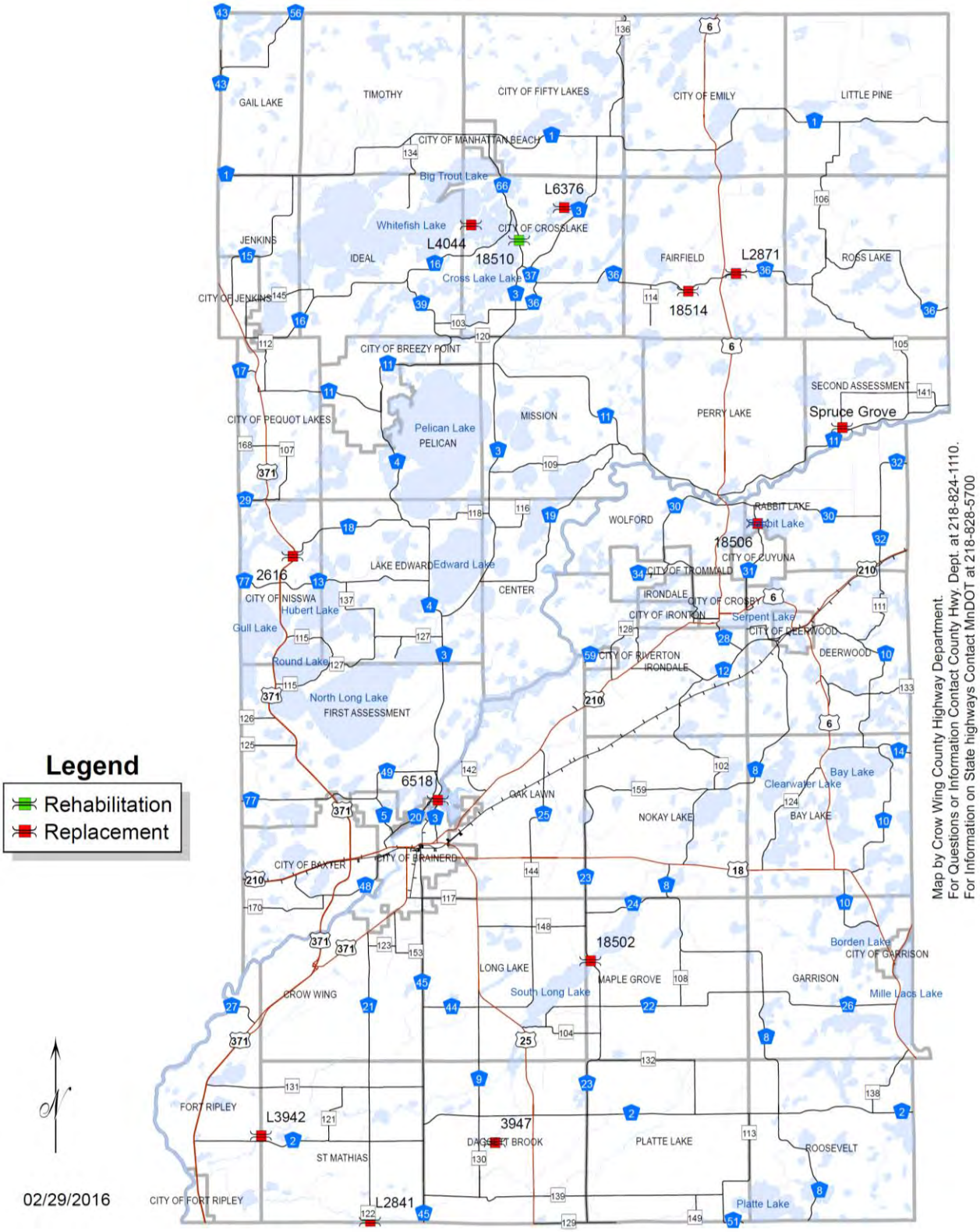
CROW WING COUNTY
2016-2020 Sales Tax Projects



CROW WING COUNTY
Functional Class



CROW WING COUNTY
Bridge Priority List



2016 CSAH/CR/FAD Bridge Replacement Priority List

Bridge Number	Location	Road System	Year Built	ADT		Suff. Rating	Replacement Cost	Funding	Remarks
Spruce Grove	2nd Accessment	Twsp (SAD)	1975	25	1973	-	$150,000	Town Bridge	Through rural road serving residential and agricultural traffic. Existing 8 foot (railway tank car) culvert is in poor condition and has washed out twice in the last 20 years. Current culvert replaced bridge no. L5865 August 1975. **Planned for replacement in 2015.**
L2841	CR 122 (Little Noka. River)	CR	1955	205	(2007)	58.0	$280,000	State Bonding/State Aid	Galvanized steel plate culvert. Rusting at the waterline. Currently in the preliminary design phase. Concrete box culvert planned. **Construction planned for summer 2016.**
L2871	CSAH 36 (Mud Brook)	CSAH	1936	267	(2008)	64.5	$346,400	State Bonding/State Aid	General Deterioration. Too narrow for current traffic level. Currently in the preliminary design phase. **Rehabilitation planned in conjunction with resurfacing of that segment of CSAH 36 in the summer 2016.**
18514	CSAH 36 (Little Pine)	CSAH	1981	343	(2008)	91.8	$866,100	State Bonding/State Aid	Bituminous deck and approach repair is needed. The bituminous deck surface is cracked allowing salt and water to penetrate to the wood superstructure. There is currently 7 inches of Bituminous on the deck and the original design was only for 2 inches. Currently load posted for 32 ton straight truck.
18504	CSAH 45 (Noka. River)	CSAH	1970	968	(2008)	87.5	$856,000	State Bonding/State Aide	Deteriorating condition of the superstructure. Longitudinal cracks in lower legs of the channels.
18502	CSAH 23 (Noka. River)	CSAH	1960	796	(2008)	71.2	$319,200	State Bonding/State Aid	Deteriorating condition of the superstructure. Longitudinal cracks in lower legs of the channels.
18506	CSAH 31 (Rabbit Lake)	CSAH	1974	1,663	(2008)	80.2	$529,300	State Bonding/State Aid	Deteriorating condition of the superstructure. Rusting occurring in the steel bridge beams. Need to paint the steel or start planning to replace in 10 to 20 years. Problem, **LEAD PAINT!**
92547	CSAH 21 (Hay Creek)	CSAH	1960	1,361	(2008)	94.2	$150,000	State Bonding	Galvanized steel plate culvert. Rusting at the waterline.
92168	CSAH 2 (Daggett Brook)	CSAH	1967	1,663	(2008)	82.5	$225,800	State Bonding/State Aid	Galvanized steel plate culvert. Rusting at the waterline.
18507	CR 136 (Crooked Creek)	Cnty	1974	310	(2005)	94.8	$257,600	State Bonding/ Local Levy	General Deterioration. Approach fill is ersoding away behind the backer boards & wingwalls, causing sinkholes to develop in the approaches.
6518	CSAH 3 (Mississippi River)	CSAH	1950	9,878	(2008)	77.4	$3,276,800	State Bonding/State Aide	Minor deterioration of the deck and steel beams in non-critical locations. The piers have moderate to heavy concrete scaling typically from 6 inches above to 3 feet below the waterline w/ penetrations up to 2 inches exposing the the reinforcing steel.

Bridges highlighted in yellow are contained in the proposed 2015 Crow Wing County bridge priority resolution.
Bridges with red print are in the final design phase.

2016 Township Bridge Replacement Priority List

Bridge Number	Location	Road System	Year Built	ADT		Suff. Rating	Replacement Cost	Funding	Remarks
3947	Daggett Brook (30th St.)	TWP	1923	58	(2008)	71.9	$172,500	Town Bridge	FUNCTIONALLY OBSOLETE. Through road serving agricultural area. Daggett Brook Township is engaged and in contact with local Engineering firms to begin replacement process.
L2849	Oak Lawn (Jordan Rd.)	TWP	1915	20	(1991)	60.9	$150,000	Town Bridge	Deteriorated conditions. Posted at 26/40 tons. Dead end road, old TH 210 segment, providing access to limited residential properties.
L3942	St. Mathias (Koering Rd.)	TWP	1908	20	(1973)	19.9	$457,100	Town Bridge	STRUCTURALLY DEFICIENT. CLOSED. Out of service since 1987. Through "town line" road.

Bridges highlighted in yellow are contained in the proposed 2015 Crow Wing County bridge priority resolution.
Bridges with red print are in the final design phase.

2016 City Bridge Replacement Priority List

Bridge Number	Location	Road System	Year Built	ADT		Suff. Rating	Replacement Cost	Funding	Remarks
2616	Nisswa (Hazelwood Dr.)	City	1928	850	(2008)	37.3	$150,000	State Bonding	FUNCTIONALLY OBSOLETE. Posted at 18/30 tons. Through road serving residential and recreational developments.
L4044	Crosslake (Melinda Shores Rd.)	City	1950	15	(1990)	67.8	$224,800	State Bonding	Rotation and general deterioration of the abutments. Superstructure was replaced in 1989. Dead end road to residential development.
L6376	Crosslake (Dream Island Rd.)	City	1960	30	(1989)	32.6	$150,000	State Bonding	Rotation and general deterioration of the abutments. Superstructure was replaced in 1988. Dead end road to residential development on Dream Island.
L2878	Dam Rd. (Emily)	City	1937	10	(1986)	50.2	$262,700	Local	Posted at 18/30 tons. Dead end road providing access to state and public lands. Only timber harvesters impacted by the load rating at this time. There are no permanent residents on the far side of the bridge. As the wood decking and steel beams deteriorate expect the load rating to continue to fall. Minimum deck rehab recommended only.

Bridges highlighted in yellow are contained in the proposed 2015 Crow Wing County bridge priority resolution.
Bridges with red print are in the final design phase.

Contact Information

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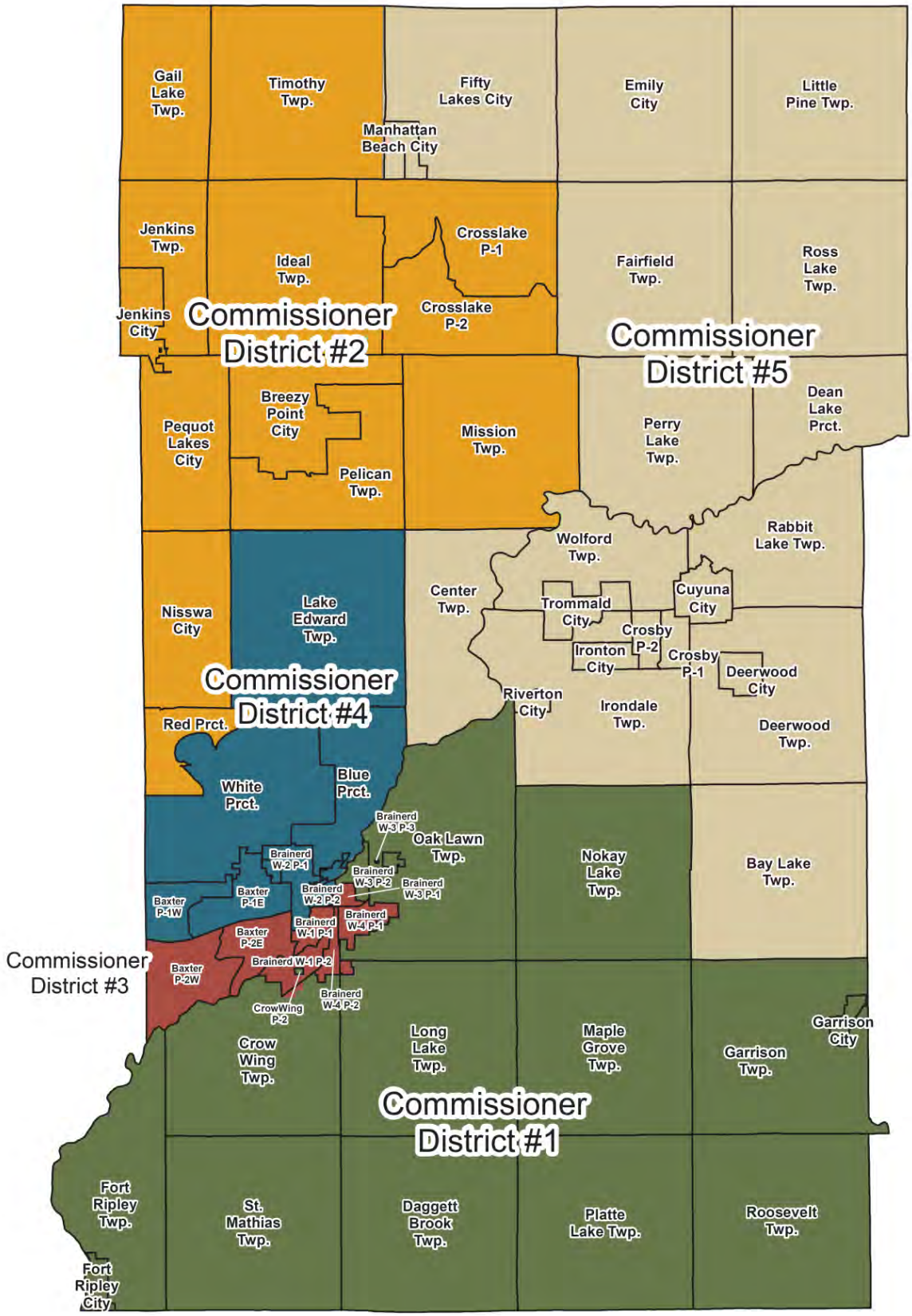
County Engineer

Rob Hall, P.E.
Assistant County Engineer

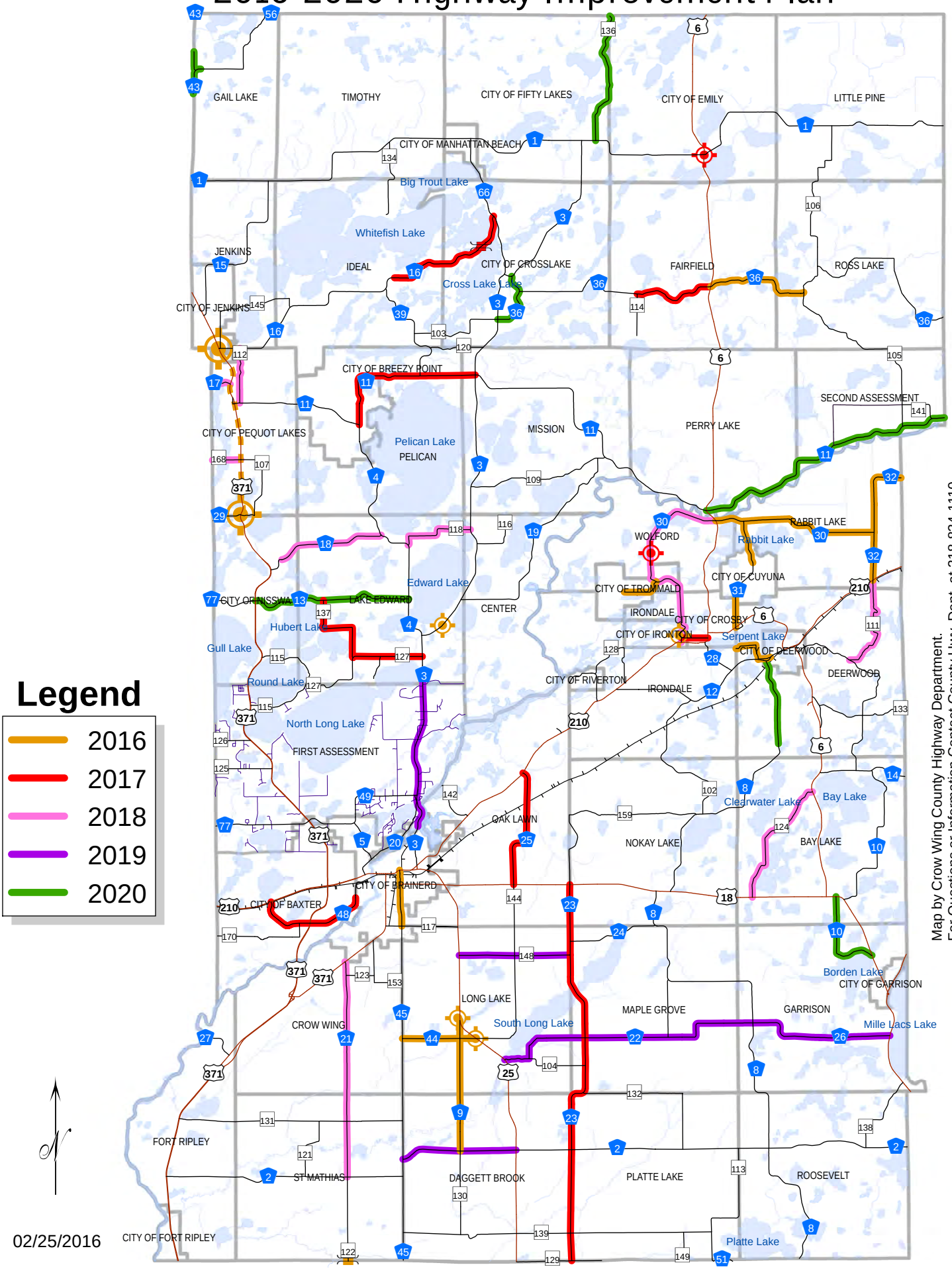
Crow Wing County Commissioners
326 Laurel Street
Brainerd, MN 56401

Paul Koering	**District 1**
Paul Thiede	**District 2**
Rachel Reabe-Nystrom	**District 3**
Rosemary Franzen	**District 4**
Doug Houge	**District 5**


Gail Lake Twp.
Timothy Twp.
Fifty Lakes City
Emily City
Little Pine Twp.
Manhattan Beach City
Jenkins Twp.
Ideal Twp.
Crosslake P-1
Fairfield Twp.
Ross Lake Twp.
Jenkins City
Commissioner District #2
Crosslake P-2
Commissioner District #5
Breezy Point City
Pequot Lakes City
Mission Twp.
Perry Lake Twp.
Dean Lake Prct.
Pelican Twp.
Wolford Twp.
Rabbit Lake Twp.
Nisswa City
Lake Edward Twp.
Center Twp.
Trommald City
Cuyuna City
Crosby P-2
Ironton City
Crosby P-1
Deerwood City
Commissioner District #4
Riverton City
Irondale Twp.
Red Prct.
Deerwood Twp.
White Prct.
Blue Prct.
Brainerd W-3 P-3
Oak Lawn Twp.
Brainerd W-2 P-1
Brainerd W-3 P-2
Brainerd W-3 P-1
Nokay Lake Twp.
Bay Lake Twp.
Baxter P-1W
Baxter P-1E
Brainerd W-2 P-2
Brainerd W-1 P-1
Brainerd W-4 P-1
Baxter P-2E
Commissioner District #3
Baxter P-2W
Brainerd W-1 P-2
Brainerd W-4 P-2
CrowWing P-2
Garrison City
Crow Wing Twp.
Long Lake Twp.
Maple Grove Twp.
Garrison Twp.
Commissioner District #1
Fort Ripley Twp.
St. Mathias Twp.
Daggett Brook Twp.
Platte Lake Twp.
Roosevelt Twp.
Fort Ripley City

Notes

CROW WING COUNTY
2016-2020 Highway Improvement Plan



Map by Crow Wing County Highway Department.
For Questions or Information Contact County Hwy. Dept. at 218-824-1110.
For Information on State Highways Contact MnDOT at 218-828-5700.