FEASIBILITY REPORT

UTILITY EXTENSION – MARAS STREET, 13TH AVENUE, AND HANSEN AVENUE

CITY OF SHAKOPEE | SCOTT COUNTY, MINNESOTA

JANUARY 20, 2021

Prepared for:
City of Shakopee
485 Gorman Street
Shakopee, MN 55379

CITY PROJECT NO. SEWER-21-001
WSB PROJECT NO. 016155-000

FEASIBILITY REPORT

UTILITY EXTENSION – MARAS STREET, 13TH AVENUE, AND HANSEN AVENUE

CITY PROJECT NO. SEWER-21-001

FOR THE CITY OF SHAKOPEE, MINNESOTA

JANUARY 20, 2021

Prepared By:



January 20, 2021

Mr. Darin Manning, PE
Project Coordinator, Engineering Division
City of Shakopee
485 Gorman Street
Shakopee, MN 55379

Re: Feasibility Report
Utility Extension – Maras Street, 13th Avenue, and Hansen Avenue
City Project No. Sewer-21-001
City of Shakopee, MN
WSB Project No. 016155-000

Dear Mr. Manning:

Transmitted herewith for your review is a feasibility report which addresses improvements associated with the Utility Extension project of Maras Street, 13th Avenue, and Hansen Avenue for the City of Shakopee.

I am available at your convenience to discuss this report. Please do not hesitate to contact me at 763.512.5244 if you have any questions regarding this report.

Sincerely,

WSB

Alyson Fauske

Alyson Fauske, PE
Senior Project Manager

Attachment

701 XENIA AVENUE S | SUITE 300 | MINNEAPOLIS, MN | 55416 | 763.541.4800 | WSBENG.COM

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.

Alyson Fauske, PE

Date: January 20, 2021 Lic. No. 42437

Quality Control Review Completed By:

Timothy Hanson, PE

Date: January 20, 2021 Lic. No. 19574

TABLE OF CONTENTS

TITLE SHEET
LETTER OF TRANSMITTAL
CERTIFICATION SHEET
TABLE OF CONTENTS

1. EXECUTIVE SUMMARY 1
2. INTRODUCTION 2
2.1 Authorization 2
2.2 Scope 2
2.3 Data Available 2
3. EXISTING CONDITIONS 3
3.1 Surface 3
3.2 Sanitary Sewer and Watermain 3
3.2.1 Existing Individual Sewage Treatment Systems 3
3.2.2 CSAH 21 Sanitary Sewer Crossing Capacity 4
3.3 Drainage and Storm Sewer 6
3.4 Phase I & II Environmental 7
3.5 Pedestrian Facilities 7
4. PROPOSED IMPROVEMENTS 8
4.1 Surface 8
4.2 Sanitary Sewer 8
4.2.1 Ultimate Sanitary Sewer Capacity 9
4.2.2 CSAH 21 Sanitary Sewer Crossing Capacity Analysis 10
4.2.3 Hansen Avenue Lift Station 12
4.3 Watermain 12
4.4 Drainage and Storm Sewer 13
4.5 Pedestrian Facilities 13
4.6 Streetlights 13
4.7 Right-of-Way 14
4.8 Permits/Approvals 14
4.9 Public Involvement 14
5. FINANCING 15
5.1 Opinion of Probable Cost 15
5.2 Funding 15
5.2.1 Fees to be paid when the project is constructed 15
5.2.2 Fees collected when a permit application is made to connect to the utility 15
5.2.3 Other fees 17
6. PROJECT SCHEDULE 19
7. FEASIBILITY AND RECOMMENDATION 20

Appendix A
Figure 1 – Project Location
Figure 2 – Proposed Utility Locations
Figure 3 – Sanitary Sewer Capacity Analysis
Figure 4 – Proposed Pedestrian Facilities
Figure 5 – Streetlight Map

TABLE OF CONTENTS (continued)

Appendix B
Opinion of Probable Cost

Appendix C
Assessment Maps
Preliminary Assessment Roll

Appendix D
Property Owner Survey Results

Appendix E
Phase II ESA Result Tables

Appendix F
Septic System Reports, Well Boring Reports, and Well Records

Appendix G
Boiling Springs Sanitary Sewer Extension Memorandum

1. EXECUTIVE SUMMARY

The Utility Extension project on Maras Street, 13th Avenue, and Hansen Avenue was initiated by the City's Capital Improvement Plan and Sanitary Sewer Master Plan, and on May 8, 2020, the City authorized the preparation of a feasibility report. The proposed improvements include the extension of watermain and sanitary sewer on Maras Street, 13th Avenue, Hansen Avenue, and Stagecoach Road, as well as street reconstruction on Hansen Avenue, Maras Street, and 13th Avenue, drainage improvements, and pedestrian improvements.

The total estimated project costs for the Utility Extension project is **$5,368,000**, which includes a 10% contingency and 20% indirect costs for legal, engineering, administrative, and financing costs. The project is proposed to be funded through special assessments to benefiting property owners, and City funds. Grant funding is also a possibility.

The project is proposed to be substantially completed in 2022, including restoration items. The project is feasible, necessary, and cost-effective from an engineering standpoint and should be constructed as proposed herein.

2. INTRODUCTION

2.1 Authorization

On May 8, 2020, the City of Shakopee authorized a Proposal of Engineering Services to prepare a Feasibility Report for the Utility Extension – Maras Street, 13th Avenue, and Hansen Avenue project as identified in the City's Capital Improvement Plan and Sanitary Sewer Master Plan. Failing septic systems and potential groundwater contamination are the impetus for the project.

2.2 Scope

This report investigates the feasibility of proposed improvements within the project area. The proposed project areas for improvements include:

- Maras Street between 13th Avenue and Hansen Avenue
- 13th Avenue between Stagecoach Road and the City of Shakopee boundary
- Hansen Avenue between Stagecoach Road and Maras Street
- Stagecoach Road between 13th Avenue and 300 feet south of Hansen Avenue

Proposed improvements within this report include utility extensions, roadway reconstruction, drainage/storm sewer improvements, and pedestrian improvements. See ***Appendix A*** for proposed project area maps.

2.3 Data Available

Information and materials used in the preparation of this report include the following:

- City of Shakopee 2040 Comprehensive Plan (November 2019)
- City of Shakopee Sanitary Sewer Master Plan (January 2019)
- City of Shakopee Assessment/Improvement Policy (July 2017)
- City of Shakopee Record Plans
- City of Shakopee Topography Maps
- Public Works Maintenance Records
- Scott County ISTS Records
- Minnesota Well Index
- Private Utility Maps
- Utility Record Drawings
- Field Observations of the Area and Topographic Survey
- Geotechnical Evaluation Report (June 2020)
- Phase I & II Environmental Site Assessments (June 2020)
- Shakopee Public Utility Commission Comprehensive Plan dated 2018 and amended in 2019

3. EXISTING CONDITIONS

3.1 Surface

The roadways in the project area are currently bituminous paved with concrete curb and gutter. Existing roadway widths are 36-feet on Maras Street and Hansen Avenue, and 44-feet on 13th Avenue. Based on pavement inspections by City staff, 13th Avenue is in fair condition, was constructed in 1987, and overlaid in 2009. Hansen Avenue and Maras Street both show signs of deterioration, cracking, and fatigue, and are candidates for roadway reconstructions, they were constructed in 1997. The concrete curb and gutter throughout the project area are generally in good condition.

3.2 Sanitary Sewer and Watermain

Sanitary sewer is not present within the proposed project area, instead the adjacent properties are connected to private septic systems. There is existing 12-inch PVC sanitary sewer on Hansen Avenue, just west of the intersection at Stagecoach Road, which would serve as a connection point for the proposed sanitary sewer. Many of the existing septic systems are currently failing or non-compliant due to age.

3.2.1 Existing Individual Sewage Treatment Systems

Properties within the project area are currently served by Individual Sewage Treatment Systems (ISTS). Copies of the Scott County records are included in ***Appendix F*** and are summarized in ***Table 3-1***. According to the United States Environmental Protection Agency (EPA) the average life span of an ISTS is 15 to 40 years. The longevity of an ISTS system varies based on system usage, the maintenance performed on the system, the type of material used, groundwater flooding, and damage due to vehicular traffic.

In some instances, there is no record of when a system was installed and determining the reason why is beyond the scope of this study. Some reasons why may include: there are no structures on the property, the property shares an ISTS system with an adjacent property, or the system was installed prior to record-keeping protocols. Minnesota State Statute 115.55 Subd. 5 requires existing systems to be inspected when a bedroom is added to a dwelling. Additionally, Scott County requires inspections when an action (such as a land use application or building permit) has been or will be taken that may negatively affect the ISTS; with a permit or amendment application is made for a change in the property, such as grading, additional parking or outdoor storage; or when a parcel is developed, subdivided, rezoned or otherwise changes size.

Table 3-1 Summary of ISTS within the Project Area

Property Address	Age of ISTS	Condition of ISTS	Information Source
8620 13th Ave E	13 years	Conforming System	Scott County Record
8700 13th Ave E	10 years	Failure to Protect GW*	Scott County Record
8800 13th Ave E	18 years	Setback issues	Scott County Record
8992 13th Ave E	21 years	Conforming System	Scott County Record
9016 13th Ave E	Over 21 years	Conforming System	Scott County Record
9040 13th Ave E	Unknown	Failure to Protect GW*	Scott County Record
9064 13th Ave E	20 years	Conforming System	Scott County Record
9081 13th Ave E	6-10 years	Conforming System	Scott County Record
9085 13th Ave E	11 years	Conforming System	Scott County Record

Property Address	Age of ISTS	Condition of ISTS	Information Source
9095 13th Ave E	3 years	Conforming System	Scott County Record
9097 13th Ave E	21 years	Conforming System	Scott County Record
9099 13th Ave E	Unknown	Unknown	None
9100 13th Ave E	Unknown	Unknown	None
8600 Hansen Ave	Unknown	Failure to Protect GW*	Scott County Record
1300 Maras St	n/a	n/a	None
1315 Maras St	10 years	Failure to Protect GW*	Scott County Record
1350 Maras St	12 years	Conforming System	Scott County Record
1382 Maras St	Over 21 years	Failure to Protect GW*	Owner Survey/MPCA
1395 Maras St	13 years	Conforming System	Scott County Record
1414 Maras St	Unknown	ITPHS**	MPCA***
1415 Maras St	13 years	ITPHS**	Scott County Record
1428, 1432, 1438, 1444 Maras St	Unknown	Failure to Protect GW*	MPCA***
1431 Maras St	Unknown	Failure to Protect GW*	Scott County Record
1465 Maras St	13 years	Failure to Protect GW*	Scott County Record
1488 Maras St	14 years	Conforming System	Scott County Record
1500 Maras St	Unknown	Failure to Protect GW*	Scott County Record
1393 Stagecoach Rd	Over 21 years	Failure to Protect GW*	Scott County Record
1425 Stagecoach Rd	Unknown	Failure to Protect GW*	Scott County Record
1451 Stagecoach Rd	Over 21 years	Failure to Protect GW*	Scott County Record
1513 Stagecoach Rd	Unknown	ITPHS**	MPCA***

* *GW = groundwater*
** *ITPHS = Imminent Threat to Public Health or Safety*
*** *MPCA = Minnesota Pollution Control Agency*

Scott County has been in contact with the owners of 1451 and 1513 Stagecoach Road indicating that the septic systems need to be replaced or the properties connect to sanitary sewer. County staff preference is for sanitary sewer to be extended, citing that the area is highly susceptible to groundwater contamination and that most of the land has been disturbed in some way (e.g. fill, compaction).

3.2.2 CSAH 21 Sanitary Sewer Crossing Capacity

The capacities of the existing 12-inch PVC sanitary sewers in Hansen Avenue, CSAH 21, and Old Carriage Road were analyzed to confirm that sufficient capacity exists for projected wastewater flows. The existing pipe capacities are shown in ***Table 3-2*** below, and the projected flows and residual capacity for these sewers are discussed in Section 4. The pipe segments listed below are highlighted in the Sanitary Sewer Capacity Analysis figure in ***Appendix A***.

Table 3-2 CSAH 21 Sanitary Sewer Crossing Existing Capacity

Location	Start MH	Stop MH	Slope	Capacity (gpm)*
Hansen Ave	SE327	SE326	0.21%	866
Hansen Ave	SE326	SE325	0.19%	824
Hansen Ave	SE325	SE324	0.21%	866
Hansen Ave	SE324	SE323	0.22%	886
Hansen Ave	SE323	SE322	0.21%	866
Hansen Ave	SE322	SE321	0.20%	845
Hansen Ave	SE321	SE320	0.23%	906
CSAH 21	SE320	SE319	0.26%	964
CSAH 21	SE319	SE318a	0.24%	926
CSAH 21	SE318a	SE318	0.34%	1,102
Old Carriage Rd	SE318	SE317	0.20%	845
Old Carriage Rd	SE317	SE316	0.25%	945

** Capacities are the full bore pipe capacities of 12-inch diameter PVC with a Manning's n of 0.011 at the slope listed.*

Currently, there is no watermain within the majority of the proposed project area. There is existing 12-inch ductile iron pipe (DIP) watermain on 13th Avenue and Stagecoach Road which would serve as connection points for the proposed watermain looping. The Shakopee Public Utility Commission also proposes a future connection point for watermain at the eastern boundary of the project within the City of Savage watermain system.

Properties in the project area are served by private wells as summarized in ***Table 3-3***. Wells that have been tested for "Arsenic" or "Nitrate" are noted as such under "Condition of Well." The concentrations in the test results ranged from 1.0 to 1.709 micrograms per liter (µg/L) of Arsenic and 0.02 to 1.0 milligrams per liter (mg/L) of Nitrate, and did not exceed the U.S. EPA Maximum Contaminant Levels (MCL) of 10 µg/L and 10 mg/L, respectively. The goal is for these contaminants to be absent from drinking water as long-term consumption of Arsenic increases the risk of diabetes and cancer, and Nitrates pose a risk of serious illness in infants below the age of six months, including shortness of breath and blue-baby syndrome.

In addition to the Arsenic and Nitrates detected in some of the wells, the Phase I & II Environmental Site Assessments indicate that the groundwater in the project area contains levels of barium, cadmium, and selenium that are above the United States Environmental Protection Agency (US EPA) maximum contaminant levels (MCL).

Table 3-3 Summary of Wells within the Project Area

Property Address Per MN Well Index	Unique ID	Age of Well	Condition of Well	Information Source
8700 13th Ave E	540201	1994	Active	Well Report (2014)
8800 13th Ave E	500678	1989	Sealed	Well Report (2020)
8855 13th Ave E	427387 427388	1987 1987	Sealed Sealed	Well Report (2014)

Property Address Per MN Well Index	Unique ID	Age of Well	Condition of Well	Information Source
8959 13th Ave E	522945 523384 523385 523386 523387 523388	1993 1993 1993 1993 1993 1993	Sealed Sealed Sealed Sealed Sealed Sealed	Well Reports (2014)
8992 13th Ave E	610447	1999	Active- Nitrate, 1.0 mg/L (04/07/2006)	Well Report (2005)
9016 13th Ave E	585375	1996	Active- Nitrate, 1.0 mg/L (04/7/2007)	Well Report (2014)
9081 13th Ave E	800876	2013	Active- Arsenic, 1.709 µg/L, and Nitrate, 0.02 mg/L (10/22/2013)	Well Report (2013)
9085 13th Ave E	449058	1989	Sealed	Well Report (2018)
9095 13th Ave E	836418	2019	Active- Arsenic, 1.0 µg/L, and Nitrate, 0.5 mg/L (6/27/2019)	Well Report (2019)
9097 13th Ave E	195544	1983	Active	Well Report (2014)
8615 Hansen Ave	632978 830039	2003 2018	Active- Nitrate, 1.0 mg/L (4/7/2006) Active- Arsenic, 1.0 µg/L, and Nitrate, 0.1 mg/L (1/16/2018)	Well Report (2003)
Maras St (possibly 1395 Maras St)	601627	1997	Dewatering	Well Report (2009)
1428 Maras St	510425	1990	Active	Well Report (2014)
8990 Maras St	625976	1999	Active- Nitrate, 0.8 mg/L (4/7/2006)	Well Report (1999)
1393 Stagecoach Rd	502765	1989	Active	Well Report (2014)
1451 Stagecoach Rd	N/A	Over 21 years	Active – Arsenic (concentration not provided)	Owner Survey
1513 Stagecoach Rd	434057 428614	1987 1987	Active Active	Well Reports (2004-2014)
N/A	211814 211820 209936	1976 1976 1976	Active Active Active	Well Records (2014)

3.3 Drainage and Storm Sewer

Storm sewer facilities exist on Maras Street, 13th Avenue, and Hansen Avenue, ranging in size from 12-inch to 30-inch-diameter concrete pipe. The majority of the existing storm sewer was installed in the late 1990s and is in adequate to good condition, with treatment and rate control provided by two adjacent ponds. Storm sewer design parameters were updated nationwide in 2014 and analysis of the storm sewer system within the project area indicates that majority of the storm sewer is undersized based on the current standards. Undersized locations for the 100-year storm include the low points on Hansen Avenue and on Maras Street. At these locations, models indicate stormwater surcharges exceeding the rim

elevations or reaching the street. However, the City has not reported any significant water or flooding issues in this area. Emergency overflows on the east side of Maras Street have been identified to convey excess runoff to the existing storm water pond. Outdated castings will be replaced. The project does not trigger the Lower Minnesota River Watershed District treatment volume requirement.

A draft study of "9186 Boiling Springs Lane Landlocked Flooding Area" was completed by AE2S March 18, 2020. Once the study is finalized the City will direct what improvements need to be incorporated into the final design of the project.

3.4 Phase I & II Environmental

The Phase I Environmental Site Assessment (ESA) was completed in June 2020 and identified eight Recognized Environmental Conditions (REC) within the project area as summarized in ***Table 3-4***.

Table 3-4 Recognized Environmental Conditions (REC) from Phase I ESA

REC	Rationale	Current Address	Parcel ID
1	Diesel and gasoline USTs and dispensers	8600 Hansen Ave	279120220
2	Diesel AST and dispenser	1500 Maras Street	279120250
3	AST and UST site	1350 Maras Street	270570020
4	Diesel AST and dispenser	1382 Maras Street	270570030
5	VIC, Leak, AST and UST site	1415 Maras Street	270570060
6	AST, UST and SWF/LF site	1315 Maras Street	270570070
7	AST, UST and Historical Spill site	8810 13th Avenue East	279120221
8	Current and Historical Auto Repair Shops	1416-1444 Maras Street	270990020 271510010 271510020 271510030 271510040 271510050

A Phase II ESA was subsequently conducted to evaluate current subsurface soil and groundwater conditions within the project area. Low level petroleum related compounds and lead were observed in select soils samples and barium and chromium were detected in all samples; these are below applicable Minnesota Pollution Control thresholds and/or unregulated fill criteria; therefore, these soils can be reused during construction.

Elevated concentrations of dissolved barium and cadmium were observed in each of the groundwater samples and exceed the High-Risk Limits as established by the Minnesota Department of Health. Selium levels were high in four of the six groundwater samples and exceed the High-Risk Limits as established by the Minnesota Department of Health. Some of the diesel range organics within the groundwater samples are near the regulatory standards. The table of results from the Phase II ESA are included in ***Appendix E***.

3.5 Pedestrian Facilities

There are currently no off-road pedestrian or bicycle facilities in the project area. The City has identified potential pedestrian improvement connections in the area which can be included with the Utility Extension project. There are existing pedestrian facilities to the west of the project area, connecting to an existing transit station.

4. PROPOSED IMPROVEMENTS

4.1 Surface

There are no proposed surface changes associated with the proposed Utility Extension project. Impacted roadways will be replaced at the existing widths and remain an urban street section. Currently, Maras Street and Hansen Avenue are 36 feet wide, and 13th Avenue is 44-feet wide. A 10-ton roadway design is recommended for the roadway reconstructions due to the light-industrial facilities within the project area. If State Aid funding is pursued for this project, State Aid design standards will be reviewed for 13th Avenue during final design. Streets will only be reconstructed where utilities are replaced within the roadbed.

During preliminary utility design, alignment and installation options to save curb and gutter were investigated. Due to the additional utility installation costs and potential easement needs, it would not be cost-effective to save all curb and gutter. For this report, the total replacement of curb and gutter is accounted for in the project cost, during construction the curb and gutter will be saved when feasible.

4.2 Sanitary Sewer

There are no existing sanitary sewers within the study area and is therefore proposed to be extended to service properties within the project area. As noted in ***Table 3-1*** of this report, there are three systems that are “Imminent Threat to Public Health or Safety”, ten systems that are “Failure to Protect Groundwater” and eight conforming systems. Extending sanitary sewer in conjunction with a street improvement project is preferred to installation of the utility independently as it is more cost-effective and minimizes disruption to the property owners.

The nearest existing sanitary sewer is a 12-inch PVC sanitary sewer in Hansen Avenue at the west side of the intersection at Stagecoach Road. The 12-inch PVC plug at this location has an invert elevation of 731.7 feet and the lowest ground elevation within the study area (excluding stormwater ponds) is approximately 734 feet, therefore the area cannot be served by gravity. A sanitary sewer lift station will be required to service this area, consistent with the City of Shakopee Sanitary Sewer Master Plan, dated January 2019.

The proposed extension of sanitary sewer on Maras Street and Hansen Avenue includes 8-inch, 10-inch, and 12-inch-diameter PVC pipe, installed through open-cut trenching. Sanitary sewer pipe sizing for the 6-inch forcemain is based on the ultimate developed capacity for the broader Boiling Springs Area, which extends south of the project area. The sizing for the gravity fed sanitary sewer was determined to ensure adequate service capacity for the light industrial facilities in the area, and future developments to the south (see attached proposed lift station service area map, ***Appendix A, Figure 3***).

The proposed extension of sanitary sewer on 13th Avenue includes 8-inch PVC pipe, gravity fed from existing development, with sizing determined by the City of Shakopee. Four installation methods were examined for 13th Avenue:

- Option A, open-cutting the utilities within the southern boulevard, was not evaluated for further consideration due to the expense and timing to acquire the easements necessary to construct the utilities.

- From a technical standpoint, Option B, open-cutting the utilities within the roadway, is the preferred installation method on 13th Avenue as the utilities would be installed at the preferred alignment and services would be stubbed to the right of way line.

- Option C, open-cutting the utilities within the northern boulevard, was not evaluated for further consideration due to the amount of open cut that would be required to extend services to the properties on 13th Avenue and a potential pipeline conflict.

- The construction method for Option D, directionally drilling the utilities within the southern boulevard, was investigated as part of the preliminary design to minimize disruption to the surface.

For Option D we anticipate that three drilling pits would be necessary: one on each end of 13th Avenue and one at the intersection of Maras Avenue. While the cost per lineal foot is higher than open cut, this method would reduce street reconstruction costs; however, directional drilling would require boulevard restoration and potential easement acquisition rather than staying within the existing right of way. Directional drill contractors indicate that 1% is the minimum grade that can be set for the pipe, whereas 0.4% pipe grade can be achieved with an open cut method. Due to the geography of the project area the grade of the sanitary sewer needs to be as low as possible so that the homes on 13th Avenue can be served by gravity to the extent possible, therefore, directional drilling is not a practical option in this instance.

It is recommended that the project plans incorporate Option B, the open-cut method for sanitary sewer installation in 13th Avenue. Implementing this option will keep the sewer elevation as low as possible in effort to provide gravity service to the homes and reduce the likelihood for the cost and project delays associated with permanent easement acquisition. Option B will also provide a greater value due to the reconstruction of the existing 30-year old roadway.

The ground floor elevations of the homes were estimated using the two-foot contours on the Scott County GIS map and are shown in ***Table 4-1*** along with the proposed invert elevation of the sanitary sewer and the observed groundwater elevations. Due to the age of the homes along 13th Avenue the City's property files do not contain the low floor elevations. During final design it is recommended that the lowest floor elevations of the homes be determined so that the final sanitary sewer design can accommodate gravity service to the extent practicable.

Table 4-1 Low Floor Elevation on 13th Avenue

Address	Estimated Ground Floor Elevation	Proposed Invert Elevation of Sanitary Sewer	Groundwater Elevation Observed at Nearest Soil Boring
8992 13th Ave E	742'	729'	731' (Boring 3)
9016 13th Ave E	741'	730'	729.5' (Boring 2)
9040 13th Ave E	741'	730'	729.5' (Boring 2)
9064 13th Ave E	742'	731'	729.5' (Boring 2)
9100 13th Ave E	N/A – Vacant Property	733'	729.5' (Boring 2)

Sanitary sewer stubs will be provided out to all buildable lots within the project area. For the residential properties on the private drive off 13th Avenue, a sanitary sewer stub will be installed at the intersection manhole for future connection. The location of these stubs in the preliminary design are based on the location of septic systems provided to the project team. The sewer stub locations will be verified as part of final design and adjusted as needed in the field with property owner input. Property owners will have three years to connect to sanitary service, per City ordinance.

4.2.1 Ultimate Sanitary Sewer Capacity

The wastewater flows anticipated within the study area, as well as a portion of the downstream sewer tributary area, were projected in order to evaluate the existing sewer capacity and to size the future lift station. The projected wastewater flows are shown in ***Table 4-2*** below, and the corresponding areas are shown in ***Appendix A, Figure 3***. The land uses, densities, and residential/non-residential percentages used to calculate the future or estimated flows were

provided by the City and are based on the Planned Land Use from the 2040 Comprehensive Plan.

Table 4-2 Wastewater Flow Projections

Land Use	Assumed Flow (gpd/acre)	Area (acres)	Average Flow (gpd)	Peak Hourly Flow Factor	Peak Hourly Flow (gpm)
Future Lift Station					
Mixed Employment Center	1,600	80.65	129,040		
Suburban Edge Residential (Boiling Springs Area)	263	163.73	42,979		
Utilities	0	5.00	0		
Lift Station Sub-Total			***172,019***	***3.9***	***466***
Mixed Employment Center (Gravity along Stagecoach Rd)	1,600	27.99	44,784		
East of Stagecoach Sub-Total			***216,803***	***3.8***	***572***
CSAH 21 Gravity Crossing					
Existing					
Mixed Residential	1,125	23.82	26,798		
Mixed Use Commercial Center	800*	35.82	28,656		
Suburban Residential	675	16.73	11,293		
Existing Sub-Total (including Lift Station)			***283,549***	***3.7***	***729***
Ultimate					
Mixed Residential	1,125	9.53	10,721		
Mixed Use Commercial Center	800*	12.32	9,856		
Mixed Use Commercial Center	2,280*	6.07	13,840		
Suburban Edge Residential	263	12.12	3,182		
Ultimate Total			***321,148***	***3.6***	***803***

** Existing development within the Mixed-Use Commercial Center areas is strictly non-residential. Therefore, the assumed flow for both existing and future development within these areas is 800 gpd/acre. The portion which is planned for apartments uses 2,280 gpd/acre.*

4.2.2 CSAH 21 Sanitary Sewer Crossing Capacity Analysis

The projected wastewater flows from ***Table 4-2*** were assigned to the sanitary sewers from ***Table 3-2*** to evaluate the ability of the existing system to convey the additional sewage. The projected peak hourly flows at two stages of development are shown in ***Table 4-3***. The first stage includes existing development between CSAH 21 and Stagecoach Road, as well as the proposed lift station and gravity flow east of Stagecoach Rd. The second stage is ultimate development and includes developable areas between CSAH 21 and Stagecoach Road.

Table 4-3 CSAH 21 Sanitary Sewer Gravity Main Residual Capacity

Location	Start MH*	Stop MH*	Capacity (gpm)**	Peak Hourly Flow (gpm)***	Residual Capacity (gpm)***	Ultimate Peak Hourly Flow w/Boiling Springs Area (gpm)	Ultimate Residual Capacity w/Boiling Springs Area (gpm)
Hansen Ave	SE327	SE326	866	572	294	572	294
Hansen Ave	SE326	SE325	824	572	252	572	252
Hansen Ave	SE325	SE324	866	572	294	572	294
Hansen Ave	SE324	SE323	886	572	314	572	314
Hansen Ave	SE323	SE322	866	729	137	803	63
Hansen Ave	SE322	SE321	845	729	116	803	42
Hansen Ave	SE321	SE320	906	729	178	803	103
CSAH 21	SE320	SE319	964	729	235	803	161
CSAH 21	SE319	SE318a	926	729	197	803	123
CSAH 21	SE318a	SE318	1,102	729	373	803	299
Old Carriage Rd	SE318	SE317	845	729	116	803	42
Old Carriage Rd	SE317	SE316	945	729	216	803	142

* *Refer to Appendix A, Figure 3 for manhole locations.*
** *Capacities are the full bore pipe capacities of 12-inch diameter PVC with a Manning's n of 0.011 at the slopes listed in Table 3-3.*
*** *Includes the existing development, gravity flow within the Hansen/Maras area, and the maximum pumping rate of the proposed lift station.*

The reviewed existing sanitary sewer segments have adequate capacity for the proposed lift station flow, but several are projected to approach ninety-five percent (95%) of their capacity during worst-case ultimate peak hourly flows. Final design of the lift station can include variable frequency drives (VFDs) and additional storage volume to spread out and therefore reduce the peak hourly flow. It is recommended to monitor actual flows as development progresses.

This monitoring includes the Southbridge Lift Station located downstream of these sewers, just north of the intersection of Southbridge Parkway and Old Carriage Road. The Southbridge Lift Station has two submersible pumps with design points of 1,000 gpm at 23 feet total dynamic head (TDH), therefore the lift station's firm capacity is approximately 1,000 gpm. The exact pumping rate can be confirmed with a pump drawdown test. Pump runtimes should be monitored at this lift station as development progresses, and additional evaluation should be completed if the runtimes become long. This lift station is scheduled to be evaluated and rehabilitated in 2022.

4.2.3 Hansen Avenue Lift Station

Based on the projected peak hourly flow within the lift station service area from ***Table 4-3***, which includes the future connection of the Boiling Springs area, the lift station will require a minimum flow capacity of 466 gpm. The proposed lift station capacity is 500 gpm. The majority of the flow to the lift station will be from the Mixed Employment Center area in the future, which is anticipated to connect over an anticipated period of three years or more. Therefore, no phasing of the lift station structures, pumps, or forcemain is anticipated to be necessary.

Based on ground elevations within the lift station service area and the location of the receiving gravity sewer, the intersection of Hansen Avenue and Maras Street is a suitable location for the lift station. At this location, the lift station wet well will be 25 to 30 feet deep. Based on a firm capacity of 500 gpm, the lift station will need a 10-foot diameter wet well. Either a 6-inch or 8-inch-diameter forcemain is feasible. At the ultimate peak hourly flow of 500 gpm, a 6-inch pipe would have a velocity of 5.7 ft/s, while an 8-inch pipe would have a velocity of 3.2 ft/s. The smaller 6-inch pipe would generate more headloss and therefore would require slightly larger pumps at the ultimate peak hourly flow rate. The larger 8-inch pipe would have less headloss, but it would require a minimum flow rate of 320 gpm in order to maintain a minimum velocity of 2 ft/s. This should be considered if VFDs are used and the pumps initially operate at a lower frequency and flow rate. Based on the use of VFDs and the flow rate, a 6-inch forcemain is preferred and planned.

A shallow marsh wetland exists to the west of the proposed lift station location. This is a jurisdictional wetland according to the Wetland Conservation Act therefore a wetland delineation should be completed before improvements are constructed. Any impacts to the wetland need to be permitted.

4.3 Watermain

The proposed extension of watermain on Maras Street and Hansen Avenue includes 12-inch-diameter ductile iron pipe, installed through open-cut trenching. As noted in ***Table 3-3***, Well Reports indicate that seven of the 15 active private wells contain arsenic and/or nitrates. Groundwater samples obtained with the Phase II Environmental Site Assessment indicate that barium, cadmium, and selenium that are above the United States Environmental Protection Agency (US EPA) maximum contaminant levels (MCL). Extending watermain in conjunction with a street improvement project is preferred to installation of the utility independently as it is more cost-effective and minimizes disruption to the property owners.

The watermain sizing was determined by the Shakopee Public Utility Commission (SPUC) to ensure adequate service flow to the light-industrial facilities and future developments. Due to the high-water table, zinc coating and poly-wrap are required by SPUC for all ductile iron water pipes.

As required by the Shakopee Public Utility Commission watermain improvements along the east side of Stagecoach Road include the installation of 12-inch-diameter ductile pipe loop from 13th Avenue to Hansen Avenue, then south of Hansen Avenue for approximately 650 feet. The ultimate roadway and trail section for Stagecoach Road will be considered when designing the location and depth of the watermain.

In conjunction with the sanitary sewer preliminary design analysis, four installation options were proposed for the watermain on 13th Avenue. The installation methods included both open-cut and directionally drilled options for the watermain. The watermain installation method will be determined by, and match, the installation method for the sanitary sewer on 13th Avenue. The watermain that will be installed within 13th Avenue can ultimately service the properties to the south of this road. This can be achieved by extending the watermain through the private drive based on resident and property owner request.

Property owners will have three years to connect to water service, per City ordinance. Water service stubs will be installed to all buildable lots within the project area. The location of these stubs has been preliminarily determined based on the location of the existing well where the project team had that information; this should be verified as part of final design and in the field with the property owner.

4.4 Drainage and Storm Sewer

No significant drainage improvements are proposed with this project. Minor storm sewer replacements are proposed on 13th Avenue to facilitate the installation of watermain and sanitary sewer. Due to the depth of the new utilities, the storm sewer crossings will need to be removed and replaced to avoid conflicts during the installations. Removing and replacing only the small portions of conflicting storm sewer is cost effective for both the installation of the utilities and the overall drainage costs. The existing storm sewer is in adequate condition.

The industry design parameters for storm sewer design have been updated since this storm sewer system was installed. Storm sewers are designed to convey runoff from a 10-year event, meaning there is a 1 in 10, or 10% chance of a storm of this intensity in a given year. The 100-year event, which has a 1% chance of occurring in a given year is used to design storm ponds and low points adjacent to roadways. The 100-year event for the project area was analyzed and indicates that the storm sewer surcharges on Hansen Avenue and Maras Street. No significant drainage concerns have been identified in the area by the City or property owners therefore it is recommended to leave the existing storm sewer in place where feasible and replace manhole castings. Future development should be required to implement onsite rate control or retention measures.

4.5 Pedestrian Facilities

The City's Design Guidelines and Capital Improvement Plan recommend the installation of sidewalks within reconstructed street corridors. The proposed project area is part of an identified trail corridor in the Comprehensive Plan to improve pedestrian connectivity in the City. Walkability between homes and amenities is generally desirable, and this project provides the opportunity to extend sidewalks from the residential area on 13th Avenue to public transit and the multitude of shopping and restaurant experiences to the west of Stagecoach Road. Similarly, employees within the non-residential areas of the project could utilize the sidewalks during a lunch break to go for a walk or to walk to a nearby restaurant.

Including sidewalk installation with this project instead of a future sidewalk extension project is more cost-effective as restoration costs would only be incurred with once, and unit prices are typically lower in a large-scale project. Additionally, this approach would minimize property owner inconvenience associated with construction and restoration activities.

During the first neighborhood meeting, and in the Property Owner Survey, multiple property owners in the area opine that sidewalks are not necessary. Sidewalk/Trail improvements will be assessed with surface improvements, per the City's Assessment Policy. See ***Appendix A*** for the proposed sidewalk locations.

4.6 Streetlights

Nine (9) streetlights are proposed to be installed with the project, as shown in ***Appendix A***. Per the City of Shakopee's Street Lighting policy for new developments, streetlights are at all intersections, as well as at approximately 450-foot intervals where intersections are spaced more than 675-feet apart. The lighting placement was chosen based on the recommended spacing, the distance of the intersections, and the locations of existing driveways, lighting, and other facilities. There are multiple properties within the project area with existing private lighting for parking lots or entrances, as well as two existing streetlights on Stagecoach Road at the intersections of 13th Avenue and Hansen Avenue. Most property owners that expressed an opinion on installing additional streetlights with this project indicated that they are not necessary. Streetlight improvements will be assessed with surface improvements, per the City's Assessment Policy.

4.7 Right-of-Way

It is anticipated that work will take place within the existing roadway right-of-way or within existing roadway, drainage and utility easements. Based on the preliminary design and existing roadway locations, the easement on Hansen Avenue is 60 feet wide and sufficient for all proposed improvements including the lift station at the intersection of Hansen Avenue and Maras Street. Temporary construction access on private property may be required to accommodate driveway repair, water/sewer service installation, and final boulevard grading. Written permission or waiver of trespass agreements will be secured from private property owners for these encroachments to the greatest extent possible.

4.8 Permits/Approvals

Permits will be necessary from the following agencies:

- National Pollution Discharge Elimination System (NPDES) Permit
- Minnesota Pollution Control Agency (MPCA) Sewer Extension Permit
- Metropolitan Council Environmental Services (MCES) Sanitary Sewer Extension Permit
- Minnesota Department of Health (MDH) Extension of Water Main Permit
- Minnesota State Aid (MSA) Approval for 13th Avenue, a State Aid Route
- Minnesota Wetland Conservation Act (WCA) for any Wetland Impacts

4.9 Public Involvement

A Virtual Open House meeting for property owners was held on July 21, 2020. Preliminary information was available to property owners regarding the concept plans and impacts associated with the project. Approximately 12 property owners were in attendance, as well as City staff, Shakopee Public Utility Commission representatives, and WSB engineering representatives. The primary feedback given related to the assessment costs. Due to technical issues during the July 21, 2020, Virtual Open House, a second virtual meeting was held on August 28, 2020, and included the proposed assessment methodology. Approximately eight property owners were in attendance, as well as City staff, Shakopee Public Utility Commission representatives, and WSB engineering representatives. The primary feedback given related to the assessment methodology and payback, project costs, and project timeline.

Surveys were sent to all property owners in the project area with questions regarding the sanitary sewer and watermain extensions, existing septic systems, wells, and street improvements. Sixteen survey responses were received by the City, six by mail and ten online; survey responses are included in ***Appendix F***.

5. FINANCING

5.1 Opinion of Probable Cost

The total project cost is estimated to be **$5,368,000** for the open cut installation of the utilities within all streets. If the sanitary sewer and watermain along 13th Avenue are installed by a directional drill method, the total project cost is estimated to be **$5,212,000**. Although the construction cost is lower for the directional drill method, it does not include the cost for necessary additional easements for the work to be completed, or the added value of new roadway surfaces on 13th Avenue. A detailed breakdown of the cost opinions for the proposed options can be found in ***Appendix B*** of this report. The opinion of cost incorporates estimated construction costs and includes a 10% contingency factor. Indirect costs are projected at 20% of the estimated construction cost and include legal, engineering, administrative, and financing.

5.2 Funding

The funding for the Utility Extension project is proposed to come from a combination of City funds, special assessments, and City fees to benefiting property owners.

Assessments are based on actual project costs and will be certified with the County. If they are not paid in full at the time of construction for Street Assessments or at the time of connection for Sanitary and Water Assessments, they will be levied with taxes. The special benefit analysis completed for this project indicates that the benefit on Maras Street and Hansen Avenue for street reconstruction and extension of municipal sewer and water ranges between $40,000 and $50,000 per developable acres for typical lots; the benefit on 13th Avenue for street reconstruction and extension of municipal sewer and water is $40,000 or lower per developable acres for typical lots; the benefit for the extension of municipal sewer and water only ranges from $26,000 to $32,000 per developable acre on typical lots; and the benefit for 13th Avenue street reconstruction only is at or below $14,000 per developable acre for typical lots.

The Lateral Sanitary Sewer Connection Charge and will be paid at the time of connection and is based on the project costs within this report. The remaining fees are based on standard City rates relating to the operation and management of the trunk system.

Property owners may be eligible for a Minnesota Department of Health Source Water Protection Implementation grant to subsidize the cost of well sealing. Historically, these grants have been offered annually and it is anticipated that they will be available for the next few years.

5.2.1 Fees to be paid when the project is constructed

Benefiting properties will pay a portion of the street costs and the sanitary sewer and watermain costs by special assessments levied in conjunction with the project.

13th Avenue, Maras and Hansen Street Assessment: $10,329.90/developable area. Pays for 30% of the street reconstruction cost. The street assessment area for corner lots on Hansen Avenue and Stagecoach are based on the percentage of property frontage to Hansen Avenue.

5.2.2 Fees collected when a permit application is made to connect to the utility

The City recoups the utilities portion of the improvement costs when the properties connect to the utility. Fees collected when a permit application is made to connect to the utility are described in 2020 dollars.

Lateral Sanitary Sewer Connection Charge – Gravity Sewer Only: $4,625.41/ developable area. Pays for the cost to install the local sanitary sewer mains, manholes and services.

Lateral Sanitary Sewer Connection Charge – Gravity Sewer and Forcemain: $5,076.56/ developable area. Pays for the cost to install the local sanitary sewer mains, manholes and services, as well as the connection charge for the lift station. This lateral fee is based on the cost to install an 8-inch gravity sanitary sewer that is 12 feet deep at the connection point at Stagecoach Road, which is $481,581.06.

Water Assessment: $14,802.63/ developable area. Pays for the cost to install the watermain.

Trunk Sanitary Sewer Charge: $2,982.00/ developable area. The Trunk Sanitary Sewer Charge is applied to all properties within the City Limits south of Highway 169 and all property annexed into the City. The charge is collected on the developable acreage of the property. This charge is used to fund the construction and maintenance of City-owned trunk sanitary sewers (for oversizing greater than 8 inches). Commercial and industrial properties will be charged based on the parcel area. Rural residential properties will be charged based on a land area of 0.30 acres, which is the minimum lot size for a low-density residential property.

City Sewer Availability Charge: $515.00/SAC unit. The City SAC is collected using the number of SAC units as calculated by Met Council and is applied to all building permits in the City. This charge is the "sewer access charge" and covers the depreciation and replacement of the sanitary sewer system.

Table 5-1 SAC Count for City Sewer Availability Charge

Land Use	Mixed Employment Center	Suburban Edge Residential
Residential Units per Acre Allocated	16	1
Non-Residential Flow per Acre (gpad)	800	N/A
Non-Residential Flow per SAC (gpd/SAC)	274	N/A
Residential Percentage (%)	50%	100%
Non-Residential Percentage (%)	50%	0%
Net Area (ac)	80.65	163.73
Residential SAC Units	645	164
Non-Residential SAC Units	118	0
Total SAC Units	763	164

Metropolitan Council Environmental Services Sewer Access Charge (MCES SAC): $2,485.00/SAC unit. The City sanitary sewer system connects to the MCES system and is treated at an MCES facility.

Trunk Water Charge (TWC): $4,451.00/ acre. The Trunk Water Charge is applied to all properties within the City Limits south of Highway 169 and all property annexed into the City. The charge is collected on the developable acreage of the property. This charge is used to fund the construction and maintenance of City-owned trunk watermain (i.e. water main that is larger than 8 inches in diameter).

Water Connection Charge (WCC): $6,039.00/SAC. In certain situations, the City pays the initial cost to extend water service through a property/area. A water connection charge is then developed and is charged to future development that utilize that water system.

Table 5-2 Fees Collected for this Project

Type of Fee		Current Fee	Basis of Cost	When Fee is Collected
Street Assessment – All Streets		$10,329.90/ Developable Area	Project Costs	Levied with the Project
Lateral Sanitary Sewer Connection Charge	Gravity Sewer	$4,625.41/ Developable Area	Project Costs	Paid at the Time of Connection
	Forcemain	$5,076.56/ Developable Area	Project Costs	
Watermain Assessment		$14,802.63/ Developable Area*	Project Costs	
Trunk Sanitary Sewer Charge		$2,982.00/ Developable Area	Set Unit Fee	
City Sewer Availability Charge		$515.00/ SAC Unit	Set Unit Fee	
Metropolitan Council Environmental Services Sewer Access Charge		$2,485.00/ SAC Unit	Set Unit Fee	
Trunk Water Charge		$4,451.00/ Acre *	Set Unit Fee	
Water Connection Charge		$6,039.00/ SAC Unit *	Set Unit Fee	

Note: All assessments and unit fees are subject to change, final assessments and fees will be calculated at the end of the project.

** SPUC Charges*

5.2.3 Other fees

The *Sewer Service Charge* is collected via monthly utility billing and is based on the water/sewer usage of each property. This charge covers the Met Council sewer charge and routine maintenance and operation of the sanitary sewer system.

A breakdown of the proposed funding sources for this project is shown in ***Table 5-3b*** below.

Table 5-3a Proposed Project Costs – Open Cut Utility Installation for All Streets

	Estimated Construction Cost	Contingencies (10%)	Administration, Engineering, Legal (20%)	TOTAL ESTIMATED COST
Surface Improvements – All Streets	$2,230,000	$223,000	$490,000	**$2,943,000**
Storm Sewer	$49,000	$5,000	$11,000	**$65,000**
Watermain	$1,088,000	$109,000	$239,000	**$1,436,000**
Sanitary Sewer	$305,000	$30,000	$67,000	**$402,000**
Sanitary Sewer Forcemain	$37,000	$4,000	$8,000	**$49,000**
Lift Station	$358,000	$36,000	$79,000	**$473,000**
TOTAL COSTS	**$4,067,000**	**$407,000**	**$894,000**	**$5,368,000**

Table 5-3b Proposed Project Funding – Open Cut Utility Installation for All Streets

	Special Assessments	Capital Improvements Fund	Storm Sewer Fund	Sanitary Sewer Fund	SPUC Water Fund	TOTAL ESTIMATED FUNDS
Surface – 13th, Maras, and Hansen	$826,200	$1,927,800				**$2,754,000**
Storm Sewer			$65,000			**$65,000**
Watermain *					$1,530,000	**$1,530,000**
Gravity Sanitary Sewer *				$497,000		**$497,000**
Sanitary Sewer Forcemain				$49,000		**$49,000**
Lift Station				$473,000		**$473,000**
TOTAL FUNDS	**$826,200**	**$1,927,800**	**$65,000**	**$1,019,000**	**$1,530,000**	**$5,368,000**

** Stagecoach Road Surface Costs Included in Sanitary Sewer and Watermain Assessments*

There are two properties on Hansen Avenue that have frontage to a street that is not included in the proposed Street Assessment, therefore, the proposed Street Assessment Area is based on the percentage of the properties' frontage to Hansen Avenue.

The assessments constitute 51% of the total project funding. The preliminary assessment roll and preliminary assessment map can be found in ***Appendix C***.

6. PROJECT SCHEDULE

The proposed schedule for the Project Name is as follows:

Authorize Feasibility Report .....May 8, 2020

Public Engagement Meeting.....July 21, 2020

Second Public Engagement Meeting.....August 28, 2020

City Council Accepts Feasibility Report.....February 2021

Final Design.....Summer/Fall 2021

Begin Construction .....Spring 2022

Substantial Completion .....Fall 2022

7. FEASIBILITY AND RECOMMENDATION

The improvements proposed in this study for the Utility Extension project on Maras Street, 13th Avenue, and Hansen Avenue are necessary, feasible, and cost-effective. The proposed improvements include the extension of watermain and sanitary sewer on Maras Street, 13th Avenue, and Hansen Avenue, street reconstruction on 13th Avenue, Hansen Avenue and Maras Street, drainage improvements, and pedestrian improvements.

The total estimated project costs for the Utility Extension project is **$5,368,000** for open cut installation within all streets. The project is to be funded through special assessments to benefiting property owners, grant funding, and City funds. The proposed improvements constitute a project large enough to ensure a competitive bidding environment and economy of scale.

APPENDIX A

Figure 1 – Project Location
Figure 2 – Proposed Utility Locations
Figure 3 – Sanitary Sewer Capacity Analysis
Figure 4 – Proposed Pedestrian Facilities
Figure 5 – Streetlight Map



Proposed Utility Extension Service Area

City Project-21-001
Shakopee, MN

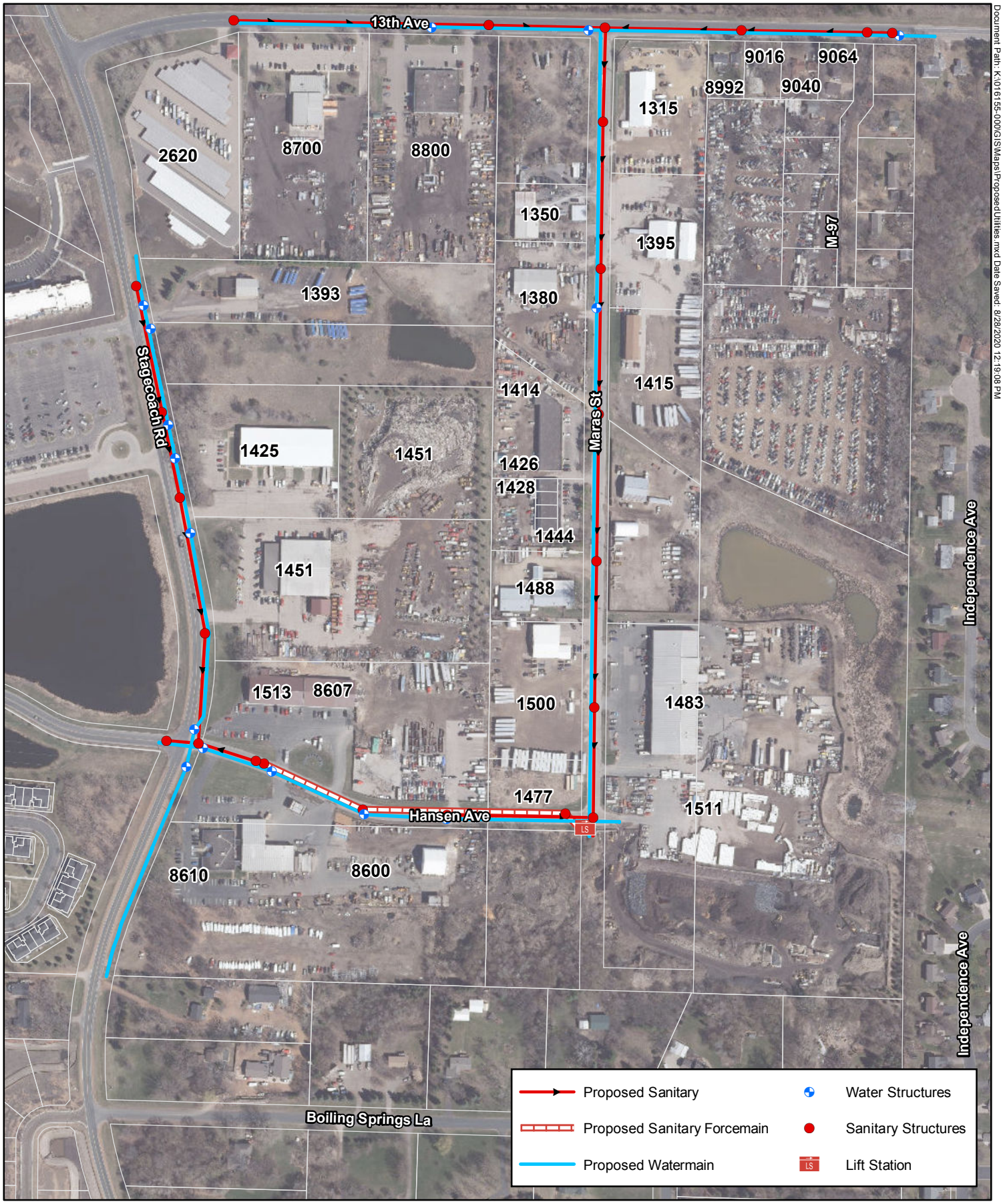
SHAKOPEE

N

0 500 Feet
1 inch = 500 feet

wsb

Document Path: K:\016165-000\GIS\Maps\Project Location.mxd Date Saved: 6/3/2020 3:27:43 PM



SHAKOPEE

Proposed Utility Extension on Maras Street, 13th Street, Hanson Avenue

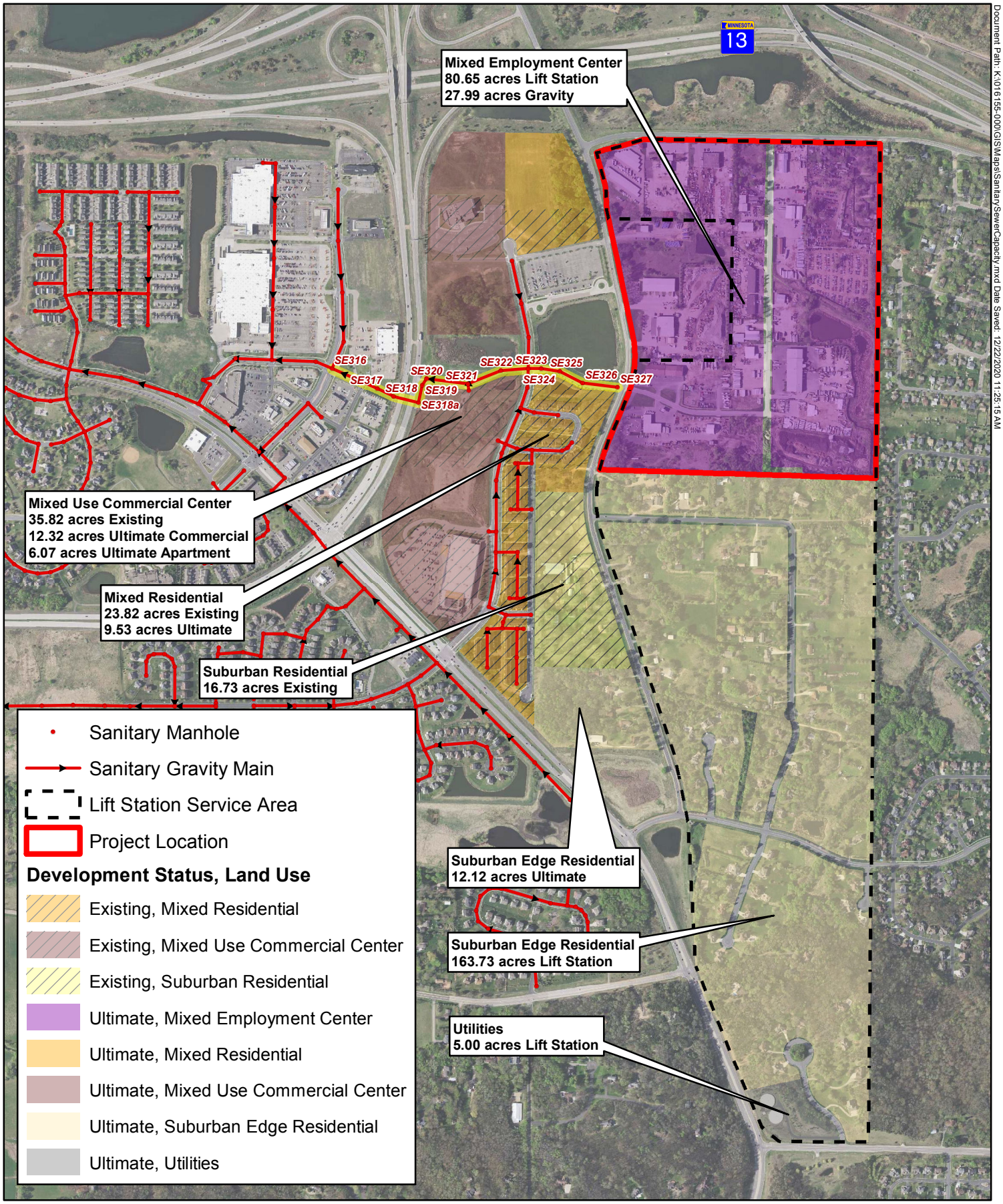
City Project-21-001
Shakopee, MN

N

0 350 Feet
1 inch = 350 feet

wsb

Document Path: K:\016165-000\GIS\Maps\ProposedUtilities.mxd Date Saved: 8/28/2020 12:19:08 PM



Document Path: K:\0161\65-000\GIS\Maps\SanitarySewerCapacity.mxd Date Saved: 12/22/2020 11:25:15 AM

SHAKOPEE

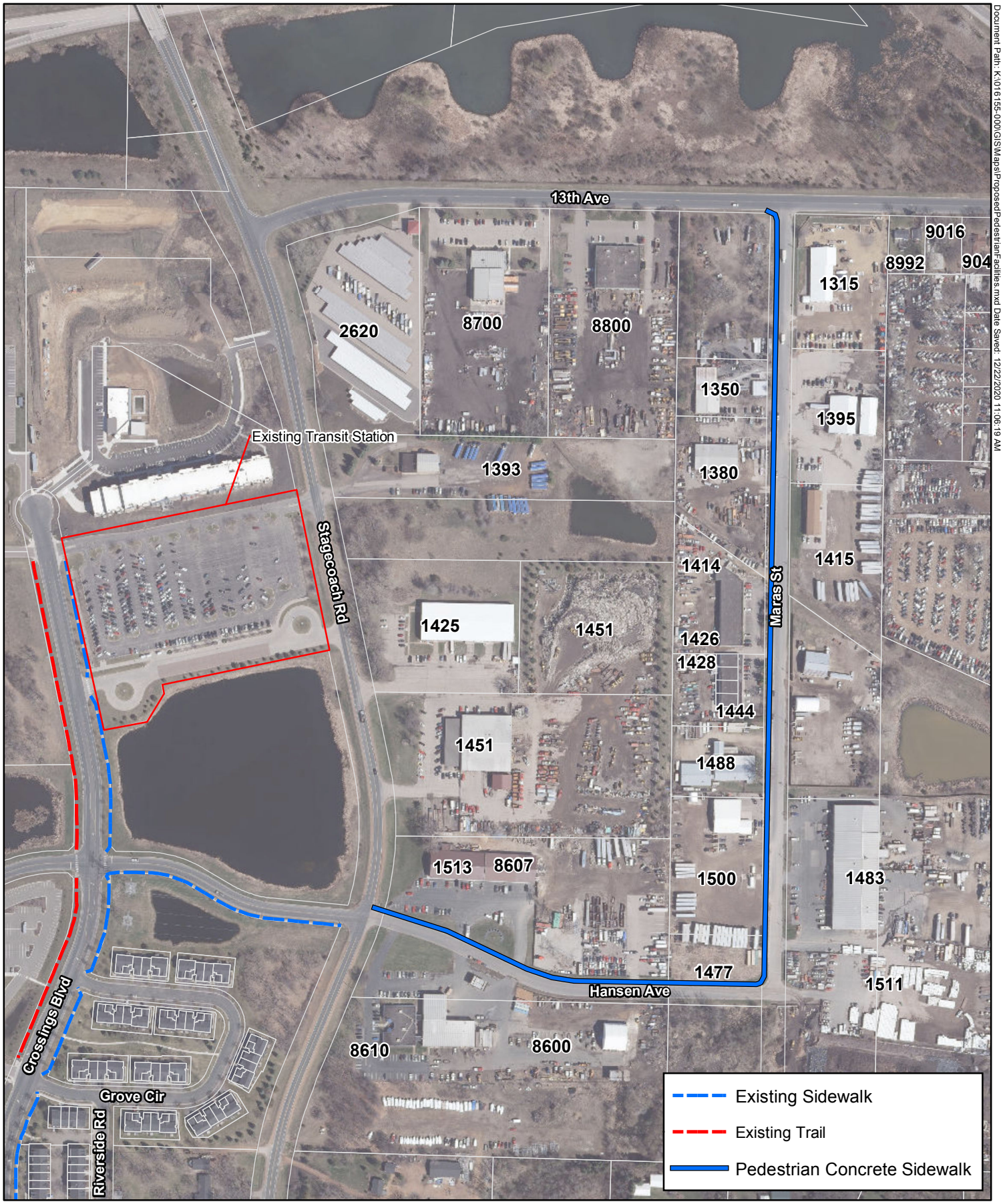
Sanitary Sewer Capacity Analysis

City Project-21-001
Shakopee, MN

N

0 1,000 Feet
1 inch = 1,000 feet

wsb



Document Path: K:\0161\65-000\GIS\Maps\ProposedPedestrianFacilities.mxd Date Saved: 12/22/2020 11:06:19 AM

SHAKOPEE

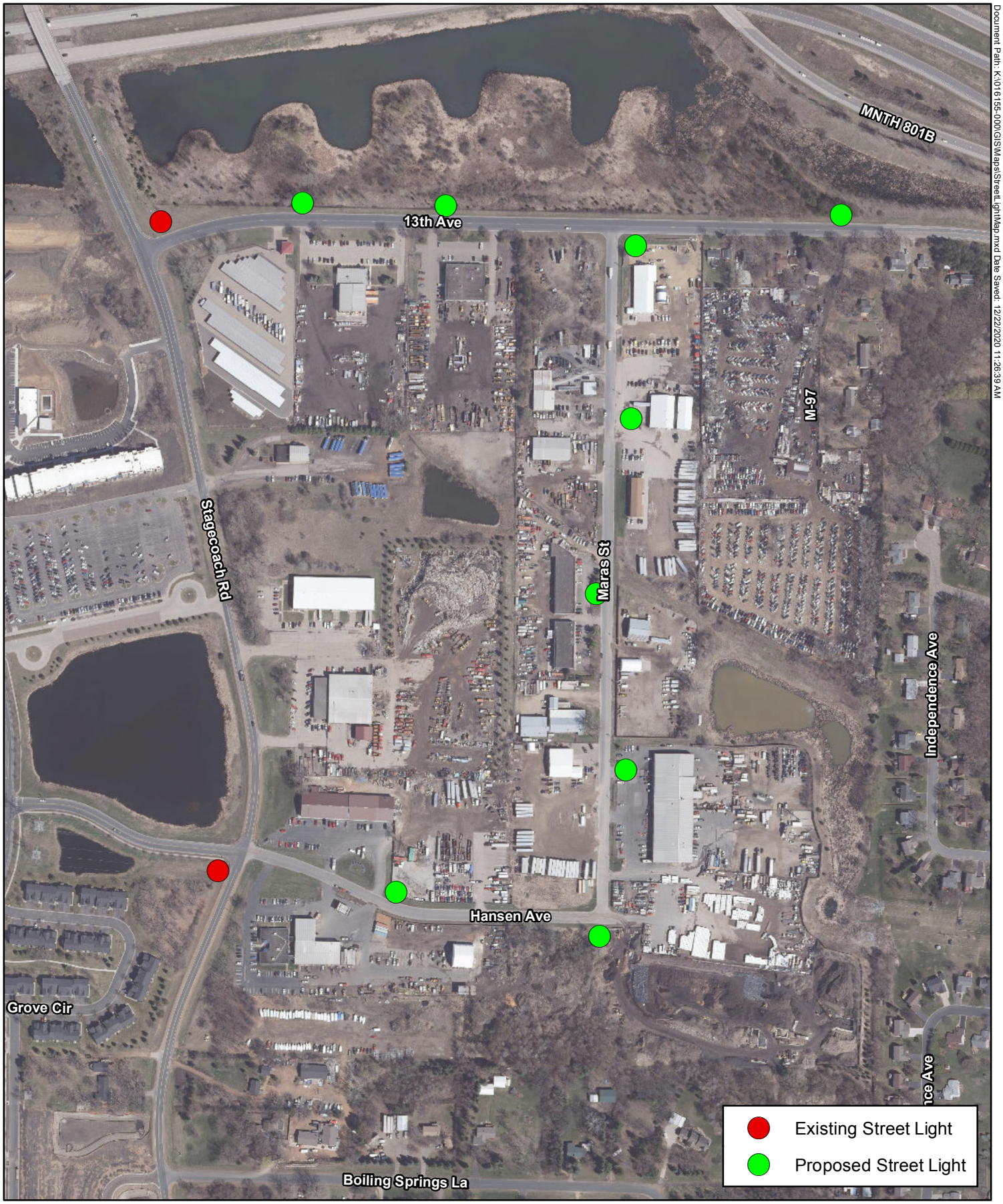
Proposed Pedestrian Facilities on Maras Street, 13th Street, Hanson Avenue

City Project-21-001
Shakopee, MN

N

0 350 Feet
1 inch = 350 feet

wsb



Street Light Exhibit

City Project-21-001
Shakopee, MN

N

0 400 Feet
1 inch = 400 feet

Document Path: K:\0161\65-000\GIS\Maps\StreetLightMap.mxd Date Saved: 12/22/2020 11:26:39 AM

APPENDIX B

Opinion of Probable Cost

Proposed Utility Extension on Maras Street, 13th Avenue, Hansen Avenue Project

13th Avenue - Open Cut	Combined Total	Hansen Ave	Maras St	Stagecoach Rd	13th Ave (Open Cut)
Surface Improvements	$ 2,229,891.00	$ 507,317.00	$ 827,088.00	$ 144,029.00	$ 751,457.00
Sanitary Improvements	$ 699,851.00	$ 447,759.00	$ 73,820.00	$ 71,280.00	$ 106,992.00
Water System Improvements	$ 1,087,720.00	$ 213,440.00	$ 340,630.00	$ 259,340.00	$ 274,310.00
Storm Sewer Improvements	$ 49,240.00	$ 15,200.00	$ 15,200.00	$ 13,140.00	$ 5,700.00
Construction Total	**$ 4,066,702.00**	**$ 1,183,716.00**	**$ 1,256,738.00**	**$ 487,789.00**	**$ 1,138,459.00**
Contingency (10 %)	$ 406,673.00	$ 118,372.00	$ 125,674.00	$ 48,779.00	$ 113,846.00
Subtotal	**$ 4,473,375.00**	**$ 1,302,088.00**	**$ 1,382,412.00**	**$ 536,568.00**	**$ 1,252,305.00**
Indirect Cost (20%)	$ 894,675.00	$ 260,418.00	$ 276,483.00	$ 107,314.00	$ 250,461.00
Grand Total	**$ 5,368,050.00**	**$ 1,562,506.00**	**$ 1,658,895.00**	**$ 643,882.00**	**$ 1,502,766.00**

Note: Street costs on Stagecoach Road will be assessed with the water and sanitary sewer costs, as shown in Table 5-3b

OPINION OF PROBABLE COST - OPEN CUT ALTERNATIVE

WSB Project: Proposed Utility Extension on Maras Street, 13th Avenue, Hanson Avenue — *Design By:* KK
Project Location: Shakopee — *Checked By:* AF/EY
City Project No.: Sewer-21-001
WSB Project No: R-016155-000 — *Date:* 1/7/2021

Item No.	MnDOT Specification No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
A. Surface Improvements						
1	2021.501	MOBILIZATION	L S	1	$ 191,308.00	$ 191,308.00
2	2101.505	CLEARING	ACRE	0.05	$ 25,000.00	$ 1,250.00
3	2101.505	GRUBBING	ACRE	0.05	$ 25,000.00	$ 1,250.00
4	2101.524	CLEARING	TREE	2	$ 500.00	$ 1,000.00
5	2101.524	GRUBBING	TREE	2	$ 500.00	$ 1,000.00
6	2104.503	REMOVE CURB AND GUTTER	L F	10720	$ 5.00	$ 53,600.00
7	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	L F	0	$ 5.00	$ -
8	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	L F	1100	$ 4.00	$ 4,400.00
9	2104.505	REMOVE CONCRETE PAVEMENT	S Y	0	$ 6.50	$ -
10	2104.505	REMOVE BITUMINOUS PAVEMENT	S Y	22676	$ 4.50	$ 102,042.00
11	2104.602	SALVAGE AND REINSTALL MAILBOX	EACH	16	$ 50.00	$ 800.00
12	2105.507	COMMON EXCAVATION	C Y	7182	$ 25.00	$ 179,550.00
13	2105.507	SUBGRADE EXCAVATION	C Y	357	$ 20.00	$ 7,140.00
14	2105.507	SELECT GRANULAR BORROW (CV)	C Y	357	$ 30.00	$ 10,710.00
15	2105.601	DEWATERING	L S	1.00	$ 50,000.00	$ 50,000.00
16	2130.523	WATER	MGAL	108	$ 35.00	$ 3,780.00
17	2112.601	SUBGRADE PREPARATION (SPECIAL)	ROAD STA	54	$ 350.00	$ 18,900.00
18	2123.61	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	30	$ 150.00	$ 4,500.00
19	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	C Y	6908	$ 32.00	$ 221,056.00
20	2331.601	BITUMINOUS DRIVEWAY PAVEMENT	S Y	400	$ 40.00	$ 16,000.00
21	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1176	$ 3.50	$ 4,116.00
22	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (2,C)	TON	2654	$ 75.00	$ 199,050.00
23	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (2,C)	TON	3980	$ 75.00	$ 298,500.00
24	2504.602	IRRIGATION SYSTEM REPAIR	EACH	2	$ 450.00	$ 900.00
25	2505.601	UTILITY COORDINATION	L S	1.00	$ 4,000.00	$ 4,000.00
26	2506.502	ADJUST FRAME AND RING CASTING (STORM)	EACH	17	$ 500.00	$ 8,500.00
27	2531.503	CONCRETE CURB & GUTTER DESIGN B618	L F	10720	$ 35.00	$ 375,200.00
28	2531.507	6" CONCRETE PAVEMENT	S Y	2696	$ 70.00	$ 188,720.00
29	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	S Y	1519	$ 85.00	$ 129,115.00
30	2540.602	MAILBOX (TEMPORARY)	EACH	16	$ 50.00	$ 800.00
31	2563.601	TRAFFIC CONTROL	L S	1.00	$ 10,000.00	$ 10,000.00
32	2571.524	DECIDUOUS TREE 3" CAL B&B	EACH	2	$ 750.00	$ 1,500.00
33	2573.502	SILT FENCE, TYPE MS	L F	5000	$ 2.50	$ 12,500.00
34	2573.502	STORM DRAIN INLET PROTECTION	EACH	16	$ 200.00	$ 3,200.00
35	2573.503	SEDIMENT CONTROL LOG TYPE STRAW BIOROLL	L F	2500	$ 3.00	$ 7,500.00
36	2573.604	STABILIZED CONSTRUCTION ENTRANCE	L S	1.00	$ 2,500.00	$ 2,500.00
37	2574.507	BOULEVARD TOPSOIL BORROW	C Y	1583	$ 32.00	$ 50,656.00
38	2575.504	SODDING TYPE LAWN	S Y	431	$ 10.00	$ 4,310.00
39	2575.605	BLOWN COMPOST SEEDING	S Y	9058	$ 3.00	$ 27,174.00
40	2545.602	STREET LIGHTS	EACH	9	$ 3,665.00	$ 32,985.00
41	2577.605	4" SOLID LINE MULTI COMP	L F	380	$ 1.00	$ 380.00
					CONSTRUCTION TOTAL	**$ 2,229,892.00**
					CONTINGENCY TOTAL (10%)	**$ 222,990.00**
					SUBTOTAL	**$ 2,452,882.00**
					INDIRECT COST TOTAL (20%)	**$ 490,577.00**
					TOTAL	**$ 2,943,459.00**

B-1. Sanitary Sewer Improvements						
42	2451.507	COARSE AGGREGATE BEDDING (LV)	C Y	0	$ 40.00	$ -
43	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	1	$ 2,500.00	$ 2,500.00
44	2503.602	6" PVC WYE	EACH	35	$ 250.00	$ 8,750.00
45	2503.603	6" PVC PIPE SEWER - SDR 26	L F	1050	$ 30.00	$ 31,500.00
46	2503.603	TELEVISE SANITARY SEWER	L F	4181	$ 2.00	$ 8,362.00
47	2503.603	8" PVC PIPE SEWER - SDR 26	L F	3762	$ 40.00	$ 150,480.00
48	2503.603	8" PVC PIPE SEWER SDR 26 (DIRECTIONAL DRILLED)	L F	0	$ 80.00	$ -
49	2503.603	10" PVC PIPE SEWER - SDR 26	L F	390	$ 50.00	$ 19,500.00
50	2503.603	12" PVC PIPE SEWER - SDR 26	L F	29	$ 60.00	$ 1,740.00
51	2503.603	CONSTRUCT 8" OUTSIDE DROP	L F	8	$ 500.00	$ 4,000.00
52	2506.502	CASTING ASSEMBLY (SANITARY)	EACH	19	$ 650.00	$ 12,350.00
53	2506.602	CHIMNEY SEALS	EACH	19	$ 300.00	$ 5,700.00
54	2506.603	CONST 48" DIA SAN SEWER MANHOLE	L F	239	$ 250.00	$ 59,750.00
					CONSTRUCTION TOTAL	**$ 304,632.00**
					CONTINGENCY TOTAL (0%)	**$ 30,464.00**
					SUBTOTAL	**$ 335,096.00**
					INDIRECT COST TOTAL (0%)	**$ 67,020.00**
					TOTAL	**$ 402,116.00**
B-2. FORCEMAIN SEWER IMPROVEMENTS						
55	2503.603	6" FORCEMAIN	L F	935	$ 40.00	$ 37,400.00
					CONSTRUCTION TOTAL	**$ 37,400.00**
					CONTINGENCY TOTAL (0%)	**$ 3,740.00**
					SUBTOTAL	**$ 41,140.00**
					INDIRECT COST TOTAL (0%)	**$ 8,228.00**
					TOTAL	**$ 49,368.00**
B-3. LIFTSTATION IMPROVEMENTS						
56	2506.602	LIFT STATION	L S	1	$ 357,819.00	$ 357,819.00
					CONSTRUCTION TOTAL	**$ 357,819.00**
					CONTINGENCY TOTAL (10%)	**$ 35,782.00**
					SUBTOTAL	**$ 393,601.00**
					INDIRECT COST TOTAL (20%)	**$ 78,721.00**
					TOTAL	**$ 472,322.00**
C. Water System Improvements						
57	2451.507	COARSE AGGREGATE BEDDING (LV)	C Y	0	$ 40.00	$ -
58	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	4	$ 2,500.00	$ 10,000.00
59	2504.602	1" CORPORATION STOP	EACH	9	$ 250.00	$ 2,250.00
60	2504.602	1" CURB STOP & BOX	EACH	9	$ 300.00	$ 2,700.00
61	2504.602	6" GATE VALVE AND BOX	EACH	47	$ 2,000.00	$ 94,000.00
62	2504.602	8" GATE VALVE AND BOX	EACH	1	$ 2,200.00	$ 2,200.00
63	2504.602	12" GATE VALVE AND BOX	EACH	15	$ 4,500.00	$ 67,500.00
64	2504.602	HYDRANT ASSEMBLY	EACH	21	$ 5,500.00	$ 115,500.00
65	2504.603	1" TYPE K COPPER PIPE	L F	225	$ 32.00	$ 7,200.00
66	2504.603	6" WATER MAIN-DUCT IRON CL 52 W/ POLY WRAP	L F	315	$ 60.00	$ 18,900.00
67	2504.603	8" WATER MAIN-DUCT IRON CL 52 W/ POLY WRAP	L F	810	$ 62.00	$ 50,220.00
68	2504.603	12" WATER MAIN-DUCT IRON CL 52 W/ POLY WRAP	L F	7375	$ 80.00	$ 590,000.00
69	2504.603	12" WATERMAIN HDPE (DIRECTIONAL DRILLED)	L F	0	$ 150.00	$ -
70	2504.604	4" POLYSTYRENE INSULATION	S Y	150	$ 45.00	$ 6,750.00
71	2504.608	DUCTILE IRON FITTINGS	POUND	24100	$ 5.00	$ 120,500.00
					CONSTRUCTION TOTAL	**$ 1,087,720.00**
					CONTINGENCY TOTAL (10%)	**$ 108,772.00**
					SUBTOTAL	**$ 1,196,492.00**
					INDIRECT COST TOTAL (20%)	**$ 239,299.00**
					TOTAL	**$ 1,435,791.00**
D. Storm Sewer Improvements						
72	2104.502	REMOVE DRAINAGE STRUCTURE	EACH	0	$ 500.00	$ -
73	2104.503	REMOVE SEWER PIPE (STORM)	L F	560	$ 20.00	$ 11,200.00
74	2501.502	15" CS PIPE APRON	EACH	6	$ 450.00	$ 2,700.00
75	2503.503	15" CS PIPE CULVERT	L F	180	$ 38.00	$ 6,840.00
76	2503.541	RC PIPE SEWER DESIGN	L F	380	$ 75.00	$ 28,500.00
77	2506.502	CONST DRAINAGE STRUCTURE	EACH	0	$ 3,500.00	$ -
					CONSTRUCTION TOTAL	**$ 49,240.00**
					CONTINGENCY TOTAL (10%)	**$ 4,924.00**
					SUBTOTAL	**$ 54,164.00**
					INDIRECT COST TOTAL (20%)	**$ 10,833.00**
					TOTAL	**$ 64,997.00**
					GRAND TOTAL	**$ 5,368,053.00**

OPINION OF PROBABLE COST - DIRECTIONAL DRILLING ALTERNATIVE

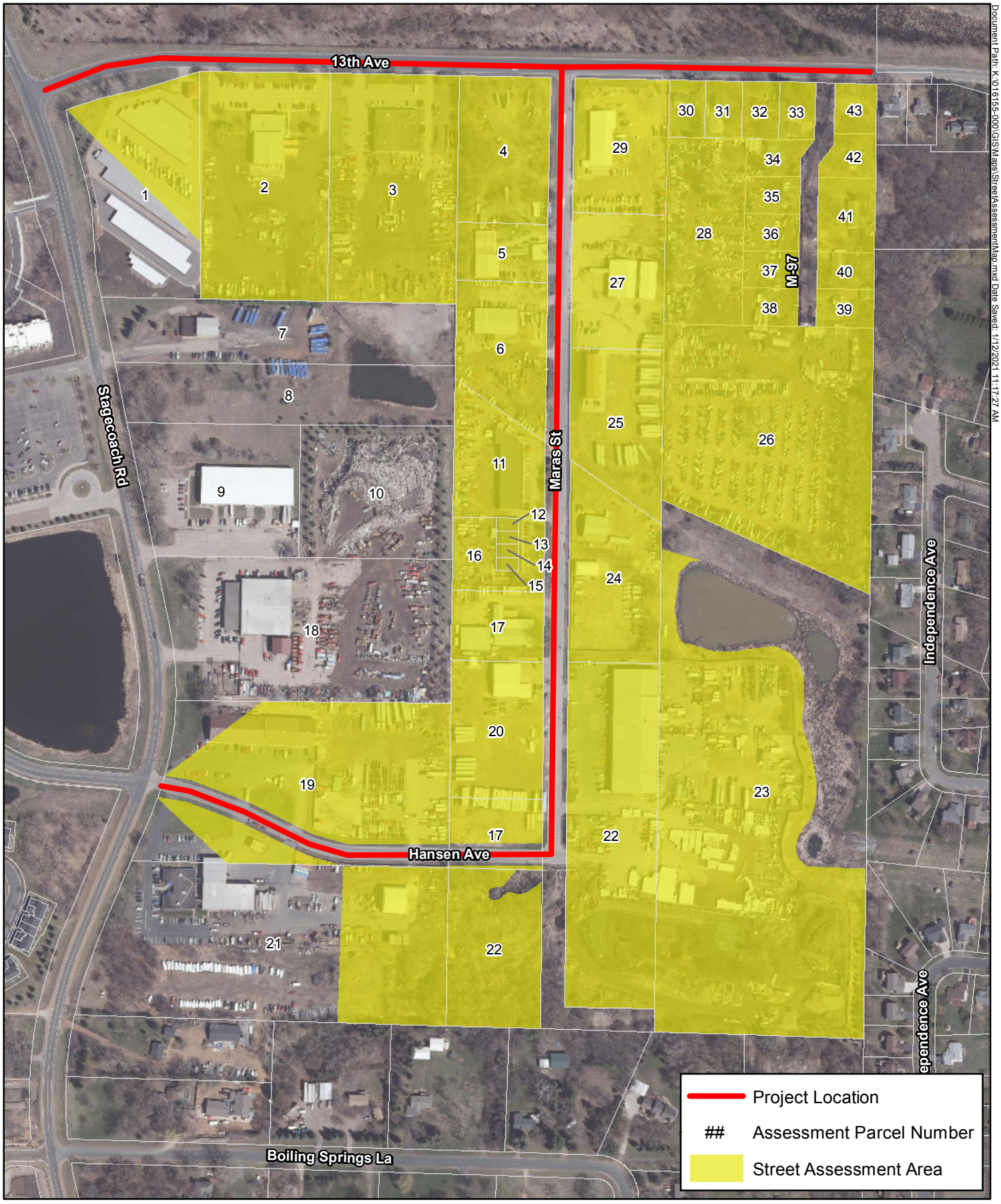
WSB Project: Proposed Utility Extension on Maras Street, 13th Avenue, Hanson Avenue — *Design By:* KK
Project Location: Shakopee — *Checked By:* AF/EY
City Project No.: Sewer-21-001
WSB Project No: R-016155-000 — *Date:* 12/22/2020

Item No.	MnDOT Specification No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
A. Surface Improvements						
1	2021.501	MOBILIZATION	L S	1	$ 185,933.00	$ 185,933.00
2	2101.505	CLEARING	ACRE	0.15	$ 25,000.00	$ 3,750.00
3	2101.505	GRUBBING	ACRE	0.15	$ 25,000.00	$ 3,750.00
4	2101.524	CLEARING	TREE	17	$ 500.00	$ 8,500.00
5	2101.524	GRUBBING	TREE	17	$ 500.00	$ 8,500.00
6	2104.503	REMOVE CURB AND GUTTER	L F	10720	$ 5.00	$ 53,600.00
7	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	L F	0	$ 5.00	$ -
8	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	L F	4735	$ 4.00	$ 18,940.00
9	2104.505	REMOVE CONCRETE PAVEMENT	S Y	0	$ 6.50	$ -
10	2104.505	REMOVE BITUMINOUS PAVEMENT	S Y	15937	$ 4.50	$ 71,717.00
11	2104.602	SALVAGE AND REINSTALL MAILBOX	EACH	16	$ 50.00	$ 800.00
12	2105.507	COMMON EXCAVATION	C Y	5426	$ 25.00	$ 135,650.00
13	2105.507	SUBGRADE EXCAVATION	C Y	212	$ 20.00	$ 4,240.00
14	2105.507	SELECT GRANULAR BORROW (CV)	C Y	212	$ 30.00	$ 6,360.00
15	2105.601	DEWATERING	L S	1.00	$ 50,000.00	$ 50,000.00
16	2130.523	WATER	MGAL	64	$ 35.00	$ 2,240.00
17	2112.601	SUBGRADE PREPARATION (SPECIAL)	ROAD STA	38	$ 350.00	$ 13,300.00
18	2123.61	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	25	$ 150.00	$ 3,750.00
19	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	C Y	5166	$ 32.00	$ 165,312.00
20	2331.601	BITUMINOUS DRIVEWAY PAVEMENT	S Y	450	$ 40.00	$ 18,000.00
21	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	756	$ 3.50	$ 2,646.00
22	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (2,C)	TON	1709	$ 75.00	$ 128,175.00
23	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (2,C)	TON	2563	$ 75.00	$ 192,225.00
24	2504.602	IRRIGATION SYSTEM REPAIR	EACH	2	$ 450.00	$ 900.00
25	2505.601	UTILITY COORDINATION	L S	1.00	$ 4,000.00	$ 4,000.00
26	2506.502	ADJUST FRAME AND RING CASTING (STORM)	EACH	11	$ 500.00	$ 5,500.00
27	2531.503	CONCRETE CURB & GUTTER DESIGN B618	L F	10720	$ 35.00	$ 375,200.00
28	2531.507	6" CONCRETE PAVEMENT	S Y	2645	$ 70.00	$ 185,150.00
29	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	S Y	1284	$ 85.00	$ 109,140.00
30	2540.602	MAILBOX (TEMPORARY)	EACH	13	$ 50.00	$ 650.00
31	2563.601	TRAFFIC CONTROL	L S	1.00	$ 10,000.00	$ 10,000.00
32	2571.524	DECIDUOUS TREE 3" CAL B&B	EACH	17	$ 750.00	$ 12,750.00
33	2573.502	SILT FENCE, TYPE MS	L F	4500	$ 2.50	$ 11,250.00
34	2573.502	STORM DRAIN INLET PROTECTION	EACH	12	$ 200.00	$ 2,400.00
35	2573.503	SEDIMENT CONTROL LOG TYPE STRAW BIOROLL	L F	2250	$ 3.00	$ 6,750.00
36	2573.604	STABILIZED CONSTRUCTION ENTRANCE	L S	1.00	$ 2,500.00	$ 2,500.00
37	2574.507	BOULEVARD TOPSOIL BORROW	C Y	1750	$ 32.00	$ 56,000.00
38	2575.504	SODDING TYPE LAWN	S Y	862	$ 10.00	$ 8,620.00
39	2575.605	BLOWN COMPOST SEEDING	S Y	9639	$ 3.00	$ 28,917.00
40	2545.602	STREET LIGHTS	EACH	9	$ 3,665.00	$ 32,985.00
41	2582.503	4" SOLID LINE MULTI COMP	L F	0	$ 1.00	$ -
					CONSTRUCTION TOTAL	**$ 1,930,100.00**
					CONTINGENCY TOTAL (10%)	**$ 193,010.00**
					SUBTOTAL	**$ 2,123,110.00**
					INDIRECT COST TOTAL (20%)	**$ 424,622.00**
					TOTAL	**$ 2,547,732.00**

B. Sanitary Sewer Improvements							
42	2451.507	COARSE AGGREGATE BEDDING (LV)	C Y	0	$	40.00	$ -
43	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	1	$	2,500.00	$ 2,500.00
44	2503.602	6" PVC WYE	EACH	35	$	250.00	$ 8,750.00
45	2503.603	6" PVC PIPE SEWER - SDR 26	L F	900	$	30.00	$ 27,000.00
46	2503.603	TELEVISE SANITARY SEWER	L F	4181	$	2.00	$ 8,362.00
47	2503.603	8" PVC PIPE SEWER - SDR 26	L F	2036	$	40.00	$ 81,440.00
48	2503.603	8" PVC PIPE SEWER SDR 26 (DIRECTIONAL DRILLED)	L F	1726	$	80.00	$ 138,080.00
49	2503.603	10" PVC PIPE SEWER - SDR 26	L F	390	$	50.00	$ 19,500.00
50	2503.603	12" PVC PIPE SEWER - SDR 26	L F	29	$	60.00	$ 1,740.00
51	2503.603	6" FORCEMAIN	L F	935	$	40.00	$ 37,400.00
52	2503.603	CONSTRUCT 8" OUTSIDE DROP	L F	8	$	500.00	$ 4,000.00
53	2506.502	CASTING ASSEMBLY (SANITARY)	EACH	19	$	650.00	$ 12,350.00
54	2506.602	CHIMNEY SEALS	EACH	19	$	300.00	$ 5,700.00
55	2506.603	CONST 48" DIA SAN SEWER MANHOLE	L F	239	$	250.00	$ 59,750.00
56	2506.602	LIFT STATION	L S	1	$	357,819.00	$ 357,819.00
						CONSTRUCTION TOTAL	**$ 764,391.00**
						CONTINGENCY TOTAL (10%)	**$ 76,440.00**
						SUBTOTAL	**$ 840,831.00**
						INDIRECT COST TOTAL (20%)	**$ 168,167.00**
						TOTAL	**$ 1,008,998.00**
C. Water System Improvements							
57	2451.507	COARSE AGGREGATE BEDDING (LV)	C Y	0	$	40.00	$ -
58	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	4	$	2,500.00	$ 10,000.00
59	2504.602	1" CORPORATION STOP	EACH	9	$	250.00	$ 2,250.00
60	2504.602	1" CURB STOP & BOX	EACH	9	$	300.00	$ 2,700.00
61	2504.602	6" GATE VALVE AND BOX	EACH	47	$	2,000.00	$ 94,000.00
62	2504.602	8" GATE VALVE AND BOX	EACH	1	$	2,200.00	$ 2,200.00
63	2504.602	12" GATE VALVE AND BOX	EACH	15	$	4,500.00	$ 67,500.00
64	2504.602	HYDRANT ASSEMBLY	EACH	21	$	5,500.00	$ 115,500.00
65	2504.603	1" TYPE K COPPER PIPE	L F	175	$	32.00	$ 5,600.00
66	2504.603	6" WATER MAIN-DUCT IRON CL 52 W/ POLY WRAP	L F	265	$	60.00	$ 15,900.00
67	2504.603	8" WATER MAIN-DUCT IRON CL 52 W/ POLY WRAP	L F	750	$	62.00	$ 46,500.00
68	2504.603	12" WATER MAIN-DUCT IRON CL 52 W/ POLY WRAP	L F	5495	$	80.00	$ 439,600.00
69	2504.603	12" WATERMAIN HDPE (DIRECTIONAL DRILLED)	L F	1880	$	150.00	$ 282,000.00
70	2504.604	4" POLYSTYRENE INSULATION	S Y	130	$	45.00	$ 5,850.00
71	2504.608	DUCTILE IRON FITTINGS	POUND	24100	$	5.00	$ 120,500.00
						CONSTRUCTION TOTAL	**$ 1,210,100.00**
						CONTINGENCY TOTAL (10%)	**$ 121,010.00**
						SUBTOTAL	**$ 1,331,110.00**
						INDIRECT COST TOTAL (20%)	**$ 266,222.00**
						TOTAL	**$ 1,597,332.00**
D. Storm Sewer Improvements							
72	2104.502	REMOVE DRAINAGE STRUCTURE	EACH	0	$	500.00	$ -
73	2104.503	REMOVE SEWER PIPE (STORM)	L F	500	$	20.00	$ 10,000.00
74	2501.502	15" CS PIPE APRON	EACH	6	$	450.00	$ 2,700.00
75	2503.503	15" CS PIPE CULVERT	L F	180	$	38.00	$ 6,840.00
76	2503.541	RC PIPE SEWER DESIGN	L F	320	$	75.00	$ 24,000.00
77	2506.502	CONST DRAINAGE STRUCTURE	EACH	0	$	3,500.00	$ -
						CONSTRUCTION TOTAL	**$ 43,540.00**
						CONTINGENCY TOTAL (10%)	**$ 4,354.00**
						SUBTOTAL	**$ 47,894.00**
						INDIRECT COST TOTAL (20%)	**$ 9,579.00**
						TOTAL	**$ 57,473.00**
						GRAND TOTAL	**$ 5,211,535.00**

APPENDIX C

Assessment Maps
Preliminary Assessment Roll



Document Path: K:\016165-000\GIS\Maps\StreetAssessmentMap.mxd Date Saved: 1/12/2021 11:17:27 AM

SHAKOPEE

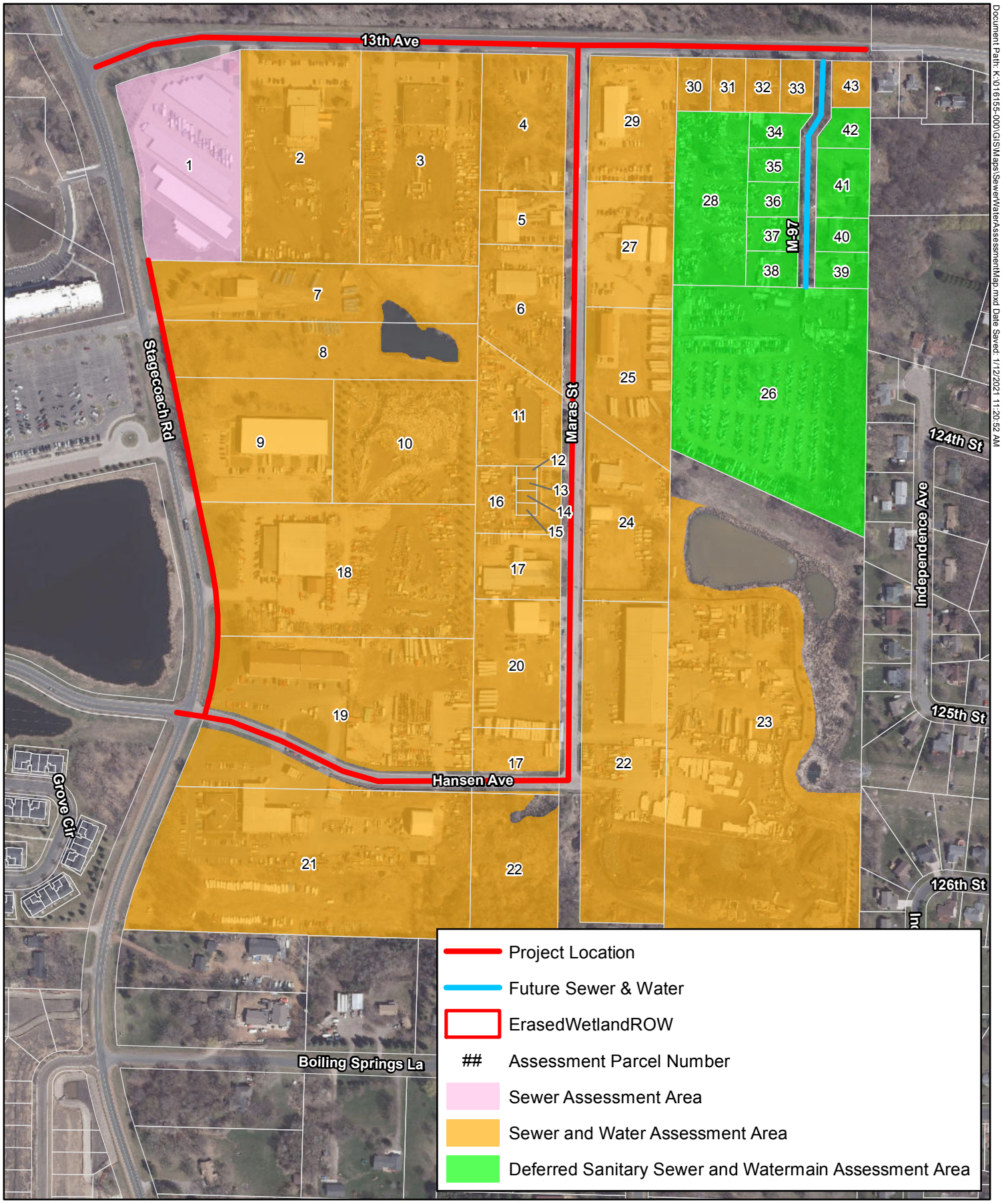
Street Assessment Map

City Project-21-001
Shakopee, MN

N

0 350 Feet
1 inch = 350 feet

wsb



Document Path: K:\016155-000\GIS\Maps\SewerWaterAssessmentMap.mxd Date Saved: 1/12/2021 11:20:52 AM

SHAKOPEE

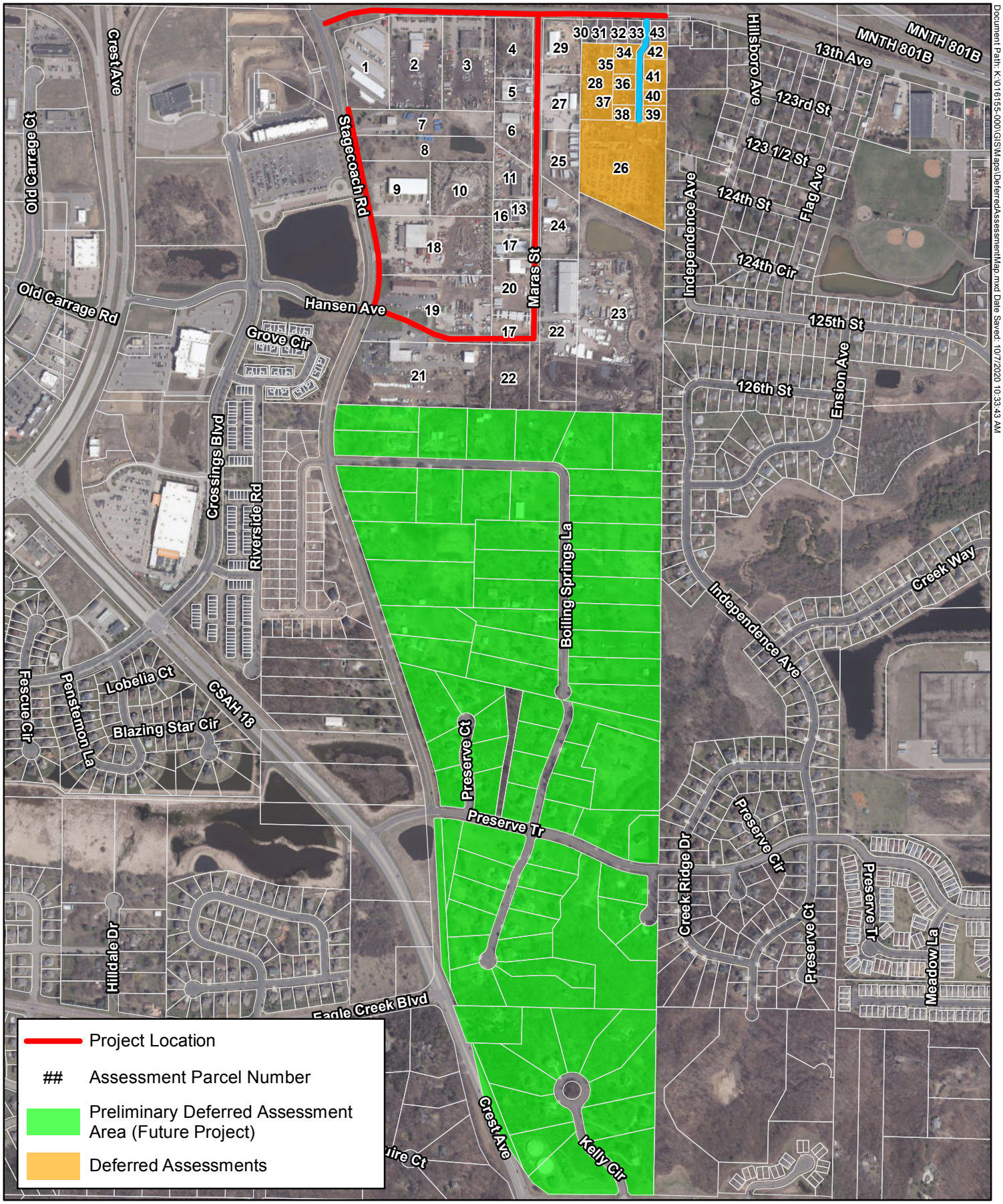
Sewer and Water Assessment Map

City Project-21-001
Shakopee, MN

N

0 375 Feet
1 inch = 375 feet

wsb



Deferred Assessment Map

City Project-21-001
Shakopee, MN

N

0 850 Feet
1 inch = 850 feet

Document Path: K:\016165-000\GIS\Maps\DeferredAssessmentMap.mxd Date Saved: 10/7/2020 10:33:43 AM

SHAKOPEE

Maras/13th/Hansen Utility Extension Project
Summary o

Gravity

Gravity & FM

Date: 11/12/2020
Project #: SAN21-001

						Project Cost					Non-Project Cost (Based on 2020 Fee Schedule)						
MAP ID	Owner	Property Address	Area (AC)	Developable Area (AC)	Estimated SAC (Existing Land Use)	Sanitary Sewer Fee (Developable Area)	Watermain Fee (Devleopable Area)	Lateral Sanitary Sewer Connection Fee (Developable Area)	Street Assessment (Developable Area)	Project Cost Subtotal	Trunk Sanitary Sewer Charge (Developable Area)	City Sewer Availability Charge (SAC Unit)	Trunk Water Charge (Area)	Water Connection Charge (SAC Unit)	MCES Sewer Access Charge (SAC Unit)	Non-Project Cost Subtotal	Total Fees & Assessments
1	I Storage	8620 13TH AVE E	4.09	4.09	12	$18,917.92	N/A	$1,845.23	$17,744.71	**$38,507.85**	$12,196.38	$6,180.00	N/A	N/A	$29,820.00	**$48,196.38**	**$86,704.23**
2	GAJJ LLC	8700 13TH AVE E	5.03	5.03	15	$23,265.80	$74,457.24	$2,269.31	$51,959.41	**$151,951.75**	$14,999.46	$7,725.00	$22,388.53	$90,585.00	$37,275.00	**$172,972.99**	**$324,924.74**
3	CARRON PROPERTIES LLC	8800 13TH AVE E	5.03	5.03	15	$23,265.80	$74,457.24	$2,269.31	$51,959.41	**$151,951.75**	$14,999.46	$7,725.00	$22,388.53	$90,585.00	$37,275.00	**$172,972.99**	**$324,924.74**
4	GRIEPP DALE C	1300 MARAS ST	2.28	2.28	7	$10,545.93	$33,750.00	$1,028.63	$23,552.18	**$68,876.74**	$6,798.96	$3,605.00	$10,148.28	$42,273.00	$17,395.00	**$80,220.24**	**$149,096.98**
5	GRIEPP DALE C	1350 MARAS ST	0.9	0.90	3	$4,162.87	$13,322.37	$406.04	$9,296.91	**$27,188.19**	$2,683.80	$1,545.00	$4,005.90	$18,117.00	$7,455.00	**$33,806.70**	**$60,994.89**
6	GRIEPP ARDEN H	1382 MARAS ST	2.01	2.01	6	$9,297.07	$29,753.29	$906.82	$20,763.10	**$60,720.28**	$5,993.82	$3,090.00	$8,946.51	$36,234.00	$14,910.00	**$69,174.33**	**$129,894.61**
11	ANDERSON MARLOWE C & TRUST NUMBER 500	1414 MARAS ST	1.69	1.69	5	$7,816.94	$25,016.45	$762.45	$17,457.53	**$51,053.37**	$5,039.58	$2,575.00	$7,522.19	$30,195.00	$12,425.00	**$57,756.77**	**$108,810.14**
12	THIEBAUD RONALD H	1428 MARAS ST	0.05	0.05	1	$231.27	$740.13	$22.56	$516.50	**$1,510.45**	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	**$10,921.10**
13	RJR II LLC	1432 MARAS ST	0.05	0.05	1	$231.27	$740.13	$22.56	$516.50	**$1,510.45**	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	**$10,921.10**
14	RJR II LLC	1438 MARAS ST	0.05	0.05	1	$231.27	$740.13	$22.56	$516.50	**$1,510.45**	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	**$10,921.10**
15	BOOTH BURDETTE A	1444 MARAS ST	0.05	0.05	1	$231.27	$740.13	$22.56	$516.50	**$1,510.45**	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	**$10,921.10**
16	ANDERSON MARLOWE C & TRUST NUMBER 500		0.95	0.95	3	$4,394.14	$14,062.50	$428.60	$9,813.41	**$28,698.64**	$2,832.90	$1,545.00	$4,228.45	$18,117.00	$7,455.00	**$34,178.35**	**$62,876.99**
17	ZACHARIAS ROGER CARL	1488 MARAS ST	2.21	1.78	5	$8,233.22	$26,348.68	$803.06	$18,387.23	**$53,772.19**	$6,590.22	$2,575.00	$9,836.71	$30,195.00	$12,425.00	**$61,621.93**	**$115,394.12**
19	HANSEN AVENUE LLC	1513 STAGECOACH RD	8.13	6.68	20	$30,897.72	$98,881.58	$3,013.72	$54,512.96	**$187,305.97**	$24,243.66	$10,300.00	$36,186.63	$120,780.00	$49,700.00	**$241,210.29**	**$428,516.26**
20	JACOBY HOLLY ANN ZACHARIAS	1500 MARAS ST	2.19	2.19	6	$10,129.64	$32,417.76	$988.03	$22,622.48	**$66,157.92**	$6,530.58	$3,090.00	$9,747.69	$36,234.00	$14,910.00	**$70,512.27**	**$136,670.19**
21	HANSEN AVENUE LLC	8600 HANSEN AVE	9.29	9.23	27	$42,692.51	$136,628.29	$4,164.17	$64,834.60	**$248,319.56**	$27,702.78	$13,905.00	$41,349.79	$163,053.00	$67,095.00	**$313,105.57**	**$561,425.13**
22	MARAS STREET LLC	1465 MARAS ST	7.92	7.76	23	$35,893.16	$114,868.42	$3,500.97	$80,160.04	**$234,422.58**	$23,617.44	$11,845.00	$35,251.92	$138,897.00	$57,155.00	**$266,766.36**	**$501,188.94**
23	MARAS STREET LLC		17.48	11.81	34	$54,626.06	$174,819.08	$5,328.15	$121,996.14	**$356,769.42**	$52,125.36	$17,510.00	$77,803.48	$205,326.00	$84,490.00	**$437,254.84**	**$794,024.26**
24	QUIRING PROPERTIES IV LLC	1431 MARAS ST	2.69	2.69	8	$12,442.35	$39,819.08	$1,213.61	$27,787.44	**$81,262.47**	$8,021.58	$4,120.00	$11,973.19	$48,312.00	$19,880.00	**$92,306.77**	**$173,569.24**
25	QUIRING PROPERTIES I LLC	1415 MARAS ST	2.28	2.28	7	$10,545.93	$33,750.00	$1,028.63	$23,552.18	**$68,876.74**	$6,798.96	$3,605.00	$10,148.28	$42,273.00	$17,395.00	**$80,220.24**	**$149,096.98**
27	QUIRING PROPERTIES I LLC	1395 MARAS ST	2.15	2.15	6	$9,944.63	$31,825.66	$969.98	$22,209.29	**$64,949.56**	$6,411.30	$3,090.00	$9,569.65	$36,234.00	$14,910.00	**$70,214.95**	**$135,164.51**
29	QUIRING PROPERTIES III LLC	1315 MARAS ST	2.17	2.17	6	$10,037.13	$32,121.71	$979.01	$22,415.89	**$65,553.74**	$6,470.94	$3,090.00	$9,658.67	$36,234.00	$14,910.00	**$70,363.61**	**$135,917.35**
30	BELISLE JEREMIAH M	8992 13TH AVE E	0.36	0.36	1	$1,665.15	$5,328.95	$162.42	$3,718.76	**$10,875.27**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,590.15**
31	KNUTSON RONALD B	9016 13TH AVE E	0.36	0.36	1	$1,665.15	$5,328.95	$162.42	$3,718.76	**$10,875.27**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,590.15**
32	ZIERMANN PAULA	9040 13TH AVE E	0.37	0.37	1	$1,711.40	$5,476.97	$166.93	$3,822.06	**$11,177.37**	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	**$22,966.58**
33	ESTABROOKS GREGORY F & HOPE	9064 13TH AVE E	0.35	0.35	1	$1,618.89	$5,180.92	$157.90	$3,615.47	**$10,573.18**	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	**$22,213.73**
43	KRIVACHEK MELISSA	9100 13TH AVE E	0.36	0.36	1	$1,665.15	$5,328.95	$162.42	$3,718.76	**$10,875.27**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,590.15**
7	ROBERT F HAMILL FAMILY TRUST	1393 STAGECOACH RD	3.75	3.64	11	$16,836.48	$53,881.58			**$70,718.06**	$11,182.50	$5,665.00	$16,691.25	$66,429.00	$27,335.00	**$127,302.75**	**$198,020.81**
8	ROBERT F HAMILL FAMILY TRUST		3.49	3.04	9	$14,061.24	$45,000.00			**$59,061.24**	$10,407.18	$4,635.00	$15,533.99	$54,351.00	$22,365.00	**$107,292.17**	**$166,353.41**
9	WILLIAM R RASMUSSEN FAMILY TRUST	1425 STAGECOACH RD	3.61	3.61	11	$16,697.72	$53,437.50	N/A	N/A	**$70,135.22**	$10,765.02	$5,665.00	$16,068.11	$66,429.00	$27,335.00	**$126,262.13**	**$196,397.35**
10	PFEIFFER PROPERTIES LLP	1451 STAGECOACH RD	3.49	3.49	10	$16,142.67	$51,661.18			**$67,803.86**	$10,407.18	$5,150.00	$15,533.99	$60,390.00	$24,850.00	**$116,331.17**	**$184,135.03**
18	PFEIFFER PROPERTIES LLP	1451 STAGECOACH RD	6.96	6.96	20	$32,192.83	$103,026.32			**$135,219.15**	$20,754.72	$10,300.00	$30,978.96	$120,780.00	$49,700.00	**$232,513.68**	**$367,732.83**
26	STEWART ROBERT K & SYDNEY L	9099 13TH AVE E	7.93	7.86	23	$36,355.70	$116,348.68	$3,546.08	$81,193.03	**$237,443.49**	$23,647.26	$11,845.00	$35,296.43	$138,897.00	$57,155.00	**$266,840.69**	**$504,284.18**
28	STEWART ROBERT K & SYDNEY L		2.5	2.50	7	$11,563.52	$37,006.58	$1,127.89	$25,824.75	**$75,522.74**	$7,455.00	$3,605.00	$11,127.50	$42,273.00	$17,395.00	**$81,855.50**	**$157,378.24**
34	HIGHWAY 101 AUTO SALVAGE	9099 13TH AVE E	0.37	0.37	1	$1,711.40	$5,476.97	$166.93	$3,822.06	**$11,177.37**	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	**$22,966.58**
35	STEWART ROBERT K & SYDNEY L		0.35	0.35	1	$1,618.89	$5,180.92	$157.90	$3,615.47	**$10,573.18**	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	**$22,213.73**
36	STEWART ROBERT K & SYDNEY L		0.36	0.36	1	$1,665.15	$5,328.95	$162.42	$3,718.76	**$10,875.27**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,590.15**
37	STEWART ROBERT K & SYDNEY L		0.35	0.35	1	$1,618.89	$5,180.92	$157.90	$3,615.47	**$10,573.18**	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	**$22,213.73**
38	STEWART ROBERT K & SYDNEY L		0.36	0.36	1	$1,665.15	$5,328.95	$162.42	$3,718.76	**$10,875.27**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,590.15**
39	AMAN III ROBERT C	9097 13TH AVE E	0.38	0.38	1	$1,757.65	$5,625.00	$171.44	$3,925.36	**$11,479.46**	$1,133.16	$515.00	$1,691.38	$6,039.00	$2,485.00	**$11,863.54**	**$23,343.00**
40	MCCARTNEY SHAWN & CYNTHIA	9095 13TH AVE E	0.36	0.36	1	$1,665.15	$5,328.95	$162.42	$3,718.76	**$10,875.27**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,590.15**
41	LADWIG GLEN A & MARALEE A	9085 13TH AVE E	0.73	0.73	1	$3,376.55	$10,805.92	$329.34	$7,540.83	**$22,052.64**	$2,176.86	$515.00	$3,249.23	$6,039.00	$2,485.00	**$14,465.09**	**$36,517.73**
42	ESTRADA CARLOS A	9081 13TH AVE E	0.37	0.37	1	$1,711.40	$5,476.97	$166.93	$3,822.06	**$11,177.37**	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	**$22,966.58**
	BOILING SPRINGS AREA			22	73	N/A	N/A	$9,880.31	N/A	**$9,880.31**	N/A	N/A	N/A	N/A	N/A	**N/A**	**$9,880.31**
		TOTAL	**115.85**	**107.45**	**317**	**$497,000.00**	**$1,530,000.00**	**$49,000.00**	**$826,200.00**	**$2,902,200.00**	**$345,464.70**	**$163,255.00**	**$497,443.76**	**$1,841,895.00**	**$787,745.00**	**$3,635,803.46**	**$6,538,003.46**

Maras/13th/Hansen Utility Extension Project
Fees Based on 2020 Fee Schedule

Date: 11/12/2020
Project #: SAN21-001

						City Fee		SPUC Fee		MCES Fee		
MAP ID	Owner	Property Address	Area (AC)	Developable Area (AC)	Estimated SAC (Existing Land Use)	Trunk Sanitary Sewer Charge (Developable Area)	City Sewer Availability Charge (SAC Unit)	Trunk Water Charge (AC)	Water Connection Charge (SAC Unit)	MCES Sewer Access Charge (SAC Unit)	Total Fees	
1	I Storage	8620 13TH AVE E Shakopee, MN 55379	4.09	4.09	12	$12,196.38	$6,180.00			$29,820.00	**$48,196.38**	
2	GAJJ LLC	8700 13TH AVE E Shakopee, MN 55379	5.03	5.03	15	$14,999.46	$7,725.00	$22,388.53	$90,585.00	$37,275.00	**$172,972.99**	
3	CARRON PROPERTIES LLC	8800 13TH AVE E Shakopee, MN 55379	5.03	5.03	15	$14,999.46	$7,725.00	$22,388.53	$90,585.00	$37,275.00	**$172,972.99**	
4	GRIEPP DALE C	1300 MARAS ST SHAKOPEE, MN 55379	2.28	2.28	7	$6,798.96	$3,605.00	$10,148.28	$42,273.00	$17,395.00	**$80,220.24**	
5	GRIEPP DALE C	1350 MARAS ST Shakopee, MN 55379	0.9	0.90	3	$2,683.80	$1,545.00	$4,005.90	$18,117.00	$7,455.00	**$33,806.70**	
6	GRIEPP ARDEN H	1382 MARAS ST Shakopee, MN 55379	2.01	2.01	6	$5,993.82	$3,090.00	$8,946.51	$36,234.00	$14,910.00	**$69,174.33**	
11	ANDERSON MARLOWE C & TRUST NUMBER 500	1414 MARAS ST Shakopee, MN 55379	1.69	1.69	5	$5,039.58	$2,575.00	$7,522.19	$30,195.00	$12,425.00	**$57,756.77**	
12	THIEBAUD RONALD H	1428 MARAS ST Shakopee, MN 55379	0.05	0.05	1	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	
13	RJR II LLC	1432 MARAS ST Shakopee, MN 55379	0.05	0.05	1	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	
14	RJR II LLC	1438 MARAS ST Shakopee, MN 55379	0.05	0.05	1	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	
15	BOOTH BURDETTE A	1444 MARAS ST Shakopee, MN 55379	0.05	0.05	1	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	
16	ANDERSON MARLOWE C & TRUST NUMBER 500		0.95	0.95	3	$2,832.90	$1,545.00	$4,228.45	$18,117.00	$7,455.00	**$34,178.35**	
17	ZACHARIAS ROGER CARL	1488 MARAS ST Shakopee, MN 55379	2.21	1.78	5	$6,590.22	$2,575.00	$9,836.71	$30,195.00	$12,425.00	**$61,621.93**	
19	HANSEN AVENUE LLC	1513 STAGECOACH RD Shakopee, MN 55379	8.13	6.68	20	$24,243.66	$10,300.00	$36,186.63	$120,780.00	$49,700.00	**$241,210.29**	
20	JACOBY HOLLY ANN ZACHARIAS	1500 MARAS ST Shakopee, MN 55379	2.19	2.19	6	$6,530.58	$3,090.00	$9,747.69	$36,234.00	$14,910.00	**$70,512.27**	
21	HANSEN AVENUE LLC	8600 HANSEN AVE Shakopee, MN 55379	9.29	9.23	27	$27,702.78	$13,905.00	$41,349.79	$163,053.00	$67,095.00	**$313,105.57**	
22	MARAS STREET LLC	1465 MARAS ST Shakopee, MN 55379	7.92	7.76	23	$23,617.44	$11,845.00	$35,251.92	$138,897.00	$57,155.00	**$266,766.36**	
23	MARAS STREET LLC		17.48	11.81	34	$52,125.36	$17,510.00	$77,803.48	$205,326.00	$84,490.00	**$437,254.84**	
24	QUIRING PROPERTIES IV LLC	1431 MARAS ST Shakopee, MN 55379	2.69	2.69	8	$8,021.58	$4,120.00	$11,973.19	$48,312.00	$19,880.00	**$92,306.77**	
25	QUIRING PROPERTIES I LLC	1415 MARAS ST Shakopee, MN 55379	2.28	2.28	7	$6,798.96	$3,605.00	$10,148.28	$42,273.00	$17,395.00	**$80,220.24**	
27	QUIRING PROPERTIES I LLC	1395 MARAS ST Shakopee, MN 55379	2.15	2.15	6	$6,411.30	$3,090.00	$9,569.65	$36,234.00	$14,910.00	**$70,214.95**	
29	QUIRING PROPERTIES III LLC	1315 MARAS ST Shakopee, MN 55379	2.17	2.17	6	$6,470.94	$3,090.00	$9,658.67	$36,234.00	$14,910.00	**$70,363.61**	
30	BELISLE JEREMIAH M	8992 13TH AVE E Savage, MN 55378	0.36	0.36	1	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	
31	KNUTSON RONALD B	9016 13TH AVE E Savage, MN 55378	0.36	0.36	1	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	
32	ZIERMANN PAULA	9040 13TH AVE E Savage, MN 55378	0.37	0.37	1	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	
33	ESTABROOKS GREGORY F & HOPE	9064 13TH AVE E Savage, MN 55378	0.35	0.35	1	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	
43	KRIVACHEK MELISSA	9100 13TH AVE E Savage, MN 55378	0.36	0.36	1	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	
7	ROBERT F HAMILL FAMILY TRUST	1393 STAGECOACH RD Shakopee, MN 55379	3.75	3.64	11	$11,182.50	$5,665.00	$16,691.25	$66,429.00	$27,335.00	**$127,302.75**	
8	ROBERT F HAMILL FAMILY TRUST		3.49	3.04	9	$10,407.18	$4,635.00	$15,533.99	$54,351.00	$22,365.00	**$107,292.17**	
9	WILLIAM R RASMUSSEN FAMILY TRUST	1425 STAGECOACH RD Shakopee, MN 55379	3.61	3.61	11	$10,765.02	$5,665.00	$16,068.11	$66,429.00	$27,335.00	**$126,262.13**	
10	PFEIFFER PROPERTIES LLP	1451 STAGECOACH RD SHAKOPEE, MN 55379	3.49	3.49	10	$10,407.18	$5,150.00	$15,533.99	$60,390.00	$24,850.00	**$116,331.17**	
18	PFEIFFER PROPERTIES LLP	1451 STAGECOACH RD Shakopee, MN 55379	6.96	6.96	20	$20,754.72	$10,300.00	$30,978.96	$120,780.00	$49,700.00	**$232,513.68**	
26	STEWART ROBERT K & SYDNEY L	9099 13TH AVE E Savage, MN 55378	7.93	7.86	23	$23,647.26	$11,845.00	$35,296.43	$138,897.00	$57,155.00	**$266,840.69**	
28	STEWART ROBERT K & SYDNEY L		2.50	2.50	7	$7,455.00	$3,605.00	$11,127.50	$42,273.00	$17,395.00	**$81,855.50**	
34	HIGHWAY 101 AUTO SALVAGE	9099 13TH AVE E SHAKOPEE, MN 55379	0.37	0.37	1	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	
35	STEWART ROBERT K & SYDNEY L		0.35	0.35	1	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	
36	STEWART ROBERT K & SYDNEY L		0.36	0.36	1	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	
37	STEWART ROBERT K & SYDNEY L		0.35	0.35	1	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	
38	STEWART ROBERT K & SYDNEY L		0.36	0.36	1	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	
39	AMAN III ROBERT C	9097 13TH AVE E Savage, MN 55378	0.38	0.38	1	$1,133.16	$515.00	$1,691.38	$6,039.00	$2,485.00	**$11,863.54**	
40	MCCARTNEY SHAWN & CYNTHIA	9095 13TH AVE E Savage, MN 55378	0.36	0.36	1	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	
41	LADWIG GLEN A & MARALEE A	9085 13TH AVE E Savage, MN 55378	0.73	0.73	1	$2,176.86	$515.00	$3,249.23	$6,039.00	$2,485.00	**$14,465.09**	
42	ESTRADA CARLOS A	9081 13TH AVE E SHAKOPEE, MN 55379	0.37	0.37	1	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	
					TOTAL	**$345,464.70**	**$163,255.00**	**$497,443.76**	**$1,841,895.00**	**$787,745.00**	**$3,635,803.46**	

Future Project Area (N/E Corner)

Fee Type	Fee	Calculated Per
City Trunk Sanitary Sewer Charge	$2,982.00	Developable Area
City Sewer Availability Charge	$515.00	SAC Unit
MCES Access Charge	$2,485.00	SAC Unit
Trunk Water Charge	$4,451.00	Acre
Water Connection Charge	$6,039.00	SAC Unit

Notes:
1. Fees are based on 2020 Fee schedule and will be adjusted at time of connection.
2. The developable area (buildable acreage) is defined as the total area of the final plat, less areas of outlots, ROW, lakes, wetlands, easements encompassing the 100-year high water levels of storm water basins, conservation easements and parks
   For properties #21 and #26 the reductions are due to the roadway easements for the existing roadway or private drive.

Maras/13th/Hansen Utility Extension Project
Fees Based on Project Cost
(Preliminary Buildable Acreage vs Existing Land Use SAC Unit vs Planned Land Use SAC Unit)

Date: 11/12/2020
Project #: SAN21-001

							FEES BASED ON PROJECT COST											
MAP ID	Owner	Property Address	Area (AC)	Developable Area (AC)	Estimated SAC (Existing Land Use)	Estimated SAC (Proposed Land Use)	Sanitary Sewer Fee (Developable Area)	Sanitary Sewer (Existing Land Use SAC Unit)	Sanitary Sewer (Proposed Land Use SAC Unit)	Watermain (Developable Area)	Watermain (Existing Land Use SAC Unit)	Watermain (Proposed Land Use SAC Unit)	Lateral Sanitary Sewer Connection Charge (Developable Area)	Lateral Sanitary Sewer Connection Charge (Existing Land Use SAC Unit)	Lateral Sanitary Sewer Connection Charge (Proposed Land Use SAC Unit)	Total Fees (Developable Area)	Total Fees (Existing Land Use SAC Unit)	Total Fees (Proposed Land Use SAC Unit)	
1	I Storage	8620 13TH AVE E Shakopee, MN 55379	4.09	4.09	12	39	$18,917.92	$18,813.88	$19,021.59	N/A	N/A	N/A	$1,845.23	$1,787.23	$1,936.17	**$20,763.14**	**$20,601.11**	**$20,957.76**	
2	GAJJ LLC	8700 13TH AVE E Shakopee, MN 55379	5.03	5.03	15	48	$23,265.80	$23,517.35	$23,411.19	$74,457.24	$75,245.90	$74,938.78	$2,269.31	$2,234.04	$2,382.98	**$99,992.35**	**$100,997.29**	**$100,732.94**	
3	CARRON PROPERTIES LLC	8800 13TH AVE E Shakopee, MN 55379	5.03	5.03	15	48	$23,265.80	$23,517.35	$23,411.19	$74,457.24	$75,245.90	$74,938.78	$2,269.31	$2,234.04	$2,382.98	**$99,992.35**	**$100,997.29**	**$100,732.94**	
4	GRIEPP DALE C	1300 MARAS ST SHAKOPEE, MN 55379	2.28	2.28	7	22	$10,545.93	$10,974.76	$10,730.13	$33,750.00	$35,114.75	$34,346.94	$1,028.63	$1,042.55	$1,092.20	**$45,324.56**	**$47,132.07**	**$46,169.26**	
5	GRIEPP DALE C	1350 MARAS ST Shakopee, MN 55379	0.9	0.90	3	9	$4,162.87	$4,703.47	$4,389.60	$13,322.37	$15,049.18	$14,051.02	$406.04	$446.81	$446.81	**$17,891.27**	**$20,199.46**	**$18,887.43**	
6	GRIEPP ARDEN H	1382 MARAS ST Shakopee, MN 55379	2.01	2.01	6	19	$9,297.07	$9,406.94	$9,266.93	$29,753.29	$30,098.36	$29,663.27	$906.82	$893.62	$943.26	**$39,957.18**	**$40,398.92**	**$39,873.46**	
11	ANDERSON MARLOWE C & TRUST NUMBER 500	1414 MARAS ST Shakopee, MN 55379	1.69	1.69	5	16	$7,816.94	$7,839.12	$7,803.73	$25,016.45	$25,081.97	$24,979.59	$762.45	$744.68	$794.33	**$33,595.84**	**$33,665.76**	**$33,577.65**	
12	THIEBAUD RONALD H	1428 MARAS ST Shakopee, MN 55379	0.05	0.05	1	1	$231.27	$1,567.82	$487.73	$740.13	$5,016.39	$1,561.22	$22.56	$148.94	$49.65	**$993.96**	**$6,733.15**	**$2,098.60**	
13	RJR II LLC	1432 MARAS ST Shakopee, MN 55379	0.05	0.05	1	1	$231.27	$1,567.82	$487.73	$740.13	$5,016.39	$1,561.22	$22.56	$148.94	$49.65	**$993.96**	**$6,733.15**	**$2,098.60**	
14	RJR II LLC	1438 MARAS ST Shakopee, MN 55379	0.05	0.05	1	1	$231.27	$1,567.82	$487.73	$740.13	$5,016.39	$1,561.22	$22.56	$148.94	$49.65	**$993.96**	**$6,733.15**	**$2,098.60**	
15	BOOTH BURDETTE A	1444 MARAS ST Shakopee, MN 55379	0.05	0.05	1	1	$231.27	$1,567.82	$487.73	$740.13	$5,016.39	$1,561.22	$22.56	$148.94	$49.65	**$993.96**	**$6,733.15**	**$2,098.60**	
16	ANDERSON MARLOWE C & TRUST NUMBER 500		0.95	0.95	3	9	$4,394.14	$4,703.47	$4,389.60	$14,062.50	$15,049.18	$14,051.02	$428.60	$446.81	$446.81	**$18,885.23**	**$20,199.46**	**$18,887.43**	
17	ZACHARIAS ROGER CARL	1488 MARAS ST Shakopee, MN 55379	2.21	1.78	5	17	$8,233.22	$7,839.12	$8,291.46	$26,348.68	$25,081.97	$26,540.82	$803.06	$744.68	$843.97	**$35,384.97**	**$33,665.76**	**$35,676.25**	
19	HANSEN AVENUE LLC	1513 STAGECOACH RD Shakopee, MN 55379	8.13	6.68	20	63	$30,897.72	$31,356.47	$30,727.18	$98,881.58	$100,327.87	$98,357.14	$3,013.72	$2,978.72	$3,127.66	**$132,793.02**	**$134,663.06**	**$132,211.99**	
20	JACOBY HOLLY ANN ZACHARIAS	1500 MARAS ST Shakopee, MN 55379	2.19	2.19	6	21	$10,129.64	$9,406.94	$10,242.39	$32,417.76	$30,098.36	$32,785.71	$988.03	$893.62	$1,042.55	**$43,535.44**	**$40,398.92**	**$44,070.66**	
21	HANSEN AVENUE LLC	8600 HANSEN AVE Shakopee, MN 55379	9.29	9.23	27	87	$42,692.51	$42,331.23	$42,432.78	$136,628.29	$135,442.62	$135,826.53	$4,164.17	$4,021.28	$4,319.15	**$183,484.96**	**$181,795.13**	**$182,578.46**	
22	MARAS STREET LLC	1465 MARAS ST Shakopee, MN 55379	7.92	7.76	23	73	$35,893.16	$36,059.94	$35,604.51	$114,868.42	$115,377.05	$113,969.39	$3,500.97	$3,425.53	$3,624.11	**$154,262.55**	**$154,862.52**	**$153,198.02**	
23	MARAS STREET LLC		17.48	11.81	34	112	$54,626.06	$53,305.99	$54,626.10	$174,819.08	$170,557.38	$174,857.14	$5,328.15	$5,063.83	$5,560.28	**$234,773.28**	**$228,927.20**	**$235,043.53**	
24	QUIRING PROPERTIES IV LLC	1431 MARAS ST Shakopee, MN 55379	2.69	2.69	8	25	$12,442.35	$12,542.59	$12,193.33	$39,819.08	$40,131.15	$39,030.61	$1,213.61	$1,191.49	$1,241.13	**$53,475.03**	**$53,865.22**	**$52,465.07**	
25	QUIRING PROPERTIES I LLC	1415 MARAS ST Shakopee, MN 55379	2.28	2.28	7	22	$10,545.93	$10,974.76	$10,730.13	$33,750.00	$35,114.75	$34,346.94	$1,028.63	$1,042.55	$1,092.20	**$45,324.56**	**$47,132.07**	**$46,169.26**	
27	QUIRING PROPERTIES I LLC	1395 MARAS ST Shakopee, MN 55379	2.15	2.15	6	20	$9,944.63	$9,406.94	$9,754.66	$31,825.66	$30,098.36	$31,224.49	$969.98	$893.62	$992.91	**$42,740.27**	**$40,398.92**	**$41,972.06**	
29	QUIRING PROPERTIES III LLC	1315 MARAS ST Shakopee, MN 55379	2.17	2.17	6	21	$10,037.13	$9,406.94	$10,242.39	$32,121.71	$30,098.36	$32,785.71	$979.01	$893.62	$1,042.55	**$43,137.85**	**$40,398.92**	**$44,070.66**	
30	BELISLE JEREMIAH M	8992 13TH AVE E Savage, MN 55378	0.36	0.36	1	3	$1,665.15	$1,567.82	$1,463.20	$5,328.95	$5,016.39	$4,683.67	$162.42	$148.94	$148.94	**$7,156.51**	**$6,733.15**	**$6,295.81**	
31	KNUTSON RONALD B	9016 13TH AVE E Savage, MN 55378	0.36	0.36	1	3	$1,665.15	$1,567.82	$1,463.20	$5,328.95	$5,016.39	$4,683.67	$162.42	$148.94	$148.94	**$7,156.51**	**$6,733.15**	**$6,295.81**	
32	ZIERMANN PAULA	9040 13TH AVE E Savage, MN 55378	0.37	0.37	1	4	$1,711.40	$1,567.82	$1,950.93	$5,476.97	$5,016.39	$6,244.90	$166.93	$148.94	$198.58	**$7,355.30**	**$6,733.15**	**$8,394.41**	
33	ESTABROOKS GREGORY F & HOPE	9064 13TH AVE E Savage, MN 55378	0.35	0.35	1	3	$1,618.89	$1,567.82	$1,463.20	$5,180.92	$5,016.39	$4,683.67	$157.90	$148.94	$148.94	**$6,957.72**	**$6,733.15**	**$6,295.81**	
43	KRIVACHEK MELISSA	9100 13TH AVE E Savage, MN 55378	0.36	0.36	1	3	$1,665.15	$1,567.82	$1,463.20	$5,328.95	$5,016.39	$4,683.67	$162.42	$148.94	$148.94	**$7,156.51**	**$6,733.15**	**$6,295.81**	
7	ROBERT F HAMILL FAMILY TRUST	1393 STAGECOACH RD Shakopee, MN 55379	3.75	3.64	11	34	$16,836.48	$17,246.06	$16,582.92	$53,881.58	$55,180.33	$53,081.63				**$70,718.06**	**$72,426.38**	**$69,664.56**	**Properties not in LS Service Area**
8	ROBERT F HAMILL FAMILY TRUST		3.49	3.04	9	29	$14,061.24	$14,110.41	$14,144.26	$45,000.00	$45,147.54	$45,275.51				**$59,061.24**	**$59,257.95**	**$59,419.77**	
9	WILLIAM R RASMUSSEN FAMILY TRUST	1425 STAGECOACH RD Shakopee, MN 55379	3.61	3.61	11	34	$16,697.72	$17,246.06	$16,582.92	$53,437.50	$55,180.33	$53,081.63	N/A			**$70,135.22**	**$72,426.38**	**$69,664.56**	
10	PFEIFFER PROPERTIES LLP	1451 STAGECOACH RD SHAKOPEE, MN 55379	3.49	3.49	10	33	$16,142.67	$15,678.23	$16,095.19	$51,661.18	$50,163.93	$51,520.41				**$67,803.86**	**$65,842.17**	**$67,615.60**	
18	PFEIFFER PROPERTIES LLP	1451 STAGECOACH RD Shakopee, MN 55379	6.96	6.96	20	66	$32,192.83	$31,356.47	$32,190.38	$103,026.32	$100,327.87	$103,040.82				**$135,219.15**	**$131,684.34**	**$135,231.20**	
26	STEWART ROBERT K & SYDNEY L	9099 13TH AVE E Savage, MN 55378	7.93	7.86	23	74	$36,355.70	$36,059.94	$36,092.25	$116,348.68	$115,377.05	$115,530.61	$3,546.08	$3,425.53	$3,673.76	**$156,250.47**	**$154,862.52**	**$155,296.62**	**Future Project Area (N/E Corner)**
28	STEWART ROBERT K & SYDNEY L		2.5	2.50	7	24	$11,563.52	$10,974.76	$11,705.59	$37,006.58	$35,114.75	$37,469.39	$1,127.89	$1,042.55	$1,191.49	**$49,697.99**	**$47,132.07**	**$50,366.47**	
34	HIGHWAY 101 AUTO SALVAGE	9099 13TH AVE E SHAKOPEE, MN 55379	0.37	0.37	1	4	$1,711.40	$1,567.82	$1,950.93	$5,476.97	$5,016.39	$6,244.90	$166.93	$148.94	$198.58	**$7,355.30**	**$6,733.15**	**$8,394.41**	
35	STEWART ROBERT K & SYDNEY L		0.35	0.35	1	3	$1,618.89	$1,567.82	$1,463.20	$5,180.92	$5,016.39	$4,683.67	$157.90	$148.94	$148.94	**$6,957.72**	**$6,733.15**	**$6,295.81**	
36	STEWART ROBERT K & SYDNEY L		0.36	0.36	1	3	$1,665.15	$1,567.82	$1,463.20	$5,328.95	$5,016.39	$4,683.67	$162.42	$148.94	$148.94	**$7,156.51**	**$6,733.15**	**$6,295.81**	
37	STEWART ROBERT K & SYDNEY L		0.35	0.35	1	3	$1,618.89	$1,567.82	$1,463.20	$5,180.92	$5,016.39	$4,683.67	$157.90	$148.94	$148.94	**$6,957.72**	**$6,733.15**	**$6,295.81**	
38	STEWART ROBERT K & SYDNEY L		0.36	0.36	1	3	$1,665.15	$1,567.82	$1,463.20	$5,328.95	$5,016.39	$4,683.67	$162.42	$148.94	$148.94	**$7,156.51**	**$6,733.15**	**$6,295.81**	
39	AMAN III ROBERT C	9097 13TH AVE E Savage, MN 55378	0.38	0.38	1	4	$1,757.65	$1,567.82	$1,950.93	$5,625.00	$5,016.39	$6,244.90	$171.44	$148.94	$198.58	**$7,554.09**	**$6,733.15**	**$8,394.41**	
40	MCCARTNEY SHAWN & CYNTHIA	9095 13TH AVE E Savage, MN 55378	0.36	0.36	1	3	$1,665.15	$1,567.82	$1,463.20	$5,328.95	$5,016.39	$4,683.67	$162.42	$148.94	$148.94	**$7,156.51**	**$6,733.15**	**$6,295.81**	
41	LADWIG GLEN A & MARALEE A	9085 13TH AVE E Savage, MN 55378	0.73	0.73	1	7	$3,376.55	$1,567.82	$3,414.13	$10,805.92	$5,016.39	$10,928.57	$329.34	$148.94	$347.52	**$14,511.81**	**$6,733.15**	**$14,690.22**	
42	ESTRADA CARLOS A	9081 13TH AVE E SHAKOPEE, MN 55379	0.37	0.37	1	4	$1,711.40	$1,567.82	$1,950.93	$5,476.97	$5,016.39	$6,244.90	$166.93	$148.94	$198.58	**$7,355.30**	**$6,733.15**	**$8,394.41**	
	BOILING SPRINGS AREA			22	73	164	N/A	N/A	N/A	N/A	N/A	N/A	$9,880.31	$10,872.34	$8,141.84	**$9,880.31**	**$10,872.34**	**$8,141.84**	**Boiling Springs Area**
		TOTAL	**115.85**	**129.35**	**390**	**1183**	**$497,000.00**	**$497,000.00**	**$497,000.00**	**$1,530,000.00**	**$1,530,000.00**	**$1,530,000.00**	**$49,000.00**	**$49,000.00**	**$49,000.00**	**$2,076,000.00**	**$2,076,000.00**	**$2,076,000.00**	

	Estimated Project Cost	Developable Area (AC)	$/ Developable Area	SAC Units (Existing Land Use)	$/SAC Units (Existing Land Use)	SAC Units (Proposed Land Use)	$/SAC Units (Proposed Land Use)
Lateral Sanitary Conn. Charge - Gravity Only	$497,000.00	107.45	$4,625.41	317	$1,567.82	1019	$487.73
Watermain	$1,530,000.00	103.36	$14,802.63	305	$5,016.39	980	$1,561.22
Lateral Sanitary Conn. Charge - Forcemain Only	$49,000.00	108.61	$451.16	329	$148.94	987	$49.65

Notes:

1. Lateral Sanitary Sewer Charge accounts for the cost of an 8" gravity main installed 12 feet deep.
   Lateral Sanitary Connection Charge - Forcemain Only accounts for the forcemain installed for those served by the Lift Station
2. SAC units are based on future land use and may be different at time of connection when SAC is determined for the current land use.
3. SAC and buildable acreage are estimations and will be determined at time of connection.
4. The developable area (buildable acreage) is defined as the total area of the final plat, less areas of outlots, ROW, lakes, wetlands, easements encompassing the 100-year high water levels of storm water basins, conservation easements and parks.
   For properties #21 and #26 the reductions are due to the roadway easements for the existing roadway or private drive.
5. Boiling Springs is Suburban Edge Residental. Per the Cities Trunk Sanitary Sewer Policy for existing rural residential properties not subdividing, the property owner will be charged based on a land area of 0.30 acres. Boiling Springs area has 73 parcel x 0.3 acres = 22 acres

Maras/13th/Hansen Utility Extension Project
Street Assessments

Date: 11/12/2020
Project #: SAN21-001

MAP ID	Owner	Property Address	Area (AC)	Developable Area (AC)	Assessable Area (AC)	Proposed Street Assessment
1	I Storage	8620 13TH AVE E Shakopee, MN 55379	4.09	4.09	1.72	$17,744.71
2	GAJJ LLC	8700 13TH AVE E Shakopee, MN 55379	5.03	5.03	5.03	$51,959.41
3	CARRON PROPERTIES LLC	8800 13TH AVE E Shakopee, MN 55379	5.03	5.03	5.03	$51,959.41
4	GRIEPP DALE C	1300 MARAS ST SHAKOPEE, MN 55379	2.28	2.28	2.28	$23,552.18
5	GRIEPP DALE C	1350 MARAS ST Shakopee, MN 55379	0.9	0.90	0.90	$9,296.91
6	GRIEPP ARDEN H	1382 MARAS ST Shakopee, MN 55379	2.01	2.01	2.01	$20,763.10
11	ANDERSON MARLOWE C & TRUST NUMBER 500	1414 MARAS ST Shakopee, MN 55379	1.69	1.69	1.69	$17,457.53
12	THIEBAUD RONALD H	1428 MARAS ST Shakopee, MN 55379	0.05	0.05	0.05	$516.50
13	RJR II LLC	1432 MARAS ST Shakopee, MN 55379	0.05	0.05	0.05	$516.50
14	RJR II LLC	1438 MARAS ST Shakopee, MN 55379	0.05	0.05	0.05	$516.50
15	BOOTH BURDETTE A	1444 MARAS ST Shakopee, MN 55379	0.05	0.05	0.05	$516.50
16	ANDERSON MARLOWE C & TRUST NUMBER 500		0.95	0.95	0.95	$9,813.41
17	ZACHARIAS ROGER CARL	1488 MARAS ST Shakopee, MN 55379	2.21	1.78	1.78	$18,387.23
19	HANSEN AVENUE LLC	1513 STAGECOACH RD Shakopee, MN 55379	8.13	6.68	5.28	$54,512.96
20	JACOBY HOLLY ANN ZACHARIAS	1500 MARAS ST Shakopee, MN 55379	2.19	2.19	2.19	$22,622.48
21	HANSEN AVENUE LLC	8600 HANSEN AVE Shakopee, MN 55379	9.29	9.23	6.28	$64,834.60
22	MARAS STREET LLC	1465 MARAS ST Shakopee, MN 55379	7.92	7.76	7.76	$80,160.04
23	MARAS STREET LLC		17.48	11.81	11.81	$121,996.14
24	QUIRING PROPERTIES IV LLC	1431 MARAS ST Shakopee, MN 55379	2.69	2.69	2.69	$27,787.44
25	QUIRING PROPERTIES I LLC	1415 MARAS ST Shakopee, MN 55379	2.28	2.28	2.28	$23,552.18
27	QUIRING PROPERTIES I LLC	1395 MARAS ST Shakopee, MN 55379	2.15	2.15	2.15	$22,209.29
29	QUIRING PROPERTIES III LLC	1315 MARAS ST Shakopee, MN 55379	2.17	2.17	2.17	$22,415.89
30	BELISLE JEREMIAH M	8992 13TH AVE E Savage, MN 55378	0.36	0.36	0.36	$3,718.76
31	KNUTSON RONALD B	9016 13TH AVE E Savage, MN 55378	0.36	0.36	0.36	$3,718.76
32	ZIERMANN PAULA	9040 13TH AVE E Savage, MN 55378	0.37	0.37	0.37	$3,822.06
33	ESTABROOKS GREGORY F & HOPE	9064 13TH AVE E Savage, MN 55378	0.35	0.35	0.35	$3,615.47
43	KRIVACHEK MELISSA	9100 13TH AVE E Savage, MN 55378	0.36	0.36	0.36	$3,718.76
26	STEWART ROBERT K & SYDNEY L	9099 13TH AVE E Savage, MN 55378	7.93	7.86	7.86	$81,193.03
28	STEWART ROBERT K & SYDNEY L		2.5	2.50	2.50	$25,824.75
34	HIGHWAY 101 AUTO SALVAGE	9099 13TH AVE E SHAKOPEE, MN 55379	0.37	0.37	0.37	$3,822.06
35	STEWART ROBERT K & SYDNEY L		0.35	0.35	0.35	$3,615.47
36	STEWART ROBERT K & SYDNEY L		0.36	0.36	0.36	$3,718.76
37	STEWART ROBERT K & SYDNEY L		0.35	0.35	0.35	$3,615.47
38	STEWART ROBERT K & SYDNEY L		0.36	0.36	0.36	$3,718.76
39	AMAN III ROBERT C	9097 13TH AVE E Savage, MN 55378	0.38	0.38	0.38	$3,925.36
40	MCCARTNEY SHAWN & CYNTHIA	9095 13TH AVE E Savage, MN 55378	0.36	0.36	0.36	$3,718.76
41	LADWIG GLEN A & MARALEE A	9085 13TH AVE E Savage, MN 55378	0.73	0.73	0.73	$7,540.83
42	ESTRADA CARLOS A	9081 13TH AVE E SHAKOPEE, MN 55379	0.37	0.37	0.37	$3,822.06
						$826,200.00

	Estimated Assessment Cost	Developable Area	$/Developable Area
13th, Maras and Hansen Street Assessment	$826,200	79.98	$10,329.90

Notes:
1. Per the cities assessment policy property owners pay 30% of total street construction cost ($2,754,000 x 0.30 = $826,200). The city pays 70% of street construction using the CIF
2. Developable area is an estimation and will be determined at time of connection.
3. The developable area is defined as the total area of the final plat, less areas of outlots, ROW, lakes, wetlands, easements encompassing the 100-year high water levels of storm water basins, conservation easements and parks.
   For properties #21 and #26 the reductions are due to the roadway easements for the existing roadway or private drive.
4. Corner properties, with one side adjacent to an included street and one side a non-included street, will be assessed proportionally by front footage
5. Parcel #1 – 4.09 (Developable Area) x 42% = 1.72 (Assessable Area)
5. Parcel #19 – 6.68 (Developable Area) x 79% = 5.28 (Assessable Area)
5. Parcel #21 – 9.23 (Developable Area) x 68% = 6.28 (Assessable Area)

SHAKOPEE

Maras/13th/Hansen Utility Extension Project
Summary of Fee's and Assessments

Date: 11/12/2020
Project #: SAN21-001

						Project Cost					Non-Project Cost (Based on 2020 Fee Schedule)						
MAP ID	Owner	Property Address	Area (AC)	Developable Area (AC)	Estimated SAC (Existing Land Use)	Sanitary Sewer Fee (Developable Area)	Watermain Fee (Devleopable Area)	Lateral Sanitary Sewer Connection Fee (Developable Area)	Street Assessment (Developable Area)	Project Cost Subtotal	Trunk Sanitary Sewer Charge (Developable Area)	City Sewer Availability Charge (SAC Unit)	Trunk Water Charge (Area)	Water Connection Charge (SAC Unit)	MCES Sewer Access Charge (SAC Unit)	Non-Project Cost Subtotal	Total Fees & Assessments
1	I Storage	8620 13TH AVE E	4.09	4.09	12	$18,955.98	N/A	$1,807.57	$17,744.71	**$38,508.25**	$12,196.38	$6,180.00	N/A	N/A	$29,820.00	**$48,196.38**	**$86,704.63**
2	GAJJ LLC	8700 13TH AVE E	5.03	5.03	15	$23,312.61	$74,505.90	$2,223.00	$51,959.41	**$152,000.92**	$14,999.46	$7,725.00	$22,388.53	$90,585.00	$37,275.00	**$172,972.99**	**$324,973.91**
3	CARRON PROPERTIES LLC	8800 13TH AVE E	5.03	5.03	15	$23,312.61	$74,505.90	$2,223.00	$51,959.41	**$152,000.92**	$14,999.46	$7,725.00	$22,388.53	$90,585.00	$37,275.00	**$172,972.99**	**$324,973.91**
4	GRIEPP DALE C	1300 MARAS ST	2.28	2.28	7	$10,567.15	$33,772.06	$1,007.64	$23,552.18	**$68,899.02**	$6,798.96	$3,605.00	$10,148.28	$42,273.00	$17,395.00	**$80,220.24**	**$149,119.26**
5	GRIEPP DALE C	1350 MARAS ST	0.9	0.90	3	$4,171.24	$13,331.08	$397.75	$9,296.91	**$27,196.98**	$2,683.80	$1,545.00	$4,005.90	$18,117.00	$7,455.00	**$33,806.70**	**$61,003.68**
6	GRIEPP ARDEN H	1382 MARAS ST	2.01	2.01	6	$9,315.77	$29,772.74	$888.32	$20,763.10	**$60,739.93**	$5,993.82	$3,090.00	$8,946.51	$36,234.00	$14,910.00	**$69,174.33**	**$129,914.26**
11	ANDERSON MARLOWE C & TRUST NUMBER 500	1414 MARAS ST	1.69	1.69	5	$7,832.67	$25,032.80	$746.89	$17,457.53	**$51,069.89**	$5,039.58	$2,575.00	$7,522.19	$30,195.00	$12,425.00	**$57,756.77**	**$108,826.66**
12	THIEBAUD RONALD H	1428 MARAS ST	0.05	0.05	1	$231.74	$740.62	$22.10	$516.50	**$1,510.94**	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	**$10,921.59**
13	RJR II LLC	1432 MARAS ST	0.05	0.05	1	$231.74	$740.62	$22.10	$516.50	**$1,510.94**	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	**$10,921.59**
14	RJR II LLC	1438 MARAS ST	0.05	0.05	1	$231.74	$740.62	$22.10	$516.50	**$1,510.94**	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	**$10,921.59**
15	BOOTH BURDETTE A	1444 MARAS ST	0.05	0.05	1	$231.74	$740.62	$22.10	$516.50	**$1,510.94**	$149.10	$515.00	$222.55	$6,039.00	$2,485.00	**$9,410.65**	**$10,921.59**
16	ANDERSON MARLOWE C & TRUST NUMBER 500		0.95	0.95	3	$4,402.98	$14,071.69	$419.85	$9,813.41	**$28,707.93**	$2,832.90	$1,545.00	$4,228.45	$18,117.00	$7,455.00	**$34,178.35**	**$62,886.28**
17	ZACHARIAS ROGER CARL	1488 MARAS ST	2.21	1.78	5	$8,249.79	$26,365.91	$786.67	$18,387.23	**$53,789.59**	$6,590.22	$2,575.00	$9,836.71	$30,195.00	$12,425.00	**$61,621.93**	**$115,411.52**
19	HANSEN AVENUE LLC	1513 STAGECOACH RD	8.13	6.68	20	$30,959.89	$98,946.21	$2,952.21	$54,512.96	**$187,371.27**	$24,243.66	$10,300.00	$36,186.63	$120,780.00	$49,700.00	**$241,210.29**	**$428,581.56**
20	JACOBY HOLLY ANN ZACHARIAS	1500 MARAS ST	2.19	2.19	6	$10,150.02	$32,438.95	$967.87	$22,622.48	**$66,179.33**	$6,530.58	$3,090.00	$9,747.69	$36,234.00	$14,910.00	**$70,512.27**	**$136,691.60**
21	HANSEN AVENUE LLC	8600 HANSEN AVE	9.29	9.23	27	$42,778.41	$136,717.59	$4,079.18	$64,834.60	**$248,409.78**	$27,702.78	$13,905.00	$41,349.79	$163,053.00	$67,095.00	**$313,105.57**	**$561,515.35**
22	MARAS STREET LLC	1465 MARAS ST	7.92	7.76	23	$35,965.38	$114,943.50	$3,429.52	$80,160.04	**$234,498.43**	$23,617.44	$11,845.00	$35,251.92	$138,897.00	$57,155.00	**$266,766.36**	**$501,264.79**
23	MARAS STREET LLC		17.48	11.81	34	$54,735.97	$174,933.34	$5,219.41	$121,996.14	**$356,884.86**	$52,125.36	$17,510.00	$77,803.48	$205,326.00	$84,490.00	**$437,254.84**	**$794,139.70**
24	QUIRING PROPERTIES IV LLC	1431 MARAS ST	2.69	2.69	8	$12,467.38	$39,845.10	$1,188.84	$27,787.44	**$81,288.76**	$8,021.58	$4,120.00	$11,973.19	$48,312.00	$19,880.00	**$92,306.77**	**$173,595.53**
25	QUIRING PROPERTIES I LLC	1415 MARAS ST	2.28	2.28	7	$10,567.15	$33,772.06	$1,007.64	$23,552.18	**$68,899.02**	$6,798.96	$3,605.00	$10,148.28	$42,273.00	$17,395.00	**$80,220.24**	**$149,119.26**
27	QUIRING PROPERTIES I LLC	1395 MARAS ST	2.15	2.15	6	$9,964.63	$31,846.46	$950.19	$22,209.29	**$64,970.57**	$6,411.30	$3,090.00	$9,569.65	$36,234.00	$14,910.00	**$70,214.95**	**$135,185.52**
29	QUIRING PROPERTIES III LLC	1315 MARAS ST	2.17	2.17	6	$10,057.33	$32,142.71	$959.03	$22,415.89	**$65,574.95**	$6,470.94	$3,090.00	$9,658.67	$36,234.00	$14,910.00	**$70,363.61**	**$135,938.56**
30	BELISLE JEREMIAH M	8992 13TH AVE E	0.36	0.36	1	$1,668.50	$5,332.43	$159.10	$3,718.76	**$10,878.79**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,593.67**
31	KNUTSON RONALD B	9016 13TH AVE E	0.36	0.36	1	$1,668.50	$5,332.43	$159.10	$3,718.76	**$10,878.79**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,593.67**
32	ZIERMANN PAULA	9040 13TH AVE E	0.37	0.37	1	$1,714.84	$5,480.55	$163.52	$3,822.06	**$11,180.98**	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	**$22,970.19**
33	ESTABROOKS GREGORY F & HOPE	9064 13TH AVE E	0.35	0.35	1	$1,622.15	$5,184.31	$154.68	$3,615.47	**$10,576.60**	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	**$22,217.15**
43	KRIVACHEK MELISSA	9100 13TH AVE E	0.36	0.36	1	$1,668.50	$5,332.43	$159.10	$3,718.76	**$10,878.79**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,593.67**
7	ROBERT F HAMILL FAMILY TRUST	1393 STAGECOACH RD	3.75	3.64	11	$16,870.36	$53,916.80			**$70,787.15**	$11,182.50	$5,665.00	$16,691.25	$66,429.00	$27,335.00	**$127,302.75**	**$198,089.90**
8	ROBERT F HAMILL FAMILY TRUST		3.49	3.04	9	$14,089.53	$45,029.41			**$59,118.94**	$10,407.18	$4,635.00	$15,533.99	$54,351.00	$22,365.00	**$107,292.17**	**$166,411.11**
9	WILLIAM R RASMUSSEN FAMILY TRUST	1425 STAGECOACH RD	3.61	3.61	11	$16,731.32	$53,472.43	N/A	N/A	**$70,203.74**	$10,765.02	$5,665.00	$16,068.11	$66,429.00	$27,335.00	**$126,262.13**	**$196,465.87**
10	PFEIFFER PROPERTIES LLP	1451 STAGECOACH RD	3.49	3.49	10	$16,175.15	$51,694.95			**$67,870.10**	$10,407.18	$5,150.00	$15,533.99	$60,390.00	$24,850.00	**$116,331.17**	**$184,201.27**
18	PFEIFFER PROPERTIES LLP	1451 STAGECOACH RD	6.96	6.96	20	$32,257.61	$103,093.65			**$135,351.26**	$20,754.72	$10,300.00	$30,978.96	$120,780.00	$49,700.00	**$232,513.68**	**$367,864.94**
26	STEWART ROBERT K & SYDNEY L	9099 13TH AVE E	7.93	7.86	23	$36,428.85	$116,424.73	$3,473.71	$81,193.03	**$237,520.32**	$23,647.26	$11,845.00	$35,296.43	$138,897.00	$57,155.00	**$266,840.69**	**$504,361.01**
28	STEWART ROBERT K & SYDNEY L		2.5	2.50	7	$11,586.78	$37,030.77	$1,104.87	$25,824.75	**$75,547.18**	$7,455.00	$3,605.00	$11,127.50	$42,273.00	$17,395.00	**$81,855.50**	**$157,402.68**
34	HIGHWAY 101 AUTO SALVAGE	9099 13TH AVE E	0.37	0.37	1	$1,714.84	$5,480.55	$163.52	$3,822.06	**$11,180.98**	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	**$22,970.19**
35	STEWART ROBERT K & SYDNEY L		0.35	0.35	1	$1,622.15	$5,184.31	$154.68	$3,615.47	**$10,576.60**	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	**$22,217.15**
36	STEWART ROBERT K & SYDNEY L		0.36	0.36	1	$1,668.50	$5,332.43	$159.10	$3,718.76	**$10,878.79**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,593.67**
37	STEWART ROBERT K & SYDNEY L		0.35	0.35	1	$1,622.15	$5,184.31	$154.68	$3,615.47	**$10,576.60**	$1,043.70	$515.00	$1,557.85	$6,039.00	$2,485.00	**$11,640.55**	**$22,217.15**
38	STEWART ROBERT K & SYDNEY L		0.36	0.36	1	$1,668.50	$5,332.43	$159.10	$3,718.76	**$10,878.79**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,593.67**
39	AMAN III ROBERT C	9097 13TH AVE E	0.38	0.38	1	$1,761.19	$5,628.68	$167.94	$3,925.36	**$11,483.17**	$1,133.16	$515.00	$1,691.38	$6,039.00	$2,485.00	**$11,863.54**	**$23,346.71**
40	MCCARTNEY SHAWN & CYNTHIA	9095 13TH AVE E	0.36	0.36	1	$1,668.50	$5,332.43	$159.10	$3,718.76	**$10,878.79**	$1,073.52	$515.00	$1,602.36	$6,039.00	$2,485.00	**$11,714.88**	**$22,593.67**
41	LADWIG GLEN A & MARALEE A	9085 13TH AVE E	0.73	0.73	1	$3,383.34	$10,812.98	$322.62	$7,540.83	**$22,059.78**	$2,176.86	$515.00	$3,249.23	$6,039.00	$2,485.00	**$14,465.09**	**$36,524.87**
42	ESTRADA CARLOS A	9081 13TH AVE E	0.37	0.37	1	$1,714.84	$5,480.55	$163.52	$3,822.06	**$11,180.98**	$1,103.34	$515.00	$1,646.87	$6,039.00	$2,485.00	**$11,789.21**	**$22,970.19**
	BOILING SPRINGS AREA			22	73	N/A	N/A	$9,678.67	N/A	**$9,678.67**	N/A	N/A	N/A	N/A	N/A	**N/A**	**$9,678.67**
		TOTAL	**115.85**	**107.45**	**317**	**$498,000.00**	**$1,531,000.00**	**$48,000.00**	**$826,200.00**	**$2,903,200.00**	**$345,464.70**	**$163,255.00**	**$497,443.76**	**$1,841,895.00**	**$787,745.00**	**$3,635,803.46**	**$6,539,003.46**

APPENDIX D

Property Owner Survey Results

Please provide your property address	Are you interested in having sanitary sewer installed?	If no, please explain?	How old is your septic system?	Do you have any issues (or have you received a non-compliance notice from Scott County) with your septic system?	What issues do you have?	Please describe the general location of your septic system	What is the average annual cost for you to maintain your septic system?	The City sanitary sewer system ultimately connects to the Metropolitan Council system for treatment and the Metropolitan Council staff needs to know if any of the properties generate flow from business processes/manufacturing. Do any of the operations on your site generate higher strength wastewater flow?	Please provide any feedback you'd like to share about the sanitary sewer extension portion of the proposed project.	Are you interested in having watermain installed?	If no, please explain why	How old is your well?	Do you have any issues with your well?	What issues do you have?	Please describe the general location of your well?	Please provide any feedback you'd like to share about the watermain extension portion of the proposed project?	Do you think a sidewalk or trail should be installed along Maras Street and Hansen Avenue?	Please provide any feedback you'd like to share about the street reconstruction/ trail extension portion of the proposed project.	Are there any drainage issues or flooding in the street or on the portion of your property that is adjacent to the street?	Do you have sprinkler systems, security wiring, invisible fence, draintile or other private utility systems within the city right-of-way?	The city's street lighting policy recommends that street lights be installed at street intersections and no more than 300 feet apart in residential areas, and no more than 450 feet apart in industrial areas. Do you think that additional street lighting is needed?	Please share any other comments or questions.
9016 13th Ave. East Savage	No	My private septic is serviced and inspected on a regular basis and I have been made aware that it is performing as it should.	Over 21 years old	No		Approximately 17 feet East from the southeast corner of residence.	Under $1,000	No		No	Cost	Over 21 years old	No		Approximately 25 feet north of the residence		No		No	No	No	
1414 Maras St	Depends on final cost																						
8620 13th Ave E	No	My Office building (the only bldg with plumbing) is only 12 years old, and only has 1 employee at a time - EVER. We have a modern tanked septic system that has many years of life yet.	11 to 15 years old	No		Directly behind Office Building.	Under $1,000	No	It is completely unnecessary for my operation, and being on a corner lot I imagine I will be hit with a disproportionate share of the cost burden. My taxes are already $100,000/ year! I can't take any more without risk of business failure.	No	When I constructed this facility 12 years ago There was a water main dead ending on the corner of this property. I've already paid to extend that main in both directions, along Stagecoach Road to the South AND along 13th Ave to the East bringing the main to both of my neighbors property lines for future expansion, and I had to add SIX more fire hydrants as well. This cost me a small fortune in SPUC fees, and I feel I shouldn't be burdened with any more water supply costs.			NONE. This project is totally unnecessary for my business. I am the newest facility in this entire project, and the most modern. Please note that I do not have a well which is why the previous 2 questions are unanswered. My storage buildings are also completely sprinkled too.	N/A - There is NO well on this property. It is completely served by City water.	I would hope that if approved, this project should have ZERO cost to me as I already have modern City water mains along with a modern tanked septic system with no risk of leeching.		N/A as these streets are not in front of my business.	NO - I contain the majority of our own runoff in our water retention pond on the SW corner of this property.	No. Not within the right-of-ways.	No	I would hope that if approved, The impact on my business is minimal, as we are a modern facility constructed at great expense to meet all of the City of Shakopee's current requirements. Respectfully, We don't need any of this.
9064 13th Ave East	No	Our sewer has been replaced since our ownership here and is in good working order.	16 to 20 years old	No		Located between the house and the street under the lawn.	Under $1,000	No	We would rather not connect to city sewer.	No	Our well is in good working order.	Over 21 years old	No		The well is located approximately 20' East of the East wall of the house.		No	These streets are occupied by commercial businesses, there is no practical reason to spend taxpayers money on a sidewalk in this commercial area.	No	An abandoned invisible fence wire.	No	We have a yard light and security lighting on the garage and house. This is sufficient in our opinion.
1451 stagecoach road,shakopee,mn 55379	Yes		Over 21 years old	Yes	Fills up too fast and backs up. Possible poor functioning drain field.	northwest corner of property.	Over $2,000	No		Yes		Over 21 years old	Yes	high arsenic levels.	southwest corner of building.	don't want to get water if we don't get sewer.	No		heavy rains flood and backup in ditch along stagecoach road affecting our drain field.	possible sprinkler lines and drain tile. don't know.	No	
9081 13TH AVE east	No	My septic system is fairly new	6 to 10 years old	No		Is on the backyard	Prefer not to answer	No	I heard that it's very costly to connect to city water and sewer	No	Is very costly	6 to 10 years old	No		Frontyard	Costly	No	Costly and if waterlines rupture we as owners need to repair and pay	No	No	No	High cost
1382 Maras Street	Depends on final cost		Over 21 years old	No		The City already has this information when permits were taken out. The septic system is located at the rear of the property away from the street.	Under $1,000	No		Depends on final cost		Over 21 years old	No		The well is 10 ft away from the building at the rear of the property		No	Why would you even consider a sidewalk or trail. This is an industrial area, not a residential area or park.	Maras Street floods over on to the boulevard in front of my property whenever we have a heavy rain	No	No	
8992 13 ave e	No	I see no need to change my utility at this time.	11 to 15 years old	No		Backyard	Under $1,000	No	I see no reason to change my utility at this time.	No	I see no reason to change my utility at this time.	6 to 10 years old	No		Front yard	It seems illogical at best. This is not what the community wants at all. The timing is preposterous.	No	I see no reason to install a sidewalk in an industrial area. The very idea of installing a sidewalk in an industrial area seems like a misappropriation of tax payer dollars and ill conceived notion at it's very core.	No	No	No	I really wish that the city would reconsider these ideas. As a resident in this area for the last Fifteen years I have come to build relationships with the not only the business owners but also the residents in this area. In having conversations with them I have not heard even one person wanting anything to do with the proposed ideas the city of Shakopee has for city project-21-001.
1393 stagecoach rd	Depends on final cost		Over 21 years old	No		north west side of property	Under $1,000	No		Depends on final cost		Over 21 years old	No		south side of building		Yes			no	Yes	
1xxxx Hansen Ave	Depends on final cost																						
1350 Maras Street (Received by Mail)	No		11 to 15 years old	No		Northwest corner of building	Under $1,000	No		Depends on final cost	Please be sure to charge per acre and not per frontage foot, which would be equally fair to all	Less than 5 years old	No		Behind shop		No	The street is in good shape. A trail or sidewalk is not needed on industrial property.	No	Yes, security	No	
8800 13th Ave (Received by Mail)	Yes		Over 21 years old	Yes	Sort of before we redid system	West of building	Between $1,001 and $2,000	No	Been wanting this for 5 years	Yes		Less than 5 years old	Yes	Just replaced well head	East of building		No	I do not consider the pavement structure as "poor"	No	Yes, sprinkler system	No	
9085 13th Ave (Received by Mail)	No	It was put in 2010	6 - 10 years old	No		Extended lot on the north side of property	Under $1,000	I don't know		No	Have new well less than 2 1/2 years	Less than 5 years old	No		In front of the house		No		No	No	No	
8600 - 8610 through 8619 (Received by Mail)	Yes		Over 21 years old	Yes	I have to pump about every 3 weeks	I have 2 - 8610 is by Stagecoach in trees; 8613 Hansen Ave is between building and Stagecoach Rd in the grass.	Between $1,001 and $2,000	No		Yes		Over 21 years old	No		On south side of building about in the center		No		None	Yes at 8600 and 8610 Hansen Ave, building only	No	
1475 - 1515 Maras St (Received by Mail)	Yes		Over 21 years old	No		South edge of property	Under $1,000	No									No		None	No	No	
1315, 1415, 1431, 1500 Maras Street (Received by Mail)	Yes		Over 21 years old	No	Some minor issues, but nothing from Scott County or City of Shakopee	On front lawn on 2 properties, and beside the buildings on the other 2	Between $1,001 and $2,000	No	Hope this can get done. Thank you.	Yes		Over 21 years old	No		Right next to each building	Hope we can get this done. Thank you.	No		The storm drain has some trouble during a heavy rain, but "catches up" very quickly	Yes, CenturyLink Internet Cable is buried on East side of Maras Street	No	

APPENDIX E

Phase II ESA Result Tables

Table 2 - Groundwater Analytical Results
Utility Improvements, Sewer-21-001
Shakopee, Minnesota
WSB Project Number: 016155-000

WSB																		
Sample ID	**CAS #**	**GW-2**	**GW-3**	**GW-4**	**GW-5**	**GW-6**	**GW-7**	**GW-8**	**GW-9**	**GW-10**	**GW-11**	**GW-12**	**GW-13**	**GW-14**	**Trip Blank 1**	**Trip Blank 2**	**Health Based Risk Guidance Value (µg/L)**	**Limits for Contaminated Groundwater Discharges (µg/L)**
Water Level (ft. below grade)		12.25	15.25	12.53	5.4	4.47	4.03	3.46	5.18	9.9	4.81	4.19	4.18	4.96	—	—		
Sample Date		**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**		
Volatile Organic Compounds (VOCs)																		
All Analyzed VOCs	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
RCRA 8 Metals																		
Arsenic [1]	7440-38-2	NA	**121**	NA	**85.8**	NA	**147**	NA	**352**	NA	**67.1**	NA	**683**	NA	NA	NA	NE	NE
Barium [1]	7440-39-3	NA	**17500**	NA	**5660**	NA	**5750**	NA	**26700**	NA	**5630**	NA	**17700**	NA	NA	NA	2,000 HRL 93	NE
Cadmium [1]	7440-43-9	NA	**45.8**	NA	**35.7**	NA	**58.7**	NA	**74.8**	NA	**48.5**	NA	**33.6**	NA	NA	NA	0.5 HRL 15	NE
Chromium [1]	7440-47-3	NA	**2670**	NA	**1600**	NA	**2310**	NA	**4200**	NA	**2370**	NA	**6040**	NA	NA	NA	20,000 HRL 94 / 100 HRL 93 **	NE
Lead [1]	7439-92-1	NA	**1390**	NA	**1360**	NA	**2020**	NA	**2190**	NA	**1880**	NA	**2060**	NA	NA	NA	NE	NE
Mercury [1]	7439-97-6	NA	**4.06**	NA	**2.32**	NA	**3.32**	NA	**6.53**	NA	**2.64**	NA	**3.38**	NA	NA	NA	NE	NE
Selenium [1]	7782-49-2	NA	<100	NA	<100	NA	**105**	NA	**174**	NA	**111**	NA	**186**	NA	NA	NA	30 HRL 93	NE
Silver [1]	7440-22-4	NA	<20.0	NA	<20.0	NA	<20.0	NA	<20.0	NA	<20.0	NA	<20.0	NA	NA	NA	30 HRL 93	NE
Diesel Range Organics (DRO)																		
Diesel Range Organics (DRO)	STL00143	<109	**179**	<110	**149**	**125**	<109	**151**	**172**	<109	<110	**152**	**124**	**181**	NA	NA	1,000 *	200
Gasoline Range Organics (GRO)																		
Gasoline Range Organics (GRO)	STL01887	**108**	<500	**107**	<100	<100	<100	<100	<500	<100	<100	<100	<100	<100	<100	<100	1,000 *	200

Notes:
All values reported in micrograms per liter (µg/L)

The Minnesota Department of Health (MDH) has established health based guidance to evaluate drinking water exposure risks. Values are shown with the types of guidance and the year established. HRL = Health Risk Limit, HBV = Health Based Value, and RAA = Risk Assessment Advice

Discharge Limits shown are the most stringent values indicated in the Minnesota Pollution Control Agency (MPCA) National Pollutant Dishcharge Elimination Sysytem (NPDES)/State Disposal System document wq-wwprm9-25 dated 2/2/2017

Blue = Value exceeds established MDH guidance value
BOLD = Concentration is greater than or equal to laboratory reporting limit
< = Analyte not detected greater than or equal to laboratory reporting limit shown
ND = Analyte not detected above laboratory reporting limits
NA = Not Applicable
NE = Not Established
* = MPCA criteria for remedial investigation
** = Values shown are for Chromium III and Chromium IV

Table 1 - Soil Analytical Results
Utility Improvements, Sewer-21-001
Shakopee, Minnesota
WSB Project Number: 016155-000

WSB																			
Sample ID (Depth Interval)	**CAS #**	**EB-1 (10-12)**	**EB-2 (12-14)**	**EB-3 (14-16)**	**EB-4 (12-14)**	**EB-5 (8-10)**	**EB-6 (8-10)**	**EB-7 (8-10)**	**EB-8 (8-10)**	**EB-9 (8-10)**	**EB-10 (12-14)**	**EB-11 (8-10)**	**EB-12 (8-10)**	**EB-13 (8-10)**	**EB-14 (8-10)**	**Trip Blank 3**	**Trip Blank 4**	**Tier I Residential SRV (mg/kg)**	**Tier II Industrial SRV (mg/kg)**	**Screening SLV (mg/kg)**
Sample Date		**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**	**8/4/2020**			
Volatile Organic Compounds (VOCs)																				
Toluene	108-88-3	<0.119	<0.132	<0.123	<0.123	<0.146	**0.188**	<0.139	<0.138	<0.135	<0.142	<0.126	<0.204	<0.289	<0.140	<0.100	<0.100	107	305	2.5
All Analyzed VOCs	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE	NE	NE
RCRA 8 Metals																				
Barium	7440-39-3	**19.5**	**11.2**	**39.5**	**39.9**	**15.7**	**15.0**	**13.2**	**14.4**	**28.2**	**13.0**	**12.6**	**46.5**	**29.2**	**14.0**	NA	NA	1,100	18,000	1,680
Chromium	7440-47-3	**14.5**	**8.22**	**9.87**	**12.1**	**9.49**	**9.08**	**7.69**	**8.63**	**10.8**	**6.98**	**10.2**	**6.33**	**15.0**	**12.0**	NA	NA	44,000/87 [A]	100,000/650 [A]	1,000,000,000/36 [A]
Lead	7439-92-1	<4.77	<4.77	**4.55**	**5.44**	**4.72**	<4.90	<4.97	<4.51	<4.52	<4.55	**5.05**	<5.66	<7.90	<4.63	NA	NA	300	700	2,700
All Other RCRA Metals	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NE	NE	NE
Diesel Range Organics (DRO)																				
Diesel Range Organics (DRO)	STL00143	<6.67	<6.15	<7.94	**11.6**	<5.79	<6.47	<6.16	<5.82	<5.77	<5.74	<5.58	<7.50	<9.36	<5.53	NA	NA	100*	NE	NE
Gasoline Range Organics (GRO)																				
Gasoline Range Organics (GRO)	STL01887	<10.4	<11.2	<11.4	<10.7	<12.5	**25.8**	<11.8	**13.1**	<11.3	<12.2	<10.9	<15.4	**26.8**	<12.1	NA	NA	100*	NE	NE

Notes:

All results reported in milligrams per kilogram (mg/kg)

BOLD = Concentration is greater than or equal to laboratory reporting limit

ND = Analyte not detected above laboratory reporting limits

NA - Not Analyzed

NE = Not Established

< = Analyte not detected greater than or equal to laboratory reporting limit shown

SRV = Soil Reference Value

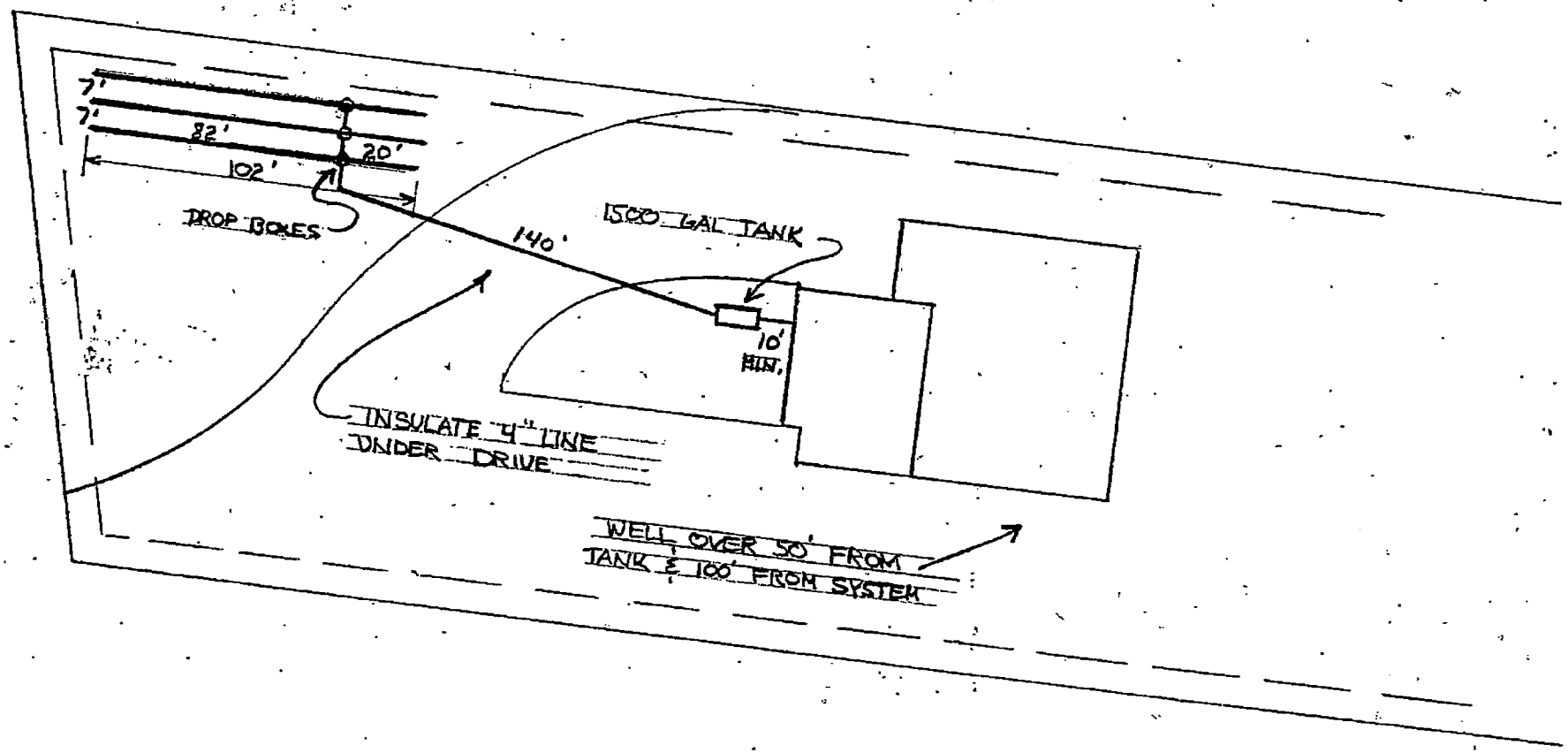
SLV = Soil Leaching Value

*= MPCA criteria for unregulated fill

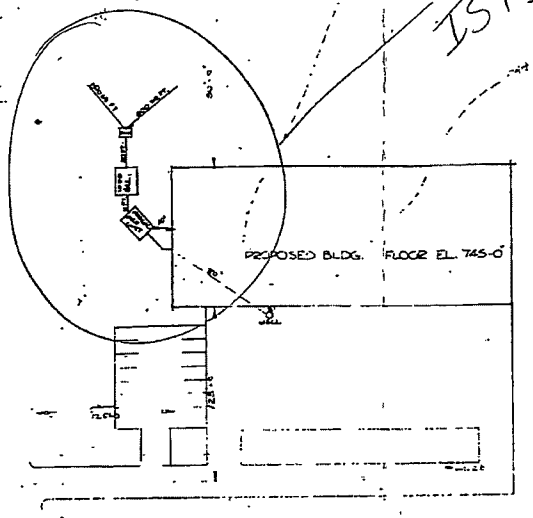
APPENDIX F

Septic System Reports, Well Boring Reports, and Well Records

1393 Stagecoach Rd



1425 STAGECOACH RD

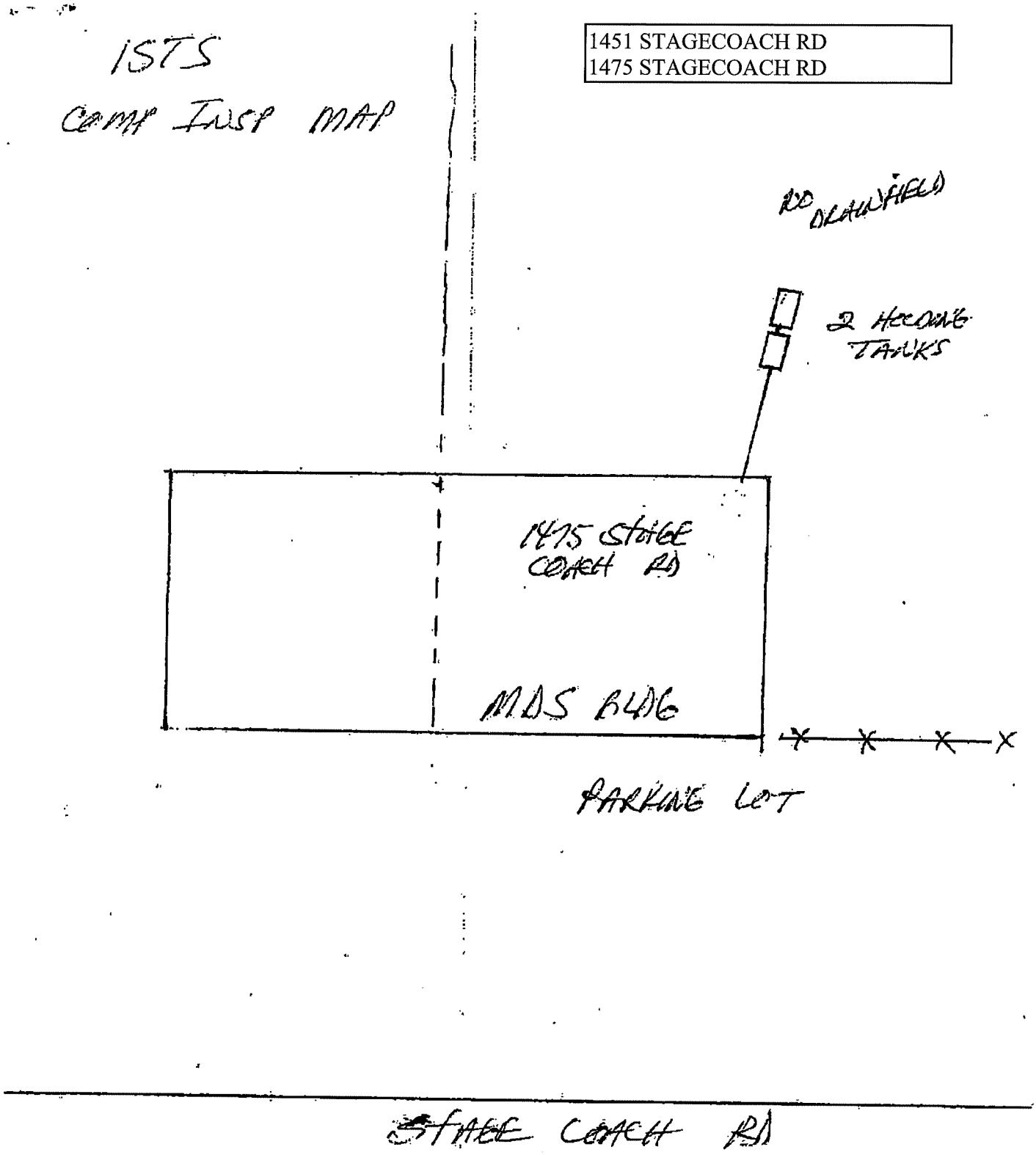


ISTS

ST. INS INC.

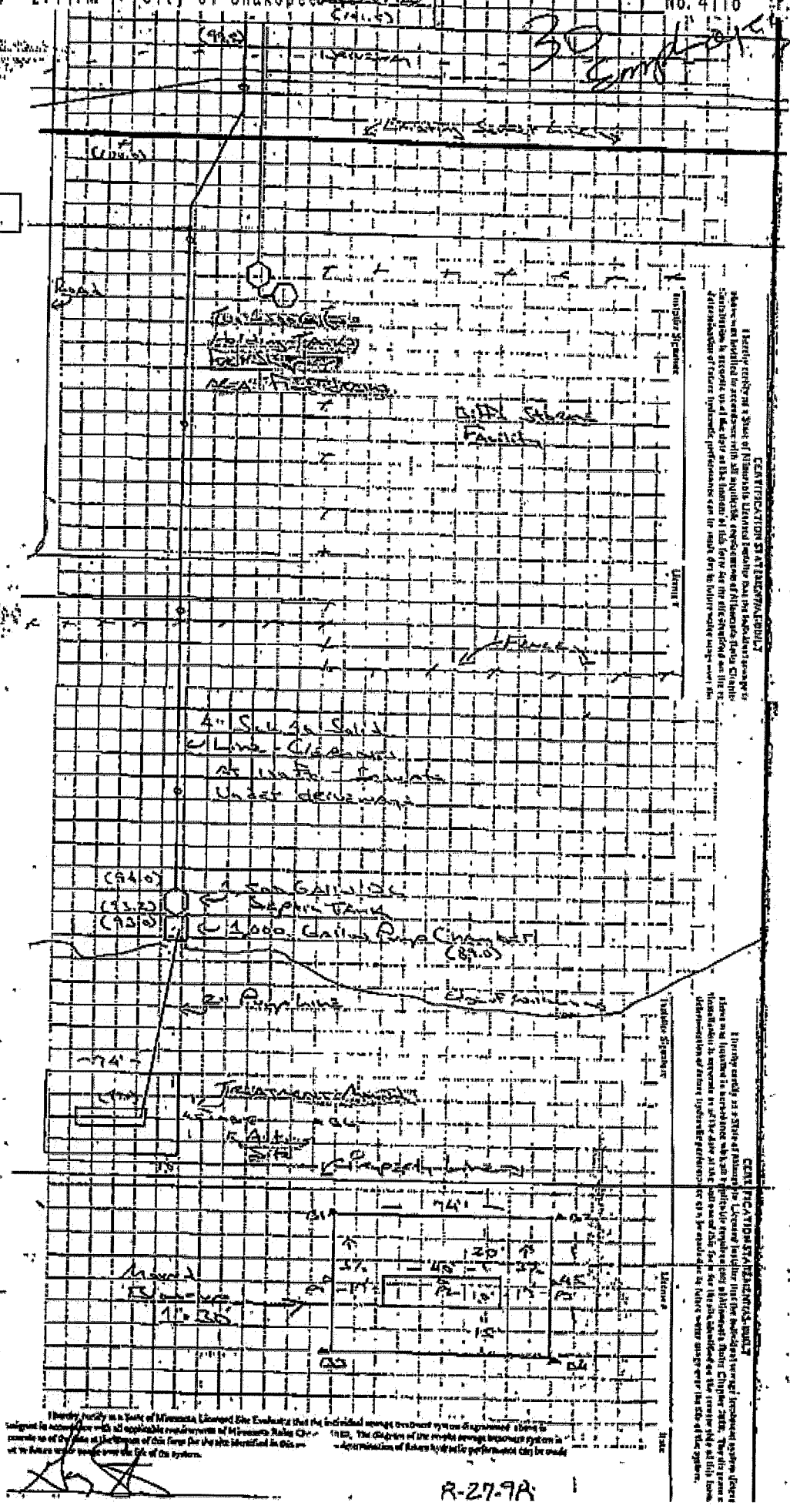
UTAP INC.
SAVAGE, MINN

1451 STAGECOACH RD
1475 STAGECOACH RD



Reduced Size Copy

1465 MARAS ST



SCOTT COUNTY Commercial
INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM

City/Twp. Shakopee Inspection Dates 11-9-06 / Permit No. 162-B-27
Owner Earl's Foods Installed for (#Bedrm or gpd) 160 Business/Indiv
Project Address 1488 Mans St. Designer Dann Installer Dunning Exc.
City Shakopee ☐ NEW ☒ REPLACE ☐ REPAIR ☐ ADDITION

SETBACKS:
Buildings to Tank 14'
Buildings to Drainfield 8.5'
Well(s) setback 50' or 100' >120' not installed
Distance to Lake — Creek — Wetland —
Property Line(s) >12"

SEPTIC/HOLDING TANK(S) ☒ New ☐ Existing
Liquid Capacity 1500/2c
Tank Manufacturer Belle Plaine
Baffle Type: (Plastic) Fiberglass Sanitary-T Concrete
No. of Inspection Pipes 3 4" (6" diam)
No. & Diam. of Manhole Access 2-24"
No. & Height of Manhole Risers 2-24"
Connections: Fernco Sealed

MOUND OR ATGRADE:
Percent Slope ____ %
Dike Width ____ up ____ down ____ side
Drainfield Rock Below Pipe ____ inches
Inches of Sand Below Rock ____ upslope ____ downslope
Perforation Size & Spacing ____
Pipe Size and Spacing ____
Dimensions of Rock Bed ____
Dimensions of Sand Base ____
Depth of Final Cover ____

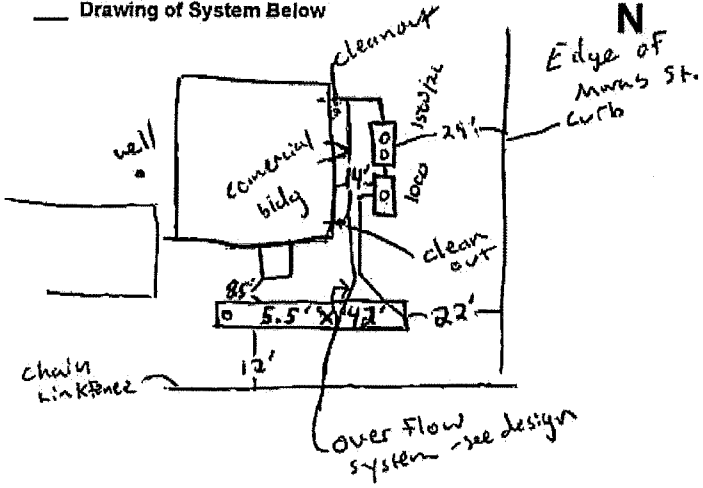
ALTERNATE SITE AVAILABLE ____
ENV HLTH APPROVED DESIGN ONSITE ____

TRENCHES, BED OR GRAVELLESS LEACHFIELD:
Drop box ____ concrete / plastic
Trench Depth 6" Width 5.5'
Trench Lengths 5.5'
Trench Bottom Level ____ (yes) / no
Trench Spacing N/A
Drainfield Rock Below Pipe 12"
or Size of Gravelless Pipe ____
Actual / (Expected) Depth of Backfill 12" on center
Absorption Area: Square Feet 231 Ft²
Lineal Feet ____

PUMP INFO:
Liquid Capacity 1000g
Tank Manufacturer Belle Plain (new) existing
No. & Height of Risers 1-27"
Pump Manuf. & Model No. Zoeller SN98
Horsepower 1/2 GPM 23
Feet of Head 12 installed or as per design
Cycles Per Day 6 installed or as per design
Gallons Per Cycle 46 installed or as per design
Size of Discharge Line 1.5" / (2")
Type of Electrical Hookup post & box by tank
Alarm Location on Alarm garage / basement
Alarm: Tank Alert / Level Alarm / Other ____
Cycle Counter & Water Meter (Commercial) ____

Alternative / Experimental System / Pretreatment:
Type Standard
Pretreatment Alarm ____

___ **See Notes added to Design Drawing or**
___ **Drawing of System Below**



1 42 x 5.5 = 210 2100 = 231.0
3 46 x 6 = 276

Inspector Comments: **The top of all tanks must be installed 4 feet or less below final grade (unless exempted by Inspector). Divert surface water away from or around drainfield area. Sod or seed ASAP to prevent soil erosion.**
Water meter installed 9/06
over flow system install per design - check valve install 15' from bldg
Corrective Action Required: ____

I hereby certify that based on this inspection and the information submitted by the site evaluator/designer, the individual sewage treatment system appears to be in compliance with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4.
Installation Inspector's Signature
FINAL COVER Inspector

I hereby certify, as the installer, that the individual sewage treatment system was or will be installed in accordance with the Scott County Individual / Community Sewage Treatment System Ordinance No. 4. I understand and accept the findings by the inspector and agree to comply with all requirements to finish or correct the ISTS installation as written on this inspection report.
Installer's Signature

This system is ☒ **in compliance** ☐ **not in compliance** with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4, therefore, this document is a ☒ **Certificate of Compliance** ☐ **Notice of Noncompliance.**

White – County Yellow – Owner Pink – Installer Form #1122

entered

SCOTT COUNTY
INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM

City/Twp. Shakopee Inspection Dates 12/19/07 / Permit No. 172-B-27
Owner
Project Address 1415 Marion Pl.
City Shakopee
Installed for (#Bedrm or gpd) 370 Business/Indiv
Designer Dean Installer Quirring
☒ NEW ☒ REPLACE ☐ REPAIR ☐ ADDITION

SETBACKS:
Buildings to Tank Existing Septic tanks
Buildings to Drainfield 20'
Well(s) setback 50' or 100' not installed
Distance to Lake — Creek — Wetland —
Property Line(s) 10'

SEPTIC HOLDING TANK(S) ☐ New ☒ Existing
Liquid Capacity (2) 1000
Tank Manufacturer Belle Plaine
Baffle Type: Plastic Fiberglass Sanitary-T Concrete
No. of Inspection Pipes 4" / 6" diam
No. & Diam. of Manhole Access 2-24"
No. & Height of Manhole Risers 2-18"
Connections:

MOUND OR ATGRADE:
Percent Slope %
Dike Width up down side
Drainfield Rock Below Pipe inches
Inches of Sand Below Rock upslope downslope
Perforation Size & Spacing
Pipe Size and Spacing
Dimensions of Rock Bed
Dimensions of Sand Base
Depth of Final Cover NA

ALTERNATE SITE AVAILABLE
ENV HLTH APPROVED DESIGN ONSITE

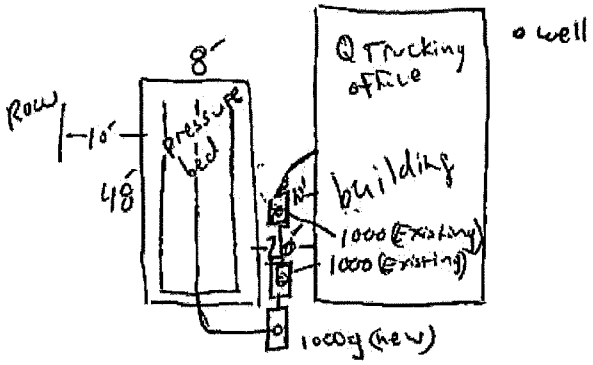
☒ **See Notes added to Design Drawing or Drawing of System Below**

TRENCHES (BED) OR GRAVELLESS LEACHFIELD:
Drop box concrete / plastic
Trench Depth Width
Trench Lengths
Trench Bottom Level yes / no
Trench Spacing
Drainfield Rock Below Pipe 6"
or Size of Gravelless Pipe
Actual / Expected Depth of Backfill 12"
Absorption Area: Square Feet 384 sq Feet
Lineal Feet

PUMP INFO:
Liquid Capacity 1000
Tank Manufacturer Belle Plaine (new) existing
No. & Height of Risers 1-2'
Pump Manuf. & Model No. Goulds PE31
Horsepower 1/3 GPM 32
Feet of Head 12.5 installed or as per design
Cycles Per Day 4 installed or as per design
Gallons Per Cycle 90-95 installed or as per design
Size of Discharge Line 1.5" / 2"
Type of Electrical Hookup Post (post & box by tank)
Alarm Location at tank garage / basement
Alarm: Tank Alert / Level Alarm / Other Power Post ?
Cycle Counter & Water Meter (Commercial) yes

Alternative / Experimental System / Pretreatment:
Type
Pretreatment Alarm

N



Inspector Comments: **The top of all tanks must be installed 4 feet or less below final grade (unless exempted by Inspector). Divert surface water away from or around drainfield area. Sod or seed ASAP to prevent soil erosion.**
Installer to submit as-built for ~~tank~~ pump tank
Tanks as per installers As-built
Corrective Action Required:

I hereby certify that based on this inspection and the information submitted by the site evaluator/designer, the individual sewage treatment system appears to be in compliance with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4.
Installation Inspector's Signature
FINAL COVER Inspector NA

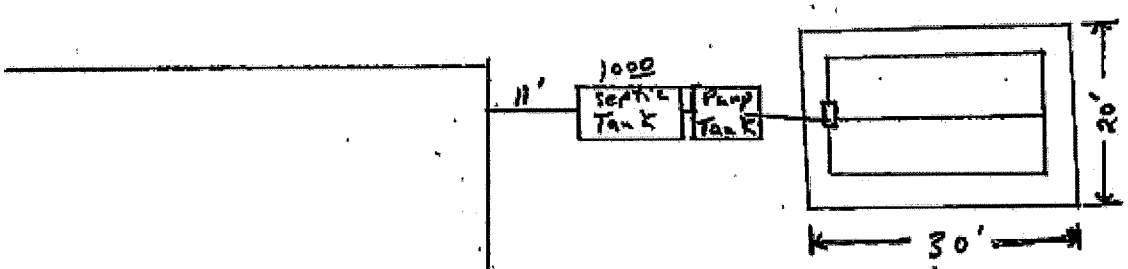
I hereby certify, as the installer, that the individual sewage treatment system was or will be installed in accordance with the Scott County Individual / Community Sewage Treatment System Ordinance No. 4. I understand and accept the findings by the inspector and agree to comply with all requirements to finish or correct the ISTS installation as written on this inspection report.
Installer's Signature

This system is ☒ **in compliance** ☐ **not in compliance** with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4, therefore, this document is a ☒ **Certificate of Compliance** ☐ **Notice of Noncompliance.**

White – County Yellow – Owner Pink – Installer Form #1122

Guier Bros 88 52 E 13

1386 Maras ST



RECEIVED
FEB 19 2010
SCOTT COUNTY COMMUNITY DEVELOPMENT

1380 Maras St
1382
1384
1386

INDIVIDUAL SEWAGE TREATMENT SYSTEM AS-BUILT FORM

INSTALLER: Quiring Excavating LLC

City/Twp. Shakopee Date of Installation 12-07 Permit No. 168-0-27
Owner Q-Carriers / Randy Quiring Installed for (# Bedrooms or gpd) 210 G.P.D.
Project Address 1395 Marsh Street
City Shakopee
☐ NEW ☐ REPLACE ☒ REPAIR ☐ ADDITION

SETBACKS:
Buildings to Tank 10'
Buildings to Drainfield 8'
Well(s) setback 50' or 100' 55' not installed
Distance to Lake N/A Creek N/A Wetland N/A
Property Line(s) 10'

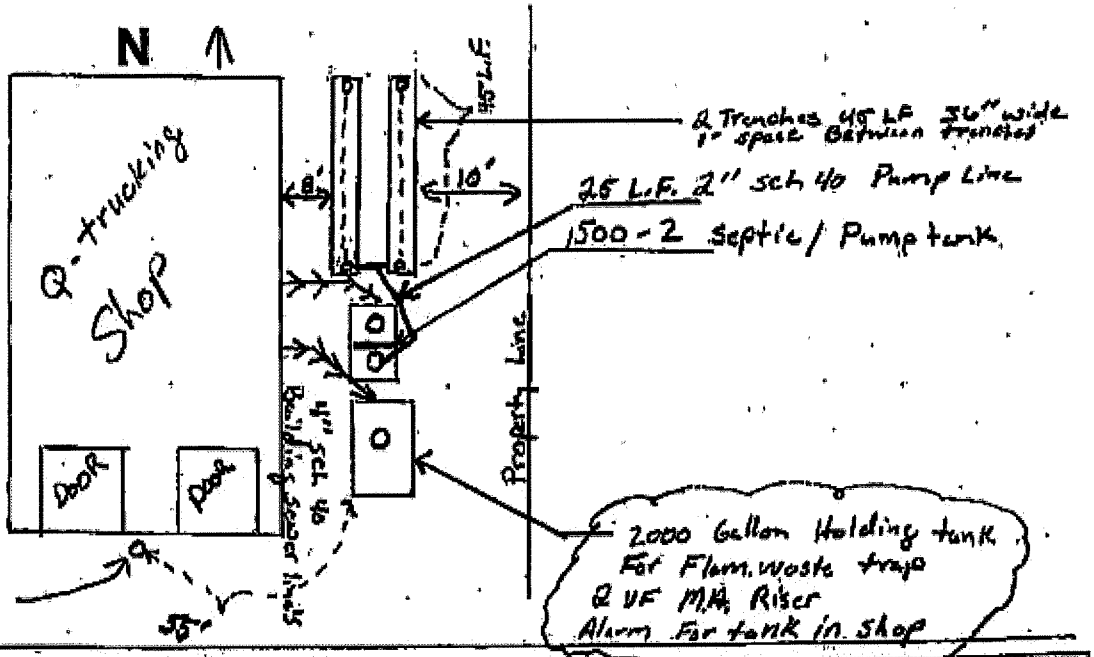
SEPTIC/HOLDING TANK(S) ☒ New ☐ Existing
Liquid Capacity 1500-2 (1000 Septic)
Tank Manufacturer Belle Plain
Baffle Type: (Plastic) Fiberglass Sanitary-T Concrete
No. of Inspection Pipes 3 4" / (6") diam.
No. & Diam. of Manhole Access 2
No. & Height of Manhole Risers 2 - 2'
Tanks 4 ft or less below Final Grade (yes) no
Tank Connections Sealed (yes) no
Tank/Riser Covers Sealed or above water table (yes) no

MOUND OR ATGRADE:
Percent Slope ____ %
Dike Width ____ up ____ down ____ side
Drainfield Rock Below Pipe 6 inches
Inches of Sand Below Rock ____ upslope ____ downslope
Perforation Size & Spacing 1/4 Perf. 2.5 Space
Pipe Size and Spacing 1½" - 4'
Dimensions of Rock Bed
Dimensions of Sand Base
Depth of Final Cover

TRENCHES, BED OR GRAVELLESS LEACHFIELD:
Drop box Pressure concrete / plastic
Trench Depth 10" Width 36"
Trench Lengths 45 L.F.
Trench Bottom Level Yes (yes) no
Trench Spacing 1'
Drainfield Rock Below Pipe 6"
or Size of Gravelless Pipe 12" Laterals
Actual / Expected Depth of Backfill 12"
Absorption Area: Square Feet 267 SqF
Lineal Feet 90'

PUMP INFO:
Liquid Capacity 500
Tank Manufacturer Belle Plain (new) / existing
No. & Height of Risers 1 2
Pump Manuf. & Model No. Gould's PE 31
Horsepower .33 GPM 32
Feet of Head 12.8
Cycles Per Day 4
Gallons Per Cycle 50 - 55
Size of Discharge Line 2" 1.5" (2")
Type of Electrical Hookup Post (post) & box by tank
Alarm Location Tank Lights Alarm garage / basement
Alarm: Tank Alert / Level Alarm / Other Power Post 4x
Cycle Counter & Water Meter (Commercial) yes
Cycle counter Reads 999804

DRAWING OF SYSTEM:



Comments:

I hereby certify, as the installer, that the individual sewage treatment system was installed in accordance with the Scott County Individual / Community Sewage Treatment System Ordinance No. 4.

Installer's Signature Matt Quiring

Company Name Quiring Excavating LLC.
License Number U2810 Phone Number
Address

Jun. 27. 2008 11:03AM Quiring Excavating No. 3254 P. 3

SCOTT COUNTY Commercial
INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM

City/Twp. Shakopee Inspection Dates 10/21/08 Permit No. PR08-0926
Owner Dale Griepp
Project Address 1350 Marie ST.
City Shakopee
Installed for (#Bedrm or gpd) 240gpd. Business/Indiv
Designer Dale Senn Installer Dunns
☐ NEW ☒ REPLACE ☐ REPAIR ☐ ADDITION

SETBACKS:
Buildings to Tank 16'
Buildings to Drainfield 15'
Well(s) setback 50' or 100' 54' not installed
Distance to Lake — Creek — Wetland —
Property Line(s) 10

SEPTIC/HOLDING TANK(S) ☐ New ☐ Existing
Liquid Capacity (1000 Holding) 1500-2c.
Tank Manufacturer Belle Plaine
Baffle Type: Plastic Fiberglass Sanitary-T Concrete
No. of Inspection Pipes (1X6") 2X4" (6" diam)
No. & Diam. of Manhole Access 2'X24"
No. & Height of Manhole Risers (1X30) 2X30"
Connections: ✓

~~**MOUND OR ATGRADE:**~~ Bed
Percent Slope — %
Dike Width — up — down — side
Drainfield Rock Below Pipe 12" Inches
Inches of Sand Below Rock — upslope — downslope
Perforation Size & Spacing 1/4 3'
Pipe Size and Spacing 1 1/2 40"
Dimensions of Rock Bed 6' X 67'
Dimensions of Sand Base —
Depth of Final Cover —

ALTERNATE SITE AVAILABLE
ENV HLTH APPROVED DESIGN ONSITE

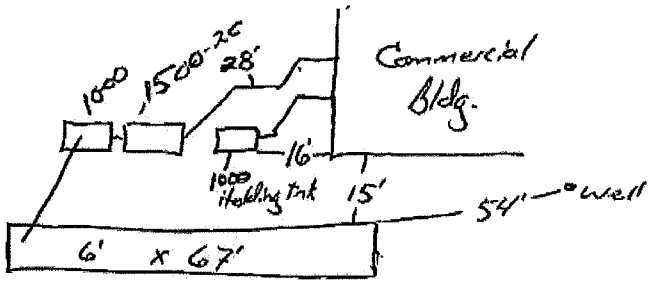
___ **See Notes added to Design Drawing or**
___ **Drawing of System Below**

TRENCHES (BED) OR GRAVELLESS LEACHFIELD:
Drop box — concrete / plastic
Trench Depth 16" Width 6'
Trench Lengths 67'
Trench Bottom Level ✓ yes / no
Trench Spacing —
Drainfield Rock Below Pipe 12"
or Size of Gravelless Pipe —
Actual / Expected Depth of Backfill 6-12
Absorption Area: Square Feet
Lineal Feet

PUMP INFO:
Liquid Capacity 1000
Tank Manufacturer Plastic new / existing
No. & Height of Risers 1X30"
Pump Manuf. & Model No. PE-111 Goulds
Horsepower 4/10 GPM 45gpm
Feet of Head 15' installed or as per design
Cycles Per Day installed or as per design
Gallons Per Cycle installed or as per design
Size of Discharge Line 1.5" ✓2
Type of Electrical Hookup post & box by tank
Alarm Location garage / basement
Alarm: Tank Alert / Level Alarm / Other
Cycle Counter & Water Meter (Commercial)

Alternative / Experimental System / Pretreatment:
Type
Pretreatment Alarm

N



Inspector Comments: **The top of all tanks must be installed 4 feet or less below final grade (unless exempted by inspector). Divert surface water away from or around drainfield area. Sod or seed ASAP to prevent soil erosion.**

Corrective Action Required:

I hereby certify that based on this inspection and the information submitted by the site evaluator/designer, the individual sewage treatment system appears to be in compliance with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4.

Installation Inspector's Signature

FINAL COVER Inspector

I hereby certify, as the installer, that the individual sewage treatment system was or will be installed in accordance with the Scott County Individual / Community Sewage Treatment System Ordinance No. 4. I understand and accept the findings by the inspector and agree to comply with all requirements to finish or correct the ISTS installation as written on this inspection report.

Installer's Signature

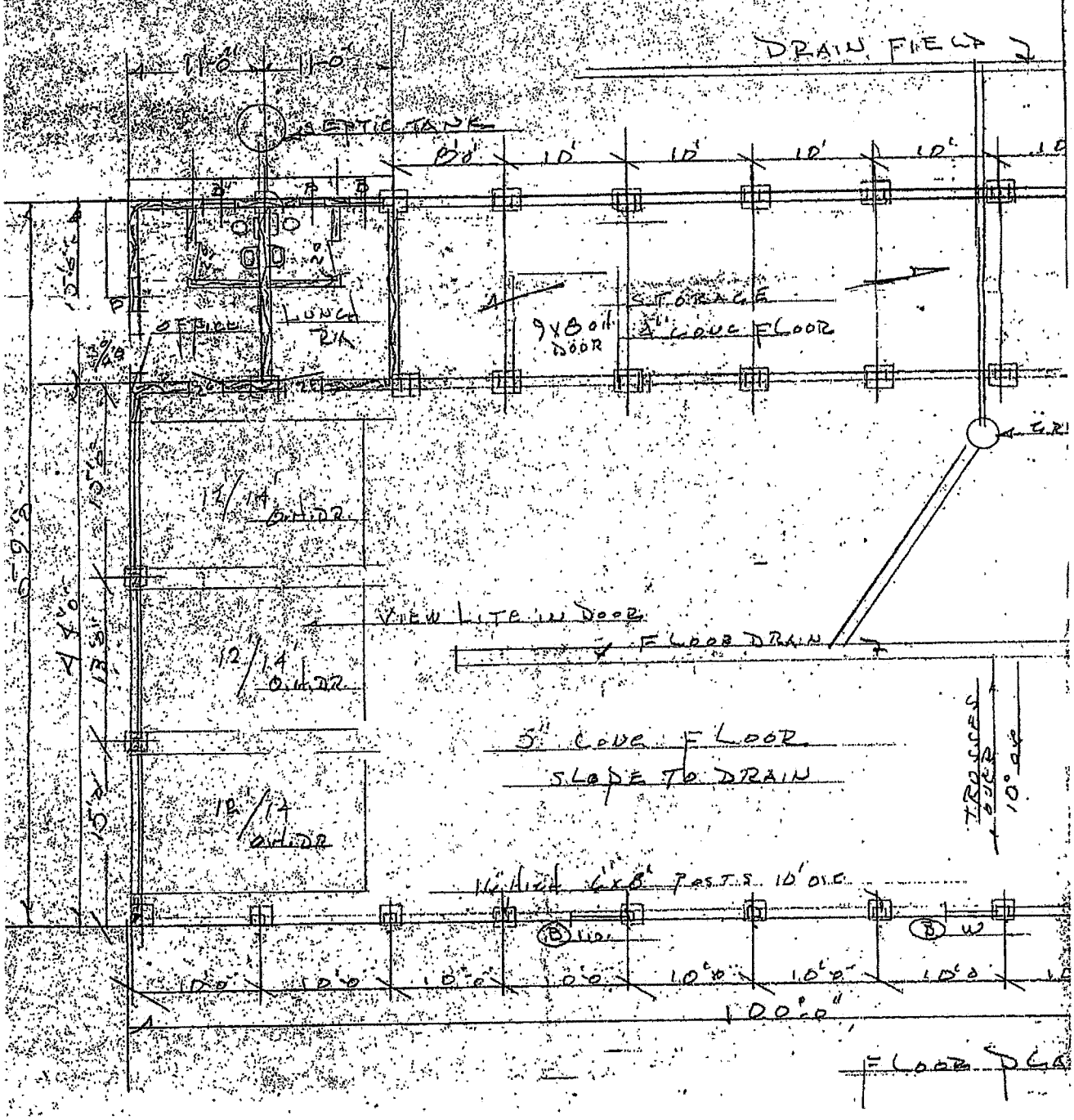
This system is ☒ **in compliance** ☐ **not in compliance** with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4, therefore, this document is a ☒ **Certificate of Compliance** ☐ **Notice of Noncompliance.**

White – County Yellow – Owner Pink – Installer

Form #1122

RECEIVED
FEB 19 2010
SCOTT COUNTY COMMUNITY DEVELOPMENT

1315 Maras



entered

SCOTT COUNTY
INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM

County Bed

City/Twp. Shakopee Inspection Dates 10-22-07 / 12/30/07 Permit No. 169-8-27
Owner _____ Installed for (#Bedrm or gpd) 30 spd Business/Indiv
Project Address 8620 13 Ave E Designer Advanced Onsite Installer Dale Benson
City Shakopee ☐ NEW ☐ REPLACE ☐ REPAIR ☐ ADDITION

SETBACKS:
Buildings to Tank 11
Buildings to Drainfield 20
Well(s) setback 50' or 100' not installed
Distance to Lake ___ Creek ___ Wetland ___
Property Line(s) 10' 1.5'

SEPTIC/HOLDING TANK(S) ☐ New ☐ Existing
Liquid Capacity 1500 / 2
Tank Manufacturer Baum
Baffle Type: Plastic Fiberglass Sanitary-T Concrete
No. of Inspection Pipes 5 4" (6") diam.
No. & Diam. of Manhole Access 2 X 24"
No. & Height of Manhole Risers 2 X 12"
Connections: _____

MOUND OR ATGRADE:
Percent Slope _____ %
Dike Width ___ up ___ down ___ side
Drainfield Rock Below Pipe ___ inches
Inches of Sand Below Rock ___ upslope ___ downslope
Perforation Size & Spacing _____
Pipe Size and Spacing _____
Dimensions of Rock Bed _____
Dimensions of Sand Base _____
Depth of Final Cover _____

ALTERNATE SITE AVAILABLE _____
ENV HLTH APPROVED DESIGN ONSITE _____

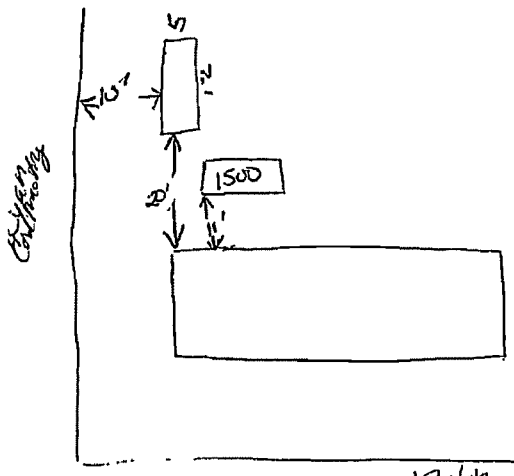
___ **See Notes added to Design Drawing or**
___ **Drawing of System Below**

TRENCHES, BED OR GRAVELLESS LEACHFIELD:
Drop box — concrete / plastic
18" Trench Depth 18" Width ~~10'~~ 5'
Trench Lengths 12'
Trench Bottom Level V yes / no
Trench Spacing —
Drainfield Rock Below Pipe 6"
or Size of Gravelless Pipe —
Actual / ~~Expected~~ Depth of Backfill 6"-12"
Absorption Area: Square Feet 50 Sq Ft
Lineal Feet —

PUMP INFO:
Liquid Capacity _____
Tank Manufacturer _____ new / existing
No. & Height of Risers _____
Pump Manuf. & Model No. _____
Horsepower ___ GPM ___
Feet of Head ___ installed or as per design
Cycles Per Day ___ installed or as per design
Gallons Per Cycle ___ installed or as per design
Size of Discharge Line ___ 1.5" / 2"
Type of Electrical Hookup ___ post & box by tank
Alarm Location ___ garage / basement
Alarm: Tank Alert / Level Alarm / Other ___
Cycle Counter & Water Meter (Commercial) ___

Alternative / Experimental System / Pretreatment:
Type _____
Pretreatment Alarm _____

N ↓



Inspector Comments: **The top of all tanks must be installed 4 feet or less below final grade (unless exempted by Inspector). Divert surface water away from or around drainfield area. Sod or seed ASAP to prevent soil erosion.**
Rock from Shakopee Gravel

Corrective Action Required: Need As Built and corrected design

I hereby certify that based on this inspection and the information submitted by the site evaluator/designer, the individual sewage treatment system appears to be in compliance with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4.

Kate Sedlacek
Installation Inspector's Signature

FINAL COVER Inspector

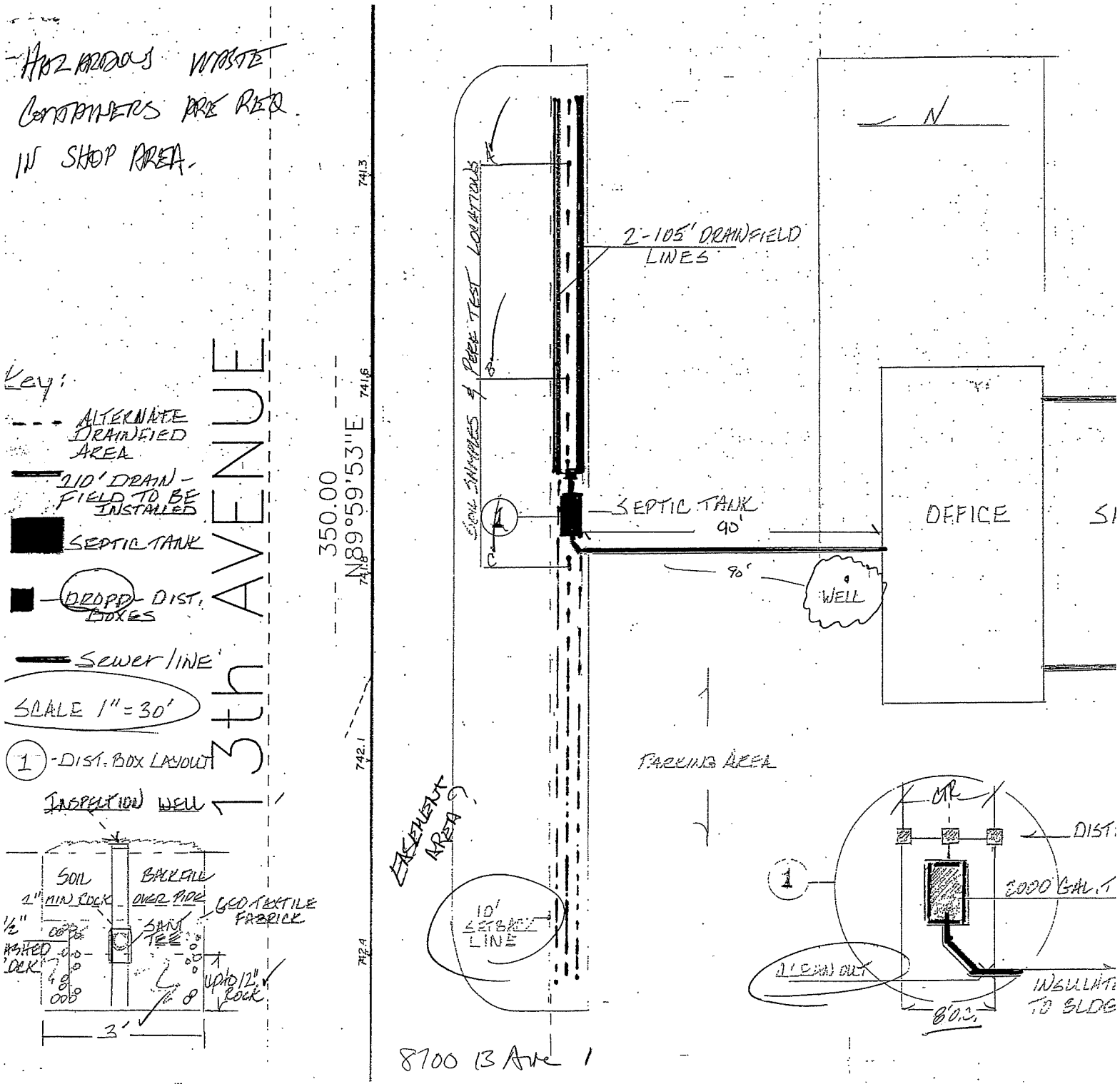
I hereby certify, as the installer, that the individual sewage treatment system was or will be installed in accordance with the Scott County Individual / Community Sewage Treatment System Ordinance No. 4. I understand and accept the findings by the inspector and agree to comply with all requirements to finish or correct the ISTS installation as written on this inspection report.

Installer's Signature

This system is ☒ **in compliance** ☐ **not in compliance** with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4, therefore, this document is a ☒ **Certificate of Compliance** ☐ **Notice of Noncompliance.**

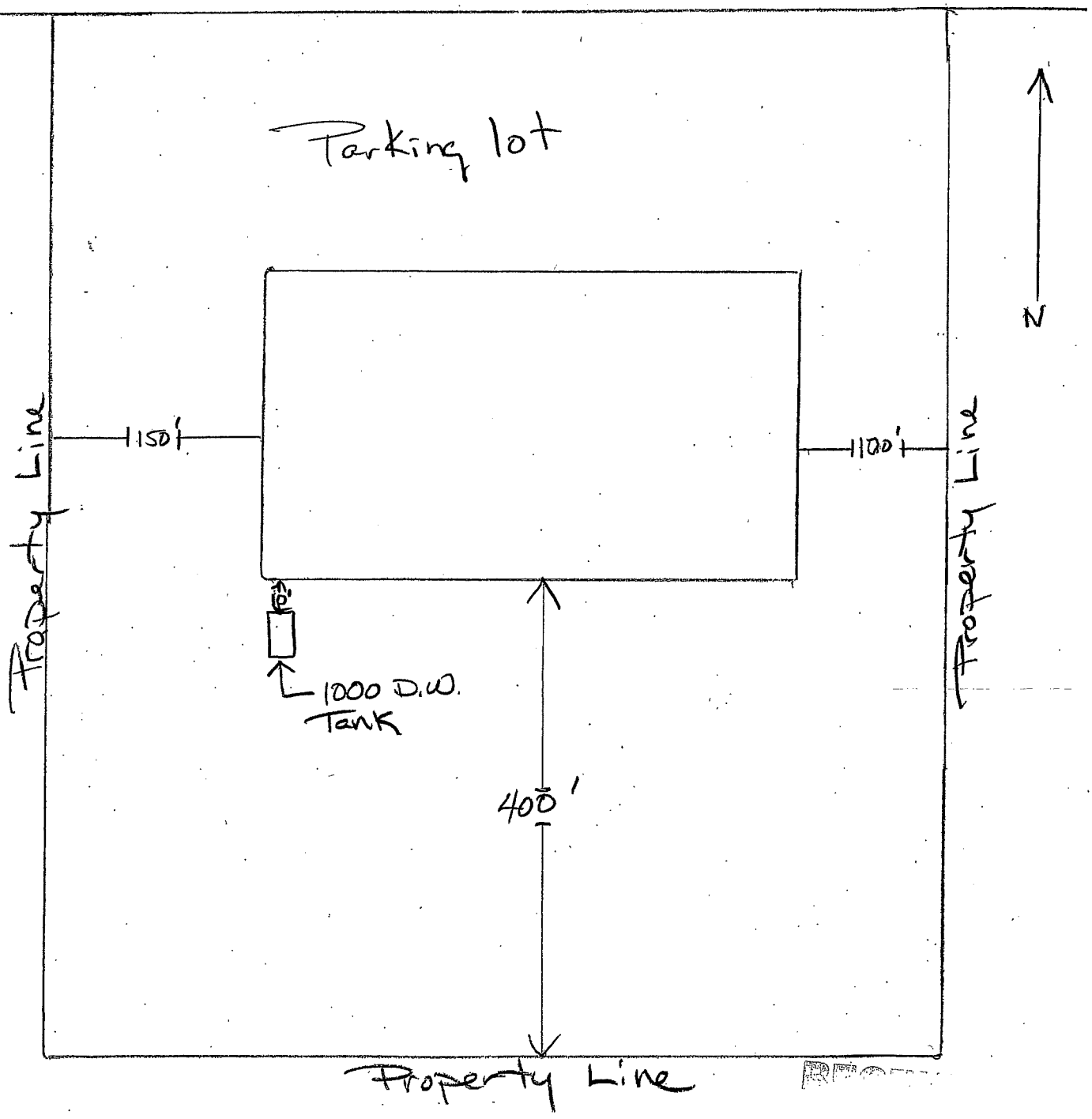
White – County Yellow – Owner Pink – Installer Form #1122

8700 13 Ave E



8700 13 Ave

8700 13th Ave East



8700 13th Ave

FEB 19 2010

SCOTT COUNTY COMMUNITY DEVELOPMENT

27-9/2022-1

SCOTT COUNTY

15x75'

INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM

CITY/TWP. Shakopee INSPECTION DATES Tank(s) 4/16/02 4/18/02 / PERMIT NO. 60 R-27
OWNER Valley Paving SYSTEM INSTALLED FOR Forged BEDROOMS
PROJECT ADDRESS 2500 13th St. INSTALLER Klamm Mechanical
CITY Shakopee ZIP CODE 55379 ☐ NEW ☐ REPAIR ☒ REPLACEMENT ☐ OTHER
Designer's Rep. on site

SETBACKS:
Buildings to Tank 81'
Buildings to Drainfield 90'
Well(s) 50' or 100' —
Lake/Creek/Wetland —
Property Line(s) 10'

SEPTIC/HOLDING TANK(S) ☒ New ☐ Existing
Liquid Capacity 2 x 1500
Manufacturer Name: BP
Baffle Type: Plastic Fiberglass Sanitary-T Concrete
No. & Size of Inspection Pipes 2 x 6" ea
No. & Size of Manhole Access 1 x 24" ea
No. & Height of Risers 1 x 24" Concrete Each (Bal)

~~MOUND OR ATGRADE~~:
Percent Slope -0- %
Upslope Dike Width —
Downslope Dike Width —
Sideslope Dike Width —
Drainfield Rock Below Pipe 6" Inches
Inches of Sand Below Rock — upslope — dwnslope
Perforation Size & Spacing ~~8~~ 7/32 ~~40~~ 3'
Pipe Size and Spacing 4" 40'
Dimensions of Rock Bed 10' x 77'
Dimensions of Sand Base —
Depth of Final Cover

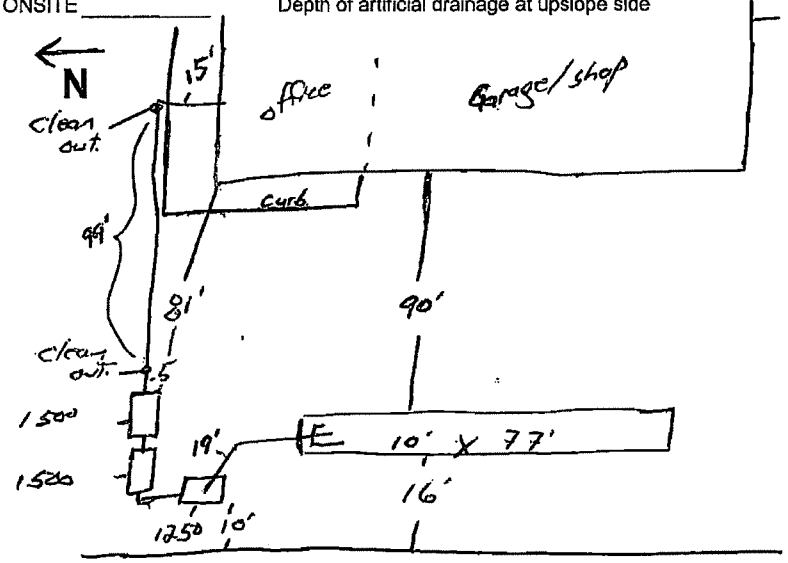
ALTERNATE SITE AVAILABLE
ENV HLTH APPROVED DESIGN ONSITE

TRENCHES, BED OR GRAVELLESS LEACHFIELD:
☐ Distribution Box ☐ Drop box
Trench Depth 18"
Trench Length 77'
Trench Width 10'
Trench Bottom Level ✓
Trench Spacing —
Drainfield Rock Below Pipe 16"
or Size of Gravelless Pipe —
Actual / Expected Depth of Backfill 6'2
Absorption Area: Square Feet ~~770~~ Sq Ft
~~Lineal~~ Feet 10' x 77' rocked

PUMP INFO:
Tank Capacity
Tank Manufacturer & Type B-Rame.
No. & Height of Risers
Pump Manuf. & Model No. Gould's WFE3111M
Horsepower & GPM 1/3 4½ gpm
Feet of Head 41'
Cycles Per Day 3-4
Gallons Per Cycle 200 g.
Size of Discharge Line 1"
Type of Electrical Hookup Pot / Box by Tank
Type/Location of Alarm Tank Alert Garage
Cycle Counter & Water Meter (Commercial)

ALTERNATIVE / EXPERIMENTAL SYSTEM:
Type
Depth of artificial drainage at upslope side

DRAWING OF SYSTEM:



Inspector Comments: **Divert all surface water away and around drainfield area. Sod or seed as soon as possible to prevent soil erosion.**
- Note 2nd load of washed rock dust - Placed on Top of laterals
Corrective Action Required: Install clean out 5' from septic Tank
Replace discharge Pipe from Bldg to Septic Tank w/ sch. 40 PVC pipe ok'd per discussion - see notes in file

I hereby certify that based on the information submitted by the designer and this inspection, that the individual sewage treatment system appears to be in compliance with the Scott County Individual Sewage Treatment System Ordinance No. 4.

FINAL COVER INSPECTOR _____
Inspector's Signature

I hereby certify, as the installer, that the individual sewage treatment system was installed in accordance with the Scott County Individual Sewage Treatment System Ordinance No. 4. I agree to indemnify and save Scott County harmless from all loss, damages, costs, and charges that may be incurred by the County because of my failure to conform to and comply with the provisions of this Ordinance.

Installer's Signature

This system is ☐ **in compliance** ☐ **not in compliance** with the Scott County Individual Sewage Treatment System Ordinance No. 4, therefore, this document is a ☐ **Certificate of Compliance** ☐ **Notice of Noncompliance.**

White - County Yellow - Applicant Pink – Installer

SOIL TREATMENT SYSTEM SITE PLAN DRAWING

REQUIRED INFORMATION Check box if completed:

- ☐ North arrow
- ☐ Designated soil treatment area
- ☐ Alternate soil treatment area
- ☐ Soil borings & perc test locations with horizontal & vertical reference point
- ☐ Wells within 100 feet
- ☐ Sewer lines within 50 feet of wells
- ☐ Direction of slope(s)
- ☐ Lakes, rivers, streams, wetlands
- ☐ Ordinary high water level of public waters
- ☐ Ten-year flood elevation
- ☐ Flooding potential areas
- ☐ Location of disturbed or compacted areas
- ☐ Location of run-on potential areas
- ☐ Elevation of bottom of soil treatment area
- ☐ Access route for tank maintenance
- ☐ Road right-of-way(s)
- ☐ Lot lines
- ☐ Lot dimensions
- ☐ Lot easements
- ☐ Setbacks from buildings
- ☐ Proposed & existing buildings with foundations

SCALE: 1 inch = 40

8800 13 Ave E

8800 13th STREET
SHAKOPEE MN

ELECTRICAL
All electrical must be approved by the State Inspector.
For permits and inspections call Mr. Terry Krominga at (507) 665-3205, 7:00-8:30 a.m., Mon. through Fri.

Holding Tank location

NOTE: * NO ALT SITE AVAILABLE

Install Sewer 60.0 SF

Existing Building

VALLEY PAVING

PRESSURE BED

ELEVATIONS:

Building	OUT	99.0
TANK	IN	96.0
TANK	OUT	95.2
TANK	IN	95.0
TANK	OUT	94.2
Pump Ch	IN	94.0
set Pump		90.0
MAN in BED		98.0

100.0

Holding TANKS

ELEVATIONS:

Building	out	99.0
TANK	IN	96.0

NEW INSTALL
Holding TANKS

0% SLOPE
-75-
10'

Existing Deep Trenches

PROPERTY Line

I hereby certify as a State of Minnesota Licensed Site Evaluator that the individual sewage treatment system diagrammed above is planned in accordance with all applicable requirements of Minnesota Rules Chapter 7080. The diagram of the on-site sewage treatment system is accurate as of the date at the bottom of this form for the site identified in this report. No determination of future hydraulic performance can be made as to future water usage over the life of the system.

I hereby certify as a State of Minnesota Licensed Installer that the individual sewage treatment system diagrammed above was installed in accordance with all applicable requirements of Minnesota Rules Chapter 7080. The diagram of the installation is accurate as of the date at the bottom of this form for the site identified on the reverse side of this form. No determination of future hydraulic performance can be made due to future water usage over the life of the system.

Designer Signature LOCATION:9524612336 — 4600 License # — RX TIME 03/29 '02 10:24 — 3-28-02 Date

Installer Signature — License # — Date 4/10/02

APPROVED

Inspector

SOIL TREATMENT SYSTEM SITE PLAN DRAWING

REQUIRED INFORMATION Check box if completed:

- ☐ North arrow
- ☐ Designated soil treatment area
- ☐ Alternate soil treatment area
- ☐ Soil borings & perc test locations with horizontal & vertical reference point
- ☐ Wells within 100 feet
- ☐ Sewer lines within 50 feet of wells
- ☐ Direction of slope(s)
- ☐ Lakes, rivers, streams, wetlands
- ☐ Ordinary high water level of public waters
- ☐ Ten-year flood elevation
- ☐ Flooding potential areas
- ☐ Location of disturbed or compacted areas
- ☐ Location of run-on potential areas
- ☐ Elevation of bottom of soil treatment area
- ☐ Access route for tank maintenance
- ☐ Road right-of-way(s)
- ☐ Lot lines
- ☐ Lot dimensions
- ☐ Lot easements
- ☐ Setbacks from buildings
- ☐ Proposed & existing buildings with foundations

SCALE: 1 inch = 30 ft.

8992 Bm Ave E

House

Garage

Deck

(100.0)

(97.0)

(94.0)

(93.2)

(92.2)

40'

+12

(94.2)

1,500 Gallon Septic Tank

(89.0)

4,000 Gallon Pump Chamber

Existing Tank

20'

Play Pile

8992 13th Ave SE

Pressure Red

I hereby certify as a State of Minnesota Licensed Site Evaluator that the individual sewage treatment system diagrammed above is designed in accordance with all applicable requirements of Minnesota Rules Chapter 7080. The diagram of the on-site sewage treatment system is accurate as of the date at the bottom of this form for the site identified in this report. No determination of future hydraulic performance can be made to future water usage over the life of the system.

Designer Signature | 400 License # | 8-11-99 Date

I hereby certify as a State of Minnesota Licensed Installer that the individual sewage treatment system diagrammed above was installed in accordance with all applicable requirements of Minnesota Rules Chapter 7080. The diagram of the installation is accurate as of the date at the bottom of this form for the site identified on the reverse side of this form. No determination of future hydraulic performance can be made due to future water usage over the life of the system.

Installer Signature | License # | Date

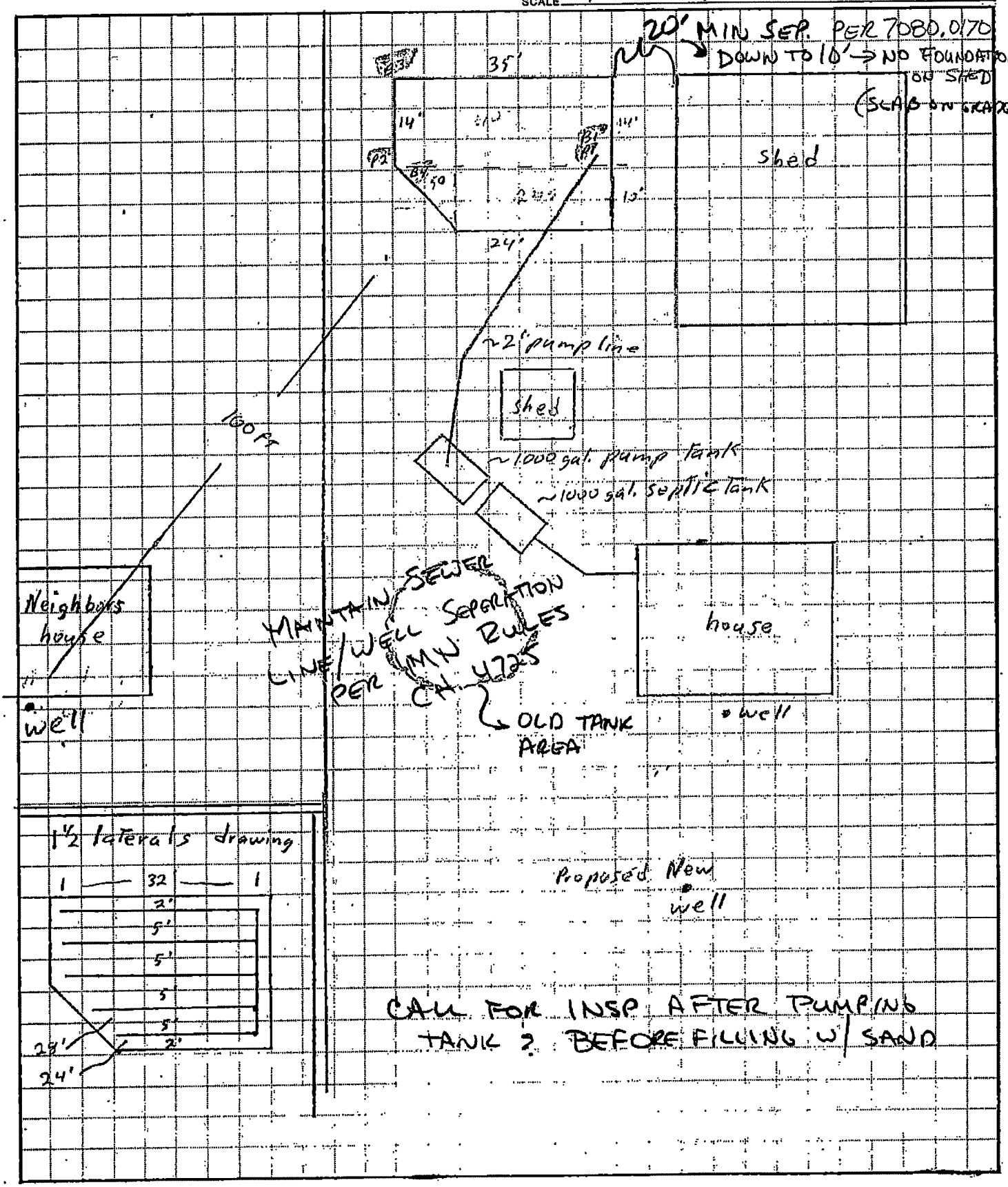
612 461 2335

9016 13th Ave E

GARY BOHN
16550 Baseline Avenue
SHAKOPEE, MINNESOTA 55379
445-4809

JOB
SHEET NO. OF
CALCULATED BY DATE
CHECKED BY DATE
SCALE 1" = 20 FT.

N



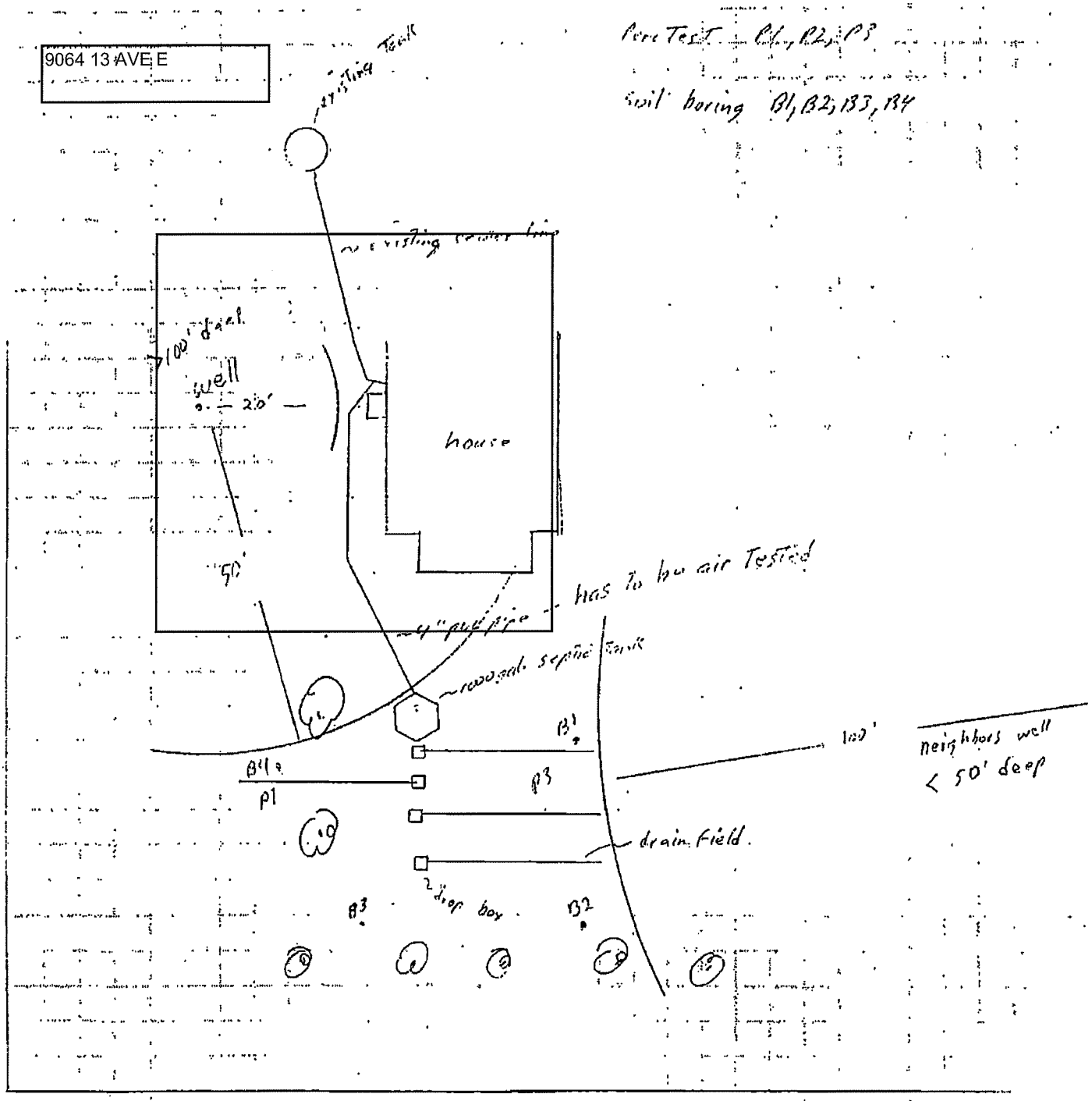
PRODUCT 2044 NEBS Inc., Groton, Mass. 01471.

Bohn Well Drilling Co.
16550 Baseline Avenue
Shakopee, MN 55379
612-445-4809
Gary M. Bohn Lic. #1043

1" = 20'
N ↓

* Gary M Bohn

Date: 6-9-00



Pore Test - P1, P2, P3
soil boring B1, B2, B3, B4

SCOTT COUNTY
SUBSURFACE SEWAGE TREATMENT SYSTEM INSPECTION FORM

City/Twp. Shakopee Inspection Dates 9-19-13 / mound + Tanks Permit # PR13-0623

Owner Carlos + Ivana Estrada Installed for (#Bedrm) or gpd) 3 Business/Indiv.

Project Address 9081 13th Ave E Designer Bohn Installer Bohn

SYSTEM TYPE: (I) II III IV V ☐ NEW ☒ REPLACE ☐ REPAIR ☐ ADDITION

SETBACKS:
Structures to Tank 19'
Structures to Drainfield 24'
Well(s) setback (50) or 100' ~30' not installed
Distance to Lake N/A Creek N/A Wetland N/A
Property Line(s) 11'

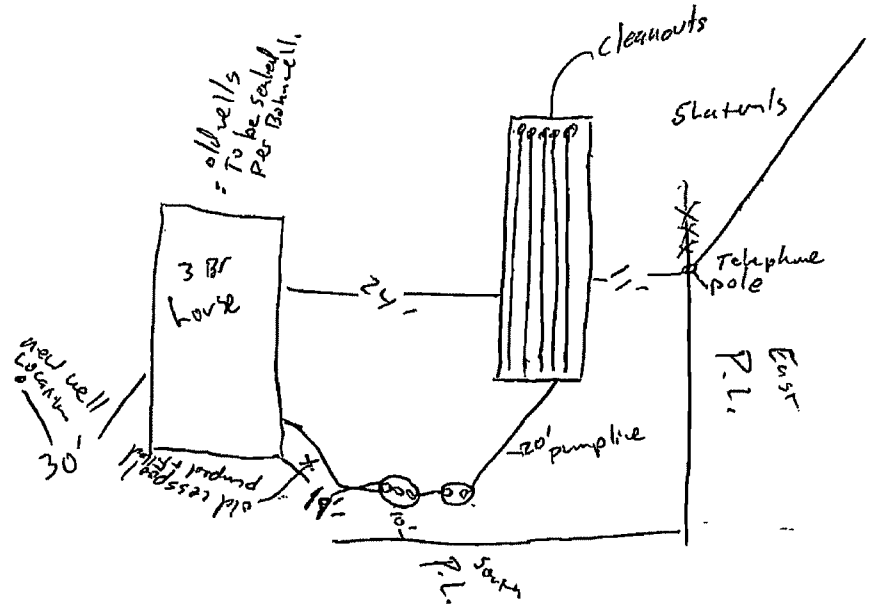
Mound Trench (Bed) Atgrade
Media: (Rock) Chamber Beads
Dike Width ____ up ____ down ____ side
Sand Below Media ____ upslope ____ downslope
Sand Base Dimensions ____
Perforation Size & Spacing 7/32" 36"
Pipe Size & Spacing 1½" 36"
Drainfield Media Depth Below Pipe 6"
Media Dimensions / Sq Ft 15' x 50'
Trench Lengths ____ Total Linear ____
Trench Depth 6" depth Width 15' x 50' bed
Trench Bottom Level (Yes) / No
Trench Spacing ____

Depth of Final Cover: Actual 10" Expected 10"
Manhole/Risers to Surface: (Yes) / No

SEPTIC/HOLDING TANK(S): ☒ New ☐ Existing
Liquid Capacity 1500/2c
Tank Manufacturer Wieser
No. & Height of Manhole Risers 3 - 24", 24", 24"
Top of Tank insulated if less than 2 ft: (Yes) / No
Effluent Filter: Yes / (No) Filter Alarm: Yes / No
Connections: Tar strips/Foam

PUMP INFO:
Liquid Capacity 1000
Tank Manufacturer Wieser (new) / existing
No. & Height of Risers 2 - 30", 30"
Pump Manuf. & Model No. PE 4/ P1
Horsepower 1/10 GPM 48
Feet of Head 13.6 installed or as per design
Cycles Per Day ____ installed or as per design
Gallons Per Cycle ____ installed or as per design
Size of Discharge Line ____ 1.5"
Type of Electrical Hookup ____ post & box by tank
Alarm Location ____ garage / basement
Alarm: (Tank Alert) / Level Alarm / Other ____
Water Meter: Yes / No ____ Cycle Counter: (Yes) / No

N ↑



Notes / Corrective Action Required: Divert surface water around drainfield. Sod or seed ASAP to prevent soil erosion.

I hereby certify that based on this inspection and the information submitted by the site evaluator/designer, the subsurface sewage treatment system appears to be in compliance with the Scott County Subsurface Sewage Treatment System Ordinance No. 4.

County Inspector Signature

FINAL COVER Inspector ____

I hereby certify, as the installer, that the subsurface sewage treatment system was or will be installed in accordance with the Scott County Subsurface Sewage Treatment System (SSTS) Ordinance No. 4. I understand and accept the findings by the inspector and agree to comply with all requirements to finish or correct the SSTS installation as written on this inspection report.

Installer Signature

This system is ☒ **in compliance** ☐ **not in compliance** with the Scott County Subsurface Sewage Treatment System Ordinance No. 4. Therefore, this document is a ☒ **Certificate of Compliance** ☐ **Notice of Noncompliance.**

White - County Yellow - Owner Pink – Installer

Form #1122

SCOTT COUNTY
INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM

City/Twp. Shakopee Inspection Dates 11/25/09 tanks & bed / Permit No. P09-0760
Owner Glen & Mangee Ludwig Installed for (#Bedrm or gpd) 4 Business/Indiv
Project Address 9085 13th Ave. E. Designer Bohn Installer Maximum Contracting
City Shakopee ☐ NEW ☒ REPLACE ☐ REPAIR ☐ ADDITION

SETBACKS:
Buildings to Tank 20'
Buildings to Drainfield 23'
Well(s) setback 50' or 100' 100' not installed
Distance to Lake — Creek — Wetland —
Property Line(s) ~~15'~~ 25'

SEPTIC/HOLDING TANK(S) ☒ New ☐ Existing
Liquid Capacity 1250 1000
Tank Manufacturer Wiesen
Baffle Type: Plastic Fiberglass Sanitary-T Concrete
No. of Inspection Pipes 4 4" / 6 diam.
No. & Diam. of Manhole Access 2 - 24"
No. & Height of Manhole Risers 4 x 3' 6"
Connections: OK

MOUND OR ATGRADE:
Percent Slope 2 %
Dike Width ____ up ____ down ____ side
Drainfield Rock Below Pipe 6" inches
Inches of Sand Below Rock ____ upslope ____ downslope
Perforation Size & Spacing 7/32" 3'
Pipe Size and Spacing 1 1/2" 3'
Dimensions of Rock Bed 10' x 50'
Dimensions of Sand Base ____
Depth of Final Cover ____

ALTERNATE SITE AVAILABLE NO
ENV HLTH APPROVED DESIGN ONSITE yes

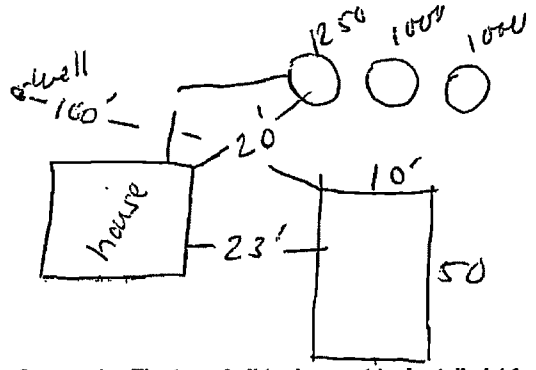
___ **See Notes added to Design Drawing or**
X **Drawing of System Below**

TRENCHES, BED OR GRAVELLESS LEACHFIELD:
Drop box NA concrete / plastic
Trench Depth ____ Width ____
Trench Lengths ____
Trench Bottom Level ____ yes / no
Trench Spacing ____
Drainfield Rock Below Pipe ____
or Size of Gravelless Pipe ____
Actual / Expected Depth of Backfill ____
Absorption Area: Square Feet 500 sq ft
Lineal Feet ____

PUMP INFO:
Liquid Capacity 1000
Tank Manufacturer Wiesen new / existing
No. & Height of Risers 2 x 3' 9"
Pump Manuf. & Model No. Goulds
Horsepower 1/2 GPM ____
Feet of Head ____ installed or as per design
Cycles Per Day ____ installed or as per design
Gallons Per Cycle ____ installed or as per design
Size of Discharge Line 1.5" (2)
Type of Electrical Hookup ____ post & box by tank
Alarm Location ____ garage / basement
Alarm: Tank Alert / Level Alarm / Other Septronics
Cycle Counter & Water Meter (Commercial) —

Alternative / Experimental System / Pretreatment:
Type ____
Pretreatment Alarm Septronics

N



Inspector Comments: **The top of all tanks must be installed 4 feet or less below final grade (unless exempted by Inspector). Divert surface water away from or around drainfield area. Sod or seed ASAP to prevent soil erosion.**

Corrective Action Required: ____

I hereby certify that based on this inspection and the information submitted by the site evaluator/designer, the individual sewage treatment system appears to be in compliance with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4.

Installation Inspector's Signature

FINAL COVER Inspector NA

I hereby certify, as the installer, that the individual sewage treatment system was or will be installed in accordance with the Scott County Individual / Community Sewage Treatment System Ordinance No. 4. I understand and accept the findings by the inspector and agree to comply with all requirements to finish or correct the ISTS installation as written on this inspection report.

Jeff Foster
Installer's Signature

This system is ☒ **in compliance** ☐ **not in compliance** with the Scott County Individual/Community Sewage Treatment System Ordinance No. 4, therefore, this document is a ☒ **Certificate of Compliance** ☐ **Notice of Noncompliance.**

White – County Yellow – Owner Pink – Installer Form #1122

SCOTT COUNTY
SUBSURFACE SEWAGE TREATMENT SYSTEM INSPECTION FORM

City/Twp. SHAKOPEE Inspection Dates Tanks 8/8/17 Bed 9/8/17 Permit # PR2017-0528

Owner SHAWN McCARTNEY Installed for (#Bedrm or gpd) 3 Business (Indiv.)

Project Address 9095 13th Ave East Designer Saber Installer Saber

SYSTEM TYPE: (I) II III IV V ☑ NEW ☒ REPLACE ☐ REPAIR ☐ ADDITION

SETBACKS:
Structures to Tank House 26'
Structures to Drainfield 22'
Well(s) setback 50' or 100' >50' not installed
Distance to Lake — Creek — Wetland —
Property Line(s) 34' Tanks to property line

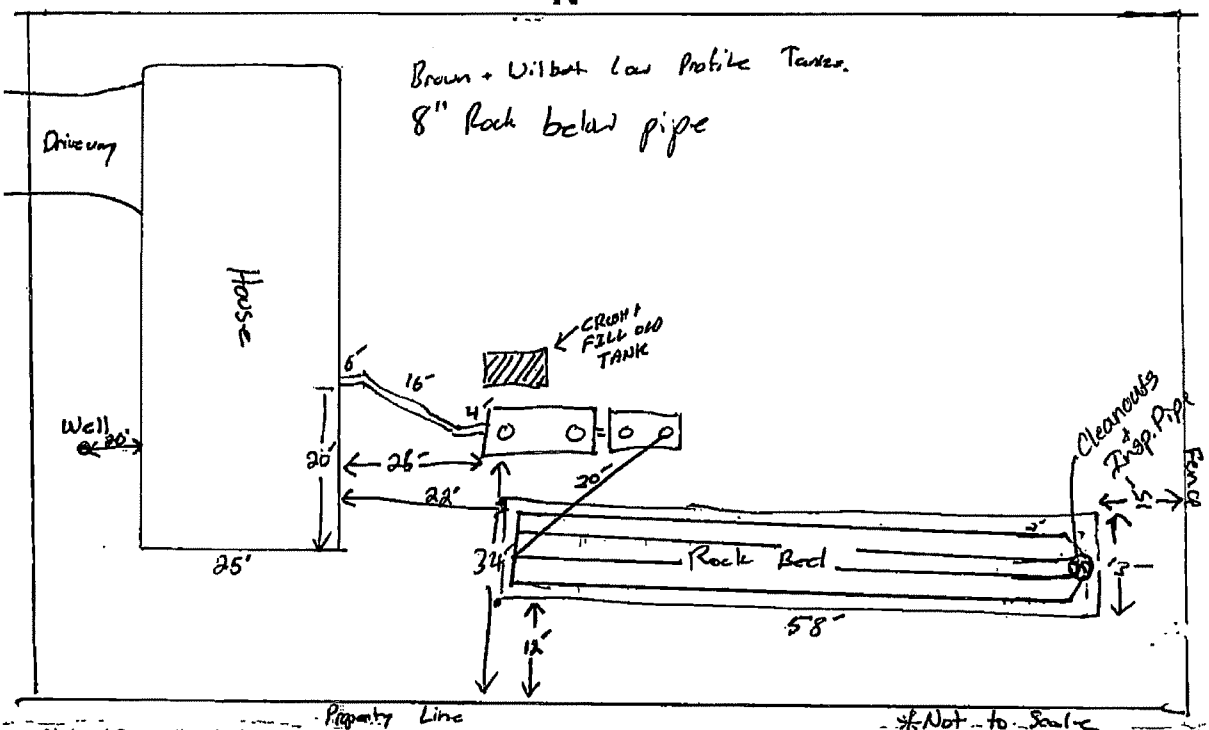
Mound Trench (Bed) Atgrade
Media: (Rock) Chamber Beads
Dike Width — up — down — side
Sand Below Media — upslope — downslope
Sand Base Dimensions N/A
Perforation Size & Spacing 3/16" 3'
Pipe Size & Spacing 1.5" on 7'
Drainfield Media Depth Below Pipe 8"
Media Dimensions / Sq Ft 58'x13'
Trench Lengths — Total Linear —
Trench Depth Bed depth 2' Width 13'
Trench Bottom Level (Yes) / No Bed
Trench Spacing —

Depth of Final Cover: Actual — Expected 12"
Manhole/Risers to Surface: (Yes) No

SEPTIC/HOLDING TANK(S): ☒ New ☐ Existing
Liquid Capacity 1500/2 G
Tank Manufacturer Brown + Wilbert
No. & Height of Manhole Risers 6', 6'
Top of Tank insulated if less than 2 ft deep: Yes / (No)
Effluent Filter: Yes / (No) Filter Alarm: Yes / (No)
Connections: ✓

PUMP INFO:
Liquid Capacity 1000 G
Tank Manufacturer Brown + Wilbert (new) existing
No. & Height of Risers 6', 6'
Pump Manuf. & Model No. Liberty 283-2
Horsepower 1/2 GPM
Feet of Head ____ installed or (as per design)
Cycles Per Day ____ Installed or (as per design)
Gallons Per Cycle ____ installed or (as per design)
Size of Discharge Line ____ 1.5" (2")
Type of Electrical Hookup ____ (post & box by tank)
Alarm Location ____ garage / basement
Alarm: Tank Alert / Level Alarm / Other Versa Alarm
Water Meter: Yes / (No) Cycle Counter: (Yes) / No

N



Notes / Corrective Action Required: Divert surface water around drainfield. Sod or seed ASAP to prevent soil erosion.

I hereby certify that based on this inspection and the information submitted by the site evaluator/designer, the subsurface sewage treatment system appears to be in compliance with the Scott County Subsurface Sewage Treatment System Ordinance No. 4.

Mary Ann Eschen / NR
County Inspector Signature

FINAL COVER Inspector N/A

I hereby certify, as the installer, that the subsurface sewage treatment system was or will be installed in accordance with the Scott County Subsurface Sewage Treatment System (SSTS) Ordinance No. 4. I understand and accept the findings by the inspector and agree to comply with all requirements to finish or correct the SSTS installation as written on this inspection report.

Installer Signature

This system is ☒ **in compliance** ☐ **not in compliance** with the Scott County Subsurface Sewage Treatment System Ordinance No. 4. Therefore, this document is a ☒ **Certificate of Compliance** ☐ **Notice of Noncompliance.**

INDIVIDUAL SEWAGE TREATMENT SYSTEM AS-BUILD FORM

INSTALLER: Bohn Well Company

TOWNSHIP Shakopee DATE OF INSTALLATION 11-17-99 PERMIT NUMBER 14771
OWNER Colleen Kessler
PROJECT ADDRESS 2027 13th Ave E
CITY Savage ZIP CODE 55378 ☐ NEW ☒ REPLACEMENT ☐ REPAIR

SETBACKS:
Buildings to tank 10
Buildings to drainfield 20
Well(s) 50' or 100' 50
Lake/Creek/Wetland
Property Lines 10

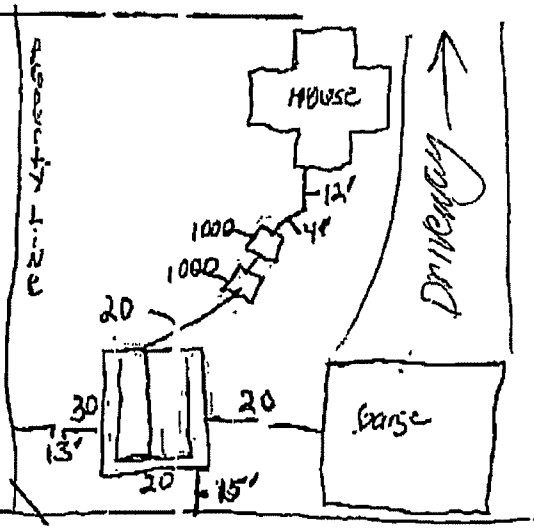
SEPTIC/HOLDING TANKS ☒ New ☐ Existing
Liquid Capacity 1000
Manufacturer type Bella Plast
Type of baffle (i.e., Plastic, Fiberglass)
No. & Size of Inspection pipes 6"
No. & Size of Manhole access 24"
No. & Height of risers 2 20"

MOUNDS:
Percent slope %
Upslope dike width
Downslope dike width
Sideslope dike width
Drainfield rock below pipe
Depth of sand below rock upslope Downslope
Perforation size & spacing
Pipe size and spacing
Dimensions of rock bed
Dimensions of sand base
Final Cover

TRENCHES, BEDS OR GRAVELLESS LEACHFIELD:
☐ Distribution Box ☐ Drop box
Trench Depth 2'
Trench Length 30'
Trench Width 20'
Trench Bottom Level
Trench Spacing 5FT
Drainfield Rock below pipe 9"
* Size of gravelless pipe 6.5
Depth of Backfill 1'
Absorption Area: square feet 572
lineal feet

PUMPS:
Tank Capacity 1000
Tank manufacturer Type SAME
No. & Height of riser 1 30"
Pump Manufacturer Model No. Goulds 3871
Horse power & GPM 4/10 22
Feet of head 24
Cycles per day 5-7
Gallons per cycle 20
Size of discharge line 2"
Type of electrical hookup Post Top Tank
Type and location of alarm Post Alarm
Cycle counter (commercial)

DRAWING OF SYSTEM



Comments

I hereby certify, as the installer, that the individual sewage treatment system was installed in accordance with the Scott County Individual Sewage Treatment System Ordinance No. 4. I agree to indemnify and save Scott County harmless from all loss, damages, costs, and charges that may be incurred by the County because of my failure to conform to and comply with the provisions of this Ordinance.

Installer's Signature Jason Hackett

Co. Name Bohn Well Drilling License # 10430
Address 16550 Baseline Ave
Shakopee
Phone # 612-445-4009

Scott County



This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information, and data located in various city, county, and state offices, and other sources affecting the area shown, and is to be used for reference purposes only. Scott County is not responsible for any inaccuracies herein contained. If discrepancies are found, please contact the Scott County Surveyors Office.

Scott

Date: 2/24/2020

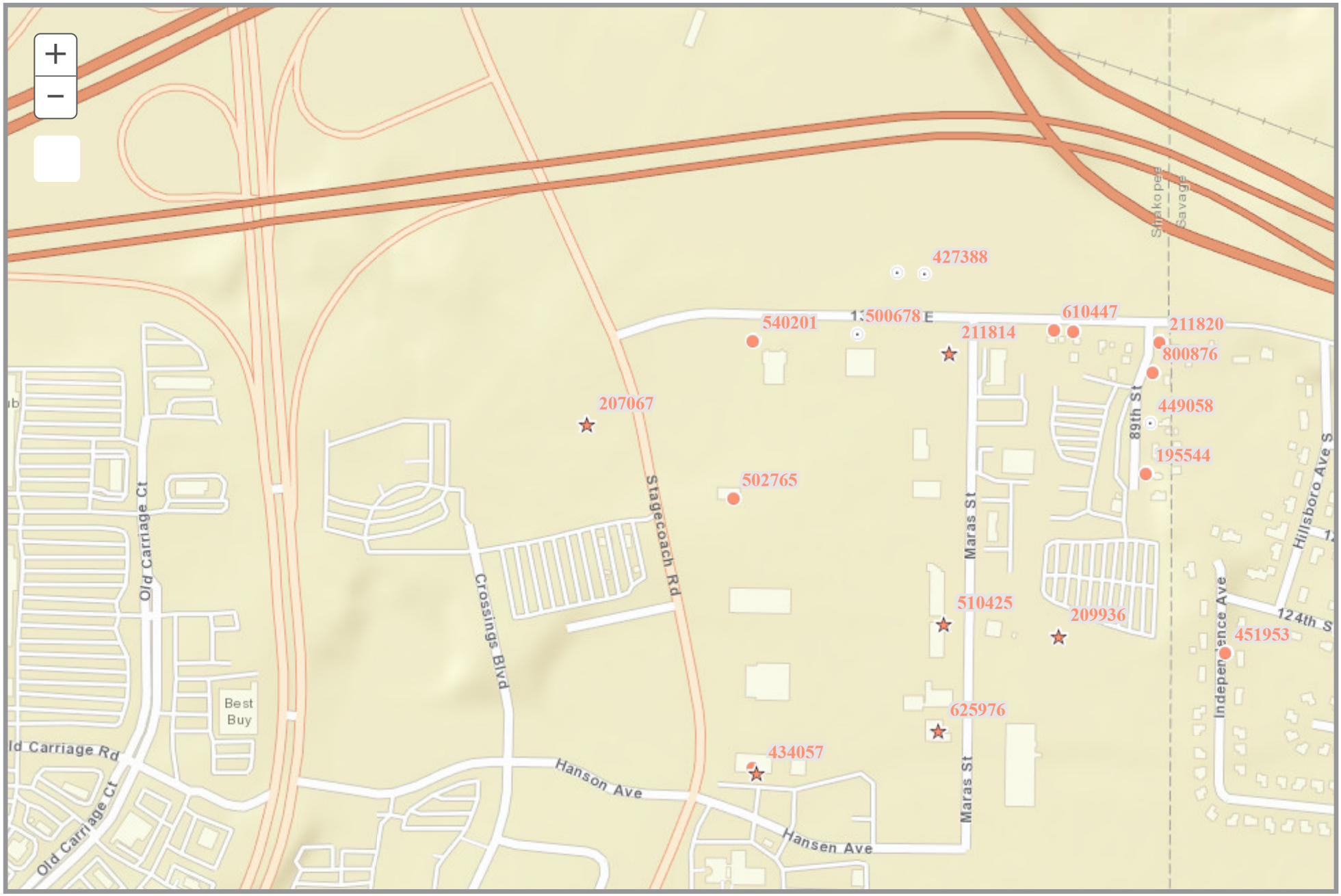
1 in = 376 ft

0 90 180 360 540 720 Feet

Minnesota Department of Health

Minnesota Well Index

Version 2.0.62, 07/15/19 1:39PM



Minnesota Unique Well Number

195544

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 04/05/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
KESSLER,	115	22	W	12	DAADDC

Elevation 741 ft. **Elev. Method** CALC FROM 2-FOOT COUNTY DEM

Address

Well 9097 13TH AV E SAVAGE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	45		
CLAY	45	55		
SAND	55	66		

Remarks

Well Depth 66 ft. **Depth Completed** 66 ft. **Date Well Completed** 10/03/1983

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	5 ft.	61 ft.	66 ft.

Static Water Level

10 ft. land surface Measure 10/03/1983

Pumping Level (below land surface)

10 ft. 2 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	ft.

Nearest Known Source of Contamination

75 feet Northeas Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/03/1983

Manufacturer's name PIONEER

Model Number HP 0.5 Volt 230

Length of drop pipe 26 ft Capacity 10 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468420 Y 4958684
Unique Number Verification Address verification Input Date 02/21/2005

Angled Drill Hole

Well Contractor

Associated Well Co.	27259	SCHULTZ, M.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

209936

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 02/11/1988
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
EARL'S FOOD	115	22	W	12	DDABAB

Elevation 743 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	45	BROWN	
CLAY	45	95	GRAY	
SAND	95	116	BROWN	

Remarks

Well Depth 116 ft. **Depth Completed** 116 ft. **Date Well Completed** 07/15/1976

Drill Method **Drill Fluid**

Use commercial **Status** Active

Well Hydrofractured? **Yes** ☐ **No** ☐ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? **Yes** ☐ **No** ☐ **Above/Below** 0 ft.

Casing Diameter **Weight**
4 in. To 112 ft. lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make**

Diameter	Slot/Gauze	Length	Set	
0 in.	10	4 ft.	112 ft.	116 ft.

Static Water Level
1 ft. land surface Measure 07/15/1976

Pumping Level (below land surface)
0 ft. hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☒ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Manufacturer's name
Model Number HP 0 Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 468310 Y 4958482
Unique Number Verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Minn. Valley Well	70241	SCHULTZ, J.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

211814

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 02/11/1988
Update Date 06/02/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
PUCKETS	115	22	W	12	DABACB

Elevation 735 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 115.5 ASH LA MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND & ROCK	0	66	RED/BRN	
CLAY	66	82	BROWN	
SAND	82	100	BROWN	

Remarks

Well Depth 100 ft. **Depth Completed** 100 ft. **Date Well Completed** 03/23/1976

Drill Method **Drill Fluid**

Use commercial **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☐ **Above/Below** 0 ft.

Casing Diameter **Weight**
4 in. To 95 ft. lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make**

Diameter	Slot/Gauze	Length	Set	
0 in.	12	5 ft.	95 ft.	100 ft.

Static Water Level
3 ft. land surface Measure 03/23/1976

Pumping Level (below land surface)
5 ft. hrs. Pumping at 60 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☒ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Manufacturer's name
Model Number HP 0 Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468176 Y 4958833
Unique Number Verification Input Date 06/02/2000

Angled Drill Hole

Well Contractor
Minn. Valley Well 70241
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

211820

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 02/11/1988
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
GLIBERT, DON	115	22	W	12	DAAAAA

Elevation 745 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	20	BROWN	
CLAY	20	28	BROWN	
SAND	28	80	BROWN	

Remarks

Well Depth 80 ft. **Depth Completed** 80 ft. **Date Well Completed** 07/22/1976

Drill Method **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? **Yes** ☐ **No** ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? **Yes** ☐ **No** ☐ **Above/Below** 0 ft.

Casing Diameter		Weight	
4	in. To 76 ft.		lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make**

Diameter		Slot/Gauze	Length		Set		
2	in.	10	0	ft.	0	ft.	ft.

Static Water Level
12 ft. land surface Measure 07/22/1976

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☒ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Manufacturer's name
Model Number HP 0 Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. Water
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468438 Y 4958846
Unique Number Verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor
Associated Well Co. 27259
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

427387

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 09/21/1989
Update Date 08/18/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
BACKSTRETCH	115	22	W	12	ADCCDB

Elevation 742 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 8855 13TH AV E SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	48	BROWN	
CLAY	48	57	GRAY	
GRAVEL, SAND	57	85	BROWN	
BOULDER	85	87		
SAND, GRAVEL	87	122	BROWN	
BOULDER	122	123		
CLAY - GRAVEL	123	197	BROWN	
CLAY, SHALE, ROCK	197	219	GRY/BRN	
CLAY	219	233	GRAY	
GRAVEL, CLAY	233	243		
SANDSTONE,	243	268	VARIED	
SANDSTONE,	268	289	VARIED	
FRANCONIA	289	300	GRAY	
FRANCONIA SHALE	300	310	GREEN	
FRANCONIA SHALE	310	330	VARIED	
FRANCONIA SHALE	330	395	VARIED	
FRANCONIA	395	400	GRY/BRN	
FRANCONIA	400	435	GREEN	
IRONTON-GALSVILLE	435	450	WHITE	
IRONTON-GALESVILLE	450	495	WHITE	
SANDSTONE	495	500	GRAY	

Remarks

GAMMA LOGGED 2-10-1987.
WELL FLOWS. ABANDONED BY M.J. TRAUT WELL CO. 2-22-1995.
WELL SEALED 02-16-1995 BY 71536

Well Depth 500 ft. **Depth Completed** 500 ft. **Date Well Completed** 11/12/1987

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use abandoned **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
6 in. To 290 ft.	lbs./ft.	9 in. To 290 ft.
		6 in. To 500 ft.

Open Hole From 290 ft. To 500 ft.

Screen? ☐ **Type** **Make**

Static Water Level
0 ft. land surface Measure 01/12/1987

Pumping Level (below land surface)
20 ft. hrs. Pumping at 125 g.p.m.

Wellhead Completion
Pitless adapter manufacturer BAKER Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	0	0 ft.	ft.

Nearest Known Source of Contamination
50 feet Direction Septic tank/drain field Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 03/19/1987
Manufacturer's name GOULDS
Model Number 70K05 HP 5 Volt 230
Length of drop pipe 84 ft Capacity 75 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Jordan Sandstone Aquifer multiple
Last Strat Wonewoc Sandstone Depth to Bedrock 243 ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468112 Y 4958934
Unique Number Verification Information from Input Date 06/02/2000

Angled Drill Hole

Well Contractor
Bohn Well Co. 70350 VON BANK, B.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

427388

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 09/21/1989
Update Date 08/18/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
BACKSTRETCH	115	22	W	12	ADCCDA

Elevation 742 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 8855 13TH AV E SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	15	BROWN	
SAND	15	45	GRAY	
CLAY, GRAVEL	45	54	GRAY	
CLAY, GRAVEL	54	73	RED/BRN	
CLAY, GRAVEL	73	123	GRY/BRN	
CLAY, GRAVEL	123	205	RED/BRN	
CLAY	205	240	GRAY	
GRAVEL	240	245		
SANDSTONE GRAY	245	255		
SANDSTONE	255	270	BRN/GRN	
SANDSTONE, SHALE	270	305	WHT/GRN	
SANDSTONE	305	333	GRY/GRN	
SANDSTONE	333	447	GRY/GRN	
SANDSTONE	447	500	GRY/GRN	

Remarks

GAMMA LOGGED 2-22-1995.
WELL FLOWS. WELL NO. 2.

Well Depth 500 ft. **Depth Completed** 500 ft. **Date Well Completed** 02/27/1987

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use abandoned **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
6 in. To 270 ft.	lbs./ft.	9 in. To 270 ft.
		6 in. To 500 ft.

Open Hole From 270 ft. To 500 ft.

Screen? ☐ **Type** **Make**

Static Water Level
0 ft. land surface Measure 02/27/1987

Pumping Level (below land surface)
20 ft. hrs. Pumping at 125 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model 6PS67WBVEO
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	0	0 ft.	ft.

Nearest Known Source of Contamination
50 feet Direction Septic tank/drain field Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 03/19/1987
Manufacturer's name GOULDS
Model Number 70K05 HP 5 Volt 230
Length of drop pipe 84 ft Capacity 75 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Jordan Sandstone Aquifer multiple
Last Strat Wonewoc Sandstone Depth to Bedrock 245 ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468145 Y 4958932
Unique Number Verification Information from Input Date 06/02/2000

Angled Drill Hole

Well Contractor
Bohn Well Co. 70350 VON BANK, B.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

428614

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/18/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
FERGUSON,	115	22	W	12	DCACDA

Elevation 737 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 1513 STAGECOACH DR SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	51	BLACK	SOFT
CLAY	51	87	GRAY	MEDIUM
SAND	87	164	GRAY	MEDIUM
LIMESTONE &	164	168	GRAY	HARD
SANDY CLAY	168	205	GRAY	MEDIUM
SAND	205	216	GRAY	SOFT

Remarks

#428614 AND #434057 ARE ABOUT 25' APART-OWNER DIDN'T KNOW WHICH WAS WHICH.

Well Depth 216 ft. **Depth Completed** 216 ft. **Date Well Completed** 01/21/1987

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☒ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 210 ft.	11 lbs./ft.	8 in. To 210 ft.
		4 in. To 216 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
3.8 in.	12	5 ft.	211 ft.	216 ft.

Static Water Level

-1 ft. land surface Measure 01/21/1987

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer MONITOR Model

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement		6 ft.	210 ft.

Nearest Known Source of Contamination

120 feet West Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 01/23/1987

Manufacturer's name AERMOTOR

Model Number A12-75 HP 0.75 Volt 220

Length of drop pipe 54 ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand-gray Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 467931 Y 4958322

Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Hartmann Well Co. 40174 JAECHELS, R.

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Well Index Report | **428614** | Printed on 08/07/2020

HE-01205-15

Minnesota Unique Well Number

434057

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/05/1991
Update Date 10/19/2004
Received Date

Well Name	Township	Range	Dir	Section	Subsection
FERGUSON,	115	22	W	12	DCACDA

Elevation 737 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 1513 STAGECOACH DR SHAKOPEE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	51	BLACK	SOFT
CLAY	51	87	GRAY	MEDIUM
SAND	87	164	GRAY	MEDIUM
LIMESTONE &	164	168	GRAY	HARD
SANDY CLAY	168	205	GRAY	MEDIUM
SAND	205	216	GRAY	SOFT
SANDY CLAY	216	248	GRAY	SOFT
BROKEN LIMESTONE	248	250	TAN	MEDIUM

Remarks

#434057 and #428614 are about 25' apart-owner didn't know which was which

Well Depth 250 ft. **Depth Completed** 250 ft. **Date Well Completed** 05/00/1987

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use commercial **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Telescoping **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter			Weight		Hole Diameter		
3 in. To	250 ft.		lbs./ft.		8 in. To	210 ft.	
4 in. To	210 ft.	11	lbs./ft.		4 in. To	210 ft.	
					3 in. To	250 ft.	

Open Hole From 250 ft. To 250 ft.

Screen? ☐ **Type** **Make**

Static Water Level

-1 ft. null Measure 05/00/1987

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer MONITOR Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement		6 ft.	210 ft.

Nearest Known Source of Contamination

120 feet West Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 05/00/1987

Manufacturer's name AERMOTOR

Model Number A12-75 HP 0.75 Volt 220

Length of drop pipe 36 ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock St.Lawrence Formation Aquifer St.Lawrence

Last Strat St.Lawrence Formation Depth to Bedrock 248 ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 467934 Y 4958316

Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Hartmann Well Co.	40174	JAECHELS, R
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

449058

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/05/1991
Update Date 06/15/2018
Received Date

Well Name	Township	Range	Dir	Section	Subsection
LADWIG, GLEN	115	22	W	12	DAADAC

Elevation 743 ft. **Elev. Method** CALC FROM 2-FOOT COUNTY DEM

Address

C/W 9085 13TH AV E SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SOIL	0	2	BLACK	SOFT
SAND	2	86	BROWN	SOFT

Remarks

SEALED 05-02-2018 BY 1445

Well Depth 86 ft. **Depth Completed** 86 ft. **Date Well Completed** 09/01/1989

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1.5 ft.

Casing Diameter		Weight		Hole Diameter	
4 in. To	81.6 ft.	11 lbs./ft.		6.2 in. To	86 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	12	4 ft.	82 ft.	86 ft.

Static Water Level

14 ft. land surface Measure 09/01/1989

Pumping Level (below land surface)

20 ft. 2 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MERRILL Model SPK

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	86 ft.

Nearest Known Source of Contamination

65 feet North Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/01/1989

Manufacturer's name FLINT & WALLING

Model Number BA10 HP 0.5 Volt 230

Length of drop pipe 49 ft Capacity g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. Water

Last Strat sand-brown Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 468426 Y 4958746

Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Gary's Well Co. 70417 SCHWICH, G.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Well Index Report | **449058** | Printed on 08/07/2020 HE-01205-15

Minnesota Unique Well Number

500678

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/19/1991
Update Date 06/17/2020
Received Date 11/21/1989

Well Name	Township	Range	Dir	Section	Subsection
VALLEY PAVING	115	22	W	12	DABBBC

Elevation 744 ft. **Elev. Method** CALC FROM 2-FOOT COUNTY DEM

Address

C/W 8800 13TH AV E SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
FINE SAND	0	45	BROWN	
CLAY	45	92	BROWN	
CLAY AND ROCKS	92	115	GRAY	
FINE SAND	115	118	GRAY	
CLAY	118	121	GRAY	
FINE SAND	121	145	GRAY	
COARSE GRAVEL	145	158	GRAY	
CLAY	158	159	GRAY	

Remarks

SEALED 05-06-2020 BY 1622

Well Depth 159 ft. **Depth Completed** 156 ft. **Date Well Completed** 08/08/1989

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use irrigation **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter **Weight**
4 in. To 152 ft. 10.7 lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4.5 in.	18	4.4 ft.	152 ft.	156 ft.

Static Water Level
15 ft. land surface Measure 08/08/1989

Pumping Level (below land surface)
25 ft. 3 hrs. Pumping at 23 g.p.m.

Wellhead Completion
Pitless adapter manufacturer BAKER Model STANDARD
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		0 ft.	152 ft.

Nearest Known Source of Contamination
100 feet Northwes Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/17/1989
Manufacturer's name GRUNDFOS
Model Number 25S10-7 HP 1 Volt 230
Length of drop pipe 42 ft Capacity 23 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat clay-gray Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468063 Y 4958858
Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Renner E.H. Well	71015	DAVIDSON, D.

Minnesota Well Index Report | **500678** | Printed on 08/07/2020 HE-01205-15

Minnesota Unique Well Number

502765

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/05/1991
Update Date 02/14/2014
Received Date 10/03/1989

Well Name	Township	Range	Dir	Section	Subsection
HAMILL,	115	22	W	12	DBDBAC

Elevation 744 ft. **Elev. Method** CALC FROM 2-FOOT COUNTY DEM

Address

C/W 1393 STAGECOACH SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	51	BROWN	SOFT
CLAY	51	65	BLUE	MEDIUM
SAND	65	154	BROWN	MEDIUM
CLAY	154	162	RED	HARD
SAND	162	175	BROWN	MEDIUM
CLAY	175	245	RED	MEDIUM
SAND	245	255	BROWN	SOFT
ROCK	255	320	GRAY	HARD

Remarks

Well Depth 320 ft. **Depth Completed** 320 ft. **Date Well Completed** 07/26/1989

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 258 ft.	11 lbs./ft.	8 in. To 258 ft.
		4 in. To 320 ft.

Open Hole From 258 ft. To 320 ft.

Screen? ☐ **Type** **Make**

Static Water Level
-1 ft. land surface Measure 07/26/1989

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	2.25 Cubic yards	7 ft.	258 ft.

Nearest Known Source of Contamination
100 feet West Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/23/1989
Manufacturer's name AERMOTOR
Model Number A12-100 HP 1 Volt 220
Length of drop pipe 24 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock St.Lawrence Formation Aquifer St.Lawrence
Last Strat St.Lawrence Formation Depth to Bedrock 255 ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 467908 Y 4958656
Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Hartmann Well Co.	40174	JAECKELS, R

Minnesota Unique Well Number

510425

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/19/1991
Update Date 02/14/2014
Received Date 06/03/1990

Well Name	Township	Range	Dir	Section	Subsection
ANDERSON,	115	22	W	12	DACDCC

Elevation 737 ft. **Elev. Method** CALC FROM 2-FOOT COUNTY DEM

Address

Contact 9729 DORSET LA EDEN PRAIRIE
Well 1428 MARAS ST SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	15	BROWN	
SAND	15	65	GRY/BRN	
CLAY	65	93	GRAY	
SAND	93	100	BROWN	

Remarks

Well Depth 100 ft. **Depth Completed** 100 ft. **Date Well Completed** 02/15/1990

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use commercial **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 96 ft.	lbs./ft.	6.2 in. To 100 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2 in.	10	4 ft.	96 ft. 100 ft.

Static Water Level
3 ft. land surface Measure 02/15/1990

Pumping Level (below land surface)
3 ft. 2 hrs. Pumping at 30 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model 4"
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft. 95	ft.

Nearest Known Source of Contamination
50 feet Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 03/15/1990
Manufacturer's name FLINT & WALLING
Model Number HP 0.5 Volt 220
Length of drop pipe 20 ft Capacity g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468168 Y 4958499
Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor
Bohn Well Co. 70350 VON BANK, B
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Well Index Report **510425**

Printed on 08/07/2020
HE-01205-15

Minnesota Unique Well Number

522945

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 03/31/1995
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MW 6	115	22	W	12	DAB

Elevation **Elev. Method**

Address

Well 8959 13TH AV E MN 55379
Contact P.O.BOX 207 SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	11	BROWN	MEDIUM
SILTY SAND	11	13	GRAY	MEDIUM

Remarks
MW 6, 440.1556
WELL SEALED 05-23-1994 BY 34050
WELL HEAD - 2' ABOVE GRADE

Well Depth 13 ft. **Depth Completed** 13 ft. **Date Well Completed** 03/16/1993
Drill Method Auger (non-specified) **Drill Fluid**

Use monitor well **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 3 ft.	lbs./ft.	8 in. To 13 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2 in.	10	10 ft.	3 ft. 13 ft.

Static Water Level
7.3 ft. land surface Measure 03/16/1993

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	1 Sacks	ft.	2 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☒ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor
W.t.d. Environmental 27653 RICHARDS,C.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Well Index Report | **522945** | Printed on 08/07/2020 HE-01205-15

Minnesota Unique Well Number

523384

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 03/31/1995
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MW 1	115	22	W	12	DAB

Elevation **Elev. Method**

Address

Well 8959 13TH AV E MN 55379
Contact P.O.BOX 207 SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	9	BROWN	SOFT
SAND	9	13	GRAY	SOFT

Remarks
MW 1, 440-1523
WELL SEALED 05-23-1994 BY 34050
WELL HEAD - 2.5' ABOVE GRADE

Well Depth	Depth Completed	Date Well Completed
13 ft.	13 ft.	01/14/1993

Drill Method Auger (non-specified) **Drill Fluid**

Use monitor well **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 2.5 ft.	lbs./ft.	8 in. To 13 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2 in.	10	10 ft.	2.5 ft. 12.5 ft.

Static Water Level
9 ft. land surface Measure 01/14/1993

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	1 Sacks	ft.	2 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☒ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor

W.t.d. Environmental	27653	MATTMILLER,G.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

523385

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 03/31/1995
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MW-2	115	22	W	12	DAB

Elevation **Elev. Method**

Address

Well 8959 13TH AV E MN

Contact BOX 207 SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	13	DK. BRN	SOFT

Remarks

MW-2, JOB 440-1523

WELL SEALED 05-23-1994 BY 34050

Well Depth	Depth Completed	Date Well Completed
13 ft.	13 ft.	01/14/1993

Drill Method Auger (non-specified) **Drill Fluid**

Use monitor well **Status** Sealed

Well Hydrofractured? **Yes** ☐ **No** ☐ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? **Yes** ☐ **No** ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 2.5 ft.	lbs./ft.	8 in. To 13 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Static Water Level

6 ft. land surface Measure 01/14/1993

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer Model

☒ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	1 Sacks	ft. 2	ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☒ No

Pump ☒ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer

Last Strat Depth to Bedrock ft

Located by

Locate Method

System UTM - NAD83, Zone 15, Meters X Y

Unique Number Verification Input Date

Angled Drill Hole

Well Contractor

W.t.d. Environmental	27653	MATTMILLER,G.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Well Index Report | **523385** | Printed on 08/07/2020

HE-01205-15

Minnesota Unique Well Number

523386

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 03/31/1995
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MW-3	115	22	W	12	DAB

Elevation **Elev. Method**

Address

Well 8959 13TH AV E MN
Contact BOX 207 SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	9	BROWN	MEDIUM
SAND	9	13	GRAY	SOFT

Remarks
MW-3 JOB 440-1523
WELL SEALED 05-23-1994 BY 34050

Well Depth	Depth Completed	Date Well Completed
13 ft.	13 ft.	01/14/1993

Drill Method Auger (non-specified) **Drill Fluid**

Use monitor well **Status** Sealed

Well Hydrofractured? **Yes** ☐ **No** ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? **Yes** ☐ **No** ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 2.5 ft.	lbs./ft.	8 in. To 13 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2 in.	10	10 ft.	2.5 ft. 12.5 ft.

Static Water Level
6 ft. land surface Measure 01/14/1993

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☒ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	1 Sacks	ft.	2.5 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☒ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor

W.t.d. Environmental	27653	MATTMILLER,G.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

523387

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 03/31/1995
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MW-4	115	22	W	12	DAB

Elevation **Elev. Method**

Address

Well 8959 13TH AV MN 55379
Contact BOX 207 SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	6	LT. BRN	SOFT
SAND	6	17	DK. BRN	SOFT

Remarks
MW-4 JOB 440-1523
WELL SEALED 05-23-1994 BY 34050
WELL HEAD - 2.0' ABOVE GRADE

Well Depth 17 ft. **Depth Completed** 13 ft. **Date Well Completed** 01/15/1993
Drill Method Auger (non-specified) **Drill Fluid**

Use monitor well **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 2.5 ft.	lbs./ft.	8 in. To 16.5 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
in.	10	10 ft.	2.5 ft. 12.5 ft.

Static Water Level
7 ft. land surface Measure 01/15/1993

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	1 Sacks	ft.	2 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☒ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor

W.t.d. Environmental	27653	MATTMILLER,G.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

523388

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 03/31/1995
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MW-5	115	22	W	12	DAB

Elevation **Elev. Method**

Address

Well 8959 13TH AV E MN
Contact BOX 207 SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	10	LT. BRN	SOFT
SAND	10	22	GRAY	MEDIUM

Remarks

MW-5 JOB 440-1523
WELL SEALED 05-23-1994 BY 34050
WELL HEAD - 2.0' ABOVE GRADE

Well Depth 22 ft. **Depth Completed** 14 ft. **Date Well Completed** 01/15/1993

Drill Method Auger (non-specified) **Drill Fluid**

Use monitor well **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 4 ft.	lbs./ft.	8 in. To 22 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2 in.	10	ft. 4 ft.	14 ft.

Static Water Level
7.5 ft. land surface Measure 01/15/1993

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement		ft. 2	ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☒ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor

W.t.d. Environmental	27653	MATTMILLER,G.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

540201

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/11/1995
Update Date 02/14/2014
Received Date 08/03/1994

Well Name	Township	Range	Dir	Section	Subsection
RYAN	115	22	W	12	DBABAD

Elevation 743 ft. **Elev. Method** CALC FROM 2-FOOT COUNTY DEM

Address

C/W 8700 13TH AV E SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND WITH	0	38	BRN/GRN	SOFT
COARSE GRAVEL	38	48	BROWN	HARD
CLAY	48	70	GRAY	MEDIUM
SAND	70	87	GRAY	MEDIUM

Remarks

Well Depth 87 ft. **Depth Completed** 87 ft. **Date Well Completed** 04/04/1994

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? **Yes** ☐ **No** ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? **Yes** ☒ **No** ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 81 ft.	11 lbs./ft.	8 in. To 80 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
3.5 in.	15	5 ft.	81 ft.	87 ft.

Static Water Level

15 ft. land surface Measure 04/04/1994

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer MONITOR Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	4 Sacks	6 ft.	81 ft.

Nearest Known Source of Contamination

30 feet Southeas Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 04/06/1994

Manufacturer's name FLINT & WALLING

Model Number 4F27A15 HP 1.5 Volt 220

Length of drop pipe 57 ft Capacity 27 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand-gray Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 467934 Y 4958850

Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Hartmann Well Co. 40174 PETERSON, D

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

585375

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 07/28/1998
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MILLER, JOHN	115	22	W	12	DAABAA

Elevation 741 ft. **Elev. Method** CALC FROM 2-FOOT COUNTY DEM

Address

C/W 9016 13TH AV S SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND, DIRT	0	3	BLACK	
SAND	3	45	BROWN	
SANDY, CLAY	45	62	GRAY	
SAND	62	74	BROWN	

Remarks

Well Depth 74 ft. **Depth Completed** 74 ft. **Date Well Completed** 10/09/1996

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 70 ft.	lbs./ft.	6.2 in. To 74 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** WESTCO

Diameter	Slot/Gauze	Length	Set
2 in.	12	7.5 ft.	70 ft. 74 ft.

Static Water Level
22 ft. land surface Measure 10/09/1996

Pumping Level (below land surface)
22 ft. hrs. Pumping at 30 g.p.m.

Wellhead Completion
Pitless adapter manufacturer WHITEWATER Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	4 Sacks	10 ft.	40 ft.

Nearest Known Source of Contamination
37 feet South Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/00/1996
Manufacturer's name FLINT & WALLING
Model Number HP 8.5 Volt 220
Length of drop pipe 42 ft Capacity g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468330 Y 4958859
Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Bohn Well Co.	70350	VON BANK, B

Minnesota Unique Well Number

601627

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date
Update Date 08/06/2009
Received Date

Well Name	Township	Range	Dir	Section	Subsection
CITY OF	115	22	W	12	DA

Elevation **Elev. Method**

Address
Well MARAS ST MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SANDY LOAM	0	9	BROWN	
MEDIUM SAND	9	29	GRAY	

Remarks
TOTAL OF 5 DEWATERING WELLS INSTALLED AND REMOVED TO CODE

Well Depth 29 ft. **Depth Completed** 29 ft. **Date Well Completed** 08/25/1997
Drill Method Jetted **Drill Fluid** Water

Use dewatering **Status**

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter **Weight**
8.6 in. To 29 ft. lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** **Make** JOHNSON IRRIGATOR

Diameter	Slot/Gauze	Length		Set		
11. in.	10	10	ft.	19	ft.	29 ft.

Static Water Level
3 ft. land surface Measure 08/25/1997

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☒ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☒ No

Pump ☐ Not Installed Date Installed
Manufacturer's name PROSSER
Model Number HP 5 Volt 480
Length of drop pipe 28 ft Capacity 150 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor
Northern Dewatering D0001 CAMERON, BERN
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

610447

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 01/03/2000
Update Date 03/11/2005
Received Date

Well Name	Township	Range	Dir	Section	Subsection
LAWRENCE,	115	22	W	12	DAABAB

Elevation 741 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 8992 13TH AV E SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL	0	2	BLACK	SOFT
SILT & SAND	2	31	BROWN	SOFT
SAND	31	63	GRAY	SOFT
SAND/GRAVEL	63	75	VARIED	SOFT

Remarks

Well Depth 75 ft. **Depth Completed** 75 ft. **Date Well Completed** 08/25/1999

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Welded

Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 65 ft.	lbs./ft.	8 in. To 75 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** slotted pipe **Make** BIG FOOT

Diameter	Slot/Gauze	Length	Set
4 in.	16	10 ft.	65 ft. 75 ft.

Static Water Level

15 ft. land surface Measure 08/25/1999

Pumping Level (below land surface)

75 ft. 2 hrs. Pumping at 65 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MERRILL Model SPK

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	4 Sacks	0 ft.	61 ft.
other	4 Sacks	61 ft.	75 ft.

Nearest Known Source of Contamination

52 feet South Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/25/1999

Manufacturer's name AERMOTOR

Model Number A12B-50 HP 0.5 Volt 230

Length of drop pipe 40 ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. Water

Last Strat sand +larger Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 468306 Y 4958861

Unique Number Verification Tag on well Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Gary's Well Co.	70417	SCHULTZ, C.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

625976

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 12/17/1999
Update Date 01/09/2014
Received Date 08/12/1999

Well Name	Township	Range	Dir	Section	Subsection
ZACHARIAS,	115	22	W	12	DDBDBB

Elevation 738 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 8990 MARAS ST SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	65	BROWN	
CLAY, SOME SAND	65	110	GRAY	
SAND	110	120	BROWN	

Remarks

Well Depth	Depth Completed	Date Well Completed
120 ft.	120 ft.	05/24/1999

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use industrial **Status** Active

Well Hydrofractured? **Yes** [X] **No** [ ] **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? **Yes** [ ] **No** [ ] **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 116 ft.	lbs./ft.	6.2 in. To 120 ft.

Open Hole From ft. To ft.

Screen? [X] **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2 in.	12	4 ft.	116 ft. 120 ft.

Static Water Level

2 ft. land surface Measure 05/24/1999

Pumping Level (below land surface)

ft. hrs. Pumping at 40 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

[ ] Casing Protection [ ] 12 in. above grade
[ ] At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? [X] Yes [ ] No [ ] Not Specified

Material	Amount	From	To
high solids bentonite	2 Sacks	10 ft.	40 ft.

Nearest Known Source of Contamination

6 feet West Direction Storage areas Type

Well disinfected upon completion? [ ] Yes [ ] No

Pump [X] Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? [ ] Yes [X] No

Variance

Was a variance granted from the MDH for this well? [ ] Yes [X] No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 468160 Y 4958366
Unique Number Verification Address verification Input Date 08/10/2004

Angled Drill Hole

Well Contractor

Bohn Well Co.	70350	VONBANK , B.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

632978

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 03/17/2003
Update Date 05/07/2007
Received Date 02/02/2003

Well Name	Township	Range	Dir	Section	Subsection
HANSEN,	115	22	W	12	DAD

Elevation **Elev. Method**

Address

Well 8615 HANSEN AV

Contact 1475 MARAS ST SHAKOPEE MN 55379

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL	0	6		MEDIUM
BLACK DIRT	6	20	BLACK	SOFT
SANDY CLAY	20	60	GRAY	MEDIUM
COARSE SAND	60	72	BRN/GRY	SOFT

Remarks

Well Depth 72 ft. **Depth Completed** 72 ft. **Date Well Completed** 01/08/2003

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 62 ft.	lbs./ft.	8.8 in. To 72 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make**

Diameter	Slot/Gauze	Length	Set
4 in.	20	10 ft.	62 ft. 72 ft.

Static Water Level

12 ft. land surface Measure 12/17/2002

Pumping Level (below land surface)

12 ft. 2 hrs. Pumping at 40 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	4 Sacks	ft.	ft.

Nearest Known Source of Contamination

80 feet Southwes Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/17/2002

Manufacturer's name MYERS

Model Number HP 0.5 Volt 115

Length of drop pipe 40 ft Capacity 10 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer

Last Strat Depth to Bedrock ft

Located by

Locate Method

System UTM - NAD83, Zone 15, Meters X Y

Unique Number Verification Input Date

Angled Drill Hole

Well Contractor

Associated Well Co. 27259 SCHULTZ, M.

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

800876

County Scott
Quad Eden
Quad ID 104C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 05/07/2014
Update Date 09/04/2014
Received Date 10/14/2013

Well Name	Township	Range	Dir	Section	Subsection
ESTRADA,	115	22	W	12	DAAADA

Elevation 741 ft. **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY & SAND	0	17	BROWN	SOFT
SAND	17	84	BROWN	MEDIUM

Remarks

OTHER NEAREST KNOWN SOURCE-HOUSE

NAME OF DRILLERS-RADEMACHER, M. & WECKMAN, J.

Well Depth 84 ft. **Depth Completed** 84 ft. **Date Well Completed** 09/16/2013

Drill Method Non-specified Rotary **Drill Fluid** Additive (+ Bentonite)

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 80 ft.	lbs./ft.	6.2 in. To 84 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
3 in.	12	6 ft.	80 ft. 84 ft.

Static Water Level

14 ft. land surface Measure 09/16/2013

Pumping Level (below land surface)

ft. hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	2 Sacks	ft.	50 ft.

Nearest Known Source of Contamination

22 feet East Direction Other Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/27/2013

Manufacturer's name AERMOTOR

Model Number HP 0.5 Volt

Length of drop pipe 42 ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer

Last Strat Depth to Bedrock ft

Located by Minnesota Department of Health

Locate Method GPS SA Off (averaged) (15 meters)

System UTM - NAD83, Zone 15, Meters X 468429 Y 4958808

Unique Number Verification Info/GPS from data Input Date 05/07/2014

Angled Drill Hole

Well Contractor

Bohn Well Drilling Co., Inc. 1445 SEE REMARKS

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

830039

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 06/18/2018
Update Date 06/18/2018
Received Date 01/16/2018

Well Name	Township	Range	Dir	Section	Subsection
LUDWIG,	115	22	W	12	DAD

Elevation **Elev. Method**

Address
C/W 9085 13TH AV E SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
BLACK DIRT	0	2		
SAND	2	45	BROWN	
SAND/GRAVEL	45	65	GRAY	
SAND	65	87	BROWN	

Remarks

Well Depth 87 ft. **Depth Completed** 87 ft. **Date Well Completed** 01/03/2018

Drill Method Non-specified Rotary **Drill Fluid** Additive (+ Bentonite)

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 83 ft.	lbs./ft.	6.7 in. To 20 ft.
		6.2 in. To 87 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
3.5 in.	12	4 ft.	83 ft.	87 ft.

Static Water Level
15 ft. land surface Measure 01/03/2018

Pumping Level (below land surface)
ft. hrs. Pumping at 25 g.p.m.

Wellhead Completion
Pitless adapter manufacturer WHITEWATER Model
☐ Casing Protection ☐ 12 in. above grade
☒ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	2 Sacks	ft.	50 ft.

Nearest Known Source of Contamination
55 feet North Direction Sewer Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 01/03/2018
Manufacturer's name
Model Number HP 0.5 Volt 220
Length of drop pipe 42 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor
Bohn Well Drilling Co., Inc. 1445 WECKMAN, L.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Well Index Report | **830039** | Printed on 08/07/2020
HE-01205-15

Minnesota Unique Well Number

836418

County Scott
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 03/10/2020
Update Date 03/10/2020
Received Date 06/27/2019

Well Name	Township	Range	Dir	Section	Subsection
MCCARTNEY,	115	22	W	12	DAD

Elevation **Elev. Method**

Address

C/W 9095 13TH AV SE SAVAGE MN 55378

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND GRAVEL	0	77	BROWN	

Remarks

DRILLERS: WECKMAN, L. & RADEMACHER, M.

Well Depth 77 ft. **Depth Completed** 77 ft. **Date Well Completed** 05/03/2019

Drill Method Non-specified Rotary **Drill Fluid** Additive (+ Bentonite)

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 72 ft.	lbs./ft.	6.7 in. To 20 ft.
		6.2 in. To 77 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
3 in.	12	6 ft.	72 ft.	77 ft.

Static Water Level

Pumping Level (below land surface)

ft. hrs. Pumping at g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
cuttings		50 ft.	72 ft.
bentonite	2 Sacks	ft.	50 ft.

Nearest Known Source of Contamination

51 feet North Direction Sewer Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 05/31/2019

Manufacturer's name GOULDS
Model Number HP 0.5 Volt 220
Length of drop pipe 42 ft Capacity 10 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Bohn Well Drilling Co., Inc.	1445	SEE REMARKS

Minnesota Well Index Report | **836418** | Printed on 08/07/2020

HE-01205-15

APPENDIX G

Boiling Springs Sanitary Sewer Extension Memorandum

Memorandum

To: Darin Manning
Project Coordinator
City of Shakopee

From: Alyson Fauske, PE - Senior Project Manager

Date: September 17, 2020 – REVISED December 18, 2020

Re: City of Shakopee – Boiling Springs Future Trunk Sanitary Sewer Extension
WSB Project No. R-016155-000

Project Scope & Background

This memorandum investigates the feasibility of a trunk sanitary sewer extension to serve the Boiling Springs area south of the proposed 2021 Utility Extension Project.

Information and materials used in the preparation of this report include the following:

- City of Shakopee 2040 Comprehensive Plan [January 2019]
- City of Shakopee Record Plans
- City of Shakopee Topography Maps
- Field Observations of the Area and Topographic Survey

Existing Conditions

Sanitary sewer is not present within the Boiling Springs area, instead the adjacent properties are connected to private septic systems. There is a proposed 12-inch PVC sanitary sewer on Hansen Avenue, and a proposed lift station at the intersection of Hansen Avenue and Maras Street, which would serve as connection points for the proposed sanitary sewer. The area is a mix of both suburban residential and suburban edge residential properties.

Proposed Trunk Sanitary Sewer Extension

The proposed extension of sanitary sewer within the Boiling Springs area would include 12-inch PVC pipe for the trunk sanitary sewer, and 8-inch PVC pipe for the sanitary sewer branches. Based on existing LIDAR topography maps, the Boiling Springs area can be fed by gravity sewer and reach the intersection of Maras Street and Hansen Avenue without the use of additional lift stations or forcemain. The connection stub at Maras Street and Hansen Avenue is included with the proposed 2021 Utility Extension Project on those roadways. The gravity sewer, as shown in **Figure 1**, would be included on the following roadways:

- Boiling Springs Lane
- Preserve Trail
- Boiling Springs Circle
- Preserve Court
- Creek Ridge Court
- Kelly Circle

701 XENIA AVENUE S | SUITE 300 | MINNEAPOLIS, MN | 55416 | 763.541.4800 | WSBENG.COM

The sanitary sewer is proposed to be installed within existing roadways, or existing Drainage and Utility Easements. No additional right of way needs are anticipated as part of this project.
The proposed sanitary sewer extension will connect to the lift station at the intersection of Hansen Avenue and Maras Street, which is proposed to be installed as part of the 2021 Utility Extension Project. Flow from the proposed lift station will connect to the existing sanitary sewer main that extends west from Stagecoach Road and Hansen Avenue. The existing sanitary sewer was reviewed with the Shakopee Utility Extension Feasibility Report and has adequate capacity for the proposed lift station flow. Some segments of the existing system are projected to approach ninety-five percent (95%) of their capacity during worst-case ultimate peak hourly flow therefore it is recommended that the lift station design include variable frequency drives (VFDs) and additional storage volume to reduce the peak hourly flow. The majority of the flow to the lift station will be from the Mixed Employment Center area within the 2021 Utility Extension Project which is expected to connect shortly after the utilities are installed therefore, no phasing of the lift station structures, pumps, or forcemain is anticipated to be necessary.

Cost Estimation

The high-level cost estimate for the future extension is **$5,193,000.** This includes the open-cut installation of sanitary sewer, the reconstruction of affected roadways, as well as a 15% contingency factor. Indirect costs are projected at 20% of the estimated construction cost and include legal, engineering, administrative, and financing. A breakdown of the costs for the future improvements is shown below.

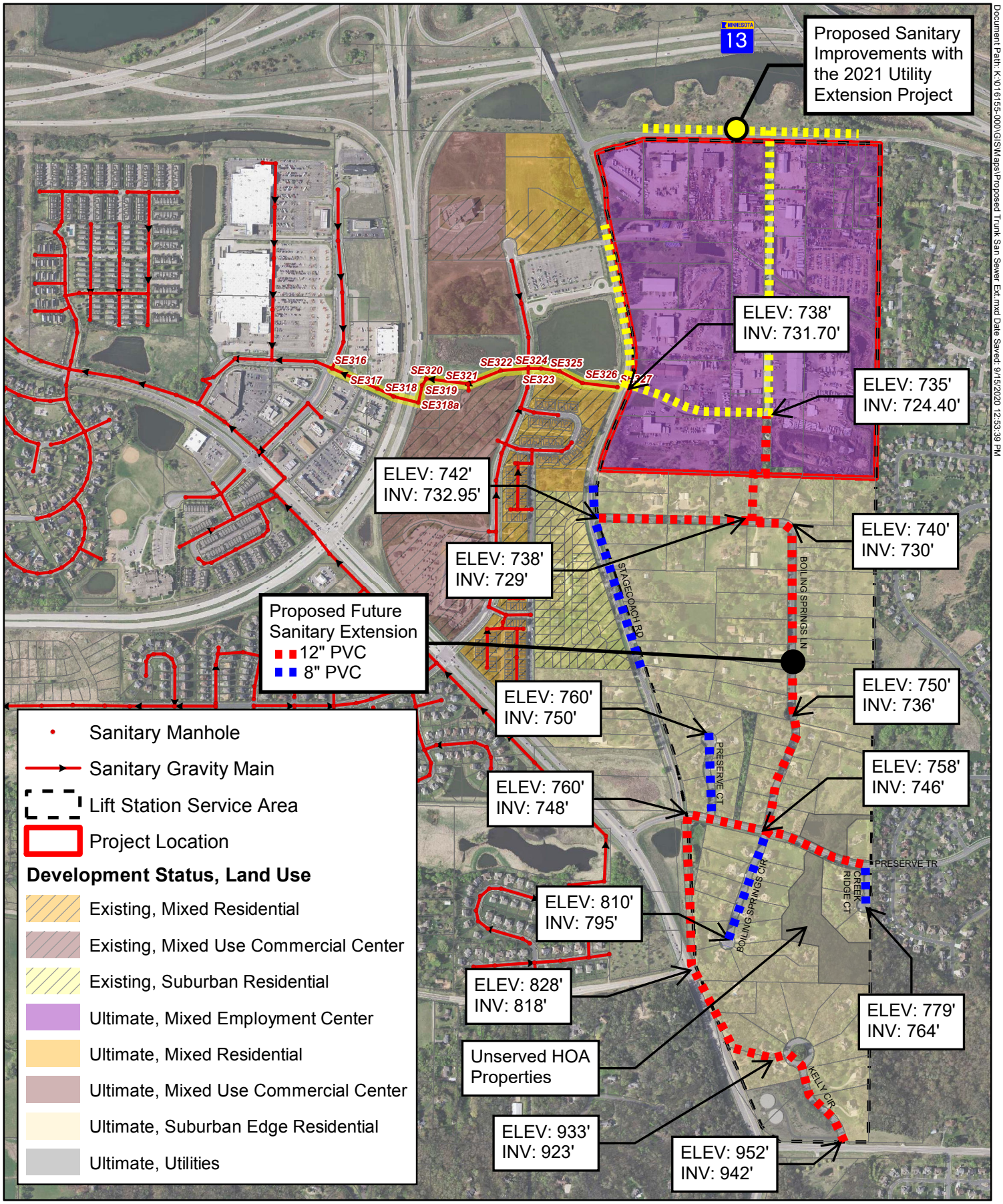
Estimated Project Costs			
Improvement	**Quantity**	**Cost/LF**	**Est. Total**
Roadway Impr (Rural Section Reconstruction)	2,990	$230	$949,000
Roadway Impr (Urban Section Reconstruction)	5,290	$250	$1,825,000
Sanitary Sewer Extension	12,940	$130	$2,321,000
Storm Sewer	886	$80	$98,000
Total (Includes 15% Cont., 20% Ind.)			**$5,193,000**

Conclusions and Recommendations

The existing sanitary sewer has both sufficient depth and capacity to accommodate the Boiling Springs sanitary sewer extension, and the proposed extension conforms with the City of Shakopee Capital Improvement Plan.

List of Figures and Appendices

Figure 1 – Proposed Sanitary Sewer Extensions



Proposed Trunk Sanitary Sewer Extension

City Project-21-001
Shakopee, MN

N

0 1,000 Feet
1 inch = 1,000 feet

SHAKOPEE

wsb

Document Path: K:\016165-000\GIS\Maps\Proposed Trunk San Sewer Ext.mxd Date Saved: 9/15/2020 12:53:39 PM