Council Work Session - 6:30 p.m.

CITY COUNCIL AGENDA

Tuesday, May 3, 2016
7:00 p.m.
Coon Rapids City Center
Council Chambers

Call to Order

Pledge of Allegiance

Roll Call

Adopt Agenda

Proclamations/Presentations

1. National Public Works Week Proclamation

Approval of Minutes of Previous Meeting

2. Approve April 19, 2016 Minutes

Consent Agenda

3. Adopt Resolution 16-53, Appointing Ellen Feuling to the Arts Commission

4. Approve Therapeutic Massage Enterprise License for Bluesky Spa LLC, 2393 Coon Rapids Blvd

5. Adopt Resolution 16-59 Continuation of CDBG Joint Cooperation Agreement and HOME Joint Powers Consortium Agreement for Program Years 2017 through 2019

6. Adopt Resolution 16-56 Accepting Donation for Movies in the Park

7. Adopt Resolution 16-57, Accepting Coon Rapids Lions Club Donation

8. Accept Petition for the Establishment of Creek Meadows II Owners Association

9. Approve Master Consulting Agreement with BARR Engnineering

Public Hearing

10. Public Hearing on Wellhead Protection Plan Amendment, Part I, for the City of Coon Rapids System

Bid Openings and Contract Awards

11. Consider Resolution No. 16-1(9) Awarding Contract for MSA Street Reconstruction

12. Consider Resolution No. 16-2(9) Awarding Contract for MSA Street Reconstruction

13. Consider Resolution No. 16-4(9) Awarding Contract for MSA Street Reconstruction

Old Business

14. Consider Adoption of Ordinance 2162 and 2163 to Allow Chickens

15. Consider Adoption of Ordinance 2164, Native Plantings and Landscapes

16. Consider Adoption of Ordinance 2165 Establishing New Liquor License Fees for Microdistilleries, Cocktail Rooms, Brew Pubs, and Brewer Taprooms

New Business

17. Hope 4 Youth Request for Waiver of Fees

18. PC 16-9, Approval of Amendment to Gateway Commerce Center Planned Unit Development, H & W, LLC

19. PC 16-10: Consider Resolution 16-54 Granting Final Plat Approval Gateway Commerce Center 4th Add., Highway 10 and Hanson Blvd., H&W Family LLLP

20. PC 16-12: Consider Resolution 16-55 Granting Final Plat Approval for Gateway Commerce Center 5th Add., Highway 10 and Hanson Blvd., H&W Family, LLLP

21. PC 16-2, Preliminary Plat Vision 15, 12 Lot Townhouse Development, 1005 Coon Rapids Blvd. Extension, Vision Bank

22. Consider Introduction of Ordinance Amending the Minimum Seating Capacity for Taprooms and Cocktail Rooms and the Hours for 3.2 Malt Liquor on Sundays

23. Metropolitan Council Governance Reform

Open Mic/Public Comment

Reports on Previous Open Mic

24. Open Mic Report - Ms. Jennifer Koch, 2020 127th Avenue and Mr. Jerry Pierce, 12236 Partridge Street

Other Business

Adjourn

City Council Regular **1.**

Meeting Date: 05/03/2016

Subject: National Public Works Week Proclamation

Submitted For: Tim Himmer, Public Works Director

From: Sarah Greene, Administrative Assistant II

INTRODUCTION

Council is asked to recognize our outstanding Public Works staff during National Public Works Week.

DISCUSSION

Since 1960, the American Public Works Association (APWA) has sponsored National Public Works Week. Across North America, more than 29,000 members in the US and Canada use this week to energize and educate the public on the importance of the contribution of public works to their daily lives: planning, building, managing and operating the heart of our local communities and building the quality of life.
This year's theme, "Public Works - Always There," showcases the pervasiveness of public works. Communities depend on public works, and the men and women of the profession are always there and always ready. Diverse in function, creation and use, public works is truly where community begins.

Council and staff are asked to recognize our Public Works staff for their hard work and contributions to the City of Coon Rapids. Staff would also like to invite the public to an open house to be held on Saturday, May 14th. The event will occur at the Public Works Facility located at 1831 111th Avenue NW from 10 a.m. to 12 p.m.

RECOMMENDATION

Staff requests the Mayor read the Proclamation into the record, and invite the public to the May 14th open house event.

Attachments

Proclamation

PROCLAMATION

PUBLIC WORKS WEEK

Whereas, public works services provided in our community are an integral part of our citizens' everyday lives; and

Whereas, the support of an understanding and informed citizenry is vital to the efficient operation of public works systems and programs such as water, sewers, streets and highways, public buildings, and solid waste collection; and

Whereas, the health, safety and comfort of this community greatly depends on these facilities and services; and

Whereas, the quality and effectiveness of these facilities, as well as their planning, design, and construction, are vitally dependent upon the efforts and skill of public works officials; and

Whereas, the efficiency of the qualified and dedicated personnel who staff public works departments is materially influenced by the people's attitude and understanding of the importance of the work they perform,

Now, therefore, I, Jerry Koch, Mayor of the City of Coon Rapids, on behalf of City Council, hereby proclaim the third full week of May as **"NATIONAL PUBLIC WORKS WEEK"** in The City of Coon Rapids and call upon all citizens and civic organizations to acquaint themselves with the issues involved in providing our public works and to recognize the contributions which public works officials make every day to our health, safety, comfort, and quality of life.

Proclaimed this 3rd day of May, 2016.

_____

Jerry Koch, Mayor

_____

Matt Stemwedel, City Manager

City Council Regular **2.**

Meeting Date: 05/03/2016

SUBJECT: Approve April 19, 2016 Minutes

Attachments

April 19, 2016 Minutes

UNAPPROVED

COON RAPIDS CITY COUNCIL MEETING MINUTES OF APRIL 19, 2016

CALL TO ORDER

The second regular meeting of the Coon Rapids City Council for the month of April was called to order by Mayor Jerry Koch at 7:00 p.m. on Tuesday, April 19, 2016, in the Council Chambers.

PLEDGE OF ALLEGIANCE TO THE FLAG

Mayor Koch led the Council in the Pledge of Allegiance.

ROLL CALL

Members Present: Mayor Jerry Koch, Councilmembers Denise Klint, Ron Manning, Wade Demmer, Jennifer Geisler, Brad Johnson and Steve Wells

Members Absent: None

ADOPT AGENDA

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER JOHNSON, TO ADOPT THE AGENDA AS PRESENTED. THE MOTION PASSED UNANIMOUSLY.

PROCLAMATIONS/PRESENTATIONS

1. COMMISSIONER SCOTT SCHULTE

Anoka County Commissioner Scott Schulte thanked the Council for their time. He discussed a Met Council reform proclamation with the Council and requested their support. A statement of belief was read in full for the record, along with six guiding principles. He believed the members of the Met Council should be appointed by metropolitan counties and not the governor. He explained the Met Council was the only MPO in the nation that had its members appointed by the governor. He reported four counties have already supported this proclamation unanimously and listed the number of cities that have also offered their support. He requested the Council offer their support to Met Council reform.

Mayor Koch questioned if any action would be taking place this year regarding Met Council

reform. Anoka County Commission Schulte discussed a bill that was being worked on and reflects four of the six principles. It was his hope that a unified metro area would support this proclamation in order to assist in making the necessary legislative changes in order to bring about better regional governance.

Mayor Koch asked if the governor supported the proposed changes. Anoka County Commission Schulte reported the governor was in agreement the Met Council lacked credibility at this time and he wants to fix that. Anoka County Commission Schulte stated he believed in the Met Council and its regional governance, he did not believe the members of the body should be appointed.

Councilmember Johnson thanked Anoka County Commission Schulte for the information and commented he generally supported the proclamation. He asked what counties were being referred to within the six principles. Anoka County Commission Schulte reported this included all seven counties that were governed by the Met Council.

Anoka County Commission Schulte thanked the Council for considering the proclamation he presented regarding the Met Council.

2. CROOKED LAKE AREA ASSOCIATION

Steve Sivinski, Crooked Lake Area Association member, thanked the Council for their time. He described how the Crooked Lake Area Association functioned to raise money and manage the water quality of lake. He explained the weed problem has risen to a new level and he anticipated that the lake association would not have enough funding in 2016 to cover the DNR-required water treatment. He thanked the City for their continued financial assistance and for establishing an ordinance regarding a no wake zone. He requested the Council consider providing further assistance to the lake association to cover the expense of the DNR-required treatment.

APPROVAL OF MINUTES OF PREVIOUS MEETINGS

3. APRIL 5, 2016, COUNCIL MEETING

MOTION BY COUNCILMEMBER WELLS, SECONDED BY COUNCILMEMBER DEMMER, FOR APPROVAL OF THE MINUTES OF THE APRIL 5, 2016, COUNCIL MEETING. THE MOTION PASSED UNANIMOUSLY.

CONSENT AGENDA/INFORMATIONAL BUSINESS

4. ACCEPT THE 2015 COMMUNITY DEVELOPMENT ANNUAL REPORT
5. APPROVE FINAL PAYMENT FOR PROJECT 15-6, SANITARY SEWER LINING

6. APPROVE AGREEMENT BETWEEN THE CITY OF COON RAPIDS NORTH STAR LIONS CLUB TO PROVIDE CONCESSION SERVICES
7. ADOPT RESOLUTION 16-50 ACCEPTING FIRE DEPARTMENT GRANT

MOTION BY COUNCILMEMBER JOHNSON, SECONDED BY COUNCILMEMBER GEISLER, FOR APPROVAL OF THE CONSENT AGENDA AS PRESENTED. THE MOTION PASSED UNANIMOUSLY.

PUBLIC HEARING

8. ANNUAL PUBLIC HEARING ON CITY'S STORM WATER POLLUTION PREVENTION PROGRAM (SWPPP)

The Staff report was shared with Council.

Councilmember Klint asked what residents could do if they see their neighbors pushing leaves or grass clippings into the street. Public Works Director Himmer encouraged residents to contact City Hall.

Mayor Koch opened and closed the public hearing at 7:31 p.m. since no one appeared to address the Council.

9. VACATION OF DRAINAGE AND UTILITY EASEMENTS – 3338 AND 3352 116TH AVENUE

The Staff report was shared with Council.

Mayor Koch opened the public hearing at 7:32 p.m.

Mary Kaiser, 3338 116th Avenue NW, thanked the Council for their consideration and encouraged the Council to support the vacation of the easement.

Mayor Koch closed the public hearing at 7:33 p.m.

MOTION BY COUNCILMEMBER GEISLER, SECONDED BY COUNCILMEMBER JOHNSON, TO ADOPT RESOLUTION NO. 16-46 VACATING THE UTILITY AND DRAINAGE EASEMENTS OVER PORTIONS OF PROPERTY LOCATED BETWEEN 3338 AND 3352 116TH AVENUE, COON RAPIDS, MINNESOTA. THE MOTION PASSED UNANIMOUSLY.

BID OPENINGS AND CONTRACT AWARDS

10. CONSIDER RESOLUTION NO. 16-52 AWARDING ADDITIONAL CONTRACTS FOR SAND CREEK BUILDING IMPROVEMENTS – PROJECT 15-16

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER WELLS, TO ADOPT RESOLUTION NO. 16-52 AWARDING THE SAND CREEK PARK BUILDING IMPROVEMENTS FIRE PROTECTION CONTRACT C-22 TO VIKING AUTOMATIC SPRINKLER COMPANY AND REVISING THE CONTRACT AWARD FOR HOLLOW METAL DOORS & FRAMES CONTRACT C-11 TO STRAUGHAN HARDWARE, INC. AS RECOMMENDED BY THE CONSTRUCTION MANAGER AND DETAILED HEREIN. THE MOTION PASSED UNANIMOUSLY.

OLD BUSINESS

11. PC 16-3: CONSIDER ADOPTION OF ORDINANCE 2161 REVISING THE ALLOWED EXTERIOR BUILDING MATERIALS

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER DEMMER, SECONDED BY COUNCILMEMBER GEISLER, TO ADOPT ORDINANCE 2161 REVISING THE ACCEPTABLE MATERIALS FOR MULTI-FAMILY, INSTITUTIONAL, COMMERCIAL AND INDUSTRIAL BUILDINGS.

Councilmember Demmer supported the proposed language changes within the Ordinance.

THE MOTION PASSED UNANIMOUSLY.

NEW BUSINESS

12. CONSIDER INTRODUCTION OF PROPOSED ORDINANCES TO ALLOW CHICKENS

The Staff report was shared with Council.

Mayor Koch considered the Ordinance regarding chickens to be introduced.

13. CONSIDER INTRODUCTION OF ORDINANCE FOR NATIVE PLANTINGS AND LANDSCAPE

The Staff report was shared with Council.

Mayor Koch considered the Ordinance regarding native plantings and landscape to be introduced.

14. CONSIDER ADOPTING ASSESSMENTS FOR PROJECT 16-1, MSA STREET RECONSTRUCTION

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER KLINT, TO ADOPT RESOLUTION NO. 16-1(12) ADOPTING ASSESSMENTS FOR PROJECT 16-1. THE MOTION PASSED UNANIMOUSLY.

15. CONSIDER ADOPTING ASSESSMENTS FOR PROJECT 16-2, MSA STREET RECONSTRUCTION

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER GEISLER, SECONDED BY COUNCILMEMBER JOHNSON, TO ADOPT RESOLUTION NO. 16-2(12) ADOPTING ASSESSMENTS FOR PROJECT 16-2.

Councilmember Geisler questioned when the public would learn about the project timeline for Project 16-2. Public Works Director Himmer reported bids would be opened next Friday. After a contractor was selected, a construction timeline would be drafted for the year. This information would then be passed along to residents and would be made available on the City's website. Residents were invited to contact the City's Engineer Department with any additional questions.

THE MOTION PASSED UNANIMOUSLY.

16. ADOPT ASSESSMENTS FOR PROJECT 16-3, MSA STREET RECONSTRUCTION

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER JOHNSON, TO ADOPT RESOLUTION NO. 16-3(12) ADOPTING ASSESSMENTS FOR PROJECT 16-3. THE MOTION PASSED UNANIMOUSLY.

17. ADOPT ASSESSMENTS FOR PROJECT 16-4, MSA STREET RECONSTRUCTION

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER JOHNSON, SECONDED BY COUNCILMEMBER WELLS, TO ADOPT RESOLUTION NO. 16-4(12) ADOPTING ASSESSMENTS FOR PROJECT 16-4. THE MOTION PASSED UNANIMOUSLY.

MOTION BY COUNCILMEMBER JOHNSON, SECONDED BY COUNCILMEMBER WELLS, TO ADOPT RESOLUTION NO. 16-49. THE MOTION PASSED UNANIMOUSLY.

18. ANNOUNCE 2016 SUMMER CONCERT SCHEDULE

Mayor Koch reported the Arts Commission would like to announce their 2016 Thursday Nites LIVE! At The Dam Summer series, which will feature the following nine performers:

June 9 - T.C. Cats (Doo-Wop, Classic Rock and Roll)
June 16 - The Naked Cowboys (Southern Rock)
June 23 - Centennial Community Band (Variety)
July 7 - Holy Rocka Rollaz (Early Rock and Roll)
July 14 - Hitchville (Country)
July 21 - Sam Kuusisto (Funk, Rock and R&B)
July 28 - New Riverside Ramblers (Cajun Dance)
Aug 4 - Gravel Roads (Traditional Country)
Aug 11 - Buddy and the Boys (Buddy Holly Tribute 50's)

Mayor Koch reported all performances begin at 7:00 p.m. at the Performance Pavilion at the Coon Rapids Dam Regional Park. The concerts are offered at no charge to the community, and Anoka County has once again agreed to waive the parking fee during these evenings. The Arts Commission would like to recognize the assistance of the Anoka County Parks and Recreation Department Rangers and other staff in presenting this series. It was noted a local Boy Scout troop will sell popcorn, candy, soda, and water during the concerts. The Northstar Lions Club will be selling food items such as hamburgers, hot dogs, and brats. The Arts Commission appreciates the opportunity to continue presenting this series to the community.

19. CONSIDER ADOPTION OF RESOLUTION 16-51 AUTHORIZING TRANSFER OF FUNDS

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER DEMMER, TO ADOPT RESOLUTION NO. 16-51 AUTHORIZING THE TRANSFER OF FUNDS. THE MOTION PASSED UNANIMOUSLY.

20. CONSIDER MEMORANDUM OF UNDERSTANDING AND TERM SHEET, RIVERDALE STATION DEVELOPMENT

The Staff report was shared with Council.

Councilmember Manning expressed concern with the fact that the City was being forced to purchase a piece of property that may not develop. He discussed the TIF that would be used for this development. After much consideration, he believed the development would be a plus for the City and he would be offering his support.

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER GEISLER, TO APPROVE THE MEMORANDUM OF UNDERSTANDING WITH THE ANOKA COUNTY REGIONAL RAIL AUTHORITY AND TERM SHEET WITH SHERMAN ASSOCIATES FOR A DEVELOPMENT PROJECT AT RIVERDALE STATION.

Councilmember Klint stated she had been wavering on this issue as well. However, after reading a recent newspaper article on Sherman she believed that the new apartments would be a positive development for Coon Rapids.

Councilmember Geisler was impressed by the buildings constructed by Sherman and was eager to see them complete a project in the City. She stated she was able to look past the frustrations with the County in order to have a great development it the City.

Councilmember Wells explained he too struggled with this development originally. In the end, he believed the quality of the project would benefit Coon Rapids.

Councilmember Johnson had some reservations regarding the project. He understood Phase I would be good for the City but Phase II was somewhat of a question mark. He expressed concern with the fact that the City would have to pay an additional $800,000 for the additional parcel. He discussed the previous conversations held by the Council and wished that the rail authority could be removed from this endeavor. Even with that being said, he commented he would fully support the development with Sherman.

Councilmember Demmer discussed the affordable housing element of the project. He explained only 20% of the units would be considered “affordable”. In order to qualify for the affordable housing, an individual would have to make 50% of the American median income, which meant these individuals would have to make $30,000 per year. He reported this income level reflected

one-fourth of Coon Rapids residents. He looked forward to having the new Sherman apartments in the City.

Councilmember Johnson thanked staff and Sherman for all of their hard work on this project.

Councilmember Manning was pleased that Phase II would include senior housing.

Mayor Koch understood this was a difficult decision for the Council and believed the new building would be unlike any other in the City. He stated he would be supporting the project and thanked Sherman for bringing forward a high quality project.

THE MOTION PASSED UNANIMOUSLY.

OPEN MIC/PUBLIC COMMENT

Mayor Koch reviewed the rules of order for the Open Mic/Public Comment portion of the meeting.

Jennifer Koch, 2020 127th Avenue NW, stated as she was reviewing her emails last week she came across an email from Mayor Koch regarding the potential of holding a flea market on the open land across from the old City Hall property. The email led her to believe the City of Coon Rapids was not interested hosting in the flea market, but was looking for an individual to host the event. She indicated she would be happy to run the flea market. She suggested the farmer's market be added into this event. She believed this location would attract a great deal of traffic. She commented on why the flea market would be beneficial to the community.

Jerry Pierce, 12236 Partridge Street, expressed concern with the $60 million development that was approved under the leadership of Mayor Tim Howe. He requested the City Clerk review the minutes and provide those at a future meeting. He believed there were a lot of people in Coon Rapids that wanted a flea market. He encouraged the Council to consider this in order to meet the needs of the people.

Jill Bjorn, 2919 115th Lane, expressed disappointment with the actions of the Mayor and some Councilmembers. She reported most of the Councilmembers were elected to their position to represent the residents of Coon Rapids and not a select few. She discussed her findings on a social media site stating her opinion counts just as much as anyone else's. She encouraged the Council to work together to make an amazing City. She believed there were several areas of the City that needed additional work, such as Coon Rapids Boulevard. She did not believe the Council should be focusing on one non-issue was the right way direction for the City. She indicated she would be speaking out against this issue again at the Council's May 3rd meeting. She reminded the Council they were the voice of all of the people and encouraged the Councilmembers to act in a dignified and respectful manner. She provided the Council with a handout on her social media findings.

REPORTS ON PREVIOUS OPEN MIC

None.

OTHER BUSINESS

Councilmember Manning explained the *Star & Tribune* has been dropping off additional publications on Sunday mornings in the street gutters. He questioned if this was occurring in all neighborhoods of the City. City Manager Stemwedel reported this has been brought up by several Councilmembers. City Attorney Brodie indicated this has become an issue on the weekends and staff was drafting a response. He noted the City of Spring Lake Park drafted an Ordinance to address this concern and he would be in contact with Spring Lake Park staff regarding this matter. Another option would be for residents to opt out of these additional publications.

Councilmember Johnson believed the problem was much more acute in the spring given the fact snow was melting and water was running in the gutters much of the time. He encouraged staff to continue to work on this issue. He stated he would support an Ordinance or other regulation to address this issue.

Councilmember Klint thanked the Parks Department for sending out the recent Parks Brochure. She indicated she has received a number of positive comments regarding this publication.

Councilmember Klint asked for an update on the golf course. Bunker Hills Golf Director Anderson reported this has been a great spring. He noted all four high school teams were practicing and playing on the course. He indicated the patios were open, along with the new outdoor eatery.

Councilmember Demmer recognized Rochelle Paulson or Liza Jenkins for completing the Boston Marathon in less than four hours on Monday, April 18th.

Councilmember Demmer explained in 2015 the residents of Coon Rapids contributed 100 patents to the United States Patent Office. He reviewed three of the bio-medical advancements that were made in the previous year.

Councilmember Johnson commented the DNR was seeking comments from those that live or own property along the Mississippi River on proposed rules for the Mississippi River Corridor Critical Area. He noted these rules would apply to all properties along Mississippi River from Anoka to Hastings. Comments would be taken from residents on Wednesday, June 15th at 4:30

p.m. at the Greenhaven Golf Course in Anoka. Comments could also be sent via the web through the DNR website.

Mayor Koch stated the Green Expo would be held on Saturday, April 23rd from 9:00 a.m. to 2:00 p.m. at the Blaine National Sports Center.

Mayor Koch commented the Coon Rapids High School would be putting on Cinderella this weekend and Anoka Ramsey Community College would be putting on Foreigner.

Mayor Koch reported the 27th Annual Ice Show would take place Thursday, April 21st through Sunday, April 24th. He noted the event was called Skating through Candyland.

City Manager Stemwedel mentioned the Assessment Department would be holding a meeting to discuss property values on Wednesday, April 20th at 7:00 p.m. in the Council Chambers.

Public Works Director Himmer invited the Council to attend a tour of the parks on Monday, May 9th with the Park and Recreation Commission.

Public Works Director Himmer noted there would be a second informational meeting regarding the Hanson overpass on Wednesday, June 8th at Epiphany Church. Fire Chief Piper indicated staff would know more about the bonding in the near future.

City Clerk Lenzmeier was seeking election judges for the upcoming primary and election. Those interested were encouraged to contact City Hall for further information.

ADJOURN

MOTION BY COUNCILMEMBER DEMMER, SECONDED BY COUNCILMEMBER GEISLER, TO ADJOURN THE MEETING AT 8:39 P.M. THE MOTION PASSED UNANIMOUSLY.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **3.**

Meeting Date: 05/03/2016

Subject: Adopt Resolution 16-53, Appointing Ellen Feuling to the Arts Commission

From: Stephanie Lincoln, Deputy City Clerk

INTRODUCTION

The Arts Commission recommends the appointment of one new member to the Commission.

DISCUSSION

Ellen Feuling submitted an application for the Arts Commission and attended the February 16, 2016 and the March 15, 2016 Arts Commission meetings. After discussion with the applicant, the Arts Commission recommended Ms. Feuling appointment to the Arts Commission with a term expiring December 31, 2018.

RECOMMENDATION

Staff recommends Council adopt Resolution 16-53 appointing Ellen Feuling to the Arts Commission with a term expiring December 31, 2018.

Attachments

App Feuling

Res 16-53

COON RAPIDS
Minnesota

CITY OF COON RAPIDS

ADVISORY COMMISSION APPLICATION FORM

(Please type or use black ink)

DATE: 2-1-2016

NAME: Ellen Feuling

ADDRESS: _____ _____ ZIP: _____

TELEPHONE: Home: _____ Work: _____ Cell: _____

EMAIL ADDRESS: _____ _____ _____

PLEASE RANK IN ORDER THE COMMISSIONS ON WHICH YOU WISH TO SERVE ***(leave blank any Commissions on which you do not wish to serve):***

1 Arts	____ Housing/Community Development
____ Board of Adjustment and Appeals	____ Mortgage Assistance Foundation
____ Capital Improvement	2 Parks and Recreation
____ Charter	____ Planning
____ Civil Service (Police & Fire)	____ Safety
____ Historical	3 Sustainable Community (Green)

A) WORK EXPERIENCE: Elementary School Principal - 23 years. Junior High Language Arts teacher - 7 years. High School Dean of Students - 3 years.

B) CIVIC, PROFESSIONAL AND COMMUNITY ACTIVITIES: Board of Director for NW Suburban Chamber of Commerce. Board Member for Educational Non-Profit Organization.

C) WHY DO YOU WANT TO BE ON AN ADVISORY COMMISSION: I have always tried to support and contribute to my community. I recently moved to Coon Rapids and would like to become an involved community member.

D) WHAT SKILLS, STRENGTHS OR ABILITIES DO YOU BELIEVE YOU WILL ADD TO THE COMMISSION?

- creative ideas
- "can do" attitude
- organizational skills
- enthusiasm

E) ADDITIONAL COMMENTS:

I am looking forward to meeting people and working toward a shared vision.

REFERENCES (Optional)

Name	Address	Phone

Signature

2-3-16
Date

Please return to:

City Manager's Office
City of Coon Rapids
11155 Robinson Drive
Coon Rapids MN 55433-3761
Telephone: 763-767-6493

The information provided by you on this application will be used to determine your suitability for appointment to an advisory commission. Participation as an advisory commission member is strictly voluntary and you are not required by law to provide this information, however, should you not furnish this information the City may have difficulty determining your suitability for appointment, contacting you regarding your information, and if selected, with your duties on the advisory commission. Under Minnesota State statutes, only your name is considered public information upon appointment. Any other information on this application is private data and will be accessible only to you, City staff, or as provided for by Minnesota statutes.

RESOLUTION NO. 16-53

APPROVING APPOINTMENT TO THE ARTS COMMISSION

WHEREAS, five (5) vacancies currently exist on the Arts Commission; and

WHEREAS, one individual has expressed an interest in the Arts Commission; and

WHEREAS, the Commission recommends appointing Ellen Feuling to the Arts Commission;

NOW, THEREFORE, BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that Ellen Feuling be appointed to the Arts Commission for a current three-year term to expire on December 31, 2018.

Adopted this 3rd day of May, 2016, by the Coon Rapids City Council.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **4.**

Meeting Date: 05/03/2016

Subject: Approve Therapeutic Massage Enterprise License for Bluesky Spa LLC, 2393 Coon Rapids Blvd

From: Stephanie Lincoln, Deputy City Clerk

INTRODUCTION

Xin Hang Zhang of Bluesky Spa LLC has submitted an application for a Therapeutic Massage Enterprise license for use at 2393 Coon Rapids Blvd NW.

DISCUSSION

Mr. Zhang has leased space in the building of 2393 Coon Rapids Blvd and paid the background investigation and license fee for a Therapeutic Massage Enterprise License. The Police Department is currently conducting a background investigation.

RECOMMENDATION

Council is requested to approve the issuance of a Therapeutic Massage Enterprise license to Mr. Zhang for Bluesky Spa LLC located at 2393 Coon Rapids Blvd, pending a successful background investigation.

City Council Regular **5.**

Meeting Date: 05/03/2016

Subject: Adopt Resolution 16-59 Continuation of CDBG Joint Cooperation Agreement and HOME Joint Powers Consortium Agreement for Program Years 2017 through 2019

From: Cheryl Bennett, Housing and Zoning Coordinator

INTRODUCTION

Entitlement jurisdictions of both the federal Community Development Block Grant Program (CDBG) and the HOME Investment Partnerships Program (HOME) must go through a requalification process with the U.S. Department of Housing and Urban Development (HUD) every three years to continue receiving and administering program funds. Council is requested to approve the City's continued participation in the CDBG program through a Joint Cooperation Agreement with Anoka County for program years 2017 through 2019. Council is also requested to approve the City's continued participation in the HOME program through a Joint Powers Consortium Agreement with Anoka, Dakota, Ramsey and Washington counties and the city of Woodbury.

DISCUSSION

Community Development Block Grant Program

The Community Development Block Grant Program is authorized under Title I of the Housing and Community Development Act of 1974, as amended. The primary objective of Title I is the development of viable urban communities by "providing decent housing, suitable living environments and expanded economic opportunities" largely for low- and moderate-income persons. Activities funded through this program must meet at least one of three national objectives of the program – benefit low- and moderate-income persons, aid in the prevention or elimination of slum or blight or meet a need having a particular urgency – and be an eligible activity as defined by the program. Eligible activities are wide ranging and include, among other activities, residential rehabilitation; home purchase activities such as counseling and down payment assistance; acquisition and disposition of real property, including blighted properties and commercial and industrial properties; acquisition, construction, or rehabilitation of commercial properties, senior centers, and homeless facilities; infrastructure development in low-income and commercial areas; financial assistance to businesses; and public services activities.

Entitlement eligibility in the CDBG program is based on factors including a community's population, extent of poverty and overcrowding, and the age of its housing stock. The City first reached HUD's threshold for a CDBG Metropolitan City entitlement jurisdiction in 1992. At that time, Anoka County, an CDBG Urban County entitlement jurisdiction, distributed its CDBG

funding to communities within the county on a pro rata basis similar to that used by HUD to allocate program funding to entitlement jurisdictions. This arrangement continued until 2001 when Anoka County, under a directive from HUD to spend down funds in a timelier manner by funding fewer and larger projects, adopted a competitive funding process for the county's program. In 2002, during the first three-year requalification opportunity following the county's adoption of this competitive process, the City elected to accept its Metropolitan City entitlement jurisdiction status but rather than going on its own or remaining in the competitive county process, the City instead entered into the Joint Cooperation Agreement with the county that continues today.

Under this agreement, Coon Rapids receives a pass-through allocation established by the HUD funding formula and contributes fifteen percent of its allocation to Anoka County for administrative and planning purposes (the federal program limit for both administration and planning activities is twenty percent of the allocation) and fifteen percent is directed to public services activities (the federal program limit). Anoka County is responsible for the program's administrative and reporting functions to HUD, including submission of all plans, statements, and program documents such as the five year Consolidated Plan, the annual Action Plan, and the Consolidated Plan Annual Performance and Evaluation Report. Anoka County assures program compliance in the CDBG and HOME programs by performing risk analyses and monitoring projects. The City would be required to prepare and perform each of these administrative program requirements as an independent program.

The remaining seventy percent of the City's allocation is reserved for project funds as determined by the City of Coon Rapids in compliance with the federal program requirements. For several years, the City has dedicated its projects funds for a housing rehabilitation loan program for low- and moderate-income residents. In January, the City Council approved the City's 2016 CDBG program funds for this rehabilitation use. Anoka County performs many of the administrative and reporting requirements associated with our project activity, including document filings, determining Section 106 compliance with the National Historic Preservation Act for individual project sites, and filing disbursement requests through HUD. These responsibilities are due, in part, to the County's direct relationship with HUD and access to its Integrated Disbursement and Information System, an electronic information management system.

Funding for the City's 2016 CDBG program year has been established at $270,616. Of this amount, $40,592 (fifteen percent) will be retained by the county for administrative and planning activities associated with the CDBG program. (Funds have not yet been released by HUD.) Another fifteen percent will be dedicated to public services activities. The county also reserves fifteen percent of its Urban County allocation to public services and, together, a total of $210,617 is anticipated to fund such activities county-wide in program year 2016. CDBG public services activities in 2016 will include a wide range of program services made available to persons of low- and moderate-incomes including assistance with home maintenance and repair, car repair services, senior transportation services, advocate position for domestic abuse sheltering and programming, food shelf assistance, and meal services programs. Public services dollars now available to Coon Rapids residents would be noticeably reduced if we terminated the Joint Cooperation Agreement as the county would no longer use its public services allocation in a separate entitlement jurisdiction program area, i.e., the City of Coon Rapids.

The City is a recipient of CDBG funds through a Joint Cooperation Agreement with Anoka County. Every three years, during the county's Urban County Qualification Notice period directed by HUD, the City has the opportunity to opt out of the agreement with the county and participate in the CDBG program as its own entitlement jurisdiction. Staff has considered this alternative, as we have done during each of the previous requalification processes, and continues to believe that there are several benefits to remaining in the Joint Cooperation Agreement with Anoka County. In making this recommendation to approve the City's continued participation in the CDBG program through the Joint Cooperation Agreement with Anoka County for program years 2017 through 2019, staff has considered current staffing levels, CDBG program administration and reporting requirements, program planning and implementation requirements, and eligibility for participation in the HOME program.

HOME Investment Partnerships Program

The HOME Investment Partnerships Program established by the Cranston-Gonzalez National Affordable Act of 1990 is a federal block grant program that provides funding to local jurisdictions to create affordable housing opportunities for low-income households. Program activities include constructing, buying, or rehabilitating housing units for rent or homeownership, and rental assistance.

The City participates in the federal HOME program through a Joint Powers Consortium Agreement formed in 1992 with Anoka, Dakota, Ramsey, and Washington counties and the city of Woodbury. Dakota County is the lead agency for the consortium. Prior to becoming a separate member of the consortium in 2002, the City was included in the program as a community in Anoka County. The City does not meet the federal program thresholds as a participating jurisdiction in the HOME program and the City does not receive a direct allocation of HOME funds. However, projects located within the City of Coon Rapids are eligible for funding through this agreement. Staff has participated in the Affordable Housing Coalition, Fair Housing Implementation Council, Family Homeless Prevention Assistance Program and the Continuum of Care Committee as part of these program efforts.

Automatic renewal language was added to the Joint Powers Consortium Agreement in 2004 at the suggestion of the Minneapolis HUD office. During the Consortium's most recent three-year qualification period (2013 – 2016), HUD's national Office of Community Planning and Development issued its Notice CPD-13-002 affecting the procedures for designating a consortium as a HOME participating jurisdiction. The notice requires that the local authorizing resolution for participation in a HOME consortium by way of a Joint Powers Consortium Agreement, which agreement contains an automatic renewal clause, must include the position of each designated official with the authority to sign the agreement. The City's original authorizing resolution does not recognize the automatic renewal process nor does it contain information on designated officials. Attached is Resolution No. 16-59 that contains the original authorizing resolution language from the City's Resolution No. 01-56 adding a clause recognizing the automatic renewal process and adding a second clause designating the Mayor and City Manager as having the authority to execute the Joint Powers Consortium Agreement.

The City may opt out of participation in the Joint Powers Consortium Agreement at the end of

any three-year qualification period. Once executed, the Joint Powers Consortium Agreement would not come back before the City Council unless another participating consortium member would decide to withdraw from the consortium, requiring a revision to the agreement. Staff would, however, as is the practice with the CDBG Joint Cooperation Agreement with Anoka County, bring this matter before Council with each successive three-year qualification period seeking its direction regarding continued participation.

Staff recommends the City Council adopt Resolution 16-59 authorizing the execution of the Joint Powers Consortium Agreement with language added to that of the original authorizing resolution to recognize the automatic renewal clause and the designation of the parties authorized to sign said agreement.

Further, staff recommends the City Council approve the Joint Powers Consortium Agreement with Anoka, Dakota, Ramsey, and Washington counties and the city of Woodbury, for continued participation in the HOME Investment Partnerships Program.

RECOMMENDATION

1. Staff recommends the City Council approve continued participation through program year 2019 in the Community Development Block Grant program through a Joint Cooperation Agreement with Anoka County.

2. Staff recommends the City Council adopt Resolution 16-59 Authorizing the Execution of the Joint Powers Consortium Agreement and Authorizing the Anoka County Housing and Community Development Authority to Administer the Home Investment Partnerships Program and to Represent the City of Coon Rapids on the Joint Operating Committee of the Joint Powers Consortium.

3. Staff recommends the City Council approve continued participation through program year 2019 in the HOME Investment Partnerships program through a Joint Powers Consortium Agreement with Anoka, Dakota, Ramsey, and Washington counties and the city of Woodbury.

Attachments

Resolution No. 16-59

HOME Joint Powers Consortium Agreement

RESOLUTION NO. 16-59

RESOLUTION AUTHORIZING EXECUTION OF THE JOINT POWERS CONSORTIUM AGREEMENT AND AUTHORIZING THE ANOKA COUNTY HOUSING AND REDEVELOPMENT AUTHORITY TO ADMINISTER THE HOME INVESTMENT PARTNERSHIP PROGRAM AND TO REPRESENT THE CITY OF COON RAPIDS ON THE JOINT OPERATING COMMITTEE OF THE JOINT POWERS CONSORTIUM

WHEREAS, Title I of the Cranston-Gonzalez National Affordable Housing Act of 1990 (the "Act), affirms the national goal that every American family be able to afford a decent home in a suitable environment; and

WHEREAS, the HOME Investment Partnerships Program Final Rule 24 of the Code of Federal Regulations Part 92 as amended sets forth regulations governing the applicability and use of funds under Title II of the Act; and

WHEREAS, pursuant to the Cranston-Gonzalez National Affordable Housing Act of 1990, geographically contiguous units of general local government may form consortia for the purpose of applying for and receiving funding to assist in carrying out a consolidated plan under the Act; and

WHEREAS, Minnesota Statutes Section 471.59 (the "Joint Powers Act") provides that "(t)wo or more governmental units, by agreement entered into through action of their governing bodies may jointly or cooperatively exercise any posers common to the contracting parties or any similar powers…" and the board of county commissioners of any county may by resolution enter into agreements with any other governmental unit…to perform on behalf of that unit any service or function which that unit would be authorized to provide for itself"; and

WHEREAS, Anoka County, Dakota County, Ramsey County, Washington County, the City of Coon Rapids and the City of Woodbury (the "Joint Parties") are geographically contiguous units of general local government within the meaning of the Act and, together with the housing and redevelopment authorities, economic development authorities or other local entities each have the power to carry out the programs provided for by the Act; and

WHEREAS, there has been presented to this Council a form of Joint Powers Consortium Agreement among the Joint Parties pursuant to which the Joint Parties will, among other things, develop and carry out a consolidated plan and apply for and expend such federal assistance as may be available under the Act to consortia, which Agreement will automatically be renewed for successive three-year program qualification periods; and

WHEREAS, the Coon Rapids City Council desires to participate in the Federal HOME Investment Partnerships Program; and

NOW THEREFORE, BE IT RESOLVED, that the City Council of the City of Coon Rapids, Minnesota, does hereby find and determine that it is in the best interest of the residents of Coon Rapids that the City enter into the Joint Powers Consortium Agreement; and

BE IT FURTHER RESOLVED, that the City Council of the City of Coon Rapids does hereby appoint the Anoka County Housing and Redevelopment Authority and its designees to administer the HOME Investment Partnership Program and to represent the City of Coon Rapids on the Joint Operating Committee of the Joint Powers Consortium; and

BE IT FURTHER RESOLVED, that the City Council of the City of Coon Rapids does hereby authorize its Mayor and City Manager to execute the Joint Powers Consortium Agreement, dated October 1, 2016, that provides for City of Coon Rapids participation in the HOME Investment Partnerships Program for three consecutive federal fiscal years beginning with 2017, and establishes the terms and conditions of the operation of the Joint Powers Consortium; and

BE IT FURTHER RESOLVED, that the Joint Powers Consortium Agreement shall be automatically renewed with the same terms and conditions for subsequent requalification periods without further action of the City Council of the City of Coon Rapids provided that no member of the Joint Powers Consortium has submitted notice to withdraw from said Consortium.

Adopted by the Coon Rapids City Council this 3rd day of May 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

JOINT POWERS CONSORTIUM AGREEMENT

THIS AGREEMENT, effective as of the 1st day of October, 2016 (notwithstanding the dates of the signatures of the parties), between and among Anoka County, Dakota County, Ramsey County, Washington County, the City of Coon Rapids, and the City of Woodbury, State of Minnesota, hereinafter referred to jointly as the "Consortium", each being governmental units of the State of Minnesota, and is made pursuant to Minnesota Statutes, Section 471.59.

W I T N E S S E T H:

WHEREAS, Title I of the Cranston-Gonzalez National Affordable Housing Act (the Act), affirms the national goal that every American family be able to afford a decent home in a suitable environment; and,

WHEREAS, Title II of the Act provides for formula allocation of funds among eligible state and local governments; and,

WHEREAS, section 216(2) of the Act, provides for formation of consortia of units of general local government for the purposes of the Act; and,

WHEREAS, the aforementioned counties and communities are jointly geographically contiguous units of general local government and each have sufficient authority and administrative capability to carry out the purposes of the Act; and,

WHEREAS, the HOME Investment Partnerships Program Final Rule 24 of the Code of Federal Regulations (CFR) Part 92 as amended sets forth regulations governing the applicability and use of funds under Title II.

NOW THEREFORE, in consideration of the mutual covenants and promises contained in the Agreement, the parties mutually agree to the following terms and conditions.

I. DEFINITIONS

For the purpose of the Agreement, the terms defined in this section have the meanings given to them:

"**Consolidated Plan**" is a HUD required document. It serves as a planning document for the jurisdiction and a funding application under the Community Planning and Development formula grant programs (CDBG, HOME, ESG, or HOPWA).

"**Consortium**" means the Cooperating Communities acting pursuant to this agreement.

"**Cooperating Communities**" means the counties of Anoka, Dakota, Ramsey, and Washington and the cities of Coon Rapids and Woodbury, each of which is a general unit of local government which has executed this cooperation agreement.
"**HUD**" means the United States Department of Housing and Urban Development.

"**Lead Agency**" means the one member unit of general local government to act in a representative capacity for all member units of general local government for the purposes of the regulations and providing that the representative member assumes overall responsibility for ensuring that the Consortium's HOME Program is carried out in compliance with the requirements of 24 CFR part 92.101, including requirements concerning a Consolidated Plan. The lead agency for the Consortium shall be Dakota County.

"**Regulations**" means the rules and regulations promulgated pursuant to the Act, including but not limited to 24 CFR Part 92 HOME Investment Partnerships Program Final Rule as amended from time to time.

"**The Act**" means the Cranston-Gonzalez National Affordable Housing Act of 1990.

II. PURPOSE; POWERS TO BE EXERCISED

Each Cooperating Community has determined that it is desirable and in the interests of its citizens to participate in a "consortium" within the provisions of the Act. This Agreement contemplates that identical agreements will be executed between the Cooperating Communities in the State of Minnesota and the execution of this Agreement by the Cooperating Communities will enable the Consortium to qualify under the Act as a "consortium".

This Agreement is to authorize the formation of the Consortium for the purpose of undertaking, or assist in undertaking low and moderate-income housing assistance activities pursuant to the HOME Program as authorized in the Act and the Regulations.

Each of the Cooperating Communities has entered into an agreement pursuant Minnesota Statutes, Section 471.59 authorizing the Cooperating Community to exercise

the powers set forth in Minnesota Statutes, Section 469.001 to 469.047 or 469.090 to 469.1081, any other statute or law, or any other general or special law authorizing the creation of a housing and redevelopment authority or economic development authority, on behalf of one or more housing and redevelopment authorities or economic development authorities for purposes of carrying out this Agreement. The powers to be exercised jointly under this Agreement are those common or substantially similar powers conferred upon the Cooperating Communities and such authorities, by Minnesota Statues, Sections 469.001 to 469.047 or 469.090 to 469.1081, any other statute or law, or any other general or special law authorizing the creation of a housing and redevelopment authority or economic development authority.

III. TERM OF AGREEMENT

Term. The initial term of this agreement shall be from October 1, 2016, and continue for Federal fiscal years 2017, 2018, and 2019. As required by 24 CFR 92.101(c), no member of the Consortium may withdraw from this agreement while the agreement remains in effect. This agreement must, at a minimum, remain in effect until the HOME funds received during each of the federal fiscal years of the qualification period are expended on eligible activities or returned to HUD.

Dakota County, as lead agency of the Consortium, shall provide a minimum of thirty (30) days advance written notice to each Cooperating Community of the program requirements to be in effect for subsequent qualifying periods. Notice shall be sent to the following:

Anoka County Administrator
Anoka County Government Center – 7th Floor
2100 Third Ave
Anoka, MN 55303

Coon Rapids City Manager
11155 Robinson Drive
Coon Rapids, MN 55433

Dakota County Manager
1590 Highway 55
Hastings, MN 55033

Ramsey County Manager
250 Ramsey County Court House
15 West Kellogg Blvd
St Paul, MN 55102

Washington County Administration
14949 62nd St No PO Box 6
Stillwater, MN 55082-0006

Woodbury City Administrator
8301 Valley Creek Road
Woodbury, MN 55125

Automatic Renewal. This agreement shall automatically be renewed for the Consortium's participation in successive qualification periods of three federal fiscal years each. By June 1 the Lead Agency shall notify each Consortium Member in writing of its right to decide not to participate in the Consortium for the next qualification period and the Lead Agency shall send a copy of each notification to the HUD Field Office.

If a Consortium Member decides not to participate in the Consortium for the next qualification period, the Consortium Member shall notify the Lead Agency, and the Lead Agency shall notify the HUD Field Office, by June 15 of the year before the beginning of the new qualification period.

By the June 30 prior to the beginning of each new qualification period, the Lead Agency shall submit to the HUD Field Office a statement of whether or not any amendments have been made to this agreement, a copy of each amendment to this agreement, and, if the Consortium's membership has changed, the state certification required under 24 C.F.R. § 92.101(a)(2)(i). The Consortium shall adopt any amendments to this agreement that are necessary to meet HUD requirements for consortium agreements in successive qualification periods.

The automatic renewal of the agreement will be void if: the Lead Agency fails to notify a Consortium member or the HUD field office as required under this automatic renewal provision; or the Lead Agency fails to submit a copy of each amendment to this agreement as required under this automatic renewal provision.

Program Year. As required by the Consolidated Plan final rule 24 CFR 91.402(a), all Cooperating Communities must be on the same program year for the HOME program. The Cooperating Communities program year begins July 1 and ends June 30 of the following year.

Termination. Notwithstanding any other provision of this Agreement, this Agreement shall be terminated at the end of any program year during which HUD withdraws its designation of the Cooperating Communities as a Consortium under the Act.

Execution. This Agreement shall be executed by the appropriate officers of each Cooperating Community pursuant to authority granted them by their respective governing bodies, and a copy of the authorizing resolution and executed Agreement shall be filed promptly at the offices of the Lead Agency by June 20, 2016.

IV. METHOD OF ACHIEVING PURPOSE; MANNER OF EXERCISING POWER

Consolidated Plan. The Cooperating Communities hereby agree that they will cooperate as members of a consortium to undertake or assist in undertaking low and moderate income housing assistance activities, and publicly assisted housing as provided in the Act. The purpose of the Consortium is to alleviate housing problems within its jurisdictional boundaries.

The Consortium shall prepare and submit to HUD and appropriate reviewing agencies all necessary applications and a Consolidated Plan, required for funding as a "consortium" under the Act. In preparing a Consolidated Plan, the Consortium shall address the housing needs and goals of the Consortium as developed by the Cooperating Communities and their citizens. The Consortium agrees to fully establish

housing needs, priorities, and goals in the preparation of its Consolidated Plan. The Consortium agrees that it shall establish a reasonable time schedule for the development and submission of the Consolidated Plan.

Each Cooperating Community shall appoint one or more staff members to assist in the preparation of information necessary with respect to that Cooperating Community for the Consolidated Plan.

Lead Agency. Subject to the provisions of this Agreement, Dakota County acting as the lead Agency is authorized to act in a representative capacity for all member units of general local government for the purpose of the Act, and the Lead Agency assumes overall responsibility for ensuring that the Consortium's HOME Program is carried out in compliance with the Act including requirements concerning a Consolidated Plan.

Joint Operating Committee. The Cooperating Communities shall designate one staff member, and may designate one or more alternates to serve in his or her absence, to serve on a joint operating committee. The Joint Operating Committee shall be responsible for review and approval of any project or program for funding under the Act. The Joint Operating Committee may adopt rules for its operation. The Joint Operating Committee must unanimously approve the application submitted to HUD for funding.

Project Selection. It is anticipated by the Consortium that a project funded by monies received from the HOME Program may involve one, some, or all of the Cooperating Communities in the Consortium. Each Cooperating Community is responsible for selecting projects to be funded within its jurisdiction. Each Cooperating Community is also responsible for ensuring that projects selected for HOME Program funding meet all applicable rules, regulations and laws. A project may request and receive HOME funding from more than one Cooperating Community if each Cooperating Community agrees to provide such requested HOME funds. In the event that it is necessary for a Cooperating Community to repay HOME funds, it will be the sole responsibility of the Cooperating Community in whose governmental jurisdiction the HOME project is located to repay the funds in accordance with HUD requirements. The Lead agency is hereby authorized to distribute to the selected projects on behalf of the Consortium such funds as are approved by the Joint Operating Committee.

Contracts. Contracts let and purchases made pursuant to a project under this Agreement shall conform to the requirements applicable to the Cooperating Community undertaking the project as well as to the requirements of the HOME Program.

V. SPECIAL PROVISIONS

Administrative Requirements. All Cooperating Communities will comply with the uniform administrative requirements as described in 92.505.

Related Actions. Nothing in this Agreement shall preclude a municipality within a county from establishing a Housing and Redevelopment Authority pursuant to Minnesota Statutes, Section 469.003. Nothing in this Agreement shall be deemed to create a County Housing and Redevelopment Authority pursuant Minnesota Statutes Section 469.003, Subd. 1-6.

Indemnification. The Cooperating Communities mutually agree to indemnify and hold harmless each other from any claims, losses, costs, expenses or damages resulting from the acts or omissions of their respective officers, agents, and employees relating to activities conducted by the Cooperating Community under this Agreement, the Act, or the Regulations, up to any applicable statutory limits of tort liability.

Nothing in this agreement shall be construed as a waiver of any statutory limits or exceptions to liability of a Cooperating Community.

Compliance with the Act. In the event that there is a revision of the Act and/or Regulations, which would cause this Agreement to be out of compliance with the Act or Regulations, all parties to the Agreement shall review this Agreement to reasonably and in good faith renegotiate those items necessary to bring the agreement into compliance.

All parties understand that the refusal to renegotiate this Agreement may result in the loss of the effective use of the Agreement as of the date it is out of compliance with the Act and/or Regulations as amended.

Monitoring and Accounting. The Lead Agency shall maintain financial, project, and other records and accounts for the Consortium in accordance with the requirements of the Act and Regulations.

All Cooperating Communities agree to make available all records and accounts with respect to matters covered by this Agreement at all reasonable times to their respective personnel and duly authorized federal officials.

Each Cooperating Community shall be responsible for its own audit and project monitoring. Each Cooperating Community shall provide to the Lead Agency at its own expense all information with respect to the Cooperating Community and any projects undertaken within its jurisdiction that are required by the Act for reporting purposes.

Other Applicable Laws. All projects undertaken pursuant to this Agreement shall be subject to home rule charter provisions, assessment, planning, zoning, sanitary and building laws, ordinances and regulations applicable to the Cooperating Community or smaller municipality in which the project is situated.

The Cooperating Communities mutually agree to affirmatively further fair housing and take all required actions to comply with the provisions of the National Environmental Policy Act of 1969, Title VI of the Civil Rights Act of 1964, Title VIII of the Civil Rights Act of 1968, Executive Order 11988, Section 109 of the Housing and Community

Development Act of 1974 and with all other applicable requirements of the Act and the Regulations. Nothing in this Article shall be construed to lessen or abrogate the Consortium's responsibility to assume all obligations of an applicant under the Act.

VI. FUNDING; BUDGET

Source and Contribution of Funds. The source of funds for this Agreement shall be the amounts received under the Act by the Consortium and any matching monies contributed by or for a Cooperating Community. In addition, each of the Cooperating Communities shall pay its own staff costs to the extent not provided for under the Act. Any out of pocket costs incurred by the Lead Agency in preparing audits or other reports required by the Act shall be shared by the Cooperating Communities.

Budget and Disbursements. This Agreement shall not require an annual budget other than the monies and funds to be held, applied, disbursed, and accounted for by the Lead Agency as required by the Act and Regulations.

Subrecipient Agreements. The Lead Agency, or its subrecipient administering the HOME Program on behalf of the Lead Agency, shall enter into annual subrecipient agreements with each Cooperating Community. The Subrecipient Agreements shall meet the requirements of a Subrecipient Agreement under the Regulations and shall designate an administrative fee percentage or amount to be paid to the Lead Agency, or to its subrecipient, to effectively carry out the activities of the Lead Agency.

Matching Funds. Unless otherwise agreed as between any two or more members of the Consortium, each Cooperating Community shall provide for the match required with respect to projects to be located within its jurisdiction.

Community Housing Development Organization Funds. Unless otherwise agreed as between any two or more members of the Consortium, each Cooperating Community shall be responsible for committing and spending their proportional share of the required 15% Community Housing Development Organization (CHDO) set aside.

Program Income. Unless otherwise agreed to, Program Income as defined at 24 CFR 92.2 generated by a Cooperating Community will be held by the Lead Agency in an account specific to the Cooperating Community that generated the Program Income. Program Income will be applied against projects being undertaken by the Cooperating Community that generated the Program Income, unless otherwise agreed upon between any two or more members of the Consortium. The Lead Agency may withhold up to 3.5 percent of the Program Income to effectively carry out the activities required of the Lead Agency, to the extent permitted by the Regulations.

Distribution of Assets upon Termination. Upon termination of this Agreement, any property acquired as the result of this Agreement and any surplus monies shall be

disposed of in accordance with the Consolidated Plan and as required by the Act and Regulations.

VII. AMENDMENTS

Except as to the term of this Agreement, this Agreement may be amended by the unanimous consent of the Cooperating Communities at any time.

The Consortium's qualification as a unit of general local government continues for a period of three successive Federal Fiscal Years, until HUD revokes its designation as a participating jurisdiction, or until an urban county or metropolitan city member fails to requalify under the CDBG program, or the Consortium fails to receive a HOME allocation for the first Federal Fiscal Year of the Consortium's qualification period and does not request to be considered to receive a HOME allocation in each of the subsequent two years. During the period of qualification, additional units of general local government may join the Consortium, but no included unit of general local government or metropolitan city may withdraw from the Consortium.

The Lead Agency is authorized to execute amendments to this Agreement to add new members or for other reasons approved by HUD on behalf of the entire consortium, unless otherwise specified in this agreement. The Lead Agency may permit the addition of one or more general units of local government to the Consortium, provided that the governing body of such unit of local government has adopted a resolution authorizing the unit to become part of the Consortium, such unit has executed an addendum to this Agreement agreeing to be bound by its terms, and the Lead Agency has determined that the addition of such unit is authorized by the Act and will not prevent the Consortium from qualifying as a Consortium under the Act.

IN WITNESS WHEREOF, Anoka County, Dakota County, Ramsey County, Washington County, the City of Coon Rapids, and the City of Woodbury, have each caused this Agreement to be executed on its behalf by their duly authorized representatives and have caused their official seals, if any, to be affixed hereto, all as of the day and year first above written.

Dated this _____ day of _____, 2016

ANOKA COUNTY

BY _____

ITS _____

BY _____

ITS _____

APPROVED AS TO FORM:

_____
Assistant County Attorney

Execution Page of Anoka County for the
Joint Powers Consortium Agreement
with
The Cooperating Communities of Anoka County, Dakota County, Ramsey County, Washington County, the City of Coon Rapids and the City of Woodbury

Dated this _____ day of _____, 2016

DAKOTA COUNTY

BY _____

ITS _____

ATTESTED BY _____

ITS _____

APPROVED AS TO FORM:

_____
Assistant County Attorney

Execution Page of Dakota County for the
Joint Powers Consortium Agreement
with
The Cooperating Communities of Anoka County, Dakota County, Ramsey County,
Washington County, the City of Coon Rapids and the City of Woodbury

Dated this _____ day of _____, 2016

RAMSEY COUNTY

BY _____

ITS _____

BY _____

ITS _____

APPROVED AS TO FORM:

_____
Assistant County Attorney

Execution Page of Ramsey County for the
Joint Powers Consortium Agreement
with
The Cooperating Communities of Anoka County, Dakota County, Ramsey County,
Washington County, the City of Coon Rapids and the City of Woodbury

Dated this _____ day of _____, 2016

WASHINGTON COUNTY

BY _____

ITS _____

BY _____

ITS _____

APPROVED AS TO FORM:

_____
Assistant County Attorney

Execution Page of Washington County for the
Joint Powers Consortium Agreement
with
The Cooperating Communities of Anoka County, Dakota County, Ramsey County,
Washington County, the City of Coon Rapids and the City of Woodbury

Dated this _____ day of _____, 2016

COON RAPIDS

BY _____

ITS _____

BY _____

ITS _____

APPROVED AS TO FORM:

_____
City Attorney

Execution Page of the City of Coon Rapids for the
Joint Powers Consortium Agreement
with
The Cooperating Communities of Anoka County, Dakota County, Ramsey County,
Washington County, the City of Coon Rapids and the City of Woodbury

Dated this _____ day of _____, 2016

WOODBURY

BY _____

ITS _____

BY _____

ITS _____

APPROVED AS TO FORM:

_____

Execution Page of the City of Woodbury for the
Joint Powers Consortium Agreement
with
The Cooperating Communities of Anoka County, Dakota County, Ramsey County,
Washington County, the City of Coon Rapids and the City of Woodbury

City Council Regular **6.**

Meeting Date: 05/03/2016

Subject: Adopt Resolution 16-56 Accepting Donation for Movies in the Park

Submitted For: Ryan Gunderson, Recreation Coordinator **From:** Joan Lenzmeier, City Clerk

INTRODUCTION

Council is asked to authorize the acceptance of a $3,500 donation from the Community Strength Foundation to help fund the two movies in the park for 2016.

DISCUSSION

On Friday, May 27th the City will be showing "Inside Out" at Coon Rapids Soccer Complex, 1704 - 111th Avenue. The Family Fun Night begins at 6:30 p.m. with concessions and inflatable bouncers. The movie will begin at sunset, approximately 8:30pm. This is the fifth year that the City has provided this fun community event with the support of the Community Strength Foundation, the Coon Rapids Soccer Association and the North Star Lions. Each of the past events has drawn attendance in the range of 500 residents. The second movie this year will be "Minions" and will take place on Saturday, September 17, 2016.

RECOMMENDATION

Consider Resolution 16-56 to accept a $3,500 donation from the Community Strength Foundation to help fund the two Movie in the Park events for 2016.

Attachments

Resolution 16-56

RESOLUTION 16-56
A RESOLUTION TO ACCEPT THE DONATIONS OF MONIES TO BE USED TOWARD MOVIE IN THE PARK EVENTS FROM THE COMMUNITY STRENGTH FOUNDATION

WHEREAS, the Community Strength Foundation has offered to donate $3,500 to the City to be used toward the 2016 Movie in the Park events; and

WHEREAS, Minn. Stat. § 465.03 allows cities to accept donations of real or personal property by resolution adopted by a two-thirds majority of Council; and

WHEREAS, the City Council finds the offered donation to be in the public interest;

NOW THEREFORE BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that the donation of $3,500 is hereby accepted for the 2016 Movie in the Park events.

BE IT FURTHER RESOLVED that the City of Coon Rapids hereby extends its gratitude to the Community Strength Foundation for its generosity.

Adopted by the Coon Rapids City Council this 3rd day of May, 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **7.**

Meeting Date: 05/03/2016

Subject: Adopt Resolution 16-57, Accepting Coon Rapids Lions Club Donation

Submitted For: Ryan Gunderson, Recreation Coordinator

From: Stephanie Lincoln, Deputy City Clerk

INTRODUCTION

Council is asked to accept a donation of $500 from the Coon Rapids Lions Club to the Element Teen Center for use in activities for the 2016 summer and fall season. Funds will assist in providing quality events that include field trips, an end of school party, garden planting, 4th of July picnic, Nite to Unite, and more.

DISCUSSION

The Coon Rapids Lions Club has an ongoing relationship with the Teen Center that includes donating funds and items as needed, volunteering their time on occasion, and discussing fund raising ideas when situations arise. They have expressed their desire to continue this relationship, and have donated an additional $500 for Teen Center enhancements and/or programming needs.

RECOMMENDATION

Staff recommends Council adopt Resolution No. 16-57 accepting the $500 donation, and extend its gratitude to the Coon Rapids Lions Club.

Attachments

Resolution 16-57

RESOLUTION NO. 16-57

A RESOLUTION TO ACCEPT THE DONATION OF MONIES FROM COON RAPIDS LIONS CLUB TO BE USED TOWARD THE ELEMENT TEEN CENTER

WHEREAS, the Coon Rapids Lions Club has offered to donate $500 to the Element Teen Center for purchase of supplies to enhance the programs at the Teen Center.

WHEREAS, Minn. Stat. § 465.03 allows cities to accept donations of real or personal property by resolution adopted by a two-thirds majority of Council; and

WHEREAS, the City Council finds the offered donation to be in the public interest;

NOW, THEREFORE BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that the donation of $500 to be used toward the purchase of supplies for the enhancement of Teen Center programs is hereby accepted.

BE IT FURTHER RESOLVED that the City of Coon Rapids hereby extends its gratitude to the Coon Rapids Lions Club for its generosity.

Adopted by the Coon Rapids City Council this 3rd day of May, 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **8.**

Meeting Date: 05/03/2016

Subject: Accept Petition for the Establishment of Creek Meadows II Owners Association

Submitted For: David Brodie, City Attorney

From: Kim Reid, Administrative Legal Assistant

INTRODUCTION

The City has received a petition from the Creek Meadows II Owners Association to establish a housing improvement area.

DISCUSSION

State law authorizes a city to establish a housing improvement area if petitioned by the owners of at least 50% of the housing units within the proposed area. The area is established by ordinance after Council holds a public hearing on the proposal.

The Creek Meadows II Owners Association consists of 44 units. The attached petitions have been signed by the owners of 22 of those units and therefore meets the 50% requirement.

The Association is asking the City to assist in making repairs to the units by financing the project. The City would be repaid through a special assessment against the units. The City has participated in several similar projects in the past. Acceptance of the petitions does not obligate the City to establish the housing improvement area. That decision would be made after the public hearing.

RECOMMENDATION

a. Accept petition requesting the establishment of the Creek Meadows II Owners Association Housing Improvement Area.

b. Order a public hearing for May 17, 2016 at 7:00 PM.

Attachments

Petitions

Map

APR 2 8 2016

PETITION TO THE CITY OF COON RAPIDS TO ESTABLISH A HOUSING IMPROVEMENT AREA PURSUANT TO MINN. STAT. §428a.13, *ET SEQ.*

The undersigned owners of housing units as herein specified file this petition, pursuant to Minn. Stat. §428A.12, to request a public hearing to propose the adoption of an ordinance establishing a housing improvement area under Minn. Stat. §428A.13, and further petition to request a public hearing on any proposed or imposed fee with respect to such area, pursuant to Minn. Stat. §428A.14. Said petition will allow the governing body of the City of Coon Rapids to adopt such an ordinance, and impose such a fee, only if owners of 50 percent or more of the housing units in the proposed housing improvement area sign this petition. (File this petition with the City Clerk.)

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Sage Real Estate, LLC	11252 Robinson Dr.	612-280-1998	[illegible], Chief Mgr.

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Marlyn E Hyland	1517 Creek Meadows Dr	612-239-8046	Marlyn E Hyland

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
COREEN SEVERIN	11236 ROBINSON DR. NW	763-607-3186	Coreen Severin

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Gregory T. Sullivan	11276 Robinson drive CR MN. 55433	651-470-6169	Gregory T Sullivan

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Robert D French	1537 Creek Meadow Dr	763-754-1551	[illegible]

Marlys

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Marlys Noffman	11232 Robinson Dr	763-441-3211	Marlys Noffman

Barb

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BARBARA J ASHTON	1521 Creek Meadows Dr NW Coon Rapids, MN 55433	763/208-4818	Barbara J Ashton

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STEVE SHARP	11250 ROBINSON DR	763-757-4951	Steven Sharp

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Amy Reinhold	11234 Robinson Dr. NW	763-767-4809	Amy Reinhold

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Sandy Reetz	1541 Creek Meadows Dr		
Todd McLellan	11260 Robinson DR NW	763-242-7886	

AUG 10 2015

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Genevieve C. Sand	1511 Creek Meadow Dr	763-755-3248	Genevieve C. Sand

 JUL 31 2015

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
DARLENE L. SCOTT	11246 ROBINSON DR NW	763-754-5358	Darlene Scott

6

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Charles Potter	11230 Robinson Dr NW	952 2396289	

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Amy Berland	11262 Robinson Dr NW Coon Rapids MN 55433	763-439-9000	Amy Berland

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Catherine McHugo	1535 Creek Meadows Dr	763-234-9091	Catherine McHugo

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Joe and Jaralyn Carda	15561 Creek Meadow Dr. Coon Rapids, MN	763-413-1352	Joe Carda Jaralyn Carda

SEP 0 4 2015 917 to Krisk

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Margaret Ratanas	1527 Creek Meadows Dr	763-757-5065	Margaret Ratanas
	Coon Rapids, MN 55433		

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Michelle Smith	11250 Robinson Dr	7036707408	Michelle Smith

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Liangsheng Cheng	11240 Robinson Dr NW	651-334-7558	Liangsheng Cheng

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Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Tracy			
Tousignant	1557 Creek Rd	763 269-1311	T. Tousignant
	Dr.		

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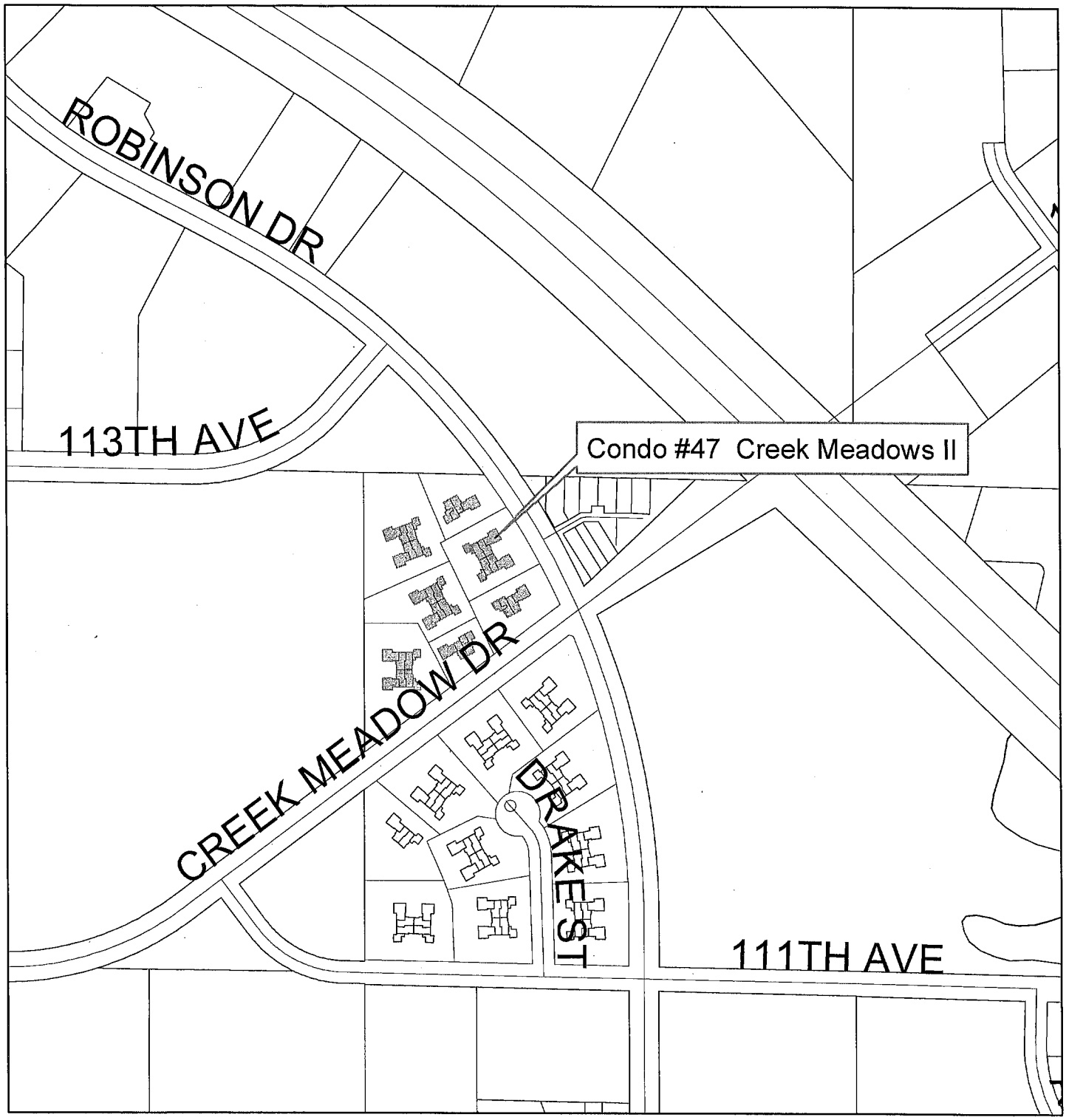
Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Ben Kane	1551 Creek Meadow	763	Ben Kane
	Drive Coon Rapids	229 4496	
	MN 55343		



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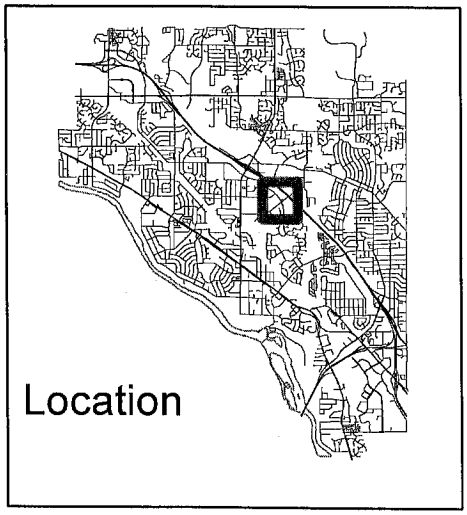

City Council Regular **9.**

Meeting Date: 05/03/2016

Subject: Approve Master Consulting Agreement with BARR Engnineering

From: Tim Himmer, Public Works Director

INTRODUCTION

From time to time, the City retains consultants for professional engineering services to assist with City projects. Typically the City contracts with three or four firms with expertise in specific areas that cannot be provided by City forces. As opposed to relying on continuing services agreements that are prepared by each consulting firm, staff previously initiated a City master consulting agreement.

At this time staff is seeking Council approval to add BARR Engineering into the City consultant pool in the area of environmental services.

DISCUSSION

The attached agreement was reviewed by the City Council on November 19, 2013 and approved as the City standard. This agreement provides consistency and allows staff to better manage the services provided by the various consultants the City retains. The current City pool is lacking in the area of environmental services, and staff would like to add BARR Engineering for assistance with such matters.

Past agreements have been executed with various firms in specialized areas comprising transportation, bridge inspections, traffic signals, stormwater management, master planning, landscape architecture, water and sanitary sewer projects, and general municipal engineering. From time to time it is prudent to evaluate the pool and determine whether all areas of need are still adequately covered, and that the chosen consultants are performing to expectations. Following is a list of existing firms in the consulting pool, and staff believes adding BARR Engineering would enhance coverage in a specific area of need.

Kimley Horn & Associates	SEH, Inc.	Bolton & Menk	WSB & Associates
Traffic/Transportation	Traffic/Transportation	Water	Water Resources
Planning/Corridors	Signals	General Municipal	General Municipal
Bridges	Railroad	Sanitary Sewer	Parks/Master Planning
Large Roads/Highways	Sanitary Sewer		Landscape Architecture
Landscape Architect	Water		Water

RECOMMENDATION

Staff recommends that the City Council add BARR Engineering to the City's consultant pool, and that the Mayor and appropriate staff execute such agreement.

Attachments

Master Agreement

CITY OF COON RAPIDS

ENGINEERING
MASTER CONSULTING AGREEMENT

This Agreement ("Agreement") is entered into this ___ day of _____, 20__, by and between the City of Coon Rapids, 11155 Robinson Drive NW, Coon Rapids, MN 55433 (the "City") and_____, (the "Consultant").

WHEREAS, Consultant has experience in engineering services and is a licensed qualified professional engineering firm; and

WHEREAS, the City desires to engage the Consultant from time to time to assist in providing engineering services for projects designated by the City and as described through a separate letter of engagement attached hereto as Exhibit A (the "Letter of Engagement"); and

WHEREAS, Consultant desires to accept such engagement upon the terms and conditions hereinafter set forth.

NOW THEREFORE, in consideration of the mutual agreements herein contained and intending to be legally bound hereby, the City and Consultant hereby agree as follows:

ARTICLE 1. TERM OF CONTRACT

Section 1.01. **TERM**. This Agreement will become effective on _____, 20__ and will continue in effect, unless terminated in accordance with the provisions of Article 7 of this Agreement.

ARTICLE 2. INDEPENDENT CONTRACTOR STATUS

Section 2.01. **INDEPENDENT CONTRACTOR STATUS**. The City and Consultant expressly agree that Consultant is an independent contractor and not an employee, agent, joint venturer, or partner of the City. Nothing in this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between the City and Consultant or any employee or agent of Consultant. Both parties acknowledge that Consultant is not an employee of the City for state or federal tax purposes.

ARTICLE 3. SERVICES TO BE PERFORMED BY CONSULTANT

Section 3.01. **CONSULTANT'S SERVICES**. The City hereby retains Consultant, on a non-exclusive basis, for the purpose of advising and consulting with the City on matters related to, but not necessarily limited to some or all of the following services:

- General municipal engineering
- Traffic engineering and transportation planning
- Structural and architectural engineering
- Mechanical and electrical engineering
- Landscaping, urban design, and urban planning
- Right-of-way services
- Registered land surveying activities
- Natural resources and environmental services
- Water/wastewater engineering
- Miscellaneous specialty/technical services identified by the City

(the "Services").

The precise scope of services, schedule, and compensation on any given project shall be as detailed in the Letter of Engagement issued by the City. The Letter of Engagement may incorporate some or all of the Services, as well as other additional services that may not be identified within this Agreement.

Professional services provided under this Agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the Consultant's profession currently practicing under similar conditions. No warranty, express or implied, is made.

Section 3.02. **METHOD OF PERFORMING SERVICE(S)**. Consultant shall recommend to the City, for its approval, the method, details, and means of performing the selected Service(s). Said scope of services shall be included in the specific Letter of Engagement for a particular project.

Section 3.03. **PLACE OF WORK**. Consultant shall base the performance of the selected Services at its own business location or such other location as Consultant may determine. The City is not required to provide office, technical or clerical support services to Consultant; but the City at its discretion may chose to do so for specific tasks and/or projects.

Section 3.04. **TIME OF PERFORMANCE**. Consultant shall submit for the City's approval a schedule for the performance of the selected Service(s) which schedule may be adjusted by mutual consent as the Service(s) proceed. This schedule shall include allowances for periods of time required for the City's review. Time limits established by this schedule, and approved by the City, shall not be exceeded by Consultant or the City, except for reasonable delays that are outside the control of either entity. Items that may delay the agreed upon schedule must be communicated to the other party as soon as they become known. Said schedule shall be included in the specific Letter of Engagement for a particular project.

ARTICLE 4. COMPENSATION

Section 4.01. **AMOUNT OF COMPENSATION**. The City shall pay the Consultant for the Service(s) furnished, and the Consultant shall accept as full payment, the sum described in the Letter of

Engagement for a particular project. This sum shall include all Service(s) rendered by the Consultant under this Agreement (including all travel, living and overhead expenses incurred by the Consultant in connection with performing the Service(s) herein), except for additional services authorized in writing by the City. A schedule of hourly fees shall be provided to the City by the Consultant on an annual basis.

The sum stipulated for Service(s) shall be considered an "Hourly - Not to Exceed" cost to the City, unless specifically stipulated otherwise, subject only to adjustments for changes in scope of Service(s) performed. The Consultant shall promptly notify the City if Consultant feels the initial scope of the project has changed or anticipates that the sum may be exceeded, in order to determine whether or not the City is prepared to increase the compensation. Any agreed upon changes shall be in writing between the City and Consultant. The City may, at its sole discretion, choose an alternate form of compensation, to include lump sum or percentage of construction costs.

Compensation for Service(s) during the construction phase of a project will also be provided on an "Hourly - Not to Exceed" basis, unless specifically stipulated otherwise. Consultant's level of Service(s) and actual charges may depend in part on such unknown factors as quality and responsiveness of the Contractor, weather conditions and adherence to the construction schedule, and unforeseen site conditions that may be revealed during construction. The Consultant shall promptly notify the City if Consultant feels that project conditions have changed or anticipates that the sum may be exceeded, in order to determine whether or not the City is prepared to increase the compensation. Any agreed upon changes shall be in writing between the City and Consultant.

Compensation for a particular project will be described and detailed in the Letter of Engagement prepared for each particular project.

Section 4.02. **PAYMENT OF COMPENSATION**. Contemporaneously with the submission of any invoice to the City, the Consultant shall provide an itemized statement detailing the number of hours spent by Consultant's employee or agent as well as the hourly rate charged by the individual providing the work. The Consultant's billings shall also include the City project name and number, description of the work performed, contract amount and amount invoiced to date, and contract percent complete and percent remaining. Invoices shall include subtotals for each phase of the project, if required. Each invoice submitted by the Consultant shall include only one project. The Consultant will bill the City monthly. The City will pay the Consultant within 30 days after receipt of the invoice. Prior to the processing of any and all payments, the Consultant shall comply with the City Finance Department's regulations on the completion and filing of W-9 forms and other Internal Revenue Service and Minnesota Department of Revenue forms.

Section 4.03. **EXPENSES**. Consultant shall be responsible for all costs and expenses incidental to the performance of the Service(s), including but not limited to, all taxes required of or imposed upon Consultant and all other of Consultant's costs of doing business. The City agrees to reimburse Consultant only for those reimbursable expenses set forth in the Letter of Engagement for each particular project. Any expenses related to special consulting or technical services (e.g., outside

consultants or technical services) must be pre-approved by the City. When retained directly by the Consultant, with prior approval by the City, Consultant shall bill the City no more that 105% of actual costs of such special consulting or technical services.

ARTICLE 5. CONSULTANT'S OBLIGATIONS

Section 5.01. **NONDISCLOSURE OF CONFIDENTIAL INFORMATION**. Consultant shall not disclose to any unauthorized person any confidential information it may obtain regarding the City or its methods of doing business. All confidential information, whether prepared by Consultant or otherwise coming into its possession, shall remain the exclusive property of the City and shall not be used by Consultant except in the course of the performance of Consultant's Service(s) under this Agreement. Confidential Information shall mean any data and information not previously known to and generated by the Consultant or furnished to the Consultant and marked "CONFIDENTIAL" by the City. Consultant shall have no obligation to maintain confidentiality of information for which it has a legal duty to disclose under statute, state or federal rule, or court order, and assumes no liability for release of such information, but will endeavor to advise City of such legal obligation prior to release.

Section 5.02. **STATE AND FEDERAL TAXES**. As Consultant is not the City's employee, Consultant is responsible for paying all required state and federal taxes. The City will not withhold FICA (Social Security) from Consultant's payments; will not make state or federal unemployment insurance contributions on Consultant's behalf; will not withhold state or federal income tax from payment to Consultant; will not make disability insurance contributions on behalf of Consultant; or will not obtain workers' compensation insurance on behalf of Consultant.

ARTICLE 6. THE CITY'S OBLIGATIONS

Section 6.01. **THE CITY'S COOPERATION**. The City agrees to comply with Consultant's reasonable requests necessary for the performance of the Consultant's Service(s) pursuant to this Agreement.

ARTICLE 7. TERMINATION OF AGREEMENT

Section 7.01. **TERMINATION ON OCCURRENCE OF STATED EVENTS**. The City may terminate this Agreement automatically on the occurrence of any of the following events: (1) failure of Consultant, after notice and a reasonable opportunity to cure, to perform work in a timely fashion; (2) Consultant's bankruptcy or insolvency; or (3) the sale or merger of Consultant's business and/or change in majority ownership. Additionally, this agreement may be terminated by either party upon thirty days written notice without cause. In the event of termination, City shall pay Consultant for all undisputed services rendered prior to termination, and copies of plans, reports, specifications, electronic drawing/data files, field data, notes, and other documents, written, printed or recorded on any medium, finished or unfinished, prepared by the Consultant pursuant to this Agreement and pertaining to any work or projects, subject to provisions of Section 8.10, shall be made available to the City. All provisions of this agreement allocating responsibility or liability between the City and Consultant shall survive the completion of the Service(s) and/or the termination of this Agreement.

Section 7.02. **TERMINATION FOR FAILURE TO MAKE AGREED-UPON PAYMENTS**. Should the City fail to pay Consultant all or any part of the compensation set forth in Article 4 of this Agreement on the date due, the Consultant may stop work or terminate this Agreement if the failure is not remedied by the City within thirty (30) days from the date payment is due.

ARTICLE 8. GENERAL PROVISIONS

Section 8.01. **NOTICES**. Any notices given hereunder by either party to the other shall be in writing and may be effected by personal delivery with signed receipt or by registered or certified mail with postage prepaid and return receipt requested. Mailed notices shall be addressed to the corporate office of the parties appearing in the introductory paragraph of this Agreement. Notices delivered personally or by mail will be deemed communicated as of the date of actual receipt.

Section 8.02. **ASSIGNMENT**. Except for the Consultant's use of necessary outside consultants, the Consultant and the City shall not assign or delegate their respective obligations under this Agreement without the written consent of the other party, which consent shall not be unreasonably withheld.

Section 8.03. **ENTIRE AGREEMENT OF THE PARTIES**. This Agreement supersedes any and all agreements, either oral or written, between the parties hereto with respect to the rendering of services by Consultant for the City and contains all the covenants and agreements between the parties with respect to the rendering of such services in any manner whatsoever. Each party to this Agreement acknowledges that no representations, inducements, promises, or agreements have been made, orally or otherwise, by any party, or by anyone acting on behalf of any party, which is not embodied herein, and that no other agreement, statement or promise not contained in this Agreement shall be valid or binding. Any modification of this Agreement will be effective only if it is in writing signed by the party to be charged.

Section 8.04. **INDEMNIFICATION**. Consultant agrees to defend, indemnify and hold the City, its officers, and employees harmless from any liability, claims, damages, costs, judgments, or expenses, including reasonable attorney's fees, to the extent attributable to a negligent or otherwise wrongful act or omission (including without limitation professional errors or omissions) of the Consultant, its agents, employees, or subcontractors in the performance of the services provided by this Agreement and against all losses by reason of the failure of said Consultant fully to perform, in any respect, all obligations under this Agreement. Consultant further agrees to indemnity the City for defense costs incurred in defending any claims, unless the City is determined to be at fault.

Section 8.05. **INSURANCE**. Upon receipt from the City of a Letter of Engagement, the Consultant shall in order to protect itself as well as the City under the indemnity provision set forth above, the Consultant shall at all times during the term of the Letter of Engagement keep in force the following minimal insurance protection in the limits specified:

A. A single limit or combined limit or excess umbrella general liability insurance policy in an amount not less than $500,000 for property damage arising from one occurrence, $1,500,000 for total bodily or personal injuries or death and /or damages arising from one occurrence. Such policy shall also include contractual liability coverage by specific endorsement or certificate acknowledging this Agreement between the Consultant and the City.

B. A single limit or combined limit or excess umbrella automobile liability insurance policy, if applicable, covering owned, non-owned and hired vehicles used regularly in the provision of services under this Agreement, in an amount of not less than $500,000 per accident for property damage, $1,500,000 for bodily injuries and / or damages to any one person, and $1,500,000 for total bodily injuries and / or damages arising from any one accident.

C. A professional liability insurance policy covering personnel of the Consultant while performing Service(s) under this Agreement in the following amounts: Errors and omissions $500,000 per claim and $1,500,000 in total.

D. Workers Compensation Insurance and employer's liability as required by law including all states endorsement in an amount of $100,000 for each occurrence.

E. Prior to the effective date of a Letter of Engagement, the Consultant will furnish the City with certificates of insurance as proof of insurance for general Liability and Auto Liability.

F. Any policy obtained and maintained under this Section 8.05 shall provide that it shall not be cancelled, materially changed, or not renewed without prior notice thereof to the City. The Consultant will endeavor to provide a thirty (30) day advance notice of any such policy revisions.

Section 8.06. **SEVERABILITY**. Whenever possible, each provision of this Agreement will be interpreted in such a manner as to effect and valid under applicable law. If any provision of this Agreement is held to be invalid, illegal, or unenforceable in any respect under any applicable law or rule, in any jurisdiction, such invalidity, illegality, or unenforceability will not affect any other provision or the effectiveness or validity of any provision in any other jurisdiction, and the remaining provisions of this Agreement will continue in full force without being impaired or invalidated in any way.

Section 8.07. **GOVERNING LAW**. All issues concerning this Agreement will be governed by and construed in accordance with the laws of the State of Minnesota, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Minnesota or any other jurisdiction) that would cause the application of the law of any jurisdiction other than the State of Minnesota. Any disputes between City and Consultant shall be negotiated in good faith for 30 days, and unresolved disputes shall be submitted to mediation prior to either party pursuing their rights in a court of competent jurisdiction.

Section 8.08. **AFFIRMATIVE ACTION**. The Consultant shall not discriminate under the contract against any person in accordance with federal, state and local regulations.

The Consultant shall not discriminate in employment practices on the basis of race, color, creed, religion, national origin, sex, age, marital status, public assistance status, veteran status, handicap or disability; that it has agreed to take affirmative action to recruit minorities, women and handicapped persons into its employment.

The Consultant shall furnish documentation that shows they have adopted a written affirmative action policy. If during the term of the Agreement, it is discovered that the Consultant is not in compliance with the applicable regulations as aforesaid, or if the Consultant engages in any discriminatory practices, then the City, through the office, may cancel said Agreement as provided by the cancellation clause of the Agreement.

Section 8.09. **ETHICS**. The Consultant certifies that it does not presently have an interest in real estate, development proposals or have a client with development proposals or real estate interests which are in the City or which will directly benefit or be affected by projects they are assigned to Consultant. Furthermore, the Consultant agrees that it will not acquire interest in any real estate of development proposals, or accept a contract with any client owning real estate or having a development proposal in the City or which will be directly affected or benefited by a project without first notifying and discussing said interest or contract with the City.

The Consultant shall not accept any private client or project which, by nature, places it in ethical conflict during its representation of the City. To remove any potential or actual conflict of interest, the Consultant representing any private party client submitting a project or activity to the City shall not represent or review the project or activity on behalf of the City.

The Consultant shall maintain records that reflect all revenues, costs incurred and services provided in the performance of this Agreement. The Consultant agrees that the City, the State Auditor, or legislative authority, or any of their duly authorized representatives upon reasonable notice during normal business hours, and as often as they may deem reasonably necessary, shall have access to and the right to examine, audit, excerpt, and transcribe any books, documents, papers, records, etc., and accounting procedures and practices of the Consultant which are relevant to this Agreement.

The Consultant represents that it has, or will secure at its own expense, all personnel required in performing services under this Agreement. Any and all personnel of the Consultant or other persons, while engaged in the performance of any work or services required by the Consultant under this Agreement, shall have no contractual relationship with the City.

Section 8.10. **RIGHT IN WORK PRODUCT**. The work product of Consultant, including data, information, drawings, results, ideas, developments, plans, specifications, reports or inventions, regardless of format or media, which Consultant conceives or reduces to practice during the course of its performance under this Agreement are Instruments of Service ("Instruments of Service"), and Consultant shall retain an ownership and property interest therein (including the right of reuse at the discretion of the Consultant). Upon payment of all amounts owed Consultant grants to the City partial ownership and an irrevocable license to use such Instruments of Service as deemed necessary by the City pursuant to this agreement.

Consultant will furnish the City with electronic data versions of all drawings, data files, reports and/or other digital or written documents ("Digital Data") in a form compatible with the City's software requirements if requested by the City. Such information will also be provided in hard copy form if requested by the City. In the event of any conflict between hard copy documents and the Digital Data, the hard copy documents shall govern. The Digital Data shall be prepared in a format required by the City for its use. The City understands that the Digital Data is perishable and the City is responsible for maintaining it, and agrees that Consultant is not responsible for use of Digital Data distributed by the City to third parties unless such distribution was a specific part of the Consultant's Service(s).

All data collected, created, received, maintained, or disseminated, or used for any purposes in the course of the Consultant's performance of the Agreement is governed by the Minnesota Government Data Practices Act, Minnesota Statutes 1984, Section 13.01, et seq. or any other applicable state statutes and state rules adopted to implement the Act, as well as state statutes and federal regulations on data privacy. The Consultant agrees to abide by these statutes, rules and regulations and as they may be amended.

Consultant makes no representation that Instruments of Service provided for any specific project are suitable for reuse, modification or benefit of City or others on extensions of the Project, modifications or any other project. Any reuse or modification of Consultant's Instruments of Service without written verification or adaptation by Consultant, as appropriate for the specific purpose intended, will be at the City's sole risk and without liability or legal exposure to Consultant. The City shall indemnify and hold harmless the Consultant from all claims, damages, losses and expenses, including attorneys' fees, arising out of any reuse or modification of the Instruments of Service without the participation of the Consultant.

Section 8.11. **HAZARDOUS SUBSTANCE**. The Consultant's scope of services does not include any Service(s) related to hazardous or toxic materials, including asbestos and PCBs. If it becomes known that such materials may be present at or near a project that may affect the Consultant's Service(s), the Consultant must immediately inform the City in writing and may suspend performance of its Service(s), without liability, and will assist the City to retain appropriate specialist consultants to adequately identify and abate such materials so that Consultant's Service(s) may resume.

Section 8.12. **CONSTRUCTION OBSERVATION**. If requested by the City as part of the Letter of Engagement, Consultant shall visit and document the contractor's work at appropriate intervals during the construction phase, and for such durations as agreed upon in writing, to monitor the progress and quality of the contractor's work and determine if the work is generally proceeding in accordance with the City's contract documents. Consultant does not guarantee the performance of, and shall have no responsibility for, the health, safety, means, methods, techniques, acts or omissions of any contractor, subcontractor, supplier or any other entity furnishing materials or performing any work on the project. If the City desires more extensive observation or a full time onsite representative, the City shall request such Service(s) be provided by consultant as additional services in accordance with the terms of this Agreement. In this instance, the Consultant shall monitor construction of the project pursuant to an amended Letter of Engagement which shall detail the scope and responsibilities of Consultant.

Section 8.13 **OPINIONS OF CONSTRUCTION COST.** Where provided by the Consultant as part of Service(s) or otherwise, opinions or estimates of construction cost will generally be based upon public construction cost information. Since the Consultant has no control over the cost of labor, materials, competitive bidding process, weather conditions and other factors affecting the cost of construction, all cost estimates are opinions for general information of the City and the Consultant does not warrant or guarantee the accuracy of construction cost opinions or estimates. The City acknowledges that costs for project financing should be based upon contracted construction costs with appropriate contingencies.

Section 8.14. **ANNUAL REVIEWS**. The City shall conduct an annual review of the Consultants activities and work product for that year. Such review may be conducted by the City's Public Works Committee, at their regularly scheduled meetings held on the third Tuesday evening of each month. A poor evaluation, which cannot be corrected or is determined by the City to be gross negligence, may be grounds for termination of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

CITY OF COON RAPIDS:

By: _____
Jerry Koch
Its: Mayor

By: _____
Matt Stemwedel
Its: City Manager

Approved As To Form

By: _____
David Brodie
Its: City Attorney

CONSULTANT:

By: _____

Its: _____

EXHIBIT A

CITY OF COON RAPIDS

LETTER OF ENGAGEMENT

Project Name: _____

Project No.: _____

This Letter of Engagement is entered into this _____ day of _____, 20__ by and between the CITY OF COON RAPIDS, 11555 Robinson Drive, Coon Rapids, Minnesota 55433 (the "City") and

_____

(Name, Address)

_____

(the "Consultant").

RECITALS

WHEREAS, the City and the Consultant entered into an Engineering Master Consulting Agreement (the "Agreement') on the ____ day of _____, 20__; and

WHEREAS, this Agreement provides that the City will engage the Consultant from time to time to assist in providing engineering services for projects and studies designated by the City and as described through separate Letters of Engagement; and

WHEREAS, the City wishes to retain Consultant to perform Service(s) to assist with the following described project:

_____

_____

_____

_____

(the "Project); and

WHEREAS, this Letter of Engagement outlines the Service(s) to be performed by the Consultant; the approved cost of the Project; and the Project schedule.

NOW, THEREFORE, in consideration of the mutual agreements herein contained and intending to be legally bound hereby, the City and the Consultant hereby agree as follows:

ARTICLE ONE

SERVICES TO BE PERFORMED BY THE CONSULTANT

The City hereby retains Consultant for the purposes of advising and consulting the City for the services described on Exhibit A attached hereto and made a part hereof.

ARTICLE TWO
SCHEDULE OF PERFORMANCE

The Consultant shall perform the services for the Project on the basis of the schedule attached hereto as Exhibit B and made a part hereof by reference. The schedule may be adjusted by mutual consent as the Service(s) proceed. The term limits established by the schedule and approved by the City shall not be exceeded by the Consultant or the City, except for a reasonable cause agreed to by the City.

ARTICLE THREE
CONSULTANT'S COMPENSATION

The City shall pay the Consultant for services furnished and the Consultant shall accept as full payment the sums described on Exhibit C attached hereto and made a part hereof.

ARTICLE FOUR
CAPITALIZED TERMS

Capitalized terms not otherwise defined herein have the meaning given them in this Agreement.

Subject to the terms and conditions of this Engagement Letter, all of the terms and conditions of the Engineering Master Consulting Agreement dated the ____ day of _____, 20__ will remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Engagement Letter as of the date first above written.

CONSULTANT

_____

By: _____

Its: _____

CITY OF COON RAPIDS

By: _____
Its: Mayor

By: _____
Its: City Manager

Recommended:

By: _____
Its: Public Works Director

Approved as to Form:

By: _____
Its: City Attorney

EXHIBIT A

SERVICES TO BE PERFORMED BY CONSULTANT

- ☐ Preliminary Engineering Reports
- ☐ Application for and pursuant to various funding programs
- ☐ Environmental Worksheets
- ☐ Design, Construction and Legal Boundary Surveys
- ☐ Detailed Design and Plan Preparation
- ☐ Technical Specifications
- ☐ Estimates and Construction Contract Documents
- ☐ Comparative Bids Solicitation and Evaluation
- ☐ Construction Engineering and Observation Services
- ☐ Contract Management
- ☐ Preparation of Record Plans and Final Contract Compliance Reports
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXHIBIT B

PROJECT SCHEDULE

Item	Date
Council awards consultant contract and orders preliminary report	
Submit draft preliminary report to City for review and comment	
Receive draft preliminary report comments from City	
Council approves preliminary report, sets public hearing date, and sends notices to newspapers to publish	
Council holds public improvement hearing, orders project, and authorizes preparation of plans and specifications	
Submit draft plans with Engineer's estimate to City for review and comment	
Council approves plans and specifications, sets bid date and assessment hearing date	
Receive draft plan comments from City	
First advertisement for bid	
Final plans and specs to Contractors	
Bid opening	
Send assessment hearing notice to newspaper to publish, and send notice to affected property owners	
Assessment hearing	
Construction commences	
Construction ends	

EXHIBIT C

CONSULTANT'S COMPENSATION FOR PROJECT

Item	Amount	Reimbursable Expenses
Preliminary Report		
Preparation of contract documents and construction plans		
Preliminary Survey		
Design		
Construction Staking		
Construction Services		
Final Inspection		
Record Drawings		
Special Services		
Total Project Costs		

The above sums for services shall be Hourly Not to Exceed, subject only to adjustments for a change in scope of services performed, agreed upon in writing by the City and the Consultant.

City Council Regular **10.**

Meeting Date: 05/03/2016

Subject: Public Hearing on Wellhead Protection Plan Amendment, Part I, for the City of Coo Rapids System

Submitted For: Tim Himmer, Public Works Director

From: Sarah Greene, Administrative Assistant II

INTRODUCTION

The City of Coon Rapids Wellhead Protection Plan Amendment, Part I summarizes work completed to comply with Minnesota Wellhead Protection Rules (MN Rules 4720.5100 through 4720.5590). Through adoption of this plan it is required that a public informational meeting be held. This report summarizes the City's plan and solicits input via a public hearing.

DISCUSSION

Wellhead Protection is a way to prevent drinking water from becoming polluted by managing potential sources of contamination in the areas which supplies water to a public well. The City of Coon Rapids is continuously looking to maintain safe drinking water by implementing wellhead protection standards that keep the City's groundwater and wells from becoming polluted.

Part 1 of the City's Wellhead Protection Plan (WHPP) is conducted to delineate the critical areas adjacent to our groundwater wells, and the potential vulnerability of each well. Wellhead Protection Areas (WHPA) are delineated around each source well, which are then encompassed into the Drinking Water Supply Management Area (DWSMA) for the City. The WHPA must account for (at a minimum) the ten-year groundwater time of travel so there is sufficient reaction time to remediate potential health impacts in the event of contamination of the aquifer. Additionally, the Emergency Response Area (ERA), or the one-year groundwater time of travel, is also identified in the study for each well.

Wellhead protection plans must be reviewed and amended at least every ten years. The attached report, prepared by Barr Engineering, summarizes work completed to update the delineation of the Coon Rapids WHPAs and DWSMAs in compliance with the Minnesota Wellhead Protection Rules, and to meet the current Minnesota Department of Health (MDH) requirements.

Part 2 of the City's WHPP, which follows once this report is approved and adopted, will focus on specific strategies for managing and protecting the critical areas identified in Part 1. Part 2, or the City's Sourcewater Protection Plan, will include such elements as an inventory of potential contamination sources within the DWSMA areas, specific management activities, and public education.

Additionally, Coon Rapids is required to publish a Consumer Confidence Report annually, which is posted to the City website. This report is prepared to show that the City drinking water meets federal Safe Water Drinking Standards.

RECOMMENDATION

It is recommended that the City Council conduct the public hearing for the City of Coon Rapids Wellhead Protection Plan Amendment, Part I.

Attachments

WHPP Amendment Part I

City of Coon Rapids Wellhead Protection Plan Amendment

Part I:

Delineation of the Wellhead Protection Area (WHPA), Drinking Water Supply Management Area (DWSMA), and Assessments of Well and DWSMA Vulnerability

Prepared for

March 2016

City of Coon Rapids Wellhead Protection Plan Amendment

Part I:

Delineation of the Wellhead Protection Area (WHPA), Drinking Water Supply Management Area (DWSMA), and Assessments of Well and DWSMA Vulnerability

Prepared for

March 2016

4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
Phone: 952.832.2600
Fax: 952.832.2601

City of Coon Rapids Wellhead Protection Plan Amendment

March 2016

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Certifications

I hereby certify that this plan, document, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Geologist under the laws of the state of Minnesota.

	March 2, 2016
John C. Greer	Date
PG #: 30347	

Public Water Supply Profile

The following persons are the contacts for the Coon Rapids Wellhead Protection Plan:

Public Water Supply Contact

Kory Jorgensen
Utilities Operations Supervisor
City of Coon Rapids
1831 111th Avenue
Coon Rapids, Minnesota 55433
Telephone: 763-767-6576
Email: kjorgensen@coonrapidsmn.gov

Wellhead Protection Manager

Tim Himmer
Public Works Director
City of Coon Rapids
11155 Robinson Drive
Coon Rapids, Minnesota 55433
Telephone: 763-767-6494
Email: thimmer@coonrapidsmn.gov

Wellhead Protection Consultant

John Greer, P.G.
Barr Engineering Company
4700 West 77th Street
Minneapolis, Minnesota 55435-4803
Telephone: 952-832-2600
Fax: 952-832-2601
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General Information

UNIQUE WELL NUMBER(S) Primary: 202932, 202931, 202930, 202965, 161413, 110460, 110461, 150357, 110475, 420956, 474384, 674478, 674479; Seasonal: 202926, 202929, 202972, 202951, 202937, 202943, 168721, 168720, 110469, 474385, 463020

SIZE OF POPULATION SERVED 61,476 (2010 Census)

COUNTY Anoka

1.0 Introduction

In compliance with the Minnesota Wellhead Protection Rules (MN Rules 4720.5100 through 4720.5590), wellhead protection areas (WHPAs) and Drinking Water Supply Management Areas (DWSMAs) were delineated for the City of Coon Rapids in 2003 (Wells 1-23) (MDH, 2003) and in 2006 (Wells 4, 7, 11, 12, 14, 15, 24, 25) (Bonestroo, 2006). Minnesota Rule 4720.5570 states that wellhead protection plans must be reviewed and amended at least every ten years. In addition, the Minnesota Department of Health (MDH) has instituted requirements for inclusion of fracture-flow analysis in the delineation of WHPAs since the last delineation of the City's WHPAs and DWSMAs.

As required by Minnesota Rule 4720.5570, new WHPAs and new DWSMAs have been delineated for the City of Coon Rapids. This report summarizes work completed to update the delineation of the Coon Rapids WHPAs and DWSMAs in compliance with the Minnesota Wellhead Protection Rules and to meet the current MDH requirements. Data elements used in preparation of the report are presented in Table 1.

The City of Coon Rapids currently has 13 primary municipal water supply wells. Wells 9, 24, and 25 (unique numbers 202931, 674478, and 674479, respectively) are completed in the Tunnel City Group-Wonewoc Sandstone (TCW) aquifer (formerly known as the Franconia-Ironton-Galesville, or FIG, aquifer). The open interval of Well 9 also extends into the Eau Claire Formation. Wells 8, 10, 11, 13, 14, and 15 (unique numbers 202932, 202930, 202965, 168720, 110460, and 110461, respectively) are completed in both the TCW and Mt. Simon Sandstone aquifers. Wells 17, 19, 20, and 21 (unique numbers 150357, 110475, 420956, and 474384, respectively) are completed in the confined Quaternary glacial drift aquifer.

The City also has 11 seasonal wells. Well 1 (unique number 202926) is completed in the Tunnel City-Wonewoc aquifer. Wells 2, 4, 5, 7, and 12 (unique numbers 202929, 202972, 202951, 202943, and 168721, respectively) are completed in both the TCW and Mt. Simon Sandstone aquifers. The open intervals of Wells 1 and 2 also intersect the St. Lawrence Formation, and the open interval of Well 1 also intersects the Eau Claire Formation. Well 6 (unique number 202937) is completed in the Tunnel City Group aquifer. Well 16 (unique number 161413) is completed in the Wonewoc Sandstone and Mt. Simon Sandstone aquifers. Well 18 (unique number 110469) is completed in the Mt. Simon Sandstone aquifer. Wells 22 and 23 (unique numbers 474385 and 463020, respectively) are completed in the confined Quaternary glacial drift aquifer.

Well locations are shown on Figure 1. Table 2 summarizes construction, use, and vulnerability information for the Coon Rapids water supply wells. Well logs for the City's wells are presented in Appendix A.

While compiling data for this report, a database discrepancy was identified for Wells 13 and 16. The Minnesota Well Index (MWI) listed unique numbers 168720 for Well 13 and 161413 for Well 16; the Minnesota Department of Natural Resources (MnDNR) Permitting And Reporting System (MPARS) database had unique numbers 161413 for Well 13 and 168720 for Well 16. A check of the unique number tags on the physical wells showed unique number 161413 on Well 13 and 168720 on Well 16; however, through discussions with the MDH and examination of their records it was determined that the unique

number tags for Wells 13 and 16 were transposed when they were installed on the wells (MDH, 2015a). The MWI database was correct; Well 13 is unique number 168720 and Well 16 is unique number 161413.

2.0 Criteria for Wellhead Protection Area Delineation

The following criteria were used to ensure accurate delineation of the WHPAs.

2.1 Time of Travel

A minimum 10-year groundwater time of travel criterion must be used to delineate a WHPA (MN Rule 4720.5510) so there is sufficient reaction time to remediate potential health impacts in the event of contamination of the aquifer. A groundwater time of travel of ten years was considered in this study. As required by the Wellhead Protection Rules, the one-year groundwater time of travel was also determined for each well addressed in this study.

2.2 Aquifer Transmissivity

For this study, transmissivities of the Quaternary glacial drift aquifer, the Tunnel City Group, the Wonewoc Sandstone, and the Mt. Simon Sandstone were estimated using pumping tests conducted at Coon Rapids Wells 19 and 20 (Quaternary), specific capacity data at Well 21 (Quaternary), specific capacity data at Coon Rapids Wells 24 and 25 (Tunnel City and Wonewoc), specific capacity data at Coon Rapids Well 18 (Mt. Simon, and pumping tests at Andover Well 3 (Mt. Simon). Summaries of the aquifer tests are included in Appendix B. See Section 2.5 below for details regarding how these transmissivity values were included in the groundwater model.

A pumping test conducted at Well 19 in 2002 estimated a range of transmissivities from 8,120 ft^2/day (754.4 m^2/day) to 9,420 ft^2/day (875.1 m^2/day) with a geometric mean of 8,700 ft^2/day (808.3 m^2/day) for the confined Quaternary glacial drift aquifer. Pumping tests conducted at Coon Rapids Well 20 in 1999 and 2002 estimated a range of transmissivities from 27,000 ft^2/day (2,508.4 m^2/day) to 66,700 ft^2/day (6,196.6 m^2/day) with a geometric mean of 45,210 ft^2/day (4,200.1 m^2/day) for the confined Quaternary glacial drift aquifer. Coon Rapids Well 21 is located far from the City's other Quaternary wells, and available Quaternary stratigraphy mapping (Meyer et al., 2013) appears to indicate that the confined Quaternary aquifer is not continuous throughout the City. Specific capacity data for Well 21 was used to estimate a transmissivity of 5,750 ft^2/day (534.2 m^2/day) for the confined Quaternary glacial drift aquifer near Well 21.

Analysis of specific capacity data for Wells 24 and 25 using the TGuess Method (Bradbury and Rothschild, 1985) estimated a range of transmissivities from 6,400 ft^2/day (594.6 m^2/day) to 9,400 ft^2/day (873.3 m^2/day) with a geometric mean of 7,700 ft^2/day (715.4 m^2/day) for the combined Tunnel City Group-Wonewoc Sandstone aquifer. The geometric mean value was allocated between the two formations using a ratio determined by comparing mean transmissivities for the two formations in the vicinity of Coon Rapids; see the aquifer test plan for the TCW aquifer in Appendix B for more details. A transmissivity of 5,470 ft^2/day (508.2 m^2/day) was used for the Tunnel City and a transmissivity of 2,230 ft^2/day (207.2 m^2/day) was used for the Wonewoc.

Four single-well pumping tests were conducted at Andover Well 3 in 1987. Mt. Simon Sandstone transmissivities estimated by these tests ranged from 1,600 ft^2/day (148.6 m^2/day) to 2,200 ft^2/day

(204.4 m^2/day). Analysis of specific capacity data at Coon Rapids Well 18 using the TGuess Method (Bradbury and Rothschild, 1985) estimated a transmissivity of 4,700 ft^2/day (436.6 m^2/day) for the Mt. Simon Sandstone. The geometric mean value of 2,310 ft^2/day (214.6 m^2/day) from these tests was used in the model.

2.3 Daily Volume of Water Pumped

Pumping data for the City of Coon Rapids for the period 2010 through 2014 are summarized in Table 3. The largest annual withdrawal for 2010-2014 was 2,959,153,000 gallons in 2012. The City's Comprehensive Water System Plan (Bolton & Menk, 2014) includes projected average daily demands of 8.11 and 8.67 million gallons per year (MGD) for 2019 and 2024, respectively. These values were used to interpolate a 2020 projected average daily demand of 8.22 MGD (3,001,030,000 gallons per year). Projected 2020 pumping rates for each well were calculated by multiplying the total 2020 projected demand by the 2010-2014 average percentage of total withdrawal for each well. The pumping rate used in the model for each Coon Rapids well for the WHPA delineation was either this 2020 projection or the historical maximum for the period 2010-2014, whichever was greater. The maximum 2010-2014 rates were greater than the 2020 projected rates for all wells. Table 3 summarizes the pumping rates used in the model for delineation of the WHPAs. Unaccounted water (the difference between the total volume pumped annually by the City's wells and the total amount billed to users) averaged 12% annually from 2004-2013 (Bolton & Menk, 2014).

2.4 Conceptual Hydrogeologic Model

The regional hydrogeologic conceptual model is presented in Metropolitan Council (2014). Additional geological information is included below, along with discussion of groundwater flow boundaries and flow directions specific to the Coon Rapids area.

2.4.1 Regional Bedrock Geology

A bedrock map derived from the Twin Cities ten-county metropolitan area geologic map (Mossler, 2013) is shown on Figure 1. Locations of three geologic cross sections through the study area are also shown on Figure 1. Geologic cross sections A-A' (Figure 2) and C-C' (Figure 4) are roughly parallel northwest to southeast sections that cross west to east cross section B-B' (Figure 3) at Coon Rapids Well 14 and Well 8, respectively.

The hydrostratigraphic units of importance for this study are described in more detail below.

Mt. Simon Sandstone

The Cambrian-aged Mt. Simon Sandstone consists of multiple beds of medium- to coarse-grained quartz sandstone intermixed with beds of siltstone and feldspathic sandstone (Mossler, 2012). The formation is 125-200 feet thick in Anoka County. The Mt. Simon Sandstone is overlain by the Eau Claire Formation (a confining unit) throughout Coon Rapids.

Eau Claire Formation

The Cambrian-aged Eau Claire Formation is comprised of very fine feldspathic sandstone, siltstone, and shale, and is 75-80 feet thick in Anoka County (Mossler, 2012). It is overlain by the Wonewoc Sandstone throughout Coon Rapids but is the uppermost bedrock just to the northwest of the City in Andover and Anoka. The Eau Claire Formation functions as a regional confining unit where present.

Wonewoc Sandstone (formerly Ironton and Galesville Sandstones)

The Cambrian-aged Wonewoc Sandstone is fine- to coarse-grained, quartzose sandstone, with its upper part coarser-grained than its lower part (Mossler, 2012). It is 50-60 feet thick in Anoka County and is the uppermost bedrock in far northwestern Coon Rapids.

Tunnel City Group (formerly Franconia Formation)

The Cambrian-aged Tunnel City Group is divided into two formations: the Mazomanie Formation and the Lone Rock Formation. The Mazomanie Formation is mostly a fine- to medium-grained friable, quartz sandstone. The Lone Rock Formation underlies the Mazomanie Formation and consists of fine grained glauconitic, feldspathic sandstone and shale with dolostone interclasts (Mossler, 2012). The Tunnel City Group is the uppermost bedrock in northern Coon Rapids and in the bedrock valleys in the central part of the City. It is 135 to 180 feet thick where not eroded. The Mazomanie Formation is present in the uppermost 60-80 feet of the unit.

Quaternary Glacial Drift

The Quaternary-aged sediments that overlie the bedrock in Coon Rapids were deposited by multiple glacial advances during the Pleistocene Epoch (Meyer et al., 2013) and vary in thickness from approximately 90 feet thick where the Jordan Sandstone is the uppermost bedrock to nearly 300 feet thick where the Tunnel City Group is the uppermost bedrock. As shown on Figures 2-4, the upper 30-50 feet of the Quaternary sediments are typically comprised of sand and gravel. The deeper sediments are comprised of discontinuous sequences of fine-grained sediments (i.e., clays and silts) and sands and gravels. Away from the Mississippi River in northeastern Coon Rapids, Figures 3 and 4 indicate a continuous clay unit separating the shallow sands and gravels from discontinuous deeper confined sand and gravel aquifers. Closer to the river, Figures 2 and 3 show a sandier profile overall with more discontinuous local confining units.

2.4.2 Flow Boundaries

The Mississippi River to the southwest of Coon Rapids is a groundwater flow boundary, though not necessarily for all of the hydrostratigraphic units detailed in the previous section. See Section 2.6 below for more discussion.

2.5 Model Description

To accurately delineate the WHPAs, it is necessary to assess how nearby wells, rivers, lakes, and variations in geologic conditions affect groundwater flow directions and velocities in the aquifer. A groundwater model constructed using the finite difference code MODFLOW-NWT (Niswonger, et al., 2011) was used

for this study to simulate groundwater flow in the hydrostratigraphic units from the Quaternary aquifer down to the Mt. Simon Sandstone. MODFLOW-NWT is public domain software that is available at no cost from the United States Geological Survey. The pre- and post-processor Groundwater Vistas (version 6) (Environmental Simulations, Inc., 2011) was used to create the model data files and evaluate the model results.

2.5.1 Base Model

Since the previous Coon Rapids Wellhead Protection Plan was prepared, the Twin Cities Metropolitan Area Regional Groundwater Flow Model, Version 3.0 (Metropolitan Council, 2014) was developed by Barr Engineering for the Metropolitan Council. This regional model includes Coon Rapids and, per discussions at the Pre-Delineation Meeting (MDH, 2015), Metro Model 3 was used as the base model for the new Coon Rapids WHPA delineations.

Metro Model 3 is divided into 9 layers to represent the major hydrostatigraphic units in the Twin Cities Metropolitan Area. In Coon Rapids, the model layers represent the following (ordered from youngest to oldest; i.e., shallowest to deepest):

- Layer 1: Quaternary glacial drift
- Layer 2: St. Peter Sandstone or Quaternary glacial drift (where present)
- Layer 3: Prairie du Chien Group or Quaternary glacial drift (where present)
- Layer 4: Jordan Sandstone or Quaternary glacial drift (where present)
- Layer 5: St. Lawrence Formation or Quaternary glacial drift (where present)
- Layer 6: Tunnel City Group or Quaternary glacial drift (where present)
- Layer 7: Wonewoc Sandstone
- Layer 8: Eau Claire Formation
- Layer 9: Mt. Simon Sandstone

Major rivers near Coon Rapids (i.e., the Mississippi and Rum Rivers) as well as lakes in the area are simulated using the River Package within MODFLOW-NWT. Baseflow measurements for rivers and streams in the area were used during calibration of Metro Model 3.

Recharge for the groundwater flow model was determined using the SWB recharge model (Westenbroek et al., 2010) for the Twin Cities metropolitan area as described in Metropolitan Council (2012).

Modifications made to Metro Model 3 for the Coon Rapids WHPA delineations are discussed in the following section.

2.5.2 Model Modifications and Updates

The following modifications and updates were made to the base model:

- A smaller sub-model centered on Coon Rapids was cut from the full Metro Model 3 using the telescopic mesh refinement (TMR) functionality in Groundwater Vistas. The boundaries of this model are approximately 10 miles from Coon Rapids in all directions. Constant-flux boundary conditions derived from the full Metro Model 3 results were applied to the outer boundaries of

the sub-model. A map of the sub-model domain is shown on Figure C1 in Appendix C. The sub-model will be referred to as "the model" hereafter in this report.

- It was determined at the Pre-delineation Meeting (MDH, 2015b) that several of the Coon Rapids well locations were incorrect in the County Well Index (CWI) (MGS, 2015). With information from the City, the locations of Wells 4, 5, 7, 8, 10, 15, 18, 19, 21, 24, and 25 were adjusted based on aerial photos to better reflect their actual locations (MDH, 2015a).
- The pumping rates for the City's wells were changed to the model input rates shown in Table 3.
- The model grid was refined from the 500-m square cells of the base model down to 125-m square cells within the Coon Rapids city limits. The grid was further refined to 7.81-m square cells in the immediate vicinity of the Coon Rapids wells.
- Edges of partially eroded bedrock units in Coon Rapids (e.g., Jordan Sandstone, St. Lawrence Formation, Tunnel City Group) were re-mapped onto the refined grid using boundaries from the Twin Cities Metro bedrock map (Mossler, 2013).
- Slight differences in model layer contact elevations versus well open intervals noted on the well logs resulted in some of the City's wells drawing water from inappropriate layers in the model. These issues were corrected for the following wells (well name followed by current open layer(s) in the model, followed in parentheses by the original open layers in the model):
    - Well 11, 5 through 9 (6 through 9)
    - Well 13, 7 through 9 (6 through 9)
    - Well 14, 7 through 9 (6 through 9)
    - Well 20, 4 (3 and 4)
    - Well 21, 4 (4 and 5)
    - Well 22, 3 (2 and 3)
    - Well 23, 4 (3 and 4)
- Horizontal hydraulic conductivity values (Kx) were updated so that model layer transmissivities in the vicinity of the Coon Rapids wells match aquifer test transmissivities (Section 2.2; Appendix B) as described below. The ratio of horizontal to vertical hydraulic conductivity (Kx/Kz) in the base Metro Model 3 was preserved when making these changes up to a maximum ratio of 1,000; i.e., new Kz values were calculated from the updated Kx values. (Values of Kx/Kz greater than 1,000 did not seem reasonable, except for the Layer 2 clay unit described below.) See Appendix C for maps of model hydraulic conductivity fields. Since several of Coon Rapids' wells are located close to the eastern city limits, some of the areas of updated hydraulic conductivity had to extend east into Blaine in order to encompass the entire well capture zones. This extended modification boundary has its eastern limit approximately 5 km to the east of the Coon Rapids/Blaine line.
    - <u>Quaternary</u>. Detailed mapping of sand and glacial till units from the Anoka County Geologic Atlas (Meyer et al., 2013) was utilized in the model edits.
        - <u>Layer 2</u>: Layer 2 represents a clayey glacial till unit at most Coon Rapids wells, but some of the Metro Model 3 K values were too high to represent this material. Till unit Ce from the Anoka County Atlas appeared to correspond to the till unit observed on the City's well logs, so the Kx and Kz values for cells representing this till within the extended boundary described above were set

to the Metro Model 3 values in Layer 2 at Well 21 - 2 ft/day and 0.001 ft/day (0.623 m/day and 0.00016 m/day), respectively – which are reasonable for the till.

- Layers 3 and 4: Sand unit Sr appeared to represent the aquifer in which Well 19 is screened. Sand unit Sr also appeared to represent the shallow portion of the sand aquifer in Layer 3 at Well 20. Layer 3 should be clay at Well 19, and till unit Xt appeared to represent this material. Wells 17, 22, and 23 appeared to be screened in sand unit Sx, which overlaped Sr and Sp in the area of the primary Coon Rapids Quaternary well field. Well 21 appeared to be screened in overlapping Sx and Sr units in Layer 4. This information was accounted for in the model as follows:
    - The Layer 3 Kx and Kz values within the till unit Xt extent were set to the values used for till unit Ce in Layer 2.
    - The transmissivity determined from the pumping test at Well 19 was 8,700 ft^2/day (808.3 m^2/day) and the model Layer 4 thickness at Well 19 was 37.4 feet (11.4 m), resulting in an effective Kx of 233 ft/day (71.1 m/day). The Layer 4 Kx values within the "hole" in sand unit Sp around Well 19 were set to this value.
    - Layer 3 Kx values in the sand unit Sr extents that did not overlap till unit Xt were set to 233 ft/day (71.1 m/day).
    - The transmissivity determined from the pumping test at Well 20 was 45,210 ft^2/day (4,200.1 m^2/day), the model Layer 3 thickness at Well 20 was 31.8 ft (9.7 m), and the model Layer 4 thickness at Well 20 was 36.7 ft (11.2 m). Combining this information with the Sr Kx of 71.1 m/day in Layer 3 resulted in an effective Layer 4 Kx of 1,030 ft/day (314.4 m/day) to match the Well 20 transmissivity in Layers 3 and 4. This K value was applied to the combined Sp and Sx extent in Layer 4 that includes Wells 17, 20, 22, and 23.
    - The transmissivity determined from the specific capacity measurement in Well 21 was 5,750 ft^2/day (534.2 m^2/day). The thickness of Layer 4 at Well 21 was 44.9 ft (13.7 m), resulting in an effective Layer 4 Kx of 128 ft/day (39.1 m/day). This value was uniformly assigned to Layer 4 cells within the combined Sr and Sx extents near Well 21.

- St. Lawrence. As noted above, Layer 5 represents the St. Lawrence formation, a regional confining unit, over much of Coon Rapids. Partially due to the remapping of bedrock units described above, some cells representing St. Lawrence Formation in the model ended up with horizontal hydraulic conductivities greater than the largest measured Kx value for the St. Lawrence (46 ft/day or 14 m/day) in Runkel et al. (2003). The Kx was set to 14 m/day in all St. Lawrence cells within the extended boundary described above with original Kx values greater than 14 m/day.
- Tunnel City and Wonewoc. As discussed above in Section 2.2, a transmissivity of 5,470 ft^2/day (508.2 m^2/day) was estimated for the Tunnel City Group and a

transmissivity of 2,230 ft^2/day (207.2 m^2/day) was estimated for the Wonewoc Sandstone. The model thicknesses at Well 24 in Layers 6 and 7 were 113 ft (34.4 m) and 61.0 ft (18.6 m), respectively. Dividing the pumping test T values by these model thicknesses gave effective K values of 48.6 ft/day (14.8 m/day) for the Tunnel City Group and 36.4 ft/day (11.1 m/day) for the Wonewoc sandstone. These K values were uniformly applied to cells representing the Tunnel City Group or Wonewoc Sandstone, respectively, within the extended boundary described above.

- Mt. Simon. Dividing the pumping test transmissivity value of 2,310 ft^2/day (214.6 m^2/day) by the model Layer 9 thickness at Well 18 of 195 ft (59.5 m) gave an effective Mt. Simon K of 11.8 ft/day (3.6 m/day). The Layer 9 Kx values within the extended boundary described above were uniformly set to the calculated effective K.

As discussed at the Pre-Delineation Meeting, no additional recalibration of the model was deemed necessary. Calibration summary plots for the updated model are included in Appendix C (Figures C9 and C10). Full discussion of the Metro Model 3 calibration is presented in Metropolitan Council (2014). MODFLOW files for the updated model are included in Appendix G.

2.6 Groundwater Flow Field

The groundwater flow field used for delineation of the WHPAs was determined by the groundwater flow model; modeled contours for the confined Quaternary glacial drift (model layers 3 and 4), Tunnel City Group, Wonewoc Sandstone, and Mt. Simon Sandstone are shown on Figures 5, 6, 7, 8, and 9, respectively.

In general, Figures 5-8 show southerly to westerly flow directions in the confined Quaternary and Tunnel City-Wonewoc aquifers. No published groundwater contours are known for these aquifers in Anoka County, but the modeled contours seem reasonable since they indicate groundwater flow towards the Mississippi River. Based on this modeled flow toward the regional groundwater discharge zones and the acceptable calibration of the groundwater model, the groundwater flow field was determined to be of acceptable accuracy.

As shown on Figures 5-8, the cones of depression from the western Coon Rapids well field extend under the Mississipppi River, which results in capture zones crossing the river into Champlin and Brooklyn Park (Figure 10). See Section 3.2 below for more discussion.

As expected due to the presence of the Eau Claire Formation aquitard, flow in the Mt. Simon Sandstone is less influenced by the Mississippi River and more dependent on high capacity pumping. Figure 9 shows flow in the Mt. Simon in Coon Rapids to be primarily directed towards the south and southwest. The southerly flow is consistent with the large cone of depression centered on southeastern Hennepin County depicted on the Mt. Simon groundwater contour map included in the Hennepin County Geologic Atlas (Kanivetsky, 1989). In northwestern Coon Rapids, flow directions in the Mt. Simon are influenced by the Champlin well field to the west.

3.0 Delineation of the Wellhead Protection Areas

Delineation of the WHPAs for the Coon Rapids wells involved the evaluation of porous media flow only. Per discussions at the Pre-Delineation Meeting (MDH, 2015b), a fracture flow evaluation was deemed unnecessary.

3.1 Porous Media Flow Evaluation

The groundwater flow model discussed above in Section 2 was used to simulate the groundwater flow field in the vicinity of Coon Rapids. The porous media capture zone for the Coon Rapids well field was delineated using the software program MODPATH (Version 5) with the modeled groundwater flow field. A minimum of 180 particles were tracked from each well. The particles were released from 6 vertical points in each layer along the open interval of each well. These particles were tracked backwards in time for both one and ten years. In plan view, the areas encompassed by the particle traces were then outlined as the 1-year and 10-year porous media time of travel zones for the well field.

Porosity values used for the porous media flow evaluation were as follows (Norvitch et al., 1974, Schwartz and Zhang, 2003):

- Quaternary Glacial Drift = 0.25
- Tunnel City Group = 0.2
- Wonewoc Sandstone = 0.2
- Mt. Simon Sandstone = 0.2

3.1.1 Sensitivity Analysis

A sensitivity analysis was performed to test the sensitivity of the model results to varying hydraulic conductivity in the confined Quaternary glacial drift, TCW, and Mt. Simon aquifers. The ranges of transmissivities estimated for the various aquifers by the pumping test analyses and specific capacity calculations (Appendix B) were used to calculate upper bounds on hydraulic conductivity for the model sensitivity analysis. The original Metro Model 3 hydraulic conductivities in these aquifers were smaller than the values calculated from the lower bounds of the transmissivity ranges, so the Metro Model 3 values were used as the lower bounds for the sensitivity analysis. The ratio of horizontal to vertical hydraulic conductivity in the base Metro Model 3 was preserved for each sensitivity run except where modified as discussed above in Section 2.5.2. The model was most sensitive to lowering the hydraulic conductivity of the TCW and confined Quaternary aquifers. A plot of the sensitivity analysis results is included in Appendix C.

Multiple particle tracking simulations were conducted to account for uncertainty in the groundwater flow model. In addition to the base model run, particle tracking simulations were conducted for the upper and lower conductivity bounds of each sensitivity run. Particle traces from all simulations were used to delineate the 1-year and 10-year porous media capture zones for each well (Figure 10).

3.2 WHPA Delineations

The composite 10-year porous media capture zones define the WHPAs. There are seven distinct WHPAs due to the spacing of the City's wells. The Emergency Response Area (ERA) is delineated for each well by the composite 1-year porous media capture zones. The WHPAs and ERAs are shown on Figure 10.

As mentioned above in Section 2.6, portions of the Coon Rapids WHPA extend under the Mississippi River into Champlin and Brooklyn Park. The particle traces that crossed beneath the River originated at confined Quaternary Wells 17, 20, and 23 and TCW-Mt. Simon Wells 7 and 11. While the traces from the Quaternary wells originated where Layer 4 represents Quaternary sediments, they crossed the River where Layer 4 represents the Jordan Sandstone. The degree of connection between the bedrock aquifers (Jordan and TCW) and the Mississippi River does not appear to be strong enough to prevent the aquifer stress from concentrated high-capacity pumping in Coon Rapids from extending to the west of the River.

3.3 Conjunctive Delineation

As discussed below in section 6.0, a region of High vulnerability is present within one of the Coon Rapids DWSMAs; however, there is no water quality data available that definitively indicates that groundwater pumped from this region is under the influence of surface water. Therefore, delineation of a surface water capture area (i.e., a conjunctive delineation) was not performed. Section 7.0 below discusses recommendations to address this data gap for the next WHPP amendment.

4.0 Delineation of the Drinking Water Supply Management Areas

The Coon Rapids DWSMAs encompass the WHPAs with boundaries that correspond to geographically identifiable features (e.g., roads, parcel boundaries, quarter-quarter section lines). Anoka County 2015 parcel data and Hennepin County 2011 parcel data were used to delineate the DWSMAs. There are three distinct DWSMAs: the West DWSMA encompasses the WHPAs for Wells 4, 6, 7, 11, 12, 14, 15, 17, 19, 20, 22, 23, 24, and 15; the Northeast DWSMA encompasses the WHPAs for Wells 1, 2, 8, 9, 10, 13, 16, 18, and 21; and the Southeast DWSMA encompasses the Well 5 WHPA. The Southeast DWSMA is contained entirely within the Coon Rapids city limits, while the Northeast DWSMA extends east into Blaine and the West DWSMA extends southwest into Champlin and Brooklyn Park. The Coon Rapids DWSMAs are shown on Figure 10. To satisfy Minnesota Rule 4720.5500, Subpart 2, 1:24,000 scale maps of the DWSMAs are included in Appendix D.

5.0 Well Vulnerability Assessment

MDH evaluated the vulnerability of the Coon Rapids municipal wells to contamination from contaminants released at the surface. The evaluation parameters include geology, well construction, pumping rate, and water quality. Coon Rapids Wells 6, 7, 11, 15, 17, 19, 20, 21, 22, 23, and 24 are classified as “vulnerable” and Wells 1, 2, 4, 5, 8, 9, 10, 12, 13, 14, 16, 18, and 25 are classified as “not vulnerable.” Copies of the MDH well vulnerability scoring sheets for the Coon Rapids wells are presented in Appendix E.

6.0 Drinking Water Supply Management Area Vulnerability Assessment

The vulnerabilities of the Quaternary glacial drift, Tunnel City Group, Wonewoc Sandstone, and Mt. Simon Sandstone within the DWSMAs associated with the Coon Rapids wells were evaluated in a manner consistent with MDH guidance for assessing aquifer vulnerability (MDH, 1997) using geologic sensitivities based on L scores computed from boring log data and water quality data for the Coon Rapids wells.

The first step in the assessment is to determine the geologic sensitivity rating of the aquifer. The Minnesota Department of Natural Resources (MnDNR) defines geologic sensitivity based on the travel time of water moving vertically from the surface to the aquifer of interest as follows (see MnDNR, 1991):

- Sensitivity = Very High: vertical travel time is hours to months
- Sensitivity = High: vertical travel time is weeks to years
- Sensitivity = Moderate: vertical travel time is years to decades
- Sensitivity = Low: vertical travel time is several decades to a century
- Sensitivity = Very Low: vertical travel time is more than a century

Geologic logs listed in the CWI for wells in the vicinity of the WHPAs were reviewed and "L scores" based on the thickness of low permeability units at each well location were assigned to each well. [See MnDNR (1991) for a discussion of how to determine L scores]. The MDH L score tool was used to compute the L scores and assign geologic sensitivity ratings. Well logs lacking detail in the Quaternary stratigraphy were excluded from the L score calculations. L score calculations were performed for the uppermost aquifer in each composite WHPA. Figure F1 in Appendix F shows geologic sensitivity for the regions of the WHPAs where the confined Quaternary aquifer is the uppermost aquifer, and Figure F2 shows geologic sensitivity for the regions of the WHPAs where bedrock aquifers (e.g., TCW, Mt. Simon) are the uppermost aquifers.

Quaternary geologic sensitivity in the Coon Rapids WHPAs is primarily Low or Moderate, though there is a region of High geologic sensitivity between Wells 15 and 25. Quaternary Wells 17, 22, and 23 are located in areas of Moderate geologic sensitivity, and Quaternary Wells 19, 20, and 21 are located in areas of Low geologic sensitivity.

Bedrock geologic sensitivity is Low except for approximately the northern two-thirds of the Well 6 WHPA where the geologic sensitivity of the TCW aquifer is Moderate.

The second step in the assessment is to refine the geologic sensitivity using water quality data from the water supply wells. Recent tritium sampling was conducted in summer 2010 at Coon Rapids Wells 11, 17, 20, 23, and 24 (see Appendix E) and in July 2015 at Wells 2, 5, 6, 9, 14, 18, and 21 (MDH, 2015c). Tritium (^3H), a radioactive isotope of hydrogen, has been used extensively to date groundwater. Tritium activities peaked during atmospheric hydrogen bomb testing of the 1950s and 1960s, and values of ^3H in precipitation reached a maximum of approximately 10,000 T.U. (tritium units) in 1963 (Mazor, 2004). Natural production of ^3H in the upper atmosphere introduces approximately 5 T.U. to precipitation each

year (Mazor, 2004). Because ^{3}H has a relatively short half-life of 12.43 years, radioactive decay since the bomb peak has reduced tritium activities to near background levels and ^{3}H is used mostly for relative age dating today. Groundwater that has little or no detectible ^{3}H is stated to be "vintage" or pre-bomb. Groundwater with detectable values of ^{3}H is stated to be "young" or post-bomb. The presence of tritium at concentrations above 1 tritium unit indicates the presence of a significant fraction of post-1954 (i.e., recently infiltrated) water in the groundwater sample. Table 4 summarizes the results of the 2010 and 2015 tritium sampling events. Tritium was not detected in the samples collected at Wells 5 and 18. Tritium was detected at similar concentrations of 2.6, 2.9, 2.7, 1.8, and 2.0 NTU at Wells 2, 9, 11, 14, and 17, respectively, and at higher concentrations of 6.8, 6.9, 8.6, 7.7, and 7.7 NTU at Wells 6, 20, 21, 23, and 24, respectively.

When water quality data does not indicate the presence of tritium or other constituents that are consistent with contamination from the surface the aquifer vulnerability classification and the geologic sensitivity rating can be the same. The presence of tritium in groundwater samples from a well suggests that the water traveled vertically from the ground surface to the aquifer in less than about 50 years. When tritium has been detected in a well, geologic sensitivity ratings of low or very low would not be consistent with water quality data, unless groundwater flow information would indicate a nearby connection to an area of rapid vertical movement of water (e.g., a buried bedrock valley filled with sand and gravel) where water could travel from the surface to the aquifer quickly enough that tritium could be detected in a well with a geologic sensitivity rating of low or very low. If there is no hydraulic connection to an area of rapid vertical movement of water the aquifer vulnerability would need to be classified as moderate to explain the presence of tritium in the well.

Figure 11 shows the final aquifer vulnerability map for the uppermost aquifer supplying water to municipal wells in each of the Coon Rapids DWSMAs. Within the West DWSMA, tritium was detected at Wells 6, 11, 14, 17, 20, 23, and 24. The parcels intersected by the Well 6 WHPA were assigned Moderate vulnerability; while the geologic sensitivity at Well 6 itself was Low, a Moderate vulnerability at minimum must be assigned to this region due to the tritium detection at Well 6. Wells 11, 14, 17, 23, 24, and 25 are located within regions of Moderate geologic sensitivity. The geologic sensitivity is Low at Well 20. Due to the tritium detections at multiple wells, most of the West DWSMA was assigned Moderate vulnerability. The area of High geologic sensitivity near Wells 15 and 25 was assigned High vulnerability; mapping of the boundaries of the High vulnerability area to correspond to geographically identifiable features resulted in Wells 14 and 25 being located in the High vulnerability area. In the absence of recent water quality data for Wells 4 and 12, Low geologic sensitivity was mapped to Low vulnerability where the Well 4 and Well 12 capture zone are the uppermost capture zones in the DWSMA.

The Southeast DWSMA was assigned Low vulnerability due to Low geologic sensitivity in the Well 5 WHPA and a tritium non-detect at Well 5.

Low vulnerability was assigned to the parcels within the Northeast DWSMA that intersect the Well 18 WHPA because the geologic sensitivity of the Mt. Simon Sandstone is Low and no tritium was detected at Well 18. The remainder of the Northeast DWSMA was assigned Moderate vulnerability. Although the geologic sensitivity of this region is primarily low, tritium was detected at Wells 2, 9, and 21, requiring a

minimum Moderate vulnerability. While the tritium value of 8.6 NTU at Well 21 is high, this value is not inconsistent with the definition of Moderate vulnerability (travel times from years to decades) and the Quaternary stratigraphy near Well 21 (Figures 3 and 4) includes some confining units.

7.0 Recommendations

It is recommended that the City work with the MDH to conduct tritium sampling of the municipal wells at least every ten years in order to have current data available when updating the aquifer vulnerability assessment as part of the required decennial wellhead protection plan amendments.

A conjunctive delineation was not performed due to the absence of water quality data that definitively indicate groundwater under the influence of surface water. Per current MDH policy, it is recommended that additional water quality sampling (e.g., oxygen isotopes) be conducted at the City wells nearest the region of High vulnerability and Quaternary wells whose capture zones extend under the Mississippi River (e.g., Wells 14, 15, 17, 20, 22, 23, and 25) during the life of this WHPP in order to assess the need for a conjunctive delineation in the next WHPP amendment.

8.0 Supporting Data Files

The groundwater model files and GIS files are included in Appendix G. (Appendix G can be found in the "Part1" folder on the CD.)

The groundwater model can be reviewed using MODFLOW-NWT (Niswonger et al., 2011). MODPATH files can be reviewed using MODPATH Version 5.

All coordinates in the modeling files are based on UTM NAD 83 Zone 15 N datum. Elevations are in meters above mean sea level (m MSL). Time units are days. Length units are meters.

The GIS files have been named according to the MDH conventions. Shapefiles are in UTM NAD83 Zone 15 N datum.

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Tables

Table 1

Assessment of Data Elements
Coon Rapids WHPP Amendment

Data Element	Present and Future Implications				Data Source
	Use of the Well s	Delineation Criteria	Quality and Quantity of Well Water	Land and Groundwater Use in DWSMA	
Precipitation	M	L	M	M	Minnesota Climatology Working Group
Geology					
Maps and geologic descriptions	M	H	H	H	MGS, CWI
Subsurface data	M	H	H	H	MGS, MDH, CWI
Borehole geophysics	M	M	M	M	MGS
Surface geophysics	L	L	L	L	Not Available
Maps and soil descriptions	L	M	M	M	MGS, NRCS
Eroding lands					
Water Resources					
Watershed units	L	L	L	L	DNR
List of public waters	L	L	L	L	DNR
Shoreland classifications					
Wetlands map					
Floodplain map					
Land Use					
Parcel boundaries map	L	H	L	L	Metropolitan Council, Anoka County
Political boundaries map	L	L	L	L	MNGEO
PLS map	L	L	L	L	DNR
Land use map and inventory					
Comprehensive land use map					
Zoning map					
Public Utility Services					
Transportation routes and corridors	L	M	L	L	MNDOT
Storm/sanitary sewers and PWS system map	L	L	L	L	City of Coon Rapids
Oil and gas pipelines map					

Definitions Used for Assessing Data Elements:

High (H) - the data element has a direct impact
Moderate (M) - the data element has an indirect or marginal impact
Low (L) - the data element has little if any impact
Shaded - the data element was not required by MDH for preparing the WHP plan

CWI – Minnesota County Well Index
DNR – Minnesota Department of Natural Resources
MNGEO - Minnesota Geospatial Information Office
MDH – Minnesota Department of Health
MNDOT – Minnesota Department of Transportation
MPCA – Minnesota Pollution Control Agency
NRCS – Natural Resources Conservation Service
SSURGO – Soil Survey Geographic Database
USGS – United States Geological Survey

Table 1

Assessment of Data Elements (Continued)

Data Element	Present and Future Implications				Data Source
	Use of the Well s	Delineation Criteria	Quality and Quantity of Well Water	Land and Groundwater Use in DWSMA	
Public drainage systems map/lis	L	L	L	L	City of Coon Rapids
Records of well construction, maintenance, and use	H	H	L	L	City of Coon Rapids, CWI, MDH files
Surface Water Quantity					
Stream flow data	L	L	L	L	DNR
Ordinary high water mark data	L	L	L	L	DNR
Permitted withdrawals	L	L	L	L	DNR
Protected levels/flows	L	L	L	L	DNR
Water use conflicts	L	L	L	L	DNR
Groundwater Quantity					
Permitted withdrawals	H	H	H	H	DNR
Groundwater use conflicts	L	L	L	L	DNR
Water levels	H	H	H	H	CWI, MDH
Surface Water Quality					
Stream and lake water quality management classification					
Monitoring data summary	L	L	L	L	MPCA, MDH
Groundwater Quality					
Monitoring data	H	H	H	H	MDH
Isotopic data	H	H	H	H	MDH
Tracer studies	L	L	L	L	Not Available
Contamination site data	L	L	M	M	MPCA, MDH
Property audit data from contamination sites					
MPCA and MDA spills/release reports	L	L	L	L	MDH, MPCA

Definitions Used for Assessing Data Elements:

High (H) - the data element has a direct impact
Moderate (M) - the data element has an indirect or marginal impact
Low (L) - the data element has little if any impact
Shaded - the data element was not required by MDH for preparing the WHP plan

CWI – Minnesota County Well Index
DNR – Minnesota Department of Natural Resources
MNGEO - Minnesota Geospatial Information Office
MDH – Minnesota Department of Health
MNDOT – Minnesota Department of Transportation
MPCA – Minnesota Pollution Control Agency
NRCS – Natural Resources Conservation Service
SSURGO – Soil Survey Geographic Database
USGS – United States Geological Survey

Table 2

Water Supply Well Information
Coon Rapids WHPP Amendment

Local Well ID	Unique Number	Use/ Status[1]	Casing Diameter (in.)	Casing Depth (ft.)	Well Depth (ft.)	Year Constructed	Aquifer	Well Vulnerability
1	202926	S	12	220	462	1957	St. Lawrence – Eau Claire	Not Vulnerable
2	202929	S	12	226	788	1957	St. Lawrence – Mt. Simon	Not Vulnerable
4	202972	S	20 x 16	233	605	1960	Tunnel City – Mt. Simon	Not Vulnerable
5	202951	S	24 x 16	242	695	1961	Tunnel City – Mt. Simon	Not Vulnerable
6	202937	S	20	118	158	1960	Tunnel City	Vulnerable
7	202943	S	24 x 16	189	632	1964	Tunnel City – Mt. Simon	Vulnerable
8	202932	P	24 x 16	283	700	1965	Tunnel City – Mt. Simon	Not Vulnerable
9	202931	P	24 x 16	294	500	1969	Tunnel City – Eau Claire	Not Vulnerable
10	202930	P	30 x 24 x 16	272	684	1970	Tunnel City – Mt. Simon	Not Vulnerable
11	202965	P	24	157	627	1972	Tunnel City – Mt. Simon	Vulnerable
12	168721	S	24 x 16	208	604	1975	Tunnel City – Mt. Simon	Not Vulnerable
13	168720	P	24 x 16	395	693	1977	Tunnel City – Mt. Simon	Not Vulnerable
14	110460	P	30 x 20	328	613	1977	Tunnel City – Mt. Simon	Not Vulnerable
15	110461	P	30 x 20	225	615	1976	Tunnel City – Mt. Simon	Vulnerable
16	161413	S	30 x 24 x 18	395	653	1981	Wonewoc – Mt. Simon	Not Vulnerable

[1] P = Primary, S = Seasonal

Table 2

Water Supply Well Information (continued)
Coon Rapids WHPP Amendment

Local Well ID	Unique Number	Use/ Status[1]	Casing Diameter (in.)	Casing Depth (ft.)	Well Depth (ft.)	Year Constructed	Aquifer	Well Vulnerability
17	150357	P	30	81	121	1981	Confined Quaternary	Vulnerable
18	110469	S	36 x 30 x 24	575	637	1986	Mt. Simon	Not Vulnerable
19	110475	P	30 x 20	115	135	1987	Confined Quaternary	Vulnerable
20	420956	P	30 x 20	95	135	1988	Confined Quaternary	Vulnerable
21	474384	P	24 x 18	170	203	1990	Confined Quaternary	Vulnerable
22	474385	S	24	80	105	1990	Confined Quaternary	Vulnerable
23	463020	S	30 x 24	93	128	1991	Confined Quaternary	Vulnerable
24	674478	P	36 x 30 x 24	241	388	2003	Tunnel City – Wonewoc	Vulnerable
25	674479	P	36 x 24	229	388	2003	Tunnel City – Wonewoc	Vulnerable

[1] P = Primary, S = Seasonal

Table 3

Annual and Projected Pumping Rates for Coon Rapids Wells
Coon Rapids WHPP Amendment

		Total Annual Withdrawal (gal/yr)				
Unique Number	**Well Name**	**2010**	**2011**	**2012**	**2013**	**2014**
202926	1	2,474,000	2,056,000	5,603,000	11,794,000	3,625,000
202929	2	2,510,000	2,107,000	5,257,000	16,688,000	3,438,000
202972	4	454,000	237,000	328,000	4,995,000	2,330,000
202951	5	11,664,000	10,940,000	18,240,000	23,187,000	2,019,000
202937	6	11,404,000	14,692,000	18,891,000	28,209,000	2,022,000
202943	7	8,143,000	15,479,000	19,480,000	36,111,000	2,966,000
202932	8	266,464,000	146,631,000	124,262,000	87,333,000	153,358,000
202931	9	154,980,000	279,287,000	296,930,000	240,707,000	234,551,000
202930	10	289,927,000	321,549,000	329,619,000	260,648,000	48,304,000
202965	11	292,273,000	335,685,000	301,213,000	227,880,000	230,392,000
168721	12	8,107,000	13,305,000	19,113,000	26,242,000	1,961,000
168720	13	26,545,000	79,698,000	42,333,000	56,801,000	84,661,000
110460	14	82,530,000	65,386,000	104,955,000	97,452,000	89,025,000
110461	15	141,580,000	132,889,000	284,911,000	279,754,000	341,462,000
161413	16	6,637,000	268,000	1,340,000	1,462,000	859,000
150357	17	166,967,000	324,602,000	238,277,000	210,720,000	263,843,000
110469	18	1,461,000	1,264,000	1,103,000	3,664,000	2,340,000
110475	19	309,781,000	333,579,000	206,674,000	222,999,000	190,172,000
420956	20	348,896,000	275,096,000	157,449,000	146,620,000	161,888,000
474384	21	300,898,000	327,105,000	300,839,000	218,424,000	227,594,000
474385	22	2,315,000	33,171,000	34,297,000	23,168,000	45,768,000
463020	23	1,482,000	7,167,000	16,255,000	12,440,000	18,061,000
674478	24	229,680,000	20,193,000	218,647,000	220,698,000	160,699,000
674479	25	210,722,000	18,157,000	213,137,000	204,520,000	161,852,000
	Totals	2,877,894,000	2,760,543,000	2,959,153,000	2,662,516,000	2,433,190,000

Source: City water use records

Table 3

Annual and Projected Pumping Rates for Coon Rapids Wells
Coon Rapids WHPP Amendment

		Percentage of Annual Withdrawal					
Unique Number	Well Name	2010	2011	2012	2013	2014	Average Annual % of Withdrawal
202926	1	0.1%	0.1%	0.2%	0.4%	0.1%	0.2%
202929	2	0.1%	0.1%	0.2%	0.6%	0.1%	0.2%
202972	4	0.0%	0.0%	0.0%	0.2%	0.1%	0.1%
202951	5	0.4%	0.4%	0.6%	0.9%	0.1%	0.5%
202937	6	0.4%	0.5%	0.6%	1.1%	0.1%	0.5%
202943	7	0.3%	0.6%	0.7%	1.4%	0.1%	0.6%
202932	8	9.3%	5.3%	4.2%	3.3%	6.3%	5.7%
202931	9	5.4%	10.1%	10.0%	9.0%	9.6%	8.8%
202930	10	10.1%	11.6%	11.1%	9.8%	2.0%	8.9%
202965	11	10.2%	12.2%	10.2%	8.6%	9.5%	10.1%
168721	12	0.3%	0.5%	0.6%	1.0%	0.1%	0.5%
168720	13	0.9%	2.9%	1.4%	2.1%	3.5%	2.2%
110460	14	2.9%	2.4%	3.5%	3.7%	3.7%	3.2%
110461	15	4.9%	4.8%	9.6%	10.5%	14.0%	8.8%
161413	16	0.2%	0.0%	0.0%	0.1%	0.0%	0.1%
150357	17	5.8%	11.8%	8.1%	7.9%	10.8%	8.9%
110469	18	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%
110475	19	10.8%	12.1%	7.0%	8.4%	7.8%	9.2%
420956	20	12.1%	10.0%	5.3%	5.5%	6.7%	7.9%
474384	21	10.5%	11.8%	10.2%	8.2%	9.4%	10.0%
474385	22	0.1%	1.2%	1.2%	0.9%	1.9%	1.0%
463020	23	0.1%	0.3%	0.5%	0.5%	0.7%	0.4%
674478	24	8.0%	0.7%	7.4%	8.3%	6.6%	6.2%
674479	25	7.3%	0.7%	7.2%	7.7%	6.7%	5.9%

Table 3

Annual and Projected Pumping Rates for Coon Rapids Wells
Coon Rapids WHPP Amendment

		Projected Water Use (2020)			Maximum Total Pumping for Model Input[3]		
Unique Number	Well Name	Total[1] (gal/yr)	% of Total Projected Water Use Well[2]	Projected Well Pumpage Based on % (gal/yr)	gal/yr	gal/day	m^3/day
202926	1		0.2%	6,002,060	11,794,000	32,312	122
202929	2		0.2%	6,002,060	16,688,000	45,721	173
202972	4		0.1%	3,001,030	4,995,000	13,685	52
202951	5		0.5%	15,005,150	23,187,000	63,526	240
202937	6		0.5%	15,005,150	28,209,000	77,285	293
202943	7		0.6%	18,006,180	36,111,000	98,934	375
202932	8		5.7%	171,058,710	266,464,000	730,038	2,764
202931	9		8.8%	264,090,640	296,930,000	813,507	3,080
202930	10		8.9%	267,091,670	329,619,000	903,066	3,419
202965	11		10.1%	303,104,030	335,685,000	919,685	3,482
168721	12		0.5%	15,005,150	26,242,000	71,896	272
168720	13		2.2%	66,022,660	84,661,000	231,948	878
110460	14		3.2%	96,032,960	104,955,000	287,548	1,089
110461	15		8.8%	264,090,640	341,462,000	935,512	3,542
161413	16		0.1%	3,001,030	6,637,000	18,184	69
150357	17		8.9%	267,091,670	324,602,000	889,321	3,367
110469	18		0.1%	3,001,030	3,664,000	10,038	38
110475	19		9.2%	276,094,760	333,579,000	913,915	3,460
420956	20		7.9%	237,081,370	348,896,000	955,879	3,619
474384	21		10.0%	300,103,000	327,105,000	896,178	3,393
474385	22		1.0%	30,010,300	45,768,000	125,392	475
463020	23		0.4%	12,004,120	18,061,000	49,482	187
674478	24		6.2%	186,063,860	229,680,000	629,260	2,382
674479	25		5.9%	177,060,770	213,137,000	583,937	2,211
	Totals	3,001,030,000		3,001,030,000	3,758,131,000	10,296,249	38,978

Appropriation 3,200,000,000

[1] 2020 projected average daily demand interpolated from land use-based projections in Coon Rapids Comprehensive Water System Plan (Bolton & Menk, 2014) for 2019 (8.11 MGD) and 2024 (8.67 MGD).

[2] Percentages for all wells are based the average % of annual withdrawal for the period 2010 through 2014

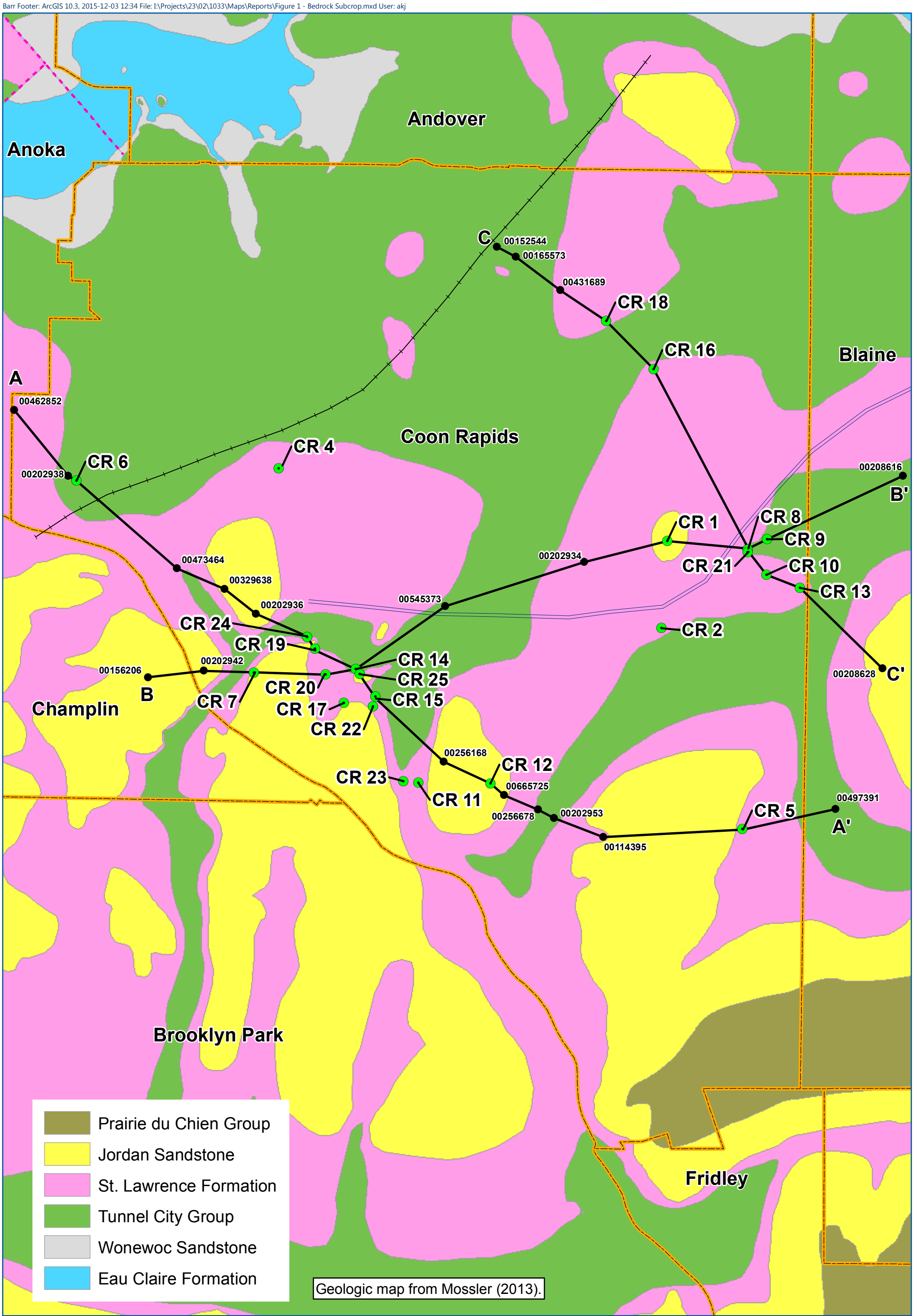
[3] For each well, the greater of the estimated pumpage based on projected 2020 withdrawal and actual annual pumpage for 2010 - 2014.

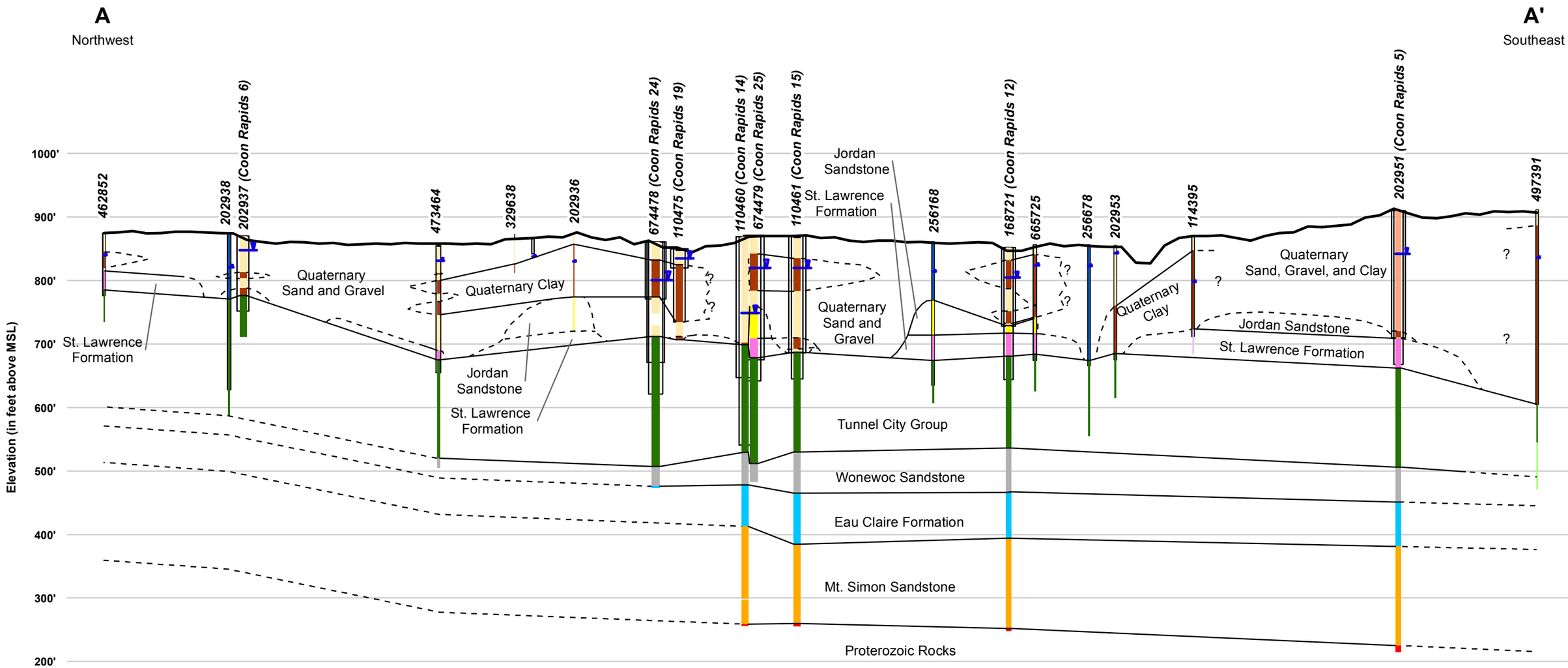
Table 4

Tritium Sampling Results
Coon Rapids WHPP Amendment

Local Well ID	Unique Number	Aquifer	Sample Date	Tritium Concentration (NTU)
2	202929	St. Lawrence – Mt. Simon	7/9/2015	2.6
5	202951	Tunnel City – Mt. Simon	7/9/2015	<.8
6	202937	Tunnel City	7/9/2015	6.8
9	202931	Tunnel City – Eau Claire	7/9/2015	2.9
11	202965	Tunnel City – Mt. Simon	6/8/2010	2.7
14	110460	Tunnel City – Mt. Simon	7/9/2015	1.8
17	150357	Confined Quaternary	6/8/2010	2.0
18	110469	Mt. Simon	7/9/2015	<.8
20	420956	Confined Quaternary	6/8/2010	6.9
21	474384	Confined Quaternary	7/9/2015	8.6
23	463020	Confined Quaternary	6/8/2010	7.7
24	674478	Tunnel City - Wonewoc	7/15/2010	7.7

Figures


Anoka
Andover
Blaine
Coon Rapids
Champlin
Brooklyn Park
Fridley
A
A'
B
B'
C
C'
00462852
00202938
00473464
00329638
00202936
00156206
00202942
00545373
00202934
00152544
00165573
00431689
00208616
00208628
00256168
00665725
00256678
00202953
00114395
00497391
CR 1
CR 2
CR 4
CR 5
CR 6
CR 7
CR 8
CR 9
CR 10
CR 11
CR 12
CR 13
CR 14
CR 15
CR 16
CR 17
CR 18
CR 19
CR 20
CR 21
CR 22
CR 23
CR 24
CR 25
Prairie du Chien Group
Jordan Sandstone
St. Lawrence Formation
Tunnel City Group
Wonewoc Sandstone
Eau Claire Formation
Geologic map from Mossler (2013).
Coon Rapids Municipal Well
Cross Section Well
Cross Section Trace
Municipal Boundary
Monocline
Syncline
Fault
N
0
3,000
6,000
Feet
BARR
BEDROCK SUBCROP
Coon Rapids WHPP Amendment
City of Coon Rapids, MN
FIGURE 1



Static Water Level
Ground Surface
Well Casing

Quaternary Sand and Gravel
Quaternary Clay
Fill and Topsoil
Quaternary Sand, Gravel, and Clay
Undifferentiated Quaternary
Jordan Sandstone
St. Lawrence Formation

St. Lawrence Formation - Tunnel City Group
Tunnel City Group
Tunnel City Group - Wonewoc Sandstone
Wonewoc Sandstone
Eau Claire Formation
Mt. Simon Sandstone
Proterozoic Rocks

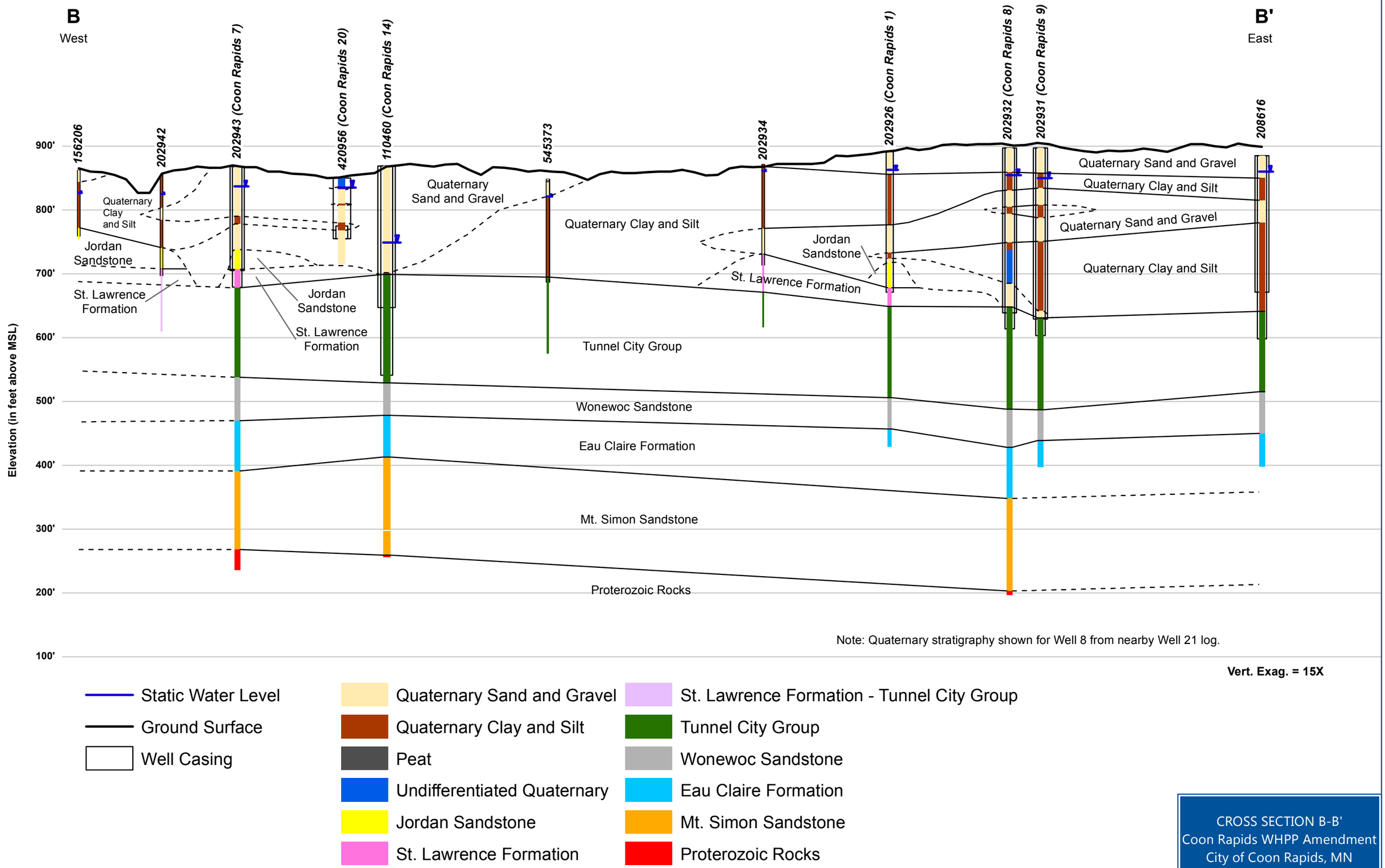
Vert. Exag. = 15X

BARR

CROSS SECTION A-A'
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

FIGURE 2

Barr Footer: ArcGIS 10.3, 2015-12-02 08:08 File: I:\Projects\23\02\1033\Maps\Reports\Figure 2 - Cross Section A-A.mxd User: akj

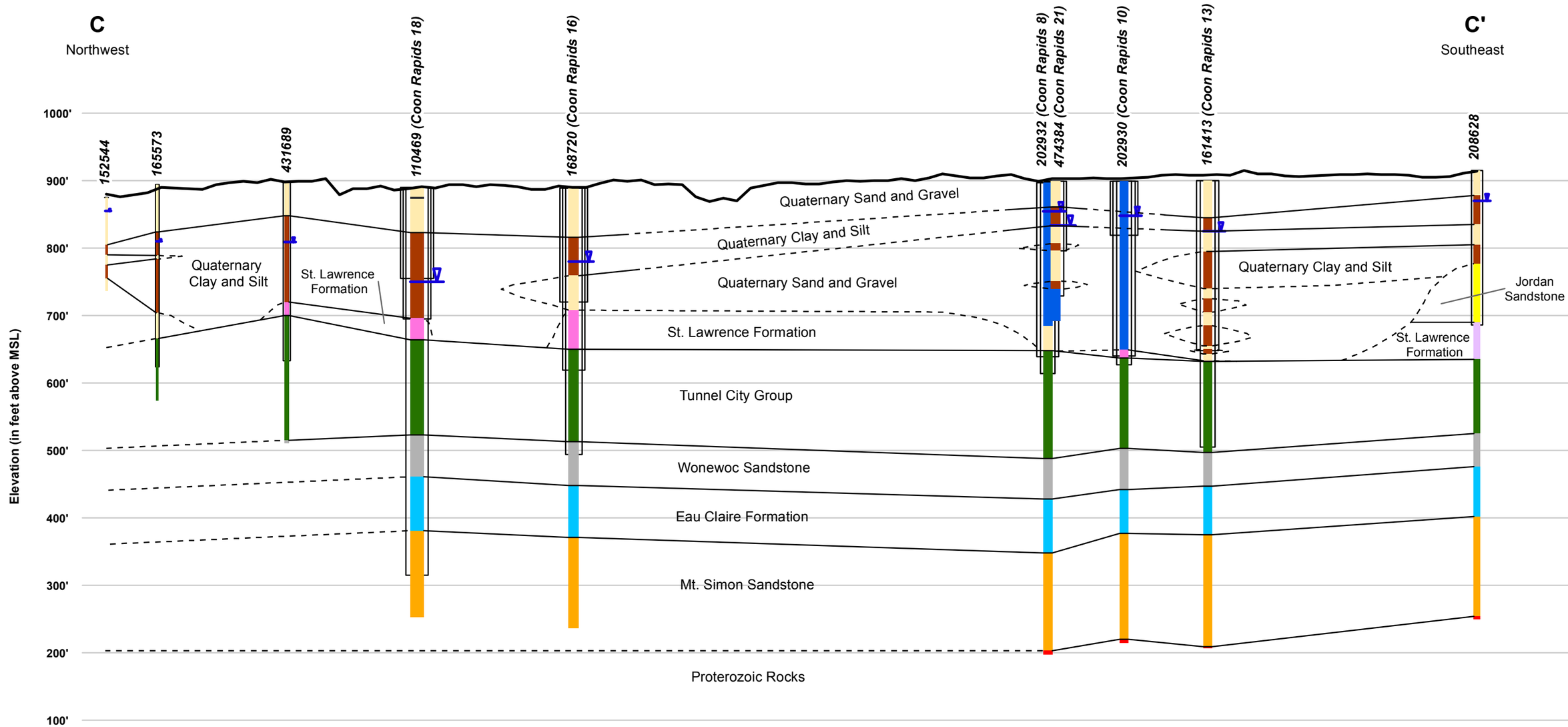


CROSS SECTION B-B'
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

FIGURE 3

BARR

Barr Footer: ArcGIS 10.3, 2015-12-02 09:42 File: I:\Projects\23\02\1033\Maps\Reports\Figure 3 - Cross Section B-B.mxd User: akj



Static Water Level
Ground Surface
Well Casing

Quaternary Sand and Gravel
Quaternary Clay and Silt
Peat
Undifferentiated Quaternary
Jordan Sandstone
St. Lawrence Formation

St. Lawrence Formation - Tunnel City Group
Tunnel City Group
Wonewoc Sandstone
Eau Claire Formation
Mt. Simon Sandstone
Proterozoic Rocks

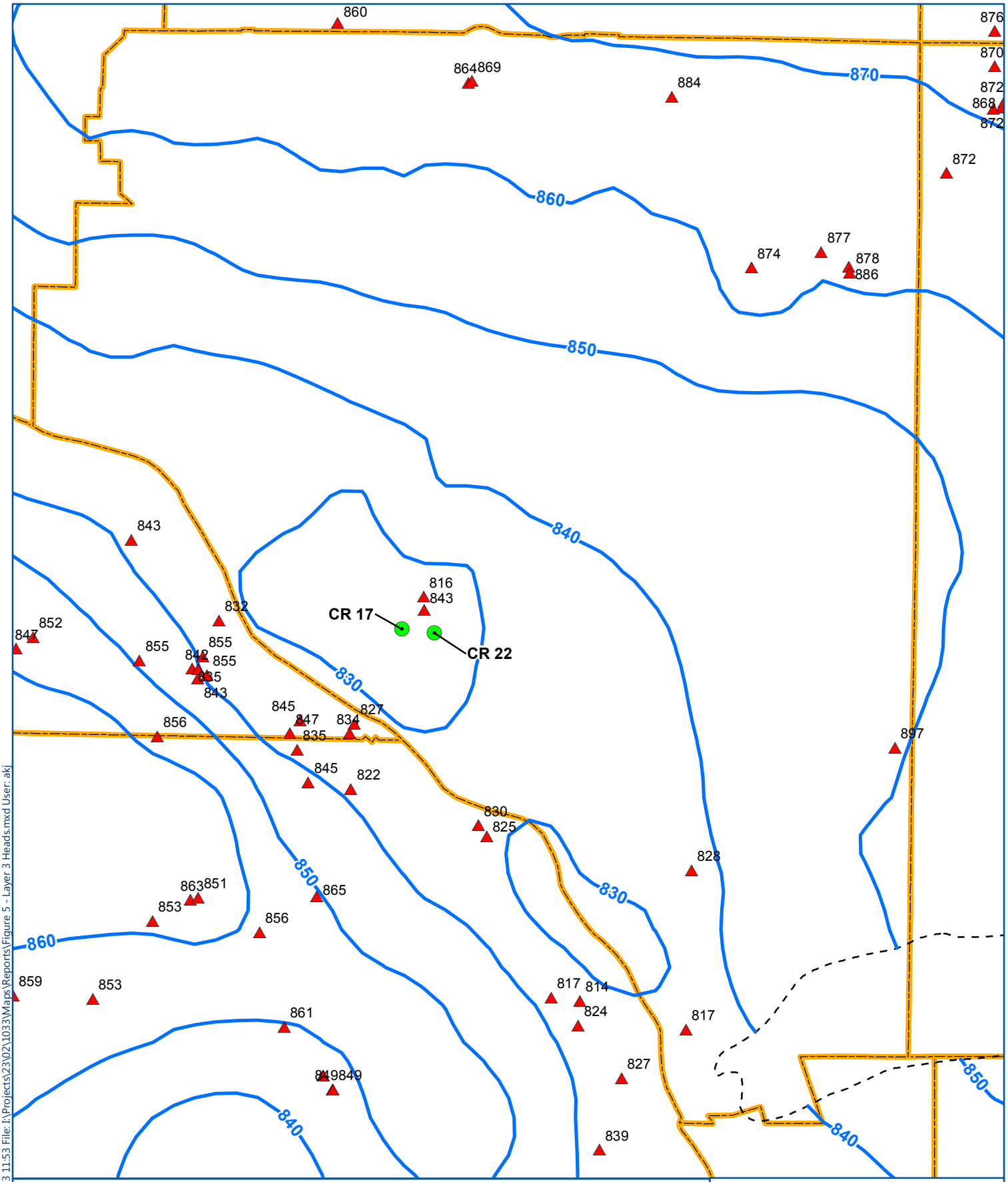
Vert. Exag. = 10X

CROSS SECTION C-C'
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

FIGURE 4

BARR

Barr Footer: ArcGIS 10.3, 2015-12-02 09:01 File: I:\Projects\23\02\1033\Maps\Reports\Figure 4 - Cross Section C-C.mxd User: akj



Coon Rapids Municipal Well open to Layer 3

Layer 3 Quaternary Target

Modeled Head (ft MSL)

Prairie du Chien Group Extent

Municipal Boundary

0 4,000

Feet

BARR

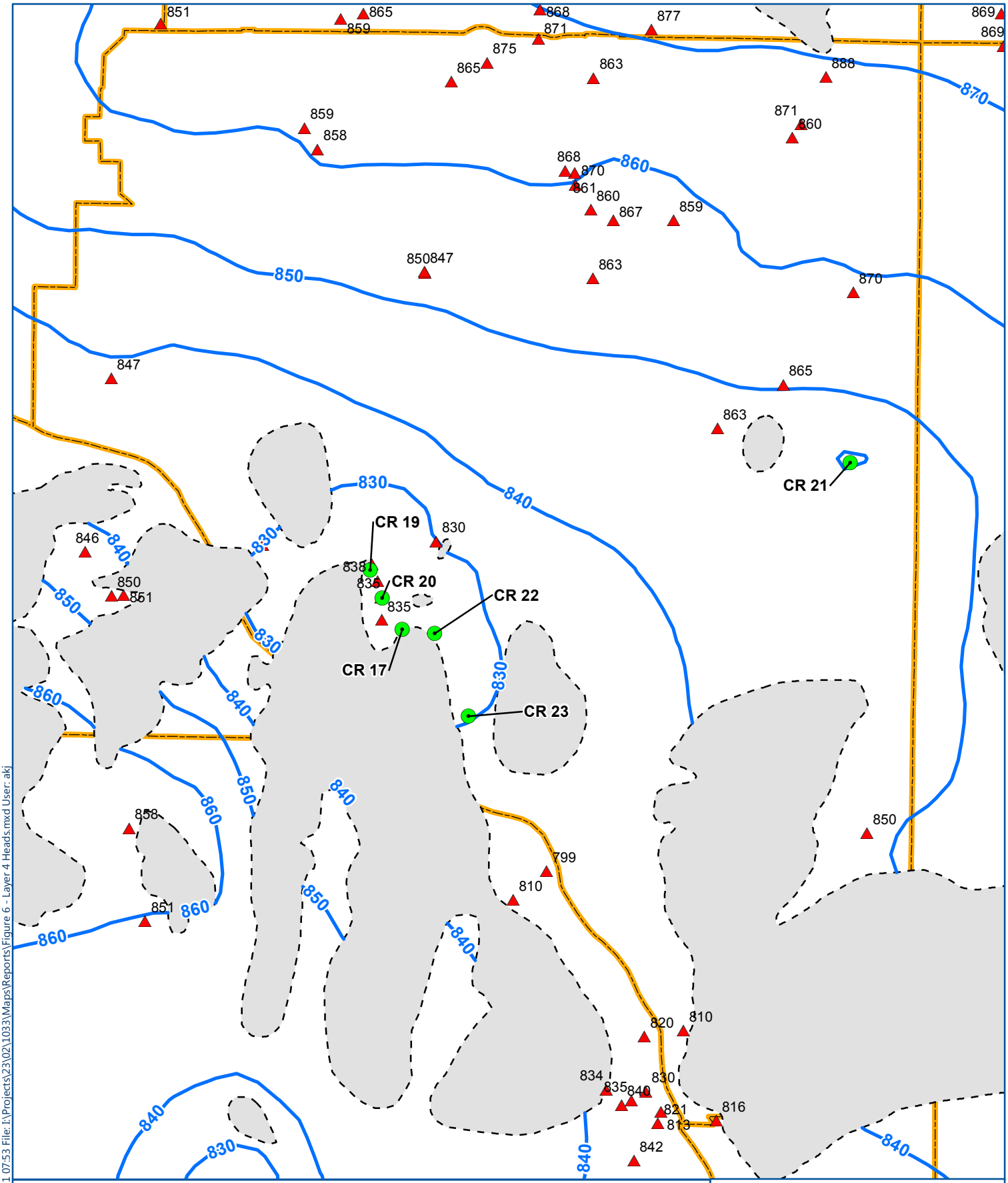
MODELED HEADS IN QUATERNARY GLACIAL DRIFT LAYER 3

Coon Rapids WHPP Amendment

City of Coon Rapids, MN

FIGURE 5

Barr Footer: ArcGIS 10.3, 2015-12-03 11:53 File: I:\Projects\23\02\1033\Maps\Reports\Figure 5 - Layer 3 Heads.mxd User: akj



Coon Rapids Municipal Well open to Layer 4

Layer 4 Quaternary Target

Modeled Head (ft MSL)

Jordan Sandstone Extent

Municipal Boundary

0 4,000 Feet

BARR

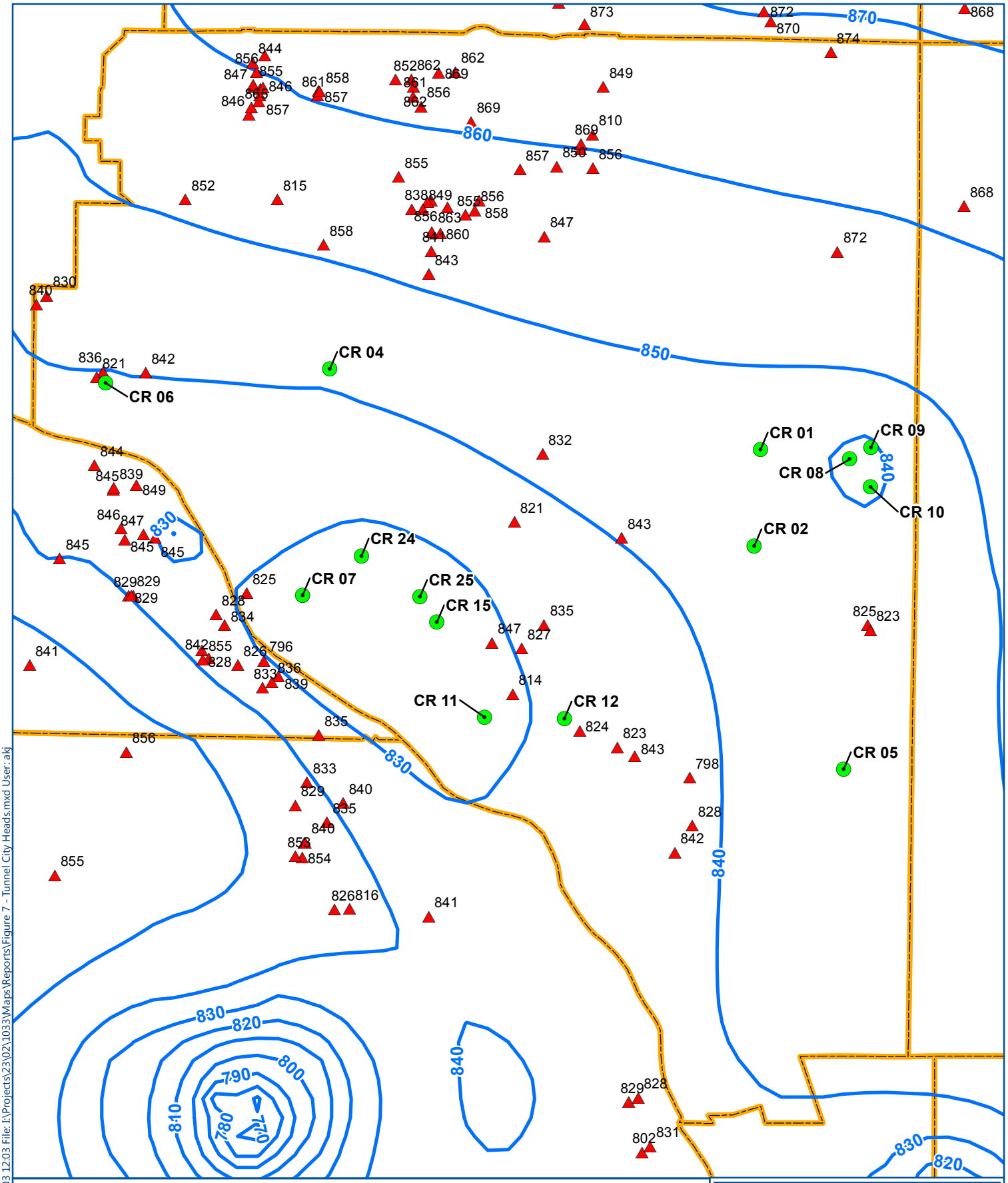
MODELED HEADS IN QUATERNARY GLACIAL DRIFT LAYER 4

Coon Rapids WHPP Amendment

City of Coon Rapids, MN

FIGURE 6

Barr Footer: ArcGIS 10.3, 2016-03-01 07:53 File: I:\Projects\23\02\1033\Maps\Reports\Figure 6 - Layer 4 Heads.mxd User: akj



Coon Rapids Municipal Well open to Tunnel City Group

Layer 6 Tunnel City Target

Modeled Head (ft MSL)

Municipal Boundary

0 4,000 Feet

BARR

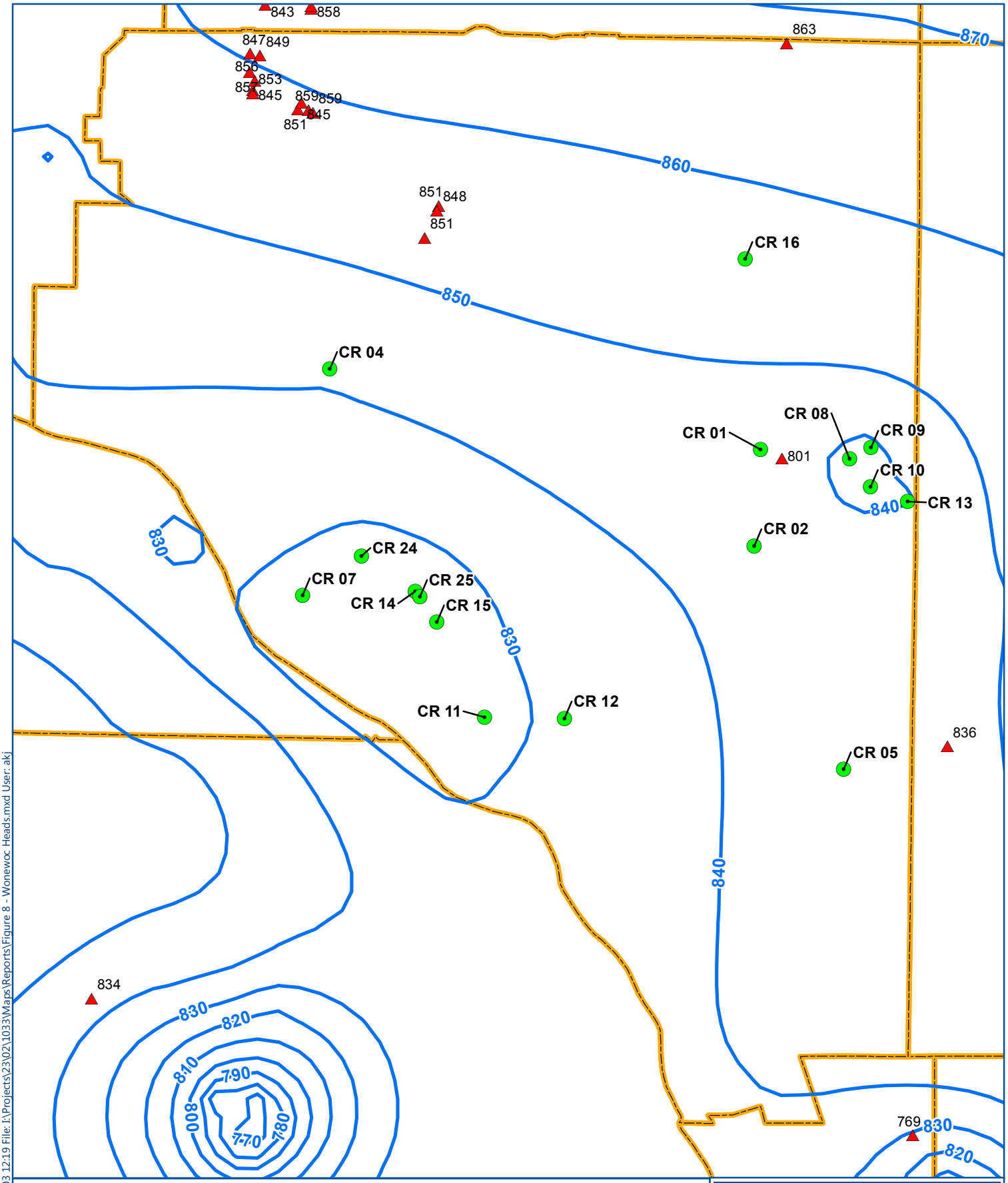
MODELED HEADS IN TUNNEL CITY GROUP LAYER 6

Coon Rapids WHPP Amendment

City of Coon Rapids, MN

FIGURE 7

Barr Footer: ArcGIS 10.3, 2015-12-03 12:03 File: I:\Projects\23\02\1033\Maps\Reports\Figure 7 - Tunnel City Heads.mxd User: akj



Coon Rapids Municipal Well open to Wonewoc Sandstone

Layer 7 Wonewoc Target

Modeled Head (ft MSL)

Municipal Boundary

0 4,000

Feet

BARR

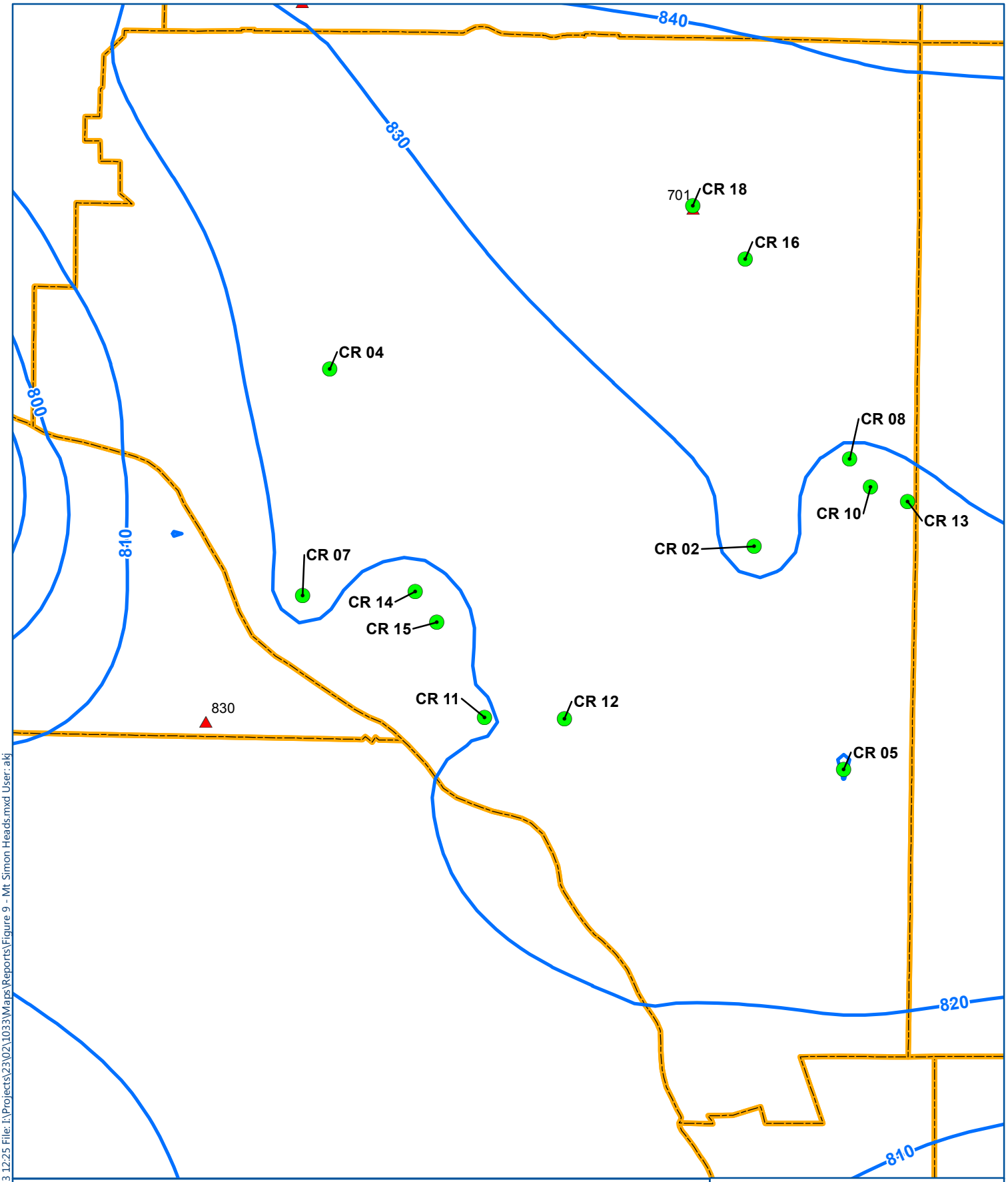
MODELED HEADS IN WONEWOC SANDSTONE LAYER 7

Coon Rapids WHPP Amendment

City of Coon Rapids, MN

FIGURE 8

Barr Footer: ArcGIS 10.3, 2015-12-03 12:19 File: I:\Projects\23\02\1033\Maps\Reports\Figure 8 - Wonewoc Heads.mxd User: akj



Coon Rapids Municipal Well open to Mt. Simon Sandstone

Layer 9 Mt. Simon Target

Modeled Head (ft MSL)

Municipal Boundary

0 4,000

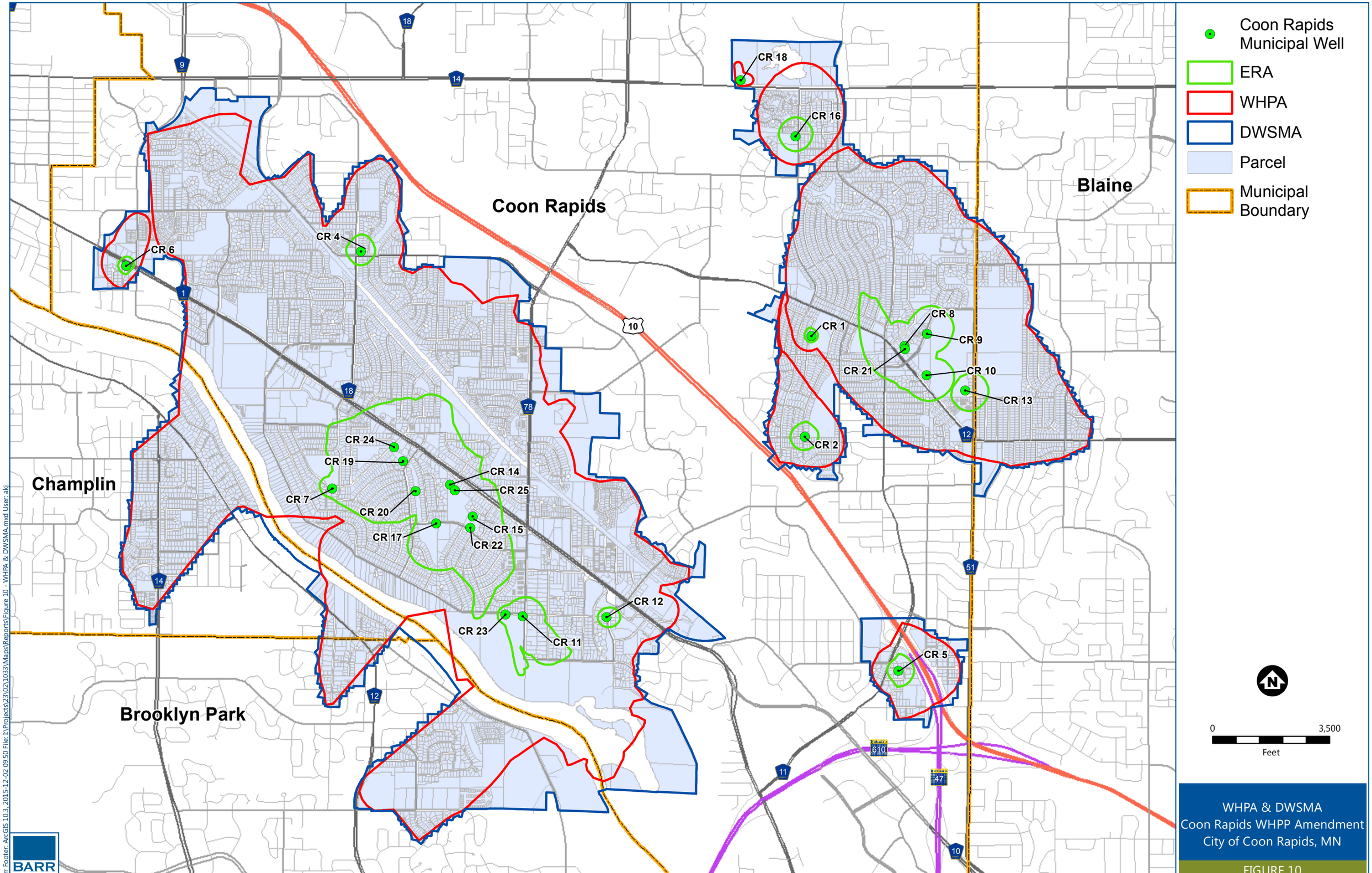
Feet

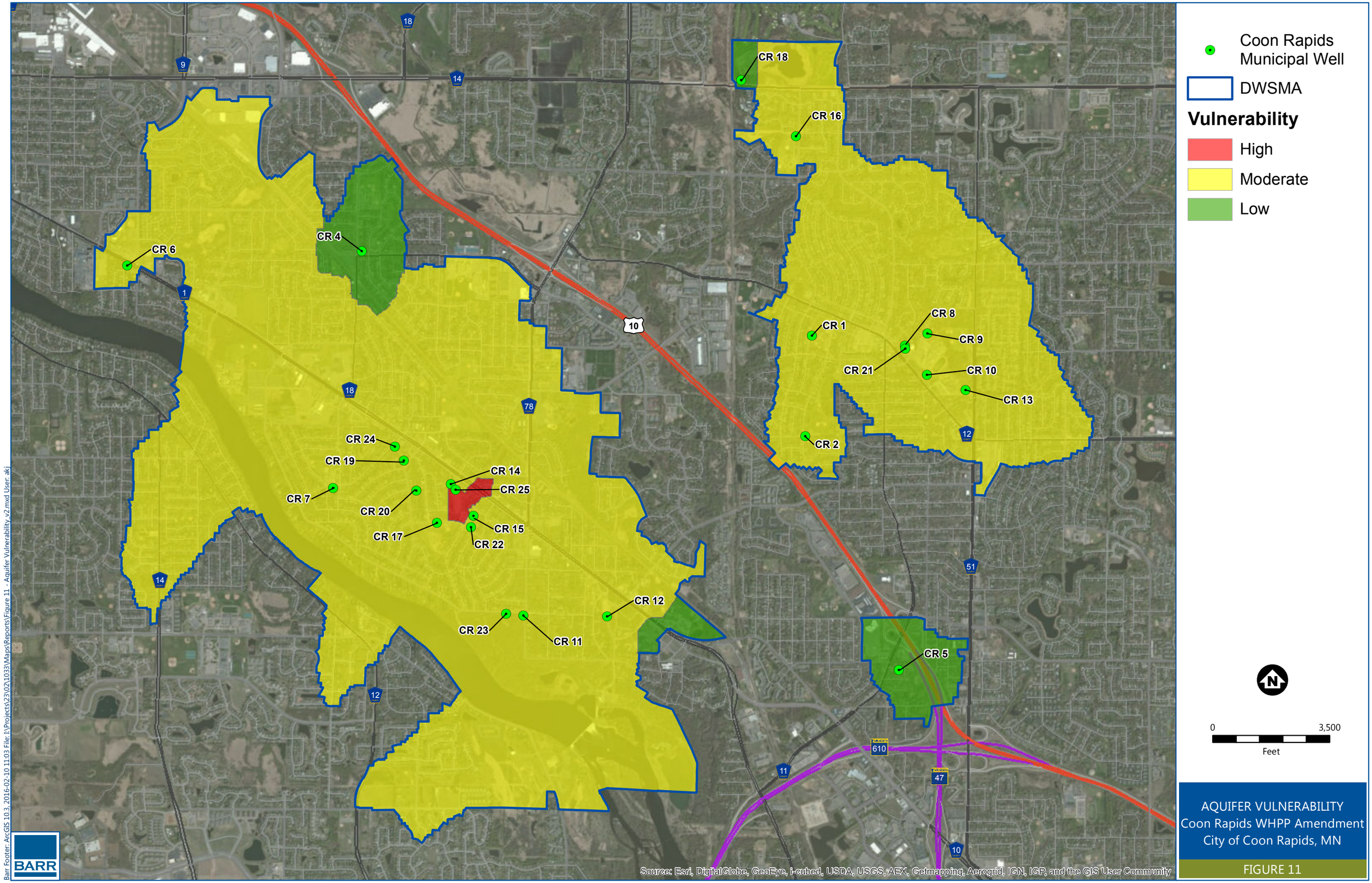
BARR

MODELED HEADS IN
MT. SIMON SANDSTONE
LAYER 9
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

FIGURE 9

Barr Footer: ArcGIS 10.3, 2015-12-03 12:25 File: I:\Projects\23\02\1033\Maps\Reports\Figure 9 - Mt Simon Heads.mxd User: akj


Coon Rapids Municipal Well
ERA
WHPA
DWSMA
Parcel
Municipal Boundary
Coon Rapids
Blaine
Champlin
Brooklyn Park
CR 18
CR 16
CR 4
CR 6
CR 1
CR 8
CR 9
CR 21
CR 10
CR 13
CR 2
CR 24
CR 19
CR 14
CR 25
CR 7
CR 20
CR 15
CR 17
CR 22
CR 12
CR 23
CR 11
CR 5
0
3,500
Feet
WHPA & DWSMA
Coon Rapids WHPP Amendment
City of Coon Rapids, MN
FIGURE 10
BARR
Barr Footer: ArcGIS 10.3, 2015-12-02 09:50 File: I:\Projects\23\02\1033\Maps\Reports\Figure 10 - WHPA & DWSMA.mxd User: akj



AQUIFER VULNERABILITY
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

FIGURE 11

Barr Footer: ArcGIS 10.3, 2016-02-10 11:03 File: I:\Projects\23\02\1033\Maps\Reports\Figure 11 - Aquifer Vulnerability_v2.mxd User: akj

Appendix A

Well Construction Records

Unique No. 00202926	MINNESOTA DEPARTMENT OF HEALTH	Update Date 2007/02/06
County Name Anoka	**WELL AND BORING RECORD**	Entry Date 1991/04/15
	Minnesota Statutes Chapter 1031	

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	13	BCCABD

Well Depth	Depth Completed	Date Well Completed
462 ft.	462 ft.	1957/09/00

Well Name COON RAPIDS 1

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 1
11349 NORWAY NW ST
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Use Community Supply (municipal)

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter
0 in. t 462 ft

Casing Diameter **Weight(lbs/ft)**
12 in. t 220 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND			0	35
CLAY	BLUE		35	50
SANDY CLAY			50	91
HARDPAN			91	114
SAND			114	135
SAND & CLAY			135	138
SAND & GRAVEL			138	158
HARDPAN			158	167
SANDROCK		SOFT	167	173
SANDROCK		SOFT	173	197
SANDROCK & SHALE			197	213
SANDROCK & SHALE			213	242
SANDROCK & SHALE			242	355
CLAY RED			355	360
SHALE & SANDROCK			360	385
SHALE & SANDROCK			385	386
SANDROCK WITH SOME SH			386	398
SANDROCK VERY SOFT			398	434
SANDROCK WITH SOME SH			434	458
SHALE			458	462

Screen N

Open Hole From 220 ft. to 462 ft.

Make Type

Static Water Level 28 ft. from Land surface Date 1957/09/00

PUMPING LEVEL (below land surface)
78 ft. after hrs. pumping 880 g.p.m.

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

Grouting Information Well grouted? ☐ Yes ☐ No

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed Y
Mfr nam FAIRBANKS MORSE
Model HP 50 Volts 220
Drop Pipe Length ft. Capacity 600 g.p.m
Type T

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED & TV 5-15-1995. LOGGED & TV BY GEOSHPERE.

USGS Quad Coon Rapids Elevation 891
Aquifer: MTPL Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 62012
License Business Name
Name of Driller BRANDON, J.

Report Copy

Unique No.	00202926	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	BCCABD	462	ft.	462	ft.	1957/09/00

Well Name	COON RAPIDS 1	**Lic. Or Reg. No.**	62012	**Name of Driller**	BRANDON, J.		
USGS Quad	Coon Rapi	**Elevation**	891	**Aquifer**	MTPL	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND			0	35	QFUU	SAND		
QFUU = Sand	SAND = Sand							
CLAY	BLUE		35	50	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
SANDY CLAY			50	91	QLUU	CLAY	SAND	
QLUU = Clay & sand	CLAY = Clay		SAND = Sand					
HARDPAN			91	114	QPUU	HDPN		
QPUU = Pebbly sand/silt/clay	HDPN = Hardpan							
SAND			114	135	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SAND & CLAY			135	138	QLUU	SAND	CLAY	
QLUU = Clay & sand	SAND = Sand		CLAY = Clay					
SAND & GRAVEL			138	158	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand		GRVL = Gravel					
HARDPAN			158	167	QPUU	HDPN		
QPUU = Pebbly sand/silt/clay	HDPN = Hardpan							
SANDROCK		SOFT	167	173	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SANDROCK		SOFT	173	197	CJDN	SNDS		
CJDN = Jordan	SNDS = Sandstone							
SANDROCK & SHALE			197	213	CJDN	SNDS		
CJDN = Jordan	SNDS = Sandstone							
SANDROCK & SHALE			213	242	CSTL	SLSN	DLMT	
CSTL = St.Lawrence	SLSN = Siltstone		DLMT = Dolomite					
SANDROCK & SHALE			242	355	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
CLAY RED			355	360	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		

Unique No.	00202926	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	BCCABD	462	ft.	462	ft.	1957/09/00

Well Name	COON RAPIDS 1	**Lic. Or Reg. No.**	62012	**Name of Driller**	BRANDON, J.		
USGS Quad	Coon Rapi	**Elevation**	891	**Aquifer**	MTPL	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SHALE & SANDROCK			360	385	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
SHALE & SANDROCK			385	386	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDROCK WITH SOME SHALE			386	398	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDROCK VERY SOFT			398	434	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDROCK WITH SOME SHALE			434	458	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SHALE			458	462	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					

Unique No. 00202929

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2007/02/06

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	13	CCCCAD

Well Depth	Depth Completed	Date Well Completed
788 ft.	788 ft.	1957/06/00

Well Name COON RAPIDS 2

Drilling Method Cable Tool

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Well Owner's Name COON RAPIDS 2
10911 MAGNOLIA ST
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter
in. t 704 ft
in. t 788 ft

Casing Diameter **Weight(lbs/ft)**
12 in. t 226 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND			0	36
CLAY			36	48
CLAY & GRAVEL			48	136
HARDPAN			136	145
CLAY & SAND			145	163
SAND			163	175
SAND & GRAVEL			175	218
SHALE			218	219
LIMEROCK & SHALE			219	221
LIMEROCK & SHALE			221	243
LIMEROCK & SHALE			243	258
SANDROCK & SHALE			258	391
SANDROCK & SHALE			391	439
SANDROCK & SHALE			439	472
SHALE			472	498
SANDROCK & SHALE			498	545
SANDROCK & SHALE			545	594
SANDROCK			594	670
CAVING RED SHALE			670	704
RED ROCK & SHALE			704	726
RED ROCK			726	770
SHALE			770	778
RED ROCK			778	788

Screen N

Open Hole From 226 ft. to 788 ft.

Make Type

Static Water Level 24 ft. from Land surface Date 1957/06/00

PUMPING LEVEL (below land surface)
33.5 ft. after hrs. pumping 302 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☐ Yes ☐ No

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed Y
Mfr nam FAIRBANKS MORSE
Model HP 30 Volts 220
Drop Pipe Length 187 ft. Capacity 500 g.p.m
Type T

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

TWO OTHER PUM TESTS AT DEPTHS OF 673 & 466 FT.

PUMPING TEST NO. 3 RECORDED AT 685 FT.

M.G.S. NO. 156. GAMMA LOGGED & TV 5-15-1995. OLD PA. NO. 61-0225.

WELL WAS BACK FILLED TO 685 FT.

LOGGED & TV BY GEOSPHERE.

USGS Quad	Coon Rapids	Elevation	885
Aquifer:	MTPL	Alt Id:	80-6139

Report Copy

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 62012

License Business Name

Name of Driller BRANDON, J.

HE-01205-06 (Rev. 9/96)

Unique No.	00202929	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	CCCCAD	788	ft.	788	ft.	1957/06/00

Well Name	COON RAPIDS 2	**Lic. Or Reg. No.**	62012	**Name of Driller**	BRANDON, J.		
USGS Quad	Coon Rapi	**Elevation**	885	**Aquifer**	MTPL	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND			0	36	QFUU	SAND		
QFUU = Sand	SAND = Sand							
CLAY			36	48	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							
CLAY & GRAVEL			48	136	QPUU	CLAY	GRVL	
QPUU = Pebbly sand/silt/clay	CLAY = Clay		GRVL = Gravel					
HARDPAN			136	145	QPUU	HDPN		
QPUU = Pebbly sand/silt/clay	HDPN = Hardpan							
CLAY & SAND			145	163	QLUU	CLAY	SAND	
QLUU = Clay & sand	CLAY = Clay		SAND = Sand					
SAND			163	175	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SAND & GRAVEL			175	218	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand		GRVL = Gravel					
SHALE			218	219	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							
LIMEROCK & SHALE			219	221	QUUU	DRFT		
QUUU = Unknown deposit type	DRFT = Drift							
LIMEROCK & SHALE			221	243	CSTL	DLMT	SLSN	
CSTL = St.Lawrence	DLMT = Dolomite		SLSN = Siltstone					
LIMEROCK & SHALE			243	258	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDROCK & SHALE			258	391	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDROCK & SHALE			391	439	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDROCK & SHALE			439	472	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					

Unique No.	00202929	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	CCCCAD	788	ft.	788	ft.	1957/06/00

Well Name	COON RAPIDS 2	**Lic. Or Reg. No.**	62012	**Name of Driller**	BRANDON, J.		
USGS Quad	Coon Rapi	**Elevation**	885	**Aquifer**	MTPL	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SHALE			472	498	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDROCK & SHALE			498	545	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDROCK & SHALE			545	594	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SANDROCK			594	670	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
CAVING RED SHALE			670	704	PMSC	SHLE		
PMSC = Solor Church Formation	SHLE = Shale							
RED ROCK & SHALE			704	726	PMSC	SHLE		
PMSC = Solor Church Formation	SHLE = Shale							
RED ROCK			726	770	PMSC	SHLE		
PMSC = Solor Church Formation	SHLE = Shale							
SHALE			770	778	PMSC	SHLE		
PMSC = Solor Church Formation	SHLE = Shale							
RED ROCK			778	788	PMSC	SHLE		
PMSC = Solor Church Formation	SHLE = Shale							

Unique No. 00202972	MINNESOTA DEPARTMENT OF HEALTH	Update Date 2007/03/12
County Name Anoka	**WELL AND BORING RECORD**	Entry Date 1991/04/15
	Minnesota Statutes Chapter 1031	

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	9	DCCCCD

Well Depth	Depth Completed	Date Well Completed
605 ft.	605 ft.	1960/08/19

Well Name COON RAPIDS 4

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 4
2731 NORTHDALE BL
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Use Community Supply (municipal)

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**

20	in. t	158	ft
16	in. t	233	ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
DRIFT			0	158
DOLOMITE		HARD	158	170
JORDAN SANDSTONE			170	220
SHALE	GREE		220	310
SANDSTONE WITH THIN SH			310	369
SANDY SHALE			369	425
HARD SANDSTONE, SHALE			425	435
HARD SANDSTONE, SHALE			435	475
SHALEY SANDSTONE			475	520
HARD SANDSTONE, COARS			520	587
SHALE			587	605

Screen N

Open Hole From 233 ft. to 605 ft.

Make Type

Static Water Level 23 ft. from Land surface Date 1960/08/19

PUMPING LEVEL (below land surface)
142 ft. after 24 hrs. pumping 1000 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
	0	233	

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed Y
Mfr nam FAIRBANKS MORSE
Model 6977 HP 100 Volts 240
Drop Pipe Length 180 ft. Capacity g.p.m
Type T

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO. 168. GAMMA LOGGED 3-31-1998. LOGGED BY JIM TRAEN.

OLD PA. NO. 60-0350.

USGS Quad Coon Rapids Elevation 869
Aquifer: CFMS Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27118
License Business Name
Name of Driller BENEKE, R.

Report Copy

Unique No.	00202972	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/03/12
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	9	DCCCCD	605	ft.	605	ft.	1960/08/19

Well Name	COON RAPIDS 4	**Lic. Or Reg. No.**	27118	**Name of Driller**	BENEKE, R.		
USGS Quad	Coon Rapi	**Elevation**	869	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
DRIFT			0	158	QUUU	DRFT		
QUUU = Unknown deposit type	DRFT = Drift							
DOLOMITE		HARD	158	170	CSTL	DLMT	SNDS	
CSTL = St.Lawrence	DLMT = Dolomite		SNDS = Sandstone					
JORDAN SANDSTONE			170	220	CFRN	SNDS	SHLE	
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale					
SHALE	GREEN		220	310	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone				DLMT = Dolomite	
SANDSTONE WITH THIN SHALE LENSES			310	369	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDY SHALE			369	425	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
HARD SANDSTONE, SHALE LENSES			425	435	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
HARD SANDSTONE, SHALE LENSES			435	475	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALEY SANDSTONE			475	520	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
HARD SANDSTONE, COARSE			520	587	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALE			587	605	PMRC	SHLE		
PMRC = Red Clastic Series	SHLE = Shale							

Unique No. 00202951

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2007/02/07

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	25	ACBBDD

Well Depth 695 ft. **Depth Completed** 695 ft. **Date Well Completed** 1961/09/00

Well Name COON RAPIDS 5

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 5
99TH NW LA
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter
0 in. t 695 ft

Casing Diameter **Weight(lbs/ft)**
24 in. t 200 ft
16 in. t 242 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND, GRAVEL, SHALE			0	190
SHALE, SANDROCK			190	200
SANDROCK		HARD	200	201
SANDROCK		HARD	201	215
SHALE			215	225
HARD SANDROCK & SHALE			225	248
HARD SANDROCK & SHALE			248	255
HARD SHALE & LIMEROCK			255	279
SANDROCK			279	293
LIMEROCK			293	295
HARD GREEN SHALE & LIM			295	374
SHALE			374	387
LIMEROCK			387	390
SHALE, LAYERS OF LIME	GREE	HARD	390	404
SHALE, LAYERS OF LIME	GREE	HARD	404	410
SANDROCK & SHALE			410	424
SANDROCK			424	449
HARD SANDROCK & SHALE			449	454
HARD SHALE, LAYERS OF L			454	459
HARD SHALE, LAYERS OF L			459	465
STICK GREEN SHALE			465	477
SHALE	RED		477	497
BLUE-GREEN SHALE			497	525
HARD GRAY SHALE, SOME			525	529
HARD GRAY SHALE, SOME			529	555
HARD SHALE & SANDROCK			555	625
SANDROCK			625	685
RED CLASTICS			685	695
GNEISS AT 695'			695	695

Screen N

Open Hole From 242 ft. to 695 ft.

Make Type

Static Water Level 68 ft. from Land surface Date 1961/07/11

PUMPING LEVEL (below land surface)
188 ft. after 26 hrs. pumping 1200 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☐ Yes ☐ No

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr name
Model HP Volts

Drop Pipe Length ft. Capacity g.p.m
Type

REMARKS, ELEVATION, SOURCE OF DATA, etc.

SAMPLES INDICATE BASALT AT 695 FT.

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

M.G.S. NO. 199. 190-203 FT. LOOKS LIKE REWORKED JORDAN.

GAMMA LOGGED 2-13-2006 TO 580 FT BY JIM TRAEN.

USGS Quad	Coon Rapids	Elevation	910
Aquifer:	CFMS	Alt Id:	80-6139

Report Copy

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

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27058

License Business Name

Name of Driller

HE-01205-06 (Rev. 9/96)

Unique No.	00202951	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	25	ACBBDD	695	ft.	695	ft.	1961/09/00

Well Name	COON RAPIDS 5	**Lic. Or Reg. No.**	27058	**Name of Driller**			
USGS Quad	Coon Rapi	**Elevation**	910	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND, GRAVEL, SHALE			0	190	QPUU	SAND	GRVL	CLAY
QPUU = Pebbly sand/silt/clay	SAND = Sand		GRVL = Gravel				CLAY = Clay	
SHALE, SANDROCK			190	200	QLUU	CLAY	SAND	
QLUU = Clay & sand	CLAY = Clay		SAND = Sand					
SANDROCK		HARD	200	201	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SANDROCK		HARD	201	215	CSTL	DLMT	SNDS	
CSTL = St.Lawrence	DLMT = Dolomite		SNDS = Sandstone					
SHALE			215	225	CSTL	SHLE	SLSN	
CSTL = St.Lawrence	SHLE = Shale		SLSN = Siltstone					
HARD SANDROCK & SHALE			225	248	CSTL	DLMT	SNDS	
CSTL = St.Lawrence	DLMT = Dolomite		SNDS = Sandstone					
HARD SANDROCK & SHALE			248	255	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
HARD SHALE & LIMEROCK			255	279	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDROCK			279	293	CFRN	SNDS		
CFRN = Franconia	SNDS = Sandstone							
LIMEROCK			293	295	CFRN	DLMT		
CFRN = Franconia	DLMT = Dolomite							
HARD GREEN SHALE & LIMEROCK			295	374	CFRN	SHLE	DLMT	
CFRN = Franconia	SHLE = Shale		DLMT = Dolomite					
SHALE			374	387	CFRN	SHLE		
CFRN = Franconia	SHLE = Shale							
LIMEROCK			387	390	CFRN	DLMT		
CFRN = Franconia	DLMT = Dolomite							
SHALE, LAYERS OF LIME	GREEN	HARD	390	404	CFRN	SHLE	DLMT	
CFRN = Franconia	SHLE = Shale		DLMT = Dolomite					

Unique No.	00202951	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	25	ACBBDD	695	ft.	695	ft.	1961/09/00

Well Name	COON RAPIDS 5	Lic. Or Reg. No.	27058	Name of Driller	
USGS Quad	Coon Rapi	Elevation	910	Aquifer	CFMS	Alternative Id	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SHALE, LAYERS OF LIME	GREEN	HARD	404	410	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDROCK & SHALE			410	424	CIGL	SNDS	SHLE	
CIGL = Ironton-Galesville	SNDS = Sandstone		SHLE = Shale					
SANDROCK			424	449	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
HARD SANDROCK & SHALE			449	454	CIGL	SNDS	SHLE	
CIGL = Ironton-Galesville	SNDS = Sandstone		SHLE = Shale					
HARD SHALE, LAYERS OF LIME			454	459	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
HARD SHALE, LAYERS OF LIME			459	465	CECR	SHLE	SNDS	DLMT
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone			DLMT = Dolomite		
STICK GREEN SHALE			465	477	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SHALE	RED		477	497	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
BLUE-GREEN SHALE			497	525	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
HARD GRAY SHALE, SOME SANDROCK			525	529	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
HARD GRAY SHALE, SOME SANDROCK			529	555	CMTS	SHLE	SNDS	
CMTS = Mt.Simon	SHLE = Shale		SNDS = Sandstone					
HARD SHALE & SANDROCK			555	625	CMTS	SHLE	SNDS	
CMTS = Mt.Simon	SHLE = Shale		SNDS = Sandstone					
SANDROCK			625	685	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
RED CLASTICS			685	695	PMRC	SHLE	SNDS	
PMRC = Red Clastic Series	SHLE = Shale		SNDS = Sandstone					

Unique No.	00202951	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	25	ACBBDD	695	ft.	695	ft.	1961/09/00

Well Name	COON RAPIDS 5	**Lic. Or Reg. No.**	27058	**Name of Driller**			
USGS Quad	Coon Rapi	**Elevation**	910	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
GNEISS AT 695'			695	695	PAUD	BSLT		

PAUD = Archean Rocks Undivided BSLT = Basalt

Unique No. 00202937

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2010/03/15

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	17	BBAACC

Well Depth	Depth Completed	Date Well Completed
158 ft.	158 ft.	1960/11/00

Well Name COON RAPIDS 6

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 6
11611 YUCCA NW ST
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter
0 in. t 158 ft

Casing Diameter **Weight(lbs/ft)**
20 in. t 118 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND & GRAVEL			0	57
CLAY			57	67
SAND & GRAVEL			67	82
HARDPAN			82	94
HARDPAN			94	102
SANDROCK			102	158

Screen N

Open Hole From 118 ft. to 158 ft.

Make Type

Static Water Level 22 ft. from Land surface Date 1960/11/00

PUMPING LEVEL (below land surface)
24.5 ft. after hrs. pumping 151 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☐ Yes ☐ No

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr name
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

BASED ON SAMPLES AIR LIFTED FROM WELL 5-6-1993 FRANCONIA FM. PRESENT.

GAMMA LOGGED 12-1-1992.

GAMMA LOGGED 5-6-1993. LOGGED BY GEOSPHERE.

OLD P.A. 60-0743.

USGS Quad Coon Rapids Elevation 870
Aquifer: CFRN Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 62012
License Business Name
Name of Driller KEMPER, R

Report Copy

Unique No.	00202937	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2010/03/15
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	17	BBAACC	158	ft.	158	ft.	1960/11/00

Well Name	COON RAPIDS 6	**Lic. Or Reg. No.**	62012	**Name of Driller**	KEMPER, R.		
USGS Quad	Coon Rapi	**Elevation**	870	**Aquifer**	CFRN	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND & GRAVEL			0	57	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand		GRVL = Gravel					
CLAY			57	67	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							
SAND & GRAVEL			67	82	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand		GRVL = Gravel					
HARDPAN			82	94	QPUU	HDPN		
QPUU = Pebbly sand/silt/clay	HDPN = Hardpan							
HARDPAN			94	102	CFRN	SNDS	SHLE	
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale					
SANDROCK			102	158	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	

Unique No. 00202943

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2008/12/30

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	21	BDACBB

Well Depth	Depth Completed	Date Well Completed
632 ft.	632 ft.	1964/04/00

Well Name COON RAPIDS 7

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 7
10617 DIRECT RIVER DR
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**

24 in. t 163 ft

16 in. t 189 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND & CLAY			0	78
CLAY			78	90
FINE SAND			90	130
SANDSTONE			130	161
GREENSHALE	GREE		161	165
DOLOMITIC CLAY			165	190
SHALE & SANDSTONE			190	295
GRAY SHALE	GRAY		295	300
BROWN SHALE	BROW		300	315
SHALE	RED		315	325
SHALE	GRAY		325	330
SHALE	GRAY		330	345
SANDSTONE	GRAY		345	380
GRAY SHALE	GRAY		380	398
SHALE	GRAY		398	400
RED ROCK	RED		400	425
GRAY & RED SHALE	GRY/R		425	440
GRAY & BROWN ROCK	GRY/B		440	475
COARSE SAND	GRAY		475	477
COARSE SAND	GRAY		477	480
FINE SAND	GRAY		480	520
FINE SAND	GRAY		520	560
COARSE SAND	WHITE		560	590
HARD GOLD GRAINS COAR	WHITE		590	600
SHALE	RED		600	610
RED & GRAY SHALE	RED/G		610	615
SHALE	RED		615	632

Screen N

Open Hole From 189 ft. to 632 ft.

Make Type

Static Water Level 31 ft. from Land surface Date 1964/04/00

PUMPING LEVEL (below land surface)

71 ft. after hrs. pumping 1600 g.p.m.

Well Head Completion

Pitless adapter mfr Model

Casing Protection ☑ 12 in. above grade

☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☐ Yes ☐ No

Nearest Known Source of Contamination

ft. direction type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed

Mfr name

Model HP Volts

Drop Pipe Length ft. Capacity g.p.m

Type

REMARKS, ELEVATION, SOURCE OF DATA, etc.

JIM TRAEN HAS TWO DATES ON LOG 1-18-04 AND 1-18-05.

GAMMA LOGGED 1-18-04 BY JIM TRAEN

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

USGS Quad Coon Rapids Elevation 868

Aquifer: CFMS Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 96460

Unique No.	00202943	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	21	BDACBB	632	ft.	632	ft.	1964/04/00

Well Name	COON RAPIDS 7	**Lic. Or Reg. No.**	96460	**Name of Driller**			
USGS Quad	Coon Rapi	**Elevation**	868	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND & CLAY			0	78	QLUU	SAND	CLAY	
QLUU = Clay & sand	SAND = Sand		CLAY = Clay					
CLAY			78	90	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							
FINE SAND			90	130	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SANDSTONE			130	161	CJDN	SNDS		
CJDN = Jordan	SNDS = Sandstone							
GREENSHALE	GREEN		161	165	CSTL	SHLE	SLSN	
CSTL = St.Lawrence	SHLE = Shale		SLSN = Siltstone					
DOLOMITIC CLAY			165	190	CSTL	DLMT	SLSN	
CSTL = St.Lawrence	DLMT = Dolomite		SLSN = Siltstone					
SHALE & SANDSTONE			190	295	CFRN	SHLE	SNDS	
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone					
GRAY SHALE	GRAY		295	300	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone				DLMT = Dolomite	
BROWN SHALE	BROWN		300	315	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone				DLMT = Dolomite	
SHALE	RED		315	325	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone				DLMT = Dolomite	
SHALE	GRAY		325	330	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone				DLMT = Dolomite	
SHALE	GRAY		330	345	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDSTONE	GRAY		345	380	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
GRAY SHALE	GRAY		380	398	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							

Unique No.	00202943	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	21	BDACBB	632	ft.	632	ft.	1964/04/00

Well Name	COON RAPIDS 7	**Lic. Or Reg. No.**	96460	**Name of Driller**			
USGS Quad	Coon Rapi	**Elevation**	868	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SHALE	GRAY		398	400	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale			SNDS = Sandstone				
RED ROCK	RED		400	425	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale			SNDS = Sandstone				
GRAY & RED SHALE	GRY/RED		425	440	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale			SNDS = Sandstone				
GRAY & BROWN ROCK	GRY/BRN		440	475	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale			SNDS = Sandstone				
COARSE SAND	GRAY		475	477	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale			SNDS = Sandstone				
COARSE SAND	GRAY		477	480	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
FINE SAND	GRAY		480	520	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
FINE SAND	GRAY		520	560	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
COARSE SAND	WHITE		560	590	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
HARD GOLD GRAINS COARSE SAND	WHITE		590	600	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALE	RED		600	610	PMSU	SHLE		
PMSU = Mid.Proterozoic Sedimentary	SHLE = Shale							
RED & GRAY SHALE	RED/GRY		610	615	PMSU	SHLE		
PMSU = Mid.Proterozoic Sedimentary	SHLE = Shale							
SHALE	RED		615	632	PMSU	SHLE		
PMSU = Mid.Proterozoic Sedimentary	SHLE = Shale							

Unique No. 00202932	MINNESOTA DEPARTMENT OF HEALTH	Update Date 2007/02/06
County Name Anoka	**WELL AND BORING RECORD**	Entry Date 1991/04/15
	Minnesota Statutes Chapter 1031	

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	13	ACCDBD

Well Depth	Depth Completed	Date Well Completed
700 ft.	700 ft.	1965/05/07

Well Name COON RAPIDS 8

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 8
269 NORTHDALE BL
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter
in. t 700 ft

Casing Diameter **Weight(lbs/ft)**
24 in. t 258 ft
16 in. t 283 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
DRIFT			0	212
SANDROCK, SHALE, GRAV			212	243
LIMEROCK, SHALE			243	249
LIMEROCK, SHALE			249	263
SANDROCK, SHALE			263	409
SANDROCK, SHALE			409	418
SANDROCK			418	445
SHALEY SANDROCK			445	469
SHALEY SANDROCK			469	473
SHALE			473	518
SHALE & SANDROCK			518	533
SHALEY SANDROCK			533	545
SHALE			545	549
SANDROCK			549	594
SHALE			594	598
SANDROCK			598	694
SHALE			694	700

Screen N

Open Hole From 283 ft. to 700 ft.

Make Type

Static Water Level 42 ft. from Land surface Date 1965/05/07

PUMPING LEVEL (below land surface)
132.3 ft. after hrs. pumping 922 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G	0	283	24	Y

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr nam
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

OLD PA. NO. 65-0095.

GAMMA LOGGED 2-6-2004 BY JIM TRAEN

USGS Quad Coon Rapids Elevation 897
Aquifer: CFMS Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 62012
License Business Name
Name of Driller O'BRIEN, F.

Report Copy

Unique No.	00202932	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	ACCDBD	700	ft.	700	ft.	1965/05/07

Well Name	COON RAPIDS 8	**Lic. Or Reg. No.**	62012	**Name of Driller**	O'BRIEN, F.		
USGS Quad	Coon Rapi	**Elevation**	897	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
DRIFT			0	212	QUUU	DRFT		
QUUU = Unknown deposit type	DRFT = Drift							
SANDROCK, SHALE, GRAVEL			212	243	QPUU	SAND	CLAY	GRVL
QPUU = Pebbly sand/silt/clay	SAND = Sand		CLAY = Clay				GRVL = Gravel	
LIMEROCK, SHALE			243	249	QUUU	COBL		
QUUU = Unknown deposit type	COBL = Cobble							
LIMEROCK, SHALE			249	263	CFRN	SHLE	DLMT	SNDS
CFRN = Franconia	SHLE = Shale		DLMT = Dolomite				SNDS = Sandstone	
SANDROCK, SHALE			263	409	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDROCK, SHALE			409	418	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDROCK			418	445	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SHALEY SANDROCK			445	469	CIGL	SNDS	SHLE	
CIGL = Ironton-Galesville	SNDS = Sandstone		SHLE = Shale					
SHALEY SANDROCK			469	473	CECR	SNDS	SHLE	
CECR = Eau Claire	SNDS = Sandstone		SHLE = Shale					
SHALE			473	518	CECR	SHLE		
CECR = Eau Claire	SHLE = Shale							
SHALE & SANDROCK			518	533	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SHALEY SANDROCK			533	545	CECR	SNDS		
CECR = Eau Claire	SNDS = Sandstone							
SHALE			545	549	CECR	SHLE	SLSN	
CECR = Eau Claire	SHLE = Shale		SLSN = Siltstone					
SANDROCK			549	594	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							

Unique No.	00202932	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	ACCDBD	700	ft.	700	ft.	1965/05/07

Well Name	COON RAPIDS 8	**Lic. Or Reg. No.**	62012	**Name of Driller**	O'BRIEN, F.		
USGS Quad	Coon Rapi	**Elevation**	897	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SHALE			594	598	CMTS	SHLE	SNDS	
CMTS = Mt.Simon	SHLE = Shale		SNDS = Sandstone					
SANDROCK			598	694	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALE			694	700	PMRC	SLSN	SHLE	
PMRC = Red Clastic Series	SLSN = Siltstone		SHLE = Shale					

Unique No.	00202931	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	13	ACDAAB

Well Depth	Depth Completed	Date Well Completed
500 ft.	500 ft.	1969/04/07

Well Name COON RAPIDS 9

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 9
11399 DOGWOOD NW ST
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**

24 in. t 268 ft
16 in. t 294 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND			0	20
SAND	RED		20	39
CLAY	BLUE		39	63
SAND	RED		63	83
SAND	RED		83	89
CLAY	GREE		89	98
CLAY	BLUE		98	109
GRAVEL			109	123
GRAVEL	GRAY		123	135
GRAVEL & ROCKS			135	140
SAND	GREE		140	146
CLAY & ROCKS			146	166
GREEN CLAY & ROCKS			166	173
CLAY	RED		173	235
RED CLAY & ROCK	RED		235	245
RED CLAY & SAND	RED		245	250
RED CLAY & SAND	RED		250	252
SHALE	GREE		252	255
LIMEROCK & SHALE			255	263
LIMEROCK & SHALE			263	265
LIMEROCK & SHALE			265	266
LIMEROCK & SHALE			266	271
SANDSTONE & SHALE			271	275
HARD SHALE & SAND			275	302
HARD SHALE & SAND			302	316
SANDSTONE		HARD	316	320
SANDSTONE & SHALE			320	353
SANDSTONE			353	356
SHALE SOME SAND			356	371
SHALE & SANDSTONE			371	388
SHALE			388	396
SHALE & SANDSTONE			396	405

Screen N

Open Hole From 294 ft. to 500 ft.

Make Type

Static Water Level 47 ft. from Land surface Date 1969/04/07

PUMPING LEVEL (below land surface)

ft. after hrs. pumping g.p.m.

Well Head Completion

Pitless adapter mfr Model

Casing Protection ☑ 12 in. above grade

☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G			24	Y

Nearest Known Source of Contamination

ft. direction type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed

Mfr nam

Model HP Volts

SANDY SHALE	405	410
SANDY SHALE	410	415
SANDY SHALE	415	425
SANDY SHALE	425	454
SANDY SHALE	454	458
SANDY SHALE	458	462
BLUE & RED SHALE	462	475
SANDY SHALE	475	478
SANDY SHALE	478	482
SANDY SHALE	482	492
RED & GREEN SHALE	492	500

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO. 459.

GAMMA LOGGED 2-13-2004. LOGGED BY JIM TRAEN.

USGS Quad	Coon Rapids	Elevation	897
Aquifer:	CFIE	Alt Id:	80-6139

Report Copy

Drop Pipe Length ft. Capacity g.p.m

Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27010

License Business Name

Name of Driller OLZESKE, T.

HE-01205-06 (Rev. 9/96)

Unique No.	00202931	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	ACDAAB	500	ft.	500	ft.	1969/04/07

Well Name	COON RAPIDS 9	**Lic. Or Reg. No.**	27010	**Name of Driller**	OLZESKE, T.		
USGS Quad	Coon Rapi	**Elevation**	897	**Aquifer**	CFIE	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND			0	20	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SAND	RED		20	39	QFUR	SAND		
QFUR = Sand	SAND = Sand							
CLAY	BLUE		39	63	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
SAND	RED		63	83	QFUR	SAND		
QFUR = Sand	SAND = Sand							
SAND	RED		83	89	QFUR	SAND		
QFUR = Sand	SAND = Sand							
CLAY	GREEN		89	98	QCUL	CLAY		
QCUL = Clay	CLAY = Clay							
CLAY	BLUE		98	109	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
GRAVEL			109	123	QGUU	GRVL		
QGUU = Gravel (+larger)	GRVL = Gravel							
GRAVEL	GRAY		123	135	QGUG	GRVL		
QGUG = Gravel (+larger)	GRVL = Gravel							
GRAVEL & ROCKS			135	140	QGUU	GRVL	COBL	
QGUU = Gravel (+larger)	GRVL = Gravel		COBL = Cobble					
SAND	GREEN		140	146	QFUL	SAND		
QFUL = Sand	SAND = Sand							
CLAY & ROCKS			146	166	QPUU	CLAY	COBL	
QPUU = Pebbly sand/silt/clay	CLAY = Clay		COBL = Cobble					
GREEN CLAY & ROCKS			166	173	QPUL	CLAY	COBL	
QPUL = Pebbly sand/silt/clay	CLAY = Clay		COBL = Cobble					
CLAY	RED		173	235	QCUR	CLAY		
QCUR = Clay	CLAY = Clay							

Unique No.	00202931	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	ACDAAB	500	ft.	500	ft.	1969/04/07

Well Name	COON RAPIDS 9	**Lic. Or Reg. No.**	27010	**Name of Driller**	OLZESKE, T.		
USGS Quad	Coon Rapi	**Elevation**	897	**Aquifer**	CFIE	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
RED CLAY & ROCK	RED		235	245	QPUR	CLAY	COBL	
QPUR = Pebbly sand/silt/clay	CLAY = Clay		COBL = Cobble					
RED CLAY & SAND	RED		245	250	QLUR	CLAY	SAND	
QLUR = Clay & sand	CLAY = Clay		SAND = Sand					
RED CLAY & SAND	RED		250	252	QLUR	CLAY	SAND	
QLUR = Clay & sand	CLAY = Clay		SAND = Sand					
SHALE	GREEN		252	255	QCUL	CLAY		
QCUL = Clay	CLAY = Clay							
LIMEROCK & SHALE			255	263	QPUU	COBL	CLAY	
QPUU = Pebbly sand/silt/clay	COBL = Cobble		CLAY = Clay					
LIMEROCK & SHALE			263	265	QPUU	COBL	CLAY	
QPUU = Pebbly sand/silt/clay	COBL = Cobble		CLAY = Clay					
LIMEROCK & SHALE			265	266	QPUU	COBL	CLAY	
QPUU = Pebbly sand/silt/clay	COBL = Cobble		CLAY = Clay					
LIMEROCK & SHALE			266	271	CFRN	DLMT	SHLE	SNDS
CFRN = Franconia	DLMT = Dolomite		SHLE = Shale				SNDS = Sandstone	
SANDSTONE & SHALE			271	275	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
HARD SHALE & SAND			275	302	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone				DLMT = Dolomite	
HARD SHALE & SAND			302	316	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone				DLMT = Dolomite	
SANDSTONE		HARD	316	320	CFRN	SNDS	DLMT	
CFRN = Franconia	SNDS = Sandstone		DLMT = Dolomite					
SANDSTONE & SHALE			320	353	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDSTONE			353	356	CFRN	SNDS	SHLE	
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale					

Unique No.	00202931	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	ACDAAB	500	ft.	500	ft.	1969/04/07

Well Name	COON RAPIDS 9	**Lic. Or Reg. No.**	27010	**Name of Driller**	OLZESKE, T.		
USGS Quad	Coon Rapi	**Elevation**	897	**Aquifer**	CFIE	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SHALE SOME SAND			356	371	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone			DLMT = Dolomite		
SHALE & SANDSTONE			371	388	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone			DLMT = Dolomite		
SHALE			388	396	CFRN	SHLE	SNDS	
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone					
SHALE & SANDSTONE			396	405	CFRN	SHLE	SNDS	
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone					
SANDY SHALE			405	410	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
SANDY SHALE			410	415	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDY SHALE			415	425	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDY SHALE			425	454	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDY SHALE			454	458	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDY SHALE			458	462	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
BLUE & RED SHALE			462	475	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDY SHALE			475	478	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDY SHALE			478	482	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDY SHALE			482	492	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					

Unique No.	00202931	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	ACDAAB	500	ft.	500	ft.	1969/04/07

Well Name	COON RAPIDS 9	**Lic. Or Reg. No.**	27010	**Name of Driller**	OLZESKE, T.		
USGS Quad	Coon Rapi	**Elevation**	897	**Aquifer**	CFIE	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
RED & GREEN SHALE			492	500	CECR	SHLE	SNDS	

CECR = Eau Claire SHLE = Shale SNDS = Sandstone

Unique No.	00202930	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD**	Entry Date	1991/04/15

Minnesota Statutes Chapter 1031

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	13	DBADDC

Well Depth	Depth Completed	Date Well Completed
684 ft.	684 ft.	1970/05/05

Well Name COON RAPIDS 10

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 10
203 NORTHDALE BL
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter

Casing Diameter		Weight(lbs/ft)	
30 in. t	80 ft		
24 in. t	259 ft		
16 in. t	272 ft		

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
GLACIAL DRIFT			0	250
SANDY LIMESTONE			250	262
SANDY LIMESTONE			262	295
SANDSTONE WITH BEDS O			295	375
SANDSTONE SLATE	BROW		375	396
SANDSTONE SLATE	BROW		396	442
SANDSTONE SLATE BROW	BROW		442	455
HARD RED SHALE			455	457
HARD RED SHALE			457	495
SANDSTONE, SLATE	BROW		495	522
SANDSTONE, SLATE	BROW		522	662
SANDSTONE			662	679
RED SHALE			679	684

Screen N

Open Hole From 272 ft. to 684 ft.

Make Type

Static Water Level 51 ft. from Land surface Date 1970/05/05

PUMPING LEVEL (below land surface)
185 ft. after 49 hrs. pumping 1875 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
G	0	272	

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed Y
Mfr nam
Model HP 100 Volts
Drop Pipe Length ft. Capacity g.p.m
Type T

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO. 558. OLD PA. NO. 71-0825.

GAMMA LOGGED 5-3-2004. LOGGED BY JIM TRAEN.

USGS Quad Coon Rapids Elevation 899
Aquifer: CFMS Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27118
License Business Name
Name of Driller BENEKE, R.

Report Copy

Unique No.	00202930	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	DBADDC	684	ft.	684	ft.	1970/05/05

Well Name	COON RAPIDS 10	**Lic. Or Reg. No.**	27118	**Name of Driller**	BENEKE, R.		
USGS Quad	Coon Rapi	**Elevation**	899	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
GLACIAL DRIFT			0	250	QUUU	DRFT		
QUUU = Unknown deposit type	DRFT = Drift							
SANDY LIMESTONE			250	262	CSTL	SLSN	DLMT	
CSTL = St.Lawrence	SLSN = Siltstone		DLMT = Dolomite					
SANDY LIMESTONE			262	295	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDSTONE WITH BEDS OF GREEN SHAL			295	375	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDSTONE SLATE	BROWN		375	396	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDSTONE SLATE	BROWN		396	442	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDSTONE SLATE BROWN	BROWN		442	455	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
HARD RED SHALE			455	457	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
HARD RED SHALE			457	495	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDSTONE, SLATE	BROWN		495	522	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDSTONE, SLATE	BROWN		522	662	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SANDSTONE			662	679	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
RED SHALE			679	684	PMRC	SHLE		
PMRC = Red Clastic Series	SHLE = Shale							

Unique No. 00202965	MINNESOTA DEPARTMENT OF HEALTH	Update Date 2008/12/30
County Name Anoka	**WELL AND BORING RECORD**	Entry Date 1991/04/15
	Minnesota Statutes Chapter 1031	

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	27	BAAAAA

Well Depth	Depth Completed	Date Well Completed
627 ft.	627 ft.	1972/05/11

Well Name COON RAPIDS 11

Drilling Method Non-specified Rotary

Well Owner's Name COON RAPIDS 11

COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No

From ft. to ft.

Contact's Name CITY OF COON RAPIDS

11155 ROBINSON NW DR

COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter

in. t 157 ft

in. t 627 ft

Casing Diameter **Weight(lbs/ft)**

24 in. t 157 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND			0	18
SANDY CLAY			18	58
SAND, GRAVEL & BOULDE			58	142
SAND, GRAVEL & BOULDE			142	146
LIME, SHALE			146	199
LIME, SHALE			199	305
SHALEY SANDSTONE			305	318
SHALEY SANDSTONE			318	352
SANDSTONE		SOFT	352	362
SANDSTONE		HARD	362	410
SANDSTONE		HARD	410	423
SHALE			423	434
SANDSTONE-SOME SHALE			434	478
SANDSTONE-SOME SHALE			478	530
SANDSTONE			530	622
SHALE			622	627

Screen N

Open Hole From 157 ft. to 627 ft.

Make Type

Static Water Level 25 ft. from Land surface Date 1972/05/11

PUMPING LEVEL (below land surface)

110 ft. after hrs. pumping 1820 g.p.m.

Well Head Completion

Pitless adapter mfr Model

Casing Protection ☑ 12 in. above grade

☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G	0	157	20	Y

Nearest Known Source of Contamination

ft. direction type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed

Mfr nam

Model HP Volts

Drop Pipe Length ft. Capacity g.p.m

Type

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO. 776

GAMMA LOGGED 9-12-1983 BY MGS AND 4-26-2002. LOGGED BY JIM TRAEN.

USGS Quad Coon Rapids Elevation 860

Aquifer: CFMS Alt Id: 80-6139

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 62012

License Business Name

Name of Driller GIBSON, E.

Report Copy

Unique No.	00202965	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	27	BAAAAA	627	ft.	627	ft.	1972/05/11

Well Name	COON RAPIDS 11	Lic. Or Reg. No.	62012	Name of Driller	GIBSON, E.
USGS Quad	Coon Rapi	Elevation	860	Aquifer	CFMS	Alternative Id	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND			0	18	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SANDY CLAY			18	58	QLUU	CLAY	SAND	
QLUU = Clay & sand	CLAY = Clay		SAND = Sand					
SAND, GRAVEL & BOULDERS			58	142	QHUU	SAND	GRVL	BLDR
QHUU = Sand & larger	SAND = Sand		GRVL = Gravel				BLDR = Boulder	
SAND, GRAVEL & BOULDERS			142	146	CSTL	DLMT	SLSN	
CSTL = St.Lawrence	DLMT = Dolomite		SLSN = Siltstone					
LIME, SHALE			146	199	CSTL	DLMT	SLSN	
CSTL = St.Lawrence	DLMT = Dolomite		SLSN = Siltstone					
LIME, SHALE			199	305	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SHALEY SANDSTONE			305	318	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SHALEY SANDSTONE			318	352	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDSTONE		SOFT	352	362	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDSTONE		HARD	362	410	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDSTONE		HARD	410	423	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SHALE			423	434	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDSTONE-SOME SHALE			434	478	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDSTONE-SOME SHALE			478	530	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							

Unique No.	00202965	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	27	BAAAAA	627	ft.	627	ft.	1972/05/11

Well Name	COON RAPIDS 11	**Lic. Or Reg. No.**	62012	**Name of Driller**	GIBSON, E.		
USGS Quad	Coon Rapi	**Elevation**	860	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SANDSTONE			530	622	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALE			622	627	PMRC	SHLE		
PMRC = Red Clastic Series	SHLE = Shale							

Unique No. 00168721

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2007/02/07

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	27	AAAAAD

Well Depth		Depth Completed		Date Well Completed
604	ft.	604	ft.	1975/05/14

Well Name COON RAPIDS 12

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 12

COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No

From ft. to ft.

Contact's Name CITY OF COON RAPIDS

11155 ROBINSON NW DR

COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter

Casing Diameter		Weight(lbs/ft)		
24	in. t	124	ft	94.62
16	in. t	208	ft	62.58

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND FILL	YELLO		0	9
SAND	GRAY		9	20
CLAY	GRAY		20	30
CLAY	RED/B		30	65
SANDY MUCK	BROW		65	100
SHALE	GRAY		100	120
JORDAN SANDROCK	WHITE		120	123
JORDAN SANDROCK	WHITE		123	135
ST. LAWRANCE SANDSTON	YELLO		135	140
ST. LAWRANCE SANDSTON	WHITE		140	170
ST. LAWRENCE SANDSTON	BLU/G		170	171
ST. LAWRANCE SANDSTON	BLU/G		171	180
ST. LAWRANCE SANDSTON	BLU/G		180	185
ST. LAWRANCE SANDSTON	PINK		185	195
ST. LAWRANCE SANDSTON	VARIE		195	208
ST. LAWRANCE SANDSTON	GREE		208	264
HARD LAYER OF SHALE	GREE		264	270
SHALE ROCK	GREE		270	286
SHALE SANDROCK	GREE		286	300
SANDROCK	TAN/G		300	316
SANDROCK	TAN/G		316	385
SHALE SANDSTONE	LIGHT		385	386
SHALE SANDSTONE	LIGHT		386	407
SHALE ROCK	TAN/B		407	420
SHALE	BRN/G		420	458
SHALE	BRN/G		458	480
SHALEY SANDSTONE	WHITE		480	550
SANDSTONE	TAN		550	600
SHALE	RED		600	604

Screen N

Open Hole From 208 ft. to 604 ft.

Make

Type

Static Water Level 47 ft. from Land surface Date 1975/05/14

PUMPING LEVEL (below land surface)

146 ft. after 8 hrs. pumping 1800 g.p.m.

Well Head Completion

Pitless adapter mfr Model

Casing Protection ☑ 12 in. above grade

☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
G			

Nearest Known Source of Contamination

ft. direction type

Well disinfected upon completion? ☑ Yes ☐ No

Pump ☐ Not Installed Date Installed

Mfr name

Model HP Volts

Drop Pipe Length ft. Capacity g.p.m

Type

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO.985.

GAMMA LOGGED 1-18-05. LOGGED BY JIM TRAEN.

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

USGS Quad	Coon Rapids	Elevation	852
Aquifer:	CFMS	Alt Id:	80-6139

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

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 02015

License Business Name

Name of Driller SIGAFOOS, G.

Report Copy

HE-01205-06 (Rev. 9/96)

Unique No.	00168721	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	27	AAAAAD	604	ft.	604	ft.	1975/05/14

Well Name	COON RAPIDS 12	**Lic. Or Reg. No.**	02015	**Name of Driller**	SIGAFOOS, G.		
USGS Quad	Coon Rapi	**Elevation**	852	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND FILL	YELLOW		0	9	RMMF	SAND	FILL	
RMMF = Man-made fill	SAND = Sand		FILL = Fill					
SAND	GRAY		9	20	QFUG	SAND		
QFUG = Sand	SAND = Sand							
CLAY	GRAY		20	30	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
CLAY	RED/BRN		30	65	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							
SANDY MUCK	BROWN		65	100	QNUB	SAND	MUCK	
QNUB = Sand & silt	SAND = Sand		MUCK = Muck					
SHALE	GRAY		100	120	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
JORDAN SANDROCK	WHITE		120	123	QFUU	SAND		
QFUU = Sand	SAND = Sand							
JORDAN SANDROCK	WHITE		123	135	CJDN	SNDS		
CJDN = Jordan	SNDS = Sandstone							
ST. LAWRANCE SANDSTONE	YELLOW		135	140	CSTL	SLSN	DLMT	SNDS
CSTL = St.Lawrence	SLSN = Siltstone		DLMT = Dolomite				SNDS = Sandstone	
ST. LAWRANCE SANDSTONE	WHITE		140	170	CSTL	SLSN	DLMT	SNDS
CSTL = St.Lawrence	SLSN = Siltstone		DLMT = Dolomite				SNDS = Sandstone	
ST. LAWRENCE SANDSTONE	BLU/GRN		170	171	CSTL	SLSN	DLMT	SNDS
CSTL = St.Lawrence	SLSN = Siltstone		DLMT = Dolomite				SNDS = Sandstone	
ST. LAWRANCE SANDSTONE	BLU/GRN		171	180	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
ST. LAWRANCE SANDSTONE	BLU/GRN		180	185	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
ST. LAWRANCE SANDSTONE	PINK		185	195	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	

Unique No.	00168721	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	27	AAAAAD	604	ft.	604	ft.	1975/05/14

Well Name	COON RAPIDS 12	**Lic. Or Reg. No.**	02015	**Name of Driller**	SIGAFOOS, G.		
USGS Quad	Coon Rapi	**Elevation**	852	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
ST. LAWRANCE SANDSTONE	VARIED		195	208	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
ST. LAWRANCE SANDSTONE	GREEN		208	264	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
HARD LAYER OF SHALE	GREEN		264	270	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
SHALE ROCK	GREEN		270	286	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
SHALE SANDROCK	GREEN		286	300	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
SANDROCK	TAN/GRN		300	316	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
SANDROCK	TAN/GRN		316	385	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SHALE SANDSTONE	LIGHT		385	386	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SHALE SANDSTONE	LIGHT		386	407	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SHALE ROCK	TAN/BRN		407	420	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SHALE	BRN/GRN		420	458	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SHALE	BRN/GRN		458	480	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALEY SANDSTONE	WHITE		480	550	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SANDSTONE	TAN		550	600	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							

Unique No.	00168721	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	27	AAAAAD	604	ft.	604	ft.	1975/05/14

Well Name	COON RAPIDS 12	**Lic. Or Reg. No.**	02015	**Name of Driller**	SIGAFOOS, G.		
USGS Quad	Coon Rapi	**Elevation**	852	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SHALE	RED		600	604	PMSU	SHLE		

PMSU = Mid.Proterozoic Sedimentary SHLE = Shale

Unique No. 00168720

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2007/02/07

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	13	DADDBC

Well Depth	Depth Completed	Date Well Completed
693 ft.	693 ft.	1977/03/25

Well Name COON RAPIDS 13

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 13
11100 UNIVERSITY AV
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter

Casing Diameter		Weight(lbs/ft)
24 in. t	252 ft	94.62
16 in. t	395 ft	62.58

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND	BROW		0	55
SANDY CLAY	GRAY		55	75
FINE SAND	GRAY	HARD	75	85
FINE SAND	RED		85	105
CLAY STICKY	RED		105	135
CLAY & STONE	GRAY	HARD	135	160
FINE SAND	RED		160	175
CLAY	GRAY		175	195
SAND & STONES & CLAY	GRAY		195	205
STONES & SAND	DARK		205	215
SHALE & STONES	TAN		215	220
SHALE	TAN		220	245
SANDSTONE SHALE	GRAY		245	250
SHALE	RED		250	257
ST. LAWRANCE GREEN, RE	VARIE		257	260
HARDROCK	TAN		260	267
HARDROCK	TAN		267	268
SANDROCK	LIGHT	HARD	268	298
SANDY ROCK, SHALE	GREE		298	312
SANDROCK, SHALE	LIGHT		312	338
SANDSTONE GREEN-GRAY-			338	403
SANDSTONE GREEN-GRAY-			403	453
SANDSTONE GREEN-GRAY-			453	525
SANDSTONE GREEN-GRAY-			525	672
HINCKLEY SANDSTONE	RED		672	691
HINCKLEY SANDSTONE			691	693

Screen N

Open Hole From 395 ft. to 693 ft.

Make Type

Static Water Level 75 ft. from Land surface Date 1977/03/25

PUMPING LEVEL (below land surface)
158 ft. after 10 hrs. pumping 1000 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
G			

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr name
Model HP Volts

Drop Pipe Length ft. Capacity g.p.m
Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO.1124.

GAMMA LOGGED 2-6-04. LOGGED BY JIM TRAEN.

USGS Quad Coon Rapids Elevation 900
Aquifer: CFMS Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 02015
License Business Name

Report Copy

Unique No.	00168720	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	DADDBC	693	ft.	693	ft.	1977/03/25

Well Name	COON RAPIDS 13	**Lic. Or Reg. No.**	02015	**Name of Driller**	SIGAFOOS, G.		
USGS Quad	Coon Rapi	**Elevation**	900	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND	BROWN		0	55	QFUB	SAND		
QFUB = Sand	SAND = Sand							
SANDY CLAY	GRAY		55	75	QLUG	CLAY	SAND	
QLUG = Clay & sand	CLAY = Clay			SAND = Sand				
FINE SAND	GRAY	HARD	75	85	QFUG	SAND		
QFUG = Sand	SAND = Sand							
FINE SAND	RED		85	105	QFUR	SAND		
QFUR = Sand	SAND = Sand							
CLAY STICKY	RED		105	135	QCUR	CLAY		
QCUR = Clay	CLAY = Clay							
CLAY & STONE	GRAY	HARD	135	160	QPUG	CLAY	PEBL	
QPUG = Pebbly sand/silt/clay	CLAY = Clay			PEBL = Pebbles				
FINE SAND	RED		160	175	QFUR	SAND		
QFUR = Sand	SAND = Sand							
CLAY	GRAY		175	195	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
SAND & STONES & CLAY	GRAY		195	205	QPUG	SAND	PEBL	CLAY
QPUG = Pebbly sand/silt/clay	SAND = Sand			PEBL = Pebbles			CLAY = Clay	
STONES & SAND	DARK		205	215	QHUU	PEBL	SAND	
QHUU = Sand & larger	PEBL = Pebbles			SAND = Sand				
SHALE & STONES	TAN		215	220	QPUU	CLAY	PEBL	
QPUU = Pebbly sand/silt/clay	CLAY = Clay			PEBL = Pebbles				
SHALE	TAN		220	245	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							
SANDSTONE SHALE	GRAY		245	250	QLUG	SAND	CLAY	
QLUG = Clay & sand	SAND = Sand			CLAY = Clay				
SHALE	RED		250	257	QCUR	CLAY		
QCUR = Clay	CLAY = Clay							

Unique No.	00168720	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	DADDBC	693	ft.	693	ft.	1977/03/25

Well Name	COON RAPIDS 13			**Lic. Or Reg. No.**	02015	**Name of Driller**	SIGAFOOS, G.
USGS Quad	Coon Rapi	**Elevation**	900	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
ST. LAWRANCE GREEN, RED, BLACK	VARIED		257	260	QUUU	SAND	CLAY	COBL
QUUU = Unknown deposit type	SAND = Sand		CLAY = Clay				COBL = Cobble	
HARDROCK	TAN		260	267	QBUU	BLDR		
QBUU = Boulder or boulders	BLDR = Boulder							
HARDROCK	TAN		267	268	CSTL	DLMT	SLSN	
CSTL = St.Lawrence	DLMT = Dolomite		SLSN = Siltstone					
SANDROCK	LIGHT	HARD	268	298	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDY ROCK, SHALE	GREEN		298	312	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDROCK, SHALE	LIGHT		312	338	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDSTONE GREEN-GRAY-RED			338	403	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDSTONE GREEN-GRAY-RED			403	453	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDSTONE GREEN-GRAY-RED			453	525	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDSTONE GREEN-GRAY-RED			525	672	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
HINCKLEY SANDSTONE	RED		672	691	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
HINCKLEY SANDSTONE			691	693	PMRC	SHLE		
PMRC = Red Clastic Series	SHLE = Shale							

Unique No. 00110460	MINNESOTA DEPARTMENT OF HEALTH	Update Date 2007/02/07
County Name Anoka	**WELL AND BORING RECORD**	Entry Date 1991/04/15
	Minnesota Statutes Chapter 1031	

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	22	BCBBDD

Well Depth	Depth Completed	Date Well Completed
613 ft.	613 ft.	1977/03/22

Well Name COON RAPIDS 14

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 14
2344 COON RAPIDS BL
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**

30 in. t 222 ft

20 in. t 328 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND & GRAVEL			0	60
SAND	LT. BR		60	130
SAND W/SHALE STREAKS	GREE		130	167
SHALE-SANDY	GREE		167	170
SHALE-SANDY	GREE		170	218
SANDSTONE			218	250
SANDY SHALE			250	305
DOLOMITE/SHALE			305	330
SHALE	RED		330	339
SHALE	RED		339	340
SAND	WHITE		340	385
SHALE W/LIMESTONE SEA	VARIE		385	391
SHALE W/LIMESTONE SEA	VARIE		391	450
SANDSTONE W/SHALE	VARIE		450	456
SANDSTONE W/SHALE	VARIE		456	520
SHALE-STICKY			520	570
SHALE W/SAND LAYERS			572	610
SHALE	RED		610	613

Screen N

Open Hole From 328 ft. to 613 ft.

Make Type

Static Water Level 120 ft. from Land surface Date 1977/03/21

PUMPING LEVEL (below land surface)

196 ft. after 8 hrs. pumping 1600 g.p.m.

Well Head Completion

Pitless adapter mfr Model

Casing Protection ☑ 12 in. above grade

☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G	0	328	28	Y

Nearest Known Source of Contamination

ft. direction type

Well disinfected upon completion? ☑ Yes ☐ No

Pump ☐ Not Installed Date Installed Y

Mfr nam

Model HP Volts

Drop Pipe Length ft. Capacity g.p.m

Type T

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED 2-6-1997 & 10-17-2001. M.G.S. NO. 1108.

LOGGED BOTH TIMES BY JIM TRAEN.

USGS Quad Coon Rapids Elevation 869

Aquifer: CFMS Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27010

License Business Name

Name of Driller LINDEKE, W.

Report Copy

Unique No.	00110460	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	22	BCBBDD	613	ft.	613	ft.	1977/03/22

Well Name	COON RAPIDS 14	**Lic. Or Reg. No.**	27010	**Name of Driller**	LINDEKE, W.		
USGS Quad	Coon Rapi	**Elevation**	869	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND & GRAVEL			0	60	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand		GRVL = Gravel					
SAND	LT. BRN		60	130	QFUB	SAND		
QFUB = Sand	SAND = Sand							
SAND W/SHALE STREAKS	GREEN		130	167	QLUL	SAND	CLAY	
QLUL = Clay & sand	SAND = Sand		CLAY = Clay					
SHALE-SANDY	GREEN		167	170	QLUL	CLAY	SAND	
QLUL = Clay & sand	CLAY = Clay		SAND = Sand					
SHALE-SANDY	GREEN		170	218	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDSTONE			218	250	CFRN	SNDS	SHLE	
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale					
SANDY SHALE			250	305	CFRN	SNDS	SLSN	DLMT
CFRN = Franconia	SNDS = Sandstone		SLSN = Siltstone				DLMT = Dolomite	
DOLOMITE/SHALE			305	330	CFRN	SNDS	DLMT	SHLE
CFRN = Franconia	SNDS = Sandstone		DLMT = Dolomite				SHLE = Shale	
SHALE	RED		330	339	CFRN	SHLE	SNDS	DLMT
CFRN = Franconia	SHLE = Shale		SNDS = Sandstone				DLMT = Dolomite	
SHALE	RED		339	340	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SAND	WHITE		340	385	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SHALE W/LIMESTONE SEAMS	VARIED		385	391	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SHALE W/LIMESTONE SEAMS	VARIED		391	450	CECR	SLSN	SHLE	
CECR = Eau Claire	SLSN = Siltstone		SHLE = Shale					
SANDSTONE W/SHALE	VARIED		450	456	CECR	SNDS	SLSN	
CECR = Eau Claire	SNDS = Sandstone		SLSN = Siltstone					

Unique No.	00110460	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	22	BCBBDD	613	ft.	613	ft.	1977/03/22

Well Name	COON RAPIDS 14	**Lic. Or Reg. No.**	27010	**Name of Driller**	LINDEKE, W.		
USGS Quad	Coon Rapi	**Elevation**	869	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SANDSTONE W/SHALE	VARIED		456	520	CMTS	SNDS	SLSN	
CMTS = Mt.Simon	SNDS = Sandstone		SLSN = Siltstone					
SHALE-STICKY			520	570	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALE W/SAND LAYERS			572	610	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALE	RED		610	613	PMRC	SHLE		
PMRC = Red Clastic Series	SHLE = Shale							

Unique No.	00110461	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD**	Entry Date	1991/04/15

Minnesota Statutes Chapter 1031

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	22	BCDDCA

Well Depth	Depth Completed	Date Well Completed
615 ft.	615 ft.	1976/09/13

Well Name COON RAPIDS 15

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 15
2231 105TH AV
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**

30 in. t 184 ft
20 in. t 225 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
DIRT	BLACK		0	3
FINE SAND			3	25
SAND & ROCKS			25	35
CLAY		HARD	35	40
CLAY & FINE SAND			40	87
SAND, TRACE OF CLAY			87	97
SAND/GRAVEL/TRACES OF			97	121
FINE SAND, TRACE OF CLA			121	145
SANDSTONE		SOFT	145	160
SHALE	BLUE		160	170
RED SHALE & SANDROCK	RED		170	178
SAND/GRAVEL/TRACE OF S	GREE		178	183
GREEN SHALE & ROCK	GREE		183	194
FRANCONIA SANDSTONE			194	295
FRANCONIA SHALE STREA			295	340
FRANCONIA SHALE STREA			340	348
RED & BLUE SHALE STREA			348	352
IRONTON GALESVILLE SAN			352	405
EAU CLAIRE SHALE			405	485
MT. SIMON			485	510
MT. SIMON, TRACE OF SHA			510	540
MT. SIMON		HARD	540	610
SHALE	RED		610	615

Screen N

Open Hole From 225 ft. to 615 ft.

Make Type

Static Water Level 50 ft. from Land surface Date 1976/09/10

PUMPING LEVEL (below land surface)
148 ft. after 15 hrs. pumping 2400 g.p.m.

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

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G			15	Y

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr nam
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED 4-26-2002. M.G.S. NO. 1105. LOGGED BY JIM TRAEN.

USGS Quad Coon Rapids Elevation 870
Aquifer: CFMS Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27010
License Business Name
Name of Driller HOLLEN, G.

Report Copy

Unique No.	00110461	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	22	BCDDCA	615	ft.	615	ft.	1976/09/13

Well Name	COON RAPIDS 15	**Lic. Or Reg. No.**	27010	**Name of Driller**	HOLLEN, G.		
USGS Quad	Coon Rapi	**Elevation**	870	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
DIRT	BLACK		0	3	RUUK	SOIL	ORGD	
RUUK = Recent Deposit	SOIL = Soil			ORGD = Organic Deposits				
FINE SAND			3	25	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SAND & ROCKS			25	35	QHUU	SAND	COBL	
QHUU = Sand & larger	SAND = Sand			COBL = Cobble				
CLAY		HARD	35	40	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							
CLAY & FINE SAND			40	87	QLUU	CLAY	SAND	
QLUU = Clay & sand	CLAY = Clay			SAND = Sand				
SAND, TRACE OF CLAY			87	97	QLUU	SAND	CLAY	
QLUU = Clay & sand	SAND = Sand			CLAY = Clay				
SAND/GRAVEL/TRACES OF CLAY			97	121	QPUU	SAND	GRVL	CLAY
QPUU = Pebbly sand/silt/clay	SAND = Sand			GRVL = Gravel			CLAY = Clay	
FINE SAND, TRACE OF CLAY			121	145	QLUU	SAND	CLAY	
QLUU = Clay & sand	SAND = Sand			CLAY = Clay				
SANDSTONE		SOFT	145	160	QFUU	SAND		
QFUU = Sand	SAND = Sand							
SHALE	BLUE		160	170	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
RED SHALE & SANDROCK	RED		170	178	QLUR	CLAY	SAND	
QLUR = Clay & sand	CLAY = Clay			SAND = Sand				
SAND/GRAVEL/TRACE OF SHALE	GREEN		178	183	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand			GRVL = Gravel				
GREEN SHALE & ROCK	GREEN		183	194	CFRN	SHLE	DLMT	
CFRN = Franconia	SHLE = Shale			DLMT = Dolomite				
FRANCONIA SANDSTONE			194	295	CFRN	SNDS	SHLE	
CFRN = Franconia	SNDS = Sandstone			SHLE = Shale				

Unique No.	00110461	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	22	BCDDCA	615	ft.	615	ft.	1976/09/13

Well Name	COON RAPIDS 15	**Lic. Or Reg. No.**	27010	**Name of Driller**	HOLLEN, G.		
USGS Quad	Coon Rapi	**Elevation**	870	**Aquifer**	CFMS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
FRANCONIA SHALE STREAKS			295	340	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale			DLMT = Dolomite		
FRANCONIA SHALE STREAKS			340	348	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
RED & BLUE SHALE STREAKS			348	352	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
IRONTON GALESVILLE SANDSTONE			352	405	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
EAU CLAIRE SHALE			405	485	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
MT. SIMON			485	510	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
MT. SIMON, TRACE OF SHALE			510	540	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
MT. SIMON		HARD	540	610	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALE	RED		610	615	PMRC	SHLE		
PMRC = Red Clastic Series	SHLE = Shale							

Unique No.	00161413	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD**	Entry Date	1991/04/15

Minnesota Statutes Chapter 1031

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	11	ADAAAA

Well Depth	Depth Completed	Date Well Completed
653 ft.	653 ft.	1981/04/10

Well Name COON RAPIDS 16

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 16
12280 OLIVE ST
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPID
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter

Casing Diameter				Weight(lbs/ft)
30	in. t	169	ft	118
24	in. t	270	ft	94.62
18	in. t	395	ft	70.59

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND			0	73
CLAY SAND & GRAVEL			73	112
CLAY & SAND			112	130
WATER, SAND & GRAVEL			130	166
BOULDERS			166	176
GRAVEL W/SANDROCK			176	181
GRAVEL W/SANDROCK			181	187
SHALE			187	239
SHALE			239	252
SANDROCK		SOFT	252	270
SHALE & SANDROCK			270	376
SHALE & SANDROCK			376	435
SANDROCK			435	441
SANDROCK			441	455
SHALE (EAU CLAIRE)			455	517
SANDROCK			517	518
SANDROCK			518	653

Screen N

Open Hole From 395 ft. to 653 ft.

Make Type

Static Water Level 109 ft. from Land surface Date 1981/04/10

PUMPING LEVEL (below land surface)
190 ft. after 34 hrs. pumping 2000 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
G	0	395	

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☑ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr nam
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO. 1608 & 1705. GAMMA LOGGED10-17-2001 BY SUMMIT ENVIRON.

USGS Quad Coon Rapids Elevation 889
Aquifer: CIGM Alt Id: 80-6187

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27058
License Business Name
Name of Driller

Report Copy

Unique No.	00161413	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	11	ADAAAA	653	ft.	653	ft.	1981/04/10

Well Name	COON RAPIDS 16	**Lic. Or Reg. No.**	27058	**Name of Driller**			
USGS Quad	Coon Rapi	**Elevation**	889	**Aquifer**	CIGM	**Alternative Id**	80-6187

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND			0	73	QFUU	SAND		
QFUU = Sand	SAND = Sand							
CLAY SAND & GRAVEL			73	112	QPUU	CLAY	SAND	GRVL
QPUU = Pebbly sand/silt/clay	CLAY = Clay		SAND = Sand				GRVL = Gravel	
CLAY & SAND			112	130	QLUU	CLAY	SAND	
QLUU = Clay & sand	CLAY = Clay		SAND = Sand					
WATER, SAND & GRAVEL			130	166	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand		GRVL = Gravel					
BOULDERS			166	176	QBUU	BLDR		
QBUU = Boulder or boulders	BLDR = Boulder							
GRAVEL W/SANDROCK			176	181	QGUU	SAND	COBL	
QGUU = Gravel (+larger)	SAND = Sand		COBL = Cobble					
GRAVEL W/SANDROCK			181	187	CSTL	SHLE	DLMT	SNDS
CSTL = St.Lawrence	SHLE = Shale		DLMT = Dolomite				SNDS = Sandstone	
SHALE			187	239	CSTL	SHLE	DLMT	SNDS
CSTL = St.Lawrence	SHLE = Shale		DLMT = Dolomite				SNDS = Sandstone	
SHALE			239	252	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SANDROCK		SOFT	252	270	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SHALE & SANDROCK			270	376	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone		SHLE = Shale				DLMT = Dolomite	
SHALE & SANDROCK			376	435	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDROCK			435	441	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
SANDROCK			441	455	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					

Unique No.	00161413	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	11	ADAAAA	653	ft.	653	ft.	1981/04/10

Well Name	COON RAPIDS 16	**Lic. Or Reg. No.**	27058	**Name of Driller**			
USGS Quad	Coon Rapi	**Elevation**	889	**Aquifer**	CIGM	**Alternative Id**	80-6187

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SHALE (EAU CLAIRE)			455	517	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDROCK			517	518	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SANDROCK			518	653	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							

Unique No. 00150357

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2007/02/07

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	21	DAAAAA

Well Depth	Depth Completed	Date Well Completed
121 ft.	121 ft.	1981/12/18

Well Name COON RAPIDS 17

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 17
2400 105TH NW AV
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter
in. t 121 ft

Casing Diameter **Weight(lbs/ft)**
30 in. t 81 ft 118.6

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
DIRT	BLACK		0	3
SAND & GRAVEL & SOME C			3	59
SANDY CLAY		SOFT	59	70
CLEAN COARSE GRAVEL &	RED		70	98
CLEAN COARSE SAND & G			98	108
MEDIUM GRAVEL SAND &			108	113
COARSE SAND & GRAVEL			113	121

Screen Y

Open Hole From ft. to ft.

Make JOHNSON Type L

Diameter	Slot	Length	Set		Fitting
30	20	40	81	ft. to 121 ft	

Static Water Level 15 ft. from Land surface Date 1981/12/18

PUMPING LEVEL (below land surface)
72 ft. after 4 hrs. pumping 2000 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☐ Yes ☑ No

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☑ Yes ☐ No

Pump ☑ Not Installed Date Installed N
Mfr nam
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED 10-23-2001 BY SUMMIT ENVIR.

USGS Quad Coon Rapids Elevation 855
Aquifer: QBAA Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27010
License Business Name
Name of Driller KAUITSON, K.

Report Copy

Unique No.	00150357	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	21	DAAAAA	121	ft.	121	ft.	1981/12/18

Well Name	COON RAPIDS 17			**Lic. Or Reg. No.**	27010	**Name of Driller**	KAUITSON, K.
USGS Quad	Coon Rapi	**Elevation**	855	**Aquifer**	QBAA	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
DIRT	BLACK		0	3	RUUK	SOIL	ORGD	
RUUK = Recent Deposit	SOIL = Soil			ORGD = Organic Deposits				
SAND & GRAVEL & SOME CLAY			3	59	QPUU	SAND	GRVL	CLAY
QPUU = Pebbly sand/silt/clay	SAND = Sand			GRVL = Gravel			CLAY = Clay	
SANDY CLAY		SOFT	59	70	QLUU	CLAY	SAND	
QLUU = Clay & sand	CLAY = Clay			SAND = Sand				
CLEAN COARSE GRAVEL & SAND	RED		70	98	QHUR	GRVL	SAND	
QHUR = Sand & larger	GRVL = Gravel			SAND = Sand				
CLEAN COARSE SAND & GRAVEL			98	108	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand			GRVL = Gravel				
MEDIUM GRAVEL SAND & GRAVEL			108	113	QHUU	GRVL	SAND	
QHUU = Sand & larger	GRVL = Gravel			SAND = Sand				
COARSE SAND & GRAVEL			113	121	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand			GRVL = Gravel				

Unique No. 00110469	MINNESOTA DEPARTMENT OF HEALTH	Update Date 2008/12/29
County Name Anoka	**WELL AND BORING RECORD**	Entry Date 1991/04/15
	Minnesota Statutes Chapter 1031	

Township Name	Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed
	31	24	W	2	DCDCDB	637 ft.	637 ft.	1986/05/00

Well Name COON RAPIDS 18

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS

COON RAPIDS MN 55448

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No

From ft. to ft.

Use Community Supply (municipal)

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**

36 in. t 135 ft

30 in. t 195 ft

24 in. t 575 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND	BROW		0	14
PEAT	BLK/B		14	17
SAND MEDIUM	BROW		17	67
CLAY			67	120
CLAY-SHALE	RED		120	142
CLAY & SAND	RED		142	194
CLAY & SAND	RED		194	198
SHALE & SAND	GRN/G		198	226
SHALE & SAND			226	228
FRANCONIA	GREE		228	367
GALESVILLE			367	429
GALESVILLE			429	432
SHALE			432	486
MT. SIMON			486	509
MT. SIMON			509	593
SHALEY SANDSTON			593	616
MIXED SHALE & SANDSTO			616	631
SANDSTONE	RED		631	637

Screen N

Open Hole From 575 ft. to 637 ft.

Make Type

Static Water Level 140 ft. from Land surface Date 1986/05/00

PUMPING LEVEL (below land surface)

248 ft. after 36 hrs. pumping 1400 g.p.m.

Well Head Completion

Pitless adapter mfr Model

Casing Protection ☑ 12 in. above grade

☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G	0	575	67.5	Y

Nearest Known Source of Contamination

ft. direction type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☑ Not Installed Date Installed N

Mfr nam

Model HP Volts

Drop Pipe Length ft. Capacity g.p.m

Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO.2048. GAMMA LOGGED 8-28-1985.

GAMMA LOGGED 1-11-2005 BY JIM TRAEN.

USGS Quad Coon Rapids Elevation 890

Aquifer: CMTS Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27010

License Business Name

Name of Driller HOLLEN, G.

Report Copy

Unique No.	00110469	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/29
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	2	DCDCDB	637	ft.	637	ft.	1986/05/00

Well Name	COON RAPIDS 18	**Lic. Or Reg. No.**	27010	**Name of Driller**	HOLLEN, G.		
USGS Quad	Coon Rapi	**Elevation**	890	**Aquifer**	CMTS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND	BROWN		0	14	QFUB	SAND		
QFUB = Sand	SAND = Sand							
PEAT	BLK/BRN		14	17	QSUU	PEAT		
QSUU = Peat	PEAT = Peat							
SAND MEDIUM	BROWN		17	67	QFUB	SAND		
QFUB = Sand	SAND = Sand							
CLAY			67	120	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							
CLAY-SHALE	RED		120	142	QCUR	CLAY		
QCUR = Clay	CLAY = Clay							
CLAY & SAND	RED		142	194	QLUR	CLAY	SAND	
QLUR = Clay & sand	CLAY = Clay		SAND = Sand					
CLAY & SAND	RED		194	198	CSTL	DLMT	SLSN	SHLE
CSTL = St.Lawrence	DLMT = Dolomite		SLSN = Siltstone			SHLE = Shale		
SHALE & SAND	GRN/GRY		198	226	CSTL	DLMT	SLSN	SHLE
CSTL = St.Lawrence	DLMT = Dolomite		SLSN = Siltstone			SHLE = Shale		
SHALE & SAND			226	228	CFRN	SHLE	DLMT	SNDS
CFRN = Franconia	SHLE = Shale		DLMT = Dolomite			SNDS = Sandstone		
FRANCONIA	GREEN		228	367	CFRN	SHLE	DLMT	SNDS
CFRN = Franconia	SHLE = Shale		DLMT = Dolomite			SNDS = Sandstone		
GALESVILLE			367	429	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
GALESVILLE			429	432	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone					
SHALE			432	486	CECR	SHLE	SNDS	DLMT
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone			DLMT = Dolomite		
MT. SIMON			486	509	CECR	SHLE	SNDS	DLMT
CECR = Eau Claire	SHLE = Shale		SNDS = Sandstone			DLMT = Dolomite		

Unique No.	00110469	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/29
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	2	DCDCDB	637	ft.	637	ft.	1986/05/00

Well Name	COON RAPIDS 18	**Lic. Or Reg. No.**	27010	**Name of Driller**	HOLLEN, G.		
USGS Quad	Coon Rapi	**Elevation**	890	**Aquifer**	CMTS	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
MT. SIMON			509	593	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							
SHALEY SANDSTON			593	616	CMTS	SNDS	SHLE	
CMTS = Mt.Simon	SNDS = Sandstone		SHLE = Shale					
MIXED SHALE & SANDSTONE			616	631	CMTS	SNDS	SHLE	
CMTS = Mt.Simon	SNDS = Sandstone		SHLE = Shale					
SANDSTONE	RED		631	637	CMTS	SNDS		
CMTS = Mt.Simon	SNDS = Sandstone							

Unique No. 00110475

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2009/07/16

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	21	AACBDB

Well Depth	Depth Completed	Date Well Completed
143 ft.	135 ft.	1987/10/14

Well Name COON RAPIDS 19

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 19

COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No

From ft. to ft.

Use Community Supply (municipal)

Contact's Name CITY OF COON RAPIDS

11155 ROBINSON NW DR

COON RAPIDS MN 55433

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**

30 in. t 30 ft

20 in. t 115 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
TOPSOIL	BLACK		0	3
FINE SAND	BROW		3	25
CLAY & SAND MIX	BROW		25	35
CLAY WITH GRAVEL	BROW		35	83
STICKY CLAY	BLUE		83	105
STICKY CLAY	RED	HARD	105	115
COARSE SAND/GRAVEL			115	138
CLAY		HARD	138	143

Screen Y

Open Hole From ft. to ft.

Make JOHNSON Type L

Diameter	Slot	Length	Set		Fitting
20	70	20	115	ft. to 135	ft

Static Water Level 15 ft. from Land surface Date 1987/10/14

PUMPING LEVEL (below land surface)

84 ft. after 24 hrs. pumping 1200 g.p.m.

Well Head Completion

Pitless adapter mfr Model

Casing Protection ☑ 12 in. above grade

☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
G	6	25	0

Nearest Known Source of Contamination

ft. direction type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☑ Not Installed Date Installed N

Mfr nam

Model HP Volts

Drop Pipe Length ft. Capacity g.p.m

Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO.2878.

USGS Quad Coon Rapids Elevation 850

Aquifer: QBAA Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27010

License Business Name

Name of Driller HOLLEN, G.

Report Copy

Unique No.	00110475	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2009/07/16
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	21	AACBDB	143	ft.	135	ft.	1987/10/14

Well Name	COON RAPIDS 19	**Lic. Or Reg. No.**	27010	**Name of Driller**	HOLLEN, G.		
USGS Quad	Coon Rapi	**Elevation**	850	**Aquifer**	QBAA	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
TOPSOIL	BLACK		0	3	RUUK	SOIL	ORGD	
RUUK = Recent Deposit	SOIL = Soil			ORGD = Organic Deposits				
FINE SAND	BROWN		3	25	QFUB	SAND		
QFUB = Sand	SAND = Sand							
CLAY & SAND MIX	BROWN		25	35	QLUB	CLAY	SAND	
QLUB = Clay & sand	CLAY = Clay			SAND = Sand				
CLAY WITH GRAVEL	BROWN		35	83	QPUB	CLAY	GRVL	
QPUB = Pebbly sand/silt/clay	CLAY = Clay			GRVL = Gravel				
STICKY CLAY	BLUE		83	105	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
STICKY CLAY	RED	HARD	105	115	QCUR	CLAY		
QCUR = Clay	CLAY = Clay							
COARSE SAND/GRAVEL			115	138	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand			GRVL = Gravel				
CLAY		HARD	138	143	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							

Unique No. 00420956

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2008/12/30

Entry Date 1991/04/15

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	21	ADBDAB

Well Depth	Depth Completed	Date Well Completed
135 ft.	135 ft.	1988/04/26

Well Name COON RAPIDS 20

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 20
XAVIS NW ST
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter
0 in. t 135 ft

Casing Diameter **Weight(lbs/ft)**
30 in. t 95 ft
20 in. t 95 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
TOPSOIL-SAND	BROW		0	14
CLAY WITH GRAVEL	RED		14	18
MIXED LAYERS SAND & CL	BROW		18	40
CLAY	GRAY		40	43
LAYERED SAND & CLAY	GRAY		43	70
STICKY CLAY	BLUE		70	82
COARSE SAND	YELLO		82	93
SAND/GRAVEL	YELLO		93	135

Screen Y

Open Hole From ft. to ft.

Make JOHNSON Type L

Diameter	Slot	Length	Set		Fitting
20		40.8	95	ft. to 135 ft	

Static Water Level 15 ft. from Land surface Date 1988/04/26

PUMPING LEVEL (below land surface)
90 ft. after 8 hrs. pumping 1560 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G	0	40	6	Y

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☑ Not Installed Date Installed N
Mfr nam
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

SAME AS NO.420957. 420957 PAPERS ARE LOST.

GAMMA LOGGED 11-14-2002. LOGGED BY JIM TRAEN.

USGS Quad Coon Rapids Elevation 850
Aquifer: QBAA Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27010
License Business Name
Name of Driller HOLLEN, G.

Report Copy

Unique No.	00420956	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1991/04/15

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	21	ADBDAB	135	ft.	135	ft.	1988/04/26

Well Name	COON RAPIDS 20	**Lic. Or Reg. No.**	27010	**Name of Driller**	HOLLEN, G.		
USGS Quad	Coon Rapi	**Elevation**	850	**Aquifer**	QBAA	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
TOPSOIL-SAND	BROWN		0	14	RUUB	SOIL	ORGD	SAND
RUUB = Recent Deposit-brown	SOIL = Soil			ORGD = Organic Deposits			SAND = Sand	
CLAY WITH GRAVEL	RED		14	18	QPUR	CLAY	GRVL	
QPUR = Pebbly sand/silt/clay	CLAY = Clay			GRVL = Gravel				
MIXED LAYERS SAND & CLAY	BROWN		18	40	QLUB	SAND	CLAY	
QLUB = Clay & sand	SAND = Sand			CLAY = Clay				
CLAY	GRAY		40	43	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
LAYERED SAND & CLAY	GRAY		43	70	QLUG	SAND	CLAY	
QLUG = Clay & sand	SAND = Sand			CLAY = Clay				
STICKY CLAY	BLUE		70	82	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
COARSE SAND	YELLOW		82	93	QFUY	SAND		
QFUY = Sand	SAND = Sand							
SAND/GRAVEL	YELLOW		93	135	QHUY	SAND	GRVL	
QHUY = Sand & larger	SAND = Sand			GRVL = Gravel				

Unique No. 00474384	MINNESOTA DEPARTMENT OF HEALTH	Update Date 2007/02/06
County Name Anoka	**WELL AND BORING RECORD**	Entry Date 1992/06/22
	Minnesota Statutes Chapter 1031	

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	13	ACCDDD

Well Depth	Depth Completed	Date Well Completed
207 ft.	203 ft.	1990/01/26

Well Name COON RAPIDS 21

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 21
269 NORTHDALE BL
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Use Community Supply (municipal)

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**

24	in. t	103	ft
18	in. t	170	ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
FINE SAND	BROW	SOFT	0	25
FINE SAND	GRAY	SOFT	25	30
SAND & CLAY	GRAY	SOFT	30	32
FINE SAND	BROW	SOFT	32	35
FINE SAND	GRAY	SOFT	35	38
SANDY CLAY	GRAY	SOFT	38	50
CLAY	GRY/B	MEDIUM	50	66
ROCKS & GRAVEL	GRAY	HARD	66	69
FINE SAND & CLAY	BROW	MEDIUM	69	92
CLAY/TRACES OF GRAVEL	BROW	SOFT	92	103
FINE SAND	BROW	SOFT	103	105
COARSE GRAVEL & CLAY	BRN/R	MEDIUM	105	110
MEDIUM GRAVEL & CLAY	BROW	MEDIUM	110	127
MEDIUM TO FINE SAND	BROW	SOFT	127	136
GRAVEL & CLAY	GRAY	SOFT	136	148
CLAY AND ROCKS	LT. YE	SFT-MED	148	150
CLAY/GRAVEL & ROCKS	BLUE	SOFT	150	160
NO RECORD			160	207
CLAY			207	207

Screen Y **Open Hole** From ft. to ft.

Make JOHNSON Type L

Diameter	Slot	Length	Set		Fitting
12	70	33	170	ft. to 203	ft

Static Water Level 66 ft. from Land surface Date 1990/01/26

PUMPING LEVEL (below land surface)
126 ft. after hrs. pumping 1300 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
G	0	103	

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☑ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr nam
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED 1-11-04. LOGGED BY JIM TRAEN

Any not in use and not sealed well(s) on property? ☐ Yes ☑ No

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

USGS Quad Coon Rapids Elevation 899
Aquifer: QBAA Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 71536
License Business Name
Name of Driller TOM/ROGER

Report Copy

Unique No.	00474384	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1992/06/22

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	ACCDDD	207	ft.	203	ft.	1990/01/26

Well Name	COON RAPIDS 21			**Lic. Or Reg. No.**	71536	**Name of Driller**	TOM/ROGER
USGS Quad	Coon Rapi	**Elevation**	899	**Aquifer**	QBAA	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
FINE SAND	BROWN	SOFT	0	25	QFUB	SAND		
QFUB = Sand	SAND = Sand							
FINE SAND	GRAY	SOFT	25	30	QFUG	SAND		
QFUG = Sand	SAND = Sand							
SAND & CLAY	GRAY	SOFT	30	32	QLUG	SAND	CLAY	
QLUG = Clay & sand	SAND = Sand			CLAY = Clay				
FINE SAND	BROWN	SOFT	32	35	QFUB	SAND		
QFUB = Sand	SAND = Sand							
FINE SAND	GRAY	SOFT	35	38	QFUG	SAND		
QFUG = Sand	SAND = Sand							
SANDY CLAY	GRAY	SOFT	38	50	QLUG	CLAY	SAND	
QLUG = Clay & sand	CLAY = Clay			SAND = Sand				
CLAY	GRY/BLU	MEDIUM	50	66	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
ROCKS & GRAVEL	GRAY	HARD	66	69	QGUG	GRVL	COBL	
QGUG = Gravel (+larger)	GRVL = Gravel			COBL = Cobble				
FINE SAND & CLAY	BROWN	MEDIUM	69	92	QLUB	SAND	CLAY	
QLUB = Clay & sand	SAND = Sand			CLAY = Clay				
CLAY/TRACES OF GRAVEL	BROWN	SOFT	92	103	QPUB	CLAY	GRVL	
QPUB = Pebbly sand/silt/clay	CLAY = Clay			GRVL = Gravel				
FINE SAND	BROWN	SOFT	103	105	QFUB	SAND		
QFUB = Sand	SAND = Sand							
COARSE GRAVEL & CLAY	BRN/RED	MEDIUM	105	110	QPUU	GRVL	CLAY	
QPUU = Pebbly sand/silt/clay	GRVL = Gravel			CLAY = Clay				
MEDIUM GRAVEL & CLAY	BROWN	MEDIUM	110	127	QPUB	GRVL	CLAY	
QPUB = Pebbly sand/silt/clay	GRVL = Gravel			CLAY = Clay				
MEDIUM TO FINE SAND	BROWN	SOFT	127	136	QFUB	SAND		
QFUB = Sand	SAND = Sand							

Unique No.	00474384	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/06
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1992/06/22

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	13	ACCDDD	207	ft.	203	ft.	1990/01/26

Well Name	COON RAPIDS 21	**Lic. Or Reg. No.**	71536	**Name of Driller**	TOM/ROGER		
USGS Quad	Coon Rapi	**Elevation**	899	**Aquifer**	QBAA	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
GRAVEL & CLAY	GRAY	SOFT	136	148	QPUG	GRVL	CLAY	
QPUG = Pebbly sand/silt/clay	GRVL = Gravel			CLAY = Clay				
CLAY AND ROCKS	LT. YEL	SFT-MED	148	150	QPUY	CLAY	COBL	
QPUY = Pebbly sand/silt/clay	CLAY = Clay			COBL = Cobble				
CLAY/GRAVEL & ROCKS	BLUE	SOFT	150	160	QPUG	CLAY	GRVL	COBL
QPUG = Pebbly sand/silt/clay	CLAY = Clay			GRVL = Gravel			COBL = Cobble	
NO RECORD			160	207	QUUU	DRFT		
QUUU = Unknown deposit type	DRFT = Drift							
CLAY			207	207	QCUU	CLAY		
QCUU = Clay	CLAY = Clay							

Unique No. 00474385

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2008/12/30

Entry Date 1992/06/22

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	22	CBABAD

Well Depth	Depth Completed	Date Well Completed
108 ft.	105 ft.	1990/03/15

Well Name COON RAPIDS 22

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 22
2220 105TH NW AV
COON RAPIDS MN 55433

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Use Community Supply (municipal)

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON NW DR
COON RAPIDS MN 55433

Casing **Drive Shoe?** ☐ Yes ☐ N

Hole Diameter

Casing Diameter **Weight(lbs/ft)**
24 in. t 80 ft

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND	BROW	SOFT	0	19
ROCKS & BOULDERS	BROW	HARD	19	21
SANDY CLAY	BROW	MEDIUM	21	28
SANDY CLAY/GRAVEL	GRAY	SOFT	28	57
GRAVEL & CLAY	BROW	SOFT	57	70
SANDY CLAY	BROW	SOFT	70	73
FINE SAND	BROW	SOFT	73	83
COARSE SAND	BROW	SOFT	83	93
SAND & GRAVEL	BROW	SOFT	93	98
GRAVEL	BROW	SOFT	98	105
CLAY	BROW	SOFT	105	108

Screen Y

Open Hole From ft. to ft.

Make JOHNSON Type L

Diameter	Slot	Length	Set		Fitting
18	120	25	80	ft. to 105 ft	

Static Water Level 32 ft. from Land surface Date 1990/03/15

PUMPING LEVEL (below land surface)
105 ft. after 1 hrs. pumping 250 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G	0	20	1.5	Y

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☑ Yes ☐ No

Pump ☑ Not Installed Date Installed N
Mfr nam
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED 11-14-2002. LOGGED BY JIM TRAEN.

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

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

USGS Quad Coon Rapids Elevation 869
Aquifer: QBAA Alt Id: 80-6139

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 71536
License Business Name
Name of Driller TOM/ROGER

Report Copy

Unique No.	00474385	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2008/12/30
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1992/06/22

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	22	CBABAD	108	ft.	105	ft.	1990/03/15

Well Name	COON RAPIDS 22	**Lic. Or Reg. No.**	71536	**Name of Driller**	TOM/ROGER		
USGS Quad	Coon Rapi	**Elevation**	869	**Aquifer**	QBAA	**Alternative Id**	80-6139

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND	BROWN	SOFT	0	19	QFUB	SAND		
QFUB = Sand	SAND = Sand							
ROCKS & BOULDERS	BROWN	HARD	19	21	QBUB	COBL	BLDR	
QBUB = Boulder or boulders	COBL = Cobble			BLDR = Boulder				
SANDY CLAY	BROWN	MEDIUM	21	28	QLUB	CLAY	SAND	
QLUB = Clay & sand	CLAY = Clay			SAND = Sand				
SANDY CLAY/GRAVEL	GRAY	SOFT	28	57	QPUG	CLAY	SAND	GRVL
QPUG = Pebbly sand/silt/clay	CLAY = Clay			SAND = Sand			GRVL = Gravel	
GRAVEL & CLAY	BROWN	SOFT	57	70	QPUB	GRVL	CLAY	
QPUB = Pebbly sand/silt/clay	GRVL = Gravel			CLAY = Clay				
SANDY CLAY	BROWN	SOFT	70	73	QLUB	CLAY	SAND	
QLUB = Clay & sand	CLAY = Clay			SAND = Sand				
FINE SAND	BROWN	SOFT	73	83	QFUB	SAND		
QFUB = Sand	SAND = Sand							
COARSE SAND	BROWN	SOFT	83	93	QFUB	SAND		
QFUB = Sand	SAND = Sand							
SAND & GRAVEL	BROWN	SOFT	93	98	QHUB	SAND	GRVL	
QHUB = Sand & larger	SAND = Sand			GRVL = Gravel				
GRAVEL	BROWN	SOFT	98	105	QGUB	GRVL		
QGUB = Gravel (+larger)	GRVL = Gravel							
CLAY	BROWN	SOFT	105	108	QCUB	CLAY		
QCUB = Clay	CLAY = Clay							

Unique No. 00463020

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2007/02/07

Entry Date 1992/06/22

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	27	BAABBB

Well Depth		Depth Completed		Date Well Completed
151	ft.	128	ft.	1991/12/16

Well Name COON RAPIDS 23

Well Owner's Name COON RAPIDS, CITY OF
2100 COON RAPIDS NW BL
COON RAPIDS MN 55433

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON DR
COON RAPIDS MN 55433

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND	BROW		0	10
CLAY/SAND	BROW		10	34
SAND/GRAVEL	GRAY		34	38
SANDY CLAY	GRAY		38	67
SAND	BROW		67	95
GRAVEL	BROW		95	122
CLAY	GRAY		122	123
GRAVEL	BROW		123	126
SAND	BROW		126	151
CLAY	BROW		151	151

Drilling Method Cable Tool

Drilling Fluid Water

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter

Casing Diameter				Weight(lbs/ft)
30	in. t	92	ft	118.6
24	in. t	93	ft	94.6

Screen Y

Open Hole From ft. to ft.

Make JOHNSON Type L

Diameter	Slot	Length	Set		Fitting
24	50		94	ft. to	ft
16	70			ft. to 123	ft

Static Water Level 24 ft. from Land surface Date 1991/12/16

PUMPING LEVEL (below land surface)
70 ft. after 8 hrs. pumping 500 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
G		91	114 S

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? ☑ Yes ☐ No

Pump ☑ Not Installed Date Installed N
Mfr nam
Model HP Volts
Drop Pipe Length ft. Capacity g.p.m
Type

Any not in use and not sealed well(s) on property? ☐ Yes ☑ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED 11-14-2002 BY DOWNHOLE WELL SERVICES.

USGS Quad Coon Rapids Elevation 855
Aquifer: QBAA Alt Id: 1020017S24

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 71015
License Business Name
Name of Driller FULTON, W.

Report Copy

Unique No.	00463020	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/02/07
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	1992/06/22

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	27	BAABBB	151	ft.	128	ft.	1991/12/16

Well Name	COON RAPIDS 23	**Lic. Or Reg. No.**	71015	**Name of Driller**	FULTON, W.		
USGS Quad	Coon Rapi	**Elevation**	855	**Aquifer**	QBAA	**Alternative Id**	1020017S24

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND	BROWN		0	10	QFUB	SAND		
QFUB = Sand	SAND = Sand							
CLAY/SAND	BROWN		10	34	QLUB	SAND	CLAY	
QLUB = Clay & sand	SAND = Sand			CLAY = Clay				
SAND/GRAVEL	GRAY		34	38	QHUG	SAND	GRVL	
QHUG = Sand & larger	SAND = Sand			GRVL = Gravel				
SANDY CLAY	GRAY		38	67	QLUG	CLAY	SAND	
QLUG = Clay & sand	CLAY = Clay			SAND = Sand				
SAND	BROWN		67	95	QFUB	SAND		
QFUB = Sand	SAND = Sand							
GRAVEL	BROWN		95	122	QGUB	GRVL		
QGUB = Gravel (+larger)	GRVL = Gravel							
CLAY	GRAY		122	123	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
GRAVEL	BROWN		123	126	QGUB	GRVL		
QGUB = Gravel (+larger)	GRVL = Gravel							
SAND	BROWN		126	151	QFUB	SAND		
QFUB = Sand	SAND = Sand							
CLAY	BROWN		151	151	QCUB	CLAY		
QCUB = Clay	CLAY = Clay							

Unique No.	00674478	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/05/18
County Name	Anoka	**WELL AND BORING RECORD**	Entry Date	/ / 0

Minnesota Statutes Chapter 1031

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	21	ABADAB

Well Depth	Depth Completed	Date Well Completed
388 ft.	388 ft.	2003/12/19

Well Name COON RAPIDS 24

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 24
10845 DIRECT RIVER DR
COON RAPIDS MN 55433

Drilling Fluid Bentonite

Well Hydrofractured? ☐ Yes ☑ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter

in. t	85	ft	
in. t	388	ft	
in. t	323	ft	

Casing Diameter **Weight(lbs/ft)**

30	in. t	191	ft	118.65
24	in. t	241	ft	94.62
36	in. t	90	ft	142.68

Screen N

Open Hole From 232 ft. to 388 ft.

Make Type

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND & GRAVEL	BROW	SOFT	0	29
CLAY & GRAVEL	BROW	HARD	29	82
SANDY CLAY	BROW	SOFT	82	87
SAND	BROW	SOFT	87	112
JORDAN S.S.	TAN	MEDIUM	132	149
FRANCONIA S.S.	GRN/B	MED-HRD	149	354
IRONTON/GALESVILLE	GRAY	MEDIUM	354	385
EAU CLAIRE SHALE	GRY/G	HARD	385	388

Static Water Level 60 ft. from Land surface Date 2003/09/18

PUMPING LEVEL (below land surface)
112 ft. after 8 hrs. pumping 1560 g.p.m.

Well Head Completion
Pitless adapter mfr BAKER Model 12.5PS2426
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)	
G		85	10	Y
G		232.5	10	Y

Nearest Known Source of Contamination
200 ft. direction N type SDF
Well disinfected upon completion? ☑ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr nam GOULD
Model 14RLJC-7 HP 75 Volts 480
Drop Pipe Length 165 ft. Capacity E+03 g.p.m
Type S

Any not in use and not sealed well(s) on property? ☐ Yes ☑ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED 6-17-2003. M.G.S. NO. 4242. LOGGED BY JIM TRAEN.

ROGER E. RENNER, MGWC, N-291.

MR. CHRIS CATLIN (651)644-4389.

USGS Quad Coon Rapids Elevation 861
Aquifer: CFIG Alt Id: 4242

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 71015
License Business Name
Name of Driller COX, A.

Report Copy

Unique No.	00674478	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/05/18
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	/ / 0

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	21	ABADAB	388	ft.	388	ft.	2003/12/19

Well Name	COON RAPIDS 24	**Lic. Or Reg. No.**	71015	**Name of Driller**	COX, A.		
USGS Quad	Coon Rapi	**Elevation**	861	**Aquifer**	CFIG	**Alternative Id**	4242

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND & GRAVEL	BROWN	SOFT	0	29	QHUB	SAND	GRVL	
QHUB = Sand & larger	SAND = Sand			GRVL = Gravel				
CLAY & GRAVEL	BROWN	HARD	29	82	QPUB	CLAY	GRVL	
QPUB = Pebbly sand/silt/clay	CLAY = Clay			GRVL = Gravel				
SANDY CLAY	BROWN	SOFT	82	87	QLUB	CLAY	SAND	
QLUB = Clay & sand	CLAY = Clay			SAND = Sand				
SAND	BROWN	SOFT	87	112	QFUB	SAND		
QFUB = Sand	SAND = Sand							
JORDAN S.S.	TAN	MEDIUM	132	149	QFUB	SAND		
QFUB = Sand	SAND = Sand							
FRANCONIA S.S.	GRN/BRN	MED-HRD	149	354	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone			SHLE = Shale			DLMT = Dolomite	
IRONTON/GALESVILLE	GRAY	MEDIUM	354	385	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							
EAU CLAIRE SHALE	GRY/GRN	HARD	385	388	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale			SNDS = Sandstone				

Unique No. 00674479

County Name Anoka

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Update Date 2007/01/09

Entry Date 2004/10/11

Township Name	Township	Range	Dir	Section	Subsection
	31	24	W	22	BCBDBA

Well Depth	Depth Completed	Date Well Completed
388 ft.	388 ft.	2003/12/19

Well Name COON RAPIDS 25

Drilling Method Cable Tool

Well Owner's Name COON RAPIDS 25
2324 COON RAPIDS NW BL
COON RAPIDS MN 55433

Drilling Fluid Bentonite

Well Hydrofractured? ☐ Yes ☐ No
From ft. to ft.

Contact's Name CITY OF COON RAPIDS
11155 ROBINSON DR
COON RAPIDS MN 55433

Use Community Supply (municipal)

Casing **Drive Shoe?** ☑ Yes ☐ N

Hole Diameter
in. t 388 ft
in. t 227 ft

Casing Diameter **Weight(lbs/ft)**
36 in. t 196 ft 142.68
24 in. t 229 ft 94.62

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND & GRAVEL	BROW	SOFT	0	29
CLAY & GRAVEL	BROW	HARD	29	82
SANDY CLAY	BROW	SOFT	82	87
SAND	BROW	SOFT	87	112
JORDAN S.S.	TAN	MEDIUM	112	162
ST. LAWRENCE	BRN/G	MEDIUM	162	193
FRANCONIA S.S.	GRN/B	MED-HRD	193	359
IRONTON/GALESVILLE	GRAY	MEDIUM	359	388

Screen N

Open Hole From 225 ft. to 388 ft.

Make Type

Static Water Level 51 ft. from Land surface Date 2003/12/01

PUMPING LEVEL (below land surface)
121.37 ft. after 48 hrs. pumping 1560 g.p.m.

Well Head Completion
Pitless adapter mfr BAKER Model 9.5PS2426
Casing Protection ☑ 12 in. above grade
☐ At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? ☑ Yes ☐ No

Material	From	To (ft.)	Amount(yds/bags)
G		225	45 Y

Nearest Known Source of Contamination
200 ft. direction N type SDF
Well disinfected upon completion? ☑ Yes ☐ No

Pump ☐ Not Installed Date Installed
Mfr nam GOULDS
Model 14RLJC-7 HP 75 Volts 480
Drop Pipe Length 165 ft. Capacity E+03 g.p.m
Type S

Any not in use and not sealed well(s) on property? ☐ Yes ☑ No

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

REMARKS, ELEVATION, SOURCE OF DATA, etc.

GAMMA LOGGED 8-29-2003. M.G.S. NO. 4280. LOGGED BY JIM TRAEN.

USGS Quad Coon Rapids Elevation 871
Aquifer: CFIG Alt Id: 80-6137

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 71015
License Business Name
Name of Driller COX, A.

Report Copy

Unique No.	00674479	MINNESOTA DEPARTMENT OF HEALTH	Update Date	2007/01/09
County Name	Anoka	**WELL AND BORING RECORD** *Minnesota Statutes Chapter 1031*	Entry Date	2004/10/11

Township Name	Township	Range	Dir	Section	Subsection	Well Depth		Depth Completed		Date Well Completed
	31	24	W	22	BCBDBA	388	ft.	388	ft.	2003/12/19

Well Name	COON RAPIDS 25	**Lic. Or Reg. No.**	71015	**Name of Driller**	COX, A.		
USGS Quad	Coon Rapi	**Elevation**	871	**Aquifer**	CFIG	**Alternative Id**	80-6137

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SAND & GRAVEL	BROWN	SOFT	0	29	QHUB	SAND	GRVL	
QHUB = Sand & larger	SAND = Sand			GRVL = Gravel				
CLAY & GRAVEL	BROWN	HARD	29	82	QPUB	CLAY	GRVL	
QPUB = Pebbly sand/silt/clay	CLAY = Clay			GRVL = Gravel				
SANDY CLAY	BROWN	SOFT	82	87	QLUB	CLAY	SAND	
QLUB = Clay & sand	CLAY = Clay			SAND = Sand				
SAND	BROWN	SOFT	87	112	QFUB	SAND		
QFUB = Sand	SAND = Sand							
JORDAN S.S.	TAN	MEDIUM	112	162	CJDN	SNDS		
CJDN = Jordan	SNDS = Sandstone							
ST. LAWRENCE	BRN/GRN	MEDIUM	162	193	CSTL	SLSN	DLMT	
CSTL = St.Lawrence	SLSN = Siltstone			DLMT = Dolomite				
FRANCONIA S.S.	GRN/BRN	MED-HRD	193	359	CFRN	SNDS	SHLE	DLMT
CFRN = Franconia	SNDS = Sandstone			SHLE = Shale			DLMT = Dolomite	
IRONTON/GALESVILLE	GRAY	MEDIUM	359	388	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone							

Appendix B

Aquifer Test Data and Analysis

MINNESOTA MDH DEPARTMENT of HEALTH
Environmental Health Division
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Determination of Aquifer Properties and Aquifer Test Plan (DAP-ATP) Form

Public Water Supply ID:	1020017	PWS Name:	Coon Rapids

Contact Information for Person Completing this Form

Name:	John Greer
Address:	Barr Engineering Company
	4700 West 77th Street, Suite 200
City, State, Zip:	Edina, MN 55435
Phone, Fax, e-mail:	(952) 832-2691

Aquifer Properties Determination Methods

- [x] 1) An existing pumping test that meets the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on a well connected to the public water supply system.
- [ ] 2) An existing pumping test that meets the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on another well in a hydrogeologic setting determined by the department to be equivalent.
- [ ] 3) A proposed new test to be conducted on a new or existing well connected to the public water supply system and that meets the requirements for larger-sized water systems (wellhead protection rule part 4720.5520). A test plan must be approved before conducting the test.
- [ ] 4) A proposed new test to be conducted on a new or existing public well connected to the public water supply system and that meets the requirements for smaller-sized water systems (wellhead protection rule part 4720.5530). A test plan must be approved before conducting the test.
- [ ] 5) An existing pumping test that does not meet the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on: 1) a public water supply well or 2) another well in a hydrogeologic setting determined by the department to be equivalent.
- [ ] 6) Existing specific capacity test(s) conducted on the public water supply well(s) or specific capacity tests conducted on other wells in a hydrogeologic setting determined by the department to be equivalent.
- [ ] 7) An existing published transmissivity value.

- Include all test data and analysis documentation with the estimated transmissivity, ft^2/day, when the aquifer properties determination method is; 1, 2, 5, 6, or 7, listed above.
- Attach detailed aquifer test plan for methods 3 or 4.

Submitted by: John Greer	Prof. License: 30347	Date: 7/31/2015

To request this document in another format, please call our Section Receptionist (651/201-4700) or Division TTY (651/201-5797).

Rationale for: 1) Aquifer Properties Determination or 2) Proposed New Test

Briefly describe the rationale for: 1) selected method to determine aquifer properties from existing data, **or** 2) a new aquifer test to be conducted on the pumped well referenced below. Include unique well numbers of all wells that were (or will be) monitored during data collection. How does the existing or proposed test deviate from the ideal. (e.g. rate, duration, no. of obwells, interfering wells, etc.) Attach documentation as necessary.

Aquifer Name:	Confined Quaternary Aquifer	☑ Confined	☐ Unconfined	☐ Fractured Rock

The MDH conducted a 24.3-hour pumping test at Coon Rapids Well 20 (Unique Number 420956) on March 11-12, 1999. The pumping rate was 1,150 gallons per minute (gpm). Coon Rapids Well 17 (Unique Number 150357) was used as an observation well. Analysis of the pumping and recovery data from the observation well using the Theis and Jacob methods produced a range of transmissivities from 31,800 ft**2/day to 66,700 ft**2/day (see attached).

The MDH conducted pumping tests at Wells 19 (Unique Number 110475) and Well 20 on August 29 - September 2, 2002. Wells 673418 and 673420 were used as observation wells. Well 19 was pumped for approximately 24 hours at 1,220 gpm followed by an approximately 24-hour recovery period, and then Well 20 was pumped at 1,000 gpm for approximately 24 hours followed by a second 24-hour recovery period. Data were analyzed using the Theis and Hantush-Jacob methods. The analysis concluded that the Quaternary aquifer is less transmissive near Well 19 and observation well 673418 (T range 8,120 ft**2day to 9,420 ft**2/day) than near Well 20 and 673420 (T range 27,000 ft**2/day to 55,000 ft**2/day) (see attached).

T values for groundwater model:

Region including Well 19 (2002 test data for 673418):
Geometric mean T = 8,700 ft**2/day
Sensitivity analysis range = 8,120 - 9,420 ft**2/day

Region including Well 20 (1999 data from 150357 and 2002 data from 673418 and 673420):
Geometric mean T = 45,210 ft**2/day
Sensitivity analysis range = 27,000 - 66,700 ft**2/day

Proposed New Test Information Summary

Pumped Well Name (Unique Number):	420956, 110475	**Test Duration (Hours):**	24
Location: X, Y (meters) UTM-Z15N or Lat-Lon (decimal degrees) datum: NAD83	473997, 5001192 (420956) 473885, 5001449 (110475)	**Pump Type:**	unknown
		Discharge Rate:	1150, 1220, 1000 gpm
Number of Observation Wells:	3	**Flow Rate Measuring Device Type:**	flowmeter

- A map showing the location of the pumping well and observation well(s) must be included.

List the unique number of each public water supply well to which this DAP-ATP Form applies

150357					
110475					
420956					
474384					
474385					
463020					

Reviewed by: Amal Djerrari	**Approved:** ◉ Yes ○ No	**Approval Date:** 8/3/2015

Analysis of the Coon Rapids #20 (420956) Aquifer Test
March 11, 1999
Confined Drift Aquifer

Introduction

The MDH is assisting in the delineation of wellhead protection areas by the City of Coon Rapids, Minnesota, around the public water supply wells serving the community. An important part of the delineation process is to determine aquifer properties at the well site as accurately as possible. This is normally accomplished by performing a pumping test.

The pumping test at the Coon Rapids Well #20 was conducted by the MDH as described below. The results were analyzed using standard nonequilibrium and semisteady-state methods, cited in references. Data plots are included in Appendix 1, field data sheets in Appendix2, well logs in Appendix 3, and test results are summarized on Table 1. The analysis shows that the aquifer responds as generally expected from the geologic setting.

Description of the Test

A pressure transducer was placed in the pumping well on March 10, 1999 at about 15:30 to collect background readings prior to the test. The well was pumping at the time the transducer was installed and was turned off at about 22:00 providing an eighteen hour resting period before the start of the test. There were no other nearby wells to cause interference for this test. A transducer was installed in a nearby public water supply well, #17 (150357), to serve as an observation well.

The test started at 11:49:53 on March 11, 1999. Well #20 was pumped at an average rate of 1150 gallons per minute. The flowmeter on the well was used to monitor the discharge. The pumping rate remained fairly constant through out the test. However, there were three short periods of time, possibly one minute or so in length, that the pump discharge decreased or even stopped during the test. This caused small variations in water level that did not cause the data to be unusable.

The pump was turned off at 12:09:00.2 on March 12, 1999 to start the recovery period. The recovery period was carried out 1450 minutes and the wells recovered above static levels caused by recharge from snow melt. There also was an anomalous flattening of the water levels during very early recovery possibly the result of pressure surge prevention equipment.

Summary of Results

A transmissivity value of 38,300 ft^2/day and a storativity value of 0.00094 are chosen as being representative of aquifer properties in the area of these two wells for the capture zone analysis. The aquifer is semi-confined but the leakiness is not large and was obscured by recharge during late recovery.

The test results are fairly consistent between the pumping and observation wells, particularly during the late-time pumping period. The results are also consistent with the conceptual model of a leaky confined drift aquifer.

Problems with the Analysis

Problems not withstanding, the data acquired for this test are of high quality and the results are consistent and representative of the aquifer in the area of the well.

References:

Jacob, C. E. and Lohman, S. W., (1952) Nonsteady Flow to a Well of Constant Drawdown in an Extensive Aquifer, Trans. American Geophysical Union, Vol. 33, No. 4, August, 1952, pp. 559-69.

Theis, C. V., (1935) The Relation Between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Ground-Water Storage, Trans. American Geophysical Union, 16th Annual Meeting, April, 1935, pp. 519-24.

Table 1.

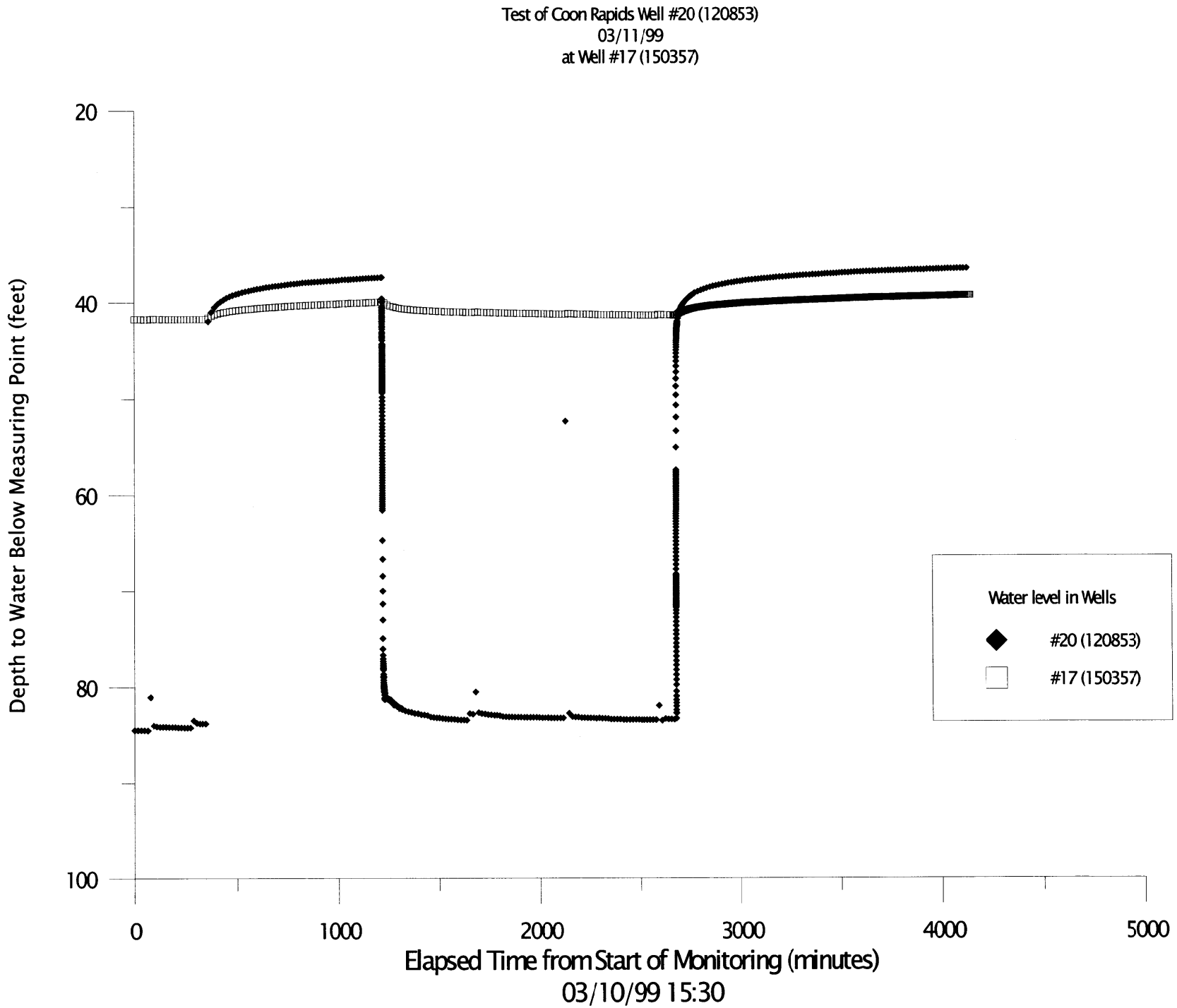
Coon Rapids #20 Aquifer Test
March 11, 1999

	Transmisivity T (ft^2/day)	Storage Coefficient S	Time Period Emphasized	Analysis Method
Pumping Well #20 (420956)	1,470	NA	Early Pumping	Theis
	60,700	NA	Late Pumping	Jacob
	1,470	NA	Early Recovery	Theis
	15,400	NA	Late Recovery	Jacob t/t'
Observation Well #17 (150357)	47,600	1.08e-3	Early Pumping	Theis
	66,700	6.32e-4	Late Pumping	Jacob
	38,300	9.4e-4	Early Recovery	Theis
	31,800	1.5e-4	Late Recovery	Jacob t/t'

Representative aquifer values are best shown by the early-time recovery values for the observation well, giving an average T of 38,300 and S of 0.00094.

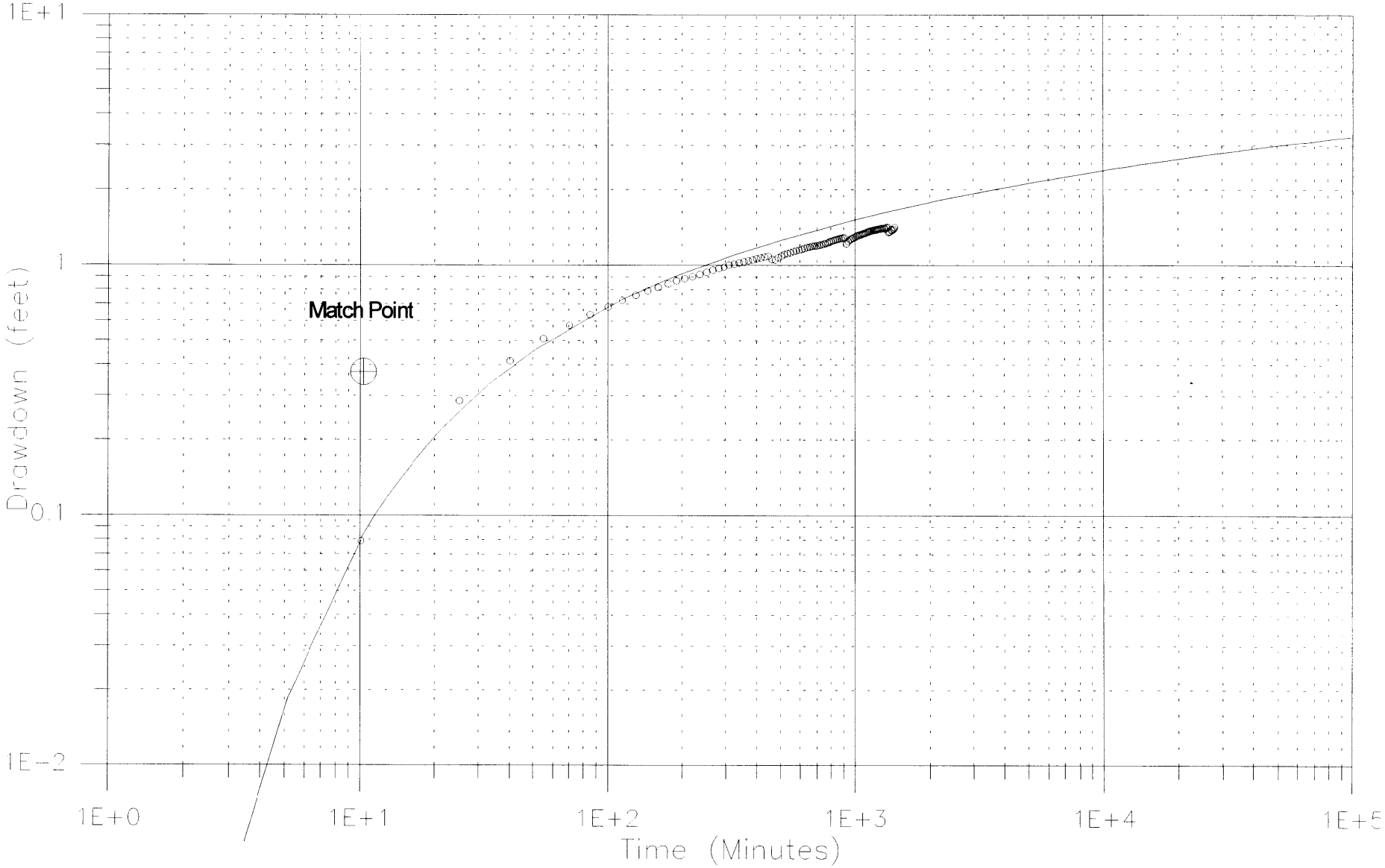
Appendix 1.

Graphical Analysis


Test of Coon Rapids Well #20 (120853)
03/11/99
at Well #17 (150357)
Depth to Water Below Measuring Point (feet)
20
40
60
80
100
0
1000
2000
3000
4000
5000
Elapsed Time from Start of Monitoring (minutes)
03/10/99 15:30
Water level in Wells
#20 (120853)
#17 (150357)

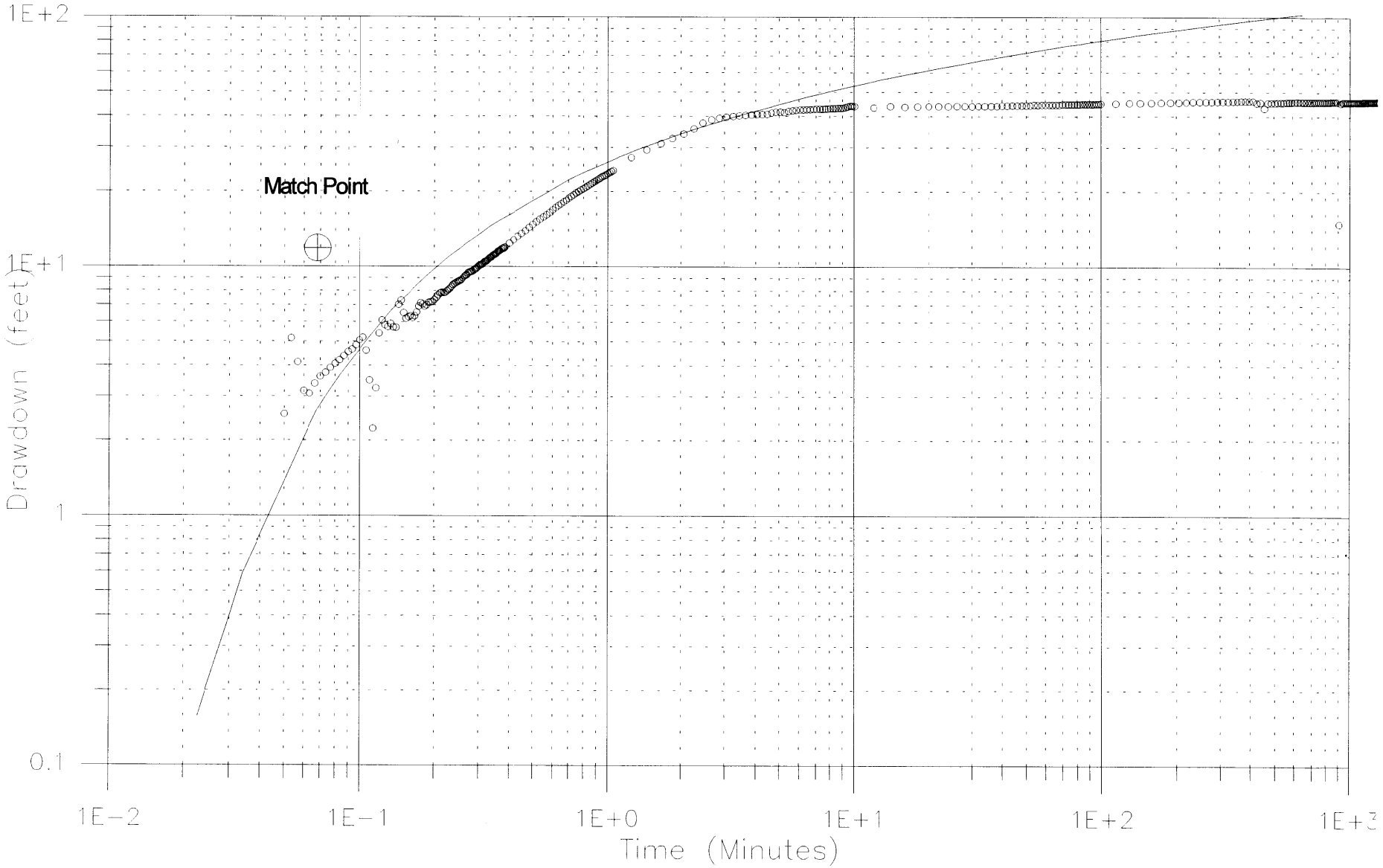
Test of Coon Rapids Well #20 (120853)
03/11/99
at Well #17 (150357)
Pumping

T = 15.3 1152 / 0.37 = 47,600 ft^2/day
S = 47,600 11 / 1163^2 360 = 1.08e-3



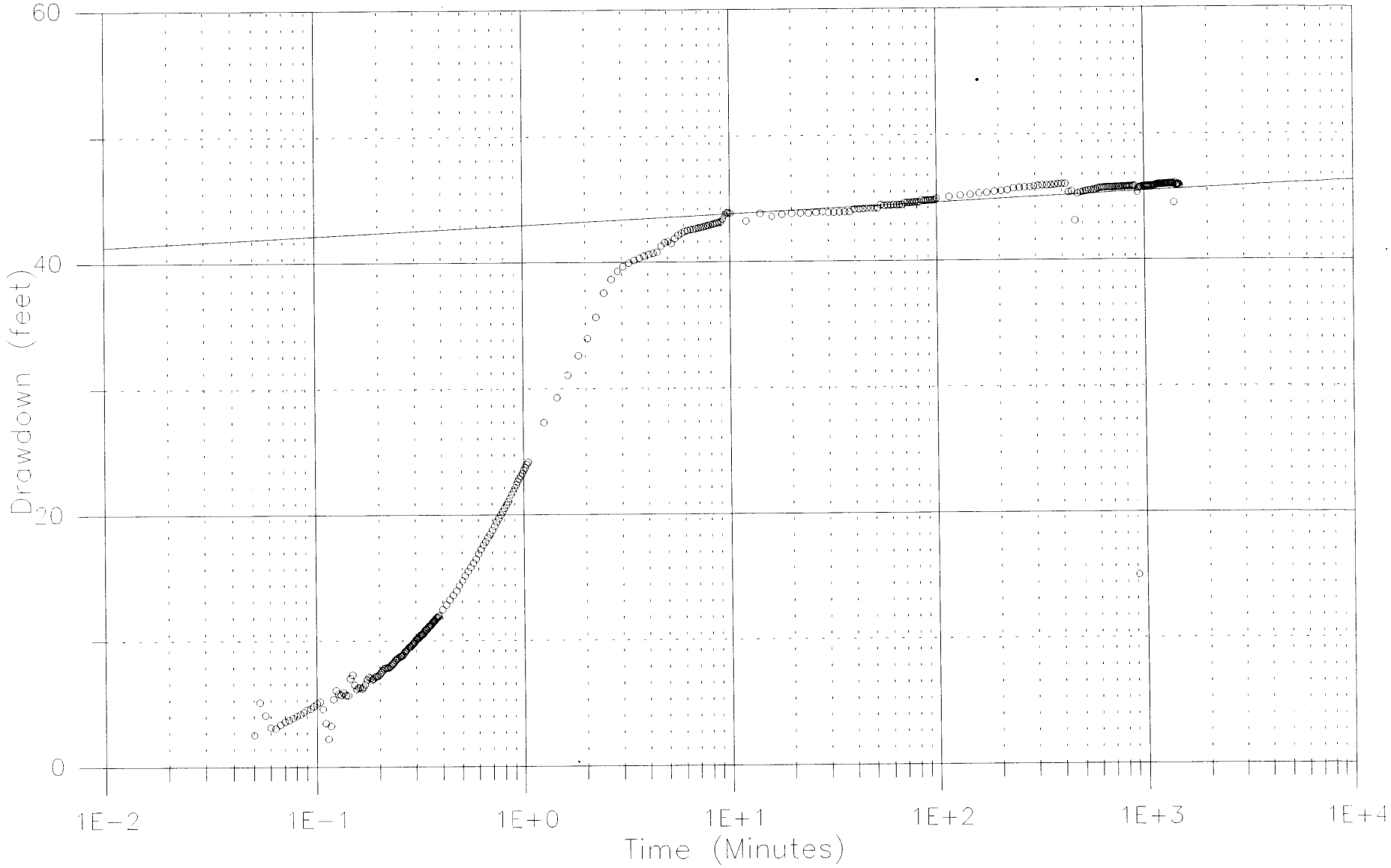
Test of Coon Rapids Well #20 (120853)
03/11/99
Pumping

T = 15.3 1152 / 12 = 1,470 ft^2/day



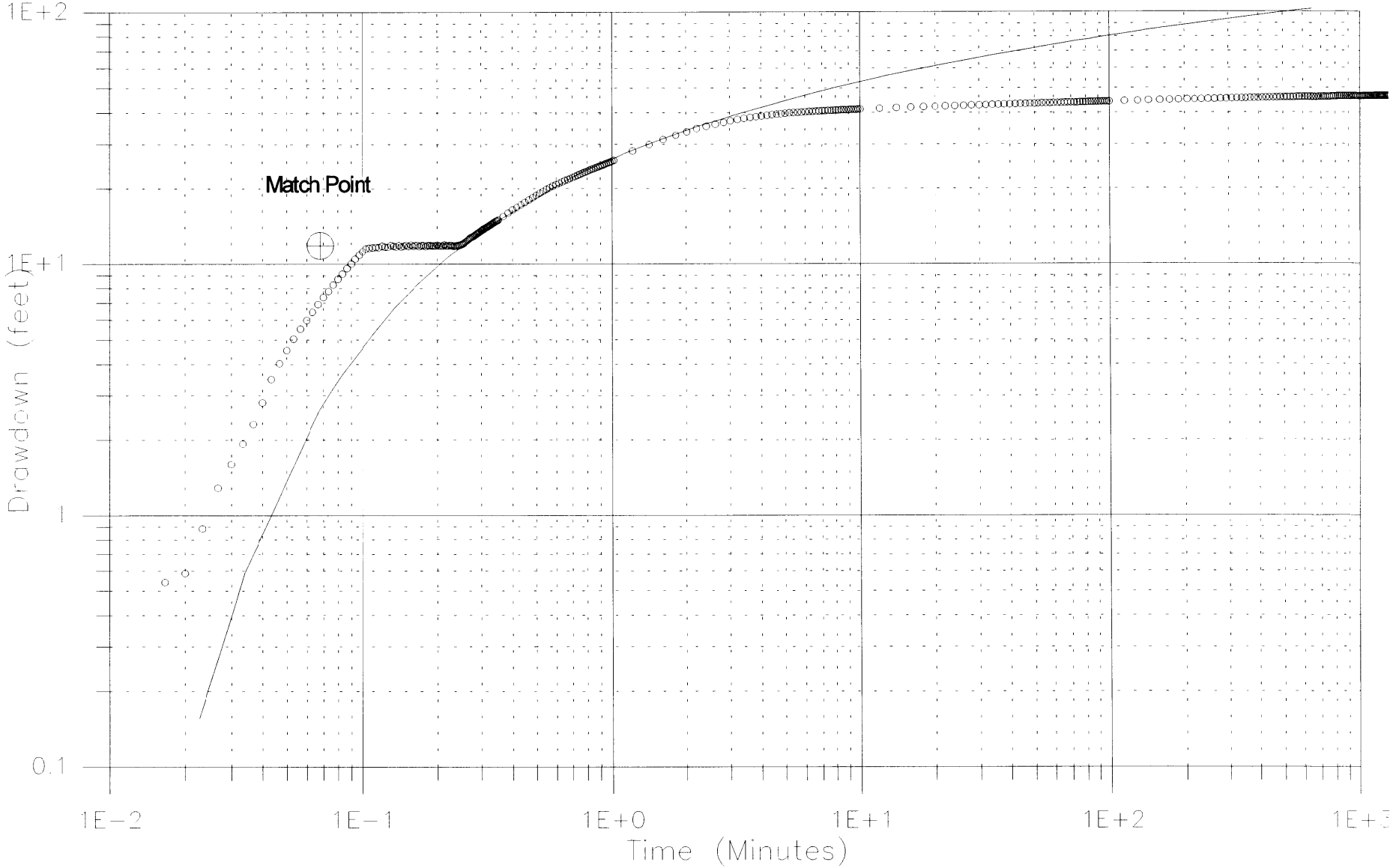
Test of Coon Rapids Well #20 (120853)
03/11/99
Pumping

T = 35.3 1152 / 0.67 = 60,700 ft^2/day



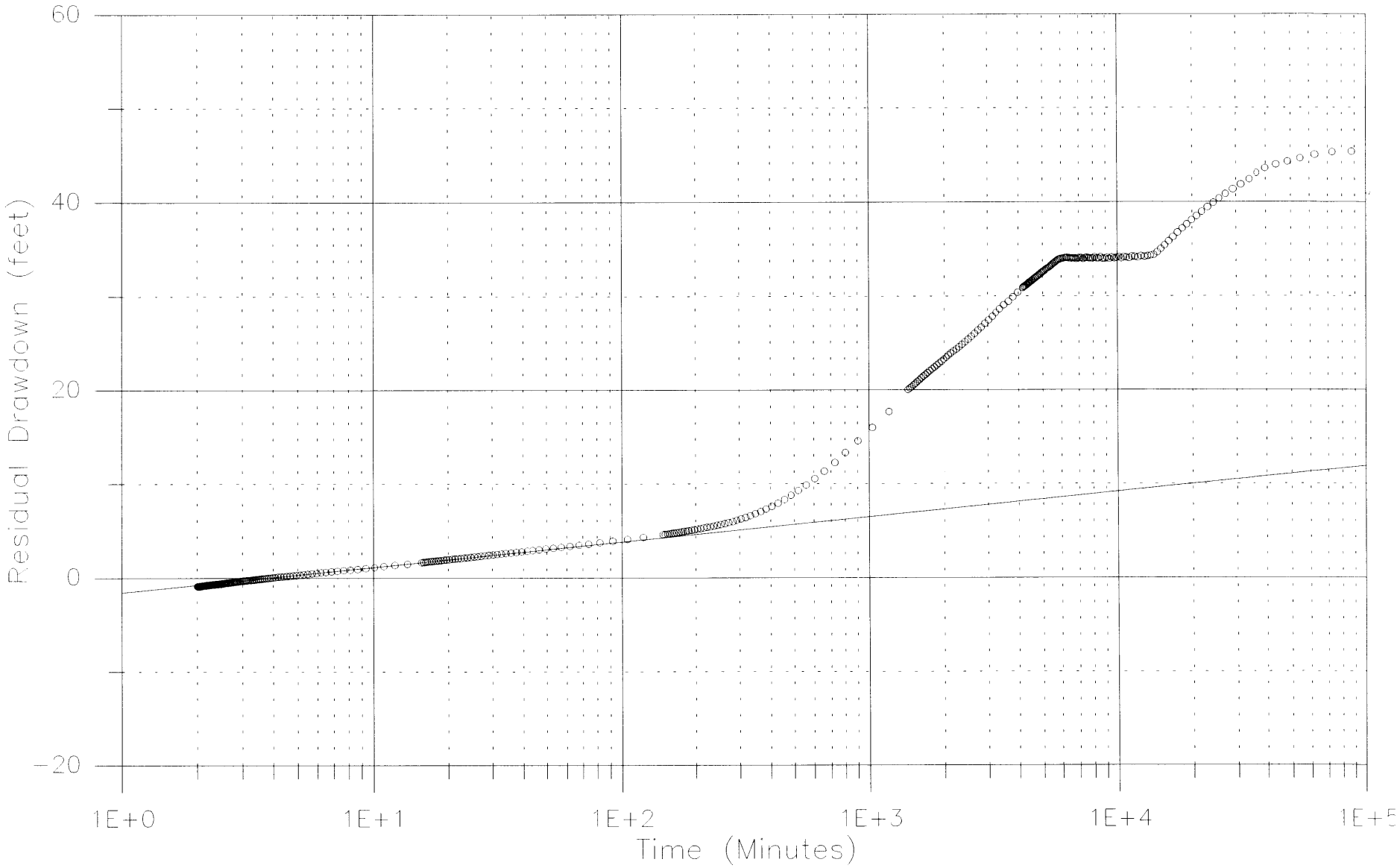
Test of Coon Rapids Well #20 (120853)
03/11/99
Recovery

T = 15.3 1152 / 12 = 1,470 ft^2/day



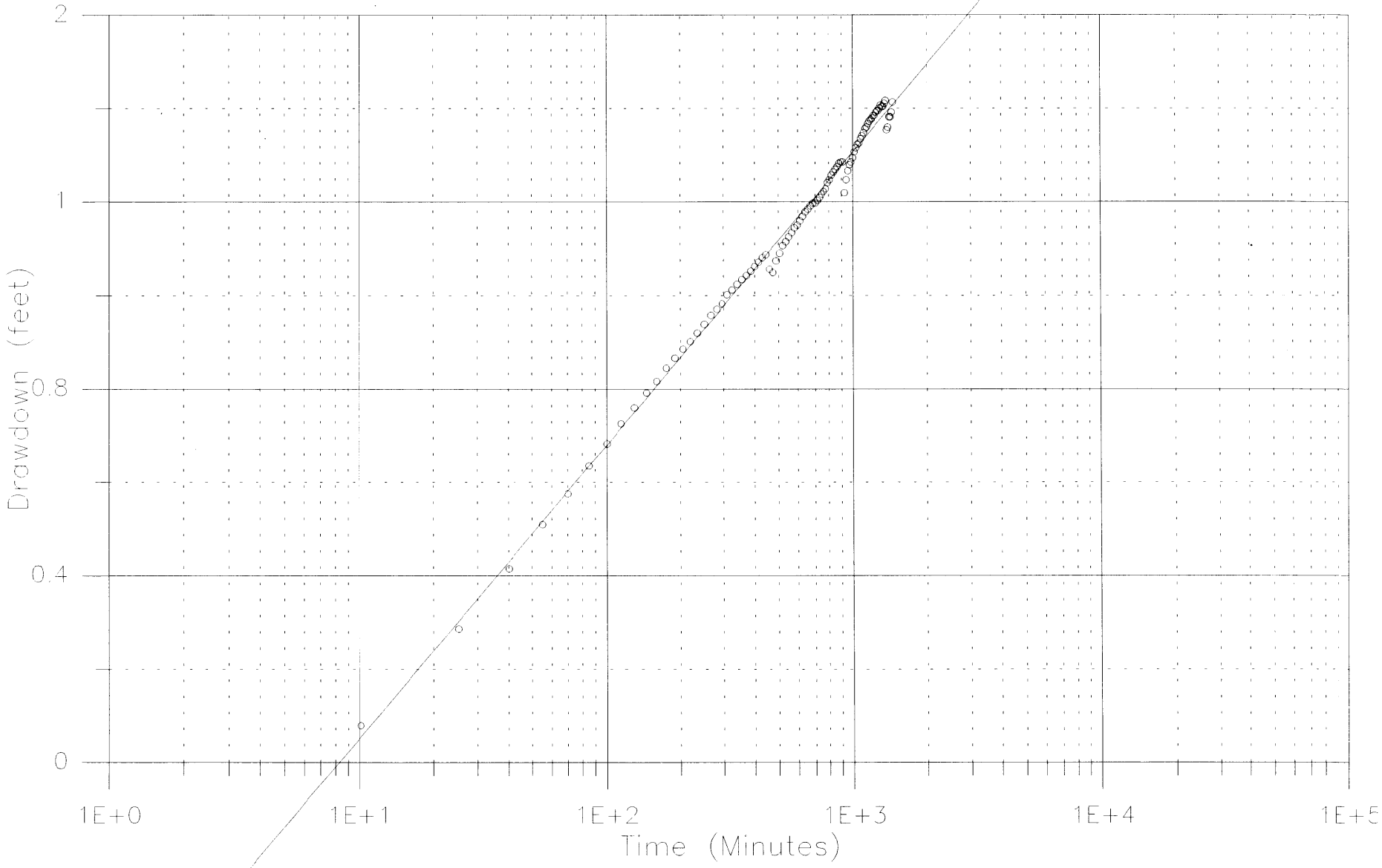
Test of Coon Rapids Well #20 (120853)
03/11/99
Recovery

T = 35.3 1152 / 2.64 = 15,400 ft^2/day



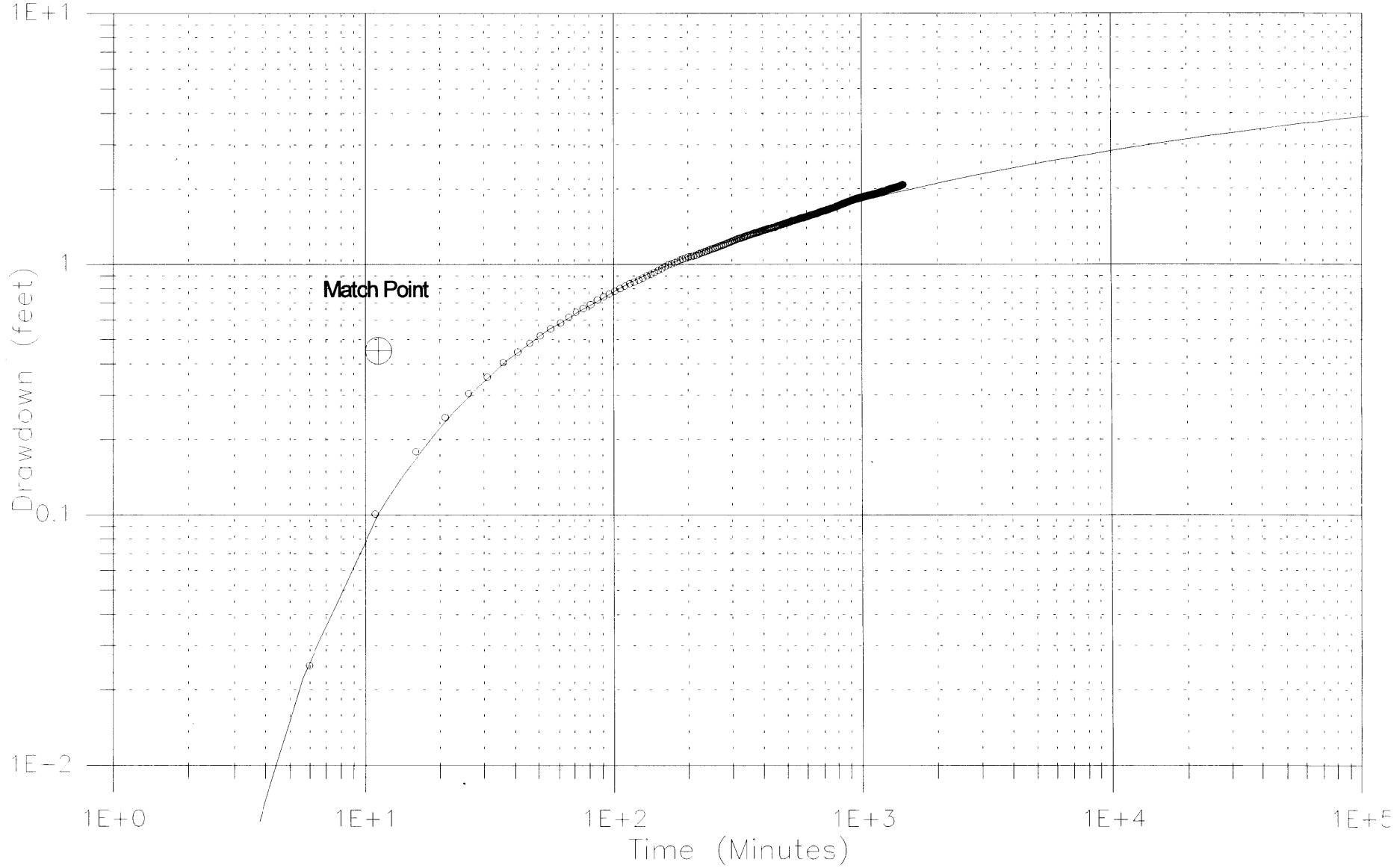
Test of Coon Rapids Well #20 (120853)
03/11/99
at Well #17 (150357)
Pumping

T = 35.3 1152 / 0.61 = 66,700 ft^2/day
S = 66,700 8.2 / 1163^2 640 = 6.32e-4



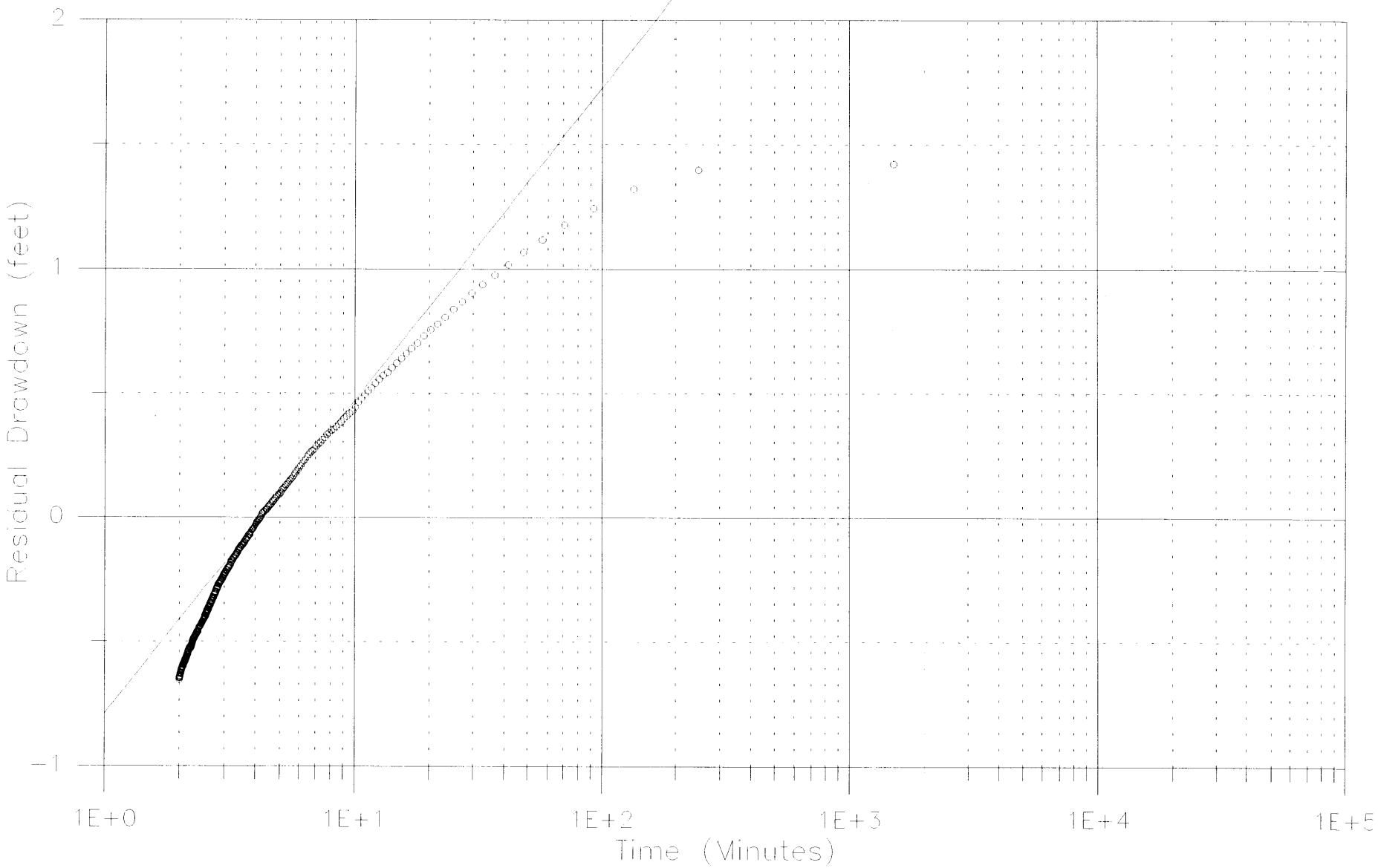
Test of Coon Rapids Well #20 (120853)
03/11/99
at Well #17 (150357)
Recovery

T = 15.3 1152 / 0.46 = 38,300 ft^2/day
S = 38,300 12 / 1163^2 360 = 9.44e-4



Test of Coon Rapids Well #20 (120853)
03/11/99
at Well #17 (150357)
Recovery

T = 35.3 1152 / 1.28 = 31,800 ft^2/day
S = 31,800 4.1 / 1163^2 640 = 1.5e-4



Appendix 2.

Field Data Sheets

Minnesota Department of Health
Special Services Unit
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Test No.

Aquifer Test Information

Test Location Coon Rapids # 20	Well Owner City of Coon Rapids	Test Conducted By J. Blum
Date/Time Test Start 3/11/99 11:49:53.0	Flow Rate (Units) 1152 gpm	Pump Type Turbine
Date/Time Recovery Start 3/12/99 12:09:02	Flow Rate Measuring Device Flowmeter	Pump Intake Depth
Date/Time Test Finish 3/13/99 12:35	Totalizer: End 711442.4 X 1000	Pumped Well Inner Casing Diameter
Notes pre lube ~ 90 sec.	Totalizer: Start 709762	Confined/Unconfined semi confined
	Total Pumped (Units) 1690,460 gallons	Quad Sheet Name/Number 120A Coon Rapids

Unique Well Numbers	Location T, R, S, Quarters	Location N, E	Radial Distance	Open Depth	Transducer Setting	Measuring Point Location	Elevation, Datum
Pumped Well #20 (120853)		N E			~91 ft XD 4.23	vent pipe	
Observation Wells #17 (150357)		N E	1163'		51.85 XD 10.12		
		N E					
		N E					
		N E					
		N E					

Sketch Map of Well Locations

Aquifer Test Data Form

Test: Coon Rapids #20	By: J. Blum	Test Date: 3/11/99	Page 2 of 3

Location (Unique Well No.)	Date Month	Date Day	Date Year	Time Hour	Time Minute	Time Sec.	Elapsed Time (Minutes)	Depth to Water	Drawdown/ Recovery	Discharge	Remarks
#17 (150357)	03	10	99	14	15			41.73			XD 10.12
#20 (120853)				14	20			87.32			on to ~ 925 gpm
											XD 4.23
#17	03	11	99					41.36			
#20											XD 81.17
#20	03	13	99	12	30			39.44			XD 36.46
~~#17~~				12	40			39.30			XD 39.28

Minnesota Department of Health
Special Services Unit
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Notes:

IC #140-0523 (5/96)

Aquifer Test Data Form

Test: Coon Rapids #20	By: J. Blim	Test Date: 3/11/99	Page 3 of 3

Location (Unique Well No.)	Date Month	Date Day	Date Year	Time Hour	Time Minute	Time Sec.	Elapsed Time (Minutes)	Depth to Water	Drawdown/ Recovery	Discharge	Remarks
#20 (120853)	03	11	99	11	49	53	0			0	709,762,000
					55		5			1230	768.1
				12			10			1230	774.0
					05		15			1190	780.0
					10		20			1200	- 786.9
					15		25			1190	793.05
					20		30			1180	- 797.8
					25		35			1180	- 803.6
					30		40			1180	- 809.5
					35		45			1180	815.4
					40		50			1180	821.3
					45		55			1170	827.3
					50		60			1180	833.0
				13	50		120			1180	905.1
				14	50		180			1180	977.7
				17	50		360			1180	710018.9
	03	12	99	07	50		1140			1160	711149.9
				12	04		1454			1160	711436.6
				12	09	02	1459			1160	711442.4

Notes:

Minnesota Department of Health
Special Services Unit
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

IC #140-0523 (5/96)

Coon Rapids #19
Coon Rapids #14
Coon Rapids #7
Coon Rapids #20
Coon Rapids #15
Coon Rapids #17
Coon Rapids #22

SF-00006-05 (4/86)

DEPARTMENT :Health

STATE OF MINNESOTA

Office Memorandum

DATE : October 8, 2002

TO : City of Coon Rapids WHP File

FROM : Steve Robertson, Source Water Protection Unit, MDH

PHONE : 651-215-1322

SUBJECT : Aquifer Tests at Coon Rapids Well Nos. 19 (110475) and 20 (420956): August 29 - September 3, 2002

INTRODUCTION

The Minnesota Department of Health (MDH) assisted the City of Coon Rapids, Minnesota, by helping to conduct aquifer tests to determine aquifer properties near proposed new well sites. The results of these aquifer tests can be used for many purposes, including providing some of the aquifer characterization information required by MDH for wellhead protection planning.

The pumping test at Coon Rapids Well Nos. 19 and 20 were conducted by the City of Coon Rapids with assistance from H.R. Green and MDH as described below. The results were analyzed using standard nonequilibrium methods, cited in the references. Data plots and associated quantitative analyses are included in Appendix A, field data sheets in Appendix B, well logs in Appendix C. Table 1 summarizes the pumping schedule during the monitoring period and analysis results are summarized on Table 2.

The analysis shows that the aquifer responds in a manner consistent with the geologic setting.

DESCRIPTION OF THE TEST

Water level readings were monitored using pressure transducers in Wells 673418 and 673420 (monitoring wells installed during summer of 2002 for the City). Municipal Well Nos. 17, 19, and 20 are completed in deep buried Quaternary materials, as are the two monitoring wells.

Scheduling prevented gathering pre-test monitoring data over a long period. Collection of monitoring data began on August 29, 2002 and ended September 3, 2002. The test pumping program was conducted using a constant pumping rate, allowing MDH to use the collected data for quantitative aquifer analysis. Figure 1 shows the effects of the pumping on water levels in Well Nos. 673418 and 673420 over the duration of the monitoring period.

Monitoring Wells 673418 and 673420 are located about 551 and 1860 feet, respectively, from Well No. 19. Likewise, Well No. 673418 is 1493 feet and Well No. 673420 is 1289 feet from Coon Rapids Well No. 20. Locations of all wells were established using GPS technology.

The test started at 11:00:32 on August 29, 2002. Well No. 19 was pumped at an average rate of 1218.8 gallons per minute. A flowmeter on the discharge line was used to monitor the discharge. City staff maintained the pumping rate at a relatively constant rate for the duration of the test. Well discharge was pumped into the municipal distribution system.

The pump in Well No. 19 was turned off at 11:04:25 on August 30, 2002, to start the recovery period. After initiating recovery, water levels had mostly recovered after 52 minutes. After a recovery period of approximately 24 hours, pumping commenced in Coon Rapids Well No. 20, which was pumped for 24 hours starting at about 11 a.m. on August 31, 2002. Well No. 20 was also pumped for approximately 24 hours, ending at about 11 a.m. on September 1, 2002. A 24-hour recovery period followed this pumping, after which Well Nos. 17, 19, 20, and 22 were pumped simultaneously. Table 1 presents the pumping chronology.

SUMMARY OF RESULTS

The principal tests of the series were conducted for a period of 24 hours. The available geologic record and static water level information from Well No. 19, Well No. 20, and the test wells indicate the aquifer in the area of these wells is likely confined (Appendix C), although there may be nearby areas in which the deep Quaternary Aquifer is unconfined (i.e., near Coon Rapids Well No. 14 *cf.* 110460; H.R. Green Company, August, 2002).

Pumping Test of Coon Rapids Well No. 19 (110475)

Coon Rapids Well No. 19: No water levels were recorded in the pumping well.

Test Well No. 673418: The water levels in test Well No. 673418 dropped by more than 8 feet during the pumping portion of the Coon Rapids Well No. 19 test. A log-log plot of the response from this well during pumping is shown in Appendix A. The Theis drawdown analysis method was applied to the drawdown data from this well. Data emphasized in the analysis are those collected early in the pumping phase of the test because the late time data appear to be affected by leakage. The Hantush-Jacob method (Hantush, 1956), which accounts for leakage, was also applied to the drawdown data collected in the test well. The results of these analyses are presented in Table 2.

Recovery data from test Well No. 673418 also provide estimates of transmissivity. Water levels during recovery rebounded above the levels observed prior to pumping, probably because antecedent hydraulic conditions in the aquifer probably had not equilibrated prior to the start of the test. Portions of the response curve that were subjected to the Theis recovery analysis are the portions of the curve with T/T' values in the range of 2 to 20. The recovery data analysis is shown on the figures in Appendix A. Table 2 summarizes the quantitative analysis of the results from Well No. 673418.

Test Well No. 473420: The water level data from this well show virtually no response to pumping at Well No. 19 (Figure 1, Appendix A). This could be a result of antecedent pumping conditions, but will be difficult to establish given that background monitoring data are lacking. Data from this well do, however, show a measurable recovery response. Portions of the response curve that were subjected to the Theis recovery analysis are the portions of the curve with T/T' values of 2.5 to 6. Attempts to quantify the recovery data yield results that do not agree with those obtained from the other test well (Table 2), not surprising given the greater radial distance to the pumping well and the leaky conditions in the aquifer. The recovery analysis method does not account for leaky conditions, the presence of which can give rise to overestimates of T at large radial distances. The recovery data analysis are shown on the figure presented in Appendix A. Table 2 summarizes the quantitative analysis of the results from Well No. 673420.

Pumping Test of Coon Rapids Well No. 20 (420956)

Coon Rapids Well No. 20: No water levels were recorded in the pumping well.

Test Well No. 673418: The water levels in test Well No. 673418 dropped by a little less than 1 foot during the pumping portion of the Coon Rapids Well No. 20 test. A log-log plot of the response from this well during pumping is shown in Appendix A. The Theis drawdown analysis method was applied to the drawdown data from this well. Data emphasized in the analysis are those collected early in the pumping phase of the test (i.e., minutes 10 to 200) because the late time data appear to be affected by leakage. The Hantush-Jacob method (Hantush, 1956), which accounts for leakage, was also applied to the drawdown data collected in the test well. The results of these analyses are presented in Table 2.

Recovery data from test Well No. 673418 also provide estimates of transmissivity. Water levels during recovery rebounded above the levels observed prior to pumping, as observed in the test of Coon Rapids Well No. 19. Antecedent hydraulic conditions in the aquifer probably had not equilibrated prior to the start of the test, although it is also possible that the recovery data could reflect external influences that changed during the pumping. Portions of the response curve that were subjected to the Theis recovery analysis are the portions of the curve with T/T' values in the range of 4.2 to 18. The recovery data analysis are shown on the figure in Appendix A. Table 2 summarizes the quantitative analysis of the results from Well No. 673418.

Test Well No. 673420: Unlike during the test of Well No. 19, this test well showed a definite response to pumping of Well No. 20 (Figure 1, Appendix A). A log-log plot of the response from this well during pumping is shown in Appendix A. The Theis drawdown analysis method was applied to the drawdown data from this well. Data emphasized in the analysis are those collected early in the pumping phase of the test (i.e., minutes 40 to 250) because the late time data appear to be affected by leakage. The Hantush-Jacob method (Hantush, 1956), which accounts for leakage, was also applied to the drawdown data collected in the test well. The results of these analyses are presented in Table 2.

Recovery data from test Well No. 673420 also provide estimates of transmissivity. Water levels during recovery rebounded above the levels observed prior to pumping, as observed in Well No. 673418 during both tests. Portions of the response curve that were subjected to the Theis recovery analysis are the portions of the curve with T/T' values of 5.5 to 10. Attempts to quantify the recovery data yield results that do not agree with those obtained from the other test well (Table 2), not surprising given the greater radial distance to the pumping well and the leaky conditions in the aquifer. The recovery data analysis are shown on the figure in Appendix A. Table 2 summarizes the quantitative analysis of the results from Well No. 673420.

Discussion

The principal reason for collecting water level data from the wells was to assess qualitatively the aquifer response to various pumping conditions. That the data could be subjected to quantitative analysis to estimate aquifer hydraulic properties is an incidental benefit. While the results of these analyses are generally fair to good, they suffer from a few problems. First, it is likely that equilibrium hydraulic conditions did not exist prior to the onset of pumping at Coon Rapids Well Nos. 19 and 20. The lack of background data do not allow this to be established conclusively, but the recovery data infer it. Second, the water level data, especially those collected in Well No. 673420, are noisy, suggesting other aquifer

influences nearby. Each of these problems may contribute uncertainty to the analysis results, but the drawdown and recovery responses from the municipal pumping are generally large in comparison to the other influences. Improved results could be obtained by instrumenting the pumping wells and arranging for stable antecedent hydraulic conditions in the aquifer. Moreover, should other monitoring wells exist in the area, it may be worthwhile to measure water level responses during future pumping tests to get a good sense of variations over the scale of the well field and the likely capture zone of the wells.

H.R. Green (2002) and earlier reports prepared for the city of Coon Rapids (i.e., Hickok and Associates, 1986, 1989; Donahue and Associates, 1991) discuss the complex stratigraphic relationships within the unconsolidated materials above bedrock in the Coon Rapids area. The general relationship is of shallow sands, below which there is a fine-grained till which, in turn, covers deep sand and gravel materials. The deep sand and gravel comprise the deep Quaternary materials in which many of the Coon Rapids Quaternary wells are completed. It is clear from the information presented in Hickok (1986, 1989), Donahue (1991) and H.R. Green (2002) that the composition, distribution and geometry of the deep Quaternary Aquifer system is quite variable. From the data presented in those reports, it appears that Well No. 20 (420956), and Well No. 14 (110460) are in the area in which the deep Quaternary Aquifer is at its thickest, but that Well No. 19 (110475) and test Well No. 673418 are in areas where the aquifer begins to thin. This variability likely affected the results obtained in the pumping tests.

The analysis results (Table 2) show that the estimated T values for the aquifer vary from about 8000 to 110,000 ft^2/day. Previous MDH tests on Coon Rapids Well No. 20 (MDH, 1999) concluded the aquifer transmissivity is on the order of 38,300 ft^2/day (and S=0.00094), while Hickok (1989) reports results of 5080 ft^2/day in an area further north in Coon Rapids. For the current tests,, the Hantush-Jacob method, which accounts for leaky conditions in the pumped aquifer, gives transmissivity estimates that are on the low end of the range of the results using other techniques but that are likely the most reliable. The lower T values obtained from Well No. 673418 relative to those estimated from the data collected in Well No. 473420 suggest that the hydraulic properties of the aquifer vary, becoming less transmissive to the northwest. Storage values range from 0.00025 to 0.001. Leakage values from the Hantush-Jacob analyses suggest leakage factors of 725 to 900 feet.

The monitoring period also captured over 10 and nearly 20 feet of drawdown in Well Nos. 673418 and 673420, respectively, during concurrent pumping of Coon Rapids Well Nos. 17, 19, 20 and 22. No recovery from this pumping was recorded.

CONCLUSION

Transmissivity values of the aquifer likely vary over the study area. Evidence suggests the area to the northwest near Well No. 673418 is less transmissive than areas to the east and south. Accordingly, transmissivity values in the range of 8120 ft^2/day to 9420 ft^2/day are probably appropriate for the aquifer in the northwest near Coon Rapids Well No. 19 and testwell 673418, while values of 27,000 ft^2/day to 55,000 ft^2/day may be appropriate near Coon Rapids Well No. 20 and test Well No. 673420. These results compare well with the pumping test results obtained in 1999 from Coon Rapids Well No. 20. Storativity values are about 0.00025 to 0.0007.

References:

Donahue and Associates, 1991, letter to Scott Erickson, P.E., from Stephen D. Pettit, March 4, 1991.

Hantush, M.S., 1956, "Analysis of Data from Pumping Tests in Leaky Aquifers," American Geophysical Union Trans., v. 37, pp. 702-714.

Hickok and Associates, 1986, "Background Hydrogeological Report for the City of Coon Rapids," technical memorandum prepared for the city of Coon Rapids.

Hickok and Associates, 1989, "Coon Rapids Community Water Supply," letter to Tom Marthison, P.E., from Stephen D. Pettit, April 5, 1989.

H.R. Green Company, 2002, (Draft) "Well Siting Report Proposal for the City of Coon Rapids."

Kruseman, G.P. and N.A. de Ridder, 1991, *Analysis and Evaluation of Pumping Test Data*, International Institute for Land Reclamation and Improvement, Wageningen, The Netherlands, p. 377.

Minnesota Department of Health, 1999, "Analysis of the Coon Rapids No. 20 (420956) Aquifer Test."

Theis, C. V., 1935, "The Relation Between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Ground-Water Storage," Trans. American Geophysical Union, 16th Annual Meeting, April, 1935, pp. 519-24.

Figure 1. Groundwater Fluctuations, August 29 - Sept. 3, 2002
Coon Rapids Test Wells 673418, 673420

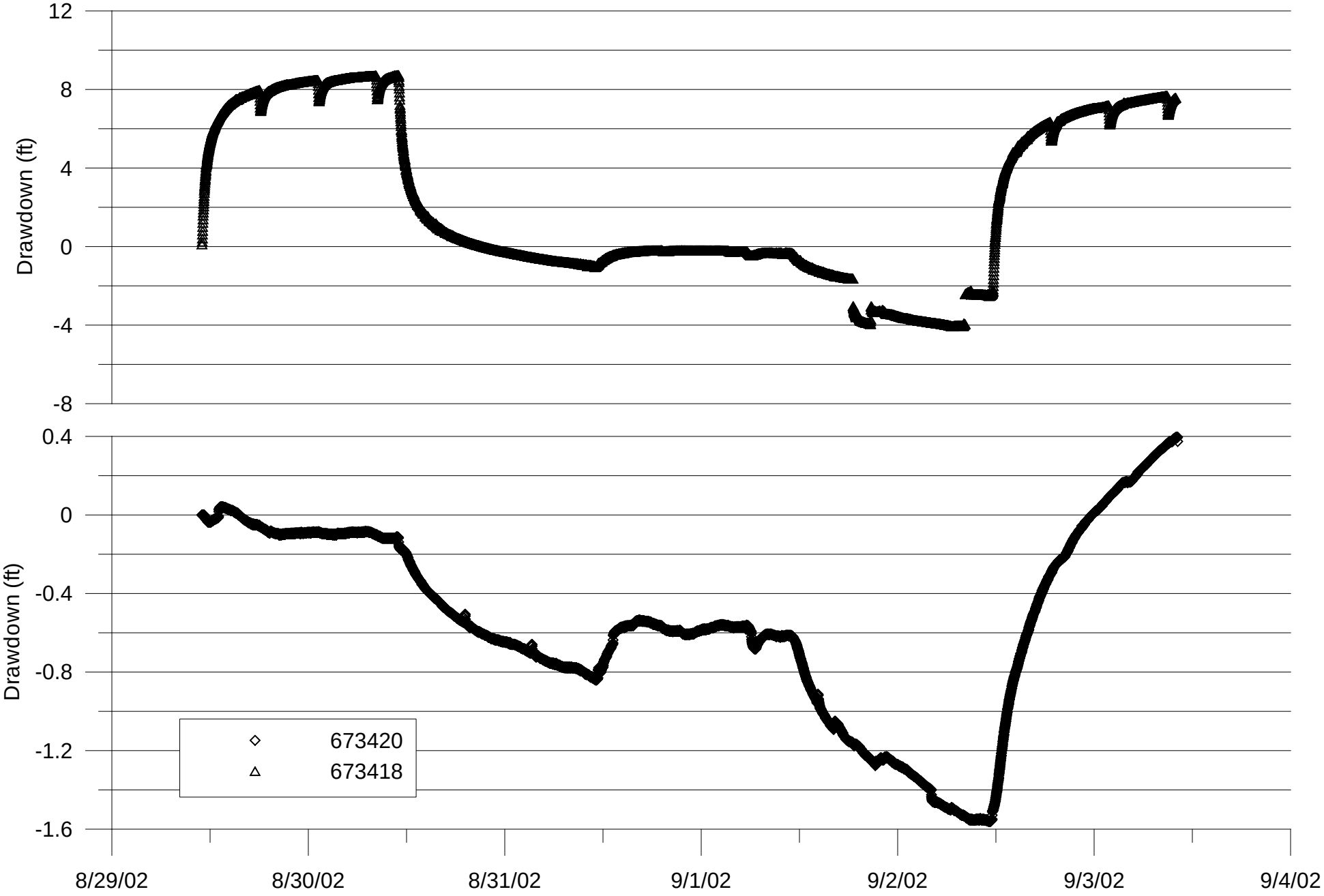


Table 1. Pumping Chronology
(Times approximate)

Date	Time	Action
August 29, 2002	11 am	Coon Rapids Well No 19 (110475) started. Beginning meter reading 201,963,000.
August 30, 2002	11 am	Coon Rapids Well No 19 (110475) stopped. Ending meter reading 203,718,000.
August 31, 2002	11 am	Coon Rapids Well No 20 (420956) started. Beginning meter reading 184,074,000.
September 1, 2002	11 am	Coon Rapids Well No 20 (420956) stopped. Ending meter reading 185,520,000.
September 2, 2002	11 am	Coon Rapids Well Nos. 17 (150357), 19 (110475), 20 (420956), and 22 (474385) started. Beginning meter readings of 90,970,000, 203,728,000, and 185,834,000 in Well Nos. 17, 19, and 20, respectively. No readings for Well No. 22.
September 3, 2002	11 am	Coon Rapids Well Nos. 17 (150357), 19 (110475), 20 (420956), and 22 (474385) stopped. Ending meter readings of 92,745,000, 205,437,000, and 187,521,000 in wells 17, 19, and 20, respectively. No readings for Well No. 22. Well No. 22 reportedly pumps at about 300 gpm.

Note: Information per Dick Dwyer, City of Coon Rapids.

Table 2. Pumping Test Results

Coon Rapids No. 19 (110475) Aquifer Test
August 29-31, 2002

	Transmissivity T (ft^2/day)	Storage Coefficient S	Time Period Emphasized	Analysis Method
	---	---	---	---
Test Well	8,120	0.00026	Minutes 4 - 140	Theis
No. 673418	9,420	NA	T/T' 2-10	Theis Recovery
	8,610	0.00025	Late pumping	Hantush-Jacob
Test Well				
No. 673420	66,000	NA	Minutes 1.5-6	Theis Recovery

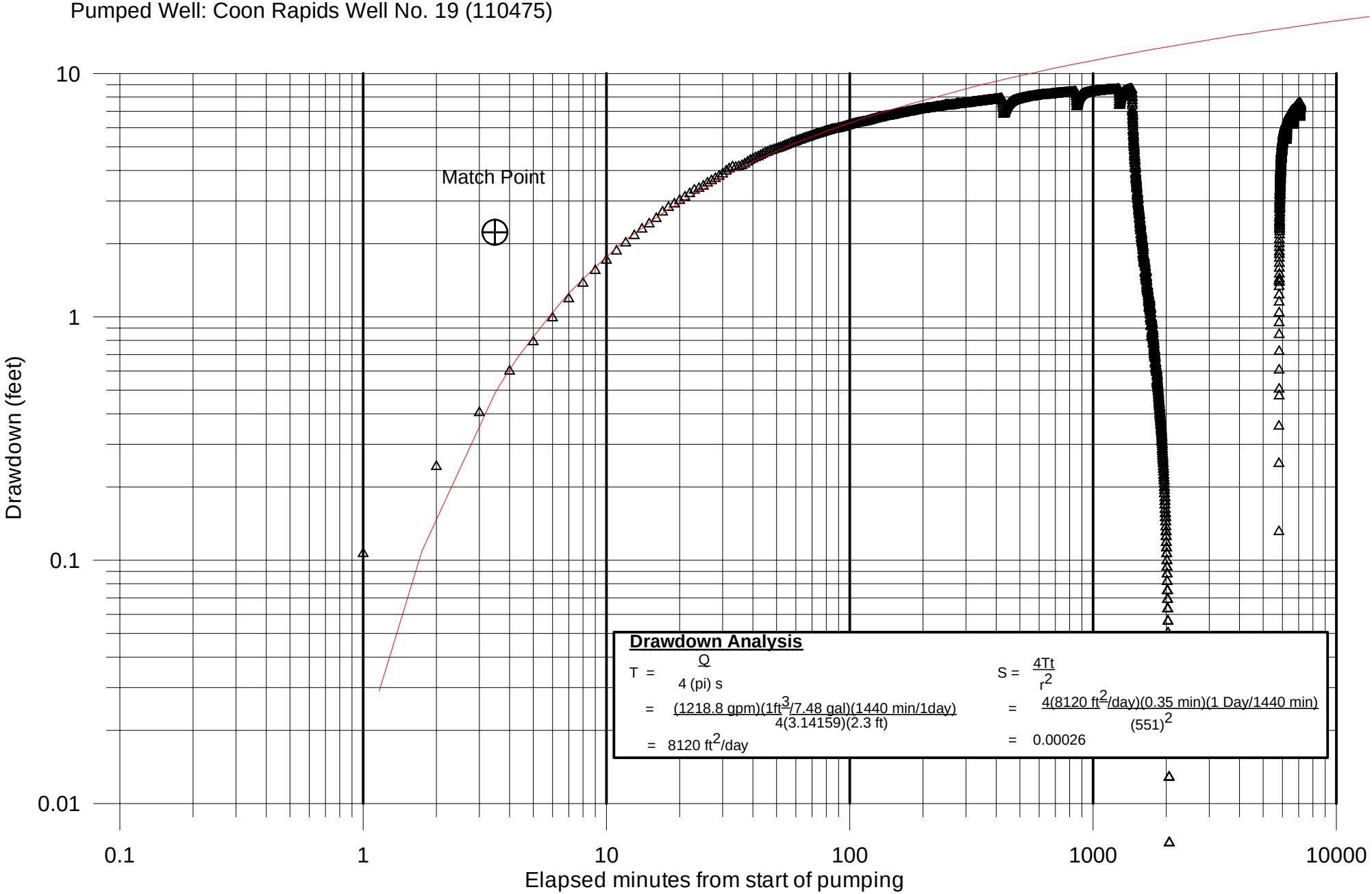
Coon Rapids No. 20 (420956) Aquifer Test
August 31- September 1, 2002

	Transmissivity T (ft^2/day)	Storage Coefficient S	Time Period Emphasized	Analysis Method
	---	---	---	---
Test Well	40,500	0.00067	Minutes 10-200	Theis
No. 673418	27,330	NA	T/T' 4.2-18	Theis Recovery
	26,900	0.0007	Late pumping	Hantush-Jacob
Test Well	110,000	0.00078	Minutes 40-250	Theis
No. 673420	51,350	NA	T/T' 5.5- 10	Theis Recovery
	54,900	0.001	Late Pumping	Hantush-Jacob

Aquifer Test Report Appendix A

Data Analysis

Observed Drawdown in 673418
Pumped Well: Coon Rapids Well No. 19 (110475)



Drawdown Analysis

$$T = \frac{Q}{4\,(pi)\,s} = \frac{(1218.8\ gpm)(1ft^3/7.48\ gal)(1440\ min/1day)}{4(3.14159)(2.3\ ft)} = 8120\ ft^2/day$$

$$S = \frac{4Tt}{r^2} = \frac{4(8120\ ft^2/day)(0.35\ min)(1\ Day/1440\ min)}{(551)^2} = 0.00026$$

UNSTEADY FLOW TO A WELL IN A SEMI-CONFINED AQUIFER WITH NO STORAGE IN OVERLYING AQUITARDS (HANTUSH-JACOB)

This document reads a set of time-drawdown data from disk, calculates a theoretical time-drawdown curve using user-specified parameters, and plots them both in a way that the user can interactively adjust the theoretical curve to obtain a match with the field data. Applied to Monitoring Well 673418 during pumping of Coon Rapids Well No. 19 (110475). Results presented below.

Read the field data and perform the data initialization:

Read data from disk: $A := \mathrm{READPRN}(\text{"673418.prn"})$

Data initializations: $nrows := rows(A)$

$nrows = 1.442 \cdot 10^3$

$i := 0, 1 .. nrows - 1$

$t := A^{<0>} \cdot min$

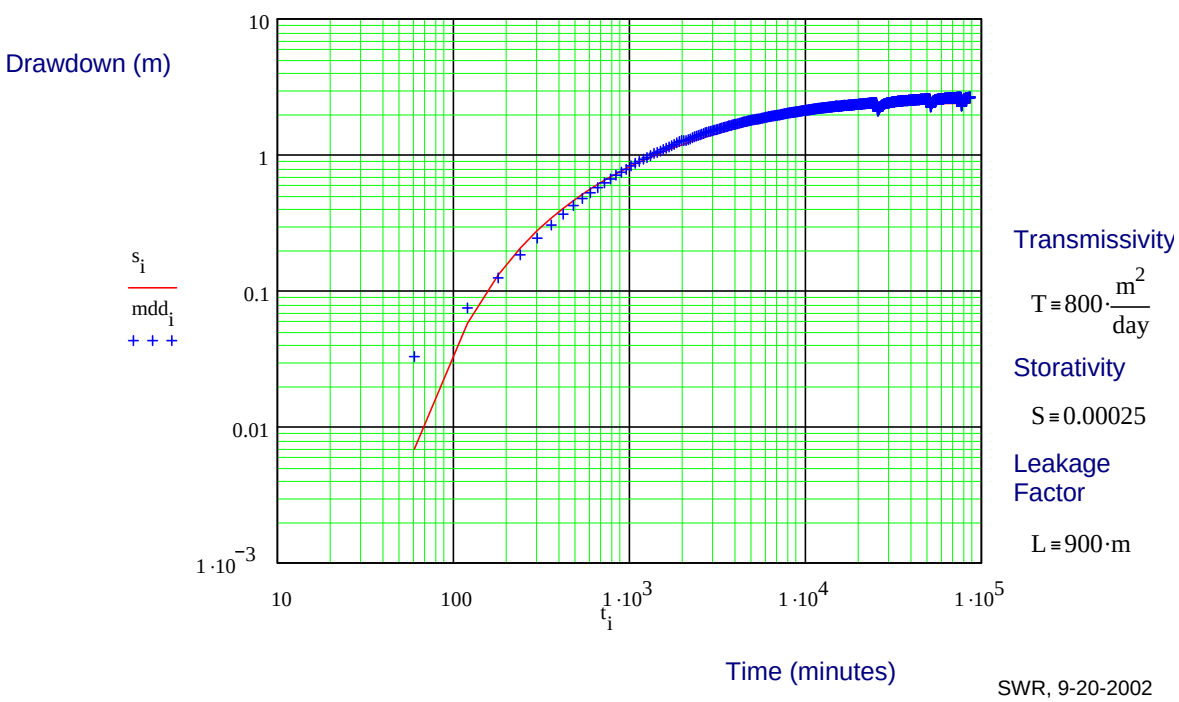
$mdd := A^{<1>} \cdot m$

Enter test parameters:

Well discharge (L^3/T): $Q := 6644.1 \cdot \frac{m^3}{day}$

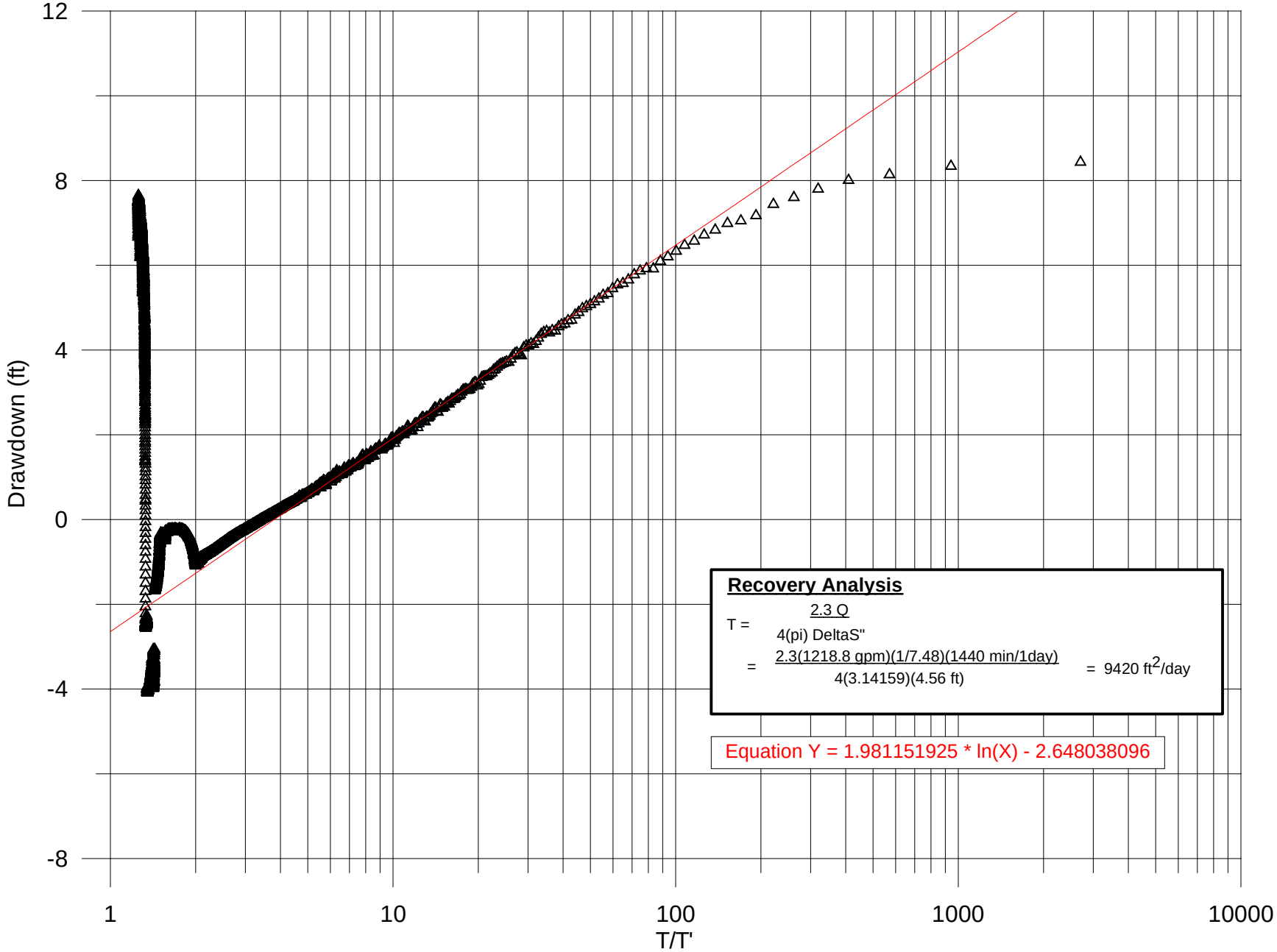
Radial distance from pumping to observation well (L): $r := 168 \cdot m$

Comparison of Observed and Theoretical Drawdowns (Hantush-Jacob Method)



SWR, 9-20-2002

Observed Recovery in Well 673418
Pumped Well: Coon Rapids Well No. 19 (110475)



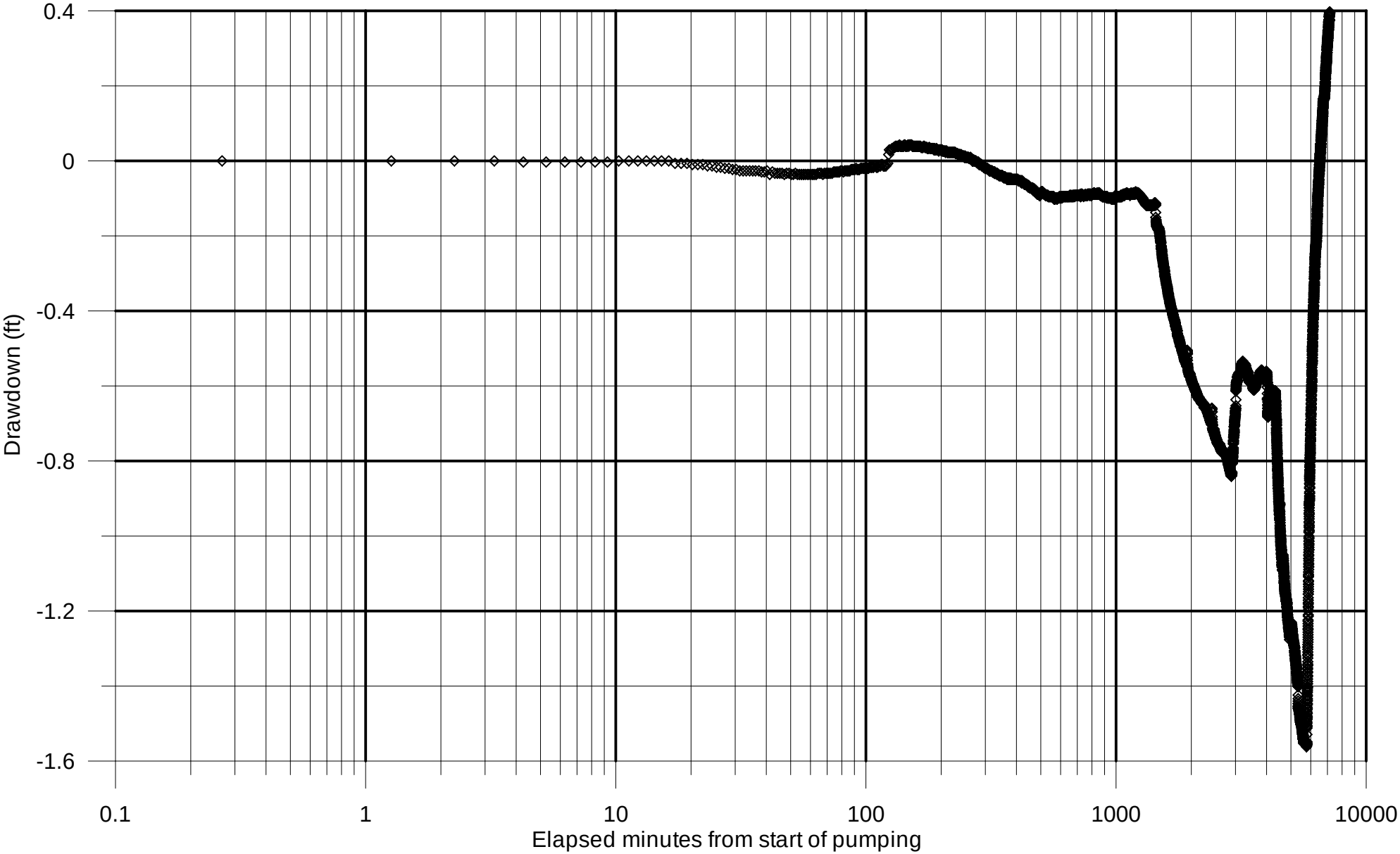
Recovery Analysis

$$T = \frac{2.3\,Q}{4(\pi)\,\text{DeltaS''}}$$

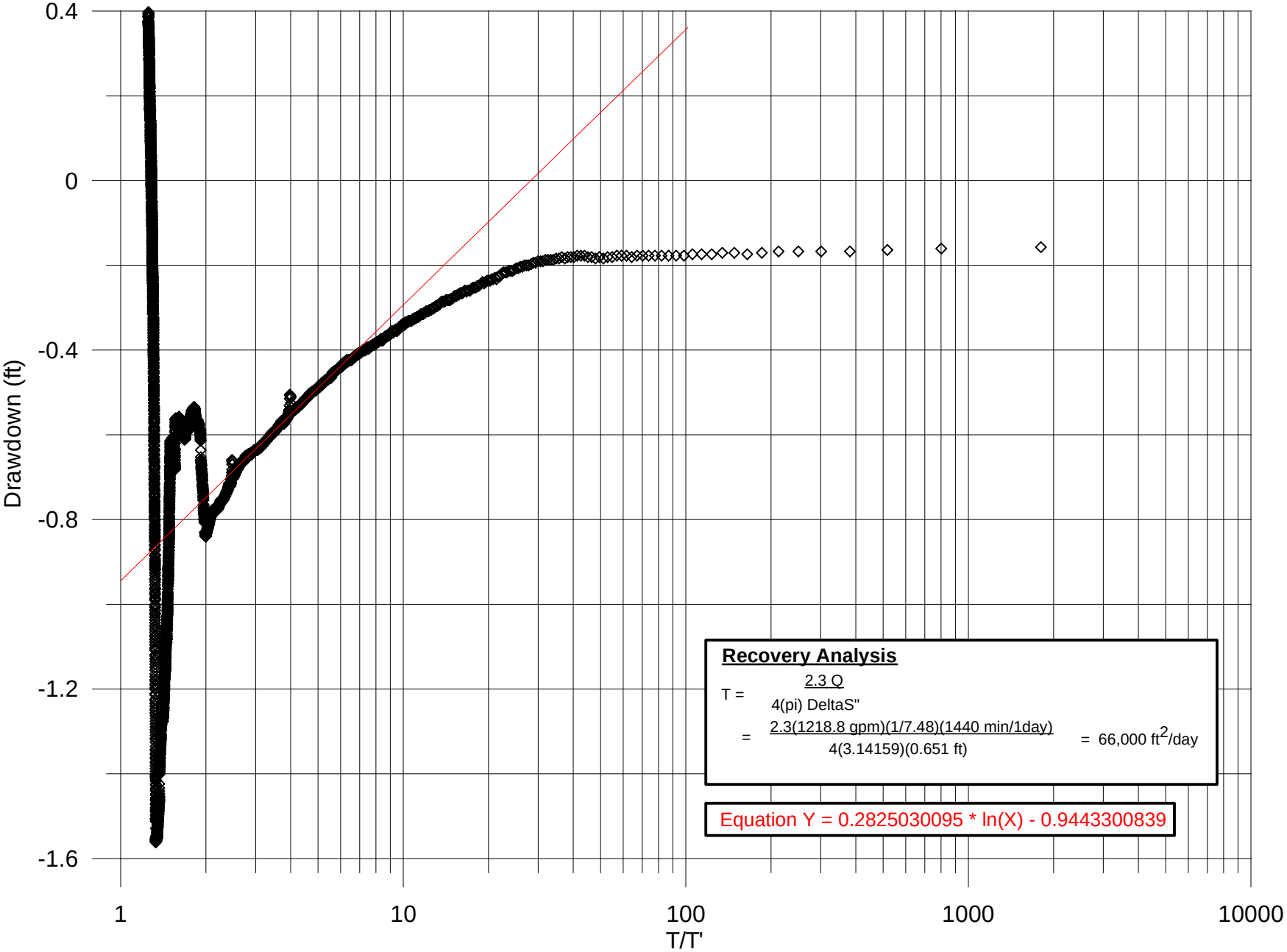
$$= \frac{2.3(1218.8\text{ gpm})(1/7.48)(1440\text{ min}/1\text{day})}{4(3.14159)(4.56\text{ ft})} = 9420\text{ ft}^2/\text{day}$$

Equation Y = 1.981151925 * ln(X) - 2.648038096

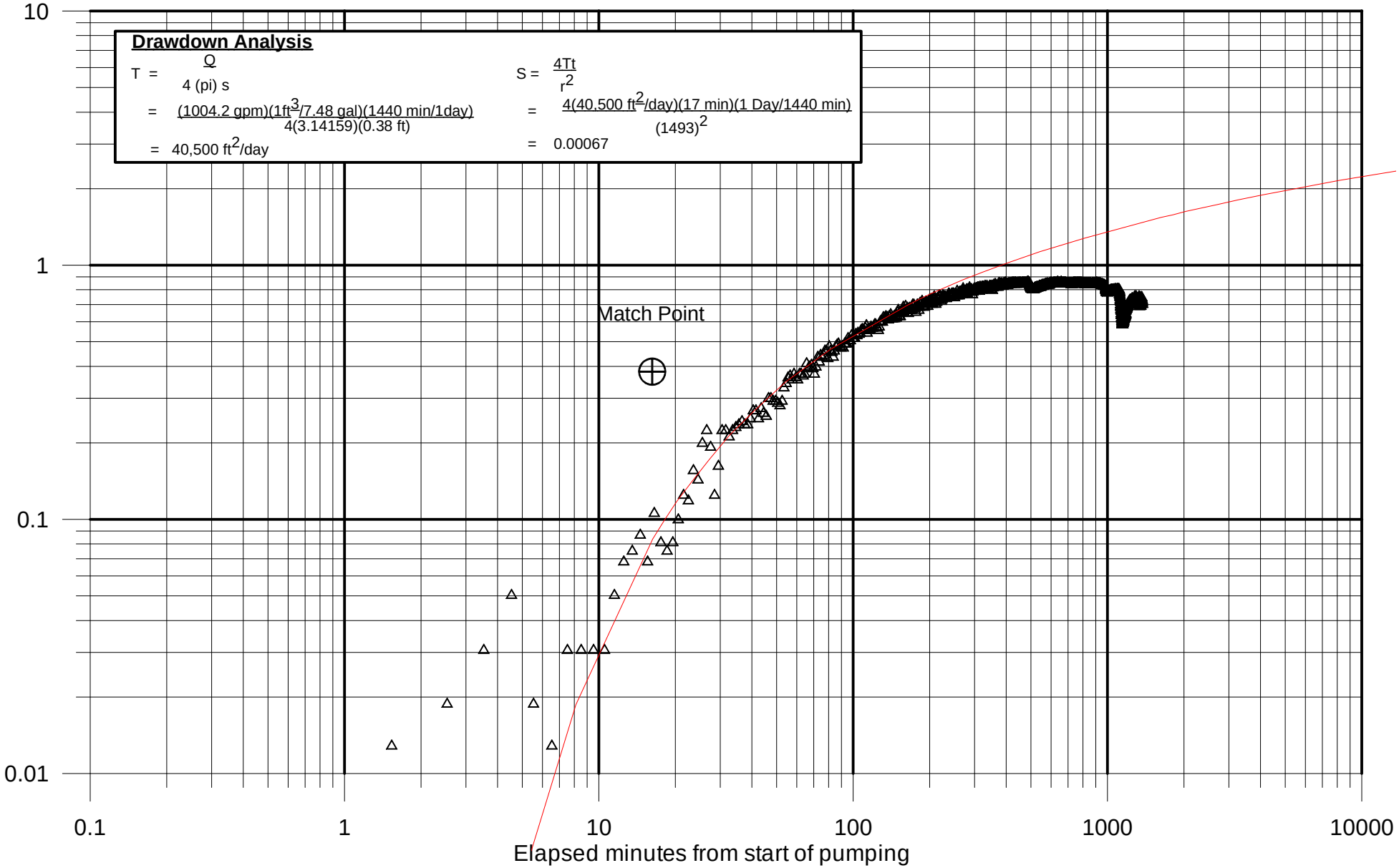
Observed Drawdown in well 673420
Pumped Well: Coon Rapids Well No. 19 (110475)



Observed Recovery in 673420
Pumped Well: Coon Rapids Well No. 19 (110475)



Observed Drawdown in Test Well 673418
Pumped Well: Coon Rapids No. 20 (420956)
Test Date: August 31 - September 1, 2002



UNSTEADY FLOW TO A WELL IN A SEMI-CONFINED AQUIFER WITH NO STORAGE IN OVERLYING AQUITARDS (HANTUSH-JACOB)

This document reads a set of time-drawdown data from disk, calculates a theoretical time-drawdown curve using user-specified parameters, and plots them both in a way that the user can interactively adjust the theoretical curve to obtain a match with the field data. Applied to Monitoring Well 673418 during pumping of Coon Rapids Well No. 20 (420956). Results presented below.

Read the field data and perform the data initialization:

Read data from disk: $A := \mathrm{READPRN}(\text{"673418\_cr20dd.txt"})$

Data initializations: $nrows := \mathrm{rows}(A)$

$nrows = 1.441 \cdot 10^3$

$i := 0, 1 .. nrows - 1$

$t := A^{<0>} \cdot min$

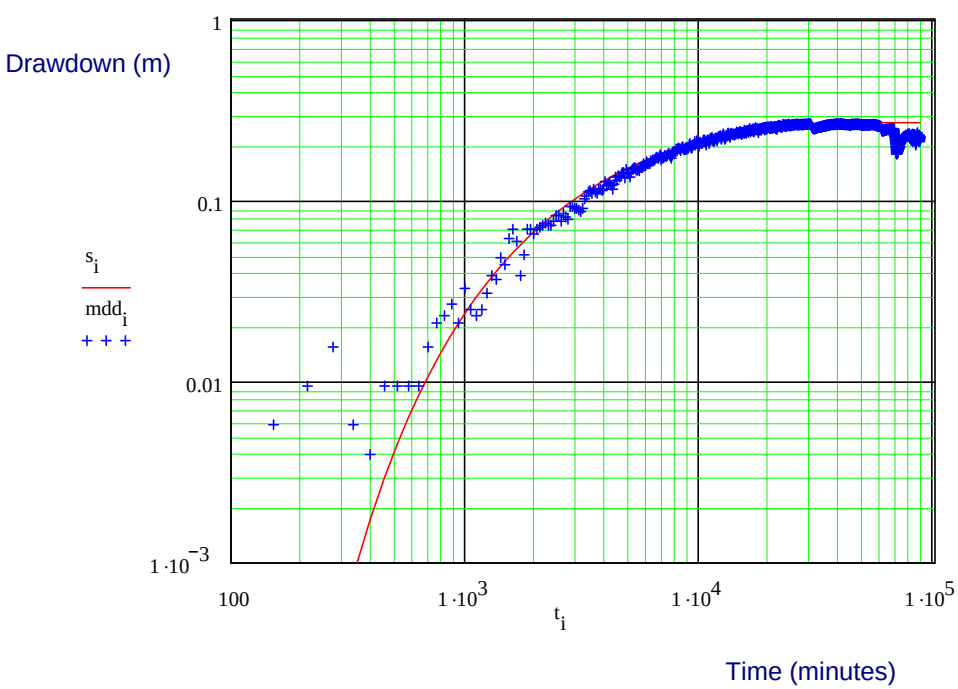
$mdd := A^{<1>} \cdot m$

Enter test parameters:

Well discharge (L^3/T): $Q := 5474.1 \cdot \frac{m^3}{day}$

Radial distance from pumping to observation well (L): $r := 455 \cdot m$

Comparison of Observed and Theoretical Drawdowns (Hantush-Jacob Method)



Transmissivity

$T \equiv 2500 \cdot \frac{m^2}{day}$

Storativity

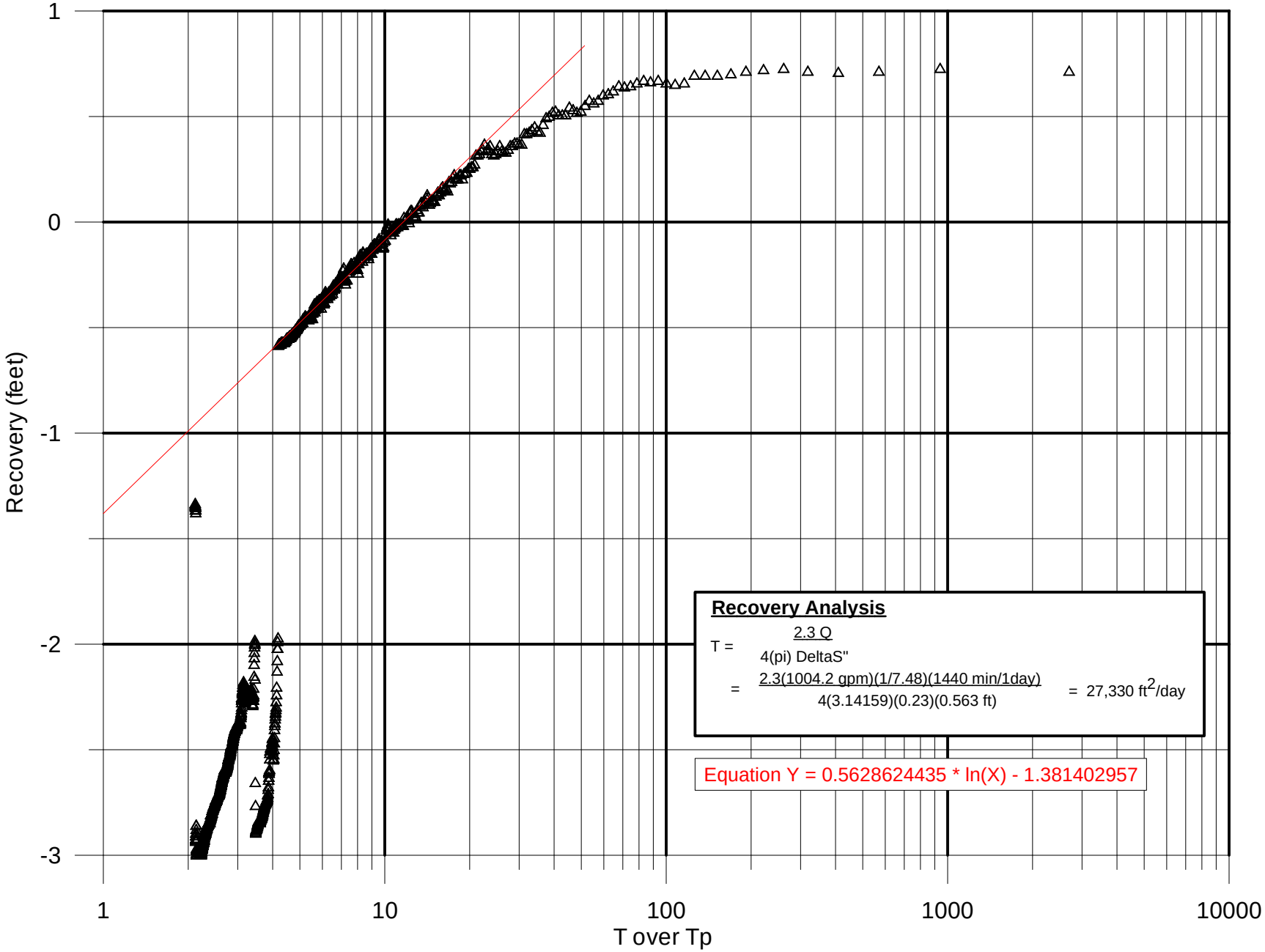
$S \equiv 0.0007$

Leakage Factor

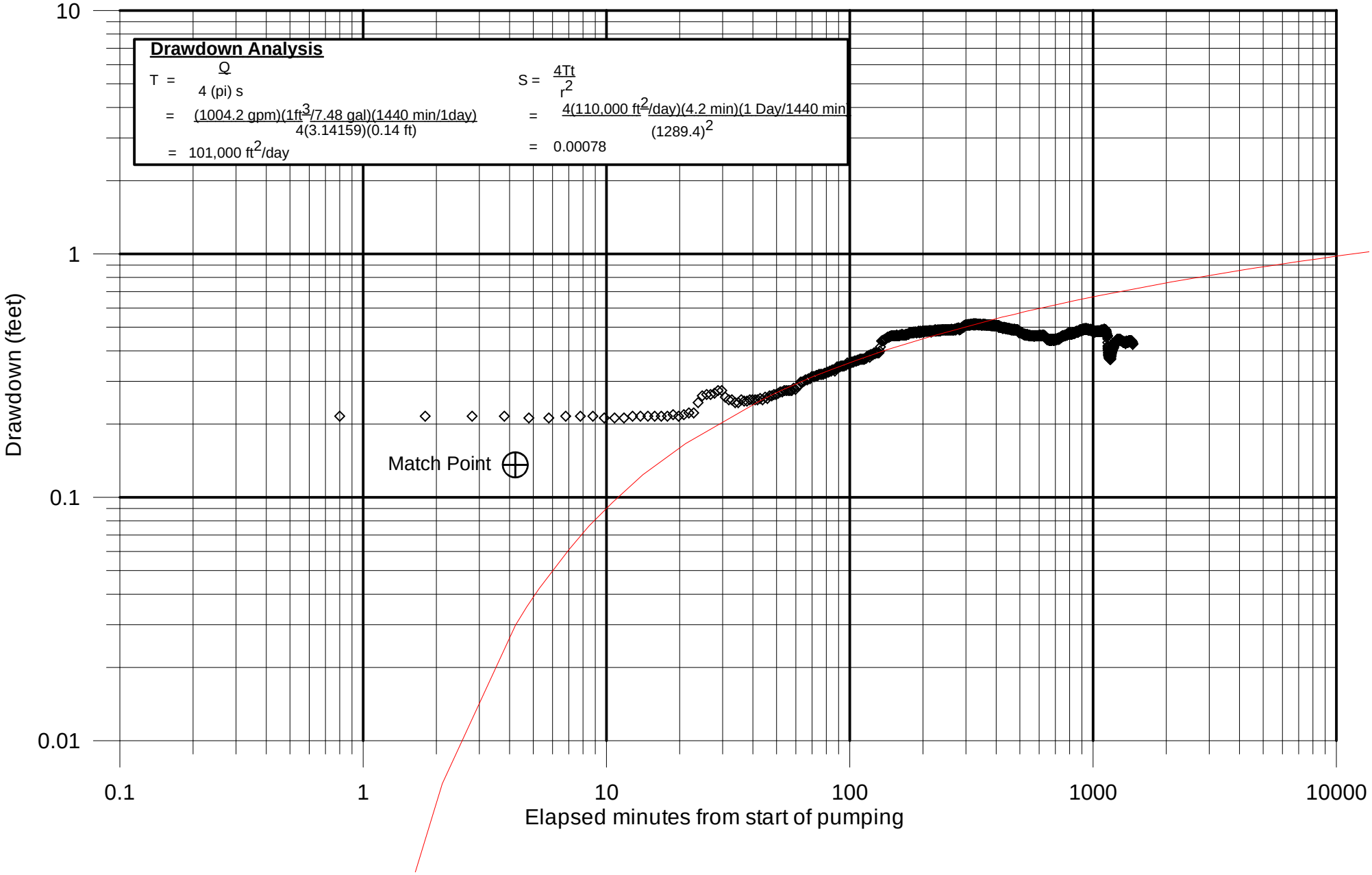
$L \equiv 750 \cdot m$

SWR, 9-26-2002

Observed Recovery in Test Well 673418
Pumped Well: Coon Rapids Well No. 20 (420956)
Test Date: August 31 - September 1, 2002



Observed Drawdown in Test Well 673420
Pumped Well: Coon Rapids No. 20 (420956)
Test Date: August 31 - September 1, 2002



UNSTEADY FLOW TO A WELL IN A SEMI-CONFINED AQUIFER WITH NO STORAGE IN OVERLYING AQUITARDS (HANTUSH-JACOB)

This document reads a set of time-drawdown data from disk, calculates a theoretical time-drawdown curve using user-specified parameters, and plots them both in a way that the user can interactively adjust the theoretical curve to obtain a match with the field data. Applied to Monitoring Well 673420 during pumping of Coon Rapids Well No. 20 (420956). Results presented below.

Read the field data and perform the data initialization:

Read data from disk: $A := \mathrm{READPRN}(\text{"673420\_dd\_cr20\_.prn"})$

Data initializations: $nrows := rows(A)$

$nrows = 2.371 \cdot 10^3$

$i := 0, 1 .. nrows - 1$

$t := A^{<0>} \cdot min$

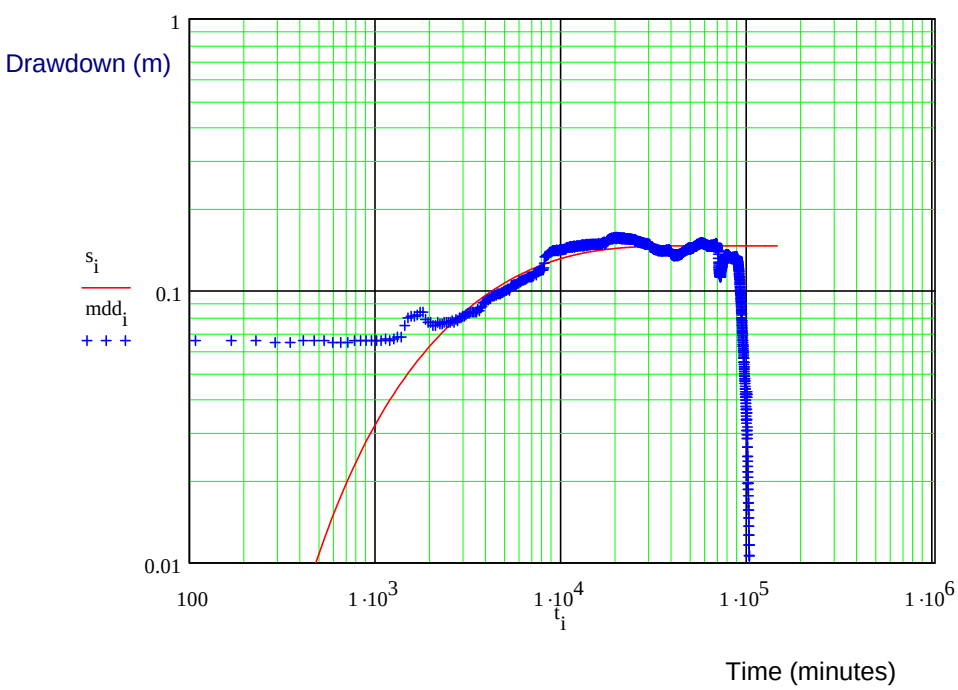
$mdd := A^{<1>} \cdot m$

Enter test parameters:

Well discharge (L^3/T): $Q := 5474 \cdot \frac{m^3}{day}$

Radial distance from pumping to observation well (L): $r := 393 \cdot m$

Comparison of Observed and Theoretical Drawdowns (Hantush-Jacob Method)



Transmissivity

$T \equiv 5100 \cdot \frac{m^2}{day}$

Storativity

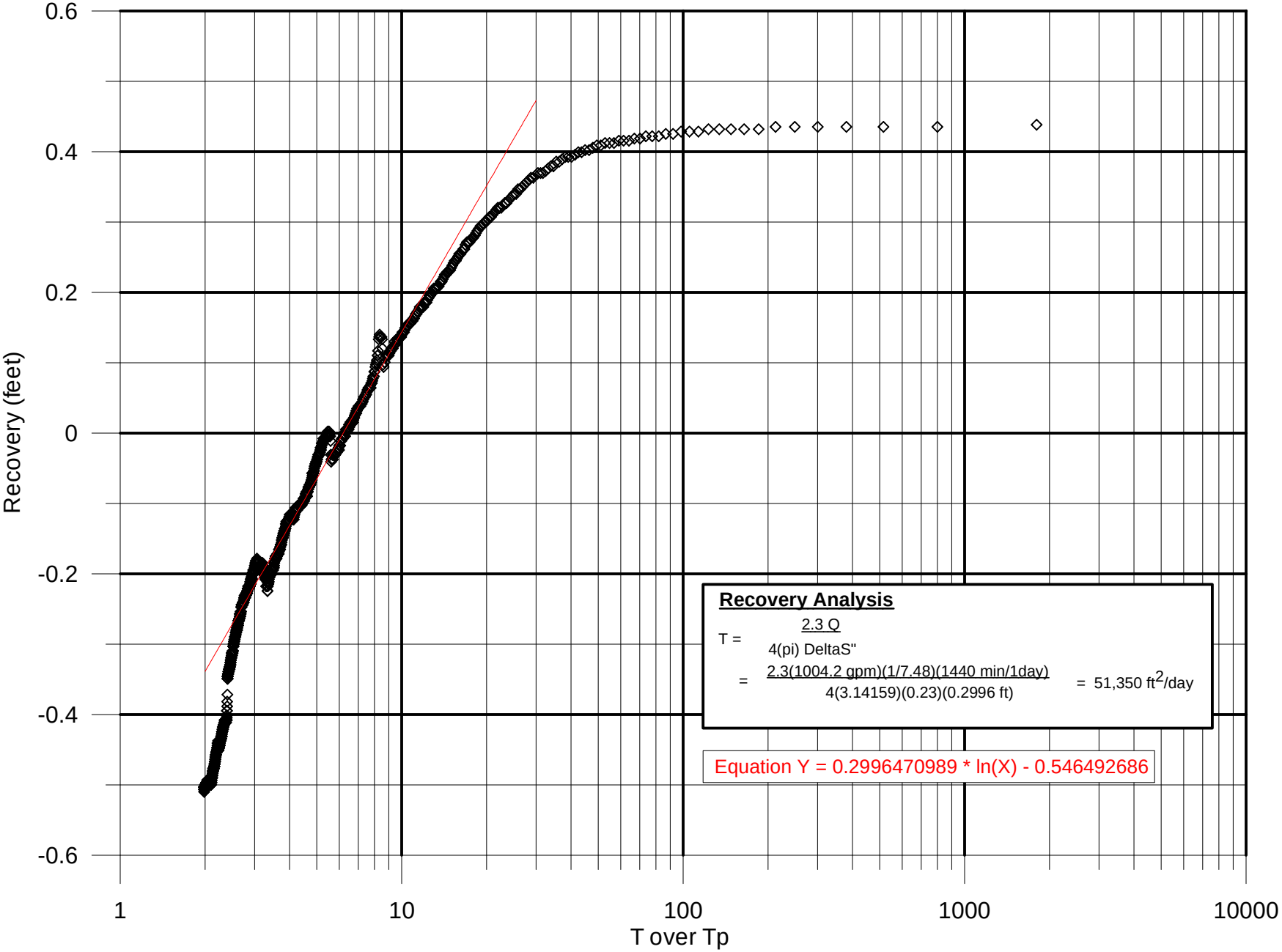
$S \equiv 0.001$

Leakage Factor

$L \equiv 725 \cdot m$

SWR, 9-26-2002

Observed Recovery in Test Well 673420
Pumped Well: Coon Rapids Well No. 20 (420956)
Test Date: August 31-September 1, 2002



Aquifer Test Report Appendix B

Field Data Sheets

Minnesota Department of Health
Special Services Unit
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Test No.

Aquifer Test Information

Test Location	Well Owner	Test Conducted By
CR #19	COON RAPIDS	SCWR/HR GREEN/City Clk
Date/Time Test Start	**Flow Rate (Units)**	**Pump Type**
8/29/02 11 am	VARIABLE	
Date/Time Recovery Start	**Flow Rate Measuring Device**	**Pump Intake Depth**
8/30/02 11 am	Flow meter	
Date/Time Test Finish	**Totalizer: End**	**Pumped Well Inner Casing Diameter**
9/3/02	203,718,000	
Notes	**Totalizer: Start**	**Confined/Unconfined**
	201963,000	CONF
	Total Pumped (Units)	**Quad Sheet Name/Number**
	1755,000 gals [1218.89 gpm]	

Unique Well Numbers	Location T, R, S, Quarters	Location N, E	Radial Distance	Open Depth	Transducer Setting	Measuring Point Location	Elevation, Datum
Pumped Well ~~VARIES~~ CR #19 110475		N E					
Observation Wells		N E					
OB Well # 673418		N (well 19) E 0208291	168m 551.2 ft	BTW	52.29 59.92	———	8-29-02 9:37 9-3-02 10:06
673420		N (well 19) E 0208291	566.8 m 1860 ft well 14		61.96 62.37		10:31 8-29 9-3-02
		N E	94 m				
		N E					

Sketch Map of Well Locations

0209032.txt

MINNESOTA MDH DEPARTMENT OF HEALTH
Environmental Health Division
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Determination of Aquifer Properties and Aquifer Test Plan (DAP-ATP) Form

Public Water Supply ID:	1020017	PWS Name:	Coon Rapids

Contact Information for Person Completing this Form

Name:	John Greer
Address:	Barr Engineering Company
	4700 West 77th Street, Suite 200
City, State, Zip:	Edina, MN 55435
Phone, Fax, e-mail:	(952) 832-2691

Aquifer Properties Determination Methods

☐ 1) An existing pumping test that meets the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on a well connected to the public water supply system.

☐ 2) An existing pumping test that meets the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on another well in a hydrogeologic setting determined by the department to be equivalent.

☐ 3) A proposed new test to be conducted on a new or existing well connected to the public water supply system and that meets the requirements for larger-sized water systems (wellhead protection rule part 4720.5520). A test plan must be approved before conducting the test.

☐ 4) A proposed new test to be conducted on a new or existing public well connected to the public water supply system and that meets the requirements for smaller-sized water systems (wellhead protection rule part 4720.5530). A test plan must be approved before conducting the test.

☐ 5) An existing pumping test that does not meet the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on: 1) a public water supply well or 2) another well in a hydrogeologic setting determined by the department to be equivalent.

☑ 6) Existing specific capacity test(s) conducted on the public water supply well(s) or specific capacity tests conducted on other wells in a hydrogeologic setting determined by the department to be equivalent.

☐ 7) An existing published transmissivity value.

- Include all test data and analysis documentation with the estimated transmissivity, ft^2/day, when the aquifer properties determination method is; 1, 2, 5, 6, or 7, listed above.
- ▪▪ Attach detailed aquifer test plan for methods 3 or 4.

Submitted by: John Greer	Prof. License: 30347	Date: 7/31/2015

To request this document in another format, please call our Section Receptionist (651/201-4700) or Division TTY (651/201-5797).

Rationale for: 1) Aquifer Properties Determination or 2) Proposed New Test

Briefly describe the rationale for: 1) selected method to determine aquifer properties from existing data, **or** 2) a new aquifer test to be conducted on the pumped well referenced below. Include unique well numbers of all wells that were (or will be) monitored during data collection. How does the existing or proposed test deviate from the ideal. (e.g. rate, duration, no. of obwells, interfering wells, etc.) Attach documentation as necessary.

Aquifer Name:	Tunnel City Group - Wonewoc Sandstone	✓ Confined	☐ Unconfined	☐ Fractured Rock

Specific capacity data on the CWI logs for Coon Rapids Wells 24 (Unique Number 674478) and 25 (Unique Number 674479) were analyzed using the TGuess Method (Bradbury and Rothschild, 1985) to obtain a geometric mean transmissivity of 7,700 ft**2/day for the combined Tunnel City-Wonewoc aquifer (see attached).

The Tunnel City Group (CTCG) and Wonewoc Sandstone (CWOC) are represented as separate layers in the groundwater model, so this combined transmissivity must be apportioned between the two units. A search of the CWI within 5 km of Coon Rapids found 418 wells with sufficient data completed only in the CTCG and 42 wells with sufficient data completed only the CWOC. Average formation thicknesses of 149 feet for the CTCG and 57 feet for the CWOC were determined from the logs for the City of Coon Rapids wells that completely penetrate both units. The CTCG and CWOC data were analyzed using the TGuess method to obtain geometric mean T values of 1,300 ft**2/day for the CTCG and 530 ft**2/day for the CWOC. From these results, a ratio of 2.45:1 was used to apportion the combined Tunnel City-Wonewoc T of 7,700 ft**2/day to the CTCG and CWOC; the base case CTCG for the groundwater model was 5,470 ft**2/day and the base case CWOC T was 2,230 ft**2/day.

For the sensitivity analysis, the minimum T of 6,400 ft**2/day from Well 25 and the maximum T of 9,400 ft**2/day from Well 24 will be used as the lower and upper bounds, respectively, on Tunnel City-Wonewoc transmissivity. These values will be apportioned between layers using the 2.45:1 ratio as detailed above for the base model.

Proposed New Test Information Summary

Pumped Well Name (Unique Number):	674478, 674479	**Test Duration (Hours):**	varies
Location: X, Y (meters) UTM-Z15N or Lat-Lon (decimal degrees) datum: NAD83	473799, 5001596 (674478) 474351, 5001197 (674479)	**Pump Type:**	unknown
		Discharge Rate:	1560 gpm
Number of Observation Wells:	0	**Flow Rate Measuring Device Type:**	unknown

- A map showing the location of the pumping well and observation well(s) must be included.

List the unique number of each public water supply well to which this DAP-ATP Form applies

202926	202932	110460			
202929	202931	110461			
202972	202930	168720			
202951	202965	674478			
202937	168721	674479			
202943	161413				

Reviewed by: Amal Djerrari	**Approved:** ● Yes ○ No	**Approval Date:** 8/3/2015

Tunnel City - Wonewoc

Worksheet for Estimating Transmissivity and Hydraulic Conductivity from Specific Capacity Test Data

Explanation and notes attached.

Maximum iterations	100
Error tolerance (as drawdown)	0.001 feet

Field Data								*Estimated Parameters*			*Calculated Results*								*Diagnostics*					
		Depth to Water				Screened Interval													*Solution Integrity*			*Sensitivity of T:*		
Location	Well Diam.	Initial	Final	Test Duration	Mean Pumping Rate	Depth to Top	Depth to Bottom	Storage Coeff. (S)	Well loss Coeff. (C)	Aquifer Thickness (b)	Measured Drawdown (s_m)	Saturated Screen Length (L)	Well loss (s_w)	Partial Penetration Parameter (s_p)	Specific Capacity	**Transmissivity (T)**	**T (ft^2/day)**	**Conductivity (K)**	Calculated Drawdown	Error as Drawdown	Well Bore Storage Test	to S at ± 1 factor of 10	to s_w at 10% of s_m	to b at ± 25%
	inches	feet	feet	hours	gpm	feet	feet	-	sec^2/ft^5	feet	feet	feet	feet	-	gpm/ft	**sq ft/sec**		**ft/day**	feet			sq ft/sec	sq ft/sec	sq ft/sec
00674478 (Coon Rapids 24)	24	60.2	112	8	1560	240.5	388.0	0.001	0	236.0	51.80	147.5	0.0E+00	2.27	30.12	**1.1E-01**	**9.4E+03**	**39.7**	51.80	0.00%	pass	1.3E-02	1.3E-02	4.0E-02
00674479 (Coon Rapids 25)	24	51.4	121.4	48	1560	229.0	388.0	0.001	0	195.0	70.00	159.0	0.0E+00	0.74	22.29	**7.4E-02**	**6.4E+03**	**32.6**	70.00	0.00%	pass	9.6E-03	8.7E-03	1.9E-02

Geometric Mean **7.7E+03**

References:

Bradbury, K.B., and E.R. Rothschild, 1985. A computerized technique for estimating the hydraulic conductivity of aquifer from specific capacity data: Ground Water vol. 23, No. 2, pp. 240-246.

ASTM International, 2004. Standard Test Method for Determining Specific Capacity and Estimating Transmissivity at the Control Well, Standard D 5472-93, in Annual Book of ASTM Standards, Vol. 04.08 pp. 1279-1282.

Tunnel City Group

Worksheet for Estimating Transmissivity and Hydraulic Conductivity from Specific Capacity Test Data

Explanation and notes attached.

Maximum iterations	100
Error tolerance (as drawdown)	0.001 feet

	Field Data							*Estimated Parameters*			*Calculated Results*								*Diagnostics*					
		Depth to Water				Screened Interval													*Solution Integrity*			*Sensitivity of T:*		
Location	Well Diam.	Initial	Final	Test Duration	Mean Pumping Rate	Depth to Top	Depth to Bottom	Storage Coeff. (S)	Well loss Coeff. (C)	Aquifer Thickness (b)	Measured Drawdown (s_m)	Saturated Screen Length (L)	Well loss (s_w)	Partial Penetrameter Parameter (s_p)	Specific Capacity	**Transmissivity (T)**	**T (ft^2/day)**	**Conductivity (K)**	Calculated Drawdown	Error as Drawdown	Well Bore Storage Test	to S at ± 1 factor of 10	to s_w at 10% of s_m	to b at ± 25%
	inches	feet	feet	hours	gpm	feet	feet	-	sec^2/ft^5	feet	feet	feet	feet	-	gpm/ft	**sq ft/sec**		**ft/day**	feet			sq ft/sec	sq ft/sec	sq ft/sec
00104713	4	40	55	4	60	173.0	187.0	0.001	0	149.0	15.00	14.0	0.0E+00	42.84	4.00	**7.4E-02**	**6.4E+03**	**42.7**	15.00	0.00%	pass	1.6E-03	8.3E-03	3.7E-02
00104723	4	30	40	3	30	150.0	188.0	0.001	0	149.0	10.00	38.0	0.0E+00	14.78	3.00	**2.5E-02**	**2.1E+03**	**14.3**	10.00	0.00%	pass	1.3E-03	2.8E-03	1.1E-02
00104753	4	20	30	3	60	161.0	188.0	0.001	0	149.0	10.00	27.0	0.0E+00	21.84	6.00	**6.5E-02**	**5.7E+03**	**38.0**	10.00	0.00%	pass	2.5E-03	7.4E-03	3.1E-02
00104788	4	12	30	4	45	171.0	188.0	0.001	0	149.0	18.00	17.0	0.0E+00	35.30	2.50	**3.9E-02**	**3.4E+03**	**22.7**	18.00	0.00%	pass	1.0E-03	4.4E-03	1.9E-02
00104846	4	25	60	3	90	152.0	167.0	0.001	0	149.0	35.00	15.0	0.0E+00	40.00	2.57	**4.4E-02**	**3.8E+03**	**25.8**	35.00	0.00%	pass	1.1E-03	5.0E-03	2.2E-02
00104866	4	20	50	4	60	149.0	172.0	0.001	0	149.0	30.00	23.0	0.0E+00	25.91	2.00	**2.4E-02**	**2.1E+03**	**14.2**	30.00	0.00%	pass	8.3E-04	2.8E-03	1.2E-02
00104898	4	20	50	6	60	150.0	200.0	0.001	0	149.0	30.00	50.0	0.0E+00	10.31	2.00	**1.3E-02**	**1.2E+03**	**7.7**	30.00	0.00%	pass	8.4E-04	1.5E-03	6.1E-03
00104899	4	40	65	3	30	213.0	223.0	0.001	0	149.0	25.00	10.0	0.0E+00	59.65	1.20	**2.9E-02**	**2.5E+03**	**16.8**	25.00	0.00%	pass	4.9E-04	3.2E-03	1.5E-02
00105116	4	50	60	3	40	141.0	156.0	0.001	0	149.0	10.00	15.0	0.0E+00	40.00	4.00	**6.9E-02**	**6.0E+03**	**40.3**	10.00	0.00%	pass	1.6E-03	7.8E-03	3.5E-02
00105327	4	30	40	3	20	158.0	201.0	0.001	0	149.0	10.00	43.0	0.0E+00	12.65	2.00	**1.5E-02**	**1.3E+03**	**8.6**	10.00	0.00%	pass	8.4E-04	1.7E-03	6.9E-03
00105384	4	30	40	3	30	197.0	214.0	0.001	0	149.0	10.00	17.0	0.0E+00	35.30	3.00	**4.7E-02**	**4.1E+03**	**27.2**	10.00	0.01%	pass	1.2E-03	5.3E-03	2.3E-02
00107147	4	60	80	2	20	311.0	335.0	0.001	0	149.0	20.00	24.0	0.0E+00	24.77	1.00	**1.2E-02**	**1.0E+03**	**6.7**	20.00	0.00%	pass	4.1E-04	1.3E-03	5.7E-03
00111261	4	22	50	4	40	105.0	156.0	0.001	0	149.0	28.00	51.0	0.0E+00	10.02	1.43	**9.2E-03**	**7.9E+02**	**5.3**	28.00	0.00%	pass	6.0E-04	1.0E-03	4.3E-03
00111269	4	23	54	4	50	108.0	160.0	0.001	0	149.0	31.00	52.0	0.0E+00	9.74	1.61	**1.0E-02**	**8.8E+02**	**5.9**	31.00	0.00%	pass	6.8E-04	1.2E-03	4.8E-03
00114342	4	35	37	3	20	137.0	175.0	0.001	0	149.0	2.00	38.0	0.0E+00	14.78	10.00	**8.5E-02**	**7.3E+03**	**49.0**	2.00	0.01%	pass	4.2E-03	9.6E-03	3.8E-02
00114417	10	89	120	10	300	240.0	383.0	0.001	0	149.0	31.00	143.0	0.0E+00	0.15	9.68	**2.9E-02**	**2.5E+03**	**16.6**	31.00	0.00%	pass	4.2E-03	3.4E-03	7.2E-03
00121670	4	12	30	3	30	144.0	200.0	0.001	0	149.0	18.00	56.0	0.0E+00	8.71	1.67	**9.9E-03**	**8.5E+02**	**5.7**	18.00	0.00%	pass	7.0E-04	1.1E-03	4.6E-03
00122176	4	17	40	2	30	119.0	129.0	0.001	0	149.0	23.00	10.0	0.0E+00	59.65	1.30	**3.1E-02**	**2.7E+03**	**18.2**	23.00	0.00%	pass	5.4E-04	3.5E-03	1.7E-02
00122201	4	22	45	6	20	188.0	201.0	0.001	0	149.0	23.00	13.0	0.0E+00	46.09	0.87	**1.7E-02**	**1.5E+03**	**9.8**	23.00	0.00%	pass	3.6E-04	1.9E-03	8.7E-03
00122215	6	18	42	4	100	127.0	181.0	0.001	0	149.0	24.00	54.0	0.0E+00	8.50	4.17	**2.5E-02**	**2.1E+03**	**14.3**	24.00	0.00%	pass	1.8E-03	2.8E-03	1.1E-02
00122231	6	22	48	5	100	141.0	241.0	0.001	0	149.0	26.00	100.0	0.0E+00	2.27	3.85	**1.4E-02**	**1.2E+03**	**8.1**	26.00	0.00%	pass	1.7E-03	1.6E-03	5.6E-03
00122451	4	28	40	2	30	148.0	172.0	0.001	0	149.0	12.00	24.0	0.0E+00	24.77	2.50	**2.9E-02**	**2.5E+03**	**17.0**	12.00	0.00%	pass	1.0E-03	3.3E-03	1.4E-02
00122464	4	38	45	2	25	159.0	230.0	0.001	0	149.0	7.00	71.0	0.0E+00	5.78	3.57	**1.8E-02**	**1.5E+03**	**10.2**	7.00	0.01%	pass	1.5E-03	2.0E-03	8.1E-03
00122534	4	27	40	2	25	163.0	215.0	0.001	0	149.0	13.00	52.0	0.0E+00	9.74	1.92	**1.2E-02**	**1.0E+03**	**7.0**	13.00	0.00%	pass	8.1E-04	1.4E-03	5.7E-03
00122886	4	15	32	4	12	155.0	200.0	0.001	0	149.0	17.00	45.0	0.0E+00	11.92	0.71	**4.9E-03**	**4.3E+02**	**2.9**	17.00	0.00%	pass	3.0E-04	5.6E-04	2.3E-03
00124102	4	13	20	5	30	108.0	117.0	0.001	0	149.0	7.00	9.0	0.0E+00	66.14	4.29	**1.1E-01**	**9.9E+03**	**66.6**	7.00	0.00%	pass	1.8E-03	1.3E-02	6.1E-02
00124136	4	35	50	4	50	180.0	197.0	0.001	0	149.0	15.00	17.0	0.0E+00	35.30	3.33	**5.2E-02**	**4.5E+03**	**30.3**	15.00	0.00%	pass	1.4E-03	5.9E-03	2.6E-02
00124136	4	35	50	2	50	180.0	197.0	0.001	0	149.0	15.00	17.0	0.0E+00	35.30	3.33	**5.2E-02**	**4.5E+03**	**30.1**	15.00	0.00%	pass	1.4E-03	5.8E-03	2.6E-02
00124971	4	35	55	4	30	127.0	132.0	0.001	0	149.0	20.00	5.0	0.0E+00	117.56	1.50	**6.7E-02**	**5.8E+03**	**39.1**	20.00	0.00%	pass	6.1E-04	7.5E-03	3.8E-02
00124998	4	16	30	4	100	172.0	204.0	0.001	0	149.0	14.00	32.0	0.0E+00	18.09	7.14	**6.9E-02**	**6.0E+03**	**39.9**	14.00	0.00%	pass	3.0E-03	7.8E-03	3.1E-02
00126388	4	50	60	3	30	216.0	246.0	0.001	0	149.0	10.00	30.0	0.0E+00	19.45	3.00	**3.0E-02**	**2.6E+03**	**17.3**	10.00	0.00%	pass	1.2E-03	3.4E-03	1.4E-02
00126472	4	50	60	3	40	151.0	186.0	0.001	0	149.0	10.00	35.0	0.0E+00	16.31	4.00	**3.5E-02**	**3.1E+03**	**20.5**	10.00	0.00%	pass	1.7E-03	4.0E-03	1.6E-02
00126500	4	30	40	3	30	136.0	170.0	0.001	0	149.0	10.00	34.0	0.0E+00	16.87	3.00	**2.7E-02**	**2.3E+03**	**15.6**	10.00	0.00%	pass	1.2E-03	3.1E-03	1.3E-02
00126601	4	40	63	3	12	132.0	200.0	0.001	0	149.0	23.00	68.0	0.0E+00	6.28	0.52	**2.5E-03**	**2.2E+02**	**1.5**	23.00	0.00%	pass	2.2E-04	2.9E-04	1.2E-03
00126606	4	22	42	3	12	110.0	145.0	0.001	0	149.0	20.00	35.0	0.0E+00	16.31	0.60	**5.1E-03**	**4.4E+02**	**3.0**	20.00	0.00%	pass	2.5E-04	5.8E-04	2.4E-03
00126611	4	40	63	3	12	156.0	215.0	0.001	0	149.0	23.00	59.0	0.0E+00	8.02	0.52	**2.8E-03**	**2.5E+02**	**1.7**	23.00	0.00%	pass	2.2E-04	3.3E-04	1.4E-03
00126695	4	20	50	1	60	179.0	235.0	0.001	0	149.0	30.00	56.0	0.0E+00	8.71	2.00	**1.2E-02**	**9.9E+02**	**6.7**	30.00	0.00%	pass	8.4E-04	1.3E-03	5.6E-03
00126782	4	20	42	3	12	132.0	185.0	0.001	0	149.0	22.00	53.0	0.0E+00	9.47	0.55	**3.3E-03**	**2.8E+02**	**1.9**	22.00	0.00%	pass	2.3E-04	3.7E-04	1.6E-03
00126814	4	20	30	3	30	125.0	185.0	0.001	0	149.0	10.00	60.0	0.0E+00	7.80	3.00	**1.7E-02**	**1.5E+03**	**9.9**	10.00	0.01%	pass	1.3E-03	2.0E-03	7.9E-03
00127218	4	22	32	3	30	132.0	172.0	0.001	0	149.0	10.00	40.0	0.0E+00	13.87	3.00	**2.4E-02**	**2.0E+03**	**13.8**	10.00	0.00%	pass	1.3E-03	2.7E-03	1.1E-02
00127250	4	50	60	3	40	108.0	141.0	0.001	0	149.0	10.00	33.0	0.0E+00	17.46	4.00	**3.7E-02**	**3.2E+03**	**21.5**	10.00	0.00%	pass	1.7E-03	4.2E-03	1.7E-02
00128107	4	19	22	3	50	134.0	155.0	0.001	0	149.0	3.00	21.0	0.0E+00	28.47	16.67	**2.2E-01**	**1.9E+04**	**130.3**	3.00	0.01%	pass	6.9E-03	2.5E-02	1.1E-01
00128150	4	24	26	3	20	197.0	201.0	0.001	0	149.0	2.00	4.0	0.0E+00	146.35	10.00	**5.5E-01**	**4.8E+04**	**321.5**	2.00	0.00%	pass	4.1E-03	6.2E-02	3.2E-01
00131212	4	20	40	2	40	112.0	180.0	0.001	0	149.0	20.00	68.0	0.0E+00	6.28	2.00	**1.0E-02**	**8.6E+02**	**5.8**	20.00	0.00%	pass	8.5E-04	1.2E-03	4.7E-03
00131265	4	28	45	2	30	125.0	130.0	0.001	0	149.0	17.00	5.0	0.0E+00	117.56	1.76	**7.9E-02**	**6.8E+03**	**45.9**	17.00	0.00%	pass	7.2E-04	8.8E-03	4.5E-02
00131278	4	16	35	2	30	151.0	180.0	0.001	0	149.0	19.00	29.0	0.0E+00	20.20	1.58	**1.6E-02**	**1.4E+03**	**9.2**	19.00	0.00%	pass	6.6E-04	1.8E-03	7.6E-03
00132007	4	43	55	3	50	191.0	236.0	0.001	0	149.0	12.00	45.0	0.0E+00	11.92	4.17	**3.0E-02**	**2.6E+03**	**17.5**	12.00	0.00%	pass	1.7E-03	3.4E-03	1.4E-02
00132021	4	27	33	3	50	209.0	280.0	0.001	0	149.0	6.00	71.0	0.0E+00	5.78	8.33	**4.3E-02**	**3.7E+03**	**24.8**	6.00	0.00%	pass	3.5E-03	4.9E-03	1.9E-02
00135310	4	40	84	2	20	169.0	209.0	0.001	0	149.0	44.00	40.0	0.0E+00	13.87	0.45	**3.4E-03**	**2.9E+02**	**2.0**	44.00	0.00%	pass	1.9E-04	3.9E-04	1.7E-03
00135845	4	30	45	2	30	142.0	166.0	0.001	0	149.0	15.00	24.0	0.0E+00	24.77	2.00	**2.3E-02**	**2.0E+03**	**13.6**	15.00	0.00%	pass	8.3E-04	2.6E-03	1.1E-02
00136071	4	15	40	4	60	190.0	239.0	0.001	0	149.0	25.00	49.0	0.0E+00	10.61	2.40	**1.6E-02**	**1.4E+03**	**9.4**	25.00	0.00%	pass	1.0E-03	1.8E-03	7.4E-03
00136093	4	20	40	4	60	147.0	201.0	0.001	0	149.0	20.00	54.0	0.0E+00	9.21	3.00	**1.9E-02**	**1.6E+03**	**10.9**	20.00	0.00%	pass	1.3E-03	2.2E-03	8.6E-03
00137742	4	25	80	2	100	169.0	215.0	0.001	0	149.0	55.00	46.0	0.0E+00	11.57	1.82	**1.3E-02**	**1.1E+03**	**7.3**	55.00	0.00%	pass	7.6E-04	1.4E-03	5.9E-03
00137742	4	25	60	2	25	169.0	215.0	0.001	0	149.0	35.00	46.0	0.0E+00	11.57	0.71	**4.8E-03**	**4.2E+02**	**2.8**	35.00	0.00%	pass	3.0E-04	5.5E-04	2.3E-03
00139715	4	20	40	3	50	150.0	200.0	0.001	0	149.0	20.00	50.0	0.0E+00	10.31	2.50	**1.6E-02**	**1.4E+03**	**9.5**	20.00	0.00%	pass	1.0E-03	1.9E-03	7.6E-03
00139715	4	20	40	2	50	150.0	200.0	0.001	0	149.0	20.00	50.0	0.0E+00	10.31	2.50	**1.6E-02**	**1.4E+03**	**9.4**	20.00	0.00%	pass	1.0E-03	1.9E-03	7.6E-03
00140015	4	32	42	3	50	123.0	173.0	0.001	0	149.0	10.00	50.0	0.0E+00	10.31	5.00	**3.4E-02**	**2.9E+03**	**19.4**	10.00	0.00%	pass	2.1E-03	3.8E-03	1.5E-02
00140127	4	25	40	4	30	178.0	187.0	0.001	0	149.0	15.00	9.0	0.0E+00	66.14	2.00	**5.3E-02**	**4.6E+03**	**30.9**	15.00	0.00%	pass	8.2E-04	6.0E-03	2.9E-02
00140134	4	12	25	4	50	180.0	215.0	0.001	0	149.0	13.00	35.0	0.0E+00	16.31	3.85	**3.4E-02**	**3.0E+03**	**19.8**	13.00	0.00%	pass	1.6E-03	3.9E-03	1.6E-02
00140142	4	20	40	4	60	181.0	205.0	0.001	0	149.0	20.00	24.0	0.0E+00	24.77	3.00	**3.6E-02**	**3.1E+03**	**20.7**	20.00	0.00%	pass	1.2E-03	4.0E-03	1.7E-02
00140156	4	45	60	4	45	169.0	242.0	0.001	0	149.0	15.00	73.0	0.0E+00	5.47	3.00	**1.5E-02**	**1.3E+03**	**8.5**	15.00	0.00%	pass	1.3E-03	1.7E-03	6.6E-03
00143228	4	20	40	2	30	137.0	186.0	0.001	0	149.0	20.00	49.0	0.0E+00	10.61	1.50	**9.8E-03**	**8.4E+02**	**5.7**	20.00	0.00%	pass	6.3E-04	1.1E-03	4.6E-03
00144029	4	22	36	3	30	100.0	130.0	0.001	0	149.0	14.00	30.0	0.0E+00	19.45	2.14	**2.1E-02**	**1.8E+03**	**12.3**	14.00	0.00%	pass	8.9E-04	2.4E-03	1.0E-02
00144196	4	35	55	2	25	121.0	126.0	0.001	0	149.0	20.00	5.0	0.0E+00	117.56	1.25	**5.6E-02**	**4.8E+03**	**32.4**	20.00	0.00%	pass	5.1E-04	6.2E-03	3.2E-02
00145410	4	33	50	5	30	133.0	179.0	0.001	0	149.0	17.00	46.0	0.0E+00	11.57	1.76	**1.2E-02**	**1.1E+03**	**7.2**	17.00	0.00%	pass	7.4E-04	1.4E-03	5.7E-03

00147116	4	19	63	4	100	107.0	136.0	0.001	0	149.0	44.00	29.0	0.0E+00	20.20	2.27	**2.3E-02**	**2.0E+03**	**13.4**	44.00	0.00%	pass	9.4E-04	2.6E-03	1.1E-02
00147142	4	20	50	3	20	80.0	120.0	0.001	0	149.0	30.00	40.0	0.0E+00	13.87	0.67	**5.1E-03**	**4.4E+02**	**3.0**	30.00	0.00%	pass	2.8E-04	5.8E-04	2.4E-03
00147143	4	31	63	8	80	190.0	261.0	0.001	0	149.0	32.00	71.0	0.0E+00	5.78	2.50	**1.3E-02**	**1.1E+03**	**7.4**	32.00	0.00%	pass	1.1E-03	1.5E-03	5.6E-03
00147155	4	15	50	3	65	168.0	210.0	0.001	0	149.0	35.00	42.0	0.0E+00	13.04	1.86	**1.4E-02**	**1.2E+03**	**8.1**	35.00	0.00%	pass	7.8E-04	1.6E-03	6.5E-03
00149422	4	10	20	3	40	150.0	171.0	0.001	0	149.0	10.00	21.0	0.0E+00	28.47	4.00	**5.3E-02**	**4.6E+03**	**30.7**	10.00	0.00%	pass	1.7E-03	6.0E-03	2.6E-02
00155121	4	17	32	3	50	166.0	216.0	0.001	0	149.0	15.00	50.0	0.0E+00	10.31	3.33	**2.2E-02**	**1.9E+03**	**12.8**	15.00	0.00%	pass	1.4E-03	2.5E-03	1.0E-02
00155266	4	25	35	3	35	126.0	173.0	0.001	0	149.0	10.00	47.0	0.0E+00	11.24	3.50	**2.4E-02**	**2.1E+03**	**14.2**	10.00	0.00%	pass	1.5E-03	2.8E-03	1.1E-02
00155907	4	25	35	3	20	150.0	171.0	0.001	0	149.0	10.00	21.0	0.0E+00	28.47	2.00	**2.6E-02**	**2.3E+03**	**15.2**	10.00	0.00%	pass	8.3E-04	3.0E-03	1.3E-02
00156559	4	10	30	2	30	119.0	138.0	0.001	0	149.0	20.00	19.0	0.0E+00	31.54	1.50	**2.1E-02**	**1.8E+03**	**12.2**	20.00	0.00%	pass	6.2E-04	2.4E-03	1.0E-02
00156561	4	20	40	2	30	144.0	201.0	0.001	0	149.0	20.00	57.0	0.0E+00	8.48	1.50	**8.6E-03**	**7.4E+02**	**5.0**	20.00	0.00%	pass	6.3E-04	9.9E-04	4.1E-03
00156570	4	30	70	2	50	155.0	195.0	0.001	0	149.0	40.00	40.0	0.0E+00	13.87	1.25	**9.6E-03**	**8.3E+02**	**5.6**	40.00	0.00%	pass	5.2E-04	1.1E-03	4.6E-03
00158324	4	15	50	4	50	178.0	200.0	0.001	0	149.0	35.00	22.0	0.0E+00	27.13	1.43	**1.8E-02**	**1.6E+03**	**10.4**	35.00	0.00%	pass	5.9E-04	2.0E-03	8.7E-03
00158324	4	15	50	2	50	178.0	200.0	0.001	0	149.0	35.00	22.0	0.0E+00	27.13	1.43	**1.8E-02**	**1.5E+03**	**10.3**	35.00	0.00%	pass	5.9E-04	2.0E-03	8.7E-03
00158330	4	20	40	3	40	134.0	156.0	0.001	0	149.0	20.00	22.0	0.0E+00	27.13	2.00	**2.5E-02**	**2.2E+03**	**14.6**	20.00	0.00%	pass	8.3E-04	2.8E-03	1.2E-02
00158330	4	20	40	2	40	134.0	156.0	0.001	0	149.0	20.00	22.0	0.0E+00	27.13	2.00	**2.5E-02**	**2.2E+03**	**14.6**	20.00	0.00%	pass	8.3E-04	2.8E-03	1.2E-02
00158334	4	20	40	4	40	135.0	188.0	0.001	0	149.0	20.00	53.0	0.0E+00	9.47	2.00	**1.3E-02**	**1.1E+03**	**7.3**	20.00	0.00%	pass	8.4E-04	1.4E-03	5.8E-03
00158334	4	20	40	2	40	135.0	188.0	0.001	0	149.0	20.00	53.0	0.0E+00	9.47	2.00	**1.2E-02**	**1.1E+03**	**7.1**	20.00	0.00%	pass	8.4E-04	1.4E-03	5.8E-03
00159327	4	12	95	4	65	197.0	231.0	0.001	0	149.0	83.00	34.0	0.0E+00	16.87	0.78	**6.9E-03**	**6.0E+02**	**4.0**	83.00	0.00%	pass	3.3E-04	7.8E-04	3.3E-03
00159563	4	15	25	4	30	144.0	187.0	0.001	0	149.0	10.00	43.0	0.0E+00	12.65	3.00	**2.3E-02**	**1.9E+03**	**13.1**	10.00	0.00%	pass	1.3E-03	2.6E-03	1.0E-02
00159631	4	30	33	4	45	138.0	171.0	0.001	0	149.0	3.00	33.0	0.0E+00	17.46	15.00	**1.4E-01**	**1.2E+04**	**83.0**	3.00	0.01%	pass	6.2E-03	1.6E-02	6.4E-02
00161441	14	9.5	24	24	500	243.0	323.0	0.001	0	149.0	14.50	80.0	0.0E+00	3.43	34.48	**1.5E-01**	**1.3E+04**	**89.1**	14.50	0.00%	pass	1.5E-02	1.8E-02	5.5E-02
00161813	4	32	50	2	30	209.0	260.0	0.001	0	149.0	18.00	51.0	0.0E+00	10.02	1.67	**1.1E-02**	**9.1E+02**	**6.1**	18.00	0.00%	pass	7.0E-04	1.2E-03	5.0E-03
00165893	4	25	40	4.5	30	150.0	197.0	0.001	0	149.0	15.00	47.0	0.0E+00	11.24	2.00	**1.4E-02**	**1.2E+03**	**8.1**	15.00	0.00%	pass	8.4E-04	1.6E-03	6.4E-03
00166870	4	27	75	3	30	112.0	160.0	0.001	0	149.0	48.00	48.0	0.0E+00	10.92	0.63	**4.1E-03**	**3.5E+02**	**2.4**	48.00	0.00%	pass	2.6E-04	4.7E-04	2.0E-03
00166889	4	32	60	3	40	98.0	150.0	0.001	0	149.0	28.00	52.0	0.0E+00	9.74	1.43	**9.0E-03**	**7.7E+02**	**5.2**	28.00	0.00%	pass	6.0E-04	1.0E-03	4.2E-03
00169239	4	15	25	3.5	35	181.0	185.0	0.001	0	149.0	10.00	4.0	0.0E+00	146.35	3.50	**1.9E-01**	**1.7E+04**	**112.2**	10.00	0.00%	pass	1.4E-03	2.2E-02	1.1E-01
00169240	4	20	30	3.5	25	169.0	173.0	0.001	0	149.0	10.00	4.0	0.0E+00	146.35	2.50	**1.4E-01**	**1.2E+04**	**80.1**	10.00	0.00%	pass	1.0E-03	1.5E-02	8.0E-02
00170412	4	35	60	3	40	150.0	201.0	0.001	0	149.0	25.00	51.0	0.0E+00	10.02	1.60	**1.0E-02**	**8.8E+02**	**5.9**	25.00	0.00%	pass	6.7E-04	1.2E-03	4.8E-03
00170412	4	35	60	2	40	150.0	201.0	0.001	0	149.0	25.00	51.0	0.0E+00	10.02	1.60	**1.0E-02**	**8.7E+02**	**5.9**	25.00	0.00%	pass	6.7E-04	1.2E-03	4.8E-03
00170415	4	25	60	3	50	118.0	152.0	0.001	0	149.0	35.00	34.0	0.0E+00	16.87	1.43	**1.3E-02**	**1.1E+03**	**7.3**	35.00	0.00%	pass	6.0E-04	1.4E-03	6.0E-03
00170415	4	25	60	2	50	118.0	152.0	0.001	0	149.0	35.00	34.0	0.0E+00	16.87	1.43	**1.3E-02**	**1.1E+03**	**7.3**	35.00	0.00%	pass	6.0E-04	1.4E-03	6.0E-03
00170429	4	15	40	4	40	138.0	156.0	0.001	0	149.0	25.00	18.0	0.0E+00	33.32	1.60	**2.4E-02**	**2.1E+03**	**13.8**	25.00	0.00%	pass	6.6E-04	2.7E-03	1.2E-02
00170429	4	15	40	2	40	138.0	156.0	0.001	0	149.0	25.00	18.0	0.0E+00	33.32	1.60	**2.4E-02**	**2.0E+03**	**13.7**	25.00	0.00%	pass	6.6E-04	2.7E-03	1.2E-02
00170445	4	25	60	3	30	190.0	246.0	0.001	0	149.0	35.00	56.0	0.0E+00	8.71	0.86	**5.0E-03**	**4.3E+02**	**2.9**	35.00	0.00%	pass	3.6E-04	5.7E-04	2.4E-03
00170445	4	25	60	2	30	190.0	246.0	0.001	0	149.0	35.00	56.0	0.0E+00	8.71	0.86	**4.9E-03**	**4.2E+02**	**2.8**	35.00	0.00%	pass	3.6E-04	5.6E-04	2.4E-03
00174572	4	20	30	4	40	60.0	112.0	0.001	0	149.0	10.00	52.0	0.0E+00	9.74	4.00	**2.6E-02**	**2.2E+03**	**15.1**	10.00	0.00%	pass	1.7E-03	3.0E-03	1.2E-02
00174862	4	18	100	3	65	138.0	153.0	0.001	0	149.0	82.00	15.0	0.0E+00	40.00	0.79	**1.4E-02**	**1.2E+03**	**7.8**	82.00	0.00%	pass	3.3E-04	1.5E-03	6.9E-03
00175606	4	12	30	2	30	114.0	127.0	0.001	0	149.0	18.00	13.0	0.0E+00	46.09	1.67	**3.2E-02**	**2.8E+03**	**18.7**	18.00	0.00%	pass	6.9E-04	3.6E-03	1.7E-02
00175608	4	20	40	2	30	175.0	246.0	0.001	0	149.0	20.00	71.0	0.0E+00	5.78	1.50	**7.1E-03**	**6.2E+02**	**4.1**	20.00	0.00%	pass	6.4E-04	8.2E-04	3.4E-03
00178931	4	25	50	3	30	152.0	175.0	0.001	0	149.0	25.00	23.0	0.0E+00	25.91	1.20	**1.5E-02**	**1.3E+03**	**8.4**	25.00	0.00%	pass	5.0E-04	1.6E-03	7.0E-03
00179360	4	7	20	3	50	191.0	245.0	0.001	0	149.0	13.00	54.0	0.0E+00	9.21	3.85	**2.4E-02**	**2.1E+03**	**14.0**	13.00	0.00%	pass	1.6E-03	2.8E-03	1.1E-02
00183172	4	35	45	2	30	185.0	211.0	0.001	0	149.0	10.00	26.0	0.0E+00	22.75	3.00	**3.3E-02**	**2.9E+03**	**19.2**	10.00	0.00%	pass	1.2E-03	3.7E-03	1.6E-02
00183178	4	23	40	2	30	142.0	178.0	0.001	0	149.0	17.00	36.0	0.0E+00	15.77	1.76	**1.5E-02**	**1.3E+03**	**8.6**	17.00	0.00%	pass	7.4E-04	1.7E-03	7.0E-03
00183460	4	13	25	3	60	192.0	218.0	0.001	0	149.0	12.00	26.0	0.0E+00	22.75	5.00	**5.6E-02**	**4.8E+03**	**32.5**	12.00	0.00%	pass	2.1E-03	6.3E-03	2.6E-02
00183465	4	13	25	3	60	174.0	198.0	0.001	0	149.0	12.00	24.0	0.0E+00	24.77	5.00	**6.0E-02**	**5.2E+03**	**34.6**	12.00	0.00%	pass	2.1E-03	6.7E-03	2.8E-02
00184772	4	20	40	1	50	175.0	220.0	0.001	0	149.0	20.00	45.0	0.0E+00	11.92	2.50	**1.7E-02**	**1.5E+03**	**10.1**	20.00	0.00%	pass	1.0E-03	2.0E-03	8.3E-03
00190449	4	50	100	3	30	225.0	298.0	0.001	0	149.0	50.00	73.0	0.0E+00	5.47	0.60	**2.7E-03**	**2.4E+02**	**1.6**	50.00	0.00%	pass	2.5E-04	3.2E-04	1.3E-03
00193457	4	40	45	2	35	142.0	192.0	0.001	0	149.0	5.00	50.0	0.0E+00	10.31	7.00	**4.7E-02**	**4.0E+03**	**27.2**	5.00	0.00%	pass	2.9E-03	5.4E-03	2.1E-02
00193762	4	30	60	4	40	214.0	261.0	0.001	0	149.0	30.00	47.0	0.0E+00	11.24	1.33	**9.1E-03**	**7.9E+02**	**5.3**	30.00	0.00%	pass	5.6E-04	1.0E-03	4.3E-03
00193762	4	30	60	2	40	214.0	261.0	0.001	0	149.0	30.00	47.0	0.0E+00	11.24	1.33	**9.0E-03**	**7.8E+02**	**5.2**	30.00	0.00%	pass	5.6E-04	1.0E-03	4.3E-03
00193769	4	10	60	4	40	203.0	261.0	0.001	0	149.0	50.00	58.0	0.0E+00	8.25	0.80	**4.5E-03**	**3.9E+02**	**2.6**	50.00	0.00%	pass	3.4E-04	5.2E-04	2.2E-03
00193769	4	10	60	2	40	203.0	261.0	0.001	0	149.0	50.00	58.0	0.0E+00	8.25	0.80	**4.4E-03**	**3.8E+02**	**2.6**	50.00	0.00%	pass	3.4E-04	5.1E-04	2.2E-03
00194968	4	25	100	5	45	241.0	283.0	0.001	0	149.0	75.00	42.0	0.0E+00	13.04	0.60	**4.4E-03**	**3.8E+02**	**2.6**	75.00	0.00%	pass	2.5E-04	5.1E-04	2.1E-03
00197403	4	20	75	1	100	214.0	230.0	0.001	0	149.0	55.00	16.0	0.0E+00	37.51	1.82	**2.9E-02**	**2.5E+03**	**17.0**	55.00	0.00%	pass	7.5E-04	3.3E-03	1.5E-02
00197403	4	20	40	2	50	214.0	230.0	0.001	0	149.0	20.00	16.0	0.0E+00	37.51	2.50	**4.1E-02**	**3.5E+03**	**23.6**	20.00	0.00%	pass	1.0E-03	4.6E-03	2.1E-02
00197571	4	38	52	3	40	169.0	200.0	0.001	0	149.0	14.00	31.0	0.0E+00	18.75	2.86	**2.8E-02**	**2.4E+03**	**16.0**	14.00	0.00%	pass	1.2E-03	3.1E-03	1.3E-02
00199985	4	30	50	2	30	241.0	290.0	0.001	0	149.0	20.00	49.0	0.0E+00	10.61	1.50	**9.8E-03**	**8.4E+02**	**5.7**	20.00	0.00%	pass	6.3E-04	1.1E-03	4.6E-03
00199993	4	20	40	2	30	218.0	260.0	0.001	0	149.0	20.00	42.0	0.0E+00	13.04	1.50	**1.1E-02**	**9.6E+02**	**6.4**	20.00	0.00%	pass	6.3E-04	1.3E-03	5.3E-03
00199998	4	34	50	2	30	212.0	265.0	0.001	0	149.0	16.00	53.0	0.0E+00	9.47	1.88	**1.2E-02**	**1.0E+03**	**6.7**	16.00	0.00%	pass	7.9E-04	1.3E-03	5.4E-03
00248810	4	32	55	3	20	147.0	188.0	0.001	0	149.0	23.00	41.0	0.0E+00	13.45	0.87	**6.5E-03**	**5.7E+02**	**3.8**	23.00	0.00%	pass	3.6E-04	7.5E-04	3.1E-03
00251821	4	46	48	1	25	226.0	270.0	0.001	0	149.0	2.00	44.0	0.0E+00	12.28	12.50	**9.2E-02**	**8.0E+03**	**53.5**	2.00	0.00%	pass	5.2E-03	1.1E-02	4.2E-02
00257095	4	20	40	3	80	151.0	215.0	0.001	0	149.0	20.00	64.0	0.0E+00	7.00	4.00	**2.2E-02**	**1.9E+03**	**12.7**	20.00	0.00%	pass	1.7E-03	2.5E-03	9.9E-03
00270121	4	14	46	2	16	132.0	165.0	0.001	0	149.0	32.00	33.0	0.0E+00	17.46	0.50	**4.4E-03**	**3.8E+02**	**2.6**	32.00	0.00%	pass	2.1E-04	5.0E-04	2.1E-03
00404152	4	40	60	3	35	148.0	170.0	0.001	0	149.0	20.00	22.0	0.0E+00	27.13	1.75	**2.2E-02**	**1.9E+03**	**12.8**	20.00	0.00%	pass	7.2E-04	2.5E-03	1.1E-02
00404503	4	21	30	3	60	161.0	190.0	0.001	0	149.0	9.00	29.0	0.0E+00	20.20	6.67	**6.9E-02**	**6.0E+03**	**40.0**	9.00	0.01%	pass	2.8E-03	7.8E-03	3.2E-02
00404541	4	8	20	3	60	154.0	176.0	0.001	0	149.0	12.00	22.0	0.0E+00	27.13	5.00	**6.4E-02**	**5.5E+03**	**37.1**	12.00	0.00%	pass	2.1E-03	7.2E-03	3.1E-02
00404543	4	23	30	3	30	117.0	185.0	0.001	0	149.0	7.00	68.0	0.0E+00	6.28	4.29	**2.2E-02**	**1.9E+03**	**12.9**	7.00	0.01%	pass	1.8E-03	2.6E-03	1.0E-02
00404703	4	18	35	3	20	147.0	157.0	0.001	0	149.0	17.00	10.0	0.0E+00	59.65	1.18	**2.8E-02**	**2.5E+03**	**16.5**	17.00	0.00%	pass	4.8E-04	3.2E-03	1.5E-02
00404761	4	20	100	60	15	175.0	215.0	0.001	0	149.0	80.00	40.0	0.0E+00	13.87	0.19	**1.5E-03**	**1.3E+02**	**0.9**	80.00	0.00%	pass	7.8E-05	1.7E-04	6.8E-04
00405736	4	13	40	1	45	136.0	146.0	0.001	0	149.0	27.00	10.0	0.0E+00	59.65	1.67	**4.0E-02**	**3.5E+03**	**23.2**	27.00	0.00%	pass	6.9E-04	4.5E-03	2.2E-02
00405804	4	30	100	1	100	203.0	236.0	0.001	0	149.0	70.00	33.0	0.0E+00	17.46	1.43	**1.3E-02**	**1.1E+03**	**7.4**	70.00	0.00%	pass	6.0E-04	1.4E-03	6.1E-03
00405804	4	30	50	2	35	203.0	236.0	0.001	0	149.0	20.00	33.0	0.0E+00	17.46	1.75	**1.6E-02**	**1.4E+03**	**9.2**	20.00	0.00%	pass	7.3E-04	1.8E-03	7.5E-03
00405868	4	10	60	1	60	111.0	155.0	0.001	0	149.0	50.00	44.0	0.0E+00	12.28	1.20	**8.4E-03**	**7.2E+02**	**4.8**	50.00	0.00%	pass	5.0E-04	9.5E-04	4.1E-03
00405868	4	10	30	3	40	111.0	155.0	0.001	0	149.0	20.00	44.0	0.0E+00	12.28	2.00	**1.5E-02**	**1.3E+03**	**8.4**	20.00	0.00%	pass	8.4E-04	1.7E-03	6.8E-03
00406253	4	36	100	2	40	147.0	217.0	0.001	0	149.0	64.00	70.0	0.0E+00	5.94	0.63	**2.9E-03**	**2.5E+02**	**1.7**	64.00	0.00%	pass	2.7E-04	3.4E-04	1.4E-03
00406265	4	25	100	2	40	220.0	257.0	0.001	0	149.0	75.00	37.0	0.0E+00	15.26	0.53	**4.3E-03**	**3.7E+02**	**2.5**	75.00	0.00%	pass	2.2E-04	4.9E-04	2.1E-03
00406273	4	30	40	2	40	126.0	200.0	0.001	0	149.0	10.00	74.0	0.0E+00	5.32	4.00	**1.9E-02**	**1.6E+03**	**11.1**	10.00	0.01%	pass	1.7E-03	2.2E-03	8.7E-03
00406286	4	20	100	1	50	147.0	220.0	0.001	0	149.0	80.00	73.0	0.0E+00	5.47	0.63	**2.7E-03**	**2.3E+02**	**1.6**	80.00	0.00%	pass	2.7E-04	3.2E-04	1.4E-03

00406298	4	10	100	1	50	147.0	219.0	0.001	0	149.0	90.00	72.0	0.0E+00	5.63	0.56	**2.4E-03**	**2.1E+02**	**1.4**	90.00	0.00%	pass	2.4E-04	2.8E-04	1.2E-03
00406323	4	25	100	2	50	190.0	220.0	0.001	0	149.0	75.00	30.0	0.0E+00	19.45	0.67	**6.4E-03**	**5.5E+02**	**3.7**	75.00	0.00%	pass	2.8E-04	7.2E-04	3.1E-03
00406327	4	20	80	2.5	50	109.0	160.0	0.001	0	149.0	60.00	51.0	0.0E+00	10.02	0.83	**5.2E-03**	**4.5E+02**	**3.0**	60.00	0.00%	pass	3.5E-04	6.0E-04	2.5E-03
00406332	4	25	100	2	60	147.0	223.0	0.001	0	149.0	75.00	76.0	0.0E+00	5.04	0.80	**3.5E-03**	**3.0E+02**	**2.0**	75.00	0.00%	pass	3.4E-04	4.1E-04	1.7E-03
00406341	4	30	100	1	50	131.0	203.0	0.001	0	149.0	70.00	72.0	0.0E+00	5.63	0.71	**3.2E-03**	**2.7E+02**	**1.8**	70.00	0.00%	pass	3.0E-04	3.7E-04	1.6E-03
00406342	4	18	100	1	50	155.0	183.0	0.001	0	149.0	82.00	28.0	0.0E+00	20.99	0.61	**6.1E-03**	**5.3E+02**	**3.5**	82.00	0.00%	pass	2.5E-04	6.9E-04	3.0E-03
00406344	4	20	80	3	50	105.0	168.0	0.001	0	149.0	60.00	63.0	0.0E+00	7.19	0.83	**4.4E-03**	**3.8E+02**	**2.5**	60.00	0.00%	pass	3.5E-04	5.0E-04	2.1E-03
00406347	4	50	80	4	40	210.0	283.0	0.001	0	149.0	30.00	73.0	0.0E+00	5.47	1.33	**6.3E-03**	**5.5E+02**	**3.7**	30.00	0.00%	pass	5.7E-04	7.3E-04	2.9E-03
00408566	4	25	30	2	40	110.0	180.0	0.001	0	149.0	5.00	70.0	0.0E+00	5.94	8.00	**4.1E-02**	**3.5E+03**	**23.7**	5.00	0.00%	pass	3.4E-03	4.7E-03	1.8E-02
00408570	4	20	25	2	40	126.0	176.0	0.001	0	149.0	5.00	50.0	0.0E+00	10.31	8.00	**5.4E-02**	**4.6E+03**	**31.2**	5.00	0.00%	pass	3.4E-03	6.1E-03	2.4E-02
00408573	4	7	50	3	20	240.0	260.0	0.001	0	149.0	43.00	20.0	0.0E+00	29.94	0.47	**6.2E-03**	**5.4E+02**	**3.6**	43.00	0.00%	pass	1.9E-04	7.0E-04	3.1E-03
00408596	4	15	100	2	20	153.0	220.0	0.001	0	149.0	85.00	67.0	0.0E+00	6.45	0.24	**1.1E-03**	**9.5E+01**	**0.6**	85.00	0.00%	pass	1.0E-04	1.3E-04	5.6E-04
00408954	4	25	60	3	20	162.0	167.0	0.001	0	149.0	35.00	5.0	0.0E+00	117.56	0.57	**2.6E-02**	**2.2E+03**	**14.8**	35.00	0.00%	pass	2.3E-04	2.8E-03	1.5E-02
00408954	4	25	60	2	20	162.0	167.0	0.001	0	149.0	35.00	5.0	0.0E+00	117.56	0.57	**2.5E-02**	**2.2E+03**	**14.8**	35.00	0.00%	pass	2.3E-04	2.8E-03	1.5E-02
00409450	4	30	75	1	100	217.0	250.0	0.001	0	149.0	45.00	33.0	0.0E+00	17.46	2.22	**2.0E-02**	**1.7E+03**	**11.5**	45.00	0.00%	pass	9.3E-04	2.3E-03	9.5E-03
00409450	4	30	45	1	15	217.0	250.0	0.001	0	149.0	15.00	33.0	0.0E+00	17.46	1.00	**8.8E-03**	**7.6E+02**	**5.1**	15.00	0.00%	pass	4.2E-04	1.0E-03	4.3E-03
00409517	4	13	26	3	20	126.0	175.0	0.001	0	149.0	13.00	49.0	0.0E+00	10.61	1.54	**1.0E-02**	**8.8E+02**	**5.9**	13.00	0.00%	pass	6.5E-04	1.2E-03	4.8E-03
00410627	4	14	25	4	50	185.0	232.0	0.001	0	149.0	11.00	47.0	0.0E+00	11.24	4.55	**3.2E-02**	**2.8E+03**	**18.7**	11.00	0.00%	pass	1.9E-03	3.7E-03	1.5E-02
00410646	4	23	30	4	35	137.0	168.0	0.001	0	149.0	7.00	31.0	0.0E+00	18.75	5.00	**4.9E-02**	**4.2E+03**	**28.5**	7.00	0.00%	pass	2.1E-03	5.6E-03	2.3E-02
00410958	4	22	26	2	40	130.0	160.0	0.001	0	149.0	4.00	30.0	0.0E+00	19.45	10.00	**1.0E-01**	**8.7E+03**	**58.4**	4.00	0.01%	pass	4.2E-03	1.1E-02	4.6E-02
00411515	4	20	40	3	30	125.0	130.0	0.001	0	149.0	20.00	5.0	0.0E+00	117.56	1.50	**6.7E-02**	**5.8E+03**	**39.0**	20.00	0.00%	pass	6.1E-04	7.5E-03	3.8E-02
00415857	4	17	25	3	60	123.0	165.0	0.001	0	149.0	8.00	42.0	0.0E+00	13.04	7.50	**5.8E-02**	**5.0E+03**	**33.8**	8.00	0.00%	pass	3.1E-03	6.6E-03	2.6E-02
00415885	4	22	28	3	80	138.0	180.0	0.001	0	149.0	6.00	42.0	0.0E+00	13.04	13.33	**1.0E-01**	**9.1E+03**	**60.9**	6.00	0.00%	pass	5.6E-03	1.2E-02	4.7E-02
00415951	4	20	35	3	40	178.0	255.0	0.001	0	149.0	15.00	77.0	0.0E+00	4.90	2.67	**1.2E-02**	**1.1E+03**	**7.1**	15.00	0.00%	pass	1.1E-03	1.4E-03	5.6E-03
00415960	4	15	29	3	60	110.0	160.0	0.001	0	149.0	14.00	50.0	0.0E+00	10.31	4.29	**2.9E-02**	**2.5E+03**	**16.6**	14.00	0.00%	pass	1.8E-03	3.3E-03	1.3E-02
00415968	4	20	41	3	50	126.0	160.0	0.001	0	149.0	21.00	34.0	0.0E+00	16.87	2.38	**2.1E-02**	**1.8E+03**	**12.4**	21.00	0.00%	pass	9.9E-04	2.4E-03	9.9E-03
00416097	4	10	23	5	45	172.0	223.0	0.001	0	149.0	13.00	51.0	0.0E+00	10.02	3.46	**2.3E-02**	**2.0E+03**	**13.3**	13.00	0.00%	pass	1.5E-03	2.6E-03	1.0E-02
00416167	4	35	55	3	60	130.0	180.0	0.001	0	149.0	20.00	50.0	0.0E+00	10.31	3.00	**2.0E-02**	**1.7E+03**	**11.5**	20.00	0.00%	pass	1.3E-03	2.3E-03	9.1E-03
00416420	4	35	60	3	30	143.0	245.0	0.001	0	149.0	25.00	102.0	0.0E+00	2.31	1.20	**4.2E-03**	**3.6E+02**	**2.4**	25.00	0.00%	pass	5.2E-04	4.9E-04	1.8E-03
00416448	4	9	25	2	30	145.0	155.0	0.001	0	149.0	16.00	10.0	0.0E+00	59.65	1.88	**4.5E-02**	**3.9E+03**	**26.3**	16.00	0.00%	pass	7.7E-04	5.1E-03	2.4E-02
00417466	4	25	100	2	55	168.0	239.0	0.001	0	149.0	75.00	71.0	0.0E+00	5.78	0.73	**3.4E-03**	**2.9E+02**	**2.0**	75.00	0.00%	pass	3.1E-04	3.9E-04	1.7E-03
00417474	4	20	100	1	50	168.0	243.0	0.001	0	149.0	80.00	75.0	0.0E+00	5.18	0.63	**2.7E-03**	**2.3E+02**	**1.5**	80.00	0.00%	pass	2.7E-04	3.1E-04	1.4E-03
00417483	4	20	80	2	60	242.0	283.0	0.001	0	149.0	60.00	41.0	0.0E+00	13.45	1.00	**7.5E-03**	**6.5E+02**	**4.3**	60.00	0.00%	pass	4.2E-04	8.5E-04	3.6E-03
00417497	4	20	100	4	60	115.0	203.0	0.001	0	149.0	80.00	88.0	0.0E+00	3.58	0.75	**3.0E-03**	**2.6E+02**	**1.7**	80.00	0.00%	pass	3.2E-04	3.4E-04	1.4E-03
00418362	4	25	100	3	40	175.0	203.0	0.001	0	149.0	75.00	28.0	0.0E+00	20.99	0.53	**5.4E-03**	**4.7E+02**	**3.1**	75.00	0.00%	pass	2.2E-04	6.1E-04	2.6E-03
00418365	4	25	100	3	35	129.0	134.0	0.001	0	149.0	75.00	5.0	0.0E+00	117.56	0.47	**2.1E-02**	**1.8E+03**	**12.1**	75.00	0.00%	pass	1.9E-04	2.3E-03	1.2E-02
00418391	4	25	100	4	55	189.0	283.0	0.001	0	149.0	75.00	94.0	0.0E+00	2.99	0.73	**2.7E-03**	**2.4E+02**	**1.6**	75.00	0.00%	pass	3.1E-04	3.2E-04	1.2E-03
00418393	4	32	100	2.5	40	189.0	243.0	0.001	0	149.0	68.00	54.0	0.0E+00	9.21	0.59	**3.5E-03**	**3.0E+02**	**2.0**	68.00	0.00%	pass	2.5E-04	4.0E-04	1.7E-03
00418432	4	10	25	4	40	154.0	216.0	0.001	0	149.0	15.00	62.0	0.0E+00	7.39	2.67	**1.5E-02**	**1.3E+03**	**8.6**	15.00	0.01%	pass	1.1E-03	1.7E-03	6.8E-03
00418451	4	25	100	6	75	210.0	263.0	0.001	0	149.0	75.00	53.0	0.0E+00	9.47	1.00	**6.2E-03**	**5.4E+02**	**3.6**	75.00	0.00%	pass	4.2E-04	7.1E-04	2.9E-03
00419515	4	9	20	3	45	143.0	168.0	0.001	0	149.0	11.00	25.0	0.0E+00	23.72	4.09	**4.7E-02**	**4.1E+03**	**27.3**	11.00	0.00%	pass	1.7E-03	5.3E-03	2.2E-02
00419531	4	15	25	3	60	245.0	288.0	0.001	0	149.0	10.00	43.0	0.0E+00	12.65	6.00	**4.6E-02**	**3.9E+03**	**26.4**	10.00	0.00%	pass	2.5E-03	5.2E-03	2.1E-02
00419532	4	28	45	3	40	152.0	185.0	0.001	0	149.0	17.00	33.0	0.0E+00	17.46	2.35	**2.2E-02**	**1.9E+03**	**12.5**	17.00	0.00%	pass	9.8E-04	2.4E-03	1.0E-02
00421010	4	10	147	2	75	147.0	157.0	0.001	0	149.0	137.00	10.0	0.0E+00	59.65	0.55	**1.3E-02**	**1.1E+03**	**7.6**	137.00	0.00%	pass	2.3E-04	1.5E-03	7.1E-03
00425078	4	23	40	3.5	30	157.0	161.0	0.001	0	149.0	17.00	4.0	0.0E+00	146.35	1.76	**9.7E-02**	**8.4E+03**	**56.4**	17.00	0.00%	pass	7.2E-04	1.1E-02	5.6E-02
00425090	4	17	30	4	30	148.0	153.0	0.001	0	149.0	13.00	5.0	0.0E+00	117.56	2.31	**1.0E-01**	**9.0E+03**	**60.2**	13.00	0.00%	pass	9.5E-04	1.2E-02	5.9E-02
00425350	4	30	50	3	40	176.0	245.0	0.001	0	149.0	20.00	69.0	0.0E+00	6.11	2.00	**1.0E-02**	**8.6E+02**	**5.8**	20.00	0.00%	pass	8.5E-04	1.2E-03	4.6E-03
00425350	4	30	50	2	40	176.0	245.0	0.001	0	149.0	20.00	69.0	0.0E+00	6.11	2.00	**9.8E-03**	**8.5E+02**	**5.7**	20.00	0.00%	pass	8.5E-04	1.1E-03	4.6E-03
00425716	4	8	100	3	100	105.0	141.0	0.001	0	149.0	92.00	36.0	0.0E+00	15.77	1.09	**9.1E-03**	**7.9E+02**	**5.3**	92.00	0.00%	pass	4.5E-04	1.0E-03	4.3E-03
00425719	4	30	100	6	80	175.0	223.0	0.001	0	149.0	70.00	48.0	0.0E+00	10.92	1.14	**7.8E-03**	**6.7E+02**	**4.5**	70.00	0.00%	pass	4.8E-04	8.9E-04	3.6E-03
00425730	4	25	100	3	60	168.0	223.0	0.001	0	149.0	75.00	55.0	0.0E+00	8.96	0.80	**4.7E-03**	**4.1E+02**	**2.7**	75.00	0.00%	pass	3.4E-04	5.4E-04	2.3E-03
00425748	4	20	56	1	30	69.0	75.0	0.001	0	149.0	36.00	6.0	0.0E+00	98.34	0.83	**3.1E-02**	**2.7E+03**	**18.2**	36.00	0.00%	pass	3.4E-04	3.5E-03	1.8E-02
00425749	4	22	84	2	60	123.0	143.0	0.001	0	149.0	62.00	20.0	0.0E+00	29.94	0.97	**1.3E-02**	**1.1E+03**	**7.5**	62.00	0.00%	pass	4.0E-04	1.5E-03	6.5E-03
00425789	4	33	100	4	50	116.0	123.0	0.001	0	149.0	67.00	7.0	0.0E+00	84.57	0.75	**2.5E-02**	**2.1E+03**	**14.3**	67.00	0.00%	pass	3.1E-04	2.8E-03	1.4E-02
00425830	4	30	50	2	30	226.0	276.0	0.001	0	149.0	20.00	50.0	0.0E+00	10.31	1.50	**9.6E-03**	**8.3E+02**	**5.6**	20.00	0.00%	pass	6.3E-04	1.1E-03	4.6E-03
00425845	4	20	40	2	30	214.0	260.0	0.001	0	149.0	20.00	46.0	0.0E+00	11.57	1.50	**1.0E-02**	**8.9E+02**	**6.0**	20.00	0.00%	pass	6.3E-04	1.2E-03	4.9E-03
00425849	4	53	75	2	50	230.0	300.0	0.001	0	149.0	22.00	70.0	0.0E+00	5.94	2.27	**1.1E-02**	**9.6E+02**	**6.4**	22.00	0.00%	pass	9.6E-04	1.3E-03	5.2E-03
00426475	4	25	45	3	25	170.0	201.0	0.001	0	149.0	20.00	31.0	0.0E+00	18.75	1.25	**1.2E-02**	**1.0E+03**	**6.9**	20.00	0.00%	pass	5.2E-04	1.3E-03	5.6E-03
00428503	4	15	50	3	45	167.0	200.0	0.001	0	149.0	35.00	33.0	0.0E+00	17.46	1.29	**1.2E-02**	**1.0E+03**	**6.7**	35.00	0.00%	pass	5.4E-04	1.3E-03	5.5E-03
00429075	4	30	50	3	30	165.0	200.0	0.001	0	149.0	20.00	35.0	0.0E+00	16.31	1.50	**1.3E-02**	**1.1E+03**	**7.5**	20.00	0.00%	pass	6.3E-04	1.5E-03	6.1E-03
00430212	4	20	84	1.75	75	101.0	123.0	0.001	0	149.0	64.00	22.0	0.0E+00	27.13	1.17	**1.5E-02**	**1.3E+03**	**8.4**	64.00	0.00%	pass	4.9E-04	1.6E-03	7.2E-03
00430262	4	14	40	32	50	109.0	163.0	0.001	0	149.0	26.00	54.0	0.0E+00	9.21	1.92	**1.3E-02**	**1.1E+03**	**7.3**	26.00	0.00%	pass	8.1E-04	1.4E-03	5.5E-03
00430268	4	12	100	5	50	154.0	192.0	0.001	0	149.0	88.00	38.0	0.0E+00	14.78	0.57	**4.6E-03**	**3.9E+02**	**2.6**	88.00	0.00%	pass	2.4E-04	5.2E-04	2.2E-03
00430281	4	31	120	5	50	175.0	228.0	0.001	0	149.0	89.00	53.0	0.0E+00	9.47	0.56	**3.4E-03**	**3.0E+02**	**2.0**	89.00	0.00%	pass	2.4E-04	3.9E-04	1.6E-03
00430332	4	51	100	1	30	147.0	159.0	0.001	0	149.0	49.00	12.0	0.0E+00	49.88	0.61	**1.2E-02**	**1.1E+03**	**7.2**	49.00	0.00%	pass	2.5E-04	1.4E-03	6.6E-03
00430510	4	20	150	2	20	179.0	215.0	0.001	0	149.0	130.00	36.0	0.0E+00	15.77	0.15	**1.2E-03**	**1.1E+02**	**0.7**	130.00	0.00%	pass	6.4E-05	1.4E-04	6.1E-04
00431418	4	25	35	4	30	178.0	215.0	0.001	0	149.0	10.00	37.0	0.0E+00	15.26	3.00	**2.5E-02**	**2.2E+03**	**14.7**	10.00	0.00%	pass	1.3E-03	2.9E-03	1.2E-02
00431425	4	30	40	4	30	162.0	187.0	0.001	0	149.0	10.00	25.0	0.0E+00	23.72	3.00	**3.5E-02**	**3.0E+03**	**20.0**	10.00	0.00%	pass	1.2E-03	3.9E-03	1.6E-02
00431428	4	25	35	3	30	127.0	144.0	0.001	0	149.0	10.00	17.0	0.0E+00	35.30	3.00	**4.7E-02**	**4.1E+03**	**27.2**	10.00	0.01%	pass	1.2E-03	5.3E-03	2.3E-02
00431624	4	20	50	3	30	137.0	246.0	0.001	0	149.0	30.00	109.0	0.0E+00	1.81	1.00	**3.3E-03**	**2.8E+02**	**1.9**	30.00	0.00%	pass	4.3E-04	3.9E-04	1.4E-03
00431667	4	14	44	3	90	152.0	185.0	0.001	0	149.0	30.00	33.0	0.0E+00	17.46	3.00	**2.8E-02**	**2.4E+03**	**16.0**	30.00	0.00%	pass	1.2E-03	3.1E-03	1.3E-02
00431690	4	15	40	3	80	141.0	180.0	0.001	0	149.0	25.00	39.0	0.0E+00	14.31	3.20	**2.6E-02**	**2.2E+03**	**15.0**	25.00	0.00%	pass	1.3E-03	2.9E-03	1.2E-02
00432991	6	31	36	2	85	220.0	260.0	0.001	0	149.0	5.00	40.0	0.0E+00	12.76	17.00	**1.3E-01**	**1.1E+04**	**74.9**	5.00	0.01%	pass	7.1E-03	1.5E-02	5.7E-02
00434618	4	5	100	3	85	122.0	168.0	0.001	0	149.0	95.00	46.0	0.0E+00	11.57	0.89	**6.1E-03**	**5.3E+02**	**3.6**	95.00	0.00%	pass	3.7E-04	7.0E-04	2.9E-03
00434621	4	15	100	4	50	133.0	203.0	0.001	0	149.0	85.00	70.0	0.0E+00	5.94	0.59	**2.8E-03**	**2.4E+02**	**1.6**	85.00	0.00%	pass	2.5E-04	3.2E-04	1.4E-03
00434631	4	11	30	2	30	148.0	216.0	0.001	0	149.0	19.00	68.0	0.0E+00	6.28	1.58	**7.8E-03**	**6.7E+02**	**4.5**	19.00	0.00%	pass	6.7E-04	9.0E-04	3.7E-03
00434670	4	15	50	3	40	110.0	150.0	0.001	0	149.0	35.00	40.0	0.0E+00	13.87	1.14	**8.8E-03**	**7.6E+02**	**5.1**	35.00	0.00%	pass	4.8E-04	1.0E-03	4.2E-03
00434670	4	15	50	2	40	110.0	150.0	0.001	0	149.0	35.00	40.0	0.0E+00	13.87	1.14	**8.8E-03**	**7.6E+02**	**5.1**	35.00	0.00%	pass	4.8E-04	1.0E-03	4.2E-03

00435725	4	16	35	3	30	203.0	238.0	0.001	0	149.0	19.00	35.0	0.0E+00	16.31	1.58	**1.4E-02**	**1.2E+03**	**7.9**	19.00	0.00%	pass	6.6E-04	1.6E-03	6.4E-03
00435808	4	16	25	3.5	40	217.0	230.0	0.001	0	149.0	9.00	13.0	0.0E+00	46.09	4.44	**8.7E-02**	**7.5E+03**	**50.5**	9.00	0.00%	pass	1.8E-03	9.8E-03	4.4E-02
00437679	4	24	29	3	30	225.0	260.0	0.001	0	149.0	5.00	35.0	0.0E+00	16.31	6.00	**5.3E-02**	**4.6E+03**	**31.0**	5.00	0.00%	pass	2.5E-03	6.1E-03	2.4E-02
00439015	4	28	120	1	60	168.0	203.0	0.001	0	149.0	92.00	35.0	0.0E+00	16.31	0.65	**5.4E-03**	**4.7E+02**	**3.1**	92.00	0.00%	pass	2.7E-04	6.2E-04	2.7E-03
00439015	4	28	100	3	50	168.0	203.0	0.001	0	149.0	72.00	35.0	0.0E+00	16.31	0.69	**5.9E-03**	**5.1E+02**	**3.4**	72.00	0.00%	pass	2.9E-04	6.7E-04	2.8E-03
00439885	4	26	60	3	80	167.0	197.0	0.001	0	149.0	34.00	30.0	0.0E+00	19.45	2.35	**2.3E-02**	**2.0E+03**	**13.5**	34.00	0.00%	pass	9.8E-04	2.6E-03	1.1E-02
00439933	4	40	50	3	50	143.0	175.0	0.001	0	149.0	10.00	32.0	0.0E+00	18.09	5.00	**4.8E-02**	**4.1E+03**	**27.6**	10.00	0.00%	pass	2.1E-03	5.4E-03	2.2E-02
00439961	4	22	32	3	70	143.0	170.0	0.001	0	149.0	10.00	27.0	0.0E+00	21.84	7.00	**7.7E-02**	**6.6E+03**	**44.4**	10.00	0.01%	pass	2.9E-03	8.7E-03	3.6E-02
00439965	4	30	40	3	40	154.0	215.0	0.001	0	149.0	10.00	61.0	0.0E+00	7.59	4.00	**2.3E-02**	**2.0E+03**	**13.2**	10.00	0.00%	pass	1.7E-03	2.6E-03	1.0E-02
00440811	4	30	50	2	30	149.0	154.0	0.001	0	149.0	20.00	5.0	0.0E+00	117.56	1.50	**6.7E-02**	**5.8E+03**	**39.0**	20.00	0.00%	pass	6.1E-04	7.5E-03	3.8E-02
00440839	4	25	45	2	40	228.0	245.0	0.001	0	149.0	20.00	17.0	0.0E+00	35.30	2.00	**3.1E-02**	**2.7E+03**	**18.0**	20.00	0.00%	pass	8.3E-04	3.5E-03	1.6E-02
00446002	4	30	40	3	40	197.0	265.0	0.001	0	149.0	10.00	68.0	0.0E+00	6.28	4.00	**2.1E-02**	**1.8E+03**	**12.0**	10.00	0.01%	pass	1.7E-03	2.4E-03	9.4E-03
00448052	4	12	25	3	60	166.0	190.0	0.001	0	149.0	13.00	24.0	0.0E+00	24.77	4.62	**5.5E-02**	**4.8E+03**	**31.9**	13.00	0.00%	pass	1.9E-03	6.2E-03	2.6E-02
00448069	4	35	43	3	60	135.0	166.0	0.001	0	149.0	8.00	31.0	0.0E+00	18.75	7.50	**7.4E-02**	**6.4E+03**	**42.8**	8.00	0.01%	pass	3.1E-03	8.4E-03	3.4E-02
00448237	4	20	150	2	40	261.0	306.0	0.001	0	149.0	130.00	45.0	0.0E+00	11.92	0.31	**2.1E-03**	**1.8E+02**	**1.2**	130.00	0.00%	pass	1.3E-04	2.4E-04	1.0E-03
00448838	4	56	63	3	30	200.0	260.0	0.001	0	149.0	7.00	60.0	0.0E+00	7.80	4.29	**2.5E-02**	**2.1E+03**	**14.3**	7.00	0.00%	pass	1.8E-03	2.8E-03	1.1E-02
00448864	4	16	25	3	35	110.0	180.0	0.001	0	149.0	9.00	70.0	0.0E+00	5.94	3.89	**2.0E-02**	**1.7E+03**	**11.4**	9.00	0.01%	pass	1.6E-03	2.3E-03	8.9E-03
00449100	4	30	50	3	80	124.0	170.0	0.001	0	149.0	20.00	46.0	0.0E+00	11.57	4.00	**2.8E-02**	**2.5E+03**	**16.5**	20.00	0.00%	pass	1.7E-03	3.3E-03	1.3E-02
00453431	4	17	25	3	75	142.0	184.0	0.001	0	149.0	8.00	42.0	0.0E+00	13.04	9.38	**7.3E-02**	**6.3E+03**	**42.5**	8.00	0.00%	pass	3.9E-03	8.3E-03	3.3E-02
00453436	4	35	45	3	60	131.0	144.0	0.001	0	149.0	10.00	13.0	0.0E+00	46.09	6.00	**1.2E-01**	**1.0E+04**	**68.2**	10.00	0.00%	pass	2.5E-03	1.3E-02	6.0E-02
00456501	4	18	40	3	30	223.0	255.0	0.001	0	149.0	22.00	32.0	0.0E+00	18.09	1.36	**1.3E-02**	**1.1E+03**	**7.3**	22.00	0.00%	pass	5.7E-04	1.4E-03	6.0E-03
00456968	4	15	63	1	100	131.0	159.0	0.001	0	149.0	48.00	28.0	0.0E+00	20.99	2.08	**2.1E-02**	**1.8E+03**	**12.3**	48.00	0.00%	pass	8.7E-04	2.4E-03	1.0E-02
00457058	4	30	120	4	50	147.0	206.0	0.001	0	149.0	90.00	59.0	0.0E+00	8.02	0.56	**3.1E-03**	**2.6E+02**	**1.8**	90.00	0.00%	pass	2.3E-04	3.5E-04	1.5E-03
00457058	4	30	100	3.5	45	147.0	206.0	0.001	0	149.0	70.00	59.0	0.0E+00	8.02	0.64	**3.6E-03**	**3.1E+02**	**2.1**	70.00	0.00%	pass	2.7E-04	4.1E-04	1.7E-03
00457910	4	45	75	4	50	151.0	190.0	0.001	0	149.0	30.00	39.0	0.0E+00	14.31	1.67	**1.3E-02**	**1.2E+03**	**7.7**	30.00	0.00%	pass	7.0E-04	1.5E-03	6.2E-03
00457910	4	45	75	2	50	151.0	190.0	0.001	0	149.0	30.00	39.0	0.0E+00	14.31	1.67	**1.3E-02**	**1.1E+03**	**7.6**	30.00	0.00%	pass	7.0E-04	1.5E-03	6.2E-03
00458906	4	20	140	3	50	158.0	203.0	0.001	0	149.0	120.00	45.0	0.0E+00	11.92	0.42	**2.8E-03**	**2.5E+02**	**1.7**	120.00	0.00%	pass	1.7E-04	3.3E-04	1.4E-03
00458906	4	20	80	1	40	158.0	203.0	0.001	0	149.0	60.00	45.0	0.0E+00	11.92	0.67	**4.5E-03**	**3.9E+02**	**2.6**	60.00	0.00%	pass	2.8E-04	5.1E-04	2.2E-03
00460905	4	30	55	2	30	198.0	245.0	0.001	0	149.0	25.00	47.0	0.0E+00	11.24	1.20	**8.1E-03**	**7.0E+02**	**4.7**	25.00	0.00%	pass	5.0E-04	9.2E-04	3.8E-03
00460917	4	12	35	2	30	197.0	245.0	0.001	0	149.0	23.00	48.0	0.0E+00	10.92	1.30	**8.6E-03**	**7.4E+02**	**5.0**	23.00	0.00%	pass	5.5E-04	9.9E-04	4.1E-03
00461866	4	25	45	3	25	200.0	245.0	0.001	0	149.0	20.00	45.0	0.0E+00	11.92	1.25	**8.8E-03**	**7.6E+02**	**5.1**	20.00	0.00%	pass	5.2E-04	1.0E-03	4.1E-03
00462852	4	35	55	3	30	99.0	140.0	0.001	0	149.0	20.00	41.0	0.0E+00	13.45	1.50	**1.1E-02**	**9.9E+02**	**6.6**	20.00	0.00%	pass	6.3E-04	1.3E-03	5.4E-03
00463713	4	22	40	3	35	198.0	201.0	0.001	0	149.0	18.00	3.0	0.0E+00	194.25	1.94	**1.4E-01**	**1.2E+04**	**81.4**	18.00	0.00%	pass	8.0E-04	1.6E-02	8.3E-02
00464187	4	25	42	3	30	203.0	261.0	0.001	0	149.0	17.00	58.0	0.0E+00	8.25	1.76	**1.0E-02**	**8.8E+02**	**5.9**	17.00	0.00%	pass	7.4E-04	1.2E-03	4.8E-03
00467605	4	30	40	3	40	195.0	260.0	0.001	0	149.0	10.00	65.0	0.0E+00	6.81	4.00	**2.2E-02**	**1.9E+03**	**12.5**	10.00	0.01%	pass	1.7E-03	2.5E-03	9.8E-03
00470381	4	18	28	3	50	180.0	214.0	0.001	0	149.0	10.00	34.0	0.0E+00	16.87	5.00	**4.5E-02**	**3.9E+03**	**26.3**	10.00	0.00%	pass	2.1E-03	5.2E-03	2.1E-02
00471042	4	20	60	1	40	158.0	201.0	0.001	0	149.0	40.00	43.0	0.0E+00	12.65	1.00	**7.1E-03**	**6.1E+02**	**4.1**	40.00	0.00%	pass	4.2E-04	8.1E-04	3.4E-03
00472736	4	22	30	3	49	145.0	173.0	0.001	0	149.0	8.00	28.0	0.0E+00	20.99	6.13	**6.5E-02**	**5.6E+03**	**37.7**	8.00	0.01%	pass	2.5E-03	7.3E-03	3.0E-02
00472741	4	14	23	3	49	145.0	172.0	0.001	0	149.0	9.00	27.0	0.0E+00	21.84	5.44	**5.9E-02**	**5.1E+03**	**34.4**	9.00	0.00%	pass	2.3E-03	6.7E-03	2.8E-02
00473106	4	15	27	2	18	195.0	205.0	0.001	0	149.0	12.00	10.0	0.0E+00	59.65	1.50	**3.6E-02**	**3.1E+03**	**21.0**	12.00	0.01%	pass	6.2E-04	4.1E-03	1.9E-02
00473144	4	32	38	2	20	135.0	145.0	0.001	0	149.0	6.00	10.0	0.0E+00	59.65	3.33	**8.1E-02**	**7.0E+03**	**46.9**	6.00	0.00%	pass	1.4E-03	9.1E-03	4.3E-02
00474088	4	20	30	3	60	79.0	140.0	0.001	0	149.0	10.00	61.0	0.0E+00	7.59	6.00	**3.4E-02**	**3.0E+03**	**20.0**	10.00	0.00%	pass	2.5E-03	4.0E-03	1.5E-02
00475371	4	15	47	3	20	160.0	172.0	0.001	0	149.0	32.00	12.0	0.0E+00	49.88	0.63	**1.3E-02**	**1.1E+03**	**7.5**	32.00	0.00%	pass	2.6E-04	1.4E-03	6.8E-03
00475396	4	20	80	3	60	211.0	240.0	0.001	0	149.0	60.00	29.0	0.0E+00	20.20	1.00	**1.0E-02**	**8.6E+02**	**5.8**	60.00	0.00%	pass	4.2E-04	1.1E-03	4.8E-03
00477331	4	10	20	3	30	123.0	133.0	0.001	0	149.0	10.00	10.0	0.0E+00	59.65	3.00	**7.3E-02**	**6.3E+03**	**42.3**	10.00	0.00%	pass	1.2E-03	8.2E-03	3.9E-02
00478543	3	18	36	2	30	250.0	280.0	0.001	0	149.0	18.00	30.0	0.0E+00	20.59	1.67	**1.7E-02**	**1.5E+03**	**9.9**	18.00	0.00%	pass	6.9E-04	1.9E-03	8.2E-03
00478544	3	6	18	2	30	250.0	270.0	0.001	0	149.0	12.00	20.0	0.0E+00	31.79	2.50	**3.6E-02**	**3.1E+03**	**20.8**	12.00	0.00%	pass	1.0E-03	4.0E-03	1.8E-02
00479448	4	30	130	4	50	155.0	160.0	0.001	0	149.0	100.00	5.0	0.0E+00	117.56	0.50	**2.2E-02**	**1.9E+03**	**13.0**	100.00	0.00%	pass	2.0E-04	2.5E-03	1.3E-02
00479933	4	29	40	2	30	187.0	247.0	0.001	0	149.0	11.00	60.0	0.0E+00	7.80	2.73	**1.5E-02**	**1.3E+03**	**8.9**	11.00	0.01%	pass	1.1E-03	1.8E-03	7.1E-03
00479938	4	55	80	4	35	275.0	336.0	0.001	0	149.0	25.00	61.0	0.0E+00	7.59	1.40	**7.7E-03**	**6.7E+02**	**4.5**	25.00	0.00%	pass	5.9E-04	8.9E-04	3.6E-03
00487507	4	14	50	3	80	240.0	255.0	0.001	0	149.0	36.00	15.0	0.0E+00	40.00	2.22	**3.8E-02**	**3.3E+03**	**22.2**	36.00	0.00%	pass	9.2E-04	4.3E-03	1.9E-02
00487802	4	20	140	1	70	168.0	220.0	0.001	0	149.0	120.00	52.0	0.0E+00	9.74	0.58	**3.4E-03**	**3.0E+02**	**2.0**	120.00	0.00%	pass	2.5E-04	4.0E-04	1.7E-03
00487802	4	20	80	1	40	168.0	220.0	0.001	0	149.0	60.00	52.0	0.0E+00	9.74	0.67	**4.0E-03**	**3.4E+02**	**2.3**	60.00	0.00%	pass	2.8E-04	4.5E-04	2.0E-03
00489003	4	22	30	3.5	35	208.0	276.0	0.001	0	149.0	8.00	68.0	0.0E+00	6.28	4.38	**2.3E-02**	**2.0E+03**	**13.3**	8.00	0.01%	pass	1.8E-03	2.6E-03	1.0E-02
00489043	4	10	25	3	35	184.0	247.0	0.001	0	149.0	15.00	63.0	0.0E+00	7.19	2.33	**1.3E-02**	**1.1E+03**	**7.3**	15.00	0.00%	pass	9.9E-04	1.5E-03	5.9E-03
00490089	4	30	55	3	40	216.0	275.0	0.001	0	149.0	25.00	59.0	0.0E+00	8.02	1.60	**9.1E-03**	**7.8E+02**	**5.3**	25.00	0.00%	pass	6.7E-04	1.0E-03	4.3E-03
00494232	4	12	20	3	49	142.0	177.0	0.001	0	149.0	8.00	35.0	0.0E+00	16.31	6.13	**5.5E-02**	**4.7E+03**	**31.7**	8.00	0.00%	pass	2.6E-03	6.2E-03	2.5E-02
00494236	4	20	30	3	49	151.0	182.0	0.001	0	149.0	10.00	31.0	0.0E+00	18.75	4.90	**4.8E-02**	**4.1E+03**	**27.7**	10.00	0.00%	pass	2.0E-03	5.4E-03	2.2E-02
00496370	4	20	40	2	30	133.0	158.0	0.001	0	149.0	20.00	25.0	0.0E+00	23.72	1.50	**1.7E-02**	**1.5E+03**	**9.8**	20.00	0.00%	pass	6.2E-04	1.9E-03	8.2E-03
00498147	4	15	25	3	30	201.0	211.0	0.001	0	149.0	10.00	10.0	0.0E+00	59.65	3.00	**7.3E-02**	**6.3E+03**	**42.3**	10.00	0.00%	pass	1.2E-03	8.2E-03	3.9E-02
00498218	4	12	50	3	60	137.0	168.0	0.001	0	149.0	38.00	31.0	0.0E+00	18.75	1.58	**1.5E-02**	**1.3E+03**	**8.7**	38.00	0.00%	pass	6.6E-04	1.7E-03	7.1E-03
00500462	4	35	80	3	30	220.0	260.0	0.001	0	149.0	45.00	40.0	0.0E+00	13.87	0.67	**5.1E-03**	**4.4E+02**	**3.0**	45.00	0.00%	pass	2.8E-04	5.8E-04	2.4E-03
00500561	4	43	53	3	50	117.0	155.0	0.001	0	149.0	10.00	38.0	0.0E+00	14.78	5.00	**4.2E-02**	**3.6E+03**	**24.1**	10.00	0.00%	pass	2.1E-03	4.7E-03	1.9E-02
00500568	4	7	17	3	30	182.0	187.0	0.001	0	149.0	10.00	5.0	0.0E+00	117.56	3.00	**1.3E-01**	**1.2E+04**	**78.3**	10.00	0.00%	pass	1.2E-03	1.5E-02	7.7E-02
00500594	4	15	25	3	60	204.0	240.0	0.001	0	149.0	10.00	36.0	0.0E+00	15.77	6.00	**5.2E-02**	**4.5E+03**	**30.3**	10.00	0.00%	pass	2.5E-03	5.9E-03	2.4E-02
00500679	4	50	70	3	40	224.0	264.0	0.001	0	149.0	20.00	40.0	0.0E+00	13.87	2.00	**1.6E-02**	**1.4E+03**	**9.1**	20.00	0.00%	pass	8.4E-04	1.8E-03	7.3E-03
00503661	4	15	100	3	60	147.0	181.0	0.001	0	149.0	85.00	34.0	0.0E+00	16.87	0.71	**6.2E-03**	**5.3E+02**	**3.6**	85.00	0.00%	pass	2.9E-04	7.0E-04	2.9E-03
00503673	4	70	140	2.25	35	256.0	301.0	0.001	0	149.0	70.00	45.0	0.0E+00	11.92	0.50	**3.4E-03**	**2.9E+02**	**2.0**	70.00	0.00%	pass	2.1E-04	3.9E-04	1.7E-03
00503723	6	24	98	3	100	113.0	177.0	0.001	0	149.0	74.00	64.0	0.0E+00	6.46	1.35	**6.6E-03**	**5.7E+02**	**3.8**	74.00	0.00%	pass	5.7E-04	7.7E-04	3.1E-03
00505353	4	40	145	2	45	275.0	281.0	0.001	0	149.0	105.00	6.0	0.0E+00	98.34	0.43	**1.6E-02**	**1.4E+03**	**9.4**	105.00	0.00%	pass	1.8E-04	1.8E-03	9.2E-03
00506377	4	25	40	3	50	170.0	240.0	0.001	0	149.0	15.00	70.0	0.0E+00	5.94	3.33	**1.7E-02**	**1.4E+03**	**9.7**	15.00	0.00%	pass	1.4E-03	1.9E-03	7.6E-03
00506521	4	52	92	3	60	193.0	228.0	0.001	0	149.0	40.00	35.0	0.0E+00	16.31	1.50	**1.3E-02**	**1.1E+03**	**7.5**	40.00	0.00%	pass	6.3E-04	1.5E-03	6.1E-03
00506527	4	10	20	3	30	148.0	153.0	0.001	0	149.0	10.00	5.0	0.0E+00	117.56	3.00	**1.3E-01**	**1.2E+04**	**78.3**	10.00	0.00%	pass	1.2E-03	1.5E-02	7.7E-02
00506541	4	20	30	3	50	123.0	170.0	0.001	0	149.0	10.00	47.0	0.0E+00	11.24	5.00	**3.5E-02**	**3.0E+03**	**20.4**	10.00	0.00%	pass	2.1E-03	4.0E-03	1.6E-02
00511963	4	10	25	3	45	162.0	214.0	0.001	0	149.0	15.00	52.0	0.0E+00	9.74	3.00	**1.9E-02**	**1.7E+03**	**11.1**	15.00	0.00%	pass	1.3E-03	2.2E-03	8.8E-03
00511972	4	25	40	4	45	148.0	172.0	0.001	0	149.0	15.00	24.0	0.0E+00	24.77	3.00	**3.6E-02**	**3.1E+03**	**20.7**	15.00	0.00%	pass	1.2E-03	4.0E-03	1.7E-02
00512762	4	15	40	3	50	172.0	226.0	0.001	0	149.0	25.00	54.0	0.0E+00	9.21	2.00	**1.2E-02**	**1.1E+03**	**7.1**	25.00	0.00%	pass	8.4E-04	1.4E-03	5.7E-03
00514721	4	20	35	2	20	140.0	150.0	0.001	0	149.0	15.00	10.0	0.0E+00	59.65	1.33	**3.2E-02**	**2.8E+03**	**18.7**	15.00	0.01%	pass	5.5E-04	3.6E-03	1.7E-02

00518967	4	22	32	3	49	102.0	139.0	0.001	0	149.0	10.00	37.0	0.0E+00	15.26	4.90	**4.2E-02**	**3.6E+03**	**24.1**	10.00	0.00%	pass	2.0E-03	4.7E-03	1.9E-02
00521348	4	50	293	1	100	278.0	293.0	0.001	0	149.0	243.00	15.0	0.0E+00	40.00	0.41	**6.9E-03**	**6.0E+02**	**4.0**	243.00	0.00%	pass	1.7E-04	7.7E-04	3.6E-03
00521868	4	20	80	3	40	189.0	215.0	0.001	0	149.0	60.00	26.0	0.0E+00	22.75	0.67	**7.2E-03**	**6.2E+02**	**4.2**	60.00	0.00%	pass	2.8E-04	8.2E-04	3.5E-03
00523638	4	27	39	2	20	140.0	150.0	0.001	0	149.0	12.00	10.0	0.0E+00	59.65	1.67	**4.0E-02**	**3.5E+03**	**23.4**	12.00	0.00%	pass	6.9E-04	4.5E-03	2.2E-02
00523961	4	26	41	3	50	112.0	202.0	0.001	0	149.0	15.00	90.0	0.0E+00	3.38	3.33	**1.4E-02**	**1.2E+03**	**7.9**	15.00	0.00%	pass	1.4E-03	1.6E-03	5.9E-03
00523970	4	15	35	3	40	147.0	187.0	0.001	0	149.0	20.00	40.0	0.0E+00	13.87	2.00	**1.6E-02**	**1.4E+03**	**9.1**	20.00	0.00%	pass	8.4E-04	1.8E-03	7.3E-03
00524214	4	30	80	3	30	244.0	254.0	0.001	0	149.0	50.00	10.0	0.0E+00	59.65	0.60	**1.4E-02**	**1.2E+03**	**8.4**	50.00	0.00%	pass	2.5E-04	1.6E-03	7.7E-03
00524565	4	20	22	1	40	128.0	138.0	0.001	0	149.0	2.00	10.0	0.0E+00	59.65	20.00	**4.9E-01**	**4.2E+04**	**283.9**	2.00	0.01%	pass	8.2E-03	5.5E-02	2.6E-01
00524571	4	20	22	1	12	97.0	140.0	0.001	0	149.0	2.00	43.0	0.0E+00	12.65	6.00	**4.4E-02**	**3.8E+03**	**25.7**	2.00	0.05%	pass	2.5E-03	5.1E-03	2.1E-02
00525523	4	23	33	3	49	141.0	184.0	0.001	0	149.0	10.00	43.0	0.0E+00	12.65	4.90	**3.7E-02**	**3.2E+03**	**21.5**	10.00	0.00%	pass	2.0E-03	4.2E-03	1.7E-02
00525533	4	40	50	3	49	91.0	152.0	0.001	0	149.0	10.00	61.0	0.0E+00	7.59	4.90	**2.8E-02**	**2.4E+03**	**16.2**	10.00	0.00%	pass	2.1E-03	3.2E-03	1.3E-02
00527970	4	45	80	3	30	113.0	155.0	0.001	0	149.0	35.00	42.0	0.0E+00	13.04	0.86	**6.3E-03**	**5.5E+02**	**3.7**	35.00	0.00%	pass	3.6E-04	7.2E-04	3.0E-03
00531399	4	15	60	3	30	194.0	266.0	0.001	0	149.0	45.00	72.0	0.0E+00	5.63	0.67	**3.1E-03**	**2.7E+02**	**1.8**	45.00	0.00%	pass	2.8E-04	3.6E-04	1.5E-03
00531833	4	18	40	2	25	263.0	281.0	0.001	0	149.0	22.00	18.0	0.0E+00	33.32	1.14	**1.7E-02**	**1.4E+03**	**9.7**	22.00	0.00%	pass	4.7E-04	1.9E-03	8.4E-03
00533014	4	10	15	4	50	156.0	201.0	0.001	0	149.0	5.00	45.0	0.0E+00	11.92	10.00	**7.5E-02**	**6.5E+03**	**43.3**	5.00	0.02%	pass	4.2E-03	8.5E-03	3.3E-02
00533492	4	21	41	3	40	197.0	231.0	0.001	0	149.0	20.00	34.0	0.0E+00	16.87	2.00	**1.8E-02**	**1.5E+03**	**10.3**	20.00	0.00%	pass	8.3E-04	2.0E-03	8.4E-03
00533519	4	30	50	3	30	165.0	225.0	0.001	0	149.0	20.00	60.0	0.0E+00	7.80	1.50	**8.4E-03**	**7.2E+02**	**4.8**	20.00	0.00%	pass	6.3E-04	9.6E-04	3.9E-03
00536770	4	20	30	2	18	194.0	198.0	0.001	0	149.0	10.00	4.0	0.0E+00	146.35	1.80	**9.9E-02**	**8.6E+03**	**57.5**	10.00	0.00%	pass	7.3E-04	1.1E-02	5.8E-02
00538061	4	20	40	3	40	208.0	250.0	0.001	0	149.0	20.00	42.0	0.0E+00	13.04	2.00	**1.5E-02**	**1.3E+03**	**8.7**	20.00	0.00%	pass	8.4E-04	1.7E-03	7.0E-03
00538080	4	20	40	3	40	103.0	150.0	0.001	0	149.0	20.00	47.0	0.0E+00	11.24	2.00	**1.4E-02**	**1.2E+03**	**8.0**	20.00	0.00%	pass	8.4E-04	1.6E-03	6.4E-03
00538127	4	35	55	3	40	154.0	225.0	0.001	0	149.0	20.00	71.0	0.0E+00	5.78	2.00	**9.8E-03**	**8.4E+02**	**5.7**	20.00	0.00%	pass	8.5E-04	1.1E-03	4.5E-03
00540065	4	12	20	3	40	112.0	142.0	0.001	0	149.0	8.00	30.0	0.0E+00	19.45	5.00	**5.0E-02**	**4.3E+03**	**29.0**	8.00	0.00%	pass	2.1E-03	5.7E-03	2.3E-02
00540437	4	15	40	3	50	144.0	185.0	0.001	0	149.0	25.00	41.0	0.0E+00	13.45	2.00	**1.5E-02**	**1.3E+03**	**8.9**	25.00	0.00%	pass	8.4E-04	1.7E-03	7.2E-03
00541761	4	30	55	3	30	141.0	171.0	0.001	0	149.0	25.00	30.0	0.0E+00	19.45	1.20	**1.2E-02**	**1.0E+03**	**6.8**	25.00	0.00%	pass	5.0E-04	1.3E-03	5.6E-03
00546162	4	25	90	6	80	105.0	175.0	0.001	0	149.0	65.00	70.0	0.0E+00	5.94	1.23	**6.1E-03**	**5.3E+02**	**3.6**	65.00	0.00%	pass	5.2E-04	7.1E-04	2.8E-03
00547598	4	12	25	3	35	196.0	245.0	0.001	0	149.0	13.00	49.0	0.0E+00	10.61	2.69	**1.8E-02**	**1.6E+03**	**10.5**	13.00	0.00%	pass	1.1E-03	2.1E-03	8.3E-03
00547605	4	10	60	3	40	193.0	246.0	0.001	0	149.0	50.00	53.0	0.0E+00	9.47	0.80	**4.9E-03**	**4.2E+02**	**2.8**	50.00	0.00%	pass	3.4E-04	5.6E-04	2.3E-03
00551256	4	15	60	3	45	126.0	146.0	0.001	0	149.0	45.00	20.0	0.0E+00	29.94	1.00	**1.4E-02**	**1.2E+03**	**7.8**	45.00	0.00%	pass	4.1E-04	1.5E-03	6.7E-03
00554759	4	40	70	4	30	166.0	200.0	0.001	0	149.0	30.00	34.0	0.0E+00	16.87	1.00	**8.8E-03**	**7.6E+02**	**5.1**	30.00	0.00%	pass	4.2E-04	1.0E-03	4.2E-03
00554780	4	12	30	3	50	187.0	240.0	0.001	0	149.0	18.00	53.0	0.0E+00	9.47	2.78	**1.7E-02**	**1.5E+03**	**10.1**	18.00	0.00%	pass	1.2E-03	2.0E-03	8.1E-03
00556695	4	12	45	3	30	169.0	212.0	0.001	0	149.0	33.00	43.0	0.0E+00	12.65	0.91	**6.6E-03**	**5.7E+02**	**3.8**	33.00	0.00%	pass	3.8E-04	7.5E-04	3.1E-03
00556715	4	20	60	3	40	182.0	232.0	0.001	0	149.0	40.00	50.0	0.0E+00	10.31	1.00	**6.4E-03**	**5.5E+02**	**3.7**	40.00	0.00%	pass	4.2E-04	7.3E-04	3.0E-03
00557440	4	10	30	2	20	163.0	180.0	0.001	0	149.0	20.00	17.0	0.0E+00	35.30	1.00	**1.5E-02**	**1.3E+03**	**8.9**	20.00	0.00%	pass	4.1E-04	1.7E-03	7.8E-03
00559043	4	30	60	5	50	244.0	305.0	0.001	0	149.0	30.00	61.0	0.0E+00	7.59	1.67	**9.3E-03**	**8.1E+02**	**5.4**	30.00	0.00%	pass	7.0E-04	1.1E-03	4.3E-03
00559384	4	25	55	30	40	154.0	225.0	0.001	0	149.0	30.00	71.0	0.0E+00	5.78	1.33	**7.0E-03**	**6.0E+02**	**4.0**	30.00	0.00%	pass	5.6E-04	8.0E-04	3.0E-03
00559391	4	20	40	3	40	168.0	205.0	0.001	0	149.0	20.00	37.0	0.0E+00	15.26	2.00	**1.7E-02**	**1.4E+03**	**9.7**	20.00	0.00%	pass	8.3E-04	1.9E-03	7.8E-03
00559397	4	35	55	3	40	225.0	262.0	0.001	0	149.0	20.00	37.0	0.0E+00	15.26	2.00	**1.7E-02**	**1.4E+03**	**9.7**	20.00	0.00%	pass	8.3E-04	1.9E-03	7.8E-03
00559406	4	10	20	3	40	90.0	150.0	0.001	0	149.0	10.00	60.0	0.0E+00	7.80	4.00	**2.3E-02**	**2.0E+03**	**13.3**	10.00	0.00%	pass	1.7E-03	2.6E-03	1.0E-02
00559410	4	48	68	3	40	167.0	220.0	0.001	0	149.0	20.00	53.0	0.0E+00	9.47	2.00	**1.2E-02**	**1.1E+03**	**7.2**	20.00	0.00%	pass	8.4E-04	1.4E-03	5.8E-03
00559424	4	22	42	3	40	210.0	250.0	0.001	0	149.0	20.00	40.0	0.0E+00	13.87	2.00	**1.6E-02**	**1.4E+03**	**9.1**	20.00	0.00%	pass	8.4E-04	1.8E-03	7.3E-03
00559446	4	20	30	2	10	170.0	200.0	0.001	0	149.0	10.00	30.0	0.0E+00	19.45	1.00	**9.7E-03**	**8.3E+02**	**5.6**	10.00	0.00%	pass	4.2E-04	1.1E-03	4.6E-03
00559498	4	22	50	2	50	210.0	276.0	0.001	0	149.0	28.00	66.0	0.0E+00	6.63	1.79	**9.1E-03**	**7.9E+02**	**5.3**	28.00	0.00%	pass	7.6E-04	1.0E-03	4.3E-03
00562970	4	28	48	3	40	207.0	250.0	0.001	0	149.0	20.00	43.0	0.0E+00	12.65	2.00	**1.5E-02**	**1.3E+03**	**8.6**	20.00	0.00%	pass	8.4E-04	1.7E-03	6.9E-03
00563498	4	20	40	3	30	186.0	196.0	0.001	0	149.0	20.00	10.0	0.0E+00	59.65	1.50	**3.6E-02**	**3.1E+03**	**21.1**	20.00	0.00%	pass	6.2E-04	4.1E-03	1.9E-02
00564172	4	30	42	3	25	265.0	292.0	0.001	0	149.0	12.00	27.0	0.0E+00	21.84	2.08	**2.2E-02**	**1.9E+03**	**13.0**	12.00	0.00%	pass	8.6E-04	2.5E-03	1.1E-02
00566171	4	10	25	3	50	191.0	240.0	0.001	0	149.0	15.00	49.0	0.0E+00	10.61	3.33	**2.2E-02**	**1.9E+03**	**13.0**	15.00	0.00%	pass	1.4E-03	2.6E-03	1.0E-02
00572022	4	15	40	3	50	180.0	220.0	0.001	0	149.0	25.00	40.0	0.0E+00	13.87	2.00	**1.6E-02**	**1.4E+03**	**9.1**	25.00	0.00%	pass	8.4E-04	1.8E-03	7.3E-03
00576749	4	30	50	3	30	196.0	231.0	0.001	0	149.0	20.00	35.0	0.0E+00	16.31	1.50	**1.3E-02**	**1.1E+03**	**7.5**	20.00	0.00%	pass	6.3E-04	1.5E-03	6.1E-03
00577032	4	60	100	1	30	136.0	200.0	0.001	0	149.0	40.00	64.0	0.0E+00	7.00	0.75	**3.7E-03**	**3.2E+02**	**2.2**	40.00	0.00%	pass	3.2E-04	4.3E-04	1.9E-03
00580587	4	20	60	6	25	155.0	185.0	0.001	0	149.0	40.00	30.0	0.0E+00	19.45	0.63	**6.1E-03**	**5.3E+02**	**3.5**	40.00	0.00%	pass	2.6E-04	6.9E-04	2.9E-03
00580648	4	26	150	2.5	40	190.0	215.0	0.001	0	149.0	124.00	25.0	0.0E+00	23.72	0.32	**3.6E-03**	**3.1E+02**	**2.1**	124.00	0.00%	pass	1.3E-04	4.0E-04	1.8E-03
00582672	4	35	80	2	30	272.0	316.0	0.001	0	149.0	45.00	44.0	0.0E+00	12.28	0.67	**4.7E-03**	**4.0E+02**	**2.7**	45.00	0.00%	pass	2.8E-04	5.3E-04	2.3E-03
00582855	4	40	50	3	60	150.0	198.0	0.001	0	149.0	10.00	48.0	0.0E+00	10.92	6.00	**4.2E-02**	**3.6E+03**	**24.2**	10.00	0.00%	pass	2.5E-03	4.8E-03	1.9E-02
00584416	4	25	60	10	30	230.0	287.0	0.001	0	149.0	35.00	57.0	0.0E+00	8.48	0.86	**5.1E-03**	**4.4E+02**	**2.9**	35.00	0.00%	pass	3.6E-04	5.8E-04	2.3E-03
00584430	4	6	40	4	50	148.0	215.0	0.001	0	149.0	34.00	67.0	0.0E+00	6.45	1.47	**7.5E-03**	**6.5E+02**	**4.4**	34.00	0.00%	pass	6.2E-04	8.7E-04	3.5E-03
00588556	4	25	50	4	40	200.0	260.0	0.001	0	149.0	25.00	60.0	0.0E+00	7.80	1.60	**9.0E-03**	**7.8E+02**	**5.2**	25.00	0.00%	pass	6.7E-04	1.0E-03	4.2E-03
00588563	4	12	40	5	50	159.0	220.0	0.001	0	149.0	28.00	61.0	0.0E+00	7.59	1.79	**1.0E-02**	**8.7E+02**	**5.8**	28.00	0.00%	pass	7.5E-04	1.2E-03	4.6E-03
00588572	4	30	50	3	30	239.0	291.0	0.001	0	149.0	20.00	52.0	0.0E+00	9.74	1.50	**9.4E-03**	**8.1E+02**	**5.5**	20.00	0.00%	pass	6.3E-04	1.1E-03	4.4E-03
00592879	4	20	60	4	50	204.0	260.0	0.001	0	149.0	40.00	56.0	0.0E+00	8.71	1.25	**7.4E-03**	**6.4E+02**	**4.3**	40.00	0.00%	pass	5.3E-04	8.5E-04	3.5E-03
00595671	4	35	60	5	50	180.0	240.0	0.001	0	149.0	25.00	60.0	0.0E+00	7.80	2.00	**1.1E-02**	**9.9E+02**	**6.6**	25.00	0.00%	pass	8.4E-04	1.3E-03	5.2E-03
00595673	4	30	50	5	50	212.0	260.0	0.001	0	149.0	20.00	48.0	0.0E+00	10.92	2.50	**1.7E-02**	**1.5E+03**	**10.0**	20.00	0.00%	pass	1.0E-03	2.0E-03	7.9E-03
00596673	4	23	120	2	50	133.0	150.0	0.001	0	149.0	97.00	17.0	0.0E+00	35.30	0.52	**7.9E-03**	**6.8E+02**	**4.6**	97.00	0.00%	pass	2.1E-04	8.8E-04	4.0E-03
00599174	4	30	50	5	50	239.0	280.0	0.001	0	149.0	20.00	41.0	0.0E+00	13.45	2.50	**2.0E-02**	**1.7E+03**	**11.3**	20.00	0.00%	pass	1.0E-03	2.2E-03	8.9E-03
00602052	4	25	60	4	50	191.0	290.0	0.001	0	149.0	35.00	99.0	0.0E+00	2.55	1.43	**5.3E-03**	**4.5E+02**	**3.0**	35.00	0.00%	pass	6.1E-04	6.1E-04	2.3E-03
00602087	4	25	60	3	30	233.0	283.0	0.001	0	149.0	35.00	50.0	0.0E+00	10.31	0.86	**5.5E-03**	**4.7E+02**	**3.2**	35.00	0.00%	pass	3.6E-04	6.3E-04	2.6E-03
00606054	4	20	40	5	50	139.0	180.0	0.001	0	149.0	20.00	41.0	0.0E+00	13.45	2.50	**2.0E-02**	**1.7E+03**	**11.3**	20.00	0.00%	pass	1.0E-03	2.2E-03	8.9E-03
00606064	4	25	50	6	50	155.0	200.0	0.001	0	149.0	25.00	45.0	0.0E+00	11.92	2.00	**1.4E-02**	**1.3E+03**	**8.4**	25.00	0.00%	pass	8.4E-04	1.7E-03	6.6E-03
00609853	4	25	60	8	50	220.0	300.0	0.001	0	149.0	35.00	80.0	0.0E+00	4.51	1.43	**6.5E-03**	**5.6E+02**	**3.8**	35.00	0.00%	pass	6.1E-04	7.5E-04	2.9E-03
00613573	4	35	80	10	50	212.0	275.0	0.001	0	149.0	45.00	63.0	0.0E+00	7.19	1.11	**6.1E-03**	**5.3E+02**	**3.6**	45.00	0.00%	pass	4.7E-04	7.0E-04	2.8E-03
00621007	4	15	60	2	100	114.0	155.0	0.001	0	149.0	45.00	41.0	0.0E+00	13.45	2.22	**1.7E-02**	**1.5E+03**	**9.8**	45.00	0.00%	pass	9.3E-04	1.9E-03	7.9E-03
00624973	4	30	210	4	40	239.0	250.0	0.001	0	149.0	180.00	11.0	0.0E+00	54.33	0.22	**4.9E-03**	**4.2E+02**	**2.8**	180.00	0.00%	pass	9.1E-05	5.5E-04	2.6E-03
00627861	4	25	50	8	40	153.0	220.0	0.001	0	149.0	25.00	67.0	0.0E+00	6.45	1.60	**8.4E-03**	**7.3E+02**	**4.9**	25.00	0.00%	pass	6.8E-04	9.7E-04	3.8E-03
00631742	4	20	60	2	150	155.0	200.0	0.001	0	149.0	40.00	45.0	0.0E+00	11.92	3.75	**2.7E-02**	**2.3E+03**	**15.6**	40.00	0.00%	pass	1.6E-03	3.1E-03	1.2E-02
00632756	4	20	60	3	50	142.0	192.0	0.001	0	149.0	40.00	50.0	0.0E+00	10.31	1.25	**8.1E-03**	**7.0E+02**	**4.7**	40.00	0.00%	pass	5.2E-04	9.2E-04	3.8E-03
00636919	4	20	60	3	30	169.0	216.0	0.001	0	149.0	40.00	47.0	0.0E+00	11.24	0.75	**5.0E-03**	**4.3E+02**	**2.9**	40.00	0.00%	pass	3.1E-04	5.7E-04	2.4E-03
00636924	4	30	60	5	50	180.0	220.0	0.001	0	149.0	30.00	40.0	0.0E+00	13.87	1.67	**1.3E-02**	**1.1E+03**	**7.6**	30.00	0.00%	pass	7.0E-04	1.5E-03	6.1E-03
00638287	4	25	50	6	50	139.0	180.0	0.001	0	149.0	25.00	41.0	0.0E+00	13.45	2.00	**1.6E-02**	**1.3E+03**	**9.1**	25.00	0.00%	pass	8.4E-04	1.8E-03	7.1E-03
00641208	4	30	240	1	50	215.0	240.0	0.001	0	149.0	210.00	25.0	0.0E+00	23.72	0.24	**2.6E-03**	**2.2E+02**	**1.5**	210.00	0.00%	pass	9.9E-05	2.9E-04	1.3E-03

00641250	4	38	140	1	80	205.0	240.0	0.001	0	149.0	102.00	35.0	0.0E+00	16.31	0.78	**6.5E-03**	**5.7E+02**	**3.8**	102.00	0.00%	pass	3.3E-04	7.4E-04	3.2E-03
00642607	4	40	70	1	20	210.0	232.0	0.001	0	149.0	30.00	22.0	0.0E+00	27.13	0.67	**8.1E-03**	**7.0E+02**	**4.7**	30.00	0.00%	pass	2.8E-04	9.2E-04	4.1E-03
00642640	4	40	60	1	20	210.0	235.0	0.001	0	149.0	20.00	25.0	0.0E+00	23.72	1.00	**1.1E-02**	**9.6E+02**	**6.4**	20.00	0.00%	pass	4.1E-04	1.3E-03	5.5E-03
00643796	4	18	60	2	30	215.0	272.0	0.001	0	149.0	42.00	57.0	0.0E+00	8.48	0.71	**4.0E-03**	**3.5E+02**	**2.3**	42.00	0.00%	pass	3.0E-04	4.6E-04	2.0E-03
00644640	4	30	60	5	50	160.0	260.0	0.001	0	149.0	30.00	100.0	0.0E+00	2.47	1.67	**6.2E-03**	**5.4E+02**	**3.6**	30.00	0.00%	pass	7.1E-04	7.2E-04	2.6E-03
00645655	4	21	30	3	60	179.0	211.0	0.001	0	149.0	9.00	32.0	0.0E+00	18.09	6.67	**6.4E-02**	**5.5E+03**	**37.0**	9.00	0.00%	pass	2.8E-03	7.2E-03	2.9E-02
00645658	4	24	32	3	60	172.0	210.0	0.001	0	149.0	8.00	38.0	0.0E+00	14.78	7.50	**6.3E-02**	**5.4E+03**	**36.5**	8.00	0.00%	pass	3.1E-03	7.2E-03	2.9E-02
00648511	4	19	60	3	30	152.0	202.0	0.001	0	149.0	41.00	50.0	0.0E+00	10.31	0.73	**4.6E-03**	**4.0E+02**	**2.7**	41.00	0.00%	pass	3.1E-04	5.3E-04	2.2E-03
00648828	4	45	255	1	70	234.0	255.0	0.001	0	149.0	210.00	21.0	0.0E+00	28.47	0.33	**4.2E-03**	**3.6E+02**	**2.4**	210.00	0.00%	pass	1.4E-04	4.7E-04	2.1E-03
00649217	4	10	30	4	30	93.0	110.0	0.001	0	149.0	20.00	17.0	0.0E+00	35.30	1.50	**2.3E-02**	**2.0E+03**	**13.5**	20.00	0.00%	pass	6.2E-04	2.6E-03	1.2E-02
00650703	4	37	80	1	30	154.0	200.0	0.001	0	149.0	43.00	46.0	0.0E+00	11.57	0.70	**4.6E-03**	**4.0E+02**	**2.7**	43.00	0.00%	pass	2.9E-04	5.3E-04	2.3E-03
00659787	4	35	55	1	20	210.0	231.0	0.001	0	149.0	20.00	21.0	0.0E+00	28.47	1.00	**1.3E-02**	**1.1E+03**	**7.4**	20.00	0.00%	pass	4.1E-04	1.4E-03	6.4E-03
00661125	4	20	50	8	40	191.0	340.0	0.001	0	149.0	30.00	149.0	0.0E+00	0.00	1.33	**3.8E-03**	**3.3E+02**	**2.2**	30.00	0.00%	pass	5.8E-04	4.5E-04	1.2E-03
00669166	4	22	60	2	30	137.0	198.0	0.001	0	149.0	38.00	61.0	0.0E+00	7.59	0.79	**4.2E-03**	**3.6E+02**	**2.4**	38.00	0.00%	pass	3.3E-04	4.8E-04	2.0E-03
00670224	4	15	50	8	50	160.0	190.0	0.001	0	149.0	35.00	30.0	0.0E+00	19.45	1.43	**1.4E-02**	**1.2E+03**	**8.3**	35.00	0.00%	pass	5.9E-04	1.6E-03	6.6E-03
00681481	4	45	80	1	20	136.0	156.0	0.001	0	149.0	35.00	20.0	0.0E+00	29.94	0.57	**7.5E-03**	**6.5E+02**	**4.4**	35.00	0.00%	pass	2.4E-04	8.5E-04	3.8E-03
00693255	4	30	120	1	60	209.0	240.0	0.001	0	149.0	90.00	31.0	0.0E+00	18.75	0.67	**6.1E-03**	**5.3E+02**	**3.6**	90.00	0.00%	pass	2.8E-04	7.0E-04	3.0E-03
00693865	4	25	50	8	50	218.0	240.0	0.001	0	149.0	25.00	22.0	0.0E+00	27.13	2.00	**2.6E-02**	**2.2E+03**	**14.8**	25.00	0.00%	pass	8.3E-04	2.9E-03	1.2E-02
00706703	4	20	60	2	25	211.0	246.0	0.001	0	149.0	40.00	35.0	0.0E+00	16.31	0.63	**5.3E-03**	**4.6E+02**	**3.1**	40.00	0.00%	pass	2.6E-04	6.0E-04	2.5E-03
00707655	4	15	50	8	70	240.0	300.0	0.001	0	149.0	35.00	60.0	0.0E+00	7.80	2.00	**1.2E-02**	**1.0E+03**	**6.7**	35.00	0.00%	pass	8.4E-04	1.3E-03	5.2E-03
00707857	4	29	50	8	70	169.0	300.0	0.001	0	149.0	21.00	131.0	0.0E+00	0.64	3.33	**1.1E-02**	**9.4E+02**	**6.3**	21.00	0.00%	pass	1.4E-03	1.3E-03	3.5E-03
00707875	4	25	50	8	60	217.0	260.0	0.001	0	149.0	25.00	43.0	0.0E+00	12.65	2.40	**1.8E-02**	**1.6E+03**	**10.6**	25.00	0.00%	pass	1.0E-03	2.1E-03	8.2E-03
00707896	4	20	50	8	60	175.0	296.0	0.001	0	149.0	30.00	121.0	0.0E+00	1.11	2.00	**6.7E-03**	**5.8E+02**	**3.9**	30.00	0.00%	pass	8.6E-04	7.8E-04	2.4E-03
00707897	4	26	60	8	60	183.0	320.0	0.001	0	149.0	34.00	137.0	0.0E+00	0.40	1.76	**5.4E-03**	**4.6E+02**	**3.1**	34.00	0.00%	pass	7.7E-04	6.3E-04	1.7E-03
00716797	4	25	260	1	30	232.0	260.0	0.001	0	149.0	235.00	28.0	0.0E+00	20.99	0.13	**1.2E-03**	**1.1E+02**	**0.7**	235.00	0.00%	pass	5.3E-05	1.4E-04	6.3E-04
00716799	4	22	220	1	100	216.0	220.0	0.001	0	149.0	198.00	4.0	0.0E+00	146.35	0.51	**2.8E-02**	**2.4E+03**	**16.0**	198.00	0.00%	pass	2.1E-04	3.1E-03	1.6E-02
00735706	4	18	165	1	60	168.0	186.0	0.001	0	149.0	147.00	18.0	0.0E+00	33.32	0.41	**5.9E-03**	**5.1E+02**	**3.4**	147.00	0.00%	pass	1.7E-04	6.6E-04	3.0E-03
00735706	4	18	75	2	40	168.0	186.0	0.001	0	149.0	57.00	18.0	0.0E+00	33.32	0.70	**1.0E-02**	**8.8E+02**	**5.9**	57.00	0.00%	pass	2.9E-04	1.2E-03	5.2E-03
00739556	4	15	50	8	80	163.0	188.0	0.001	0	149.0	35.00	25.0	0.0E+00	23.72	2.29	**2.6E-02**	**2.3E+03**	**15.4**	35.00	0.00%	pass	9.5E-04	3.0E-03	1.2E-02
00742803	4	70	240	1	30	263.0	300.0	0.001	0	149.0	170.00	37.0	0.0E+00	15.26	0.18	**1.4E-03**	**1.2E+02**	**0.8**	170.00	0.00%	pass	7.4E-05	1.5E-04	6.9E-04
00748035	4	27	80	2	100	167.0	196.0	0.001	0	149.0	53.00	29.0	0.0E+00	20.20	1.89	**1.9E-02**	**1.6E+03**	**11.0**	53.00	0.00%	pass	7.8E-04	2.1E-03	9.0E-03
00756072	4	15	35	45	55	160.0	190.0	0.001	0	149.0	20.00	30.0	0.0E+00	19.45	2.75	**2.9E-02**	**2.5E+03**	**16.6**	20.00	0.00%	pass	1.1E-03	3.2E-03	1.3E-02
00761478	4	30	90	2	75	173.0	220.0	0.001	0	149.0	60.00	47.0	0.0E+00	11.24	1.25	**8.4E-03**	**7.3E+02**	**4.9**	60.00	0.00%	pass	5.2E-04	9.6E-04	4.0E-03
00765325	4	20	60	3	30	80.0	175.0	0.001	0	149.0	40.00	95.0	0.0E+00	2.90	0.75	**2.7E-03**	**2.4E+02**	**1.6**	40.00	0.00%	pass	3.2E-04	3.2E-04	1.3E-03
00776889	4	24	220	1.5	25	219.0	245.0	0.001	0	149.0	196.00	26.0	0.0E+00	22.75	0.13	**1.3E-03**	**1.1E+02**	**0.8**	196.00	0.00%	pass	5.3E-05	1.5E-04	6.7E-04
00778026	4	24	100	6	50	199.0	245.0	0.001	0	149.0	76.00	46.0	0.0E+00	11.57	0.66	**4.6E-03**	**3.9E+02**	**2.6**	76.00	0.00%	pass	2.8E-04	5.2E-04	2.1E-03
00778031	6	20	27.75	2.5	100	161.0	260.0	0.001	0	149.0	7.75	99.0	0.0E+00	2.35	12.90	**4.9E-02**	**4.2E+03**	**28.2**	7.75	0.01%	pass	5.5E-03	5.7E-03	1.9E-02
00778073	4	22	44	1	20	126.0	171.0	0.001	0	149.0	22.00	45.0	0.0E+00	11.92	0.91	**6.2E-03**	**5.3E+02**	**3.6**	22.00	0.00%	pass	3.8E-04	7.0E-04	3.0E-03
00779162	4	13	50	5	70	194.0	235.0	0.001	0	149.0	37.00	41.0	0.0E+00	13.45	1.89	**1.5E-02**	**1.3E+03**	**8.5**	37.00	0.00%	pass	7.9E-04	1.7E-03	6.8E-03
00779305	4	25	50	3	75	168.0	218.0	0.001	0	149.0	25.00	50.0	0.0E+00	10.31	3.00	**2.0E-02**	**1.7E+03**	**11.5**	25.00	0.00%	pass	1.3E-03	2.3E-03	9.1E-03
00784102	8	34	250	3	400	168.0	250.0	0.001	0	149.0	216.00	82.0	0.0E+00	3.69	1.85	**7.1E-03**	**6.1E+02**	**4.1**	216.00	0.00%	pass	7.9E-04	8.3E-04	3.2E-03
																Max	**4.8E+04**	**3.2E+02**						
																Min	**9.5E+01**	**6.4E-01**						
																Geomean	**1.3E+03**	**8.9E+00**						

References:

Bradbury, K.B., and E.R. Rothschild, 1985. A computerized technique for estimating the hydraulic conductivity of aquifer from specific capacity data: Ground Water vol. 23, No. 2, pp. 240-246.

ASTM International, 2004. Standard Test Method for Determining Specific Capacity and Estimating Transmissivity at the Control Well, Standard D 5472-93, in Annual Book of ASTM Standards, Vol. 04.08 pp. 1279-1282.

Wonewoc

Worksheet for Estimating Transmissivity and Hydraulic Conductivity from Specific Capacity Test Data

Explanation and notes attached.

Maximum iterations	100
Error tolerance (as drawdown)	0.001 feet

	Field Data							*Estimated Parameters*			*Calculated Results*								*Diagnostics*					
		Depth to Water				Screened Interval													*Solution Integrity*			*Sensitivity of T:*		
Location	Well Diam.	Initial	Final	Test Duration	Mean Pumping Rate	Depth to Top	Depth to Bottom	Storage Coeff. (S)	Well loss Coeff. (C)	Aquifer Thickness (b)	Measured Drawdown (s_m)	Saturated Screen Length (L)	Well loss (s_w)	Partial Penetration Parameter (s_p)	Specific Capacity	**Transmissivity (T)**	**T (ft^2/day)**	**Conductivity (K)**	Calculated Drawdown	Error as Drawdown	Well Bore Storage Test	to S at ± 1 factor of 10	to s_w at 10% of s_m	to b at ± 25%
	inches	feet	feet	hours	gpm	feet	feet	-	sec^2/ft^5	feet	feet	feet	feet	-	gpm/ft	**sq ft/sec**		**ft/day**	feet			sq ft/sec	sq ft/sec	sq ft/sec
00104703	3	24	40	4	25	216.0	229.0	0.001	0	57.0	16.00	13.0	0.0E+00	14.60	1.56	**1.3E-02**	**1.1E+03**	**19.4**	16.00	0.00%	pass	6.5E-04	1.5E-03	5.7E-03
00122194	4	15	35	3	30	220.0	260.0	0.001	0	57.0	20.00	40.0	0.0E+00	1.71	1.50	**5.0E-03**	**4.3E+02**	**7.5**	20.00	0.00%	pass	6.5E-04	5.9E-04	1.8E-03
00140176	4	20	35	4	60	245.0	288.0	0.001	0	57.0	15.00	43.0	0.0E+00	1.28	4.00	**1.4E-02**	**1.2E+03**	**20.6**	15.00	0.00%	pass	1.7E-03	1.6E-03	4.4E-03
00145432	4	13	30	5	25	172.0	214.0	0.001	0	57.0	17.00	42.0	0.0E+00	1.42	1.47	**4.9E-03**	**4.2E+02**	**7.4**	17.00	0.00%	pass	6.3E-04	5.7E-04	1.7E-03
00147153	4	21	25	3	60	202.0	231.0	0.001	0	57.0	4.00	29.0	0.0E+00	4.14	15.00	**7.0E-02**	**6.0E+03**	**105.6**	4.00	0.00%	pass	6.4E-03	8.1E-03	2.7E-02
00154527	4	40	55	4	35	181.0	186.0	0.001	0	57.0	15.00	5.0	0.0E+00	35.86	2.33	**3.7E-02**	**3.2E+03**	**56.0**	15.00	0.00%	pass	9.6E-04	4.2E-03	1.9E-02
00155262	4	20	30	3	25	207.0	213.0	0.001	0	57.0	10.00	6.0	0.0E+00	30.09	2.50	**3.4E-02**	**3.0E+03**	**52.0**	10.00	0.00%	pass	1.0E-03	3.9E-03	1.7E-02
00169693	4	10	30	2	30	275.0	311.0	0.001	0	57.0	20.00	36.0	0.0E+00	2.42	1.50	**5.3E-03**	**4.5E+02**	**8.0**	20.00	0.00%	pass	6.5E-04	6.2E-04	2.1E-03
00178923	4	25	60	3	30	223.0	275.0	0.001	0	57.0	35.00	52.0	0.0E+00	0.35	0.86	**2.3E-03**	**2.0E+02**	**3.5**	35.00	0.00%	pass	3.7E-04	2.8E-04	6.9E-04
00179376	4	15	35	3	55	278.0	306.0	0.001	0	57.0	20.00	28.0	0.0E+00	4.45	2.75	**1.2E-02**	**1.1E+03**	**18.5**	20.00	0.00%	pass	1.2E-03	1.4E-03	5.1E-03
00190419	4	20	40	3	20	202.0	243.0	0.001	0	57.0	20.00	41.0	0.0E+00	1.56	1.00	**3.2E-03**	**2.8E+02**	**4.8**	20.00	0.00%	pass	4.3E-04	3.8E-04	1.2E-03
00197581	4	7	28	3	60	212.0	270.0	0.001	0	57.0	21.00	58.0	0.0E+00	-0.06	2.86	**7.9E-03**	**6.8E+02**	**12.0**	21.00	0.00%	pass	1.2E-03	9.4E-04	1.9E-03
00199906	4	26	50	2	30	201.0	220.0	0.001	0	57.0	24.00	19.0	0.0E+00	8.48	1.25	**7.1E-03**	**6.2E+02**	**10.8**	24.00	0.00%	pass	5.3E-04	8.2E-04	3.2E-03
00406314	4	10	100	1	50	210.0	280.0	0.001	0	57.0	90.00	70.0	0.0E+00	-0.62	0.56	**1.1E-03**	**9.8E+01**	**1.7**	90.00	0.00%	pass	2.5E-04	1.4E-04	4.1E-04
00406320	4	20	100	2	60	273.0	340.0	0.001	0	57.0	80.00	67.0	0.0E+00	-0.50	0.75	**1.7E-03**	**1.5E+02**	**2.6**	80.00	0.00%	pass	3.3E-04	2.1E-04	5.0E-04
00408981	4	15	45	2	35	195.0	231.0	0.001	0	57.0	30.00	36.0	0.0E+00	2.42	1.17	**4.0E-03**	**3.5E+02**	**6.1**	30.00	0.00%	pass	5.0E-04	4.7E-04	1.7E-03
00408981	4	15	45	3	35	195.0	231.0	0.001	0	57.0	30.00	36.0	0.0E+00	2.42	1.17	**4.1E-03**	**3.6E+02**	**6.3**	30.00	0.00%	pass	5.0E-04	4.8E-04	1.7E-03
00409516	4	15	245	3	12	217.0	245.0	0.001	0	57.0	230.00	28.0	0.0E+00	4.45	0.05	**1.9E-04**	**1.7E+01**	**0.3**	230.00	0.00%	pass	2.2E-05	2.3E-05	9.7E-05
00411507	4	20	40	3	30	256.0	335.0	0.001	0	57.0	20.00	79.0	0.0E+00	-0.99	1.50	**3.4E-03**	**3.0E+02**	**5.2**	20.00	0.00%	pass	6.6E-04	4.2E-04	1.6E-03
00429151	4	8	18	3	25	220.0	225.0	0.001	0	57.0	10.00	5.0	0.0E+00	35.86	2.50	**3.9E-02**	**3.4E+03**	**59.8**	10.00	0.00%	pass	1.0E-03	4.4E-03	2.0E-02
00435830	4	7	15	4	30	213.0	255.0	0.001	0	57.0	8.00	42.0	0.0E+00	1.42	3.75	**1.3E-02**	**1.1E+03**	**19.5**	8.00	0.00%	pass	1.6E-03	1.5E-03	4.3E-03
00435832	4	10	20	4	30	168.0	216.0	0.001	0	57.0	10.00	48.0	0.0E+00	0.71	3.00	**9.4E-03**	**8.1E+02**	**14.2**	10.00	0.00%	pass	1.3E-03	1.1E-03	2.8E-03
00437222	4	12	75	1	100	195.0	236.0	0.001	0	57.0	63.00	41.0	0.0E+00	1.56	1.59	**4.9E-03**	**4.2E+02**	**7.4**	63.00	0.00%	pass	6.9E-04	5.8E-04	1.9E-03
00437222	4	12	30	1	25	195.0	236.0	0.001	0	57.0	18.00	41.0	0.0E+00	1.56	1.39	**4.2E-03**	**3.6E+02**	**6.4**	18.00	0.00%	pass	6.0E-04	5.0E-04	1.7E-03
00437700	4	13	30	3	25	205.0	240.0	0.001	0	57.0	17.00	35.0	0.0E+00	2.62	1.47	**5.4E-03**	**4.6E+02**	**8.1**	17.00	0.00%	pass	6.3E-04	6.3E-04	2.2E-03
00450304	4	16	40	5	30	232.0	286.0	0.001	0	57.0	24.00	54.0	0.0E+00	0.20	1.25	**3.5E-03**	**3.0E+02**	**5.3**	24.00	0.00%	pass	5.5E-04	4.2E-04	9.4E-04
00450309	4	15	30	4	35	232.0	286.0	0.001	0	57.0	15.00	54.0	0.0E+00	0.20	2.33	**6.7E-03**	**5.8E+02**	**10.2**	15.00	0.00%	pass	1.0E-03	8.0E-04	1.7E-03
00450310	4	19	45	4	25	238.0	298.0	0.001	0	57.0	26.00	60.0	0.0E+00	-0.17	0.96	**2.5E-03**	**2.1E+02**	**3.8**	26.00	0.00%	pass	4.2E-04	3.0E-04	6.3E-04
00450325	4	25	45	5	30	232.0	291.0	0.001	0	57.0	20.00	59.0	0.0E+00	-0.12	1.50	**4.1E-03**	**3.5E+02**	**6.2**	20.00	0.00%	pass	6.6E-04	4.9E-04	1.0E-03
00477365	4	36	70	2	35	306.0	350.0	0.001	0	57.0	34.00	44.0	0.0E+00	1.15	1.03	**3.0E-03**	**2.6E+02**	**4.6**	34.00	0.00%	pass	4.5E-04	3.6E-04	1.1E-03
00494285	4	15	25	3	30	162.0	167.0	0.001	0	57.0	10.00	5.0	0.0E+00	35.86	3.00	**4.7E-02**	**4.1E+03**	**72.0**	10.00	0.01%	pass	1.2E-03	5.3E-03	2.4E-02
00506378	4	25	40	3	40	228.0	258.0	0.001	0	57.0	15.00	30.0	0.0E+00	3.85	2.67	**1.1E-02**	**9.7E+02**	**17.1**	15.00	0.00%	pass	1.1E-03	1.3E-03	4.6E-03
00509243	4	10	160	1	70	163.0	174.0	0.001	0	57.0	150.00	11.0	0.0E+00	16.37	0.47	**3.9E-03**	**3.3E+02**	**5.9**	150.00	0.00%	pass	1.9E-04	4.4E-04	1.8E-03
00509243	4	10	100	2	50	163.0	174.0	0.001	0	57.0	90.00	11.0	0.0E+00	16.37	0.56	**4.7E-03**	**4.0E+02**	**7.1**	90.00	0.00%	pass	2.3E-04	5.3E-04	2.2E-03
00510535	4	20	45	2	40	203.0	245.0	0.001	0	57.0	25.00	42.0	0.0E+00	1.42	1.60	**5.0E-03**	**4.3E+02**	**7.6**	25.00	0.00%	pass	6.9E-04	5.9E-04	1.8E-03
00510535	4	20	45	3	40	203.0	245.0	0.001	0	57.0	25.00	42.0	0.0E+00	1.42	1.60	**5.2E-03**	**4.4E+02**	**7.8**	25.00	0.00%	pass	6.9E-04	6.1E-04	1.8E-03
00511955	4	18	30	3.5	50	212.0	261.0	0.001	0	57.0	12.00	49.0	0.0E+00	0.61	4.17	**1.3E-02**	**1.1E+03**	**19.7**	12.00	0.00%	pass	1.8E-03	1.5E-03	3.7E-03
00562952	4	20	200	3	25	227.0	238.0	0.001	0	57.0	180.00	11.0	0.0E+00	16.37	0.14	**1.1E-03**	**9.9E+01**	**1.7**	180.00	0.00%	pass	5.8E-05	1.3E-04	5.5E-04
00587137	4	25	65	2	75	220.0	245.0	0.001	0	57.0	40.00	25.0	0.0E+00	5.52	1.88	**8.8E-03**	**7.6E+02**	**13.3**	40.00	0.00%	pass	8.0E-04	1.0E-03	3.8E-03
00599191	4	30	50	3	40	224.0	240.0	0.001	0	57.0	20.00	16.0	0.0E+00	10.65	2.00	**1.3E-02**	**1.2E+03**	**20.2**	20.00	0.00%	pass	8.4E-04	1.5E-03	5.8E-03
00624533	4	20	50	6	70	300.0	320.0	0.001	0	57.0	30.00	20.0	0.0E+00	7.89	2.33	**1.4E-02**	**1.2E+03**	**20.5**	30.00	0.00%	pass	9.8E-04	1.6E-03	5.7E-03
00705752	4	18	100	2	55	200.0	240.0	0.001	0	57.0	82.00	40.0	0.0E+00	1.71	0.67	**2.1E-03**	**1.8E+02**	**3.1**	82.00	0.00%	pass	2.9E-04	2.5E-04	8.3E-04

Max	**6.0E+03**	**1.1E+02**
Min	**1.7E+01**	**2.9E-01**
Geomean	**5.3E+02**	**9.3E+00**

References:

Bradbury, K.B., and E.R. Rothschild, 1985. A computerized technique for estimating the hydraulic conductivity of aquifer from specific capacity data: Ground Water vol. 23, No. 2, pp. 240-246.

ASTM International, 2004. Standard Test Method for Determining Specific Capacity and Estimating Transmissivity at the Control Well, Standard D 5472-93, in Annual Book of ASTM Standards, Vol. 04.08 pp. 1279-1282.

MINNESOTA MDH DEPARTMENT OF HEALTH
Environmental Health Division
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Determination of Aquifer Properties and Aquifer Test Plan (DAP-ATP) Form

Public Water Supply ID:	1020017	PWS Name:	Coon Rapids

Contact Information for Person Completing this Form

Name:	John Greer
Address:	Barr Engineering Company
	4700 West 77th Street, Suite 200
City, State, Zip:	Edina, MN 55435
Phone, Fax, e-mail:	(952) 832-2691

Aquifer Properties Determination Methods

☐ 1) An existing pumping test that meets the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on a well connected to the public water supply system.

☐ 2) An existing pumping test that meets the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on another well in a hydrogeologic setting determined by the department to be equivalent.

☐ 3) A proposed new test to be conducted on a new or existing well connected to the public water supply system and that meets the requirements for larger-sized water systems (wellhead protection rule part 4720.5520). A test plan must be approved before conducting the test.

☐ 4) A proposed new test to be conducted on a new or existing public well connected to the public water supply system and that meets the requirements for smaller-sized water systems (wellhead protection rule part 4720.5530). A test plan must be approved before conducting the test.

☐ 5) An existing pumping test that does not meet the requirements of wellhead protection rule part 4720.5520 and that was previously conducted on: 1) a public water supply well or 2) another well in a hydrogeologic setting determined by the department to be equivalent.

☑ 6) Existing specific capacity test(s) conducted on the public water supply well(s) or specific capacity tests conducted on other wells in a hydrogeologic setting determined by the department to be equivalent.

☐ 7) An existing published transmissivity value.

- Include all test data and analysis documentation with the estimated transmissivity, ft^2/day, when the aquifer properties determination method is; 1, 2, 5, 6, or 7, listed above.
- ▪ Attach detailed aquifer test plan for methods 3 or 4.

Submitted by: John Greer	Prof. License: 30347	Date: 7/31/2015

To request this document in another format, please call our Section Receptionist (651/201-4700) or Division TTY (651/201-5797).

Rationale for: 1) Aquifer Properties Determination or 2) Proposed New Test

Briefly describe the rationale for: 1) selected method to determine aquifer properties from existing data, **or** 2) a new aquifer test to be conducted on the pumped well referenced below. Include unique well numbers of all wells that were (or will be) monitored during data collection. How does the existing or proposed test deviate from the ideal. (e.g. rate, duration, no. of obwells, interfering wells, etc.) Attach documentation as necessary.

Aquifer Name:	Mt. Simon Sandstone	✓ Confined	☐ Unconfined	☐ Fractured Rock

Specific capacity data on the CWI log for Coon Rapids Well 18 (Unique Number 110469) was analyzed using the TGuess Method (Bradbury and Rothschild, 1985) to obtain a transmissivity of 4,700 ft**2/day (see attached).

Four production tests were conducted on Andover Well 3 (Unique Number 431683) in 1987. See the attached plots (provided by MDH) for test data and analysis. Below is a summary of the results from the four tests:

Date	Flow Rate (gpm)	T(ft**2/day)
10/12/1987	600	1,880
10/13/1987	600	1,600
10/14/1987	800	2,200
10/16/1987	1000	2,130

The geometric mean transmissivity of all five tests is 2,310 ft**2/day, which will be used in the base case model. The max and min of the four tests, 1,600 ft**2/day and 4,700 ft**2/day, respectively, will be used as the sensitivity analysis ranges.

Proposed New Test Information Summary

Pumped Well Name (Unique Number):	110469, 431683	**Test Duration (Hours):**	varies
Location: X, Y (meters) UTM-Z15N or Lat-Lon (decimal degrees) datum: NAD83	476962, 5004924 (110469) 476994, 5007465 (431683)	**Pump Type:**	unknown
		Discharge Rate:	600, 800, 1000, 1400 gpm
Number of Observation Wells:	0	**Flow Rate Measuring Device Type:**	unknown

- A map showing the location of the pumping well and observation well(s) must be included.

List the unique number of each public water supply well to which this DAP-ATP Form applies

202929	202965	110469			
202972	168721				
202951	161413				
202943	110460				
202932	110461				
202930	168720				

Reviewed by: Amal Djerrari	**Approved:** ● Yes ○ No	**Approval Date:** 8/3/2015

Mt. Simon

Worksheet for Estimating Transmissivity and Hydraulic Conductivity from Specific Capacity Test Data

Explanation and notes attached.

Maximum iterations	100
Error tolerance (as drawdown)	0.001 feet

Field Data								*Estimated Parameters*			*Calculated Results*								*Diagnostics*					
		Depth to Water				Screened Interval													*Solution Integrity*			*Sensitivity of T:*		
Location	Well Diam.	Initial	Final	Test Duration	Mean Pumping Rate	Depth to Top	Depth to Bottom	Storage Coeff. (S)	Well loss Coeff. (C)	Aquifer Thickness (b)	Measured Drawdown (s_m)	Saturated Screen Length (L)	Well loss (s_w)	Partial Penetration Parameter (s_p)	Specific Capacity	**Transmissivity (T)**	**T (ft^2/day)**	**Conductivity (K)**	Calculated Drawdown	Error as Drawdown	Well Bore Storage Test	to S at ± 1 factor of 10	to s_w at 10% of s_m	to b at ± 25%
	inches	feet	feet	hours	gpm	feet	feet	-	sec^2/ft^5	feet	feet	feet	feet	-	gpm/ft	**sq ft/sec**		**ft/day**	feet			sq ft/sec	sq ft/sec	sq ft/sec
00110469 (Coon Rapids 18)	24	140	248	36	1400	575.0	637.0	0.001	0	128.0	108.00	62.0	0.0E+00	3.53	12.96	**5.4E-02**	**4.7E+03**	**36.7**	108.00	0.00%	pass	5.5E-03	6.3E-03	1.9E-02

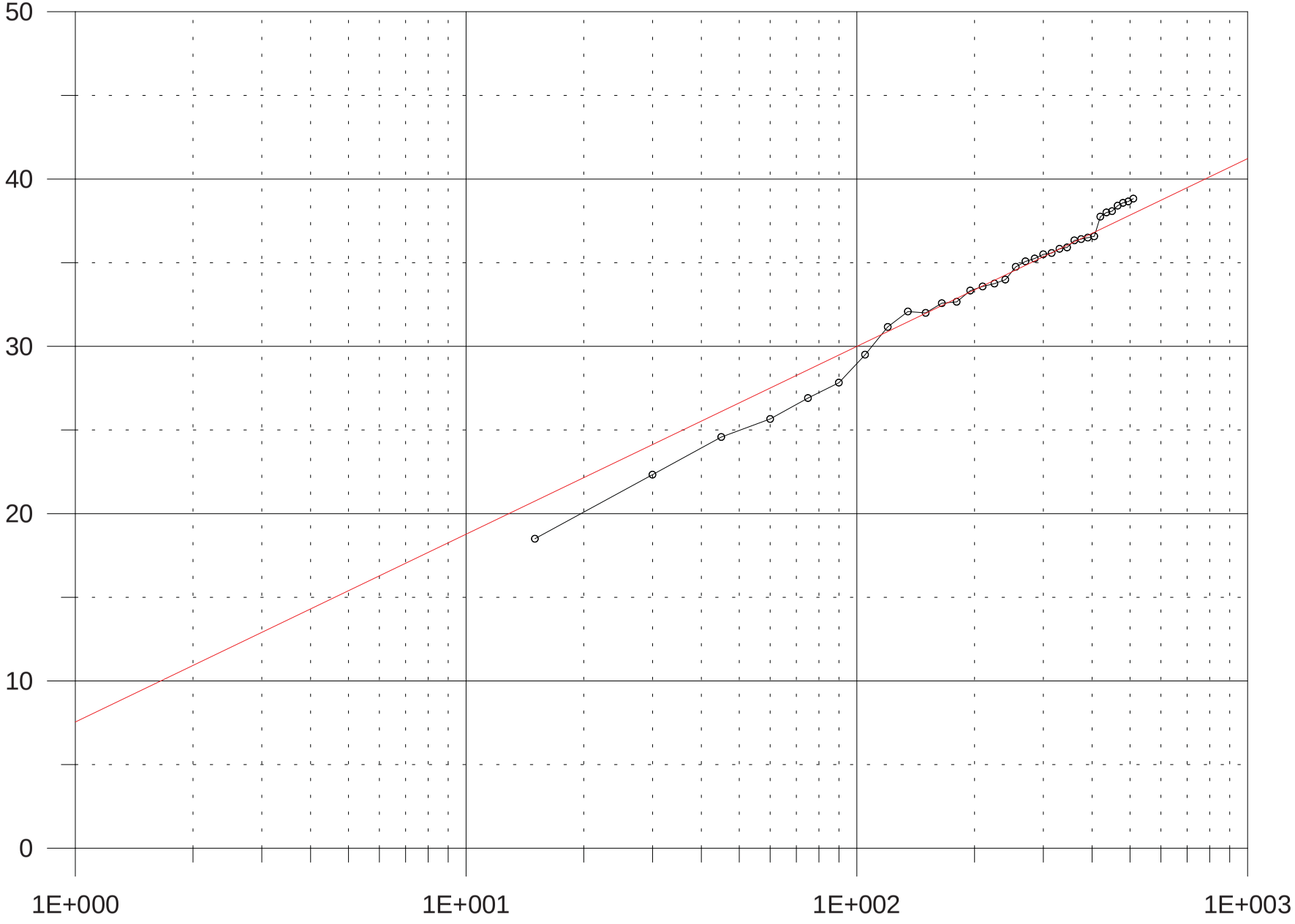
References:

Bradbury, K.B., and E.R. Rothschild, 1985. A computerized technique for estimating the hydraulic conductivity of aquifer from specific capacity data: Ground Water vol. 23, No. 2, pp. 240-246.

ASTM International, 2004. Standard Test Method for Determining Specific Capacity and Estimating Transmissivity at the Control Well, Standard D 5472-93, in Annual Book of ASTM Standards, Vol. 04.08 pp. 1279-1282.

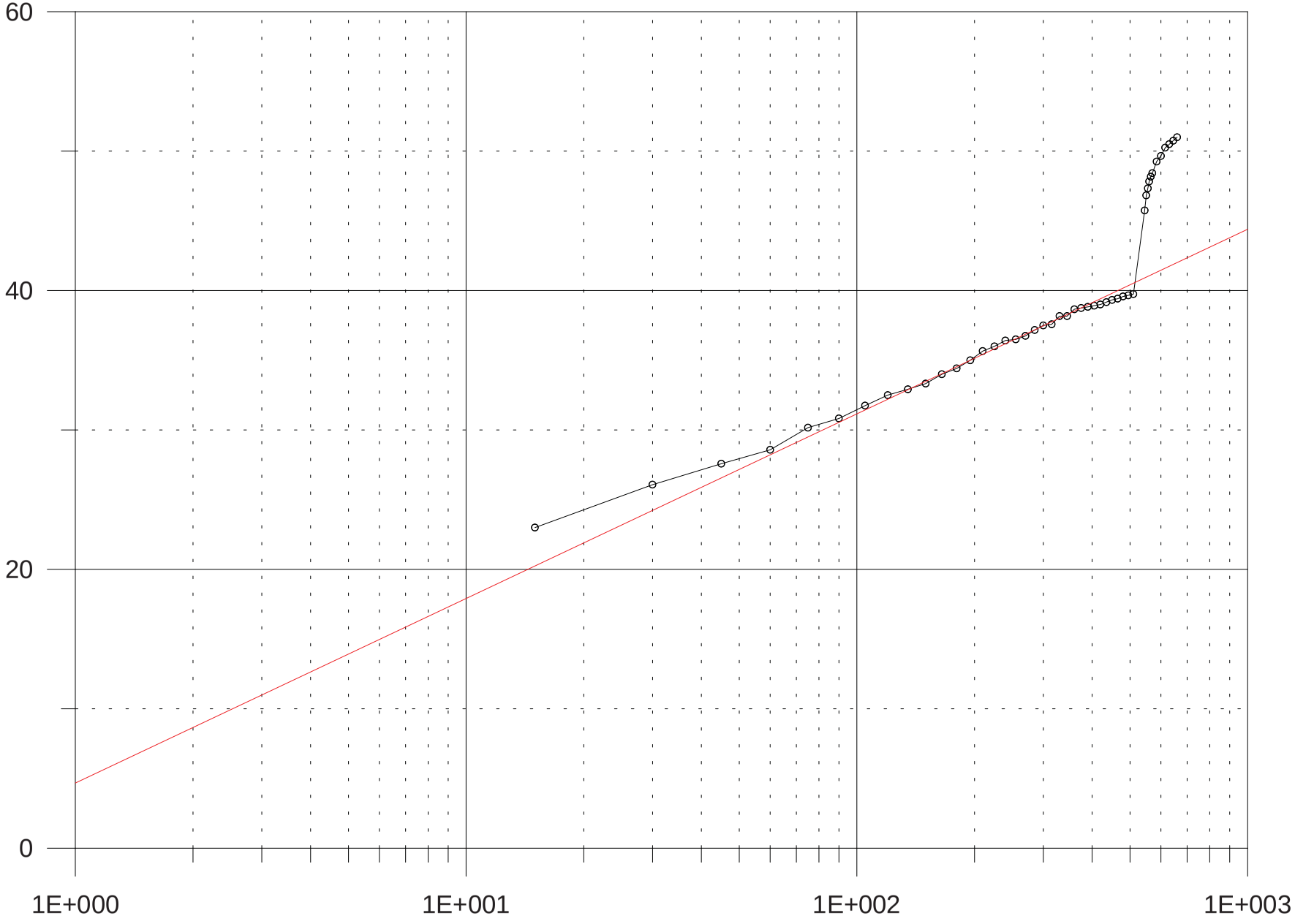
Test of Andover Well #3 (431683)
10/12/1987
Production Test

T = 35.3 600 / 11.24 = 1880 ft2/day



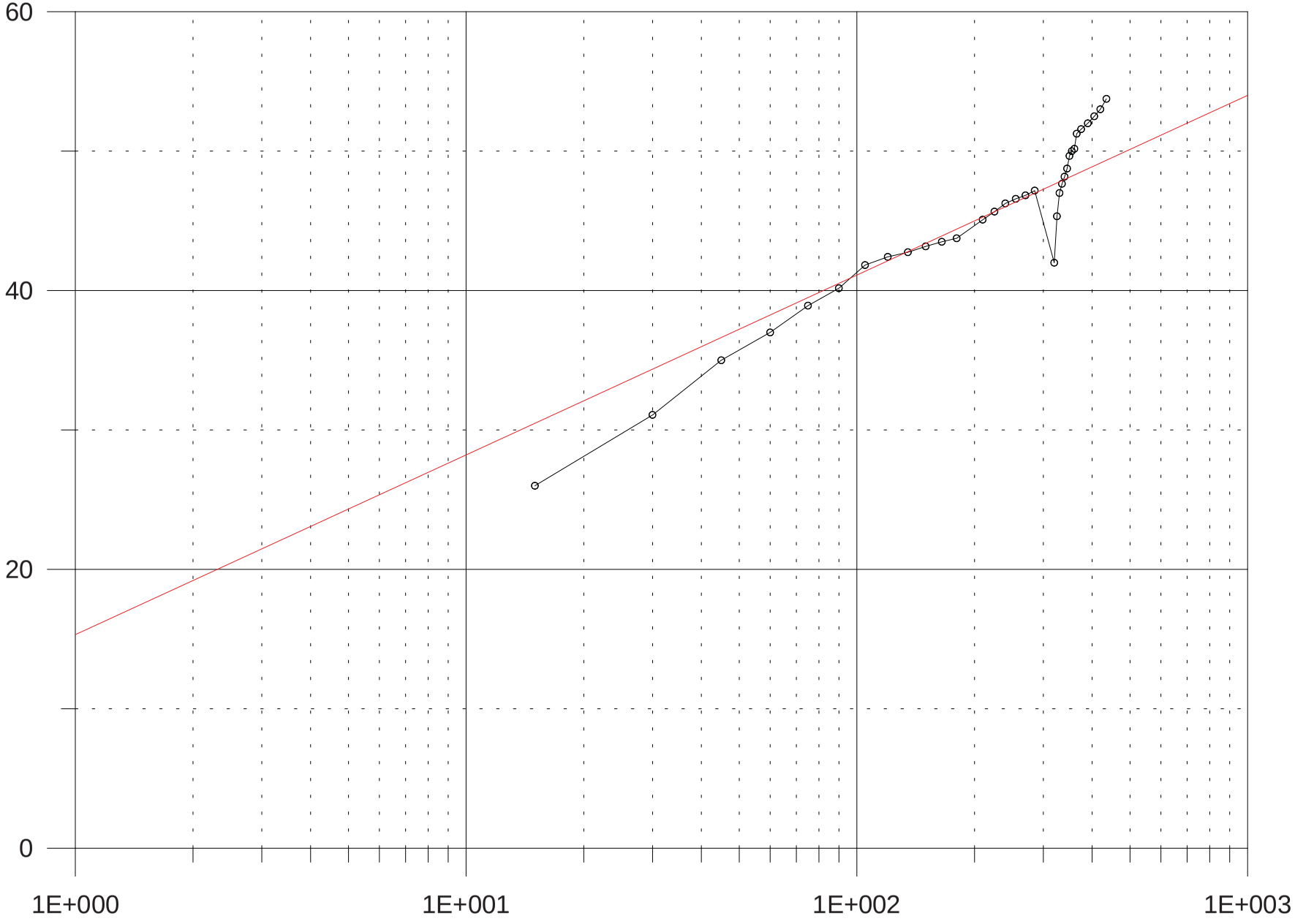
Test of Andover Well #3 (431683)
10/13/1987
Production Test

T = 35.3 600 / 13.24 = 1600 ft2/day



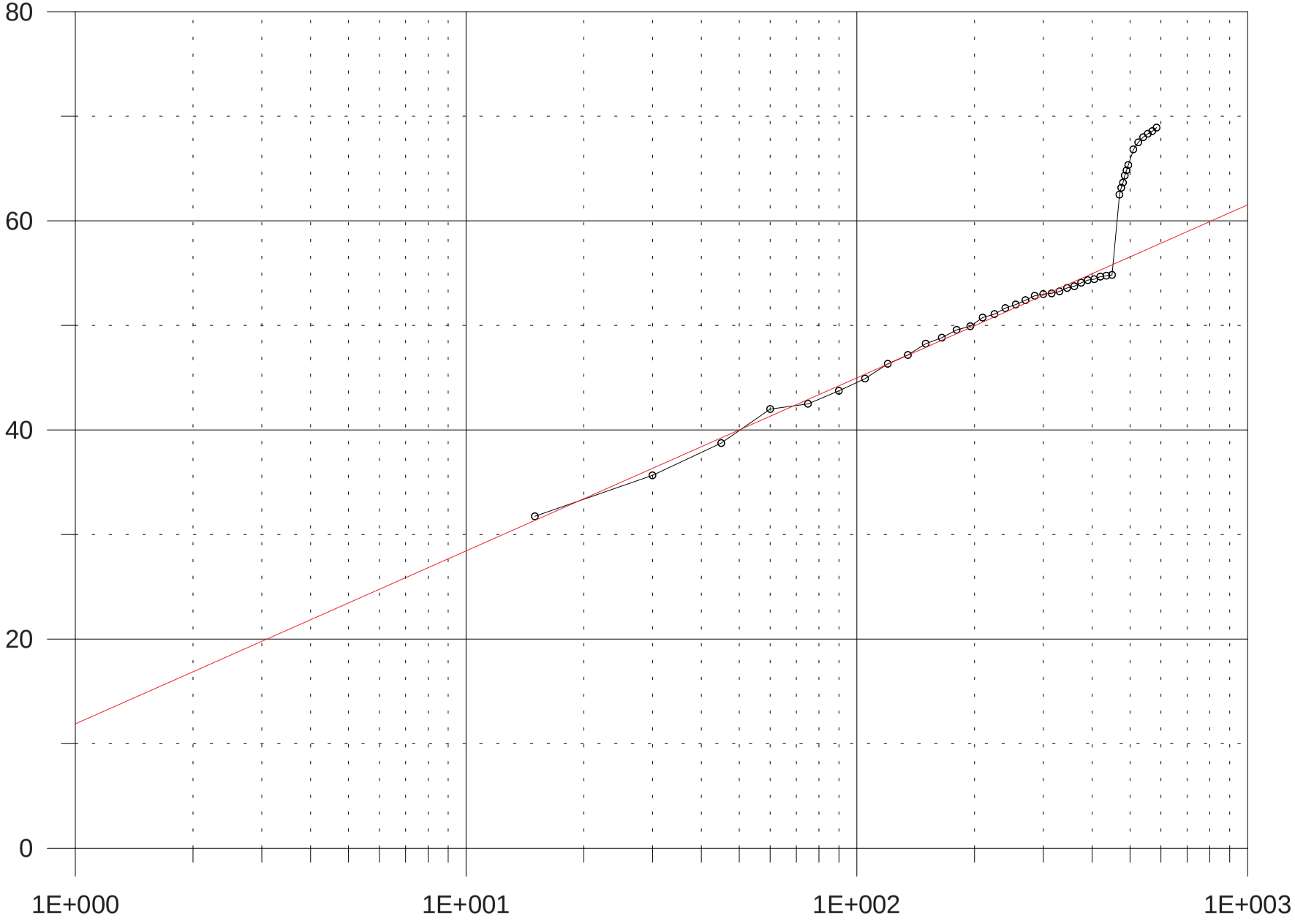
Test of Andover Well #3 (431683)
10/14/1987
Production Test

T = 35.3 800/ 12.89 = 2200ft2/day



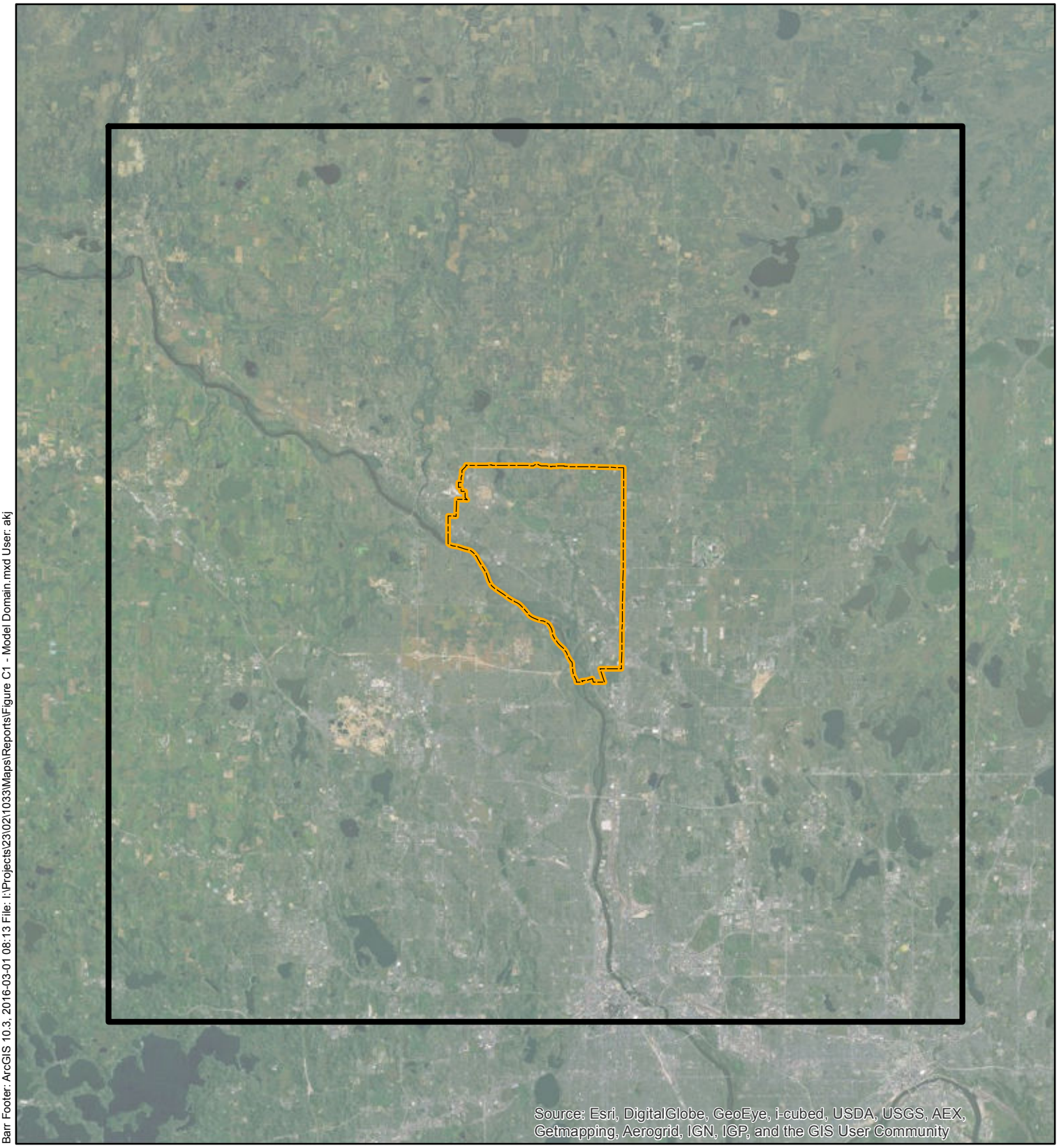
Test of Andover Well #3 (431683)
10/16/1987
Production Test

T = 35.3 1000/ 15.56 = 2130 ft2/day



Appendix C

Groundwater Model Details



Barr Footer: ArcGIS 10.3, 2016-03-01 08:13 File: I:\Projects\23\02\1033\Maps\Reports\Figure C1 - Model Domain.mxd User: akj

Model Boundary

Coon Rapids City Limits

N

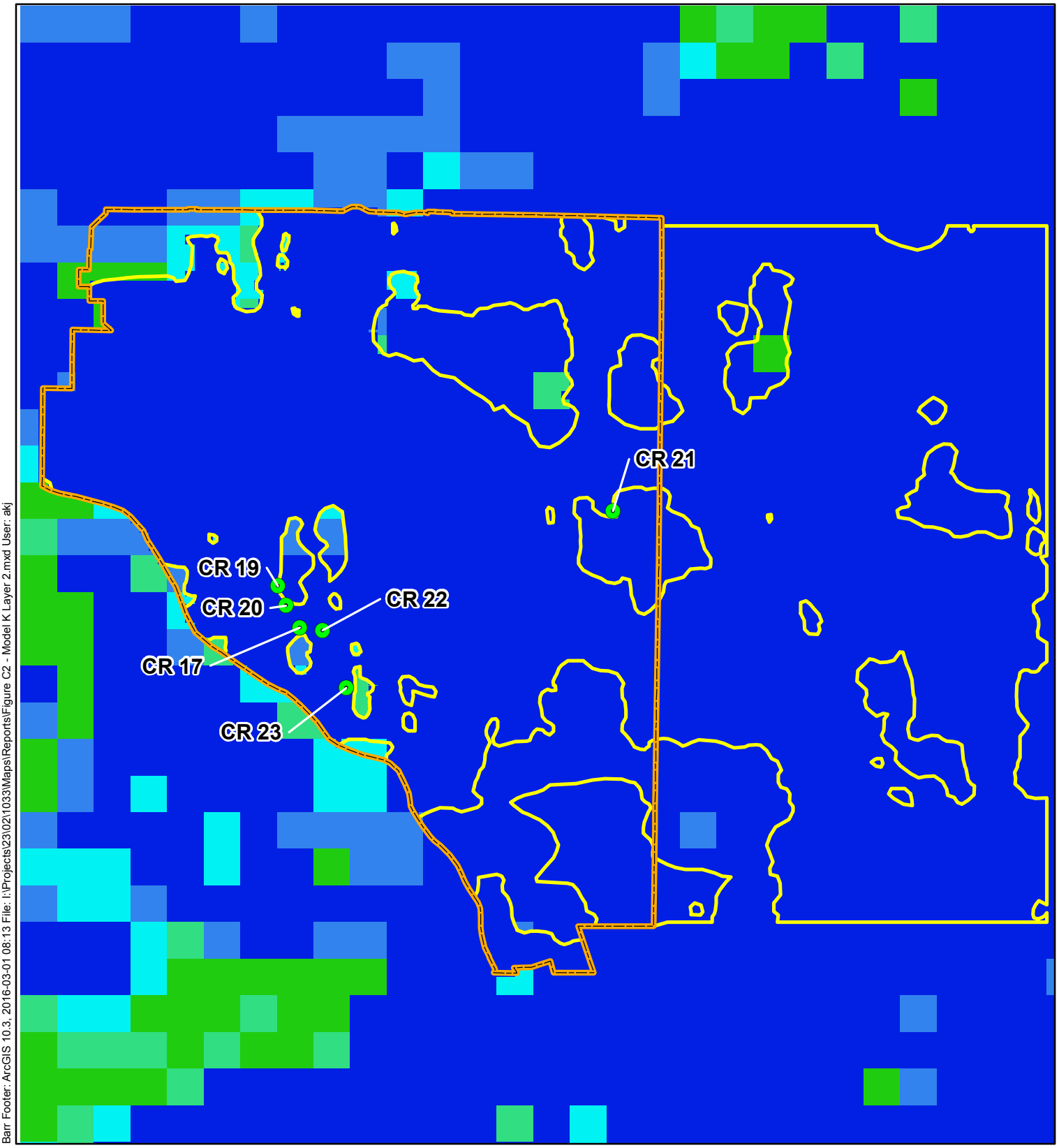
Miles

4 0 4

BARR

Figure C1

MODEL DOMAIN
Coon Rapids WHPP Amendment
City of Coon Rapids, MN



Barr Footer: ArcGIS 10.3, 2016-03-01 08:13 File: I:\Projects\23\02\1033\Maps\Reports\Figure C2 - Model K Layer 2.mxd User: akj

Coon Rapids Municipal Well open to Quaternary

Coon Rapids City Limits

Till Unit Ce Extent in K Modification Area

Layer 2 Kz (m/day)

- 0.0001 - 0.0549
- 0.0550 - 0.2536
- 0.2537 - 1.0045
- 1.0046 - 3.3159
- 3.3160 - 7.6300

N

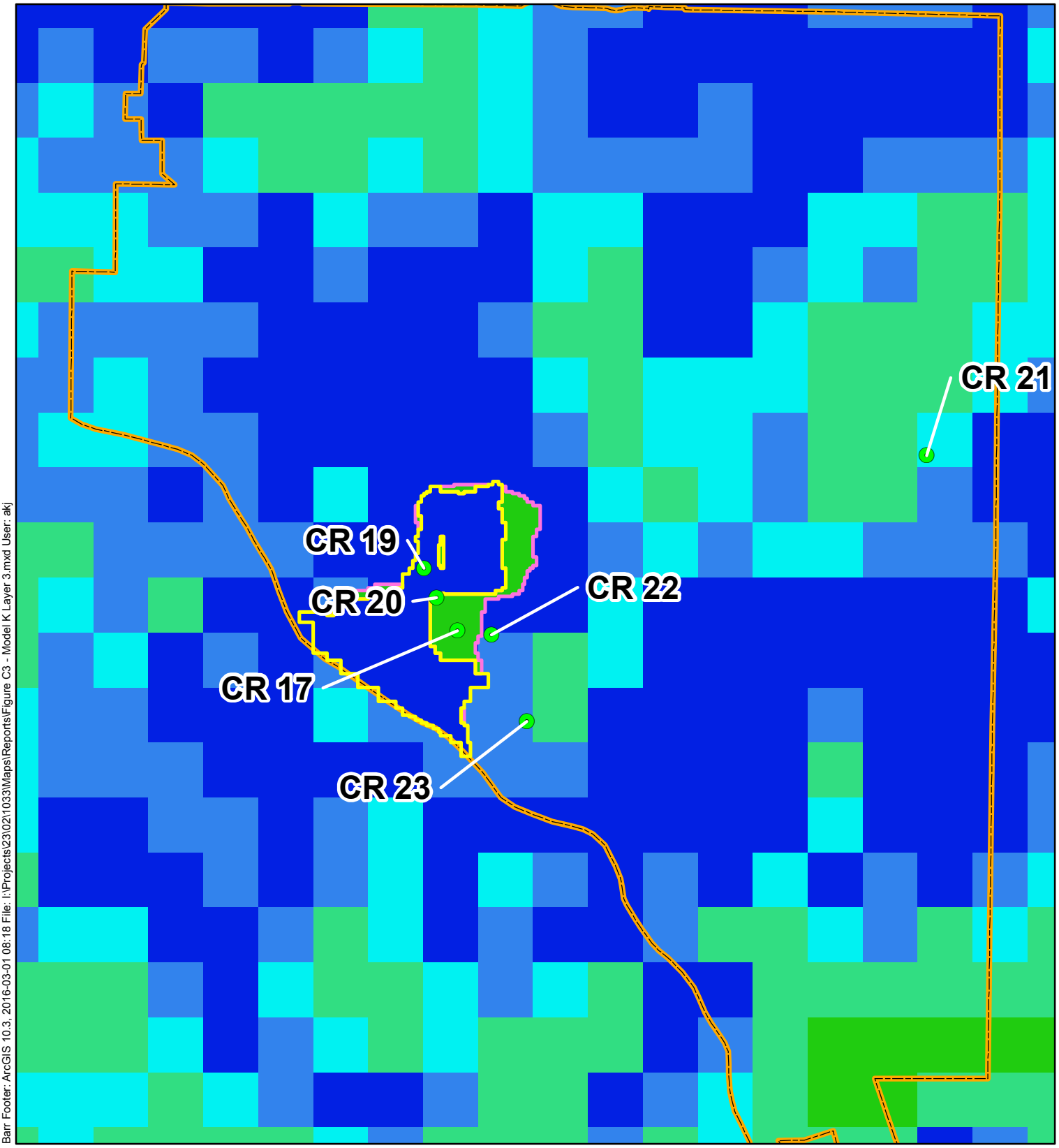
Feet

6,000 0 6,000

BARR

Figure C2

HYDRAULIC CONDUCTIVITY
LAYER 2
Coon Rapids WHPP Amendment
City of Coon Rapids, MN



Barr Footer: ArcGIS 10.3, 2016-03-01 08:18 File: I:\Projects\23\02\1033\Maps\Reports\Figure C3 - Model K Layer 3.mxd User: akj

Coon Rapids Municipal Well open to Quaternary

Coon Rapids City Limits

Layer 3 Kx (m/day)

- 0.62 - 3.91
- 3.92 - 9.03
- 9.04 - 16.54
- 16.55 - 39.67
- 39.68 - 71.05

Till Unit Xt Extent

Sand Unit Sr Extent

N

Feet

4,000 0 4,000

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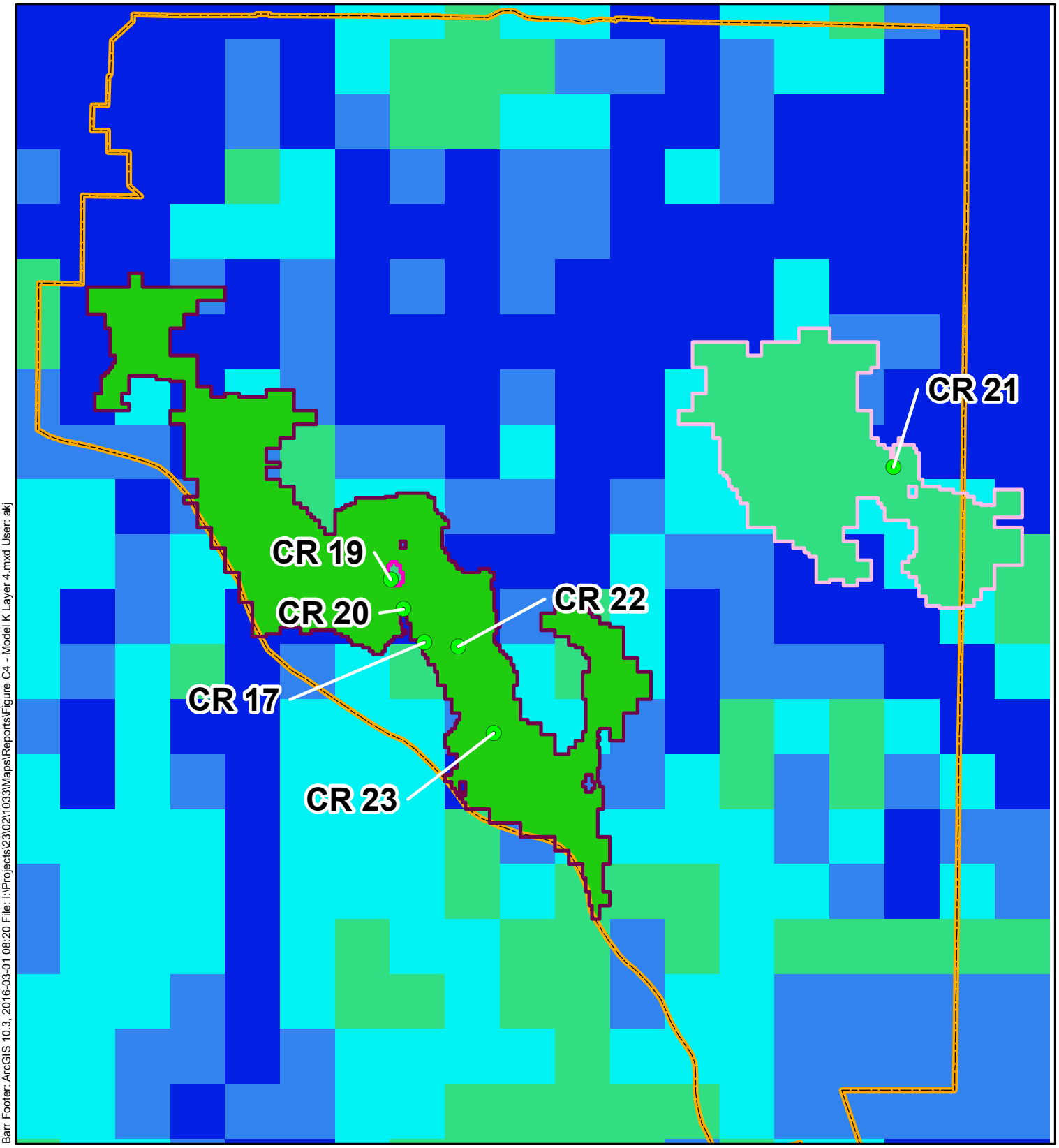
Figure C3

HYDRAULIC CONDUCTIVITY
LAYER 3
Coon Rapids WHPP Amendment
City of Coon Rapids, MN



Barr Footer: ArcGIS 10.3, 2016-03-01 08:20 File: I:\Projects\23\02\1033\Maps\Reports\Figure C4 - Model K Layer 4.mxd User: akj

Coon Rapids Municipal Well open to Quaternary

Coon Rapids City Limits

Layer 4 Kx (m/day)

- 0.57 - 8.63
- 8.64 - 18.38
- 18.39 - 32.30
- 32.31 - 104.43
- 104.44 - 314.42

Sand Units Sp/Sx Extent (Wells 17, 20, 22, 23)

Sand Units Sx/Sr Extent (Well 21)

Sand Unit Sr Extent (Well 19)

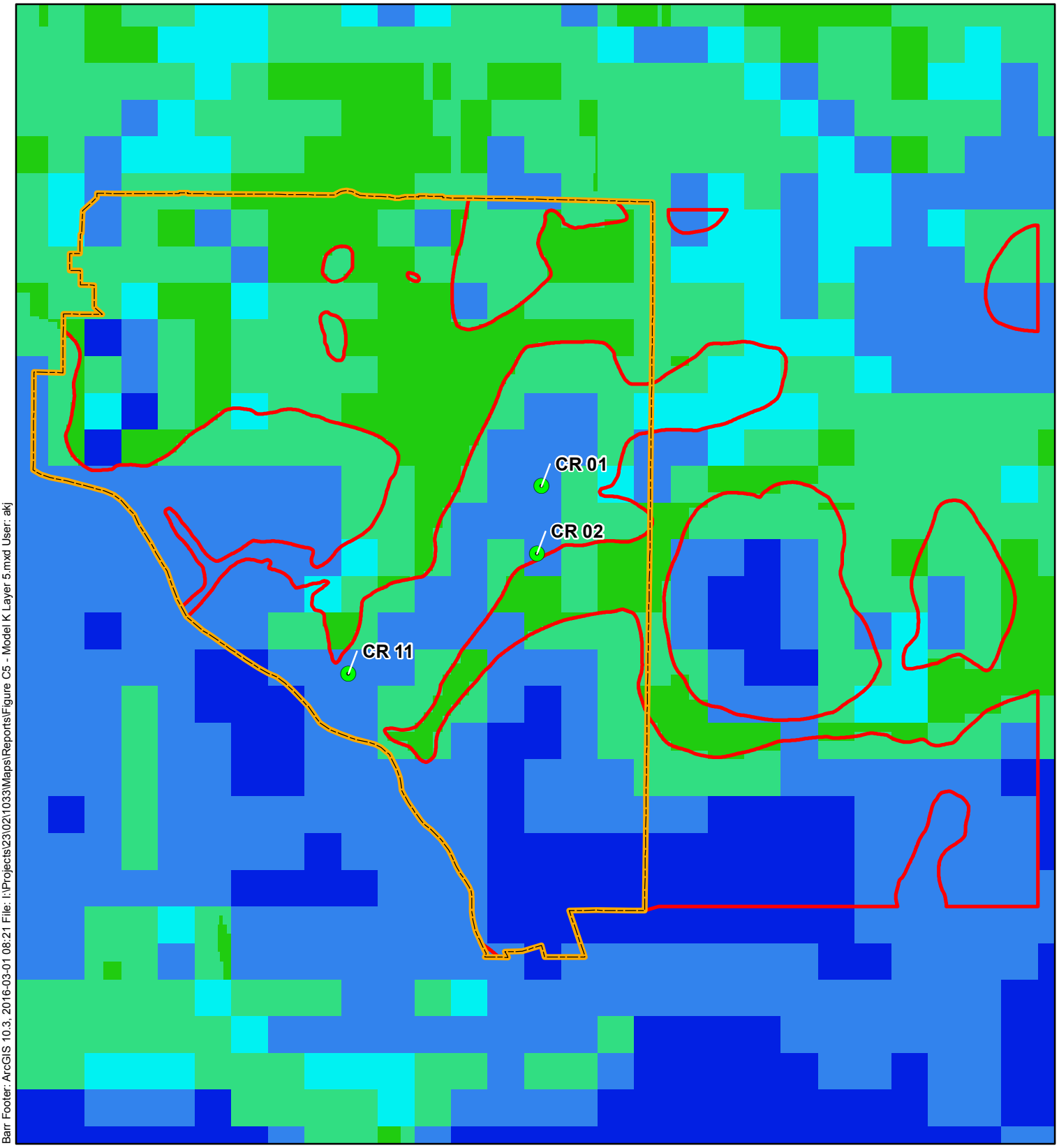
Feet

4,000 0 4,000

BARR

Figure C4

HYDRAULIC CONDUCTIVITY
LAYER 4
Coon Rapids WHPP Amendment
City of Coon Rapids, MN



Barr Footer: ArcGIS 10.3, 2016-03-01 08:21 File: I:\Projects\23\02\1033\Maps\Reports\Figure C5 - Model K Layer 5.mxd User: akj

Coon Rapids Municipal Well Open to St. Lawrence Formation

Coon Rapids City Limits

St. Lawrence K Modification Area

Layer 5 Kx (m/day)

- 0.26 - 1.00
- 1.01 - 4.01
- 4.02 - 11.58
- 11.59 - 28.98
- 28.99 - 50.00

N

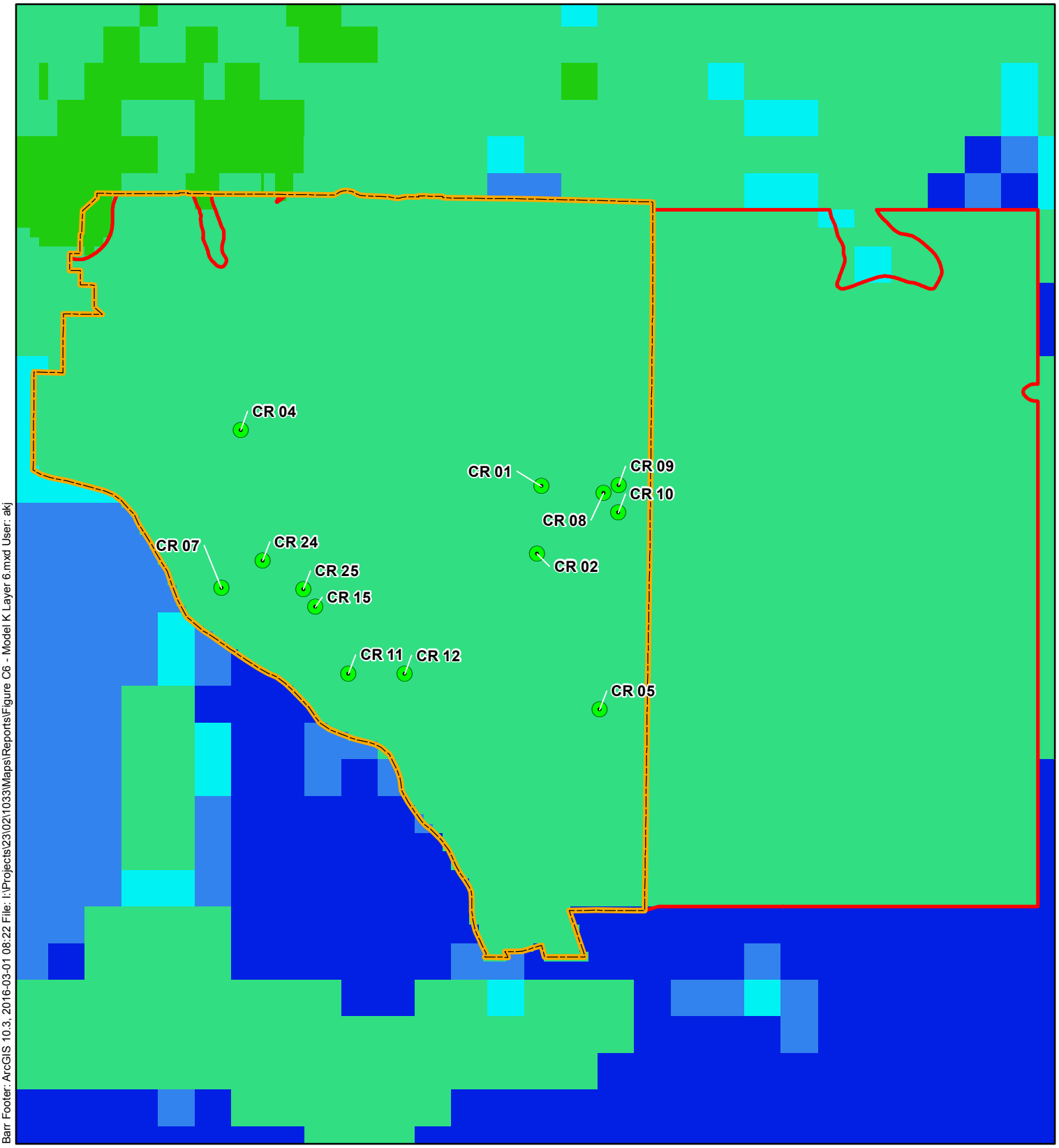
Feet

6,000 0 6,000

BARR

Figure C5

HYDRAULIC CONDUCTIVITY
LAYER 5
Coon Rapids WHPP Amendment
City of Coon Rapids, MN



Barr Footer: ArcGIS 10.3, 2016-03-01 08:22 File: I:\Projects\23\02\1033\Maps\Reports\Figure C6 - Model K Layer 6.mxd User: akj

Coon Rapids Municipal Well Open to Tunnel City Group

Coon Rapids City Limits

Tunnel City K Modification Area

Layer 6 Kx (m/day)

- 0.33 - 0.41
- 0.42 - 0.48
- 0.49 - 1.32
- 1.33 - 15.00
- 15.01 - 50.00

N

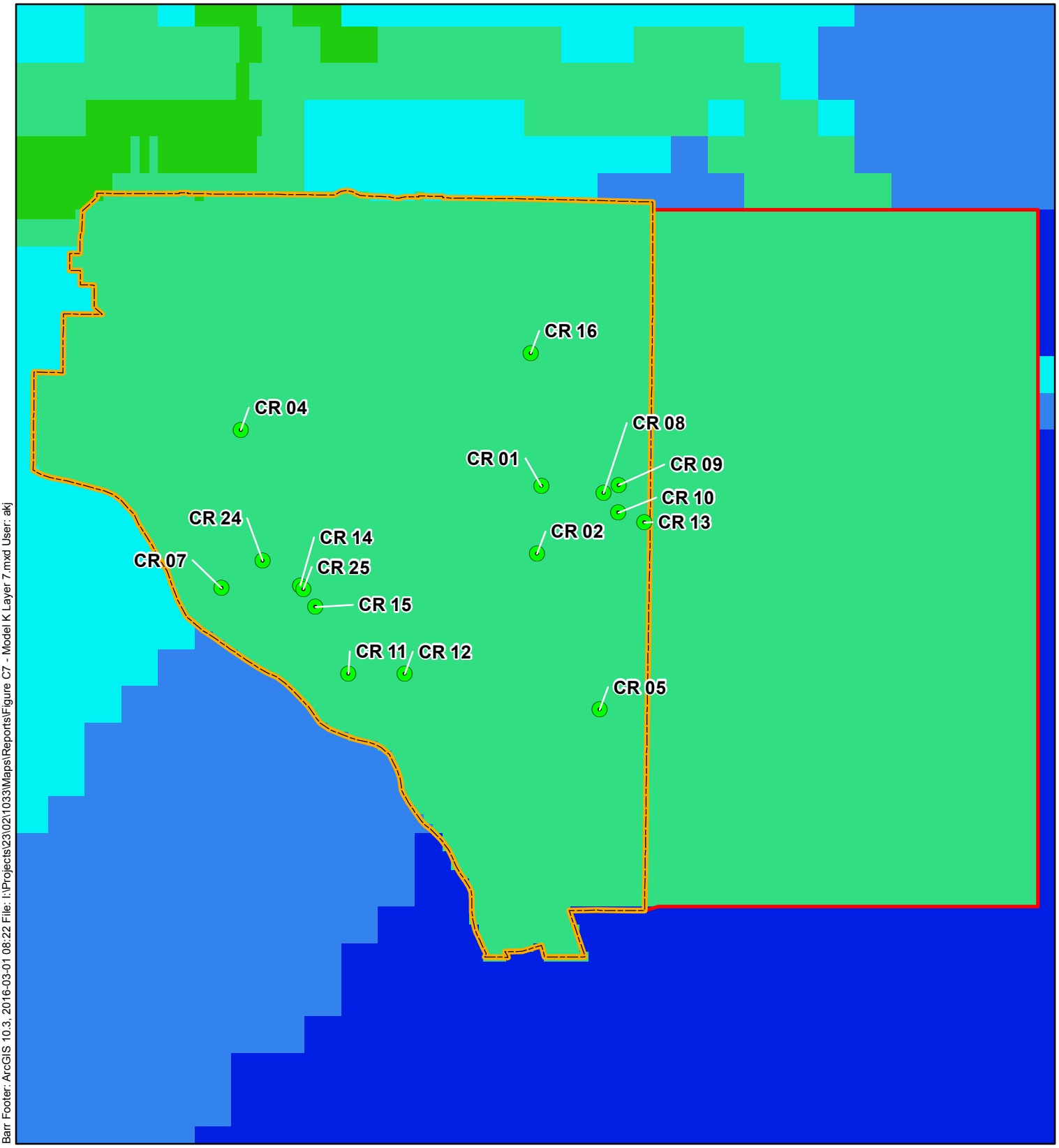
Feet

6,000 0 6,000

BARR

Figure C6

HYDRAULIC CONDUCTIVITY
LAYER 6
Coon Rapids WHPP Amendment
City of Coon Rapids, MN



Barr Footer: ArcGIS 10.3, 2016-03-01 08:22 File: I:\Projects\23\02\1033\Maps\Reports\Figure C7 - Model K Layer 7.mxd User: akj

Coon Rapids Municipal Well Open to Wonewoc Sandstone

Coon Rapids City Limits

K Modification Area

Layer 7 Kx (m/day)

- 0.36 - 0.57
- 0.58 - 0.69
- 0.70 - 1.17
- 1.18 - 12.00
- 12.01 - 50.00

N

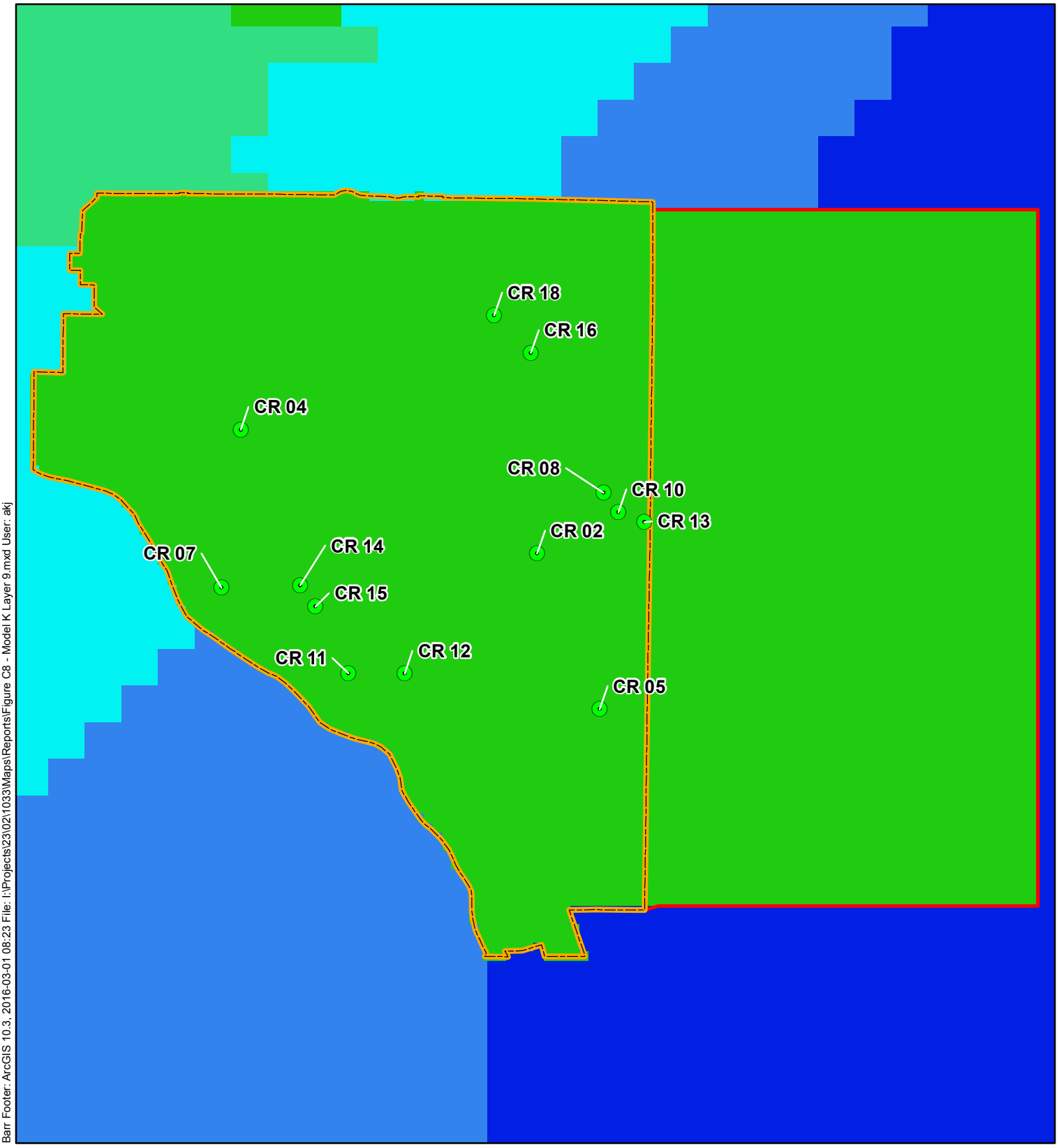
Feet

6,000 0 6,000

BARR

Figure C7

HYDRAULIC CONDUCTIVITY
LAYER 7
Coon Rapids WHPP Amendment
City of Coon Rapids, MN



Barr Footer: ArcGIS 10.3, 2016-03-01 08:23 File: I:\Projects\23\02\1033\Maps\Reports\Figure C8 - Model K Layer 9.mxd User: akj

Coon Rapids Municipal Well Open to Mt. Simon

Coon Rapids City Limits

K Modification Area

Layer 9 Kx (m/day)

- 0.87 - 1.05
- 1.06 - 1.17
- 1.18 - 1.33
- 1.34 - 2.42
- 2.43 - 8.20

N

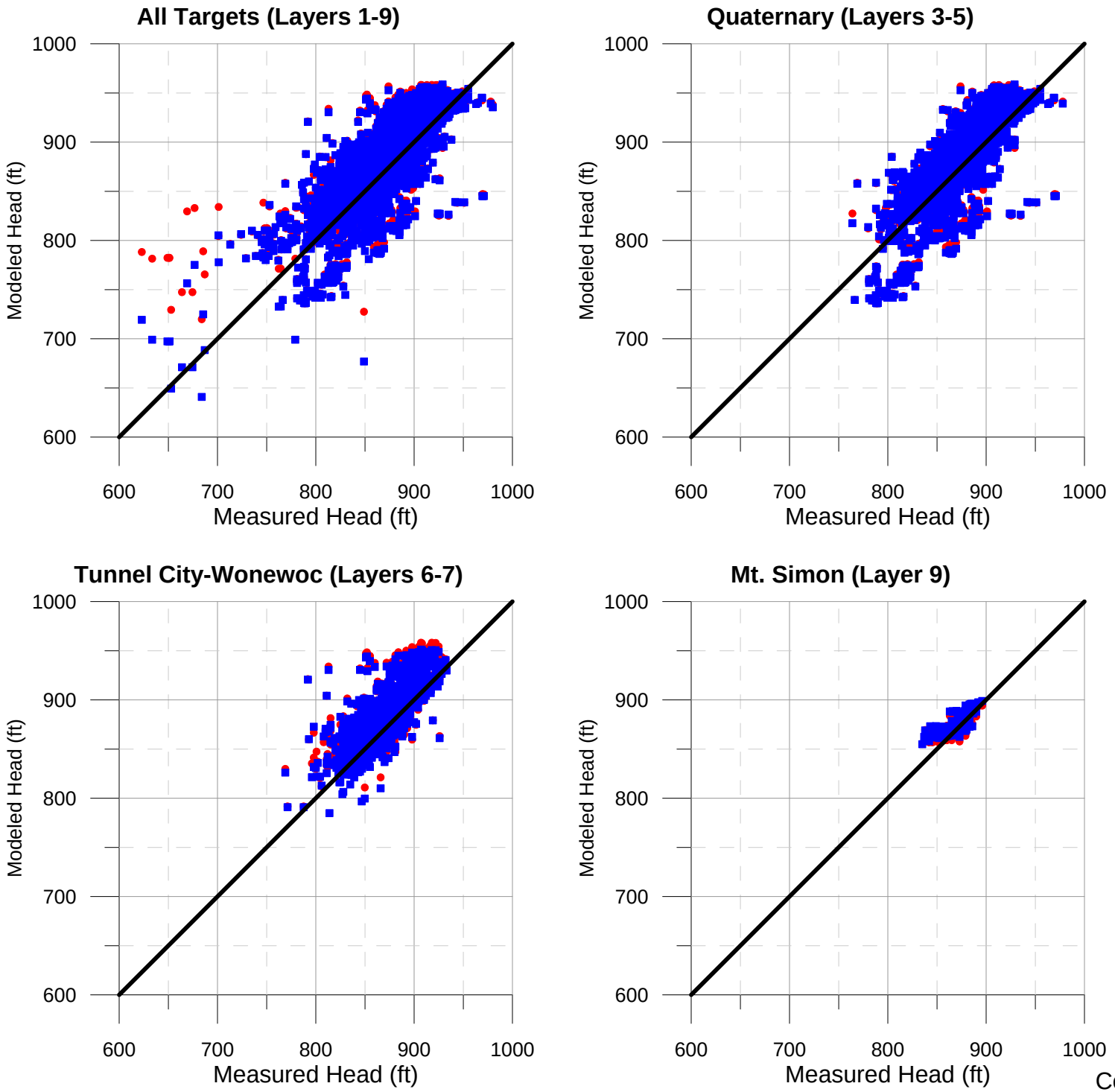
Feet

6,000 0 6,000

BARR

Figure C8

HYDRAULIC CONDUCTIVITY
LAYER 9
Coon Rapids WHPP Amendment
City of Coon Rapids, MN



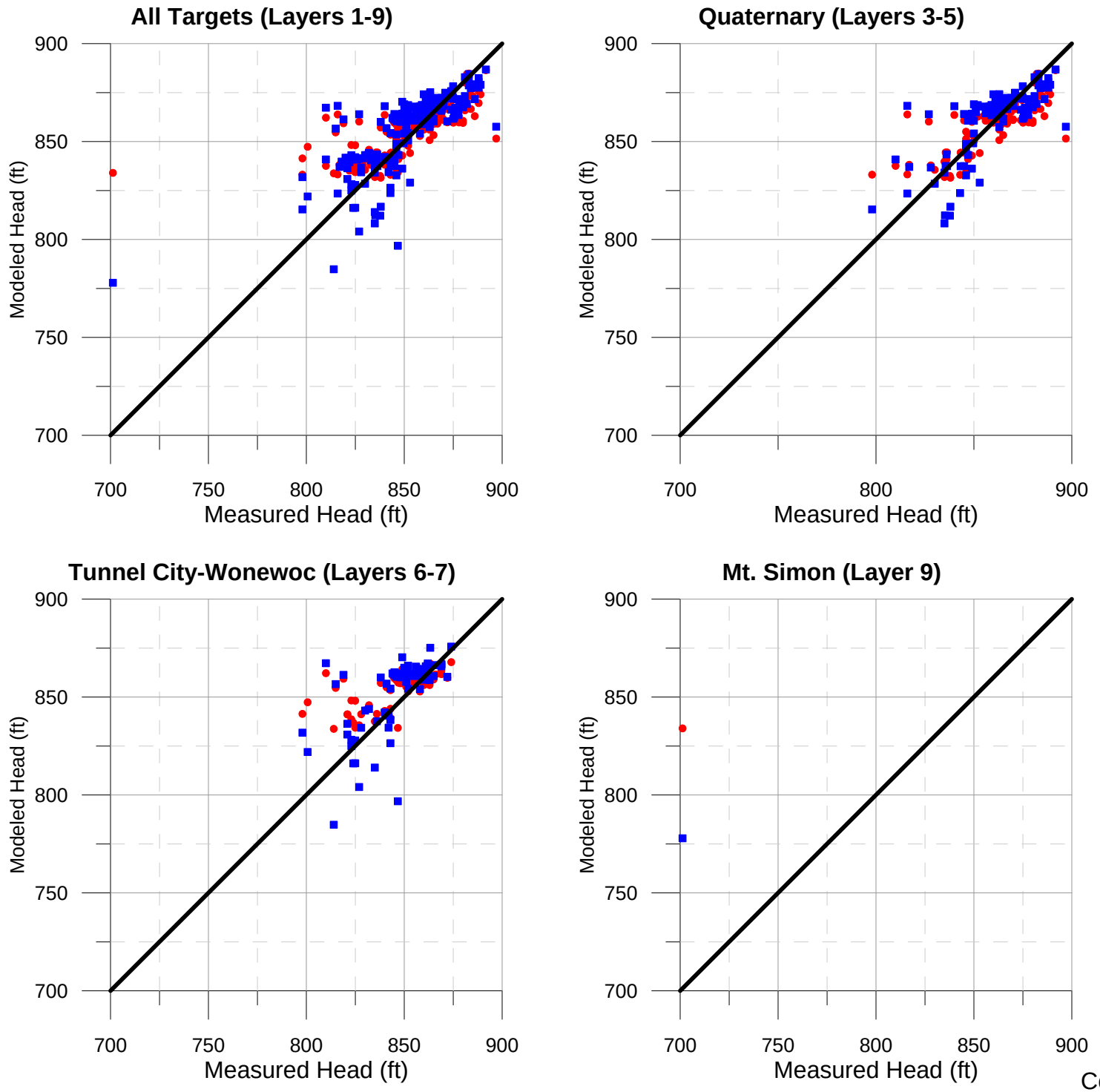
Only Metro Model 3 targets within the TMR model boundary shown.

WHPP model has updated K field but uses identical pumping rates to the base Metro Model 3.

Figure C9

MODEL CALIBRATION
ALL MODEL TARGETS
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

V:\23\02\1033\MM3\TMR\Calibration\Calibration_Comparison.grf



WHPP Model
Base MM3
1:1

Only Metro Model 3 targets within Coon Rapids city limits shown.

WHPP model has updated K field but uses identical pumping rates to the base Metro Model 3.

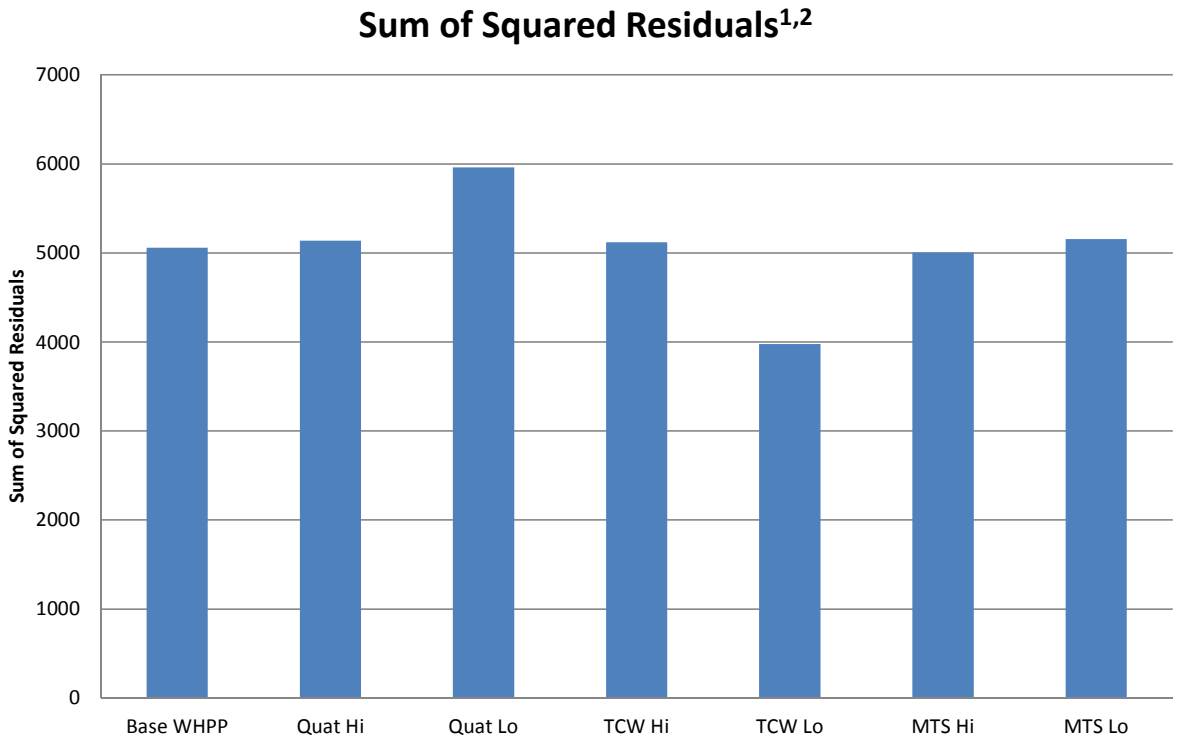
BARR

Figure C10

MODEL CALIBRATION
COON RAPIDS ONLY
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

V:\23\02\1033\MM3\TMR\Calibration\Calibration_Comparison_CRonly.grf

Figure C11
Sensitivity Analysis Results
Coon Rapids WHPP Amendment



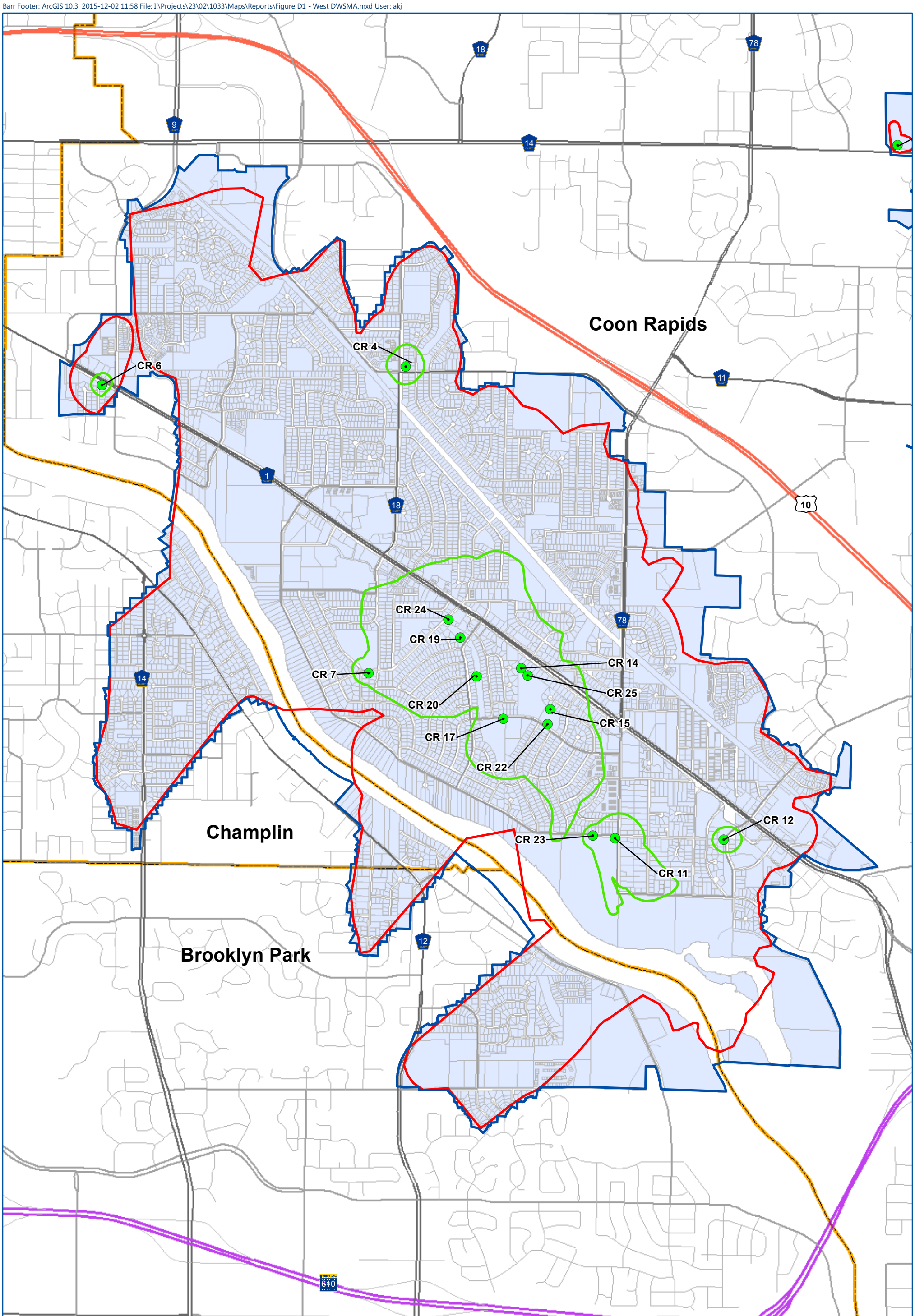
[1] Residuals calculated for the 220 Metro Model 3 calibration targets within Coon Rapids city limits only

[2] Residual = measured head - modeled head

Appendix D

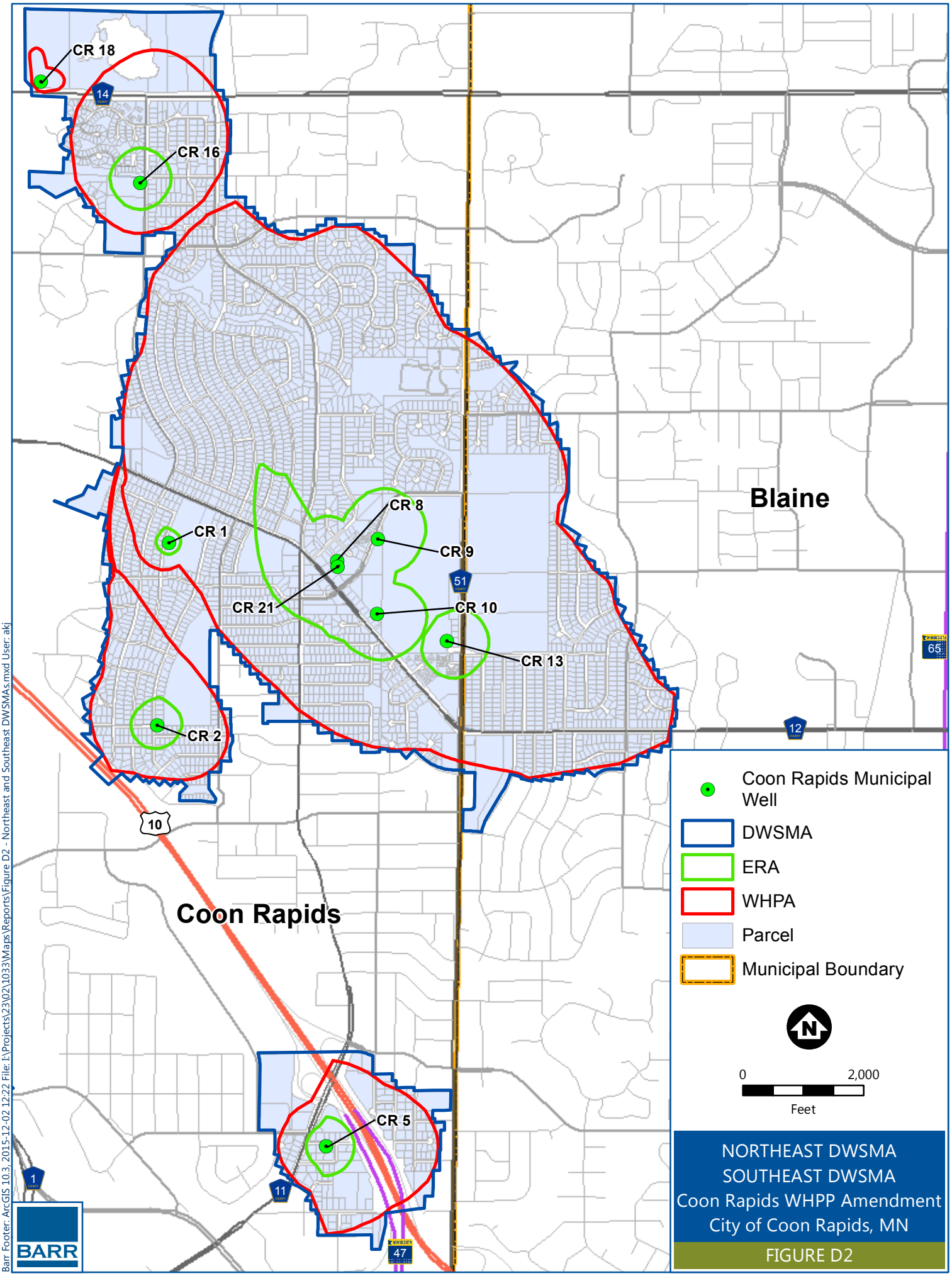
1:24,000 DWSMA Maps

Barr Footer: ArcGIS 10.3, 2015-12-02 11:58 File: I:\Projects\23\02\1033\Maps\Reports\Figure D1 - West DWSMA.mxd User: akj



WEST DWSMA
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

FIGURE D1


CR 18
CR 16
CR 8
CR 9
CR 1
CR 21
CR 10
CR 13
CR 2
CR 5
Blaine
Coon Rapids
14
51
65
12
10
1
11
47
Coon Rapids Municipal Well
DWSMA
ERA
WHPA
Parcel
Municipal Boundary
N
0
2,000
Feet
NORTHEAST DWSMA
SOUTHEAST DWSMA
Coon Rapids WHPP Amendment
City of Coon Rapids, MN
FIGURE D2
BARR
Barr Footer: ArcGIS 10.3, 2015-12-02 12:22 File: I:\Projects\23\02\1033\Maps\Reports\Figure D2 - Northeast and Southeast DWSMAs.mxd User: akj

Appendix E

MDH Well Vulnerability Assessments

Adam K. Janzen

From: Djerrari, Amal (MDH) <amal.djerrari@state.mn.us>
Sent: Friday, October 23, 2015 15:18
To: Adam K. Janzen
Cc: John Greer; Djerrari, Amal (MDH)
Subject: RE: Coon Rapids Tritium

Hi Adam
I just received the tritium results for Coon Rapids
Amal

Well Id	Collection Date	Analyte	Result	PWS Id
202931	7/9/2015	TRITIUM	2.902362371	1020017
110460	7/9/2015	TRITIUM	1.763706017	1020017
474384	7/9/2015	TRITIUM	8.563001794	1020017
202929	7/9/2015	TRITIUM	2.581490857	1020017
202951	7/9/2015	TRITIUM	<.8	1020017
202937	7/9/2015	TRITIUM	6.833970803	1020017
110469	7/9/2015	TRITIUM	<.8	1020017

Amal M. Djerrari, Ph.D., P.E
Hydrologist

Minnesota Department of Health
Source Water Protection Unit
625 Robert Street North
St. Paul, MN 55164

ph: (651) 201-4577
Cell: (651) 245-1918
Fax: (651) 201-4701
e-mail: amal.djerrari@state.mn.us

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #1

TIER: 2
WHP RANK:
UNIQUE WELL #: 00202926

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 13 | QUARTERS: BCCA

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Multiple Aquifer	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	3	
Geologic Data From	:	Well Record	
Year Constructed	:	1957	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	220	5
Well Depth	:	462	
Casing grouted into borehole?		Unknown	0
Cement grout between casings?		Not applicable	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	600	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.05 12/16/1997	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		35
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE

Vulnerability Overridden :

COMMENTS

ST. LAWRENCE - EAU CLAIRE

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #2

TIER: 2
WHP RANK:
UNIQUE WELL #: 00202929

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 13 | QUARTERS: CCCC

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Multiple Aquifer	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	1	
Geologic Data From	:	Well Record	
Year Constructed	:	1957	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	226	5
Well Depth	:	685	
Casing grouted into borehole?		Unknown	0
Cement grout between casings?		Not applicable	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	600	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	.18 07/13/2004	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		35
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE

Vulnerability Overridden :

COMMENTS
ST. LAWRENCE - SOLOR CHURCH

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

PWSID: 1020017 | TIER: 2
SYSTEM NAME: Coon Rapids | WHP RANK:
WELL NAME: Well #4 | UNIQUE WELL #: 00202972

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 9 | QUARTERS: DCCC

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	1	
Geologic Data From	:	Well Record	
Year Constructed	:	1960	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	233	5
Well Depth	:	605	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	600	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	.46 07/08/2013	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		35
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE
Vulnerability Overridden	:		

COMMENTS

NITRATE DATA FROM PWSD 1989, 8/75 SAMPLE Low rating is based on the thickness of the St. Lawrence that is grouted off. Log was not descriptive enough to assess the glacial deposits.

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #5

TIER: 2
WHP RANK:
UNIQUE WELL #: 00202951

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 25 | QUARTERS: ACBB

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Low	15
L Score	:	4	
Geologic Data From	:	Well Record	
Year Constructed	:	1961	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	242	5
Well Depth	:	695	
Casing grouted into borehole?		Unknown	0
Cement grout between casings?		Unknown	5
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	900	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.4	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		35
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE
Vulnerability Overridden	:		

COMMENTS
Low score is based on the thickness of the St. Lawrence that is sealed off.

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

PWSID: 1020017 | TIER: 2
SYSTEM NAME: Coon Rapids | WHP RANK:
WELL NAME: Well #6 | UNIQUE WELL #: 00202937

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 17 | QUARTERS: BBAA

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Tunnel City Group	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	2	
Geologic Data From	:	Well Record	
Year Constructed	:	1960	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	118	10
Well Depth	:	158	
Casing grouted into borehole?		Unknown	0
Cement grout between casings?		Not applicable	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1050	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<1	0
Maximum tritium detected	:	14.9 11/08/1999	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		50
Wellhead Protection Vulnerability Rating	:		VULNERABLE

Vulnerability Overridden :

COMMENTS
NITRATE DATA FROM PWSD 1989, 8/75 SAMPLE

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #7

TIER: 2
WHP RANK:
UNIQUE WELL #: 00202943

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 21 | QUARTERS: BDAC

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	3	
Geologic Data From	:	Well Record	
Year Constructed	:	1964	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	189	10
Well Depth	:	632	
Casing grouted into borehole?		Unknown	0
Cement grout between casings?		Unknown	5
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1050	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.4	0
Maximum tritium detected	:	1.1 11/08/1999	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		55
Wellhead Protection Vulnerability Rating	:		VULNERABLE

Vulnerability Overridden :

COMMENTS

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #8

TIER: 2
WHP RANK:
UNIQUE WELL #: 00202932

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 13 | QUARTERS: ACCD

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	1	
Geologic Data From	:	Data Inferred From Nearby Wells	
Year Constructed	:	1965	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	283	5
Well Depth	:	700	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1000	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<1	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		35
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE

Vulnerability Overridden :

COMMENTS
NITRATE DATA FFROM PWSD 1989, 8/75 SAMPLE. Low rating is taken from the log of well #2 (202929).

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #9

TIER: 2
WHP RANK:
UNIQUE WELL #: 00202931

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 13 | QUARTERS: ACCD

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Eau Claire	
DNR Geologic Sensitivity Rating	:	Very low	10
L Score	:	10	
Geologic Data From	:	Data Inferred From Nearby Wells	
Year Constructed	:	1969	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	294	5
Well Depth	:	500	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1000	10
Pathogen Detected?			NOT VULNERABLE
Surface Water Characteristics?			NOT VULNERABLE
Maximum nitrate detected	:	<.4	NOT VULNERABLE
Maximum tritium detected	:	<.8 04/21/1997	NOT VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		25
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE
Vulnerability Overridden	:		

COMMENTS
Very low rating is based on the log for well #2 (202931).

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #10

TIER: 2
WHP RANK:
UNIQUE WELL #: 00202930

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 13 | QUARTERS: DABC

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Very low	10
L Score	:	10	
Geologic Data From	:	Data Inferred From Nearby Wells	
Year Constructed	:	1970	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	272	5
Well Depth	:	684	
Casing grouted into borehole?		Unknown	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1000	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<1	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		25
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE

Vulnerability Overridden :

COMMENTS

NITRATE DATA FROM PWSD 1989, 8/75 SAMPLE NITRATE DATA FROM PWSD 1989, 7/80 SAMPLE NITRATE DATA FROM PWSD 1989, 6/84 SAMPLE NITRATE DATA FROM PWWSD 1989, 7/79 SAMPLE Very low rating is based on well #13 and the presence of the St. Lawrence confining layer.

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #11

TIER: 2
WHP RANK:
UNIQUE WELL #: 00202965

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 27 | QUARTERS: BAAA

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Tunnel City-Wonewoc	
DNR Geologic Sensitivity Rating	:	Very low	0
L Score	:	4	
Geologic Data From	:	Well Record	
Year Constructed	:	1972	
Construction Method	:	Rotary/Drilled	0
Casing Depth	:	189	10
Well Depth	:	421	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Not applicable	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1100	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.4	0
Maximum tritium detected	:	2.7 06/08/2010	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		30
Wellhead Protection Vulnerability Rating	:		VULNERABLE
Vulnerability Overridden	:		

COMMENTS
NITRATE DATA FROEM PWSD 1989, 10/85 SAMPLE. Previous tritium result 7.2 on 11/08/1999.

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #12

TIER: 2
WHP RANK:
UNIQUE WELL #: 00168721

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 27 | QUARTERS: AAAA

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Very low	10
L Score	:	9	
Geologic Data From	:	Well Record	
Year Constructed	:	1975	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	208	5
Well Depth	:	604	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	850	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.4	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		25
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE

Vulnerability Overridden :

COMMENTS

625 Robert St. N. St. Paul MN 55155
P.O. Box 64975 St. Paul MN 55164 - 0975

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #13

TIER: 2
WHP RANK:
UNIQUE WELL #: 00168720

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 13 | QUARTERS: DADD

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Very low	10
L Score	:	10	
Geologic Data From	:	Well Record	
Year Constructed	:	1977	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	395	5
Well Depth	:	693	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1000	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.4	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		25
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE

Vulnerability Overridden :

COMMENTS

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MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #14

TIER: 2
WHP RANK:
UNIQUE WELL #: 00110460

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 22 | QUARTERS: BCBB

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Medium	25
L Score	:	0	
Geologic Data From	:	Well Record	
Year Constructed	:	1977	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	328	5
Well Depth	:	613	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1000	10
Pathogen Detected?			NOT VULNERABLE
Surface Water Characteristics?			NOT VULNERABLE
Maximum nitrate detected	:	<.4	NOT VULNERABLE
Maximum tritium detected	:	<.8 11/08/1999	NOT VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		40
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE

Vulnerability Overridden :

COMMENTS

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MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #15

TIER: 2
WHP RANK:
UNIQUE WELL #: 00110461

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 22 | QUARTERS: BCDD

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Franconia-Mt. Simon	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	1	
Geologic Data From	:	Well Record	
Year Constructed	:	1976	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	225	5
Well Depth	:	615	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1300	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.4	0
Maximum tritium detected	:	1 11/08/1999	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		45
Wellhead Protection Vulnerability Rating	:		VULNERABLE

Vulnerability Overridden :

COMMENTS

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MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #16

TIER: 2
WHP RANK:
UNIQUE WELL #: 00161413

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 11 | QUARTERS: ADAA

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Wonewoc-Mt.Simon	
DNR Geologic Sensitivity Rating	:	Very low	15
L Score	:	5	
Geologic Data From	:	Well Record	
Year Constructed	:	1981	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	395	5
Well Depth	:	653	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1050	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.05 08/02/1994	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		40
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE

Vulnerability Overridden :

COMMENTS
L=5 Based on 58 feet of St. Lawrence Formation

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MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #17

TIER: 2
WHP RANK:
UNIQUE WELL #: 00150357

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 21 | QUARTERS: DAAA

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Quaternary Buried Artesian	
DNR Geologic Sensitivity Rating	:	Medium	25
L Score	:	0	
Geologic Data From	:	Well Record	
Year Constructed	:	1981	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	81	10
Well Depth	:	121	
Casing grouted into borehole?		No	0
Cement grout between casings?		Not applicable	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1000	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.4	0
Maximum tritium detected	:	2 06/08/2010	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		45
Wellhead Protection Vulnerability Rating	:		VULNERABLE
Vulnerability Overridden	:		

COMMENTS

625 Robert St. N. St. Paul MN 55155
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MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #18

TIER: 2
WHP RANK:
UNIQUE WELL #: 00110469

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 2 | QUARTERS: DCDC

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Mt. Simon	
DNR Geologic Sensitivity Rating	:	Very low	0
L Score	:	18	
Geologic Data From	:	Well Record	
Year Constructed	:	1986	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	575	0
Well Depth	:	637	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Unknown	5
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1000	10
Pathogen Detected?			NOT VULNERABLE
Surface Water Characteristics?			NOT VULNERABLE
Maximum nitrate detected	:	<.4	NOT VULNERABLE
Maximum tritium detected	:	<.8 04/21/1997	NOT VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	A	-20
Wellhead Protection Score	:		-5
Wellhead Protection Vulnerability Rating	:		NOT VULNERABLE
Vulnerability Overridden	:		

COMMENTS

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

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PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #19

TIER: 2
WHP RANK:
UNIQUE WELL #: 00110475

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 16 | QUARTERS:

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Quaternary Buried Artesian	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	3	
Geologic Data From	:	Well Record	
Year Constructed	:	1987	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	115	10
Well Depth	:	135	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Unknown	5
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1150	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	.53 07/08/2014	0
Maximum tritium detected	:	36.7 07/16/1991	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	M	0
Wellhead Protection Score	:		55
Wellhead Protection Vulnerability Rating	:		VULNERABLE

Vulnerability Overridden :

COMMENTS

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MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #20

TIER: 2
WHP RANK:
UNIQUE WELL #: 00420956

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 21 | QUARTERS: ADBD

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Quaternary Buried Artesian	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	1	
Geologic Data From	:	Well Record	
Year Constructed	:	1988	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	95	10
Well Depth	:	135	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1100	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	.35 07/08/2014	0
Maximum tritium detected	:	6.9 06/08/2010	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		50
Wellhead Protection Vulnerability Rating	:		VULNERABLE
Vulnerability Overridden	:		Jim Walsh

COMMENTS

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MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #21

TIER: 2
WHP RANK:
UNIQUE WELL #: 00474384

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 13 | QUARTERS: ACCD

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Quaternary Buried Artesian	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	1	
Geologic Data From	:	Well Record	
Year Constructed	:	1990	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	170	10
Well Depth	:	203	
Casing grouted into borehole?		Unknown	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	900	10
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.05 07/07/2014	0
Maximum tritium detected	:	11.5 04/21/1997	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		40
Wellhead Protection Vulnerability Rating	:		VULNERABLE

Vulnerability Overridden :

COMMENTS

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

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PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #22

TIER: 2
WHP RANK:
UNIQUE WELL #: 00474385

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 22 | QUARTERS: CBAA

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Quaternary Buried Artesian	
DNR Geologic Sensitivity Rating	:	Medium	25
L Score	:	0	
Geologic Data From	:	Well Record	
Year Constructed	:	1990	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	80	10
Well Depth	:	105	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Not applicable	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	250	5
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	.07 09/23/2014	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		40
Wellhead Protection Vulnerability Rating	:		VULNERABLE
Vulnerability Overridden	:		Jim Walsh

COMMENTS
Vulnerable because of tritium in Well 20.

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MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #23

TIER: 2
WHP RANK:
UNIQUE WELL #: 00463020

COUNTY: Anoka | TOWNSHIP NUMBER: 31 | RANGE: 24 W | SECTION: 27 | QUARTERS: BAA

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Quaternary Buried Artesian	
DNR Geologic Sensitivity Rating	:	Medium	25
L Score	:	0	
Geologic Data From	:	Well Record	
Year Constructed	:	1991	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	93	10
Well Depth	:	128	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Unknown	5
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	250	5
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.05 09/23/2014	0
Maximum tritium detected	:	7.7 06/08/2010	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		45
Wellhead Protection Vulnerability Rating	:		VULNERABLE
Vulnerability Overridden	:		

COMMENTS
Previous tritium result 21.6 TU on 04/21/1997.

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

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PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #24

TIER: 2
WHP RANK:
UNIQUE WELL #: 00674478

COUNTY: Anoka | TOWNSHIP NUMBER: | RANGE: | SECTION: | QUARTERS:

CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Tunnel City-Wonewoc	
DNR Geologic Sensitivity Rating	:	Medium	25
L Score	:	0	
Geologic Data From	:	Well Record	
Year Constructed	:	2003	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	241	5
Well Depth	:	388	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1150	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.05 07/08/2014	0
Maximum tritium detected	:	7.7 07/15/2010	VULNERABLE
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		50
Wellhead Protection Vulnerability Rating	:		VULNERABLE

Vulnerability Overridden :

COMMENTS

MINNESOTA DEPARTMENT OF HEALTH
SECTION OF DRINKING WATER PROTECTION
SWP Vulnerability Rating

625 Robert St. N. St. Paul MN 55155
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PWSID: 1020017
SYSTEM NAME: Coon Rapids
WELL NAME: Well #25

TIER: 2
WHP RANK:
UNIQUE WELL #: 00674479

COUNTY: Anoka | TOWNSHIP NUMBER: | RANGE: | SECTION: | QUARTERS:

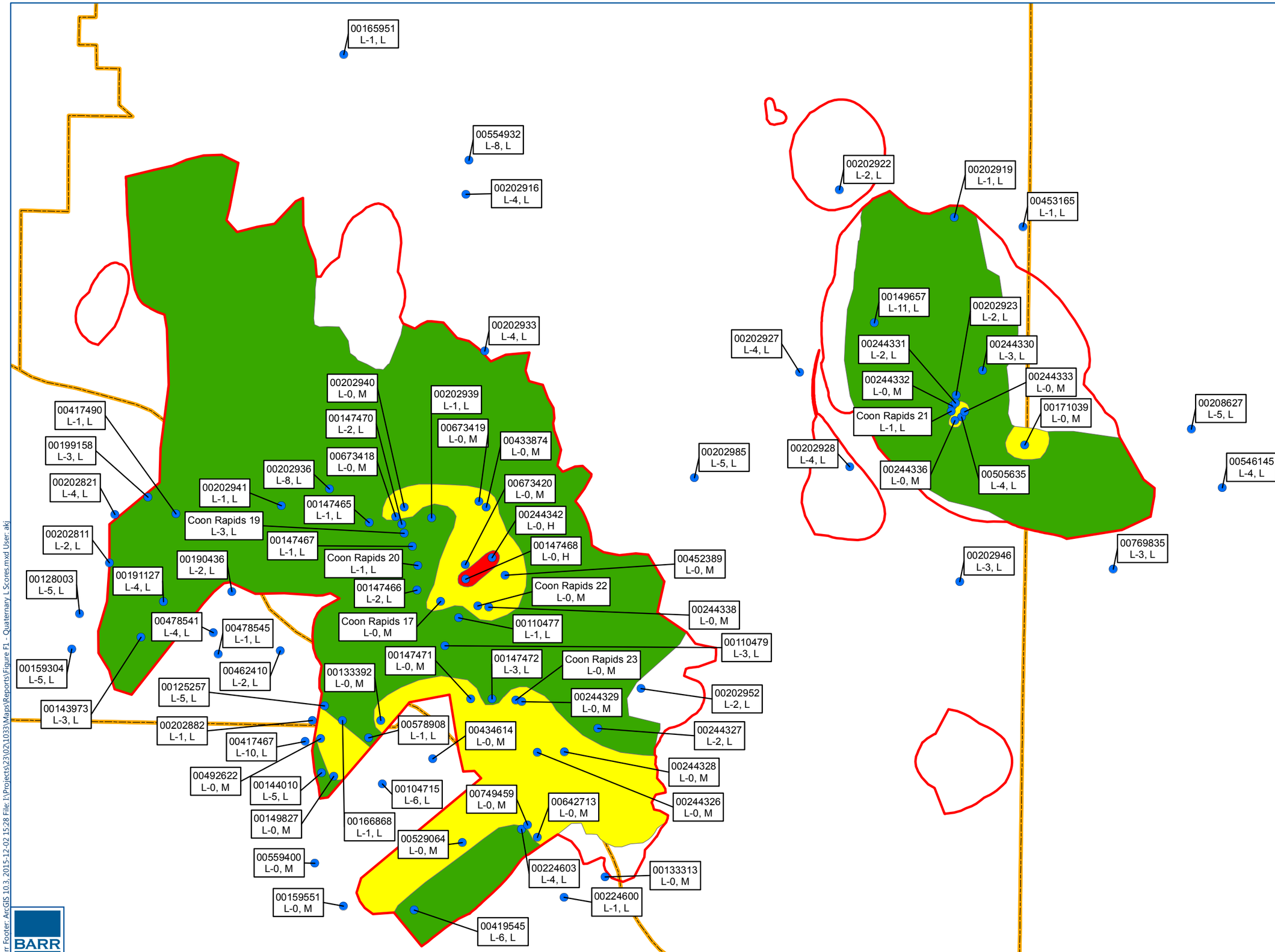
CRITERIA		DESCRIPTION	POINTS
Aquifer Name(s)	:	Tunnel City-Wonewoc	
DNR Geologic Sensitivity Rating	:	Low	20
L Score	:	3	
Geologic Data From	:	Well Record	
Year Constructed	:	2003	
Construction Method	:	Cable Tool/Bored	0
Casing Depth	:	229	5
Well Depth	:	388	
Casing grouted into borehole?		Yes	0
Cement grout between casings?		Yes	0
All casings extend to land surface?		Yes	0
Gravel - packed casings?		No	0
Wood or masonry casing?		No	0
Holes or cracks in casing?		Unknown	0
Isolation distance violations?			0
Pumping Rate	:	1125	20
Pathogen Detected?			0
Surface Water Characteristics?			0
Maximum nitrate detected	:	<.05 07/08/2014	0
Maximum tritium detected	:	Unknown	0
Non-THMS VOCs detected?			0
Pesticides detected?			0
Carbon 14 age	:	Unknown	0
Wellhead Protection Score	:		45
Wellhead Protection Vulnerability Rating	:		VULNERABLE

Vulnerability Overridden :

COMMENTS
L=3 Based on 30 feet of St. Lawrence Formation

Appendix F

L-Score and Vulnerability Maps



Quaternary L Score Well

WHPA

Municipal Boundary

Geologic Sensitivity

Very High

High

Moderate

Low

Unique Number/Well Name
L score, Geol. Sens.

Geologic sensitivity shown only for areas where the capture zone from the Quaternary aquifer is the uppermost capture zone in the WHPA.

Note: Only Quaternary wells deeper than 80' used in the L score calculations. The shallowest Coon Rapids Well (20) is screened from 80-105' below ground surface.

N

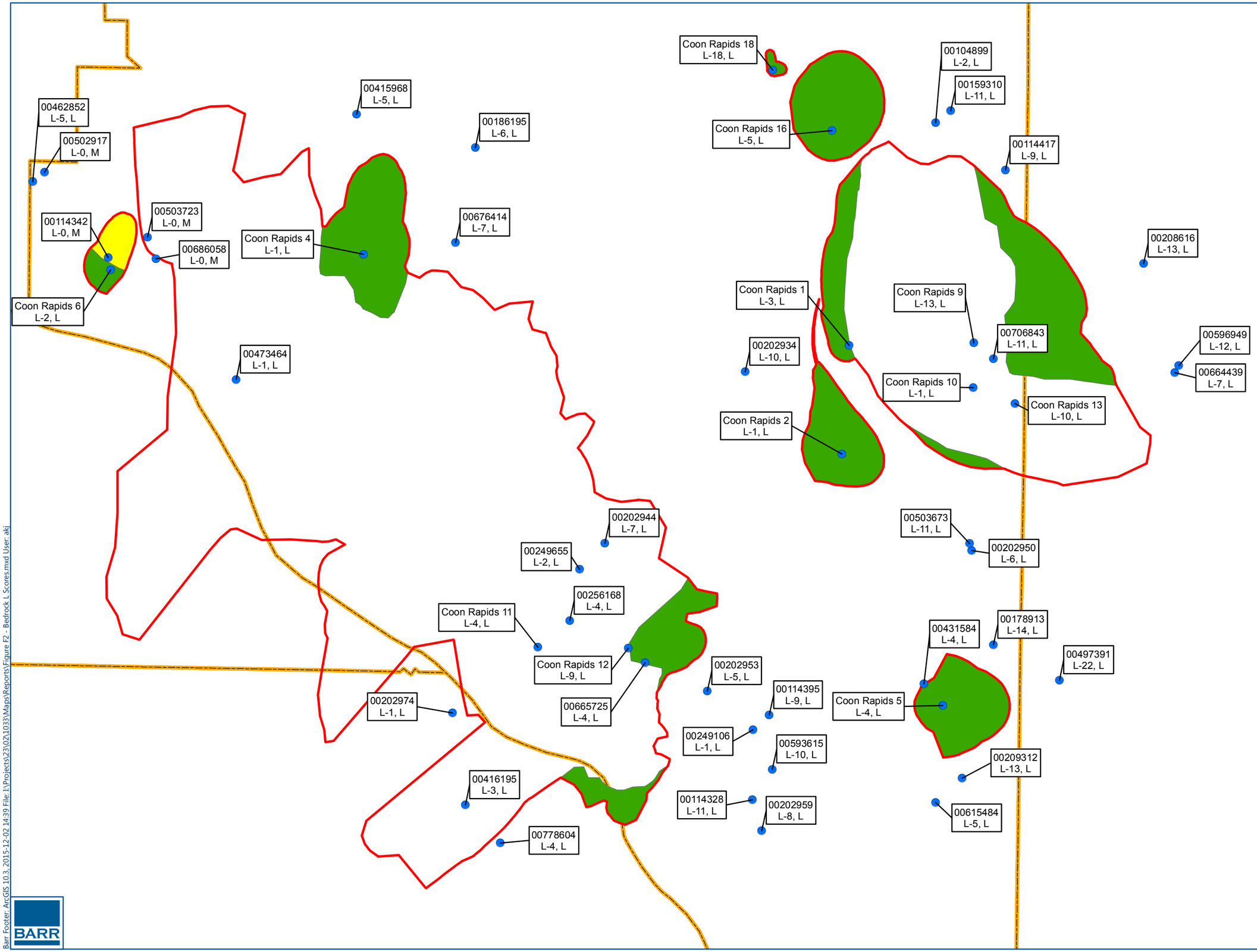
0 2,500
Feet

QUATERNARY L SCORES
AND GEOLOGIC SENSITIVITY
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

FIGURE F1

BARR

Barr Footer: ArcGIS 10.3, 2015-12-02 15:28 File: I:\Projects\23\02\1033\Maps\Reports\Figure F1 - Quaternary L Scores.mxd User: akj



Bedrock L Score Well

WHPA

Municipal Boundary

Geologic Sensitivity

Very High

High

Moderate

Low

Unique Number/Well Name
L score, Geol. Sens.

Geologic sensitivity shown only for areas where the capture zone from a bedrock aquifer is the uppermost capture zone in the WHPA.

All L scores computed using only strata above the Tunnel City Group-Wonewoc Sandstone aquifer except at Coon Rapids 18, where all strata above the Mt. Simon aquifer were used.

0 2,500
Feet

BEDROCK L SCORES
AND GEOLOGIC SENSITIVITY
Coon Rapids WHPP Amendment
City of Coon Rapids, MN

FIGURE F2

BARR

Barr Footer: ArcGIS 10.3, 2015-12-02 14:39 File: I:\Projects\23\02\1033\Maps\Reports\Figure F2 - Bedrock L Scores.mxd User: akj

Appendix G

Groundwater Model Files and GIS Shapefiles

City Council Regular **11.**

Meeting Date: 05/03/2016

Subject: Consider Resolution No. 16-1(9) Awarding Contract for MSA Street Reconstructio

Submitted For: Mark Hansen, Assistant City Engineer

From: Sarah Greene, Administrative Assistant II

INTRODUCTION

The City is proposing to improve 1.74 miles of State Aid streets by reconstruction as part of project 16-1. Staff completed the plans and advertised for bids, and assessments were adopted by Council April 19, 2016. Bids have been received and Council is requested to award a contract at this time.

DISCUSSION

All streets within the project area are designated as State Aid streets. The project area is illustrated on the attached Project Location Map. Improvements to streets proposed for reconstruction include reclamation of the existing bituminous surface and aggregate base, removal and replacement of damaged curb and gutter, sidewalk and pedestrian curb ramp improvements in accordance with ADA requirements, watermain pipe/valve/hydrant replacements, and repairs or replacements to the existing storm sewer as needed.

The following streets are proposed for reconstruction:

- Evergreen Boulevard from 85th Avenue to Cul-de-sac (SAP 114-117-004)
- 90th Avenue from Evergreen Boulevard to Springbrook Drive (SAP 114-131-001)
- 93rd Avenue from Evergreen Boulevard to Coon Rapids Boulevard (SAP 114-118-004)

A public hearing and assessment hearing was held on February 16, 2016. Properties proposed to be assessed include one City-owned property, two commercial properties, and 47 industrial properties. Since all properties on this project are located within an industrial zoned area, all are to be assessed at the industrial rate per front foot. The total amount assessed is $993,743.75.

Council accepted the feasibility report on November 17, 2015, and ordered the improvement and advertisement for bids on February 16, 2016. Bids were received on April 25, 2016. A summary of the bids is as follows:

Contractor	Bid Total
Park Construction Company	$4,039,102.36
Northwest	$4,219,515.89

R.L. Larson Excavating Inc.	$4,244,021.75
C.S. McCrossan Construction Inc.	$4,429,730.80
North Valley Inc.	$4,756,581.83
Engineer's Estimate	$4,527,543.50

The low bidder, Park Construction Company, has completed similar contracts of this nature in the City with satisfactory results. If Council awards a contract, work can begin in mid May, and be completed at the end of September 2016.

Additional information, including frequently asked questions, construction schedule, and a list of City and Contractor contacts will be provided to property owners via US mail within the next couple of weeks. Construction updates will be posted on the City website weekly, and property owners will be able to sign up for email alerts each time an update is posted.

RECOMMENDATION

It is recommended Council adopt Resolution No. 16-1(9) awarding a contract to Park Construction Company in the amount of $4,039,102.36.

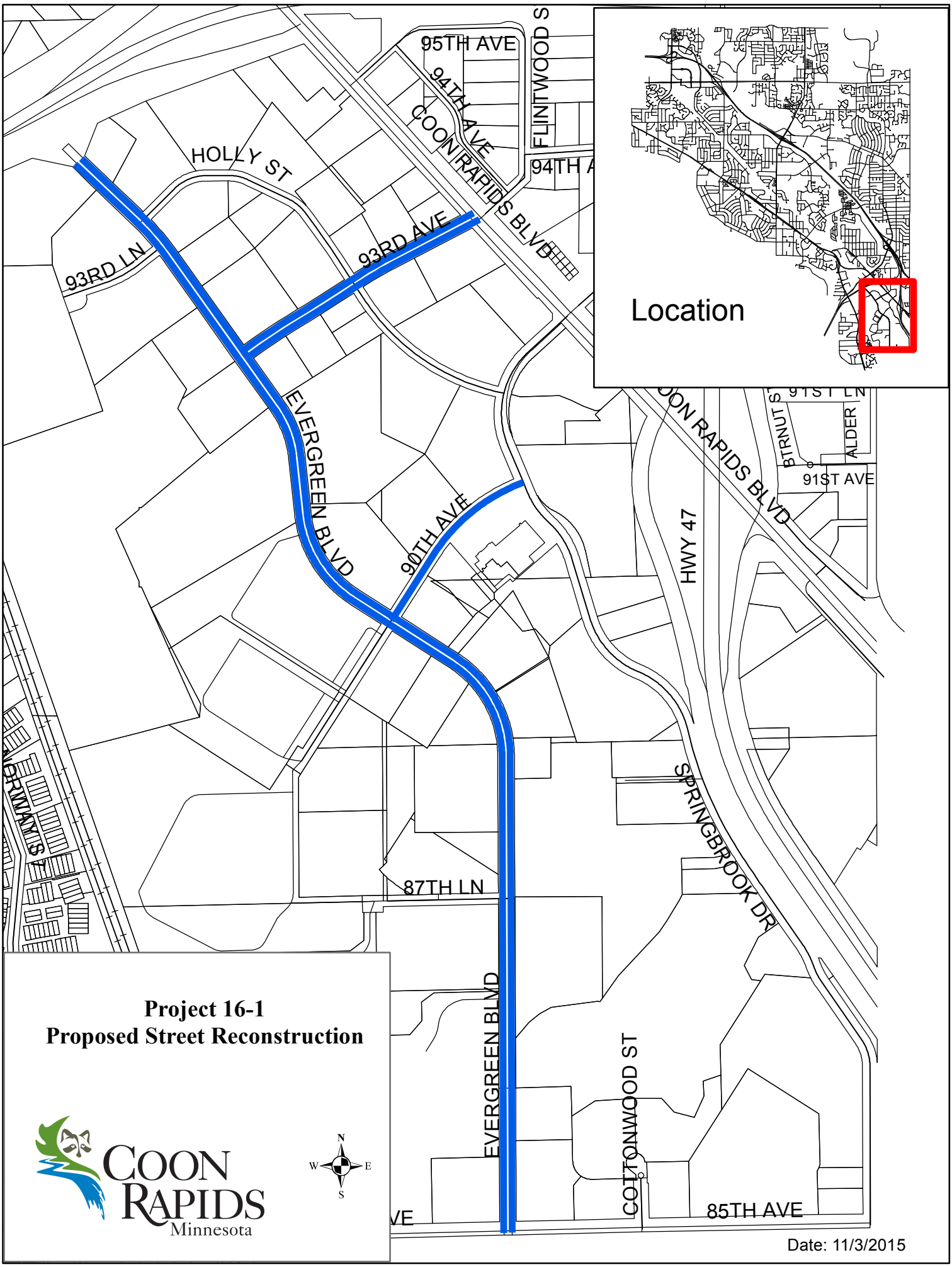
BUDGET IMPACT:

The construction cost for this project is $4,039,102.36. Adding 20% to the construction costs for contingency and engineering services would bring the total estimated costs to $4,846,922.83. A total of $993,743.75 will be assessed to benefiting properties. The balance of the project cost would be recovered from various funds as follows:

$2,455,512.95 from MSA Funds.
$3,597.24 from the Street Reconstruction Fund (797).
$1,283,584.89 from the Water System Maintenance Fund (601) recovered through charges for water used.
$110,484.00 from the Sidewalk Construction Fund (795).

Attachments

Project Location Map
Resolution No. 16-1(9)


95TH AVE
94TH AVE
FLINTWOOD S
94TH A
COON RAPIDS BLVD
HOLLY ST
93RD LN
93RD AVE
Location
EVERGREEN BLVD
90TH AVE
COON RAPIDS BLVD
91ST LN
BTRNUT ST
ALDER
91ST AVE
HWY 47
SPRINGBROOK DR
87TH LN
EVERGREEN BLVD
COTTONWOOD ST
85TH AVE
Project 16-1
Proposed Street Reconstruction
COON RAPIDS
Minnesota
N
W
E
S
Date: 11/3/2015

RESOLUTION NO. 16-1(9)

(9) RESOLUTION ACCEPTING BID AND AWARDING CONTRACT

WHEREAS, pursuant to an advertisement for bids for the improvement of various State Aid streets by reconstruction, bids were received, opened and tabulated according to law, and the following bids were received complying with the advertisement: (3 lowest)

Park Construction Company	$4,039,102.36
Northwest	$4,219,515.89
R.L. Larson Excavating Inc.	$4,244,021.75

WHEREAS, it appears that Park Construction Company of Minneapolis, Minnesota is the lowest responsible bidder; and

WHEREAS, the City of Coon Rapids expects to reimburse all or a portion of the project expenditures with the proceeds of debt to be incurred by the City; and

WHEREAS, this declaration is made pursuant to Section 1.103-18 of the Income Tax Regulations of the Internal Revenue Service.

NOW, THEREFORE, BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that the bid of $4,039,102.36 by Park Construction Company for Coon Rapids Improvement Project 16-1 be accepted as the lowest responsible bid.

BE IT FURTHER RESOLVED that the Mayor and City Manager are hereby authorized and directed to enter into a contract with Park Construction Company of Minneapolis, Minnesota for the improvement of various State Aid streets by reconstruction according to the plans and specifications therefore approved by the City Council and on file in the office of the City Clerk.

BE IT FURTHER RESOLVED that the City Clerk is hereby authorized and directed to return forthwith to all bidders the deposits made with their bids, except that the deposits of the successful bidder and the next two lowest bidders shall be retained until a contract has been signed.

Adopted this 3rd day of May, 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **12.**

Meeting Date: 05/03/2016

Subject: Consider Resolution No. 16-2(9) Awarding Contract for MSA Street Reconstructio

Submitted For: Mark Hansen, Assistant City Engineer

From: Sarah Greene, Administrative Assistant II

INTRODUCTION

The City is proposing to improve 2.41 miles of State Aid streets by reconstruction as part of project 16-2. Staff completed the plans and advertised for bids, and assessments were adopted by Council on April 19, 2016. Bids have been received and Council is requested to award a contract at this time.

DISCUSSION

All streets within the project area are designated as State Aid streets. The project area is illustrated on the attached Project Location Map. Improvements to streets proposed for reconstruction include reclamation of the existing bituminous surface and aggregate base, removal and replacement of damaged curb and gutter, sidewalk and pedestrian curb ramp improvements in accordance with ADA requirements, watermain pipe/valve/hydrant replacements, and repairs or replacements to the existing storm sewer as needed.

The following streets are proposed for reconstruction:

- Mississippi Boulevard from Hanson Boulevard to Coon Rapids Boulevard (SAP 114-105-015)

A public hearing and assessment hearing was held on February 16, 2016. Properties to be assessed include 158 single family properties, 39 multi-family and condominium properties, one commercial property, and five government/institutional properties. The total amount assessed is $422,663.08.

Council accepted the feasibility report on November 17, 2015, and ordered the improvement and advertisement for bids on February 16, 2016. Bids were received on April 22, 2016. A summary of bids is as follows:

Contractor	Base Bid	Alt. A	Alt. B	Base & Alt. B

Forest Lake Contracting, Inc.	$3,842,749.01	$26,644.00	$34,841.00	$3,877,590.01
Northwest	$3,880,571.46	$21,702.57	$31,476.35	$3,912,047.81
R.L. Larson Excavating Inc.	$3,887,889.51	$27,920.39	$39,879.03	$3,927,768.54
Park Construction Company	$4,049,039.41	$32,572.06	$39,028.39	$4,088,067.80
North Valley Inc.	$4,315,266.06	$38,107.50	$41,055.72	$4,356,321.78
Douglas-Kerr Underground LLC	$4,900,977.66	$32,709.42	$43,007.21	$4,943,984.87
C.S. McCrossan Construction Inc.	$5,125,704.50	$30,793.60	$40,115.80	$5,165,820.30
Engineer's Estimate	$4,743,570.00	$32,575.00	$44,957.00	$4,788,527.00

The low bidder, Forest Lake Contracting, Inc., has completed similar contracts of this nature in the City with satisfactory results. If Council awards a contract, work can begin in mid May, and be completed at the end of October 2016.

Staff worked with Anoka Ramsey Community College to design and bid two alternative watermain connection designs that would provide a second watermain connection to the college. The college currently has only one watermain connection, and a second would provide additional reliability and future site improvement options for the college. The college selected bid alternate B, which includes installation of an 8-inch watermain connection. The college will be responsible for all costs related to this secondary watermain connection, and staff will coordinate an agreement for payment with college staff over the next several weeks.

Additional information, including frequently asked questions, construction schedule, and a list of City and Contractor contacts will be provided to property owners via US mail within the next couple of weeks. Construction updates will be posted on the City website, and residents will be able to sign up for email alerts each time an update is posted.

RECOMMENDATION

It is recommended Council adopt Resolution No. 16-2(9) awarding a contract to Forest Lake Contracting, Inc. in the amount of $3,877,590.01.

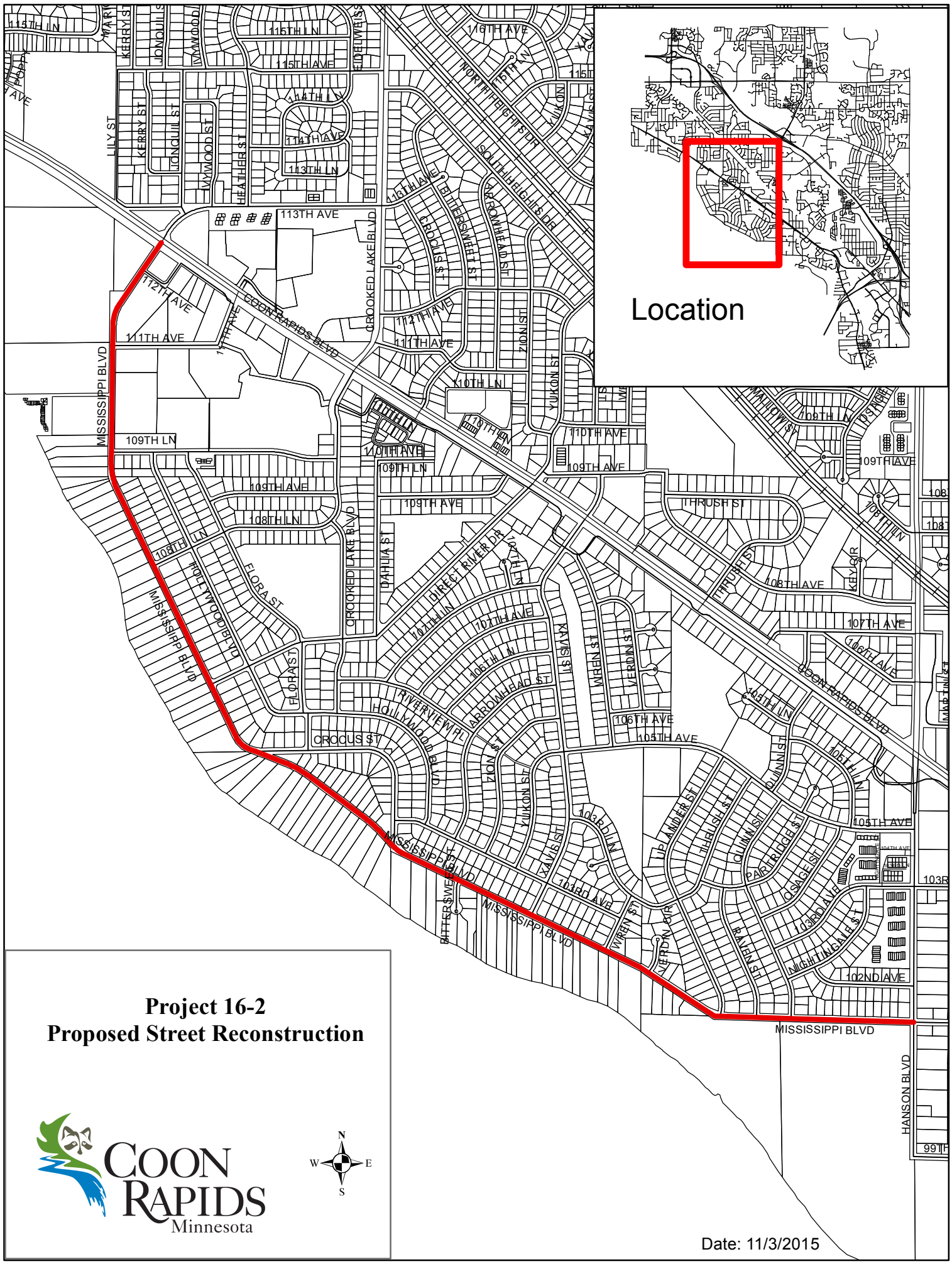
BUDGET IMPACT:

The construction cost for this project is $3,877,590.01. Adding 20% to the construction costs for contingency and engineering services would bring the total estimated cost to $4,653,108.01. A total of $422,663.08 will be assessed to benefiting properties. The balance of the project cost would be recovered from various funds as follows:

$2,557,571.72 from MSA Funds.
$150,480.00 from the Street Reconstruction Fund (797).
$1,522,393.21 from the Water System Maintenance Fund (601) recovered through charges for water used.

Attachments

Project Location Map
Resolution No. 16-2(9)


Location
MISSISSIPPI BLVD
COON RAPIDS BLVD
CROOKED LAKE BLVD
HOLLYWOOD BLVD
NORTH HEIGHTS DR
SOUTH HEIGHTS DR
ARROWHEAD ST
BITTERSWEET ST
CROCUS ST
ZION ST
YUKON ST
KAVIS ST
WREN ST
VERDIN ST
DIRECT RIVER DR
RIVERVIEW PL
DAHLIA ST
FLORA ST
THRUSH ST
QUINN ST
PARTRIDGE ST
OSAGE ST
RAVEN ST
NIGHTINGALE ST
HANSON BLVD
115TH LN
115TH AVE
114TH LN
114TH AVE
113TH LN
113TH AVE
112TH AVE
111TH AVE
110TH LN
110TH AVE
109TH LN
109TH AVE
108TH LN
108TH AVE
107TH LN
107TH AVE
106TH LN
106TH AVE
105TH AVE
104TH AVE
103RD LN
103RD AVE
102ND AVE
Project 16-2
Proposed Street Reconstruction
COON RAPIDS
Minnesota
N
W
E
S
Date: 11/3/2015

RESOLUTION NO. 16-2(9)

(9) RESOLUTION ACCEPTING BID AND AWARDING CONTRACT

WHEREAS, pursuant to an advertisement for bids for the improvement of various State Aid streets by reconstruction, bids were received, opened and tabulated according to law, and the following bids were received complying with the advertisement: (3 lowest)

Forest Lake Contracting, Inc.	$3,877,590.01
Northwest	$3,912,047.81
R.L. Larson Excavating Inc.	$3,927,768.54

WHEREAS, it appears that Forest Lake Contracting, Inc. of Forest Lake, Minnesota is the lowest responsible bidder; and

WHEREAS, the City of Coon Rapids expects to reimburse all or a portion of the project expenditures with the proceeds of debt to be incurred by the City; and

WHEREAS, this declaration is made pursuant to Section 1.103-18 of the Income Tax Regulations of the Internal Revenue Service.

NOW, THEREFORE, BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that the bid of $3,877,590.01 by Forest Lake Contracting, Inc. for Coon Rapids Improvement Project 16-2 be accepted as the lowest responsible bid.

BE IT FURTHER RESOLVED that the Mayor and City Manager are hereby authorized and directed to enter into a contract with Forest Lake Contracting, Inc. of Forest Lake, Minnesota for the improvement of various State Aid streets by reconstruction according to the plans and specifications therefore approved by the City Council and on file in the office of the City Clerk.

BE IT FURTHER RESOLVED that the City Clerk is hereby authorized and directed to return forthwith to all bidders the deposits made with their bids, except that the deposits of the successful bidder and the next two lowest bidders shall be retained until a contract has been signed.

Adopted this 3rd day of May, 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **13.**

Meeting Date: 05/03/2016

Subject: Consider Resolution No. 16-4(9) Awarding Contract for MSA Street Reconstructio

Submitted For: Mark Hansen, Assistant City Engineer

From: Sarah Greene, Administrative Assistant II

INTRODUCTION

The City is proposing to improve 1.7 miles of State Aid streets by reconstruction as part of project 16-4. Staff completed the plans and advertised for bids, and assessments were adopted by Council April 19, 2016. Bids have been received and Council is requested to award a contract at this time.

DISCUSSION

All streets within the project area are designated as State Aid streets. The project area is illustrated on the attached Project Location Map. Improvements to streets proposed for reconstruction include reclamation of the existing bituminous surface and aggregate base, removal and replacement of damaged curb and gutter, sidewalk and pedestrian curb ramp improvements in accordance with ADA requirements, watermain pipe/valve/hydrant replacements, and repairs or replacements to the existing storm sewer as needed.

The following streets are proposed for reconstruction:

- Egret Boulevard from Kumquat Street to University Avenue (SAP 114-104-020)
- 113th Avenue from Foley Boulevard to Northdale Boulevard (SAP 114-122-003)
- Dogwood Street from Northdale Boulevard to 115th Avenue (SAP 114-123-003)
- 115th Avenue from Dogwood Street to University Avenue (SAP 114-123-003)
- Xeon Street from 114th Avenue to Northdale Boulevard (SAP 114-120-008)

Properties proposed to be assessed include 50 single family residential properties, 40 multi-family properties, eight industrial properties, five commercial properties, and nine government/institutional properties. The total amount to be assessed is $497,046.98.

Council accepted the feasibility report on November 17, 2015, and ordered the improvement and advertisement for bids on February 16, 2016. Bids were received on April 22, 2016. A summary of the bids is as follows:

Contractor	Base Bid	Dogwood Storm Sewer	Total Bid

North Valley Inc.	$2,430,872.16	$606,303.03	$3,037,175.19
Park Construction Company	$2,563,403.75	$531,176.00	$3,094,579.75
Hardrives Inc.	$2,544,168.06	$600,254.68	$3,144,422.74
C.S. McCrossan Construction Inc.	$2,705,805.10	$729,234.20	$3,435,039.30
Engineer's Estimate	$3,126,091.50	$386,256.05	$3,512,347.55

The low bidder, North Valley, Inc., has completed similar contracts of this nature in the City with satisfactory results. If Council awards a contract, work can begin in mid May, and be completed at the end of September 2016.

Staff worked with the Anoka County Highway Department to incorporate construction of a storm sewer system along Dogwood Street within the City's project 16-4 plans. The storm sewer system is needed for the upcoming Foley Boulevard reconstruction project. County staff provided plans, details, and an engineer's estimate for the work. City staff will administer the construction of this storm sewer. Cost participation agreements will continue to be coordinated between the City and County (and potentially the Anoka Hennepin School District) for cost sharing of this item.

Additional information, including frequently asked questions, construction schedule, and a list of City and Contractor contacts will be provided to property owners via US mail within the next couple of weeks. Construction updates will be posted on the City website, and residents will be able to sign up for email alerts each time an update is posted.

RECOMMENDATION

It is recommended Council adopt Resolution No. 16-4(9) awarding a contract to North Valley, Inc. in the amount of $3,037,175.19.

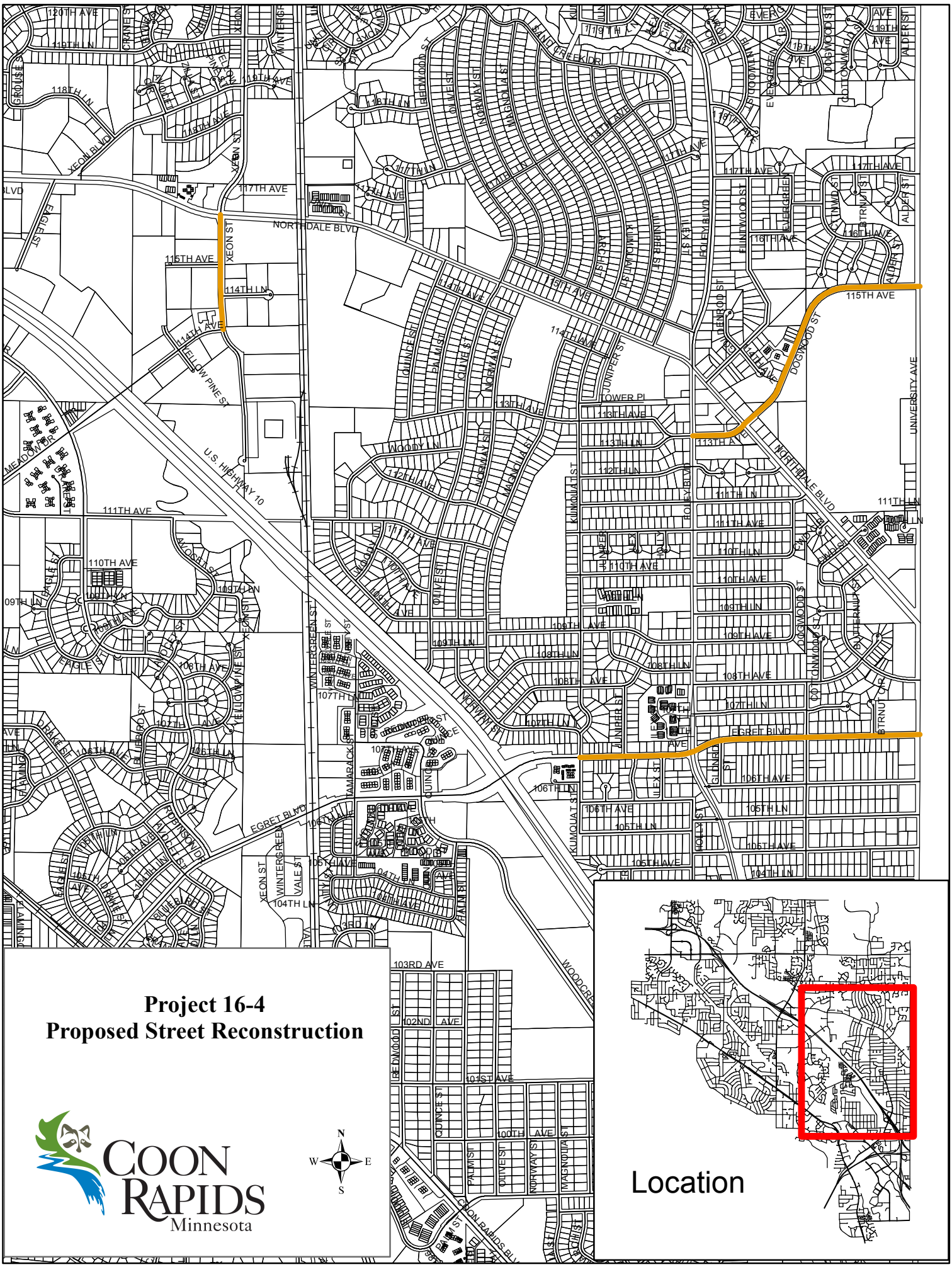
BUDGET IMPACT:

The construction cost for this project is $3,037,175.19. Adding 20% to the construction costs for contingency and engineering services would bring the total estimated cost to $3,644,610.23. A total of $497,046.98 will be assessed to benefiting properties. The balance of the project cost would be recovered from various funds as follows:

$1,645,942.61 from MSA Funds.
$7,036.85 from the Street Reconstruction Fund (797).
$729,246.85 from the Storm Water Utility Fund (640) recovered through storm drainage charges.
$765,336.94 from the Water System Maintenance Fund (601) recovered through charges for water used.

Attachments

Project Location Map
Resolution No. 16-4(9)


Project 16-4
Proposed Street Reconstruction
COON RAPIDS
Minnesota
N
S
E
W
Location
NORTHDALE BLVD
EGRET BLVD
XEON ST
115TH AVE
114TH AVE
113TH AVE
112TH AVE
111TH AVE
110TH AVE
109TH AVE
108TH AVE
107TH AVE
106TH AVE
105TH AVE
104TH AVE
103RD AVE
102ND AVE
101ST AVE
100TH AVE
117TH AVE
116TH AVE
119TH AVE
120TH AVE
118TH AVE
119TH LN
118TH LN
117TH LN
116TH LN
114TH LN
113TH LN
112TH LN
111TH LN
110TH LN
109TH LN
108TH LN
107TH LN
106TH LN
105TH LN
104TH LN
103RD LN
U.S. HIGHWAY 10
WINTERGREEN ST
NORWAY ST
MAGNOLIA ST
KUMQUAT ST
JUNIPER ST
FOLEY BLVD
DOGWOOD ST
UNIVERSITY AVE
TOWER PL
WOODY LN
QUINCE ST
PALM ST
OLIVE ST
ARCH ST
ILEX ST
HOLLY ST
GLENROD ST
EVERGREEN
FLINTWOOD ST
COTTONWOOD ST
BUTTERNUT ST
BTRNUT CIR
ALDER ST
EAGLE ST
YELLOW PINE ST
MEADOW DR
DRAKE ST
BLUEBIRD ST
ROBINSON DR
AVOCET ST
TAMARACK ST
VALE ST
HALM ST
REDWOOD ST
SAND CREEK DR
CRANE ST
GROUSE ST
CWD CIR
CWD ST
COON RAPIDS BLVD

RESOLUTION NO. 16-4(9)

(9) RESOLUTION ACCEPTING BID AND AWARDING CONTRACT

WHEREAS, pursuant to an advertisement for bids for the improvement of various State Aid streets by reconstruction, bids were received, opened and tabulated according to law, and the following bids were received complying with the advertisement: (3 lowest)

North Valley, Inc.	$3,037,175.19
Park Construction Company	$3,094,579.75
Hardrives Inc.	$3,144,422.74

WHEREAS, it appears that North Valley, Inc. of Nowthen, Minnesota is the lowest responsible bidder; and

WHEREAS, the City of Coon Rapids expects to reimburse all or a portion of the project expenditures with the proceeds of debt to be incurred by the City; and

WHEREAS, this declaration is made pursuant to Section 1.103-18 of the Income Tax Regulations of the Internal Revenue Service.

NOW, THEREFORE, BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that the bid of $3,037,175.19 by North Valley, Inc. for Coon Rapids Improvement Project 16-4 be accepted as the lowest responsible bid.

BE IT FURTHER RESOLVED that the Mayor and City Manager are hereby authorized and directed to enter into a contract with North Valley, Inc. of Nowthen, Minnesota for the improvement of various State Aid streets by reconstruction according to the plans and specifications therefore approved by the City Council and on file in the office of the City Clerk.

BE IT FURTHER RESOLVED that the City Clerk is hereby authorized and directed to return forthwith to all bidders the deposits made with their bids, except that the deposits of the successful bidder and the next two lowest bidders shall be retained until a contract has been signed.

Adopted this 3rd day of May, 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **14.**

Meeting Date: 05/03/2016

Subject: Consider Adoption of Ordinance 2162 and 2163 to Allow Chickens

From: Kristin DeGrande, Neighborhood Coordinator

INTRODUCTION

Council is asked to consider ordinances that would allow the raising and keeping of chickens in the City.

DISCUSSION

Last summer, the Sustainability Commission approached Council and staff about the possibility of allowing the raising and keeping of chickens in the City. This topic was considered at Council work sessions in both October 2015 and March 2016. Ordinances from other metro cities have been reviewed and considered, and staff from various City departments have been meeting over the past several months to discuss how such an ordinance would best fit in the City of Coon Rapids. The highlights of the proposed ordinance include:

- Maximum of 4 chickens
- No roosters allowed
- Specific standards for the storing of food material and removal of discarded food material (a modification was made since the introduction of this ordinance to demonstrate that food containers do not need to be stored outside)
- Specific standards for the sanitary conditions on premises where chickens are kept (a modification was made since the introduction of this ordinance that cleaning needs to occur weekly instead of daily)
- No slaughtering or processing of chickens allowed
- No chickens are to be kept inside a house or garage, except during brooding
- Specific standards for the proper disposal of dead chickens
- Specific standards for the construction and maintenance of coops and runs including:
    - Maximum size is 60 square feet
    - To be located in rear yard only
    - Prohibited within the first 100 feet of lot depth for properties along the Mississippi River and Crooked Lake
    - Fully enclosed run with fencing and netting
    - Located at least 10 feet from side and rear lot lines, 30 feet from adjacent property owner's house, 50 feet from any well, and at least 6 feet from the house or other accessory structures on the property.
    - Coop and run must be removed if the keeping of chickens is discontinued for more than 12 months

- One-time permit required with site plan information

The proposed ordinance does allow City staff to inspect the property on an as-needed basis if there is concern for code compliance. If violations are found on site, the permit can be revoked and/or the property owner could be subject to administrative citations and/or criminal action.

The permitting process and enforcement of this ordinance will be handled through the Neighborhood Reinvestment Division of the Community Development Department. If the proposed ordinance is approved, City staff will continue to work with other departments to create and promote educational materials about the raising and keeping of chickens in Coon Rapids (a sample is attached).

Since the ordinance was introduced, it has been updated to clarify all droppings etc. must be picked up weekly and food storage is not limited to being stored outside only. A few grammatical errors were fixed as well. None of the changes are material enough to require a reintroduction of the ordinance.

The Council is also asked to consider an ordinance to amend the Non-Domestic Animal Ordinance Chapter 6-500. The proposed amendment would remove chickens from the list of non-domestic animals which are prohibited within the City.

RECOMMENDATION

The Council is asked to consider Ordinance 2162 regulating chickens by adding Chapter 6-700 and consider Ordinance 2163 amending the Non-Domestic Animal Ordinance Chapter 6-500.

Attachments

Chicken Ordinance
Non-Domestic Animal Ordinance
Educational flyer
Chicken permit application
Supplemental application

ORDINANCE NO. 2162

AN ORDINANCE REGULATING CHICKENS ANDTHEREBY AMENDING REVISED CITY CODE – 1982 BY ADDING CHAPTER 6-700, CHICKENS

The City of Coon Rapids does ordain:

Section 1. Revised City Code - 1982 is hereby amended by adding Chapter 6-700, Chickens as follows: (additions double underlined)

CITY OF COON RAPIDS, MINNESOTA

CHAPTER 6-700

CHICKENS

6-701 Definitions. For the purposes of this Chapter, the following definitions shall apply:

(1) Chicken shall be defined as a domesticated bird that serves as a meat or egg source.

(2) Hen shall be defined as a female chicken.

(3) Coop means the structure for the keeping or housing of chickens permitted by the Chapter.

(4) Rooster shall be defined as a male chicken

(5) Run means a fully-enclosed and covered area attached to a coop where the chickens can roam unsupervised.

6-702 Requirements for the keeping of chickens. The following shall be required of for persons keeping chickens:

(1) No more than four chicken hens are permitted to be maintained on one property.

(2) Keeping of roosters is prohibited.

(3) Food material must be stored in a closed metal container to avoid pests.

(4) Food shall not be allowed to accumulate around feeders, run or coops and must be removed to avoid rodent and vermin.

(5) All premises on which chickens are kept or maintained shall be kept in a clean, sanitary and healthy manner from filth, garbage, and any substances and all droppings and body excretions collected weekly. All waste must be properly disposed of or composted.

(6) Slaughtering and processing of the chickens on the property is prohibited.

(7) Chickens must not be housed in a residential house or in an attached or detached garage, except chickens under the age of 6 weeks for brooding purposes.

(8) No chicken may be kept or raised in a manner as to cause injury or annoyance to persons or other animals on other property in the vicinity by reason of noise, odor, or filth.

(9) Dead chickens must be disposed of according to the Minnesota Board of Animal

Health rules which require chicken carcasses to be disposed of as soon as possible after death, usually within 48 to 72 hours. Acceptable methods of chicken carcass disposal include burial or these off-site options: incineration, rendering, or composting.

6-703 Chicken Coops and Runs. All persons keeping or maintaining chickens must have a chicken coop to house the chickens and a chicken run. The coop and run must meet the following minimum requirements:

(1) Coop requirements are as follows:

(a) Be fully enclosed, wind proof, and have one square foot of window to 15 square feet of floor space.

(b) Constructed with architecturally appropriate building materials including exterior grade siding and either a metal, composite or shingled roof, or in the alternative, coop shall be purchased from a commercial source that constructs structures specifically to be used as coops for chickens.

(c) Comply with current zoning and building codes

(d) Coop shall be fully enclosed to prevent any escape by the chickens or entrance by migratory birds.

(2) Run requirements are as follows:

(a) Fence around the run enclosure shall be securely constructed with mesh type material

(b) Protective overhead netting to keep chickens separated from other animals

(3) Total area for coop and covered run is limited to no more than 60 square feet.

(4) Coop and run must be located entirely in the rear yard. Lots with shoreline on the Mississippi River or Crooked Lake are permitted to maintain a coop and run in the front yard except within the first 100 feet of lot depth.

(5) Coop and run shall be located at least 10 feet from side or rear lot lines.

(6) Coop and run shall be at least 30 feet from an adjacent property's primary residence.

(7) Coop and run must be located at least 50 feet from any well.

(8) Coop and run must be located more than six feet from the primary structure or any accessory structures on the property.

(9) Chickens must not be allowed to free range unless rear yards are completely fenced in.

(10) Coop and run must be removed and site restored if keeping of chickens is discontinued for more than 12 months.

6-704 Permit.

(1) No person shall anywhere in the City keep, harbor, or maintain care, custody, or control over any chicken without obtaining a permit issued by City.

(2) No permit shall be issued to a rental property unless the property owner provides written consent to the application. For properties located within a managed community with a

home ownership association, the association management must provide written consent to the application.

(3) This section shall not apply to veterinarians or licensed pet shops.

(4) Application for permit. Any person desiring a permit under this chapter shall make written application to Community Development Director on a form prescribed by the City:

(a) Among other things, the application shall contain the following information:

(i) A description of the real property upon which it is desired to keep the chickens.

(ii) The breed and number of chickens to be maintained on the premises.

(iii) A site plan of the property showing the location and size of the proposed chicken coop and run, setbacks from the chicken coop to property lines and surrounding buildings (including houses and buildings on adjacent lots), and the location, style, and height of fencing proposed to contain the chickens in a run or exercise area. Portable coops and cages are allowed, but portable locations must be included with the site plan.

(iv) Statements that the applicant will at all times keep the chickens in accordance with all of the conditions prescribed by the City, or modification thereof, and that failure to obey such conditions will constitute a violation of the provisions of this article and grounds for cancellation of the permit.

(v) Agreement that property may be inspected by City at all reasonable times

(vi) Such other and further information as may be required by the officer.

(b) Approval of application is subject to conditions prescribed by City. Failure to adhere to conditions is cause for cancellation of the permit and/or may result in an administrative fine.

(5) Permit Conditions. If granted, the permit shall be issued by the Community Development Director and shall state the conditions, if any, imposed upon the permitted for the keeping of chickens under this permit. The permit shall specify the restrictions, limitations, conditions and prohibitions which the City deems reasonably necessary to protect any person or neighboring use from unsanitary conditions, unreasonable noise or odors, or annoyance, or to protect the public health and safety.

(6) All permits will remain in effect until voluntarily cancelled, or revoked and are subject to revocation should the Chapter be repealed in its entirety or modified in such a way. Permits are non-transferrable.

(7) Any person aggrieved by the decision of the Community Development Director may appeal that decision to the City Council by filing a request for appeal with the City Manager within 10 calendar days after the Community Development Director's decision. The City Manager shall cause the appeal to be placed on the agenda of the next regular City Council meeting that is held not less than 10 calendar days following receipt of the appeal request. The City Council may affirm or reject the decision of the Community Development Director. The Council may add

reasonable conditions to any decision granting a license or permit or may delete any conditions previously imposed by the Community Development Director.

6-705 Violations. Failure to comply with a provision of this Chapter is a violation and the City is authorized to take one or more of the following actions:

(1) Initiate a criminal action by citation or formal complaint. A violation of this chapter is a misdemeanor.

(2) Process the violation as a public nuisance abatement matter under Chapter 8-1100.

(3) Process the violation or violations as an administrative procedures action under Chapter 2-1100.

(4) Process the matter in any other way as allowed by statute or federal law.

(5) Community Development Director may revoke permit issued under this Chapter if the person holding the permit refuses or fails to comply with this Chapter, with any regulations promulgated by the City pursuant to this Chapter, or any state or local law governing cruelty to animals or the keeping of animals. Any person whose permit is revoked shall, within ten days thereafter, humanely dispose of all chickens being owned, kept or harbored by such person, and no part of the permit fee shall be refunded.

6-706 Impounding chicken. Any chicken found at large in violation of this Chapter may be impounded by the City, and after being impounded for five business days or more without being reclaimed by the owner, may be humanely euthanized or sold. A person reclaiming any impounded chicken shall pay the cost of impounding and keeping the same.

Introduced this 19th day of April, 2016.

Adopted this ____ day of _____ 2016.

_____

Jerry Koch, Mayor

ATTEST:

_____

Joan Lenzmeier, City Clerk

ORDINANCE NO. 2163

AN ORDINANCE REVISING NON-DOMESTIC ANIMALS TO EXCLUDE CHICKENS FROM THE DEFINITION AND THEREBY AMENDING REVISED CITY CODE - 1982, SECTIONS 6-501(1), 6-502(2)

The City of Coon Rapids does ordain:

Section 1. Revised City Code - 1982 Section 6-501(1) is hereby amended as follows:

(deletions in brackets, additions double underlined)

6-501 Application. This Chapter shall apply to all animals both domestic and non-domestic, except:

(1) dogs, ~~and~~ cats, and chicken which are regulated by City Code Chapter 6-100, 6-200, ~~and~~ 6-400~~;~~ and 6-700; and

Section 2. Revised City Code - 1982 Section 6-502(2) is hereby amended as follows:

(deletions in brackets, additions double underlined)

6-502 Definitions. For purposes of this Chapter, the following definitions shall apply:

(2) Non-domestic animals are defined as all other animals such as cows, sheep, pigs, potbellied pigs, bees, goats, swine, llamas, mules, horses or other hoofed animal, ~~chickens~~, ducks, or other agricultural animals or domestic fowl and any animal, reptile or fowl, which is not naturally tame or gentle but is of a wild nature or disposition or which, because of its vicious nature or other characteristics, would constitute a danger to human life or property including:

(a) any animal or species prohibited by Minnesota or federal law;

(b) any skunk, raccoon, badger, weasel, wild ferret or fox, whether captured in the wild, domestically raised, de-scented or not de-scented, vaccinated against rabies or not vaccinated against rabies;

(c) any cats of the family Felidae, including lions, tigers, jaguars, leopards, cougars, cheetahs, ocelots and servals, but not including commonly accepted domesticated house cats or cats recognized as a domestic breed, registered as a domestic breed, and shown as a domestic breed by a national or international multibreed cat registry association;

(d) any members of the family Canidae, such as wolves, foxes, coyotes, dingos, jackals but not including domesticated dogs;

(e) any crossbreeds such as crossbreeds between dogs and coyotes or dogs and wolves, but does not include crossbreeds between domesticated animals;

(f) any snake, that is a member of the pit viper or Boidae family, including but not limited to copperheads, water moccasins, rattlesnakes, fer-de-lances, bushmasters, asps, cobras, mamba, kraits, coral snakes, sea snakes, South American anacondas, Asian reticulated pythons, boa constrictors, tree boas and sand boas;

(g) any other snake or reptile which by their size, vicious nature, or other characteristic is dangerous to human beings;

(h) any poisonous spiders;

(i) any apes, gorillas, monkeys or other primates;

(j) any other animals which are not listed explicitly but which can be easily defined as a non-domesticated animal including bears and wolverines.

Introduced this 19th day of April, 2016.

Adopted this ____ day of _____.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

Chicken Basics

Chickens take time and commitment– be sure you know the requirements before getting started! Raising backyard chickens can be a great way to have access to fresh eggs and learn more about agriculture and caring for animals. Chickens require daily care, specific food, shelter and sanitation to ensure they stay healthy and happy for continued egg production.

Coon Rapids requires any residents interested in raising chickens to obtain a permit. Specific requirements must be met before purchasing chickens. Be aware of all rules to ensure you meet City Code.

Additional Resources

Coon Rapids City Code Section 6-7000 Chickens: **www.coonrapidsmn.gov**

University of MN Extension Backyard Chicken Basics:
www.extension.umn.edu/food/small-farms/livestock/poultry/backyard-chicken-basics

Minnesota Institute for Sustainable Agriculture (MISA):
www.misa.umn.edu/FarmFoodResources/CropsLivestock/Livestock/index.htm

Additional resources for new chicken owners:
BackyardChickens.com
MyPetChicken.com

Chicken Classes:
Anoka-Hennepin Community Education
www.discovercommunityed.com

Egg Plant Urban Farm Supply
www.eggplantsupply.com

Contact Us

Inspections Department

763-767-6476

Raising Backyard Chickens

CITY PERMIT REQUIRED

COON RAPIDS
Minnesota

Community strength...for generations

Code Requirements

A permit is required for any resident raising chickens in Coon Rapids. The permit fee is _____.

City Code specifications:
- No more than four female chickens
- No roosters
- No slaughtering/processing on the property
- Chickens over 6 weeks old cannot be kept inside
- Chickens are not allowed to roam free in yards

See City Code 6-700 (chickens) for additional requirements

Raising Chickens

Residents need to consider the time and money involved with keeping chickens. In addition to the City permit required, be aware of up-front and ongoing costs and commitments for proper chicken care. Hens require daily attention to keep them healthy and laying eggs. Chickens must be properly protected, cared for, and kept in a humane manner to avoid nuisance conditions. Permits may be revoked if regulations are not met.

Coop & Run Requirements

Location:

- ☐ In rear yard only, cannot be adjacent to garage
- ☐ At least 30 feet from adjacent property's primary residence
- ☐ At least 50 feet from any well
- ☐ At least 10 feet from side or rear lot lines
- ☐ More than 6 feet from primary or accessory structures

Design and Size:

- ☐ Total area for coop and run no more than sixty square feet
- ☐ Architecturally appropriate building materials
- ☐ Fully enclosed coop and run to prevent escape & keep birds safe
- ☐ Fence must be made with mesh type material
- ☐ Must comply with all city building and zoning codes

Talk to your Neighbors!
Let your neighbors know about your chickens, the benefits they provide and be aware of code requirements to ensure your animals do not cause disturbance.

Getting Started

There are various breeds of backyard chickens and coop options. Local farm supply stores can help you get started and there are ample resources available online. Also be sure to follow City Code guidelines. Learn which will work best for your needs.

Happy Chickens and Neighbors

Well maintained chicken coops should not create any nuisance to neighbors. Be sure your chickens are properly protected from the weather and predators in their coops. Food must be stored in a closed, metal container to avoid pests. Food and all droppings must be cleaned from the chicken coop weekly to prevent odor and filth, keeping the chickens healthy and happy.

Chickens at Large!
Any chicken found running loose is in violation of City Code and will be impounded. After five business days, without being reclaimed, chickens may be humanely euthanized or sold.

City Of Coon Rapids
Chicken Permit Application

☐ Please identify the location and size of the coop and run on a scaled site plan drawing that shows lot lines, existing structures and any other relevant information.

Site Address for Chickens:_____

Applicant

Name:_____ Phone:_____

Address:_____ City/State/Zip:_____

Email: _____

Note: Rental properties and properties located within a home ownership association require written consent from the property owner and/or association management.

Property Owner Information *(if different from applicant)*

Owners Name:_____ Phone:_____

Address:_____ City/State/Zip:_____

Coop/Run Information

Number and Breed of chickens: _____

Dimensions of chicken coop (length, width, height): _____

Dimensions of chicken run (length, width, height): _____

Description of exterior materials for the coop and run:_____

_____

Do you plan to build a portable coop? Yes No Anticipated date of chicken arrival?

DATA PRACTICES RIGHTS ADVISORY: As an applicant for a Chicken Permit from the City of Coon Rapids, you are being asked to provide information about yourself and your chickens which will be used by City Staff and City Council. The purpose of this request for information is to meet the standards set forth by City Code and allows City Staff and City Council to reasonably regulate chickens and to provide public health, safety, and general welfare for the City of Coon Rapids. If you choose not to provide all or parts of the data requested, it may diminish the possibility of the City appropriately evaluating the application and may delay in issuing of the permit. The data you provide is defined by Minnesota State Statute 13.41 (Minnesota Government Data Practices Act) as Licensing Data. While in other settings the data requested may be classified as "Private" or "Confidential", Subdivision 4 makes application data for licenses "Public". Your original application and data supplied, and the record of the action taken regarding your application by the City will be placed on file at the City. This information may be subject to review in accordance with the provisions governing Public Data set forth by the Minnesota Government Data Practices Act.

I have read and understand the Data Practices Rights Advisory and I solemnly swear the foregoing statements in this application are true and correct to the best of my knowledge. I certify that the above named person has paid the appropriate fee to the City Treasurer as required by City Code Section 6-100 and has complied with the requirements of said Code necessary for obtaining this license. Failure to comply with such conditions will constitute a violation of the provisions and grounds for cancelation of the permit and/or administrative fines. I understand this is not a permit; but an application for a permit.

x_____ x_____ Date: _____

Applicant's Printed Name **Applicant's Signature**

For Office Use ***** Supplement to chicken permit must be attached to this application*****

Approved _____ Denied _____ Notes:

Review Date: Staff Signature:

City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN 55433-3761
Tel: 763-755-2880
Fax: 763-767-6491
www.coonrapidsmn.gov

City of Coon Rapids
SUPPLEMENT TO CHICKENS PERMIT

RETURN THIS SIGNED & DATED SUPPLEMENT WITH APPLICATION

Your permit application must include:

☐ **The chicken permit application form**

☐ **A site plan of the lot, indicating:**

- Lot lines and dimensions of lot
- Property address
- All existing structures (house, detached garage, shed, well, etc.)
- Location and dimensions of chicken coop and run
- Distances between the lot lines and proposed placement of coop and run
- Distances between any buildings/structures and proposed placement of coop and run
- Proposed portable coop locations

REQUIREMENTS FOR KEEPING OF CHICKENS (6-702)

- No more than four chicken hens are permitted to be maintained on one property.
- Keeping of roosters is prohibited.
- Food materials must be stored in closed metal containers to avoid pests.
- Food shall not be allowed to accumulate around feeders, runs or coops and must be removed to avoid rodent and vermin.
- All premises on which chickens are kept or maintained shall be kept in a clean, sanitary and healthy manner from filth, garbage and any substances and all droppings and body excretions collected weekly. All waste must be properly disposed of or composted.
- Slaughtering and processing of the chickens on the property is prohibited.
- Chickens must not be housed in a residential house or in an attached or detached garage, except chickens under the age of six weeks for brooding purposes.
- No chickens may be kept or raised in a manner to cause injury or annoyance to persons or other animals on other properties in the vicinity by reason of noise, odor, or filth.
- Dead chickens must be disposed of according to the Minnesota Board of Animal Health rules which require chicken carcasses to be disposed of as soon as possible after death, usually within 48 to 72 hours.

CHICKEN COOPS AND RUNS (6-703)

All persons keeping or maintaining chickens must have a chicken coop to house the chickens and a chicken run.

- **Coop Requirements**:
    - Be fully enclosed, wind proof, and have one square foot of window to 15 square feet of floor space.
    - Constructed with architecturally appropriate building materials including exterior grade siding and either a metal, composite or shingled roof, or in the alternative, coop shall be purchased from commercial source that constructs structures specifically to be used as coops for chickens.
    - Comply with current zoning and building codes.
    - Coop shall be fully enclosed to prevent any escape by the chicken or entrance by migratory birds.
- **Run Requirements**:
    - Fence around the run enclosure shall be securely constructed with mesh type material.
    - Protective overhead netting to keep chickens separated from other animals

- Total area for coop and covered run is limited to no more than 60 square feet.
- Coop and run must be located only in the rear yard.
- Coop and run shall be located at least 10 feet from side or rear lot lines.
- Coop and run shall be at least 30 feet from an adjacent property's primary residence.
- Coop and run must be located at least 50 feet from any well.
- Coop and run must be located more than six feet from the primary structure or any accessory structures on the property.
- Chickens must not be allowed to free range unless rear yards are completely fenced in.
- Coop and run must be removed and site restored if keeping of chickens is discontinued for more than 12 months.

The undersigned hereby applies for a chicken permit and acknowledges receipt of a copy of City Ordinance Chapter 6-700; acknowledges the provisions of the Chicken Code have been reviewed; and attests the subject premises will be operated and maintained according to the requirements contained therein, subject to applicable sanctions and penalties. The undersigned further agrees the subject premises may be inspected by the compliance official as provided in Chapter 6-700 of said ordinance.

X_____ _____

Signature of Applicant Date

City Council Regular **15.**

Meeting Date: 05/03/2016

Subject: Consider Adoption of Ordinance 2164, Native Plantings and Landscapes

Submitted For: Colleen Sinclair, Recycling Coordinator

From: Colleen Sinclair, Recycling Coordinator

INTRODUCTION

The City Council is asked to adopt changes to Chapter 8-500 of the City Code to include new definitions for gardens, native plant landscaping areas, natural areas, and rain gardens.

DISCUSSION

At the March 8, 2016 work session, the City Council reviewed a draft of the proposed changes to Chapter 8-500 of the City Code to include new definitions for gardens, native plant landscaping areas, natural areas, and rain gardens. At this work session, staff explained how these changes would allow pollinator and native planting areas to be acceptable in the City for those residents following code requirements.

City staff has been working together to find a balanced approach for this change that is both environmentally beneficial and can be effectively enforced. Long grass/weed complaints are the most frequent complaints received by the City during the growing season. The current ordinance does not provide adequate detail for staff to draw distinctions between traditional long grass/weed enforcement issues and the intentional planting of gardens and native plants. As a result, there is a need for clearer standards, better definitions and to simplify the administrative process to allow for native plantings. Education and outreach on this matter will also be important if the City decides to allow the use of native plantings within the proposed code update.

The new code provides detailed definitions and establishes a set of minimum standards. Residents choosing to change the landscapes of their property can do so through detailed requirements in our revised code standards. Residents will now be able to follow guidelines on plant types, defined borders, location requirements, and more, thus allowing more flexibility in their landscape plans. The code still allows City staff to address long grass and noxious weed issues. Penalties and violations are also defined. This code update will allow staff in the field to have clear cut guidelines and will eliminate some of the confusion over what is and is not allowed related to maintained landscapes. At this time, staff does not feel a permit process would be needed for native plantings. The only exception would be if a property owner wants to create a rain garden (i.e. re-grading, altering curb lines, etc.) within a right-of-way, which would require a separate review and permit process through Engineering.

Education and outreach are included in the City's plan for implementation. This includes resources on plant species, state noxious weed list, and training for how to maintain native plant landscape areas. Organizations such as Prairie Restorations (currently working with the City) have offered assistance where needed as we transition, including resources and education materials. Educational information will be added to our website outlining code requirements, plant information, professional services and other education information. These resources also include the name, description and photo of each plant and noxious weed type. Photos can be used to give a visual understanding to the written definition. A draft standards handout has been developed by staff, and is attached for Council review and comment. The City would also utilize traditional communication outlets such as CTN and the City newsletter to reach a broader audience on this subject.

RECOMMENDATION

Staff recommends that the City Council:

a. Adopt Ordinance 2164, An Ordinance Regulating Native Plants and Landscaping; and
b. Authorize Summary Publication of Ordinance 2164.

Attachments

Native landscape flyer
Ordinance 2164

Benefits of Native Plants

Native plants provide numerous benefits not found with traditional turf grass lawns. These landscape areas require careful planning, precise species selection, plus time and money to become properly established. Typically they take about three years to become established but once complete, little maintenance is required.

Once established, native plants require less maintenance, less water, less fertilizer/pesticides and provide habitat to pollinators including bees, butterflies and more. The use of native plants can be a great option for residents looking for something different in their yards while providing numerous environmental benefits. By selecting the correct plants, your yard can thrive in our climate and create a unique lawn that requires minimal maintenance once established.

City Code outlines specifications for establishing and caring for these native planting areas. The code also includes provisions for gardens, rain gardens and more. Read specifics at **www.coonrapidsmn.gov.** Be sure to follow the code carefully to ensure your yard meets all requirements.

Additional Resources

Coon Rapids City Code Section 8-500 Maintenance of Vegetation & Landscaping:
www.coonrapidsmn.gov

Minnesota Department of Agriculture: Noxious weed information
www.mda.state.mn.us/plants/pestmanagement/weedcontrol/noxiouslist

Anoka County Soil & Water Conservation District: resources, information and assistance
www.anokaswcd.org

University of Minnesota Extension: plant lists, landscape plans and maintenance
www.extension.umn.edu/garden/yard-garden/landscaping/native-plants-for-sustainable-landscapes/

Contact Us

Neighborhood Reinvestment Division

763-951-7200

www.coonrapidsmn.gov

Native Plant Landscape Areas

Landscaping alternative options in Coon Rapids beyond traditional turf grass

Coon Rapids Minnesota

Community strength...for generations

Code Requirements

City Code Chapter 8-500 outlines requirements for grass, landscaping and planted areas. Traditional turf grass must be under eight inches in height, however natural areas/grasses can be taller than eight inches. Native plantings may not be within a public right of way (unless a permit is obtained) or within a Sight Triangle (intersection formed by two roads that must be clear of obstructions), and may not include weeds. By using native plantings, residents may be able to reduce the amount of water used for irrigation as the plants are very environmentally friendly.

Native Planting Landscape Areas

- ☐ Must be in well-defined areas with borders, no overgrown yards
- ☐ May include higher-growing plantings
- ☐ Setbacks include: 20 feet from front lot line and 5 feet from side and rear lot lines
- ☐ Soil erosion must be controlled during and after plantings are established
- ☐ Must be maintained to industry standards

What to Expect in Your Neighborhood

Native plantings can look similar to an overgrown, unmaintained yard to those who are unfamiliar with them. Grasses can be very tall and plants can looked unmanaged, especially in the first few years. However, native plant areas may not include turf grass including overgrown or unmanaged turf grass. Properly grown and established native plants must be well-maintained and provide a unique option/ addition for yards.

Talk to your neighbors!
Let your neighbors know about native plants, the process for establishing new plants and how native plants differ from overgrown turf grass and noxious weeds.

What's Going on with Pollinators

In recent years there has been a decline in bee and pollinator populations, which has caused environmental concerns. Native plants provide a great habitat for pollinators in Coon Rapids! Select native species that produce flowers for pollinators to benefit these species.

How are Native Plants Beneficial?

Be aware– deciding to turn your yard into a native planting landscape area is not an easy task! Establishing successful native plantings takes time and money, but once established, maintenance is minimal. The plants require little water, fertilizer and care which is beneficial to both you and the environment. The plants also help to absorb rainwater into the ground, rather than simply letting the water run into storm drains. Properly planted native plants will thrive, create pollinator habitats and a unique aesthetic landscape alternative.

Native planting landscape areas may include a variety of plant types. Research which plants will thrive in your yard, provide the desired environmental benefit and fit the look you want. All plants require different maintenance and care to become established.

ORDINANCE NO. 2164

AN ORDINANCE REPEALING IN ITS ENTIRETY SECTION 8-500 WEEDS THEREBY AMENDING REVISED CITY CODE – 1982 BY ADDING NEW SECTION 8-500, MAINTENANCE OF VEGETATION AND LANDSCAPING

The City of Coon Rapids does ordain:

Section 1. Revised City Code – 1982 Section, 8-500 Weeds is hereby repealed in its entirety.

Section 2. Revised City Code – 1982 is hereby amended by adding 8-500, Maintenance of Vegetation and Landscaping as follows: (additions doubled underlined)

CITY OF COON RAPIDS, MINNESOTA

CHAPTER 8-500

MAINTENANCE OF VEGETATION AND LANDSCAPING

8-501 Intent. This Chapter intends to encourage landscape and vegetation throughout the City that is friendly to pollinators and encourages the use of Native Plants, while respecting existing community values in landscaping, to include well-maintained yards, compatibility with structures, and maintaining safety sight lines, visibility, air movement, and light transmission.

8-502 Definitions. For the purposes of this Chapter, the following terms have these definitions:

(1) "Gardens" mean cultivated areas dedicated to growing vegetables, fruits, flowers, ornamental grasses, shrubs, and similar plants, planted and maintained in well-defined borders.

(2) "Landscape Manager" means the City Manager or designee.

(3) "Native Plants" mean grasses, including Meadow Vegetation, sedges (solid, triangular-stemmed plants resembling grasses), forbs (flowering broadleaf plants), trees, and shrubs, that are plant species native to or naturalized to the state of Minnesota, excluding prohibited exotic species defined by Minnesota Statues Chapter 84D. Native plants do not include Weeds.

(4) "Native Plant Landscape Areas" mean areas where Native Plants are being or have been planted in a well-defined and maintained border. Native Plant Landscape Areas do not include Gardens.

(5) "Natural Areas" mean undeveloped landscapes not changed, altered, moved, cultivated or planted by human or mechanical means, and which do not contain Turfgrass.

(6) "Meadow Vegetation" means grasses and flowering broad-leaf plants, other than Weeds, that are native to, or adapted to, the state of Minnesota, and that are commonly found in meadow and prairie plant communities.

(7) "Rain Gardens" mean shallow landscape features planted with moisture-loving wildflowers, grasses, shrubs and trees, used to manage storm water run-off by allowing water to soak into the ground.

(8) "Turfgrass" means commercially available cultured grass varieties that are grown to create turf, including bluegrass, fescue, and ryegrass blends, commonly used in regularly cut lawn areas.

(9) "Weeds" mean (a) Noxious weeds as defined and designated pursuant to the "Minnesota Noxious Weed law", Minnesota Statutes Sections 18.76-18.91, as amended from time to time, or (b) volunteer plants, including, but not limited to, garlic mustard (Alliaria petiolata), spotted knapweed (Centaurea maculosa), or burdock (Arctium minus), and other plants designated by the Landscape Manager. Weeds do not include dandelions or clover.

8-503 Prohibited Activities and Nuisances.

(1) It is a misdemeanor and a nuisance to grow or allow the growth of Noxious weeds on any land within the City.

(2) The growing of herbaceous vegetation, other than Noxious weeds, to a height greater than eight inches, or that have gone to seed or are about to go to seed, is declared to be a nuisance. This section applies to the following lands:

a. Within 100 feet of an occupied dwelling, office, commercial, or industrial building;

b. Within a Sight Triangle as defined by Section 11-201, unless a right of way permit is obtained;

c. Within a public right of way, including the area between a sidewalk or trail and the curb of a street, unless a right of way permit is obtained.

8-504 Locational regulations applying to all vegetation. Section 8-503(2) does not apply to vegetation grown on the following lands, unless such lands fall within 8-503(2)(b) or (c):

(1) Whose slopes are at or steeper than three units horizontal to one unit vertical (3:1);

(2) Natural Areas;

(3) That are part of or comprise a designated scenic or conservation easement;

(4) That are maintained as Gardens or Rain Gardens, or as Native Plant Landscape Areas that meet Section 8-505;

(5) City park lands;

(6) Officially-designated floodplains;

(7) Drainage ponds or ditches that store or convey storm water.

8-505 Requirements for Native Plant Landscape Areas. Except where prohibited in Section 8-503, a Native Plant Landscape Area is permitted if the property owner or agent demonstrates all the following conditions are met:

(1) The area is set back not less than twenty feet from the front lot line. For the purposes of this section, corner lots are deemed to have two front yards;

(2) The area is set back not less than five feet from the side and rear lot lines. No set back is required on the side or rear lot lines if (1) there is a fully opaque fence at least five feet in height installed between the Native Plants and the side or rear lot lines or (2) the Native Plants abut a neighboring Native Plant Landscape Area that meets this Section;

(3) The area is maintained according to current industry standards for the kind of vegetation being grown, to include seasonal cutting as appropriate;

(4) Turfgrass is immediately eliminated, and the area is planted through transplanting or seed by human or mechanical means;

(5) Soil erosion is controlled, subject to the time requirements of Section 11-1204.1, while the ground is bare of plant growth that is sufficient to inhibit erosion.

8-506 - Permitting a Nuisance.

(1) Notice. When the owner and/or occupant permit a nuisance to exist in violation of this Chapter, the Landscape Manager shall serve notice in the form of an administrative citation pursuant to City Code Chapter 2-1100 ordering that such weeds or grass be cut and removed or otherwise eradicated. The administrative penalties and procedures set forth in Chapter 2-1100 shall apply.

(2) Noncompliance with Notice. If the weeds or grass are not cut and removed or otherwise eradicated as required by the administrative citation and the time periods prescribed by Chapter 2-1100, the Landscape Manager shall abate the nuisance by having such weeds cut and removed or otherwise eradicated. The cost of the abatement shall be paid as part of an administrative penalty pursuant to City Code Section 2-1104.

(3) Subsequent Violations in Same Growing Season. The Notice required in Subsection 8-504(1) shall include language notifying the owner and/or occupant that in the event the Weed Inspector is required to abate the nuisance, no further notice will be given prior to abatement if the nuisance is again allowed to exist within the same growing season. Each subsequent abatement within the same growing season is subject to an additional penalty.

(4) Appeal. An administrative citation issued for weeds or grass may be appealed as authorized in City Code Section 2-1106.

8-507 Phosphorous Fertilizer Sales. From and after January 1, 2004, all displays for retail sale to the general public of fertilizers containing phosphorous must be posted with a sign containing, at a minimum, the following information:

(1) The fertilizer in the display contains phosphorus.

(2) State law prohibits the application of phosphorous fertilizers on any turf except:

a. Where a state approved test conducted within the previous three years demonstrates that the level of phosphorous in the soil is insufficient to support healthy turf growth.

b. During the first growing season of a newly sodded or seeded turf.

c. On a golf course under the direction of a person licensed, certified, or approved by an organization with an ongoing training program authorized by the State.

(3) A person who applies phosphorous fertilizer except when authorized by this Section or State law is guilty of a petty misdemeanor and subject to a fine.

(4) Additional consumer information on phosphorous fertilizer use restrictions and best turf management practices as produced by the State Commissioner of Agriculture must be posted or made available for distribution at all retail points of sale.

8-508 - Obstructing City Employees. It is a misdemeanor to obstruct the Landscape Manager, or assignee or agents, in the cutting, removal, or eradication of weeds or grass pursuant to Section 8-506. Each day on which such obstruction continues shall constitute a separate offense.

Introduced this 19th day of April, 2016

Adopted this ____ day of _____ 2016

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **16.**

Meeting Date: 05/03/2016

Subject: Consider Adoption of Ordinance 2165 Establishing New Liquor License Fees for Microdistilleries, Cocktail Rooms, Brew Pubs, and Brewer Taprooms

From: Joan Lenzmeier, City Clerk

INTRODUCTION

On March 2, 2016, Ordinance 2159 was adopted adding microdistilleries, cocktail rooms, brew pubs and brewer taprooms to the alcohol licensing code. Council is now asked to adopt an ordinance to establish fees for the new liquor licensing. This ordiance was introduced at the April 5, 2016 City Council meeting.

DISCUSSION

In order to allow for licensing of microdistilleries, cocktail rooms, brew pubs and brewer taprooms, it is necessary to establish licensing fees. After researching the licensing fees of other Minnesota cities that license these types of establishments, taking into consideration state statute limits on certain fees and keeping in alignment with other current City of Coon Rapids liquor license fees, staff recommends the following new fees:

Microdistillery Cocktail Room License: $750
Microdistillery Off-Sale License: $380
Brew Pub Off-Sale License: $380
Small Brewer Off-Sale License: $380
Brewer Taproom License: $750

RECOMMENDATION

Adopt Ordinance 2165, Establishing Licensing Fees for Microdistilleries, Cocktail Rooms, Brew Pubs and Brewer Taprooms.

Attachments

Ordinance 2165

ORDINANCE NO. 2165

AN ORDINANCE PROVIDING FOR THE ESTABLISHMENT OF LICENSING FEES FOR MICRODISTILLERIES, COCKTAIL ROOMS, BREW PUBS AND BREWER TAPROOMS

The City of Coon Rapids does ordain:

Section 1. The following fees authorized pursuant to City Code Section 5-200 will be effective as of the effective date of this ordinance and will remain in effect until revised by City ordinance:

Microdistillery Cocktail Room License: $750
Microdistillery Off-Sale License: $380
Brew Pub Off-Sale License: $380
Small Brewer Off-Sale License: $380
Brewer Taproom License: $750

Section 2. The City Council for the City of Coon Rapids authorizes the collection of any surcharge imposed by the State of Minnesota or other governmental agency in addition to the City fee.

Section 3. Effective Date of Ordinance. This ordinance shall be effective for all annual licenses issued for 2016 and succeeding years.

Introduced this 5th day of April, 2016.

Adopted this ____ day of _____ 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **17.**

Meeting Date: 05/03/2016

Subject: Hope 4 Youth Request for Waiver of Fees

From: Matt Stemwedel, City Manager

INTRODUCTION

Hope 4 Youth has requested the City Council consider waiving the City's portion of fees for building permits and plan review related to their HOPE Place project.

DISCUSSION

Hope 4 Youth has submitted building plans for a transitional housing facility with 12 beds at 80 Coon Rapids Blvd. The facility will be available for homeless persons between the ages 18-24. It will be open 24 hours a day, seven days a week and the average length of stay will be 18-24 months. It will be staffed with 2-4 staff during the day and 1-2 staff nights and weekends.

The City received a letter (see attachment) from Lisa Jacobson, Executive Director of Hope 4 Youth, that requested the City consider waiving any City associated fees related to this project. The City's building permit and plan review fees for this project would amount to $9,114.90. There are approximately $10,700 in additional fees for SAC and State of Minnesota charges that the City has no authority to waive.

As an alternative to directly waiving the City fees, staff recommends the Council consider providing a grant to Hope 4 Youth from the fund balance associated with Lawful Gambling proceeds. The City of Coon Rapids receives 5% of the revenues collected by lawful gambling license holders within the City. The City is able to disburse the funds for charitable contributions as defined in Minnesota State Statue section 349.12, subdivision 7a (Link to statute: https://www.revisor.mn.gov/statutes/?id=349.12), or for certain eligible police, fire, and other emergency or public safety purposes.

Since 2012, 90% of the charitable gambling revenue collected by the City has been distributed to the Coon Rapids Community Strength Foundation ("the Foundation"). The Foundation primarily uses the City's contribution the help fund the annual 4th of July Community Celebration and the fireworks display. At the end of 2015, the cumulative fund balance for the revenue not disbursed to the Foundation was $21,583.44. These funds are not currently committed for any particular purpose and could be utilized for a grant to Hope 4 Youth.

RECOMMENDATION

Staff recommends Council consider Hope 4 Youth's request for assistance. A resolution has been included that would authorize a grant from the City's fund balance associated with lawful gambling proceeds. If the Council supports providing Hope 4 Youth with a grant, staff requests that a specific grant amount be indicated as a part of the motion for approval.

Attachments

Hope 4 Youth - Request for Fee Waiver

Hope 4 Youth Resolution

HOPE 4 YOUTH
Providing Pathways to End Youth Homelessness

April 25, 2016

Coon Rapids Mayor and City Council
11155 Robinson Drive NW
Coon Rapids, MN 55433

RE: HOPE Place Permit Fees

Dear Mayor and Councilmembers:

On behalf of HOPE 4 Youth, as we look to begin construction on HOPE Place, located at 80 Coon Rapids Boulevard, I would like to hereby request that any of the building permit fees, payable to the City of Coon Rapids, be considered for a waiver. We are working diligently to construct and open this transitional living program as prudently as possible and this would help tremendously.

I am available to answer any questions as they may come up. Please let me know if you need any other information. I appreciate your willingness to consider this request.

Sincerely,

Lisa K Jacobson

Lisa Jacobson
Executive Director
763-234-0315
ljacobson@hope4youthmn.org

RESOLUTION 16-61

A RESOLUTION AUTHORIZING A CHARITABLE GAMBLING PROCEEDS GRANT TO HOPE 4 YOUTH, A NON-PROFIT ORGANIZATION

WHEREAS, Hope 4 Youth is a 501(c)(3) nonprofit corporation serving youth experiencing homelessness and poverty in Anoka County; and

WHEREAS, in 2015, Hope 4 Youth served more than 450 young people age 23 and younger through its drop-in center in Anoka; and

WHEREAS, Hope 4 Youth has tremendous community support in the Anoka County area and many donors and supporters are Coon Rapids residents and businesses; and

WHEREAS, since July 2009 the City of Coon Rapids has been collecting a 5% contribution from all licensed lawful gambling organizations.

WHEREAS, Minnesota Statute 349.213, Subd. 1 and Minnesota Statute 349.12, Subd. 7a outlines the lawful purposes for which gambling proceeds may be expended; and

WHEREAS, Hope 4 Youth as a 501(c)(3) is eligible to receive gambling proceeds; and

WHEREAS, Hope 4 Youth works with the youth of our community to alleviate the effects of homelessness and poverty.

NOW THEREFORE BE IT RESOLVED that the City Council of the City of Coon Rapids, Minnesota authorizes a grant of charitable gambling proceeds to Hope 4 Youth in the amount of $_____, from the City's charitable gambling fund payable after Hope 4 Youth submits permit and plan review fees to the City.

Adopted this 3rd day of May, 2016, by the Coon Rapids City Council.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **18.**

Meeting Date: 05/03/2016

Subject: PC 16-9, Approval of Amendment to Gateway Commerce Center Planned Unit Development, H & W, LLC

From: Scott Harlicker, Planner

INTRODUCTION

The applicant is requesting City Council approval to amend the final PUD to include an additional four acres of land for the approved auto dealership site.

DISCUSSION

Background

In April 2015 the City Council approved an amendment to the Gateway Commerce Center Planned Unit Development to allow the following:

- a car dealership on Lot 1
- a swim center on Lots 2 and 3
- greater flexibility on the remaining undeveloped lots

The amended site plan reflecting these changes is attached. Walser Group, current owner of Lot 1, has requested additional land for their dealership. The site is currently six acres in size. It includes a proposed 31,000 square foot building and parking lot for 439 cars. The proposed revision will bring the dealership site to 10.18 acres and include a 60,000 square foot building and space for 616 cars. The cul de sac will be shortened by about 400 feet.

Analysis

Expanded size of car dealership

The current size of the planned car dealership is six acres. The applicant is proposing to increase the size of the dealership to 10 acres. To accomplish this, the applicant is proposing to incorporate Lots 2 and 3 as part of the dealership development. The hotel is still identified for the adjacent Lot 4. This additional acreage will allow the dealership (Walser Group) to increase the size of the building to 60,000 square feet and increase the parking area to 616 cars. The new site will be of comparable size to the three other newer auto dealerships in the City.

	Ford	Chrysler	Toyota	Proposed Walser

Lot Size	11.8 ac	11.3 ac	@ 10 ac	10 ac
Building Size	47,710 sf	33,405 sf	52,987 sf	61,000 sf
Parking Spaces	991 spaces	811 spaces	598 spaces	616 spaces

The applicant is not proposing the additional land for a second dealership; the request will allow the Walser Group to construct a larger dealership than what was proposed in 2015.

The dealership will be the largest lot in terms on lot size within the Gateway PUD. The other two parcels include a hotel parcel (2.71 acres) and the hotel/office /retail parcel (4.48 acres). The proposed dealership building will be the third largest building; the adjacent hotel is approved for 78,000 square feet and the office/hotel/retail site is approved for 100,000 square feet.

Changes in Design

To accommodate the larger dealership, the applicant is modifying the layout of the PUD. The cul de sac is being shortened by about 400 feet. It will terminate near the east end of the dealership lot. The number of uses along the north side of the cul de sac will be reduced from four to three. The swim center site is being incorporated into the dealership site. The hotel site on lot 4 and the restaurant site on lot 5 remain.

The applicant is requesting the dealership be allowed two freestanding signs as shown on the proposed site plan. All other sites in the PUD are allowed one freestanding monument sign with the option of shared space on a multi-tenant sign. This site, like the others, should be limited to one freestanding sign. One of the freestanding signs should be eliminated.

The building for the dealership is shifted to the east. It will be setback about 110 feet from the front property line and about 180 feet from the Lot 4 property line. The site plan should show the sidewalk along the north side of Gateway Drive to the dealership lot. The original PUD included a trail along the wetlands and stormwater ponds on the north side of the PUD with connections to the street at the end of the cul de sac and near the hotel. The connection near the hotel should be shown.

An access driveway is shown along the lot line between the dealership and hotel. This access point should be eliminated and instead be landscaped to act as a buffer between the two lots.

Planning Commission Meeting

At the Planning Commission meeting held on April 21st two residents spoke at the public hearing. They were concerned about the environmental impacts of the development. Staff explained the history of the project and the reviews that have taken place to date.

Four Commissioners were concerned that the size of the proposed dealership was out of character for the PUD. They were also bothered by what they saw as piecemeal changes to the PUD. Three Commissioners thought this was a good use of the site and wanted to see the project move forward. The Commission voted 4-3 to recommend denial of the proposed amendment.

RECOMMENDATION

Planning Commission Recommendation

In Planning Case 16-9, the Planning Commission recommended the City Council deny the proposed PUD amendment. Should the Council agree with the Planning Commission's recommendation, it should consider reasons articulated by the Commission in its discussion (minutes attached) including the following findings in support of the decision to **deny** the proposed PUD amendment:

1) The proposal is not consistent with one of the primary objectives of the PUD Design Guideline which states that there be "...a uniform and consistent review of development". Multiple amendments to the PUD is not supportive of the objective of uniform and consistent review of development.
2) The proposed amendment is not consistent with the Design Guidelines goal of providing a mix of uses. There is about 14.5 acres of developable land along Highway 10. The proposed amendment would designate 10.18 acres, or about 70% to a single use, a new car dealership.

Decision to Approve the Amendment

Should the Council decide to **approve** the proposed amendment, the following conditions should be included:

1. Only one new car dealership is allowed in the PUD.
2. All conditions of the original PUD approval of December 18, 2007 are included in this approval
3. The applicant receive all permits necessary for the grading done as part of the cul de sac work.
4. Approval and execution of an amendment to the PUD agreement.
5. The sidewalk along Gateway Drive must be shown on the site plan.
6. The sidewalk connections between the trail along the wetlands and Gateway Drive must be shown.
7. The applicant must receive all necessary permits from Coon Creek Watershed District.
8. Only one freestanding sign is allowed for the dealership.
9. An access is shown along the lot line between the dealership and hotel. This access must be eliminated and a landscaped buffer shown between the two lots.

Attachments

Location Map
Applicant's Narrative
Current Approved Site Plan
Proposed PUD Site Plan
Proposed Landscape Plan
Draft April Planning Commission Minutes

Location Map

Silverstone
Realty & Development, LLC

March 10, 2016

Re: PUD Amendment at the Gateway Commerce Center

Dear Coon Rapids City Council and Planning Commission:

This letter shall serve as a request to amend Lot 2 and Lot 3 of the PUD at the Coon Rapids Gateway Commerce Center.

Last April, The Gateway Commerce Center requested a PUD Amendment for Lot 1 changing its use to a high quality auto dealership. At that time both the Planning Commission and City Council approved this request recognizing that this change will bring great use to both the site and the City of Coon Rapids that becomes an asset to both the city and its residents.

Based on the great quality and vision of this dealership the Walser Group has requested additional land to bring an even better dealership environment. With this additional land, they can offer a superior experience to residents in the area.

This letter is to request a revision to Lot 2 and Lot 3 of the PUD to allow the expansion of this quality single dealership.

H&W Family, LLLP has worked very hard to make sure that all the current retail/gas/restaurant buildings were built at a high quality level which is an asset to the residents of Coon Rapids. Caribou, Holiday, and McDonalds are all extremely successful at this intersection and are exceeding sales expectations. The residents of Coon Rapids approve of the quality of this development and this change will continue to show our effort to bring quality users to the site.

Exhibit A, (below), illustrates a new PUD revision for Lot 2 and Lot 3 with the same design guidelines for quality that we have always had. The expansion will allow for more jobs and a better dealership environment. Gone are the days of the old auto dealership and what has born is a high quality establishment that caters to the car buying experience we would all like to have.

In order to continue the success of the development, we are requesting the extension of an approved use on Lot 2 and Lot 3 located along Highway 10. A very well-known high quality business that is already location in Coon Rapids has requested the expansion to a 10.14 acre site from 6 acres in this development. The Walser's name represents quality and their intension create an even better car dealership with Quality Buildings, Quality Products, and Quality Service benefits us all.

The Walser building will be designed to incorporate elements of the design guidelines to continue the look and feel of the current development. You will see material choices that blend in with the other users in the development and their business will help support the businesses in the development and area. The Walser dealership will bring new high tech jobs and sales jobs to Coon Rapids. It will draw customers from all over the state of Minnesota which serves a positive impact for uses like restaurants and hotels.

Silverstone
Realty & Development, LLC

H&W Family, LLLP's intent with this PUD Revision is to allow and support continued growth in Coon Rapids. We have the ability to continue to make this development a huge success with your help. Our request is to allow the extension of the current PUD Approved Auto Dealership in order to deliver the City of Coon Rapids a High Quality Development that will continue to be successful for the long term.

Please feel free to contact the development team with any questions and thanks for your support.

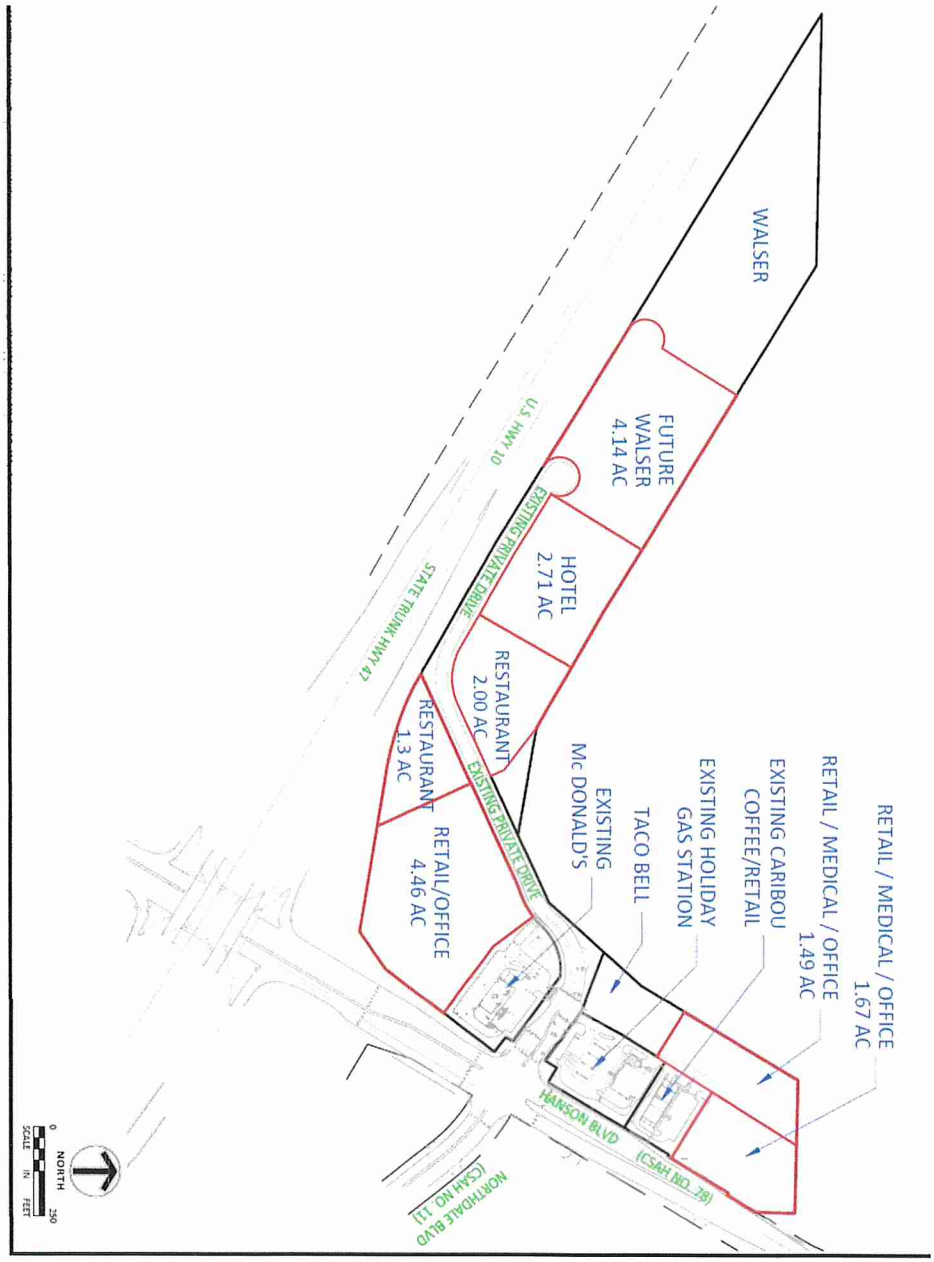
Best Regards,

Jonathan Adam
Silverstone Realty
7955 Stone Creek Dr. Unit 130
Chanhassen MN 55317
(952) 856-6231
Jadam@silverstonemn.com

On Behalf of H&W Family, LLLP

Silverstone
Realty & Development, LLC

Exhibit A:



Silverstone
Realty & Development, LLC

Exhibit B: PUD Change Requests:

1. Allow the approved auto dealership use to extend its foot print onto Lot 2/3.

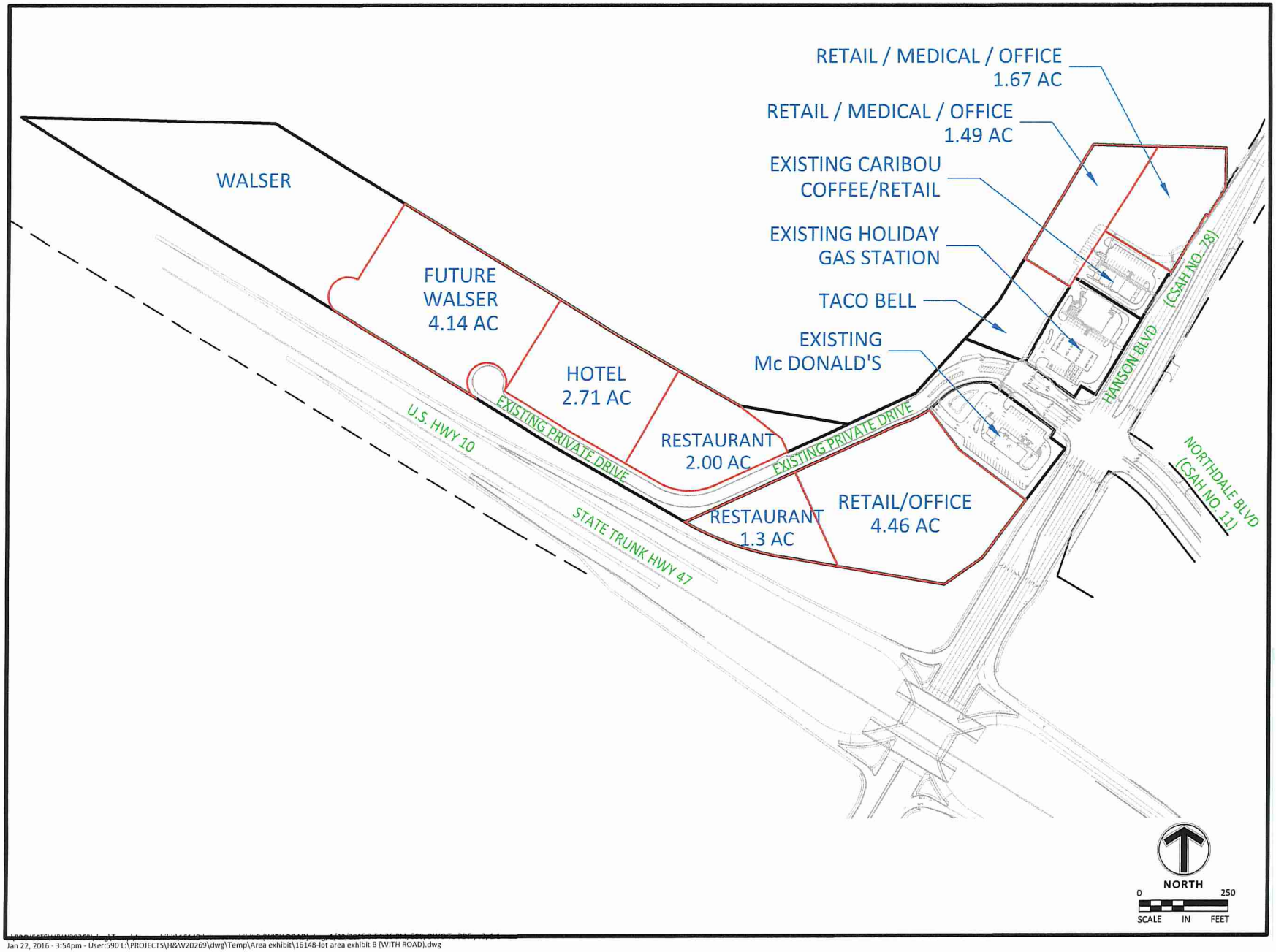
2. Allow for a location modification to the existing cul-de-sac drive which moves it to the South East allowing for the use of developer corrected materials which is the same request that was approved in 2015.

3. Allow for the same amount of sign locations along Highway 10 with a location modification.

Silverstone
Realty & Development, LLC

Exhibit C: Auto Dealership Quality Building Example:

Silverstone
Realty & Development, LLC



Jan 22, 2016 - 3:54pm - User:590 L:\PROJECTS\H&W20269\dwg\Temp\Area exhibit\16148-lot area exhibit B (WITH ROAD).dwg

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

Client
H&W FAMILY LLLP

Project
GATEWAY COMMERCE CENTER

Location
COON RAPIDS, MN

Certification

Summary
Approved: EL Drawn: JMW

Revision History

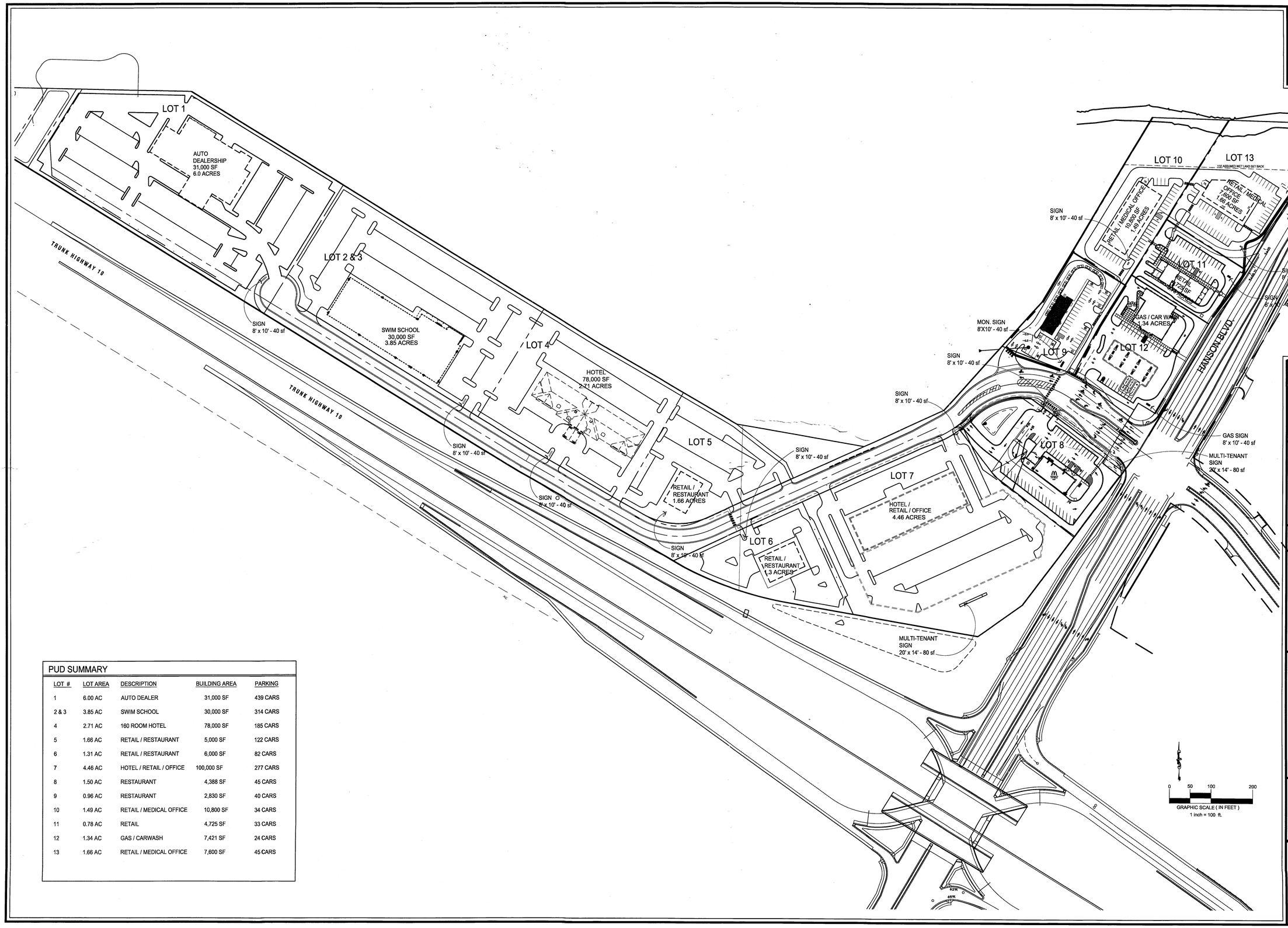
No.	Date	Submittal / Rev.
	01-22-2016	

Sheet Title
LOT AREA EXHIBIT

Sheet No. Revision

Project No H&W20269

ARCHITECTURAL CONSORTIUM L.L.C.
901 North Third Street, Suite 220
Minneapolis, MN 55401
612-436-4030
Fax 612-692-9960



PUD SUMMARY

LOT #	LOT AREA	DESCRIPTION	BUILDING AREA	PARKING
1	6.00 AC	AUTO DEALER	31,000 SF	439 CARS
2 & 3	3.85 AC	SWIM SCHOOL	30,000 SF	314 CARS
4	2.71 AC	160 ROOM HOTEL	78,000 SF	185 CARS
5	1.66 AC	RETAIL / RESTAURANT	5,000 SF	122 CARS
6	1.31 AC	RETAIL / RESTAURANT	6,000 SF	82 CARS
7	4.46 AC	HOTEL / RETAIL / OFFICE	100,000 SF	277 CARS
8	1.50 AC	RESTAURANT	4,388 SF	45 CARS
9	0.96 AC	RESTAURANT	2,830 SF	40 CARS
10	1.49 AC	RETAIL / MEDICAL OFFICE	10,800 SF	34 CARS
11	0.78 AC	RETAIL	4,725 SF	33 CARS
12	1.34 AC	GAS / CARWASH	7,421 SF	24 CARS
13	1.66 AC	RETAIL / MEDICAL OFFICE	7,600 SF	45 CARS

Mark	Revision / Issue	Date

GATEWAY COMMERCE CENTER

HANSON BLVD. & HWY. 10
COON RAPIDS, MN

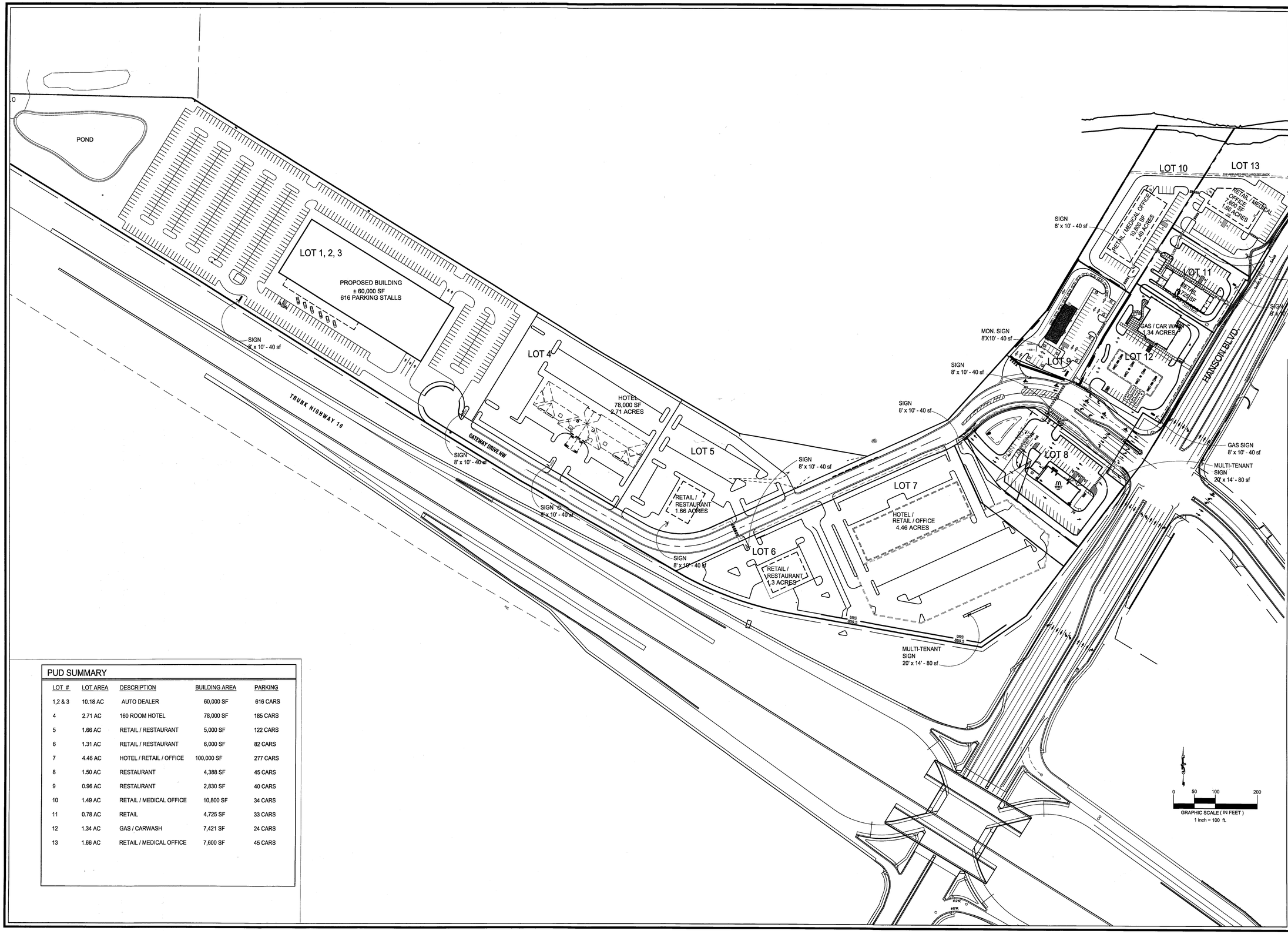
OVERALL SITE PLAN

PROJECT NUMBER:	04-1019-01
ISSUED DATE:	02-18-15
DRAWN BY:	BL/BD
CHECKED BY:	KA

A1.1

Architectural Consortium, L.L.C. 2014

ARCHITECTURAL CONSORTIUM L.L.C.
901 North Third Street, Suite 220
Minneapolis, MN 55401
612-436-4030
Fax 612-692-9960



PUD SUMMARY

LOT #	LOT AREA	DESCRIPTION	BUILDING AREA	PARKING
1,2 & 3	10.18 AC	AUTO DEALER	60,000 SF	616 CARS
4	2.71 AC	160 ROOM HOTEL	78,000 SF	185 CARS
5	1.66 AC	RETAIL / RESTAURANT	5,000 SF	122 CARS
6	1.31 AC	RETAIL / RESTAURANT	6,000 SF	82 CARS
7	4.46 AC	HOTEL / RETAIL / OFFICE	100,000 SF	277 CARS
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Mark	Revision / Issue	Date

GATEWAY COMMERCE CENTER

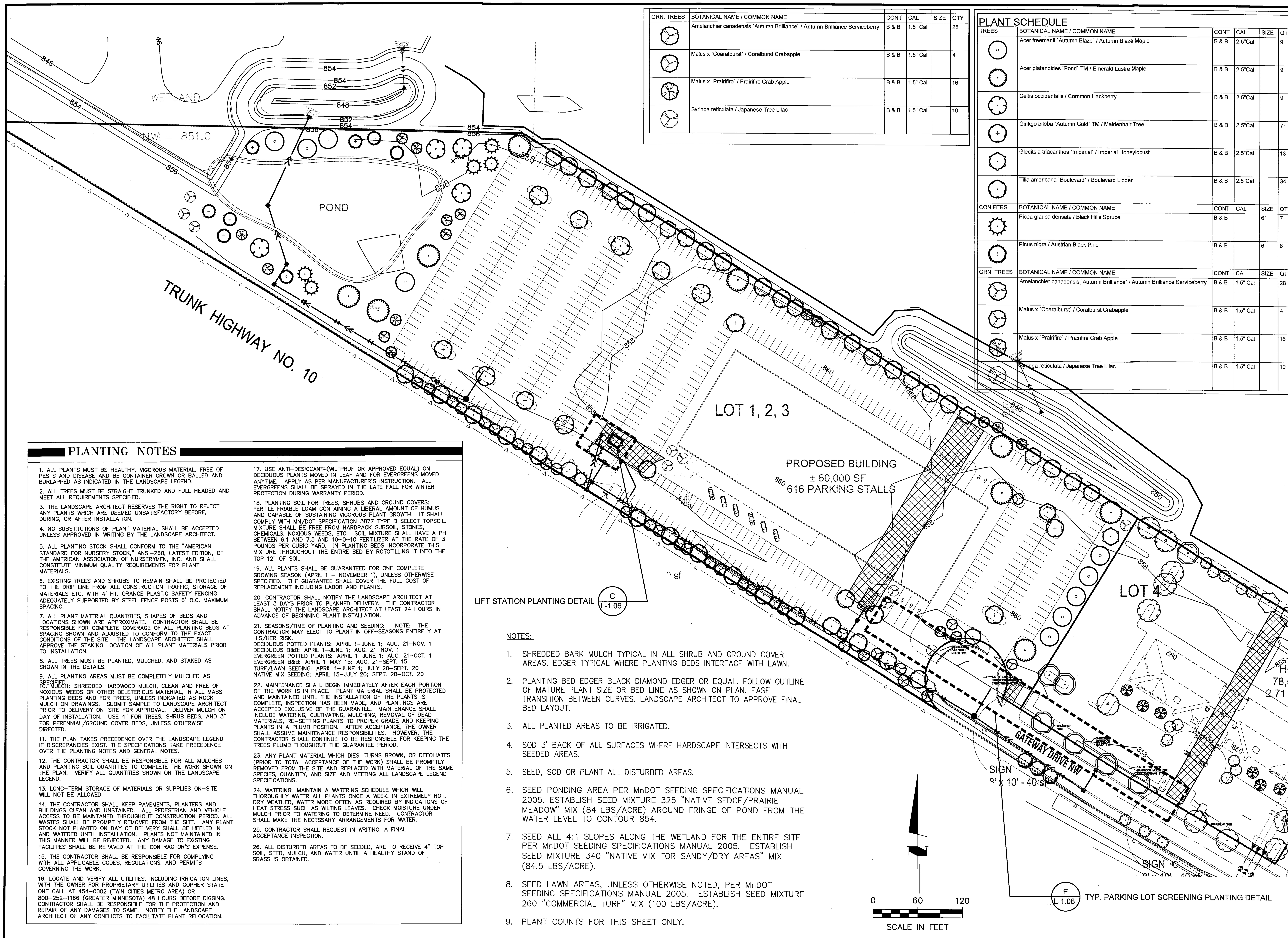
HANSON BLVD. & HWY. 10
COON RAPIDS, MN

OVERALL SITE PLAN

PROJECT NUMBER:	04-1019-01
ISSUED DATE:	03-14-16
DRAWN BY:	BL/BD/MR
CHECKED BY:	KA

A1.1

Architectural Consortium, L.L.C. 2015



ORN. TREES	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
	Amelanchier canadensis `Autumn Brilliance` / Autumn Brilliance Serviceberry	B & B	1.5" Cal		28
	Malus x `Coaralburst` / Coralburst Crabapple	B & B	1.5" Cal		4
	Malus x `Prairifire` / Prairifire Crab Apple	B & B	1.5" Cal		16
	Syringa reticulata / Japanese Tree Lilac	B & B	1.5" Cal		10

PLANT SCHEDULE

TREES	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
	Acer freemanii `Autumn Blaze` / Autumn Blaze Maple	B & B	2.5"Cal		9
	Acer platanoides `Pond` TM / Emerald Lustre Maple	B & B	2.5"Cal		9
	Celtis occidentalis / Common Hackberry	B & B	2.5"Cal		9
	Ginkgo biloba `Autumn Gold` TM / Maidenhair Tree	B & B	2.5"Cal		7
	Gleditsia triacanthos `Imperial` / Imperial Honeylocust	B & B	2.5"Cal		13
	Tilia americana `Boulevard` / Boulevard Linden	B & B	2.5"Cal		34
CONIFERS	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
	Picea glauca densata / Black Hills Spruce	B & B		6`	7
	Pinus nigra / Austrian Black Pine	B & B		6`	8
ORN. TREES	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
	Amelanchier canadensis `Autumn Brilliance` / Autumn Brilliance Serviceberry	B & B	1.5" Cal		28
	Malus x `Coaralburst` / Coralburst Crabapple	B & B	1.5" Cal		4
	Malus x `Prairifire` / Prairifire Crab Apple	B & B	1.5" Cal		16
	Syringa reticulata / Japanese Tree Lilac	B & B	1.5" Cal		10

PLANTING NOTES

1. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASE AND BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE LANDSCAPE LEGEND.

2. ALL TREES MUST BE STRAIGHT TRUNKED AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.

3. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS WHICH ARE DEEMED UNSATISFACTORY BEFORE, DURING, OR AFTER INSTALLATION.

4. NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE ACCEPTED UNLESS APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.

5. ALL PLANTING STOCK SHALL CONFORM TO THE "AMERICAN STANDARD FOR NURSERY STOCK," ANSI–Z60, LATEST EDITION, OF THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS.

6. EXISTING TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED TO THE DRIP LINE FROM ALL CONSTRUCTION TRAFFIC, STORAGE OF MATERIALS ETC. WITH 4' HT. ORANGE PLASTIC SAFETY FENCING ADEQUATELY SUPPORTED BY STEEL FENCE POSTS 6' O.C. MAXIMUM SPACING.

7. ALL PLANT MATERIAL QUANTITIES, SHAPES OF BEDS AND LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN AND ADJUSTED TO CONFORM TO THE EXACT CONDITIONS OF THE SITE. THE LANDSCAPE ARCHITECT SHALL APPROVE THE STAKING LOCATION OF ALL PLANT MATERIALS PRIOR TO INSTALLATION.

8. ALL TREES MUST BE PLANTED, MULCHED, AND STAKED AS SHOWN IN THE DETAILS.

9. ALL PLANTING AREAS MUST BE COMPLETELY MULCHED AS SPECIFIED.

10. MULCH: SHREDDED HARDWOOD MULCH, CLEAN AND FREE OF NOXIOUS WEEDS OR OTHER DELETERIOUS MATERIAL, IN ALL MASS PLANTING BEDS AND FOR TREES, UNLESS INDICATED AS ROCK MULCH ON DRAWINGS. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT PRIOR TO DELIVERY ON–SITE FOR APPROVAL. DELIVER MULCH ON DAY OF INSTALLATION. USE 4" FOR TREES, SHRUB BEDS, AND 3" FOR PERENNIAL/GROUND COVER BEDS, UNLESS OTHERWISE DIRECTED.

11. THE PLAN TAKES PRECEDENCE OVER THE LANDSCAPE LEGEND IF DISCREPANCIES EXIST. THE SPECIFICATIONS TAKE PRECEDENCE OVER THE PLANTING NOTES AND GENERAL NOTES.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MULCHES AND PLANTING SOIL QUANTITIES TO COMPLETE THE WORK SHOWN ON THE PLAN. VERIFY ALL QUANTITIES SHOWN ON THE LANDSCAPE LEGEND.

13. LONG–TERM STORAGE OF MATERIALS OR SUPPLIES ON–SITE WILL NOT BE ALLOWED.

14. THE CONTRACTOR SHALL KEEP PAVEMENTS, PLANTERS AND BUILDINGS CLEAN AND UNSTAINED. ALL PEDESTRIAN AND VEHICLE ACCESS TO BE MAINTANED THROUGHOUT CONSTRUCTION PERIOD. ALL WASTES SHALL BE PROMPTLY REMOVED FROM THE SITE. ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE HEELED IN AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE REJECTED. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAVED AT THE CONTRACTOR'S EXPENSE.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES, REGULATIONS, AND PERMITS GOVERNING THE WORK.

16. LOCATE AND VERIFY ALL UTILITIES, INCLUDING IRRIGATION LINES, WITH THE OWNER FOR PROPRIETARY UTILITIES AND GOPHER STATE ONE CALL AT 454–0002 (TWIN CITIES METRO AREA) OR 800–252–1166 (GREATER MINNESOTA) 48 HOURS BEFORE DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGES TO SAME. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS TO FACILITATE PLANT RELOCATION.

17. USE ANTI–DESICCANT (WILTPRUF OR APPROVED EQUAL) ON DECIDUOUS PLANTS MOVED IN LEAF AND FOR EVERGREENS MOVED ANYTIME. APPLY AS PER MANUFACTURER'S INSTRUCTION. ALL EVERGREENS SHALL BE SPRAYED IN THE LATE FALL FOR WINTER PROTECTION DURING WARRANTY PERIOD.

18. PLANTING SOIL FOR TREES, SHRUBS AND GROUND COVERS: FERTILE FRIABLE LOAM CONTAINING A LIBERAL AMOUNT OF HUMUS AND CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. IT SHALL COMPLY WITH MN/DOT SPECIFICATION 3877 TYPE B SELECT TOPSOIL. MIXTURE SHALL BE FREE FROM HARDPACK SUBSOIL, STONES, CHEMICALS, NOXIOUS WEEDS, ETC. SOIL MIXTURE SHALL HAVE A PH BETWEEN 6.1 AND 7.5 AND 10–0–10 FERTILIZER AT THE RATE OF 3 POUNDS PER CUBIC YARD. IN PLANTING BEDS INCORPORATE THIS MIXTURE THROUGHOUT THE ENTIRE BED BY ROTOTILLING IT INTO THE TOP 12" OF SOIL.

19. ALL PLANTS SHALL BE GUARANTEED FOR ONE COMPLETE GROWING SEASON (APRIL 1 – NOVEMBER 1), UNLESS OTHERWISE SPECIFIED. THE GUARANTEE SHALL COVER THE FULL COST OF REPLACEMENT INCLUDING LABOR AND PLANTS.

20. CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 3 DAYS PRIOR TO PLANNED DELIVERY. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 24 HOURS IN ADVANCE OF BEGINNING PLANT INSTALLATION.

21. SEASONS/TIME OF PLANTING AND SEEDING: NOTE: THE CONTRACTOR MAY ELECT TO PLANT IN OFF–SEASONS ENTIRELY AT HIS/HER RISK.
DECIDUOUS POTTED PLANTS: APRIL 1–JUNE 1; AUG. 21–NOV. 1
DECIDUOUS B&B: APRIL 1–JUNE 1; AUG. 21–NOV. 1
EVERGREEN POTTED PLANTS: APRIL 1–JUNE 1; AUG. 21–OCT. 1
EVERGREEN B&B: APRIL 1–MAY 15; AUG. 21–SEPT. 15
TURF/LAWN SEEDING: APRIL 1–JUNE 1; JULY 20–SEPT. 20
NATIVE MIX SEEDING: APRIL 15–JULY 20; SEPT. 20–OCT. 20

22. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PORTION OF THE WORK IS IN PLACE. PLANT MATERIAL SHALL BE PROTECTED AND MAINTAINED UNTIL THE INSTALLATION OF THE PLANTS IS COMPLETE, INSPECTION HAS BEEN MADE, AND PLANTINGS ARE ACCEPTED EXCLUSIVE OF THE GUARANTEE. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RE–SETTING PLANTS TO PROPER GRADE AND KEEPING PLANTS IN A PLUMB POSITION. AFTER ACCEPTANCE, THE OWNER SHALL ASSUME MAINTENANCE RESPONSIBILITIES. HOWEVER, THE CONTRACTOR SHALL CONTINUE TO BE RESPONSIBLE FOR KEEPING THE TREES PLUMB THOUGHOUT THE GUARANTEE PERIOD.

23. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO TOTAL ACCEPTANCE OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL LANDSCAPE LEGEND SPECIFICATIONS.

24. WATERING: MAINTAIN A WATERING SCHEDULE WHICH WILL THOROUGHLY WATER ALL PLANTS ONCE A WEEK. IN EXTREMELY HOT, DRY WEATHER, WATER MORE OFTEN AS REQUIRED BY INDICATIONS OF HEAT STRESS SUCH AS WILTING LEAVES. CHECK MOISTURE UNDER MULCH PRIOR TO WATERING TO DETERMINE NEED. CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR WATER.

25. CONTRACTOR SHALL REQUEST IN WRITING, A FINAL ACCEPTANCE INSPECTION.

26. ALL DISTURBED AREAS TO BE SEEDED, ARE TO RECEIVE 4" TOP SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

NOTES:

1. SHREDDED BARK MULCH TYPICAL IN ALL SHRUB AND GROUND COVER AREAS. EDGER TYPICAL WHERE PLANTING BEDS INTERFACE WITH LAWN.
2. PLANTING BED EDGER BLACK DIAMOND EDGER OR EQUAL. FOLLOW OUTLINE OF MATURE PLANT SIZE OR BED LINE AS SHOWN ON PLAN. EASE TRANSITION BETWEEN CURVES. LANDSCAPE ARCHITECT TO APPROVE FINAL BED LAYOUT.
3. ALL PLANTED AREAS TO BE IRRIGATED.
4. SOD 3' BACK OF ALL SURFACES WHERE HARDSCAPE INTERSECTS WITH SEEDED AREAS.
5. SEED, SOD OR PLANT ALL DISTURBED AREAS.
6. SEED PONDING AREA PER MnDOT SEEDING SPECIFICATIONS MANUAL 2005. ESTABLISH SEED MIXTURE 325 "NATIVE SEDGE/PRAIRIE MEADOW" MIX (84 LBS/ACRE) AROUND FRINGE OF POND FROM THE WATER LEVEL TO CONTOUR 854.
7. SEED ALL 4:1 SLOPES ALONG THE WETLAND FOR THE ENTIRE SITE PER MnDOT SEEDING SPECIFICATIONS MANUAL 2005. ESTABLISH SEED MIXTURE 340 "NATIVE MIX FOR SANDY/DRY AREAS" MIX (84.5 LBS/ACRE).
8. SEED LAWN AREAS, UNLESS OTHERWISE NOTED, PER MnDOT SEEDING SPECIFICATIONS MANUAL 2005. ESTABLISH SEED MIXTURE 260 "COMMERCIAL TURF" MIX (100 LBS/ACRE).
9. PLANT COUNTS FOR THIS SHEET ONLY.

Sambatek
www.sambatek
12800 Whitewater Drive, S
Minnetonka, MN
763.476.6010 te
763.476.8532 f
Engineering | Surveying | Planning | Envir

Client
H&W FAMILY
LLLP

Project
GATEWAY COMMERCE CENTER

Location
COON RAPIDS
MN

Certification
I hereby certify that this survey, plan or re prepared by me or under my direct superv and that I am a duly Licensed LANDSCAPE ARCHITECT under the laws of the State of Minnesota.

William L. Delaney
Registration No. 40252 Date: 02/20

This certification is not valid unless wet signe ink. If applicable, contact us for a wet signed this survey which is available upon request a Sambatek, Minnetonka, MN office.

Summary
Designed: BDB Drawn: JMT
Approved: MCA Book / Page:
Phase: PUD Initial Issue: 02/20

Revision History

No.	Date	By	Submittal / Re
A	10/26/07	ELF	REVISIONS PER CITY
B	12/07/07	LAW	REVISIONS PER CITY
C	05.07.09	kit	PUD REVISION
D	06.07.13	kit	PUD REVISION
E	08.05.13	kit	PUD REVISION FOR M REVISED ENTRANC
G	02/20/15	WLD	PUD REVISION
H	03.14.16		PUD REVISION

Sheet Title
LANDSCAPE PL
- SECTION A

Sheet No. Revis
L1.02 H

Project No. H&W16

March 14, 2016 1:55pm User: 595 L:\PROJECTS\H&W16148\dwg\PUD 3-14-16\16148-L-1.01-L-1.04-.dwg
L:\PROJECTS\H&W16148\dwg\PUD 3-14-16\16148-L-1.01-L-1.04-.dwg, 3/14/2016 1:55:30 PM, 595, DWG To PDF.pc3, 1:1

COON RAPIDS PLANNING COMMISSION MEETING OF APRIL 21, 2016

CALL TO ORDER

The regular agenda meeting of the Coon Rapids Planning Commission was called to order by Chair Schwartz at 6:30 p.m.

Members Present: Chair Wayne Schwartz, Commissioners Kathie Casey, Denise Hosch, Ray Knoblauch, Mary Schmolke, Zachary Stephenson and Julia Stevens.

Members Absent: None.

Staff Present: Planner Scott Harlicker; and, Assistant City Attorney Doug Johnson.

PLEDGE OF ALLEGIANCE

Chair Schwartz led the Commission in the Pledge of Allegiance.

OATH OF OFFICE

Planner Harlicker administered the Oath of Office to newly appointed Planning Commission Kathie Casey.

ADOPTION OF THE AGENDA

MOTION BY COMMISSIONER STEVENS, SECONDED BY COMMISSIONER HOSCH, TO ADOPT THE AGENDA AS PRESENTED. THE MOTION PASSED UNANIMOUSLY.

APPROVAL OF THE MARCH 17, 2016 REGULAR MINUTES

MOTION BY COMMISSIONER HOSCH, SECONDED BY COMMISSIONER STEVENS, TO APPROVE THE PLANNING COMMISSION MINUTES OF THE REGULAR MEETING OF MARCH 17, 2016, AS PRESENTED. THE MOTION PASSED 6-0-1 (CASEY ABSTAINED).

OLD BUSINESS

1. PLANNING CASE 16-2 – PRELIMINARY PLAT – VISION 15 – 12 LOT TOWNHOUSE DEVELOPMENT – 1005 COON RAPIDS BOULEVARD EXTENSION – VISION BANK – PUBLIC HEARING

It was noted the applicant is requesting preliminary plat approval for a 12-lot townhouse development. Staff discussed the request in detail with the Commission and recommended approval.

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Commissioner Stephenson asked if the open space would be fenced along the eastern property line. Planner Harlicker reported there was an existing fence in place, but understood it would be beneficial to have a fence between the property and the railroad property.

Commissioner Casey asked if the proposed trail would connect to a City trail. Planner Harlicker noted this trail would connect to the City trail system.

Chair Schwartz opened and closed the public hearing at 6:47 p.m., as no one wished to address the Planning Commission.

Chair Schwartz inquired if the road would be signed "No Parking". Planner Harlicker reported the roadway would be signed "No Parking" due to the fact it was only 24 feet wide.

Representative for the applicant reviewed several material boards with the Planning Commission. He noted the color palette would be pastel in nature and the units would have wooden doors. He explained the shingles would be beige or tan.

Commissioner Stephenson asked if the applicant would be placing a fence on the western property line. The applicant's representative reported there was not a plan to put up a fence, but he was willing to work with the City to see if this may work.

Commissioner Schmolke questioned if the townhomes would have individual trash service. The representative stated this would be the case.

Commissioner Schmolke inquired if the 24-foot road could accommodate garbage trucks and snow plows. Planner Harlicker reported both trucks would be able to use this street.

Commissioner Casey asked if the snowplowing for the units would be provided by a private vendor. Planner Harlicker stated this would be the case.

Chair Schwartz expressed concern with the applicants landscaping plan. He questioned if the applicant understood the City's landscaping requirements. The representative indicated he would be working with the City to adjust the landscaping plan in order to meet the City's requirements. Planner Harlicker commented that if the applicant were to plant oversized trees the number required could be reduced.

MOTION BY COMMISSIONER STEPHENSON, SECONDED BY COMMISSIONER SCHMOLKE, TO APPROVE PLANNING CASE 16-2, THE PRELIMINARY PLAT WITH THE FOLLOWING CONDITIONS

1. PARK DEDICATION IN THE AMOUNT OF $22,000 (11 UNITS X $2,000/UNIT) BE PAID PRIOR TO RELEASING THE PLAT FOR RECORDING.

2. ALL ENGINEERING COMMENTS BE ADDRESSED.

3. THE AREA ENCUMBERED BY THE HIGHWAY EASEMENT SHOULD BE INCLUDED AS PART OF LOT 12.

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THE MOTION PASSED UNANIMOUSLY.

This is a recommendation to the City Council that will be considered at the May 3, 2016 City Council meeting.

2. PLANNING CASE 16-1 – SITE PLAN FOR 11 UNIT TOWNHOME DEVELOPMENT – 1005 COON RAPIDS BOULEVARD EXTENSION – VISION BANK – PUBLIC HEARING

It was noted the applicant is requesting site plan approval for an 11-unit townhouse development. Staff discussed the request in detail with the Commission and recommended approval.

Chair Schwartz opened and closed the public hearing at 6:47 p.m., as no one wished to address the Planning Commission.

Commissioner Stephenson questioned why only 30% of the open space would be sodded. Planner Harlicker stated this related to the grading of the property and noted the playground area would likely be sand or ground up tires. He recommended the Commission add a condition stating all disturbed areas, including the area around the common area, will be sodded.

Commissioner Stephenson recommended a condition be added requiring the applicant to construct a fence along the entire western property line.

Commissioner Stevens questioned if a fence should be required along the northern property line.

Commissioner Stephenson supported this recommendation and commented there was a fence along the northern property line at this time. He requested staff ensure the existing fence was adequate and that it be tied into the new fence along the western property line.

MOTION BY COMMISSIONER STEPHENSON, SECONDED BY COMMISSIONER STEVENS, TO APPROVE PLANNING CASE 16-1, THE SITE PLAN WITH THE FOLLOWING CONDITIONS:

1. ALL ENGINEERING COMMENTS BE ADDRESSED.
2. THE LANDSCAPE PLAN BE REVISED SO IT COMPLIES WITH THE BUFFER REQUIREMENTS, STREET TREE REQUIREMENTS AND OPEN SPACE LANDSCAPING REQUIREMENTS.
3. CHILDREN'S PLAY EQUIPMENT AND ADULT RECREATION AREA MUST BE IDENTIFIED.
4. HOMEOWNERS DOCUMENT MUST BE APPROVED BY THE CITY ATTORNEY.
5. THE PRELIMINARY AND FINAL PLATS BE APPROVED BY THE CITY COUNCIL.

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6. ALL DISTURBED AREAS, INCLUDING THE AREA AROUND THE COMMON AREA, WILL BE SODDED.
7. A SIX-FOOT HIGH FENCE, APPROVED BY CITY STAFF, BE CONSTRUCTED ALONG THE ENTIRE NORTHERN AND WESTERN PROPERTY LINES.

THE MOTION PASSED UNANIMOUSLY.

This is a decision made by the Planning Commission and shall stand unless appealed to the City Council within ten days after notification of the decision.

NEW BUSINESS

3. PLANNING CASE 16-9 – AMENDMENT TO GATEWAY COMMERCE CENTER PLANNED UNIT DEVELOPMENT – H&W, LLC – PUBLIC HEARING

It was noted the applicant is requesting approval to amend the final PUD to include additional land for the approved auto dealership site. Staff discussed the request in detail with the Commission and recommended approval.

Commissioner Stephenson asked if the applicant had taken a comprehensive look at the PUD. Planner Harlicker reported only the change to the car dealership was being requested. Staff believed the request was significant enough to warrant a PUD amendment.

Commissioner Casey questioned if the dealership would have only one point of access from the cul-de-sac. Planner Harlicker reviewed the two access points to the dealership from the cul-de-sac.

Commissioner Casey inquired what happened to the swim club. Planner Harlicker deferred this question to the applicant.

Chair Schwartz did not want to see the car dealership unloading vehicles on Gateway Commerce Drive. He asked if the transport vehicles would be able to drive onto the car dealership site in order to unload. Planner Harlicker reported this was the case.

Chair Schwartz questioned if the Fire Department supported the proposed access to the car dealership through the cul-de-sac. Planner Harlicker stated this was the case.

Chair Schwartz asked if the Commission should be making recommendations on the landscaping plan at this time. Planner Harlicker commented now would be the time to make those comments.

Johnathan Adam, H&W, discussed the site plan in further detail with the Commission. He noted he worked for several years with the swim school and this organization was not able to bring their plans to fruition. He reported Walser had recently contacted him and requested to expand their site. For this reason, he requested an amendment to the PUD.

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Commissioner Stephenson questioned if the applicant was interested taking a more comprehensive look at the PUD at this time. Mr. Adam believed a comprehensive look was completed through the previous request.

Chair Schwartz opened the public hearing at 7:20 p.m.

Laurie Janson, 1221 118th Avenue NW, stated she has lived in Coon Rapids since 1988 and appreciated the open feel of the community at that time. She opposed the plan. She believed the property should remain open and was disappointed by the proposed development. It was her opinion the City had enough hotels and did not see why someone would want to stay in Coon Rapids. She did not see the need for another large car dealership in the City and was concerned for how the wildlife in the area would be impacted. She believed the City had more to offer than additional retail. She encouraged the Commission to deny the request.

Mary Standard, 1201 109th Lane NW, did not want to see another car dealership on this property. She was surprised by the fact that no one in the City knew about this development, which concerned her. She feared that the public had not had an opportunity to provide any feedback regarding this PUD. In addition, she did not want to see the wildlife in this area disrupted.

Assistant City Attorney Johnson reviewed the history of the project and explained a PUD has been in place on this property for the past 20 years. He discussed the previous lawsuit with the Army Corp of Engineers for this property. He indicated the City was stuck to the uses on this site. Chair Schwartz thanked staff for providing this information to the public.

Chair Schwartz closed the public hearing at 7:25 p.m.

Commissioner Hosch indicated she was frustrated by this amendment request. She explained the PUD was supposed to support diversity and did not like the one large use. She understood the market was not supporting diverse uses, but believed the City should be coming up with something more exciting. She stated she would probably support the request, but explained she was beginning to question the entire PUD process.

Commissioner Stephenson shared this same frustration. For this reason, he would not be supporting the PUD amendment request. He understood that some of the uses were no longer viable, but did not agree with a huge chunk of this land being a car dealership. He did not believe this was keeping in line with the original PUD request.

Commissioner Stevens agreed. She thought the PUD had been changed way too many times and believed other uses should be considered for this area. She stated she would not be supporting the PUD amendment.

Commissioner Knoblauch discussed the tradeoff between business development and use of land within the PUD. He asked if the Coon Creek Watershed would be considering the environmental impact on this property through the proposed development. Planner Harlicker stated when the PUD was originally approved, a stormwater management plan was created to address the environmental impact on the site.

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Chair Schwartz was disappointed the Commission was being asked to consider another amendment, especially considering the fact the Commission had requested a comprehensive review of the PUD last year. He agreed the PUD should have a variety of uses and noted over half of the site would be a car dealership. For this reason, he would not be supporting the PUD amendment.

Commissioner Schmolke questioned how the applicant should proceed.

Chair Schwartz believed the applicant should find another user for the two lots and not increase the size of the current car dealership.

Mr. Adam appreciated the comments from the Commission. He discussed the history of the site and commented on the investment the developer has made in allowing this site to meet the PUD design guidelines. He explained the plan for this site had been in place for the past 10 years. He reported he requested more flexibility from the Council in 2015. He commented the market could support a dealership and understood the City was disappointed to see the swim school go away. He believed the portions of the development that had been completed to date were very well done and were being utilized by Coon Rapids residents. He requested the Commission support the PUD amendment in order to provide a high quality development.

Commissioner Casey reported she lived in this area of the City and wanted to see the site developed. She believed the petitioner was aware of the environmental issues. She supported the development moving forward as requested.

Commissioner Stevens commented bigger is not always better and stated she would still not be supporting the proposed PUD amendment.

Commissioner Knoblauch discussed the success of the businesses that have been developed within the PUD. He understood this was a beautiful area of the community and had a great deal of wildlife. He believed the proposed request was a good use of the space and thought this development would spur further development in this portion of the City. He encouraged the Commissioners to consider the benefits of the development.

Commissioner Stephenson commented development was coming to this area. He reported the decision to develop this land was made a long time ago. He indicated the Commission had the right to make a decision about what went on this land. He wanted the City to take a more comprehensive look at what was going onto this property. He did not want to see another large car dealership along this high visibility property. He understood the swim school did not work out, but wanted to see if another use could be found for this site.

MOTION BY COMMISSIONER STEPHENSON, SECONDED BY COMMISSIONER STEVENS, TO RECOMMEND DENIAL OF PLANNING CASE 16-9, THE AMENDMENT TO THE PUD.

Commissioner Schmolke asked if the existing Walser dealership would be impacted by the new location. Mr. Adam was uncertain. He informed the Commission again that a dealership had already been approved through the previous PUD. He explained the request was being made to

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expand the dealership to make it better for the City, and noted there were several other dealerships in the Coon Rapids that were the same size. He believed Walser would be supportive of site enhancements.

THE MOTION PASSED 4-3 (CASEY, KNOBLAUCH AND SCHMOLKE OPPOSED).

This is a recommendation to the City Council that will be considered at the May 3, 2016 City Council meeting.

OTHER BUSINESS

Planner Harlicker provided the Planning Commission with an update on current development taking place in the City of Coon Rapids.

ADJOURN

MOTION BY COMMISSIONER HOSCH, SECONDED BY COMMISSIONER CASEY, TO ADJOURN THE MEETING AT 7:51 P.M. THE MOTION PASSED UNANIMOUSLY.

Recorded and Transcribed by,
Heidi Guenther
Planning Commission Recording Secretary

DRAFT

City Council Regular **19.**

Meeting Date: 05/03/2016

Subject: PC 16-10: Consider Resolution 16-54 Granting Final Plat Approval Gateway Commerce Center 4th Add., Highway 10 and Hanson Blvd., H&W Family LLLP

From: Scott Harlicker, Planner

INTRODUCTION

The applicant is requesting City Council approval of Resolution 16-54 granting Final Plat approval for Gateway Commerce Center 4th Addition.

DISCUSSION

At the June 2, 2015 meeting Council approved the final plat for Gateway Commerce Center 3rd Addition. The plat created a six acre lot at the end of the cul de sac along Highway 10. A corresponding amendment to the Planned Unit Development allowed a car dealership to locate on that parcel. The approved plat for Gateway Commerce Center 3rd Addition is attached.

Proposed Changes:

The final plat of Gateway Commerce Center 4th Addition increases the size of Lot 1, Block 1 Gateway Commerce Center 3rd Addition from six acres to 10.14 acres and shortens the existing cul de sac. Lots 2 and 3 of the current PUD site plan and the area formally utilized for Gateway Drive are incorporated into Lot 1. The remainder of Outlot C will be left as an outlot (Outlot A). Outlot B is the remainder of Gateway Drive. The proposed final plat is consistent with the corresponding amended PUD site plan which the Council is also considering. Attached is the site plan for the corresponding proposed PUD amendment and the final plat for Gateway Commerce Center 4th Addition.

RECOMMENDATION

In Planning Case 16-10, staff recommends the City Council approve the attached Resolution 16-54 approving the final plat for Gateway Commerce Center 4th Addition with the following conditions:

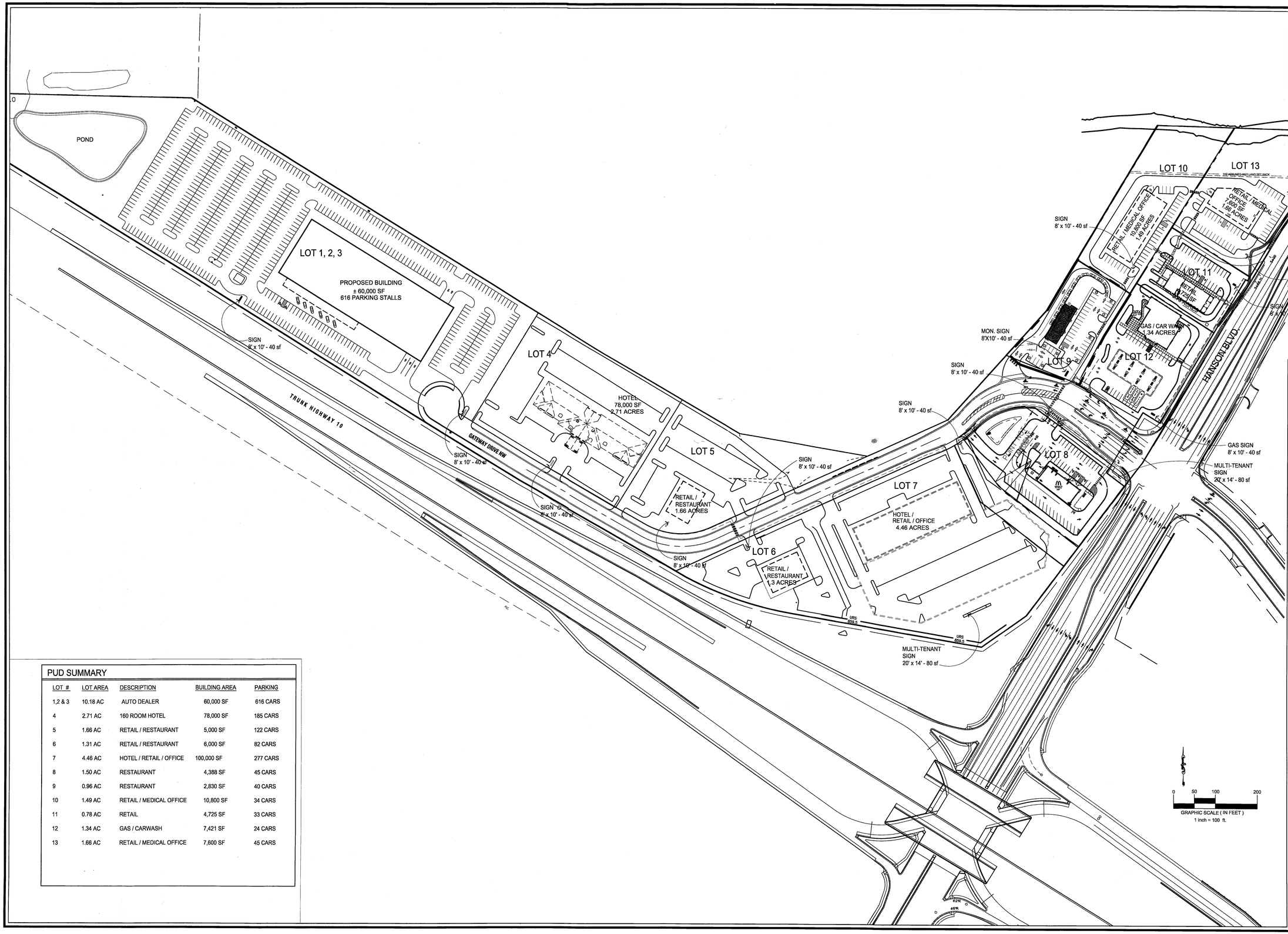
1. All comments of the City Engineer be addressed.
2. The corresponding PUD amendment that increases the size of the car dealership parcel is approved.

Attachments

Location Map
Proposed PUD Site Plan
Final Plat
Resolution 16-54

Location Map

ARCHITECTURAL CONSORTIUM L.L.C.
901 North Third Street, Suite 220
Minneapolis, MN 55401
612-436-4030
Fax 612-692-9960



PUD SUMMARY

LOT #	LOT AREA	DESCRIPTION	BUILDING AREA	PARKING
1,2 & 3	10.18 AC	AUTO DEALER	60,000 SF	616 CARS
4	2.71 AC	160 ROOM HOTEL	78,000 SF	185 CARS
5	1.66 AC	RETAIL / RESTAURANT	5,000 SF	122 CARS
6	1.31 AC	RETAIL / RESTAURANT	6,000 SF	82 CARS
7	4.46 AC	HOTEL / RETAIL / OFFICE	100,000 SF	277 CARS
8	1.50 AC	RESTAURANT	4,388 SF	45 CARS
9	0.96 AC	RESTAURANT	2,830 SF	40 CARS
10	1.49 AC	RETAIL / MEDICAL OFFICE	10,800 SF	34 CARS
11	0.78 AC	RETAIL	4,725 SF	33 CARS
12	1.34 AC	GAS / CARWASH	7,421 SF	24 CARS
13	1.66 AC	RETAIL / MEDICAL OFFICE	7,600 SF	45 CARS

Mark	Revision / Issue	Date

GATEWAY COMMERCE CENTER

HANSON BLVD. & HWY. 10
COON RAPIDS, MN

OVERALL SITE PLAN

PROJECT NUMBER:	04-1019-01
ISSUED DATE:	03-14-16
DRAWN BY:	BL/BD/MR
CHECKED BY:	KA

A1.1

Architectural Consortium, L.L.C. 2015

GATEWAY COMMERCE CENTER 4TH ADDITION

CITY OF COON RAPID
COUNTY OF ANOK
SEC. 10, T. 31, R. 2

KNOW ALL PERSONS BY THESE PRESENTS: That H & W Family, LLLP, a Minnesota limited liability limited partnership, owner of the following described property:

Outlot A, GATEWAY COMMERCE CENTER 3RD ADDITION, according to the recorded plat thereof, Anoka County, Minnesota.

And Gateway Commerce Center Association, Inc., a Minnesota non-profit corporation, owner of the following described property:

Outlot B, GATEWAY COMMERCE CENTER 3RD ADDITION, according to the recorded plat thereof, Anoka County, Minnesota.

And Walser Real Estate VI, LLC, a Minnesota limited liability company, owner of the following described property:

Lot 1, Block 1, GATEWAY COMMERCE CENTER 3RD ADDITION, according to the recorded plat thereof, Anoka County, Minnesota.

Have caused the same to be surveyed and platted as GATEWAY COMMERCE CENTER 4TH ADDITION, as shown by this plat.

In witness whereof said H & W Family, LLLP, a Minnesota limited liability limited partnership, has caused these presents to be signed by its proper officer this _____ day of _____, 20___.

SIGNED: H & W Family, LLLP
BY: H & W Holding, LLC

By: _____
William O. Cooley, as Chief Manager

STATE OF _____
COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20___ by William O. Cooley, as Chief Manager of H & W Holding, LLC, a Nevada limited liability company, the General Partner of H & W Family, LLLP, a Minnesota limited liability limited partnership, on behalf of the partnership.

_____
_____
Notary Public, _____ County, _____
My Commission Expires _____

In witness whereof said Gateway Commerce Center Association, Inc., a Minnesota non-profit corporation, has caused these presents to be signed by its proper officer this _____ day of _____, 20___.

SIGNED: Gateway Commerce Center Association, Inc.

By: _____
_____

STATE OF _____
COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20___ by _____, as _____ of Gateway Commerce Center Association, Inc., a Minnesota non-profit corporation, on behalf of the corporation.

_____
_____
Notary Public, _____ County, _____
My Commission Expires _____

In witness whereof said Walser Real Estate VI, LLC, a Minnesota limited liability company, has caused these presents to be signed by its proper officer this _____ day of _____, 20___.

SIGNED: Walser Real Estate VI, LLC.

By: _____
_____

STATE OF _____
COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20___ by _____, as _____ of Walser Real Estate VI, LLC, a Minnesota limited liability company, on behalf of the company.

_____
_____
Notary Public, _____ County, _____
My Commission Expires _____

I Rick M. Blom do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____day of _____, 20__.

_____
Rick M. Blom, Licensed Land Surveyor
Minnesota License No. 21729

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20___ by Rick M. Blom.

_____
_____
Notary Public, _____ County, Minnesota
My Commission Expires _____

COON RAPIDS PLANNING COMMISSION

Be it known that at a meeting held on this _____ day of _____, 20___, the Planning Commission of the City of Coon Rapids, Minnesota, did hereby review and approve this plat of GATEWAY COMMERCE CENTER 4TH ADDITION.

Planning Commission, City of Coon Rapids, Minnesota

By _____
Chair

CITY COUNCIL, CITY OF COON RAPIDS, MINNESOTA

This plat of GATEWAY COMMERCE CENTER 4TH ADDITION was approved and accepted by the City Council of the City of Coon Rapids, Minnesota at a regular meeting thereof held this _____ day of _____, 20___, and said plat is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd.2.

City Council, City of Coon Rapids, Minnesota

By _____ By _____
Mayor Clerk

COUNTY SURVEYOR

I hereby certify that in accordance with Minnesota Statutes, Section 505.021, Subd. 11, this plat has been reviewed and approved this ____ day of _____, 20___.

By _____
Larry D. Holum, Anoka County Surveyor

COUNTY AUDITOR/TREASURER

Pursuant to Minnesota Statutes, Section 505.021, Subd. 9, taxes payable in the year 20____ on the land hereinbefore described have been paid. Also, pursuant to Minnesota Statutes, Section 272.12, there are no delinquent taxes and transfer entered this _____ day of _____, 20____.

_____
Property Tax Administrator

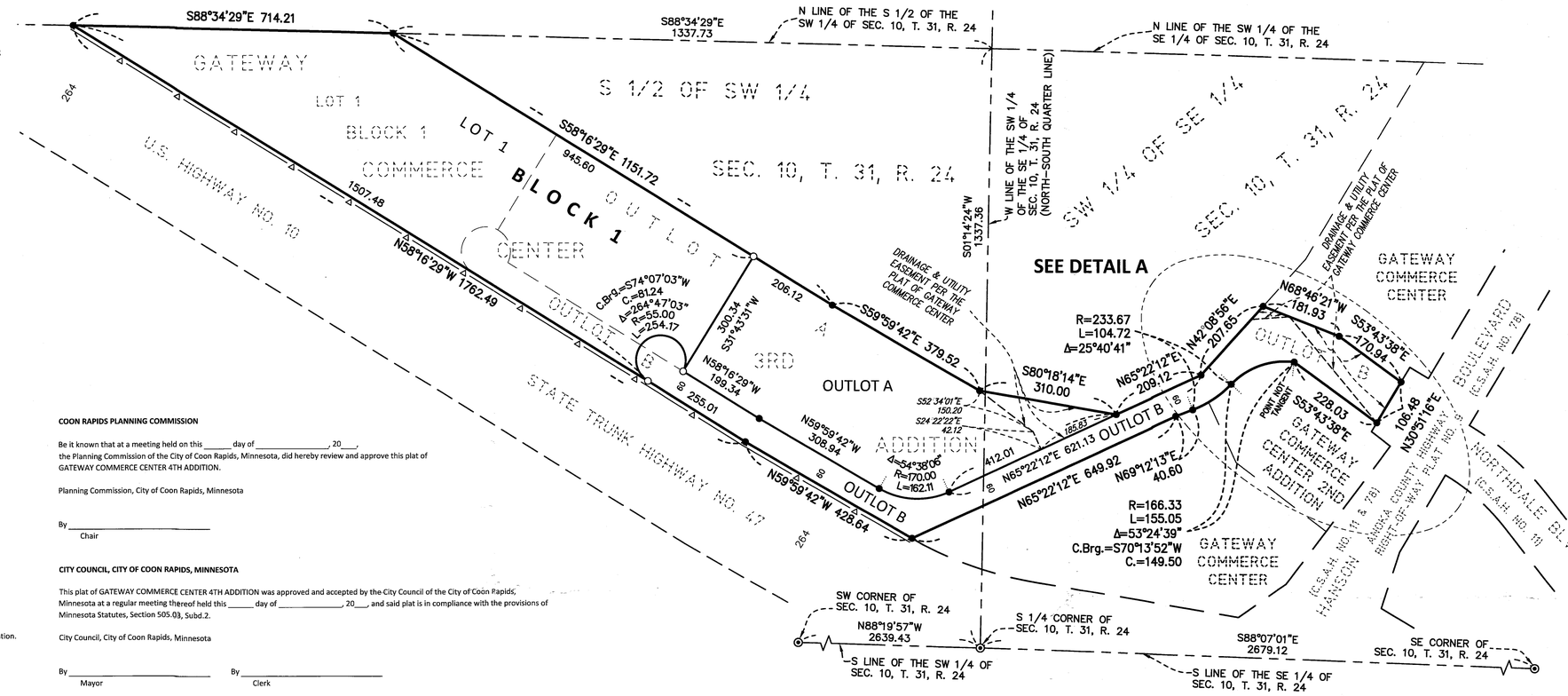
By _____, Deputy

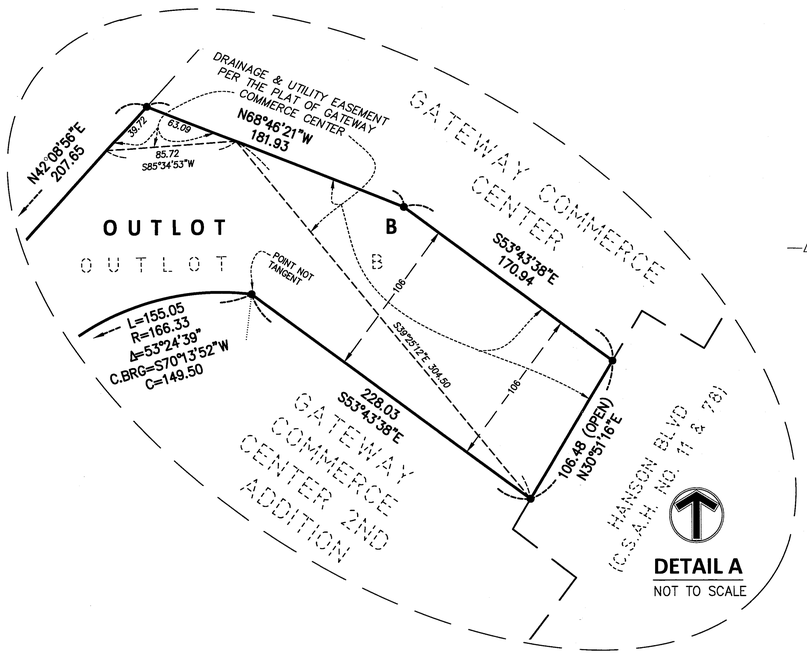
COUNTY RECORDER/REGISTRAR OF TITLES
COUNTY OF ANOKA, STATE OF MINNESOTA

I hereby certify that this plat of GATEWAY COMMERCE CENTER 4TH ADDITION was filed in the office of the County Recorder/Registrar of Titles for public record on this _____day of _____, 20____, at _____ o'clock ___.M. and was duly recorded in Book _____ Page _____, as Document Number _____.

_____
County Recorder/Registrar of Titles

By _____, Deputy





DETAIL A
NOT TO SCALE

NORTH

0 150 300
SCALE IN FEET
1 INCH = 150 FEET

—Δ—Δ— DENOTES RIGHT OF ACCESS DEDICATED TO THE STATE OF MINNESOTA AND THE COUNTY OF ANOKA PER THE PLAT OF GATEWAY COMMERCE CENTER

⦿ DENOTES CAST IRON MONUMENT FOUND

○ DENOTES 1/2 INCH BY 14 INCH IRON MONUMENT SET AND MARKED BY LICENSE NO. 21729.

● DENOTES 1/2 INCH IRON MONUMENT FOUND.

THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 31, RANGE 24 IS ASSUMED TO HAVE A BEARING OF SOUTH 88 DEGREES 07 MINUTES 01 SECONDS EAST.

SAMBATEK, INC.
ENGINEERING, PLANNING AND LAND SURVEYING

Resolution 16-54

A Resolution of the City of Coon Rapids Granting Approval of the Final Plat for Gateway Commerce Center 4th Addition, Planning Case No. PC 16-10

WHEREAS, application has been made for approval of a final plat, pursuant to Section 11-1504.2 of the Coon Rapids Code of Ordinances, of the property legally described on attached Exhibit A and hereinafter referred to as "the Property"; and

WHEREAS, the Planning Commission on November 15, 2007 recommended approval of the preliminary plat of the Property;

WHEREAS, a preliminary plat of the Property was approved by the City Council on February 6, 2008; and

WHEREAS, the proposed final plat is consistent with the preliminary plat as approved by the City Council; and

NOW, THEREFORE, BE IT RESOLVED

1. It is hereby determined by the City Council for the City of Coon Rapids as follows:

   A. The proposed subdivision is consistent with the Title 11, Chapter 1500 of the City Code of Ordinances and conforms with all of its requirements.

   B. The proposed subdivision is consistent with all applicable general and specialized city, county, and regional plans including, but not limited to, the City's Comprehensive Plan.

   C. The physical characteristics of the site, including, but not limited to, topography, soils, vegetation, susceptibility to erosion and siltation, susceptibility to flooding, and drainage are suitable for the type and density of development and uses contemplated.

   D. The proposed subdivision makes adequate provision for water supply, storm drainage, sewage transportation, parks and walkways, erosion control and all other services, facilities and improvements otherwise required herein.

   E. The proposed subdivision will not cause substantial environmental damage.

   F. The proposed subdivision will not have an undue or adverse impact on the reasonable development of neighboring land.

2. Approval of the final plat is hereby granted for the Property, subject to the conditions set forth in attached Exhibit B.

3. The officers of the City are hereby authorized, once the conditions set forth in Exhibit B are met

and complied with, to sign the final plat for the Property and to issue a certified copy of this Resolution giving final approval of the survey.

4. The owner of the Property is authorized to record the final plat as required by law and shall file proof of said recording with the City. No building permits will be issued for the Property until the registered land survey is recorded.

5. This final plat approval may be rescinded 90 days from the date of this resolution if the plat is not recorded within that time.

Adopted this 3rd day of May 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____

Joan Lenzmeier, City Clerk STATE OF MINNESOTA)
COUNTY OF ANOKA)ss. CERTIFICATION OF CLERK
CITY OF COON RAPIDS)

I, the undersigned, being the duly qualified and acting City Clerk of the City of Coon Rapids, Minnesota, hereby certify that I have carefully compared the attached and foregoing Resolution with the original thereof on file in my office and the same is a full, true and complete transcript therefrom, insofar as the same relates to Planning Case 16-10.

WITNESS hand officially as such City Clerk and the corporate seal of the City of Coon Rapids this ___ day of _____, 2016.

_____
Joan Lenzmeier, City Clerk

EXHIBIT A
LEGAL DESCRIPTION

Outlot A, Outlot B and Lot 1, Block 1 Gateway Commerce Center 3rd Addition, according to the recorded plat thereof, Anoka County, Minnesota

EXHIBIT B
CONDITIONS OF APPROVAL

1. All comments of the Assistant City Engineer be addressed prior to releasing the plat for recording.
2. The corresponding PUD amendment that increases the size car dealership parcel is approved.

City Council Regular **20.**

Meeting Date: 05/03/2016

Subject: PC 16-12: Consider Resolution 16-55 Granting Final Plat Approval for Gateway Commerce Center 5th Add., Highway 10 and Hanson Blvd., H&W Family, LLLP

From: Scott Harlicker, Planner

INTRODUCTION

The applicant is requesting City Council approval of Resolution 16-55 granting Final Plat approval for Gateway Commerce Center 5th Addition.

DISCUSSION

In February 2008 the City Council approved the preliminary plat for Gateway Commerce Center. Included in the preliminary plat is the lot that is proposed to be platted in Gateway Commerce Center 5th Addition. The shape and size of the this lot has not been changed since the preliminary plat was approved. The lot is 2.74 acres in size and is proposed to be the site of a future hotel. The applicant will be submitting for formal site plan review of the hotel later this summer but has included a concept plan to show how the hotel would fit on the site.

RECOMMENDATION

In Planning Case 16-12, staff recommends the City Council approve the attached Resolution 16-55 approving the final plat for Gateway Commerce Center 5th Addition with the following condition:

1. All comments of the City Engineer be addressed.

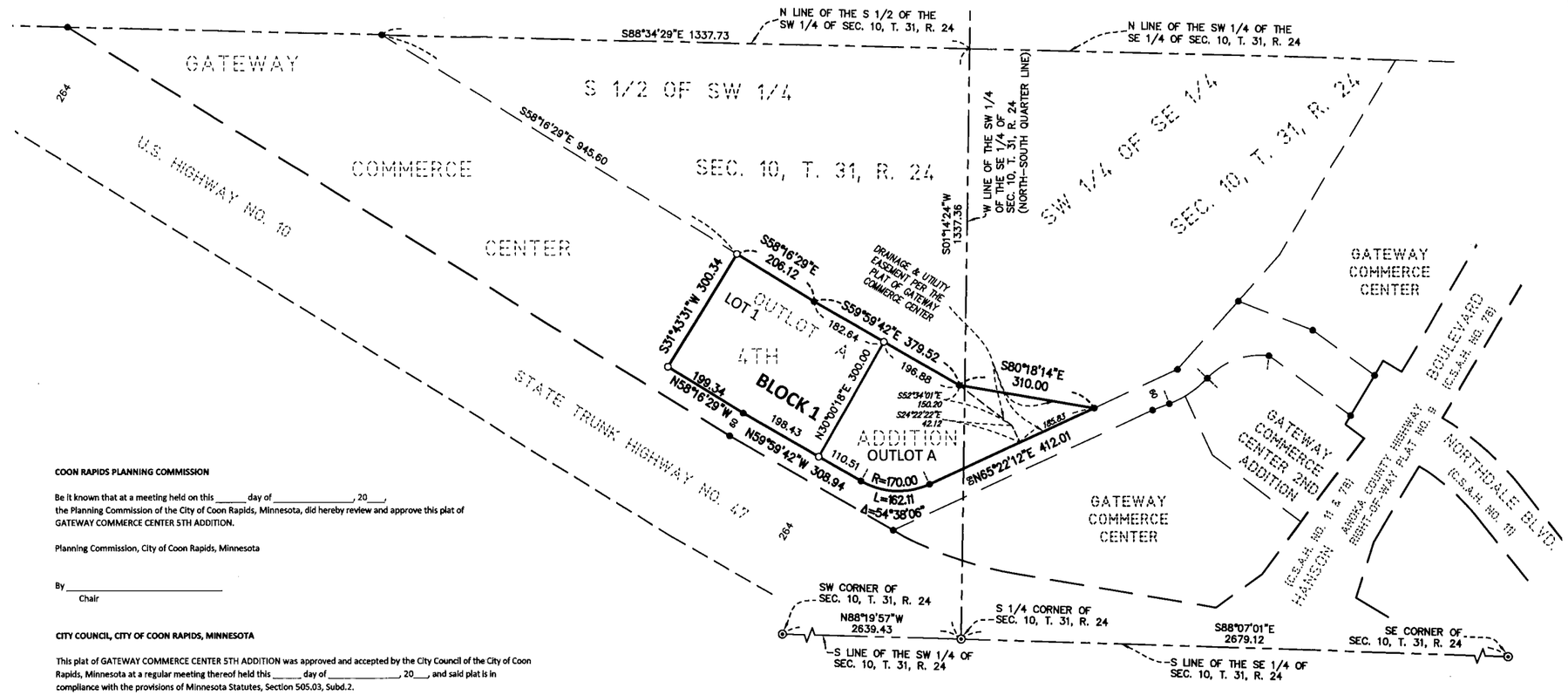
Attachments

Location Map
Final Plat
Hotel Site Plan
Resolution 16-55

Location Map

GATEWAY COMMERCE CENTER 5TH ADDITION

CITY OF COON RAPIDS
COUNTY OF ANOKA
SEC. 10, T. 31, R. 24



KNOW ALL PERSONS BY THESE PRESENTS: That H & W Family, LLLP, a Minnesota limited liability limited partnership, owner of the following described property:

Outlot A, GATEWAY COMMERCE CENTER 4TH ADDITION, according to the recorded plat thereof, Anoka County, Minnesota.

Have caused the same to be surveyed and platted as GATEWAY COMMERCE CENTER 5TH ADDITION, as shown by this plat.

In witness whereof said H & W Family, LLLP, a Minnesota limited liability limited partnership, has caused these presents to be signed by its proper officer this _____ day of _____, 20__.

SIGNED: H & W Family, LLLP
BY: H & W Holding, LLC

By: _____
William O. Cooley, as Chief Manager

STATE OF _____
COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20___ by William O. Cooley, as Chief Manager of H & W Holding, LLC, a Nevada limited liability company, the General Partner of H & W Family, LLLP, a Minnesota limited liability limited partnership, on behalf of the partnership.

_____
Notary Public, _____ County, _____
My Commission Expires _____

SURVEYORS CERTIFICATE

I Rick M. Blom do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____day of _____, 20__.

_____
Rick M. Blom, Licensed Land Surveyor
Minnesota License No. 21729

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20___ by Rick M. Blom.

_____
Notary Public, _____ County, Minnesota
My Commission Expires _____

COON RAPIDS PLANNING COMMISSION

Be it known that at a meeting held on this _____ day of _____, 20___, the Planning Commission of the City of Coon Rapids, Minnesota, did hereby review and approve this plat of GATEWAY COMMERCE CENTER 5TH ADDITION.

Planning Commission, City of Coon Rapids, Minnesota

By _____
Chair

CITY COUNCIL, CITY OF COON RAPIDS, MINNESOTA

This plat of GATEWAY COMMERCE CENTER 5TH ADDITION was approved and accepted by the City Council of the City of Coon Rapids, Minnesota at a regular meeting thereof held this _____ day of _____, 20___, and said plat is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd.2.

City Council, City of Coon Rapids, Minnesota

By _____ By _____
Mayor Clerk

COUNTY SURVEYOR

I hereby certify that in accordance with Minnesota Statutes, Section 505.021, Subd. 11, this plat has been reviewed and approved this _____ day of _____, 20____.

By _____
Larry D. Holum, Anoka County Surveyor

COUNTY AUDITOR/TREASURER

Pursuant to Minnesota Statutes, Section 505.021, Subd. 9, taxes payable in the year 20____ on the land hereinbefore described have been paid. Also, pursuant to Minnesota Statutes, Section 272.12, there are no delinquent taxes and transfer entered this _____ day of _____, 20____.

_____
Property Tax Administrator

By _____, Deputy

COUNTY RECORDER/REGISTRAR OF TITLES
COUNTY OF ANOKA, STATE OF MINNESOTA

I hereby certify that this plat of GATEWAY COMMERCE CENTER 5TH ADDITION was filed in the office of the County Recorder/Registrar of Titles for public record on this _____day of _____, 20____, at _____ o'clock ___.M. and was duly recorded in Book _____ Page _____, as Document Number _____.

_____
County Recorder/Registrar of Titles

By _____, Deputy

NORTH

0 150 300
SCALE IN FEET
1 INCH = 150 FEET

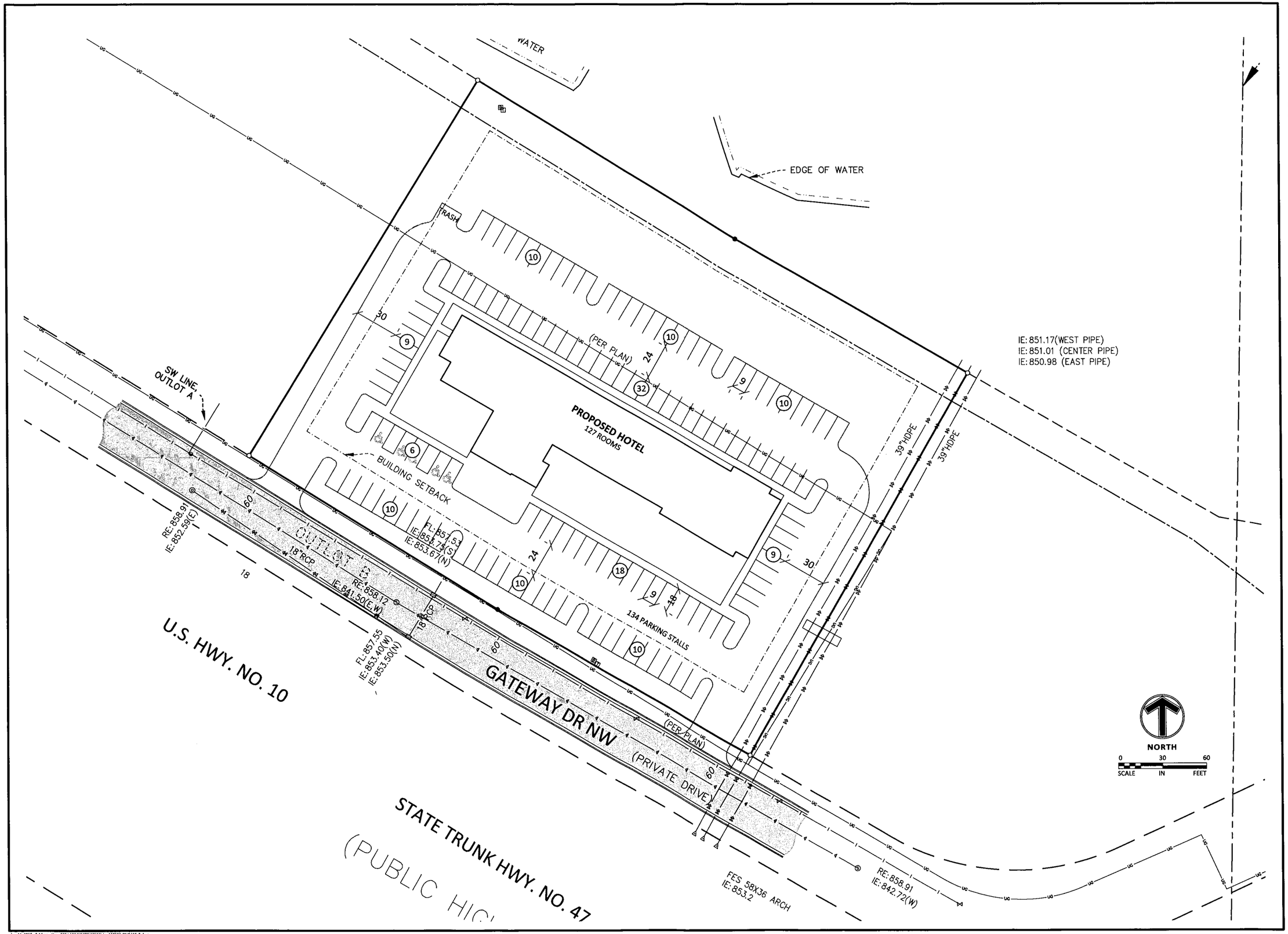
⊙ DENOTES CAST IRON MONUMENT FOUND

○ DENOTES 1/2 INCH BY 14 INCH IRON MONUMENT SET AND MARKED BY LICENSE NO. 21729.

● DENOTES 1/2 INCH IRON MONUMENT FOUND.

THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 31, RANGE 24 IS ASSUMED TO HAVE A BEARING OF SOUTH 88 DEGREES 07 MINUTES 01 SECONDS EAST.

SAMBATEK, INC.
ENGINEERING, PLANNING AND LAND SURVEYING



Sambatek
www.sambatek.com
12800 Whitewater Drive, Suite 300
Minnetonka, MN 55343
763.476.6010 telephone
763.476.6532 facsimile
Engineering | Surveying | Planning | Environmental

Client
CONNOR & GASKINS UNLIMITED
1998 TRADE CENTER WAY (SUITE 2)
NAPLES, FL 34109

Project
HOTEL DEVELOPMENT

Location
GATEWAY COMMERCE CENTER
COON RAPIDS, MN

Certification

Summary
Designed: AAA Drawn: AAA
Approved: AAA Book / Page: XX/XX
Phase: PROJECT PHAS Initial Issue: MM/DD/YYYY

Revision History

No.	Date	By	Submittal / Revision

Sheet Title
PRELIMINARY SITE PLAN

Sheet No. Revision
EX. 1

Project No. 20503

Apr 11, 2016 - 2:14pm - User:590 I:\PROJECTS\20503\dwg\20503-CIVBASEv2.dwg

Resolution 16-55

A Resolution of the City of Coon Rapids Granting Approval of the Final Plat for Gateway Commerce Center 5th Addition, Planning Case No. PC 16-12

WHEREAS, application has been made for approval of a final plat, pursuant to Section 11-1504.2 of the Coon Rapids Code of Ordinances, of the property legally described on attached Exhibit A and hereinafter referred to as "the Property"; and

WHEREAS, the Planning Commission on November 15, 2007 recommended approval of the preliminary plat of the Property;

WHEREAS, a preliminary plat of the Property was approved by the City Council on February 6, 2008; and

WHEREAS, the proposed final plat is consistent with the preliminary plat as approved by the City Council; and

NOW, THEREFORE, BE IT RESOLVED

1. It is hereby determined by the City Council for the City of Coon Rapids as follows:

   A. The proposed subdivision is consistent with the Title 11, Chapter 1500 of the City Code of Ordinances and conforms with all of its requirements.

   B. The proposed subdivision is consistent with all applicable general and specialized city, county, and regional plans including, but not limited to, the City's Comprehensive Plan.

   C. The physical characteristics of the site, including, but not limited to, topography, soils, vegetation, susceptibility to erosion and siltation, susceptibility to flooding, and drainage are suitable for the type and density of development and uses contemplated.

   D. The proposed subdivision makes adequate provision for water supply, storm drainage, sewage transportation, parks and walkways, erosion control and all other services, facilities and improvements otherwise required herein.

   E. The proposed subdivision will not cause substantial environmental damage.

   F. The proposed subdivision will not have an undue or adverse impact on the reasonable development of neighboring land.

2. Approval of the final plat is hereby granted for the Property, subject to the conditions set forth in attached Exhibit B.

3. The officers of the City are hereby authorized, once the conditions set forth in Exhibit B are met

and complied with, to sign the final plat for the Property and to issue a certified copy of this Resolution giving final approval of the survey.

4. The owner of the Property is authorized to record the final plat as required by law and shall file proof of said recording with the City. No building permits will be issued for the Property until the registered land survey is recorded.

5. This final plat approval may be rescinded 90 days from the date of this resolution if the plat is not recorded within that time.

Adopted this 3rd day of May 2016.

_____
Jerry Koch, Mayor

ATTEST:

_____

Joan Lenzmeier, City Clerk STATE OF MINNESOTA)
COUNTY OF ANOKA)ss. CERTIFICATION OF CLERK
CITY OF COON RAPIDS)

I, the undersigned, being the duly qualified and acting City Clerk of the City of Coon Rapids, Minnesota, hereby certify that I have carefully compared the attached and foregoing Resolution with the original thereof on file in my office and the same is a full, true and complete transcript therefrom, insofar as the same relates to Planning Case 16-12.

WITNESS hand officially as such City Clerk and the corporate seal of the City of Coon Rapids this ___ day of _____, 2016.

_____
Joan Lenzmeier, City Clerk

EXHIBIT A
LEGAL DESCRIPTION

Outlot A, Gateway Commerce Center 4th Addition, according to the recorded plat thereof, Anoka County, Minnesota

EXHIBIT B
CONDITIONS OF APPROVAL

1. All comments of the Assistant City Engineer be addressed prior to releasing the plat for recording.

City Council Regular **21.**

Meeting Date: 05/03/2016

Subject: PC 16-2, Preliminary Plat Vision 15, 12 Lot Townhouse Development, 1005 Coon Rapids Blvd. Extension, Vision Bank

From: Scott Harlicker, Planner

INTRODUCTION

The applicant is requesting preliminary plat approval for a 12 lot townhouse development.

DISCUSSION

Project Description

The applicant is proposing to subdivide a 2.26 acre parcel into 11 townhouse lots and a common lot. The applicant has also applied for site plan approval for the townhouse development as part of this project. The project will include a private street, three 3-unit buildings and a 2-unit building. There is a 50 foot wide pipeline easement along the west property line. There is also a 20 foot wide utility easement through the center of the site. The easement serves an existing waterline and hydrant. The waterline and hydrant will be removed and the easement vacated.

Preliminary Plat

Access and Streets

The project is accessed from Coon Rapids Boulevard Service Road. A 24 foot wide private street will provide access into the site. The south 70 feet of the property is encumbered with a 70 foot wide highway easement. On the plat, the highway easement is shown as a separate lot. The line separating the easement and the rest of the property should be eliminated and replaced with a dashed line indicating the edge of the easement. The common area (Lot 12) will include the area encumbered by the easement.

Grading, drainage and Utilities

Grading, drainage and utility issues will be addressed by the City Engineer. At this point there were no significant issues related to the preliminary plat.

Park Dedication

Park dedication requirement for this project will be met with cash for the 11 units.

Lot Dimensions

The lots are 32 or 37 feet wide depending if they are an end unit or not, the end units are 37 feet wide. The lots are 62 feet deep. The lots are of sufficient size to accommodate the proposed homes and the required amount of private open space.

Planning Commission Meeting

At the Planning Commission meeting held on April 21st, no one spoke at the public hearing. The Commission voted unanimously to recommend approval of the preliminary plat. At the same meeting, the Commission also voted to approve the corresponding 11 unit townhouse development.

RECOMMENDATION

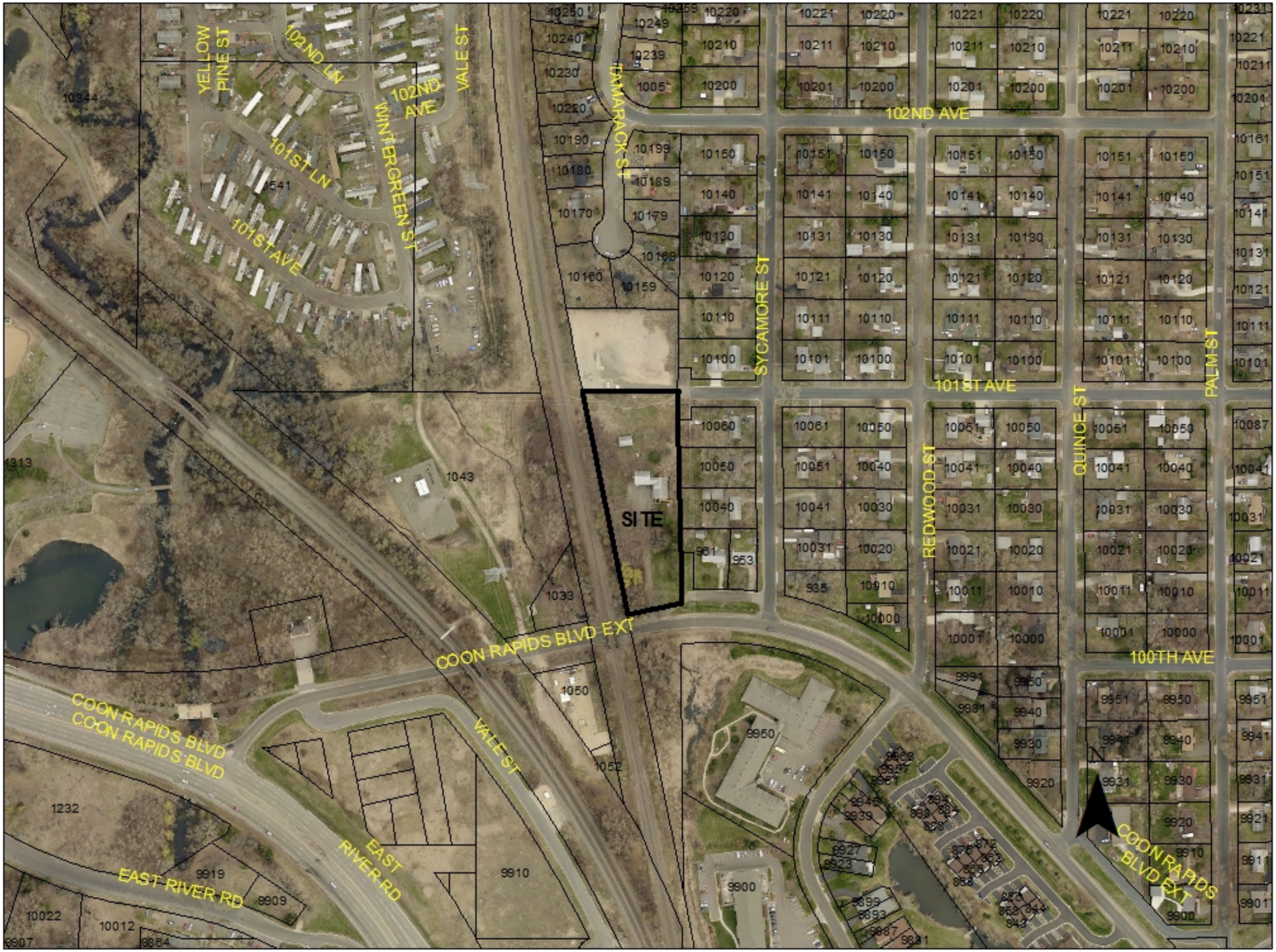
In Planning Case 16-2, the Planning Commission recommended the City Council approve the preliminary plat with the following conditions

1. Park dedication in the amount of $22,000 (11 units x $2,000/unit) be paid prior to releasing the plat for recording.
2. All Engineering comments be addressed.
3. The area encumbered by the highway easement should be included as part of Lot 12.

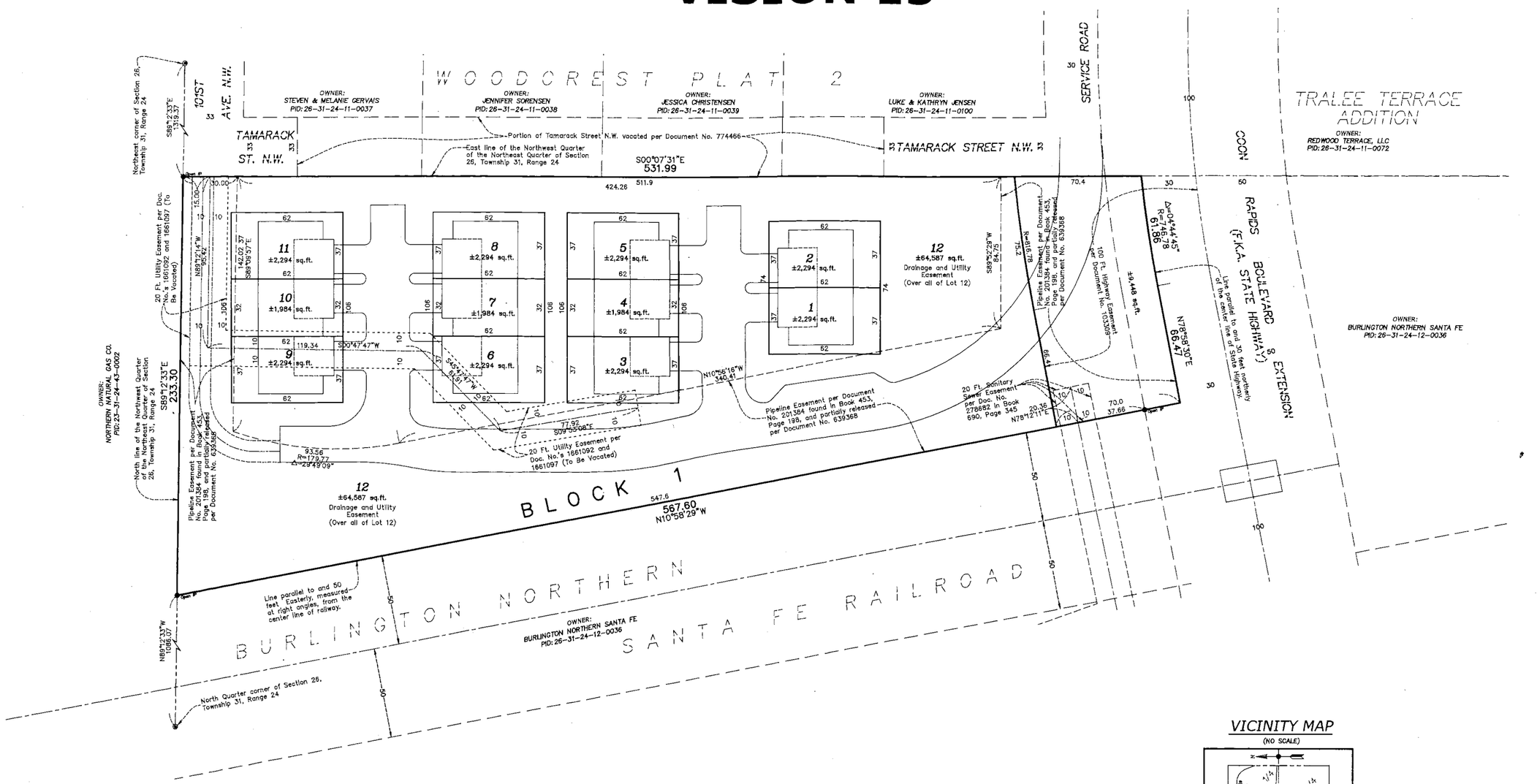
Attachments

Location Map
Preliminary Plat

Location Map

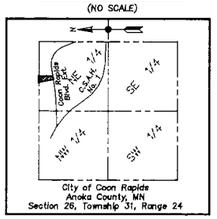


VISION 15



VICINITY MAP

(NO SCALE)



City of Coon Rapids
Anoka County, MN
Section 26, Township 31, Range 24

PARCEL DESCRIPTION:

(Per Second Supplemental Title Commitment File No. 39270, dated September 21, 2015 at 7:00 A.M. prepared by Commercial Partners Title, LLC, issuing agent for Steward Title Guaranty Company)

All that part of the Northwest Quarter of the Northeast Quarter of Section 26, Township 31, Range 24, lying East of a line parallel to and 50 feet distant Easterly, measured at right angles, from the center line of the railway of the Great Northern Railway Company, as now located and constructed, extending from Coon Creek of Brook Park, in said State of Minnesota and lying North of a line parallel to and 30 feet distant Northerly from the center line of the State Highway as now located and constructed across said Northwest Quarter of the Northeast Quarter of Section 26.

(Abstract Property)

GENERAL NOTES:

1) The field work for this survey was completed on October 15, 2015.

2) Bearings shown are based on the East line of the Northwest Quarter of the Northeast Quarter of Section 26, Township 31, Range 24, Anoka County, Minnesota, which is assumed to bear S00°07'31"E.

3) Surveyed property address – 1005 Coon Rapids Blvd. W., Coon Rapids, MN.

SITE DATA

TOTAL SITE AREA	**±2.26 AC.**
TOTAL ROW AREA	**±0.22 AC.**
TOTAL LOT AREA	**±2.04 AC.**
SMALLEST LOT	±1,984 S.F.
LARGEST LOT	±64,587 S.F.
AVERAGE LOT	±7,408 S.F.
TOTAL NUMBER OF LOTS	**12**
TOWNHOME LOTS	11
COMMON LOT (LOT 16)	1
GROSS DENSITY	**5.31 LOTS/AC.**
EXISTING ZONING	**MDR**
MODERATE DENSITY RESIDENTIAL	
UTILITIES	**AVAILABLE**

BENCHMARKS

1. MN/DOT GSID Station #72660 (BR 02031) – Located in the Northeast corner of Egret Blvd. bridge walkway over Trunk Highway. 10. Elevation = 902.09 (NAVD 88)
2. MN/DOT GSID Station #93789 (0215 Y) – Located 0.65 miles Northeast along Foley Blvd. from the intersection of Foley Blvd. and Coon Rapids Blvd. Elevation = 918.05 (NAVD 88)

LEGEND

- ◉ – Denotes Anoka County Monument, as noted
- ● – Denotes Found Iron Pipe or Drill Hole, as noted
- ○ – Denotes Set Iron Pipe, Marked with RLS 40361

CALL BEFORE YOU DIG.

811 Know what's below. Call before you dig.

N

0 15 30 60

(IN FEET)

Carlson McCain
ENVIRONMENTAL • ENGINEERING • SURVEYING
248 Apollo Dr, Suite 100, Lino Lakes, MN 55014
Phone: 763-489-7900 Fax: 763-489-7959

☐RE☐MINAR☐☐A☐

VISION 15
Coon Rapids, Minnesota

VISIONBANK
4725 Hwy 7
St. Louis Park, MN, 55416

REVISIONS
1. Client Comments - 02/03/16
2. Change Layout- 03/24/2016
3.
4.
5.
6.

DRAWN BY:	C# ☐JAB
ISSUE DATE:	12/11/15
FILE NO:	1092

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

Name: Thomas R. Balluff
Signature:
Date: 12/11/15 License #: 40361

City Council Regular **22.**

Meeting Date: 05/03/2016

Subject: Consider Introduction of Ordinance Amending the Minimum Seating Capacity for Taprooms and Cocktail Rooms and the Hours for 3.2 Malt Liquor on Sundays

From: Joan Lenzmeier, City Clerk

INTRODUCTION

Council is asked to Introduce an Ordinance Amending the Minimum Seating Capacity and the Hours for 3.2 Malt Liquor on Sundays.

DISCUSSION

When reviewing the City's code and regulations regarding the licensing of brewer taprooms and cocktail rooms, staff discovered that it is necessary to exempt both types of businesses from the minimum seating capacity requirements for liquor licensing. As the code currently reads, a taproom or cocktail room would be required to have 75 seats. In discussions with the business owners, this seating capacity does not fit the size of facility they have planned.

The State of Minnesota does not require food at these types of liquor establishments and the City's seating requirement is based on restaurant/food sales; therefore, staff believes it is appropriate to exempt these types of liquor establishments from the minimum seating capacity.

In addition, staff has proposed an amendment to the hours for 3.2 malt liquor sales on Sunday due to an amendment in the state law. This change would allow Sunday sales to begin at 10:00 a.m. rather than 12:00 noon.

The proposed Ordinance is attached for your review.

RECOMMENDATION

Introduce Ordinance Amending the Minimum Seating Capacity and the Hours for 3.2 Malt Liquor on Sundays

Attachments

Ordinance - Min. Seating and Sunday Hours

ORDINANCE NO.

AN ORDINANCE AMENDING THE MINIMUM SEATING CAPACITY AND THE HOURS FOR 3.2 MALT LIQUOR ON SUNDAYS AND THEREBY AMENDING REVISED CITY CODE – 1982 SECTIONS 5-217 AND 5-218

The City of Coon Rapids does ordain:

Section 1. Revised City Code - 1982 Section 5-203 is hereby amended as follows:

(deletions in brackets, additions double underlined)

5-217 Liquor License Establishments.

(2) Minimum Seating Capacity.

(a) To be eligible for an intoxicating liquor license on-sale, any establishment must have a minimum seating capacity of 75 persons.[Revised 3/23/93, Ordinance 1443]

(b) To be eligible for a wine license on-sale, any restaurant must have a minimum seating capacity of 35 persons.

(c) Unless operating a restaurant, Cocktail Rooms and Brewer Taprooms are exempt from the minimum seating capacity requirement.

Section 2. Revised City Code – 1982 Section 5-209 is hereby amended as follows:

(deletions in brackets, additions double underlined)

5-218 Days and Hours

(4) 3.2 Percent Malt Liquor Establishments. No sale, consumption, or display of 3.2 percent malt liquor may be made between 2:00 a.m. and 8:00 a.m. on the days of Monday through Saturday, nor between 2:00 a.m. and ~~12:00 noon~~ 10:00 a.m. on Sunday, except as provided by Section 5-219.

Introduced this 3rd day of May, 2016.

Adopted this _____ day of _____, 2016.

_____

ATTEST: Jerry Koch, Mayor

_____

Joan Lenzmeier, City Clerk

City Council Regular **23.**

Meeting Date: 05/03/2016

Subject: Metropolitan Council Governance Reform

From: Matt Stemwedel, City Manager

INTRODUCTION

The City Council has been asked to consider a resolution on Metropolitan Council Governance reform.

DISCUSSION

A coalition of local governments ("Coalition") led by Anoka, Carver, Dakota and Scott counties have established a set of principles advocating for Metropolitan Council governance reform. Earlier this year representatives from the Coalition requested metro area cities consider providing formal support for their position by adopting a resolution. At the April 19, 2016 City Council meeting, Anoka County Commissioner Scott Schulte presented information from the Coalition and requested the Council consider adopting the resolution of support.

Staff requests the City Council consider the following options and background materials regarding Metropolitan Council Governance reform:

1.) Consider the Coalitions position on reform. See attached document titled "Coalition Principles" for background information. In addition, review attachments titled "Coalition Letter" and "Coalition - Adoptee List" for updated information on the Coalitions efforts.

2.) Consider the Metro Cities position on reform. See attached document titled "Metro Cities - Task Force Recommendations" for background information.

3.) Review the executive summary on Metropolitan Council governance reform produced by a special task force of the Citizens League, see attachment titled "Citizen League Task Force."

RECOMMENDATION

Staff recommends the City Council consider policy options with regard to Metropolitan Council governance reform. There are several options for the Council to consider:

1.) Adopt Resolution 16-60 (option #1) that indicates the City's support for the Coalition's principals for Metropolitan Council governance reform.

2.) Adopt Resolution 16-60 (option #2), which is an alternative resolution that aligns with Metro Cities' position on Metropolitan Council governance reform.

3.) Consider an alternative options such as making a motion to direct staff to write a letter of support for the Coalition's stated principals. Under this option, each Councilmember could decide whether or not to sign the letter to indicate their support, but it wouldn't establish a formal position for the City.

4.) Take no formal action or position regarding Metropolitan Council governance reform.

Attachments

Coalition Principles
Coalition Letter
Coalition - Adoptee List
Metro Cities - Task Force Recommendations
Citizens League
Resolution 16-60 (Option #1) - Coalition Version
Resolution 16-60 (Option #2) - Alternative Version

Metropolitan Governance Reform

Twin Cities' Local Government Coalition

-Statement of Objectives-

A coalition of local governments throughout the metropolitan area has joined together to develop a position statement and a set of principles for improving metropolitan governance in the Twin Cities.

The Coalition supports the need for regional planning, collaboration and coordination, but seeks to expand local government representation on the Metropolitan Council.

The Coalition's objectives for its collective effort to improved governance are:

1. To articulate a vision of responsive and effective metropolitan governance—as represented by a Statement of Belief and Principles for Reform of the Metropolitan Council

2. To align local government interests behind a reform effort—through formation of a broad coalition of metropolitan Cities and Counties —and a common position.

3. To be prepared for any efforts—legislative and otherwise—to reform the governance structure and functioning of the Metropolitan Council.

Attached is the Coalition's Statement of Belief and Principles for Reform.

Twin Cities' Local Government Coalition
Principles for Metropolitan Council Reform

The following principles were developed by a coalition of cities and counties in the metropolitan area, a coalition created to advocate for reform of the Metropolitan Council. The group believes that an effective Metropolitan Council should reflect the following principles, which were developed based on the group's core Statement of Belief (printed below).

STATEMENT OF BELIEF:

The Metropolitan Council, due to its taxing and policy authority, should be accountable to a regional constituency of those impacted by its decisions. It should not operate as a state agency—as it does in its current form—answerable to only one person, the Governor.

Principles for Metropolitan Council Reform:

I. A majority of the members of the Metropolitan Council shall be elected officials, appointed from cities and counties within the region.

II. Metropolitan cities shall directly control the appointment process for city representatives to the Metropolitan Council.

III. Metropolitan counties shall directly appoint their own representatives to the Metropolitan Council.

IV. The terms of office for any Metropolitan Council members appointed by the Governor shall be staggered and not coterminous with the Governor.

V. Membership on the Metropolitan Council shall include representation from every metropolitan county government.

VI. The Metropolitan Council shall represent the entire region, therefore voting shall be structured based on population and incorporate a system of checks and balances.

Background and Justification of Position

The Metropolitan Council was created to provide for the orderly and economic development of the Twin Cities metropolitan area. It has the responsibility and authority to guide the region's growth and to provide important regional services. The Counties of Anoka, Carver, Dakota, and Scott support the concept of a regional approach, and have no wish to abolish the Council or diminish the importance of regional collaboration.

However, the Council's management of growth, and in particular the coordination and delivery of regional services has changed dramatically. At the same time, the role of counties has evolved. Increasingly, Counties have undertaken direct provision of regional services including: hazardous and solid waste management, transit funding and transitway development, regional parks, regional highways, water resources planning and watershed management, greenway and bikeway development, farmland and open space preservation, the regional library system, fiber communications networks, and the 800 MHz radio network.

The Council's recent focus on reducing poverty and disparities makes it even more essential that within the governance structure there is understanding and improved coordination with county programs---which exclusively provide economic assistance, social services, workforce development/employment, counseling, public health, nutrition and family "home visiting" services, workforce and specialized housing programs and many other anti-poverty and human services. In these and many other circumstances, the State, Metropolitan Council and city governments have all looked to counties to provide both the financial and political leadership needed to address key regional issues.

Thus, while a strong regional approach is necessary for many issues, it is necessary for the regional governing body to feature strong county representation, as well as representation from other local elected officials. Currently, the members of the Council are non-elected individuals answerable only to the Governor, an office that has often been elected without majority support from metropolitan-area voters. The Council, which has the ability to levy taxes on metropolitan-area residents, should be answerable to the citizens and taxpayers of the area it represents rather than a single officeholder.

The best way to ensure that the interests of citizens of the metropolitan-area are represented is to have a preponderance of locally elected officials on the Council--individuals that do not serve exclusively at the pleasure of the Governor. This will have the added benefit of allowing the Council to meet federal guidelines to serve as the region's Metropolitan Planning Organization, a move encouraged by Federal Transit Administration (FTA) and Federal Highway Administration (FHA) to make the Council "more directly accountable to its public[1]."

Regional governance is vital to the metropolitan area's continued success. However, in order for a regional body to be effective it must be credible, meaning that regional citizens must feel that the body effectively represents their goals and values. Citizens currently feel disconnected from the Metropolitan Council, preventing it from functioning as an effective regional governance body. The coalition of suburban counties is working to join the Metropolitan Council with the people it represents, so the region as a whole can unite for continued growth and prosperity.

[1] Letter from representatives of FTA and FHA to Ann R. Goering of Ratwik, Roszak, & Maloney, P.A., Aug. 3 2015

April 26, 2016

To Whom It May Concern,

It has been several months since we, as part of a working group of local government officials, released a set of six principles for Metropolitan Council governance reform, and we wanted to take this opportunity to update you on the progress of our efforts.

We are happy to report that nearly 40 municipalities across the metropolitan area have adopted the principles (a list is attached to this email). When County Commissioners have testified at the Legislature on these principles we have brought this ever-expanding list with us to illustrate how important this issue is to so many local governments.

We are grateful to the many communities who have already joined us in our efforts. However, we understand that many individuals have questions and concerns about our proposal. We would greatly appreciate the opportunity to explain our position. Please do not hesitate to reach out to any of the undersigned (or to Claire Pritchard at Claire.Pritchard@co.dakota.mn.us or 651.438.4540) to schedule a discussion or Council presentation.

Regards,

Rhonda Sivarajah
Anoka County Board of Commissioners

Matt Look
Anoka County Board of Commissioners

Scott Schulte
Anoka County Board of Commissioners

Randy Maluchnik
Carver County Board of Commissioners

Nancy Schouweiler
Dakota County Board of Commissioners

Liz Workman
Dakota County Board of Commissioners

Chris Gerlach
Dakota County Board of Commissioners

Mike Beard
Scott County Board of Commissioners

Principles on Metropolitan Council Reform: List of Adoptees

(as of April 26, 2016)

Cities

Andover
Bethel
Blaine
Centerville
Chanhassen
Chaska
Cologne
Columbus
Crystal**
Elko New Market
Farmington
Forest Lake
Greenwood
Ham Lake
Hamburg
Hampton
Jordan
Lino Lakes
Loretto
Mayer
Mendota Heights
Mound
New Germany
New Prague
Norwood Young America
Nowthen
Oak Grove
Plymouth*
Prior Lake
Ramsey*
Shakopee
St. Bonifacius
St. Francis
Victoria
Watertown

Counties

Anoka
Carver
Dakota
Scott

**Modified Principles adopted*

***No official resolution was passed, but a letter supporting the Principles was signed by the majority of City Councilmembers and the Mayor*

METRO CITIES

TASK FORCE ON METROPOLITAN GOVERNANCE

Findings and Recommendations

January, 2012

INTRODUCTION

A Metro Cities Metropolitan Governance Task Force was created in 2011 to examine Metro Cities' legislative policies on regional governance and to make policy recommendations to the Metro Cities Board of Directors and membership.

The Metro Cities Board of Directors deemed a policy review to be timely given the release of the 2011 Legislative Audit on transit governance and recent legislative proposals to alter the governance structure of the Metropolitan Council.

The Task Force was comprised of 17 elected and appointed city officials from throughout the metropolitan area. Three meetings were held. Featured speakers included former Metropolitan Council Chairs Peter Bell and Ted Mondale, former Met Council Administrator Jim Solem, Metropolitan Council Government Affairs staff Judd Schetnan, and Legislative Auditor Judy Randall. The Task Force established a set of policy recommendations and findings that were subsequently adopted by the Metro Cities Board of Directors and membership in November, 2011.

BACKGROUND

Metro Cities is the region-wide entity representing the joint interests of metropolitan cities at the Metropolitan Council, Legislature and Executive Branch and works to advance policy positions that serve the interests of metropolitan area cities.

Metro Cities' policies support the existence of a regional government for the purposes of facilitating region wide planning and providing services that cannot be as effectively and efficiently provided by local governments or the state. Metro Cities' policies include positions on regional governance and Metropolitan Council policies and activities, and because of the unique and key relationships between the Metropolitan Council and cities, support the need for the Council to work collaboratively and in partnership with cities in the region.

Metro Cities' policies on regional governance have evolved over time, with many recent policies on governance the result of a previous task force undertaken by Metro Cities (Association of Metropolitan Municipalities) in 1998. The impetus for that study was the changing functions of the Metropolitan Council and restructuring of the Council in 1994. That AMM study developed several observations, principles and criteria regarding metropolitan governance, and recommended staggered terms for Metropolitan Council members. Metro Cities successfully

secured passage of staggered terms legislation in 2008; however the legislation was vetoed by Governor Tim Pawlenty.

Earlier this year, the Metro Cities Board of Directors convened an ad hoc group of Board members and staff to determine whether Metro Cities' legislative policies pertaining to regional governance warranted review.

The impetus for the Board's directive was twofold. Metro Cities' legislative policies on regional governance, particularly regarding the selection of Metropolitan Council members, were policies of long standing that notably did not address whether Metropolitan Council members should be appointed or elected. Recent legislative discussions and the release of the Legislative Auditor's report on transit governance prompted the Board to question whether Metro Cities' legislative policies on regional governance should be re-examined.

The ad hoc work group of the Metro Cities Board met in early April, and recommended a policy review under the direction of Metro Cities' Metropolitan Agencies Committee. This committee addresses policies and issues pertaining to the Metropolitan Council. It was determined that a task force of representatives of the Metropolitan Agencies Committee, augmented with additional city officials from throughout the region, be formed.

The Task Force met three times during the months of August and September and discussed key issues relating to regional governance at length. Task Force members identified a number of issues and priorities, based on a survey of Task Force members. These centered on goals and priorities for regional governance, opportunities and challenges facing the metropolitan region and its cities, the Council's strengths and weaknesses, whether the current Council is equipped to meet the needs of the region and its cities, and problems that might be addressed through a change in the governance model.

The Task Force recommendations were forwarded to the Metropolitan Agencies Committee, and subsequently adopted by the Metro Cities Board of Directors and full membership in November, 2011.

SUMMARY OF RECOMMENDATIONS

The findings and recommendations of the Metro Cities Metro Governance Task Force include new legislative policies on principles for regional governance, Metropolitan Council member selection, a comprehensive analysis of the Metropolitan Council and legislative oversight of the Metropolitan Council. This report also includes findings and observations identified by Task Force members that should be considered in any evaluations, discussions or proposals regarding our system of regional governance.

The Task Force recommendations specifically emphasize the need for increased local involvement and participation in the selection process for members of the Metropolitan Council, to increase the accountability and credibility of the Metropolitan Council with local units of government. As the units of government most affected by regional policymaking, any regional governance changes to be particularly responsive to metropolitan area cities.

The Task Force recommendations continue support for a regional government and the need for an increase in accountability by the Metropolitan Council to local units of government.

The Task Force recommendations support a comprehensive study that includes a broad range of stakeholders and that looks forward in defining how the Metropolitan Council can best meet the needs of the region and its communities into the future. Any systematic changes to the governing structure of the Metropolitan Council should not be considered until a comprehensive analysis of the region's future needs is undertaken.

TASK FORCE FINDINGS AND OBSERVATIONS

- Cities are the primary constituency of the Metropolitan Council and the entities most impacted by the statutes and policies relating to and governing the Metropolitan Council. As such, it is imperative that the Metropolitan Council work in partnership and collaboration with city governments.

- There should be more opportunities and formalized processes for local government involvement and participation in the work of the Metropolitan Council, including the selection of Metropolitan Council members, to help promote accountability, collaboration and problem solving among regional and local units of government.

- Any model of governance that proposes to have elected local officials serve on the Metropolitan Council (i.e. a Council of Governments model) must be a model under which city officials would make up the majority of local elected officials on the Metropolitan Council.

The Task Force does not recommend this model of governance for the Council, but members expressed strong opposition to any governance model under which county elected officials would represent a majority of local officials on the Metropolitan Council. The impacts of policy decision making by the Metropolitan Council fall most significantly onto city governments. Representation of county officials on the Metropolitan Council must only be considered under the premise that any county representation on the Metropolitan Council be commensurate with the involvement of counties in the statutory authority and policymaking activities of the Metropolitan Council. Task Force discussions identified several issues around potential conflicts of office and concluded these issues are potentially significant and must be resolved before this type of governance model is considered for the Metropolitan Council.

- Any changes to the overall governance structure of the Met Council must consider the impacts to the region and its governance as a whole, and not under any single function (i.e. transit).

- Any additional functions granted to the Council must have the input and support of metropolitan communities and be designed to respond to needs and services that cities cannot provide as efficiently or equitably.

- Regional level operation and planning functions should remain as integrated functions.

- Our system of regional governance deserves periodic evaluation as the needs of our region and its communities evolve and change.

- Greater recognition must be given to the fact the metropolitan region extends beyond the seven counties, and the critical issues relating to transportation, environment, and land use cannot be solved without the participation from adjacent counties.

- Any changes to the Council's structure or functions should be considered by a coalition of stakeholders that includes cities, counties, the business community and adjacent units of government. There should also be a means to involve local governments from the adjacent counties.

- This report recognizes the position of Metropolitan Council Chair is a full-time position and that as such the salary should reflect the actual needs and responsibilities of the position.

SUMMARY OF RECOMMENDED LEGISLATIVE POLICIES

The Task Force recommends legislative policies that emphasize the following tenets:

- Continued support for Metropolitan Council member selection through appointment by the Governor;

- Strengthening local official involvement and input into the selection process for Metropolitan Council members through specific statutory changes to the nomination process through which local officials would make up the majority of nominating committee members, and which would require the Governor's adherence to the nominating committee's recommendations barring extraordinary circumstances;

- Continued support for staggered terms for Metropolitan Council members with the appointment of the Chair to coincide with the term of the Governor;

- Principles of regional governance that emphasize the importance of Metropolitan Council accountability to and collaboration with city governments;

- Support for a comprehensive and forward-looking analysis of the Metropolitan Council;

- Support for legislative oversight of the Metropolitan Council.

METRO CITIES ORGANIZATION

Metro Cities (the Association of Metropolitan Municipalities) was established in 1974 to represent metropolitan communities at the Metropolitan Council, and at the Legislature on statewide issues with regional significance. The organization is governed by a 19 member Board, whose members are comprised of local city officials from throughout the region.

The purpose for the organization is to represent the joint interests of metropolitan cities before the Metropolitan Council, State Legislature and Executive Branch, to promote collaborative problem solving efforts between and among cities and state and regional policymakers, to serve as a forum for the interchange of ideas and information among metro cities, and to foster inter-city cooperation.

EXECUTIVE SUMMARY

From September 2015 to March 2016, the Citizens League convened a special task force to consider possible Metropolitan Council reforms in response to growing questions and concerns.

With the belief that the importance of the region is larger than just the sum of the interests of individuals, cities, counties, and even beyond the seven counties in the Metropolitan Council's formal jurisdiction, the task force reviewed the Metropolitan Council's performance against its goals; learned from a variety of stakeholders about the concerns raised; examined the tensions between the Metropolitan Council and counties, cities and individual Minnesotans; and discussed possible changes from the starting place of preserving and strengthening the Metropolitan Council's regional effectiveness.

Citizens League Key Findings and Conclusions

1. Because the Chair and members of the Metropolitan Council are appointed by and serve at the pleasure of the Governor, Council members are perceived by some as primarily accountable to the Governor and not to the districts from which they were appointed or to the region as a whole. This structure is viewed by some as preventing members from acting as an independent advocate for their district or the region.

2. With Metropolitan Council member term(s) being coterminous with the Governor's term(s), this results in the possibility of a complete turnover of members with each new Governor. This works against the Metropolitan Council's charge of long-term planning for the orderly and economical development of the region.

3. There is growing poverty, both concentrated and dispersed, throughout the region, and this should inform decision-making under the current authority of the Metropolitan Council.

4. Water quality and supply is a critical long-term regional asset and is currently perceived to be complicated by numerous overlapping, governmental entities with planning, operational, and regulatory authority. The Council has certain authorities for water planning in the region.

5. There are important questions and valid concerns about the region's transit and transportation finance and delivery systems related to accountability and transparency, efficiency and effectiveness, and equity.

Citizens League Recommendations to the Governor and Legislature

1. Adopt fixed four-year, staggered terms for Metropolitan Council members. Members would still be appointed by the Governor and would serve fixed, four-year terms. The Chair would be appointed by the Governor and continue to serve at the pleasure of the Governor per statute 473.123, Subd. 4.

2. The Metropolitan Council member selection process should include more input by citizens and local officials, strengthening the credibility of the Metropolitan Council, and further encouraging the appointment of well-qualified members. To achieve this, the Citizens League proposes:

    a. Expanding the current Metropolitan Council nominations committee from seven to 13 members. Of these 13 members, seven should represent citizens-at-large and six should represent local governments: three appointed by counties and three appointed by cities.

b. Adding additional public announcements to the current selection process:
    i. Detailed position description with required skills, time commitment, and connection to district to be clearly articulated and posted in advance of the call for nominees.
    ii. Requiring that the nominations committee recommend three finalists for each Metropolitan Council seat. The names of these finalists and their qualifications should be made public at least 14 days prior to final selection by the Governor.

c. Adding to the current Metropolitan Council member qualifications:
    i. Experience in local government and/or experience in such areas including but not limited to transportation, housing, environment, and regional development.
    ii. The need/ability to represent both the demographic diversity of each district and the region as a whole.
    iii. Ability to meet the time commitment required to attend Council and community meetings, as specified in the position description.

Citizens League Recommendations to the Metropolitan Council

3. Fully deploy the Met Council's *current* authority to reduce concentrations of poverty in the region and foster increased connections to social and economic opportunities. Full utilization of Met Council authority includes but is not limited to:
    a. The creation of an equity policy plan to reduce concentrations of poverty in the region;
    b. The evaluation of existing transit routes to ensure the best means to more directly connect areas of concentrated poverty with job centers and high-growth industry clusters; and
    c. Using its research and convening authority to align regional stakeholders in pursuing strategies that will reduce poverty and its concentration, increase economic and social opportunity to advance future economic growth and mitigate the impact of demographic changes in the region related to aging.

Recommendations for Further Study by the Citizens League

Water Supply

4. The Citizens League task force acknowledges the importance of water supply in the region, as well as the many government agencies involved in its management. However, the task force did not study this issue in sufficient detail to provide a recommendation on such an important, regional issue. As such, the task force recommends that this issue be further studied by the Citizens League to ensure that water supply remains adequate and sustainable across the region, including all entities involved in its management and regulation.

Transportation Planning and Governance

5. Experts who met with the Citizens League task force maintained that the region's system of transit governance, planning, funding and operation works well despite its seemingly fragmented but definitely complex nature. Still, there are important questions related to accountability and transparency, efficiency and effectiveness, and equity. Given the limited time the task force had to review these issues, it recommends that the Citizens League undertake a study of the region's system of governance, planning, funding and operation of all forms of transportation.

RESOLUTION 16-60

RESOLUTION IN SUPPORT OF RESTRUCTURING THE GOVERNANCE OF THE METROPOLITAN COUNCIL

WHEREAS, regional planning and local government cooperation is vital to the continued success of the Minneapolis-St. Paul Metropolitan Area; and

WHEREAS, the Metropolitan Council is, by statute, the regional planning agency for the Minneapolis-St. Paul Metropolitan Area, with broad authority, including the ability to levy taxes, charge fees and set regional policy; and

WHEREAS, cities and counties are the entities most directly affected by policies and financial decisions of the Metropolitan Council, making them the primary constituents of the Metropolitan Council; and

WHEREAS, the Metropolitan Council's scope of authority and involvement in regional issues has expanded significantly over the years; and

WHEREAS, a governmental entity, particularly one with taxing authority, to be effective, must be credible, and responsive and accountable to those it represents; and

WHEREAS, the appointment of Metropolitan Council members resides solely with the Governor, effectively making the Governor the primary constituent of the Metropolitan Council; and

WHEREAS, many cities and counties believe that the Metropolitan Council lacks accountability and responsiveness to them as direct constituents; and

WHEREAS, many cities and counties believe that the authority to impose taxes and set regional policy should be the responsibility of local government elected officials; and

WHEREAS, reform is necessary to ensure that the Metropolitan Council is an effective, responsive, and accountable partner for regional development and progress.

NOW, THEREFORE, BE IT RESOLVED, that the Coon Rapids City Council agrees that the Metropolitan Council, due to its taxing and policy authority, should be accountable to a regional constituency of those impacted by its decisions; and

BE IT FURTHER RESOLVED, that the Coon Rapids City Council agrees the Metropolitan Council should not operate as a state agency answerable to only one person, the Governor, as it does in its current form; and

BE IT FURTHER RESOLVED, that the Coon Rapids City Council supports reform of the Metropolitan Council that adheres to the following principles:

I. A majority of the members of the Metropolitan Council shall be elected officials,

appointed from cities and counties within the region;

II. Metropolitan cities shall directly control the appointment process for city representatives to the Metropolitan Council;

III. Metropolitan counties shall directly appoint their own representatives to the Metropolitan Council;

IV. The terms of office for any Metropolitan Council members appointed by the Governor shall be staggered and not coterminous with the Governor;

V. Membership on the Metropolitan Council shall include representation from every metropolitan county government;

VI. The Metropolitan Council shall represent the entire region, therefore voting shall be structured based on population and incorporate a system of checks and balances.

Adopted this 3rd day of May, 2016, by the Coon Rapids City Council.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

RESOLUTION 16-60

A RESOLUTION SUPPORTING PRINCIPLES FOR REFORM OF THE METROPOLITAN COUNCIL

WHEREAS, regional planning and local government cooperation is vital to the continued success of the Minneapolis-St. Paul Metropolitan Area; and

WHEREAS, the Metropolitan Council is, by statute, the regional planning agency for the Minneapolis-St. Paul Metropolitan Area, with broad authority, including the ability to levy taxes, charge fees and set regional policy; and

WHEREAS, cities and counties are directly affected by policies and financial decisions of the Metropolitan Council, making them primary constituents of the Metropolitan Council; and

WHEREAS, the City of Coon Rapids has had a long-standing relationship with the Metropolitan Council on Comprehensive Planning, housing policy, housing projects, and transportation projects; and

WHEREAS, a governmental entity with taxing authority must be responsible, responsive, and accountable to those it represents; and

WHEREAS, the appointment of Metropolitan Council members resides solely with the Governor; and

WHEREAS, many cities and counties believe that the authority to impose taxes and set regional policy should include local government elected officials.

NOW, THEREFORE, BE IT RESOLVED, that reform to the Metropolitan Council should ensure that the Metropolitan Council is a responsible, responsive, and accountable partner for regional development and progress; and

BE IT FURTHER RESOLVED, that the City of Coon Rapids supports consideration of the following principles if reform of the Metropolitan Council is considered:

I. That, in order to recognize the responsibility that the Metropolitan Council has to local units of government, local governments shall have a decision role in the appointment process for representatives to the Metropolitan Council; and

II. That, in order to promote the stability and continuity of governance, the terms of office for Metropolitan Council members shall be staggered; and

III. That, in order to promote equitable regional representation, membership on the Metropolitan Council shall continue to include a balanced geographic representation from all areas of the metropolitan region.

Adopted this 3rd day of May, 2016, by the Coon Rapids City Council.

_____
Jerry Koch, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **24.**

Meeting Date: 05/03/2016

Subject: Open Mic Report - Ms. Jennifer Koch, 2020 127th Avenue and Mr. Jerry Pierce, 12236 Partridge Street

Submitted For: Matt Stemwedel, City Manager **From:** Joan Lenzmeier, City Clerk

INTRODUCTION

Ms. Jennifer Koch of 2020 127th Avenue and Mr. Jerry Pierce of 12236 Partridge Street addressed Council concerning establishing and managing a flea market on city owned property along Coon Rapids Boulevard between Egret and Avocet commonly referred to as Port Riverwalk.

DISCUSSION

The issue of allowing a flea market at Port Riverwalk touches on a couple of practical and policy-oriented concerns. From a practical standpoint, the Riverwalk site currently has no supportive infrastructure for such an event. For example, there are no buildings on the property with any bathrooms, garbage/recycling receptacles or electrical outlets. Presumably, these sorts of things would have to be brought to the site and managed during an event. While a private group might be capable of organizing a flea market, it is very likely that the City would have some level of oversight and responsibility (i.e. pre-event setup, traffic control, post event clean-up, etc.). It is hard to fully understand the resource implications without knowing more details about the frequency and scope of the events.

It is important to note that there is an approved Master Plan for Port Riverwalk which does not include or anticipate a flea market or secondhand dealer within the district. From a regulatory standpoint, staff would need to consider how to handle licensing and zoning elements. For example, staff determined that flea markets are not specifically named as being allowed, but it could be argued that flea markets could be categorized as a secondhand dealer. Pursuant to City Code 5-2613(2)(c), secondhand dealers are only allowed in Neighborhood Commercial, Community Commercial, General Commercial, or Office Zoning Districts. The Riverwalk and Coon Rapids Ice Center properties are zoned PORT and secondhand dealer operations would not be allowed to be licensed on these properties. On the other hand, there are elements of a flea market that are similar to a farmer's market, which is allowed under City Code in certain districts.

Additionally, Mr. Jerry Pierce had requested research be done concerning comments he made at a City Council meeting regarding approval for a community center. The research is ongoing and the minutes, once located, will be forwarded to Mr. Pierce as requested.

RECOMMENDATION

This memorandum is being provided for informational purposes. Council may provide direction to staff to consider and analyze this matter further if so desired.