City of Ramsey
Agenda
Park and Recreation Commission
Thursday, April 13, 2017
6:30 pm
Council Chambers, 7550 Sunwood Drive NW

1. Call to Order

2. Citizen Input

3. Approve Agenda

4. Approve Minutes

1. Approve Park and Recreation Commission meeting minutes.

5. Commission Business

1. Nominate Chair and Vice-Chair of the Park and Recreation Commission

2. Consider Request of the Ramsey Foundation for Lawful Gambling Funds for the Concert Series

3. Recreation Programing for 2017

4. Recommend Revisions to the Draft Master Plan Amendment - Mississippi West Regional Park

5. Consider Sketch Plan and Park Dedication Policy for Riverstone Addition; Case of Capstone Home

6. Consider Park and Recreation Commission Outdoor Meeting Schedule

6. Commission/Staff Input

1. Commission/Staff Input

7. Adjournment

Park and Recreation Commission **4. 1.**

Meeting Date: 04/13/2017

Submitted For: Mark Riverblood, Engineering/Public Works

By: MaryJo Warner, Engineering/Public Works

Information

Title:

Approve Park and Recreation Commission meeting minutes.

Purpose/Background:

To review and approve attached Park and Recreation Commission meeting minutes dated March 9, 2017.

Notification:

Observations/Alternatives:

Funding Source:

n/a

Recommendation:

Action:

Motion to approve Park and Recreation Commission meeting minutes dated March 9, 2017.

Attachments

Minutes

Form Review

Inbox	Reviewed By	Date
Grant Riemer	Grant Riemer	04/07/2017 01:44 PM
Form Started By: MaryJo Warner		Started On: 04/05/2017 03:30 PM
Final Approval Date: 04/07/2017		

PARK AND RECREATION COMMISSION
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

The Ramsey Park and Recreation Commission conducted a regular meeting on March 9, 2017, at Ramsey City Council Chambers, 7550 Sunwood Drive NW.

Commission Members Present:	Chair Shane Bennett Vice Chair Matthew Logan Commissioner Russell Bayer Commissioner Andrew Fyten Commissioner Brandon Sis Commissioner Jon Trappen
Commission Members Absent:	Commissioner David Troy
Also Present:	Parks & Assistant Public Works Superintendent Mark Riverblood

1. CALL TO ORDER

Chair Bennett called the Park and Recreation Commission meeting to order at 6:30 p.m.

2. CITIZEN INPUT

None.

3. APPROVE AGENDA

Motion by Commissioner Sis, seconded by Commissioner Fyten, to approve the Park and Recreation Commission meeting agenda as presented.

Motion carried. Voting Yes: Chair Bennett, Commissioners Sis, Fyten, Bayer, Logan, and Trappen. Voting No: None. Absent: Commissioner Troy.

4. APPROVE MINUTES

4.01: Approve Park and Recreation Commission Meeting Minutes

Motion by Commissioner Logan, seconded by Commissioner Sis, to approve the following Park and Recreation Commission Regular Meeting Minutes:

1) Park and Recreation Commission Regular Meeting Minutes dated February 9, 2017.

Motion carried. Voting Yes: Chair Bennett, Commissioners Logan, Sis, Bayer, Fyten, and Trappen, Voting No: None. Absent: Commissioner Troy.

5. COMMISSION BUSINESS

5.01: Nominate Chair and Vice-Chair of the Park and Recreation Commission

Parks & Assistant Public Works Superintendent Riverblood suggested this item be tabled until the April 2017 meeting after the full commission is appointed by the Council after interviews are held for the openings.

Motion by Commissioner Sis, seconded by Commissioner Bayer, to table nomination of Chair and Vice Chair until the April 2017 meeting.

Motion carried. Voting Yes: Chair Bennett, Commissioners Sis, Bayer, Fyten, Logan, and Trappen. Voting No: None. Absent: Commissioner Troy.

5.02: Recommend Park Dedication for Covenant Meadows; a Planned Unit Development

Parks & Assistant Public Works Superintendent Riverblood reviewed that the Park and Recreation Commission is requested to recommend to City Council the appropriate resolution of the Park Dedication and Trail Fees dues for this proposed Planned Unit Development (PUD). The site is generally located south of Trott Brook and west of Geranium Street. The location of the parcel was highlighted in red on the site location map.

The Applicant has proposed to subdivide the approximately thirty-eight (38) acre Subject Property into twelve (12) single family homes that be serviced by individual private utilities. The Preliminary Plat proposes deeding approximately fifteen (15) of the thirty- eight (38) to the City as the Public Benefit in relation to the PUD application. The proposed fifteen (15) acres straddles both sides of the Trott Brook, has steep slopes and is considered to be high quality natural open space. Securing this land is also consistent with the goal of a near continuous preservation of natural resources along Trott Brook in the city. Property owners within a 700-foot radius of the subject property were notified of the public hearing held at the March 2, 2017 Planning Commission meeting. Protection of the natural resources surrounding Trott Brook is a goal of the City.

Mr. Riverblood noted properties surrounding all sides of the Subject Property are currently zoned R-1 Residential (Rural Developing). While the applicant is requesting reduced lot sizes than what would normally be required, the proposed parcel sizes are similar in size and nature to the existing surrounding parcels. In exchange for the reduced lot size, the applicant is proposing to deed to the City approximately fifteen acres of land as permitted with the PUD process. The land being proposed is high quality natural resources, and will also provide buffers to the brook and serve to provide connectivity between other natural areas along Trott Brook. The Applicant has agreed to provide a trail easement between lots 5 and 6 of block 1 so as to provide all lots in the proposed development and the larger neighborhood with access to this public amenity.

Upon review of the contours of the steep slopes, Staff has identified that an ADA compliant trail to, or parallel to the stream is not feasible. Staff has identified that a 20-foot trail easement should be included between lots 5 and 6 of block 1 and that an 8-foot bituminous trail be constructed within that easement and that the trail terminate within a 15-foot bituminous bulb within Outlot A as part of the Stage 1 Improvements. The bituminous trail will need to connect to the bituminous edge of Iodine St NW and that connection will need to be ADA compliant. The Applicant is currently proposing a rural road section with a ditch system to convey storm water, so a culvert will be necessary to allow for the free flowing of runoff as well as elevate the trail connection to the roadway.

Reflective of the dedication of land by the PUD process, Park Dedication should be a cash contribution per lot platted (12 lots @ the 2017 residential unit rate of $2,800 = $33,600). The new municipal connecting trail (from Iodine Street to Outlot A) would be eligible for credit against the $800 Trail Fee per lot platted. (12 lots @ the 2017 residential Trail Fee of $800 = $9,600). As part of the Development Agreement, the construction cost of the new trail segment will be identified. If it can be demonstrated that actual cost of the trail would exceed the Trail Fees, the balance may be deducted from the cash Park Dedication owed.

Staff recommends Park Dedication be satisfied by a cash contribution at the time of platting; that the trail segment from Iodine Street to Outlot A be constructed as a Stage I improvement – and the trail construction costs would be eligible for credit against the Trail Fees due per lot platted.

Commissioner Sis asked if there are any developed amenities near Trott Brook.

Mr. Riverblood stated there are no amenities near Trott Brook. A trail will be developed along the Brook as properties are acquired.

Motion by Commissioner Logan, seconded by Commissioner Sis, to recommend to City Council that Park Dedication be satisfied by a cash contribution at the time of platting, and that the trail segment from Iodine Street to Outlot A be constructed as a Stage I improvement – with the trail construction costs eligible for credit against the Trail Fees due.

Motion carried. Voting Yes: Chair Bennett, Commissioners Logan, Sis, Bayer, Fyten, and Trappen. Voting No: None. Absent: Commissioner Troy.

Chair Bennett noted at the Comprehensive Plan Meeting the public consistently mentioned preserving the natural resources and protecting the open space areas within the City.

Motion by Commissioner Trappen, seconded by Commissioner Bayer, to recommend to City Council to secure the proposed 15 acre Outlot, representing the maximum natural and ecological resource protection alternative available to the City Council in addition to standard Park Dedication requirements.

Motion carried. Voting Yes: Chair Bennett, Commissioners Trappen, Bayer, Fyten, Logan, and Sis. Voting No: None. Absent: Commissioner Troy.

5.3 Recommend Work Plan for the Park System of the Comprehensive Plan, and City-wide Parks Master Plan

Parks & Assistant Public Works Superintendent Riverblood reviewed the Commission is requested to approve a 2017 work plan and budget for the Parks Recreation and Open Space Chapter of the Comprehensive plan and City-wide Parks Master Plan.

Mr. Riverblood referred the Commission to the January Progress Report to the Planning Commission for important detail and background on the Comprehensive Plan processes that was provided. Public notifications are on-going throughout the 2017 City-wide Comp. Plan process. Various meetings will be held to gain resident feedback as well as during city-wide events.

The work plan and budget that was developed at the request of staff was also provided to the Commission for their review. The work plan and budget combined the resources of Landscape Architect Bruce Jacobson and LHB Inc. The Commission is asked to recommend to City Council consideration of the work plan and budget. Mr. Riverblood reviewed the various planning work that is being done concurrent with the Comp. Plan and the consultants who will be working with Staff and the Boards and Commissions in the endeavors. The $50,000 will come out of the Park General Fund for 2017. This will be reviewed by Council at their March 28, 2017 meeting.

The proposed 2017 work plan and budget were provided for Commission review along with the existing Chapter Parks Recreation and Open Space.

Commissioner Trappen asked if Bruce Jacobson and LHB have been used in the past.

Mr. Riverblood stated they have been used in the City in the past. LHB is well known for their Master Plan work. Mr. Riverblood has worked with Bruce Jacobson in the past and he has a good track record in delivering what was promised.

Chair Bennett reviewed the motion.

Motion by Commissioner Sis, seconded by Commissioner Logan, to recommend to City Council authorize approval of the 2017 work plan utilizing the consulting services of Bruce Jacobson and LHB at a not-to-exceed amount of $50,000.

Motion carried. Voting Yes: Chair Bennett, Commissioners Sis, Logan, Bayer, Fyten, and Trappen. Voting No: None. Absent: Commissioner Troy.

5.4 Consider the Establishment of a Youth Liaison to the Park and Recreation Commission

Parks & Assistant Public Works Superintendent Riverblood provided a proposal for consideration for the establishment of a Youth Liaison to the Park and Recreation Commission. This would be a Ramsey resident, 16 to 18 years of age, he/she would participate in all affairs and discussion of the Commission, but be a non-voting member (and without a per diem). There

would seem to be many advantages to this new position, and with little or no costs. Among the benefits would be a broader representation of the community to this advisory board and thereby by extension, also to the Council. Mr. Riverblood the youth liaison would expand civic engagement and participation, as well as improve upon the diversity of opinions, ideas, issue identification, and perspectives as the City sets priorities for the development of the park and trail system for the future.

Candidates for the position would submit an essay to the Commission to be considered, then interviewed and selected to move forward by the Commission Chair, Staff Liaison, and an HR representative or appointee. Council approval process will be determined. The Youth Liaison would have an assigned "term" but would time-out when they reached their 19th birthday, at which time they may be an ideal candidate to serve as an appointed Board or Commission member as part of the usual process. This would expand civic engagement and participation, as well as improve upon the diversity of opinions, ideas, issue identification, and perspectives as the City sets priorities for the development of the park and trail system for the future.

Chair Bennett stated he is in favor of the idea and it would be a great opportunity from a leadership perspective for a young person to get involved in the community.

Commissioner Sis suggested it be advertised to the local high schools and other youth groups within the City.

Commissioner Bayer asked if any other City has such a liaison.

Mr. Riverblood stated he is not aware of any "official" youth liaisons. Mr. Riverblood stated the communication coming from the youth would be beneficial and they would become aware of how government works.

Motion by Commissioner Trappen, seconded by Commissioner Sis, to recommend to the City Council the establishment of a Youth Liaison to the Park and Recreation Commission.

Motion carried. Voting Yes: Chair Bennett, Commissioners Trappen, Sis, Bayer, Fyten, and Logan. Voting No: None. Absent: Commissioner Troy.

5.5 Recommend the Pursuit of a MN DNR Grant from the Local Trail Connections Program

Parks & Assistant Public Works Superintendent Riverblood provided background on the Trott Brook Trail Connection – Proposed Boardwalk. The recommendation to satisfy Park Dedication for the Brookfield 4th Addition in 2013, was to accept approximately $46,000 in cash, with the intention to construct a boardwalk connection from the existing trail in Brookfield to Variolite Street – if additional funding could be secured by a grant. The Minnesota Department of Natural Resources Local Trail Connections Program is accepting proposals in March 2017, for projects like the Trott Brook trail connection. Mr. Riverblood gave a summary of the DNR's Local Trail Connection Program. This is a very competitive grant that many communities will be applying for. This will come before the Council at their March 28, 2017 meeting.

The DNR competitive grant program matches 75% of project costs up to $150,000. The project's anticipated construction cost is estimated at >$267,000 of which $150,000 may be reimbursable by the DNR if the grant is awarded. The grant was applied for in the past but was not awarded. Mr. Riverblood stated he spoke with the program grant administrator and has made a few modifications to the grant request. A grant was received in 2014.

Commissioner Sis asked if the grant is not received will the trail still go through.

Mr. Riverblood stated the Commission can recommend any project in any year. A grant award should be known by mid-July.

Commissioner Sis asked what upkeep is needed for a boardwalk.

Mr. Riverblood stated there is not a formal policy on winter trail maintenance however when streets and parking lots are completed, then the high traffic trails are maintained. Snowblowers have been used in the past on boardwalks as time permitted.

The City's Priority Trail Map was provided with the project area circled in a dotted line. The proposed trail and boardwalk extension was shown in a red and yellow dotted line in relation to the Brookfield plat.

Motion by Commissioner Sis, seconded by Commissioner Fyten, to recommend to the City Council authorize a grant submittal for the Local Trail Connection Program.

Motion carried. Voting Yes: Chair Bennett, Commissioners Sis, Fyten, Bayer, Logan, and Trappen, Sis. Voting No: None. Absent: Commissioner Troy.

6. COMMISSION/STAFF INPUT

Parks & Assistant Public Works Superintendent Riverblood provided the following updates:

Rec Programming – The Park and Rec Intern provided an executive summary report on rec programming within the City. Mr. Riverblood reviewed some of the highlights of completed activities such as Art in the Park and Yoga Flow.

Mr. Riverblood announced upcoming events within the City including Starwatch, Thursday 23, 2017; Mosaic Bee House Monday, March 27, 2017; Wine and Canvas Night, Friday April 21, 2017; Introduction to Birding, Thursday April 6 and 20 and Saturday April 29, 2017; Movie in the Park, Friday May 5 and September 8, 2017; Learn to Garden Thursday May 11, 2017; Introduction to Kayaking Wednesday May 17, 2017; Learn to Kayak Saturday June 3, 2017; Sunrise Yoga Flow, Saturdays June 3 – August 26, 2017; Basics of Stand up Paddle Boarding Thursday June 22, Friday July 7, and Monday August 28, 2017; Performing in the Parks Monday June 26 – Wednesday June 28, Monday July 10 – Thursday July 13; Monday August 8 – Thursday August 17, 2017; and BubbleBall Tournament Saturday July 22, 2017. All programming is described on the City's website as well as on Facebook.

Joint Powers Meeting with Athletic Associations – The meeting was held last Tuesday and scheduling, forecasts, trends were discussed with the various associations within the City. Mr. Riverblood reviewed the highlights from the meeting.

Chair Bennett thanked Vice Chair Logan for his time and work on the Park and Recreation Commission.

7. ADJOURNMENT

Motion by Commissioner Logan, seconded by Commissioner Sis, to adjourn the meeting.

Motion carried. Voting Yes: Chair Bennett, Commissioners Logan, Sis, Bayer, Fyten, and Trappen. Voting No: None. Absent: Commissioner Troy

The Park and Recreation Commission meeting adjourned at 7:30 p.m.

Respectfully submitted,

_____

Mark Riverblood
Parks & Assistant Public Works Superintendent

Drafted by Debbie Wolfe
TimeSaver off Site Secretarial, Inc.

Park and Recreation Commission **5. 1.**

Meeting Date: 04/13/2017

Submitted For: Mark Riverblood, Engineering/Public Works

By: MaryJo Warner, Engineering/Public Works

Information

Title:

Nominate Chair and Vice-Chair of the Park and Recreation Commission

Purpose/Background:

Each year, City Council makes appointments to their various subcommittees, with commissions and boards also expected to appoint a Chair and Vice-Chair for their respective entity. The purpose of this case is to establish (or reaffirm) the Commission's Chair and Vice-Chair for 2017. In terms of process, staff proposes nominations for first the Chair, and then after approval by the majority of voting Commissioners, the Vice-Chair position also administered in the same manner. (It may be pointed out that, in that there is no official protocol for this process, the Commission may perform the nominations and/or the voting by paper 'ballots' forwarded to the Ex Officio as part of this case, if desired.) The Terms of Boards and Commission are from April 1st through March 31st of the respective year(s).

Notification:

Observations/Alternatives:

Funding Source:

n/a

Recommendation:

Action:

Motion to designate Chair, and Vice Chair of the Park and Recreation Commission from April 1, 2017 through March 31, 2018.

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
Mark Riverblood	Mark Riverblood	04/06/2017 10:38 AM
Grant Riemer	Grant Riemer	04/06/2017 11:25 AM
Form Started By: MaryJo Warner		Started On: 04/06/2017 10:15 AM
Final Approval Date: 04/06/2017		

Park and Recreation Commission **5. 2.**

Meeting Date: 04/13/2017

By: Mark Riverblood, Engineering/Public Works

Information

Title:

Consider Request of the Ramsey Foundation for Lawful Gambling Funds for the Concert Series

Purpose/Background:

Since around 2012, the City of Ramsey Foundation a 501(C)(3) has assisted the City with The Draw Summer Events Series—primarily with respect to fundraising and concert promotions. Each year the cost of the concerts was shared between the City and Foundation. In the early years, the Foundation covered most of the concert expenses through donations from Ramsey businesses. Coinciding with improved programming (more expensive bands), the City provided a larger share of performer expenses. For 2016 this was $8,000, of the approximately $15,000 in payments to bands.

Within the City of Ramsey's 2017 General Fund line item budget is $5,000 for the Foundation for this Summer's Concert Series. The purpose of this case is respond to the request of the Foundation for a $3,000 contribution from the Lawful Gambling Fund, to 'close the gap' in the anticipated funding for a total City share (two sources) of $8,000.

Notification:

Observations/Alternatives:

Funding from the Lawful Gambling Fund is wholly appropriate, and the uses and restriction for this fund are detailed within the excerpt from the City Charter's Finance and Fund Policy, attached (under letter C 3) below.

The 2016 concert assessment from Intern Nathan Greenwald is attached for additional information.

Funding Source:

Lawful Gambling Fund 9270

Recommendation:

Staff recommends the appropriation of $3,000 to the City of Ramsey Foundation as this case discusses.

Action:

Motion to recommend that City Council allocate $3,000 to the City of Ramsey Foundation for The Draw Summer Event Series.

Attachments

Summer Schedule

Lawful Gambling Fund

2016 Concert Report to the Commission

Form Review

Inbox	Reviewed By	Date

Grant Riemer	Grant Riemer	04/07/2017 07:59 AM
Form Started By: Mark Riverblood		Started On: 04/06/2017 12:35 PM
Final Approval Date: 04/07/2017		

The Draw 2017
Summer Event Series

Presented by: City of Ramsey Foundation

These events are FREE to the public!

Food and Drinks will be available for purchase before and during events!

DATE:	TIME:	ACT:

June 15 6:30-8:00pm **70's Magic Sunshine Band**
The ultimate tribute to 70's A.M. radio! Featuring music by iconic artists from the Rolling Stones and Elton John to the Monkees and Cat Stevens.

June 22 6:30-8:00pm **Murphy Brothers Band**
High energy guitar rock is definitely in store with The Murphy Brothers Band. They will keep you up, moving, and always wanting more.

June 29 6:30-8:00pm **Roadhouse Blue**
Roadhouse Blue is a variety/classic country/rock band. Free Killebrew Root Beer floats and samples of Killebrew Root Beer will be distributed to everyone in attendance!

July 6 6:30-8:00pm **Church of Cash**
The iconic music and style of "The Man in Black" is on display with Church of Cash, the Midwest's best Johnny Cash Tribute show, performing hits spanning Johnny's entire career!

July 13 6:30-8:00pm **Holy Rocka Rollaz**
Take an authentic trip back to the '50s with the Holy Rocka Rollaz, paying tribute to all the early greats like Buddy Holly, Chuck Berry, Johnny Cash, and Little Richard.

July 20 6:30-8:00pm **Devon Worley Band**
With a vocal power house up front and rock solid musicians to follow, The Devon Worley band is sure to light up any stage.

July 27 6:30-8:00pm **Rhino**
Rhino delivers nonstop fun, sure to make you get up and dance or just sit back and enjoy. Be sure to catch their drum routine that's guaranteed to drop a few jaws!

August 3 6:30-8:00pm **Elvis, Todd Anderson**
Delightful entertainment abounds with "Elvis" Todd Anderson's show for all ages! Todd's voice and moves are an exciting depiction of an actual Elvis concert.

Aug 10 6:30-8:00pm **Shane Martin Band**
The infectious, freewheeling style of the Shane Martin Band is sure to leave a smile on your face. They serve up a unique blend of spirited modern country rock.

Aug 17 6:30-8:00pm **Ponzi Scheme**
You can trust Ponzi Scheme to deliver on its promises of full-fledged entertainment and fun. Playing covers from the 60's to 80's, they will get you dancing and enjoying the show.

Aug 24 6:30-9:00pm **GB Leighton—a rain-or-shine special event!**
Ramsey's Trott Brook Financial is closing out the concert series with their 13th annual Trott Brook Benefit Bash—with inclement weather venue at The Fountains of Ramsey on Sunwood Drive.



And—Food Trucks too!!

Thursday nights from June 15 – August 24 there will be an event at The Draw's amphitheater

FARMERS MARKET *near the amphitheater at Center Street, every Thursday beginning in mid- July, from 3-7!*
LOCATION *The Draw 7401 E Ramsey Parkway, Ramsey, MN 55303 (within The COR)*

5. Lawful Gambling Fund. (Fund 9270)

(a) The Lawful Gambling Fund shall be used to account for revenues from lawful gambling received by the City in accordance with Code Section 7.61.

(b) Funding shall consist of the following sources:

(1) Lawful gambling proceeds received in accordance with Code Section 7.61; and

(2) Outside donations from lawful gambling proceeds; and

(3) Interest earnings on the Lawful Gambling Fund from the distribution of pooled interest earnings.

(c) Expenditures shall consist of the following uses:

(1) Expenditures for recreation, community and athletic facilities, as adopted in the annual Capital Improvement Program,

(2) Expenditures for community programs and/or services, intended primarily for persons under age 21; such programs that relieve the effects of poverty, homelessness, or disability and such programs that provide activities and facilities for youth. (Other community programs not eligible to be funded here, will be considered as part of the annual General Fund Budget process on a case-by case basis provided they serve a public purpose and can provide written quantification of services to the city).

(3) Contribution to a 501(C)(3) Corporation whose purpose is to provide a benefit to the community. Contribution cannot exceed $5,000 annually.

(4) On an annual basis, at least seventy (70) percent of the funds in the Lawful Gambling Fund shall be allocated for expenditures for recreation, community and athletic facilities; and

(5) Requests for fund expenditures, and donations toward fund expenditures, received during the prior calendar year will be considered by the Park and Recreation Commission and authorized by the City Council on a case by case basis;





2016 SUMMER EVENT CONCERT SERIES

An analysis by:
Nathan Greenwald



BAD GIRLFRIENDS – 6/9

First Concert of the season

165 attendants (4th best start since 2011)

Not a bad way to start the series

Played a variety of songs that everyone liked.



ROADHOUSE BLUE – 6/16

2nd Concert of the series

310 attendants, great uptick in crowd members

Free Root beer Floats, great way to get people out

Great sound and entertainment



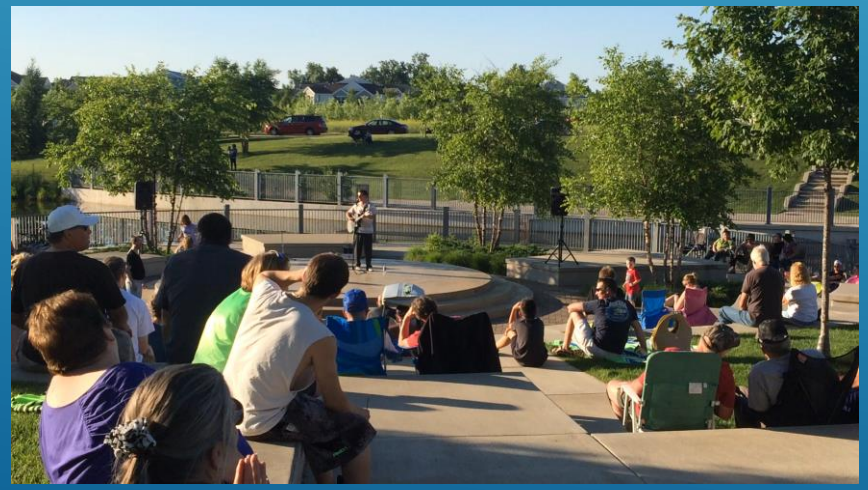
TODD ECKART – 6/23

3rd Concert

425 concert goers

Simple set up, great sound, easy to work with.

The crowd really enjoyed it.





MURPHY BROTHERS BAND – 6/30

4th Concert

415 concert goers

Probably the loudest band this year.

Greatest amount of instrumental talent.

Crowd liked it, except for the volume level.





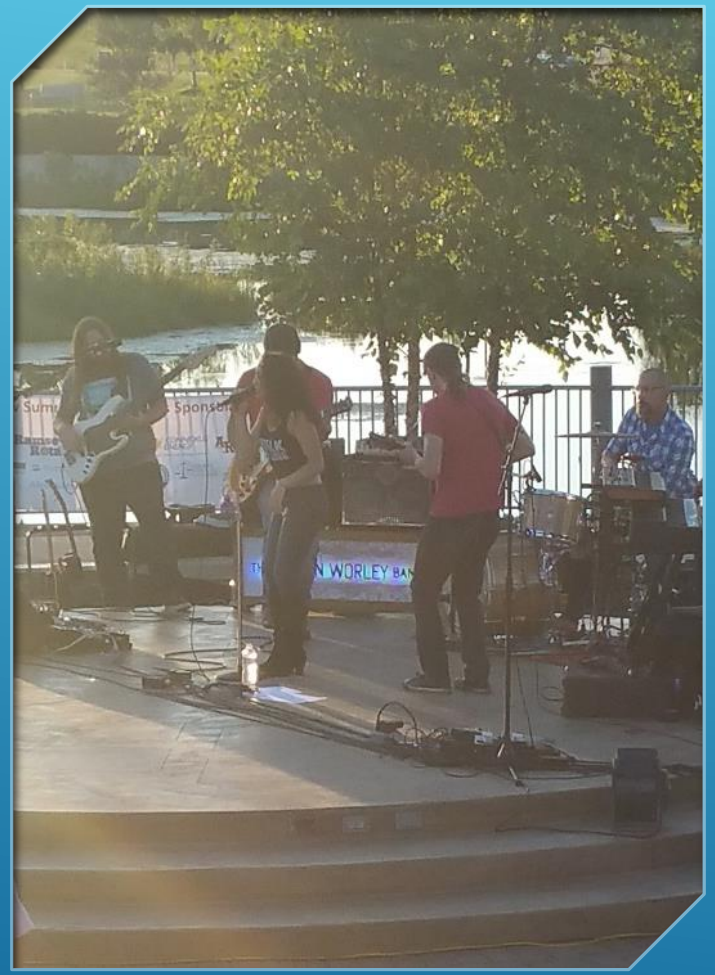
JIMMI & THE BAND OF SOULS – 7/7

5th concert

215 die hard fans **(had a rain delay)**

Positive feedback from those in attendance

Good volume level and talent



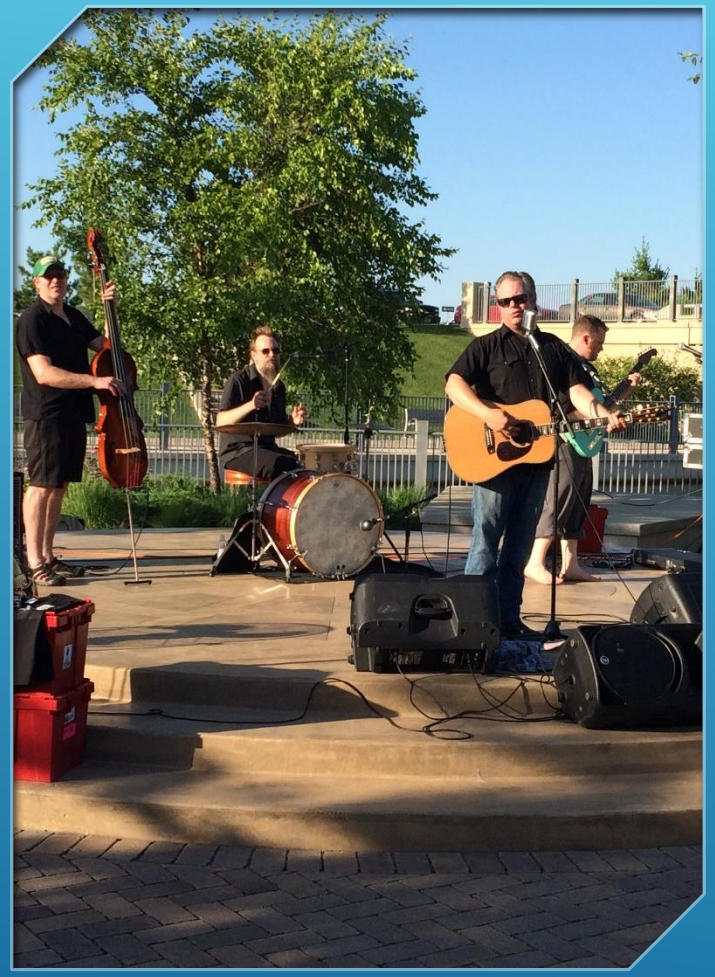
DEVON WORLEY BAND – 7/14

6th Concert

Rained Out

Got some disappointed comments

2015 attendance – 510 people



CHURCH OF CASH – 7/21

7th Concert

380 fans in attendance

Great sound, heard a lot of positive things back

Incredibly easy to work with

RHINO – 7/28

8th concert

465 fans in attendance

Had a large fan base that showed up

Good variety of music, great drum finale





TODD ‘ELVIS’ ANDERSON – 8/4

9th concert

530 in attendance

Largest crowd of the season

Has been here since the beginning

The most anticipated show of the series.



SHANE MARTIN – 8/11

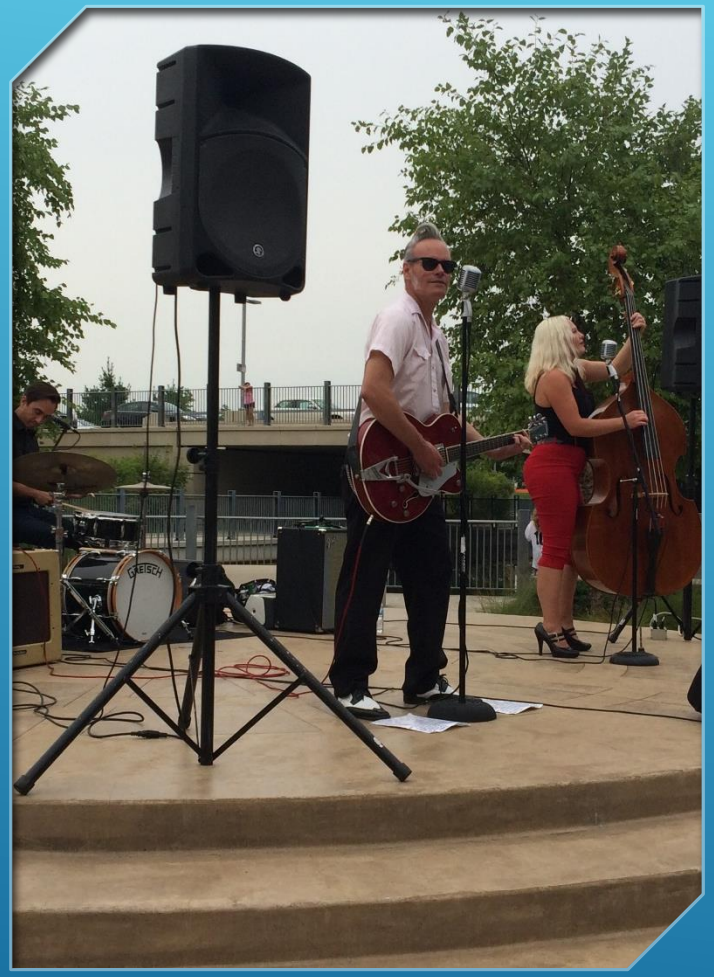
10th concert

340 fans showed up

Incredibly easy to work with.

Great sound, and great response from the public.

Had a good variety of music.



HOLY ROCKA ROLLAZ – 8/18

11th Concert

Weather was questionable the day of.

Still had an attendance of 300 people.

Good energy, good sound, easy to work with.

Community really liked them.



TIM MAHONEY – 8/25

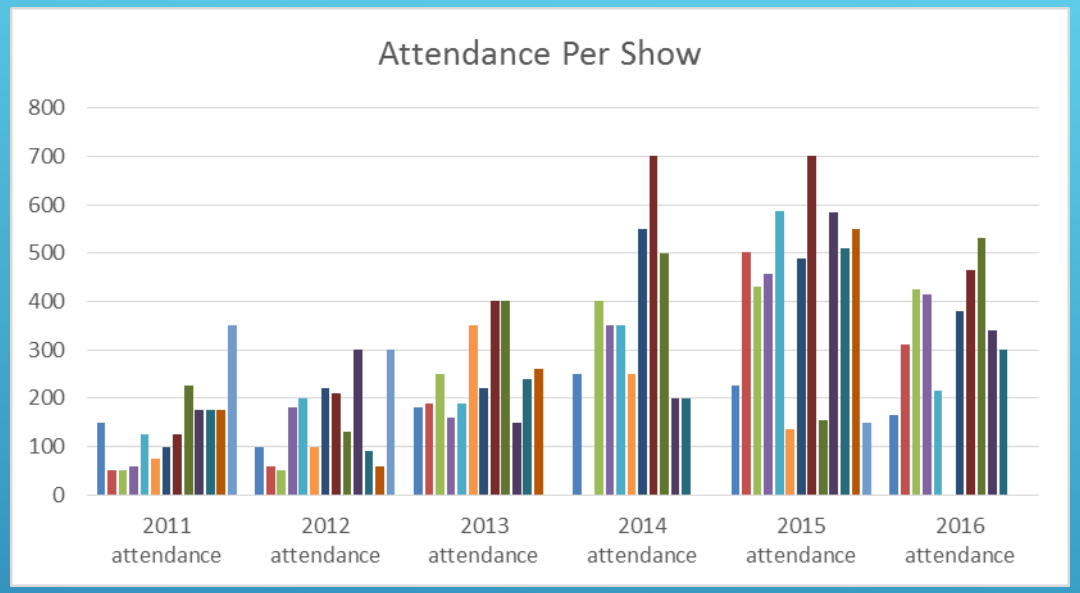
12th and final concert of the series

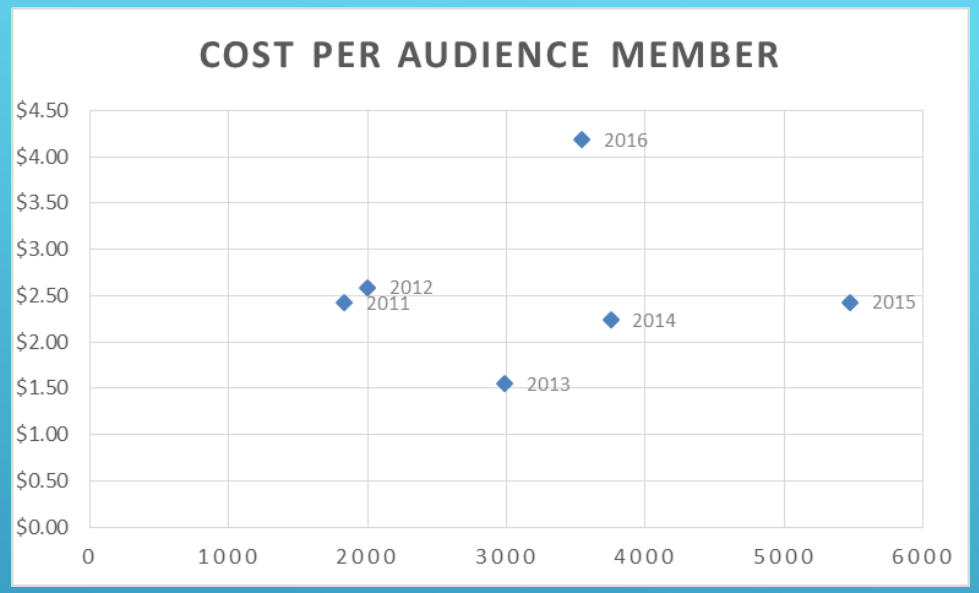
Combined with the Trott Brook Benefit Bash

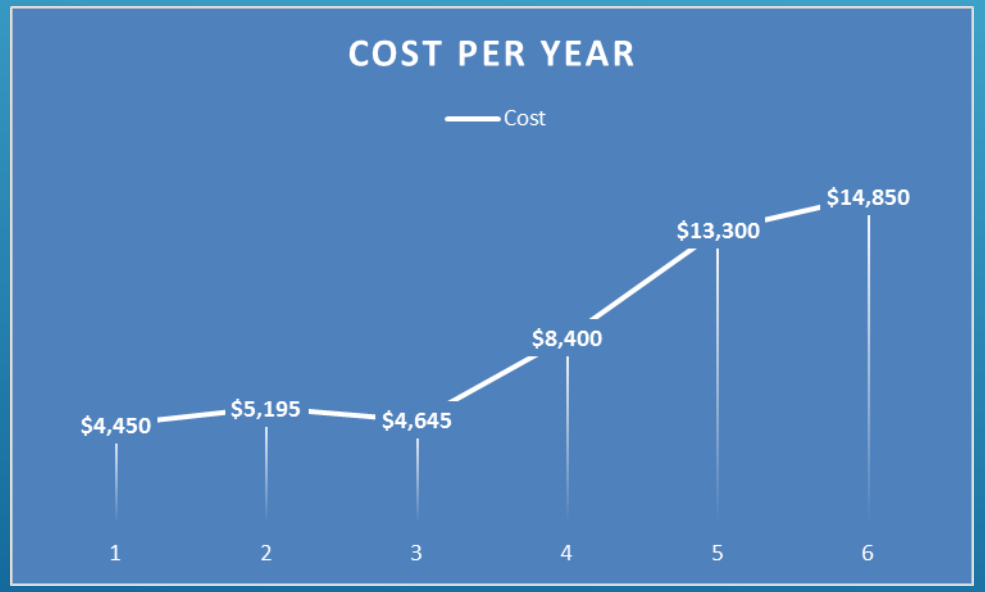
Anticipated turnout of 700-1,000 people

Actual turnout: 640

COMPARISON


Attendance Per Show
800
700
600
500
400
300
200
100
0
2011 attendance
2012 attendance
2013 attendance
2014 attendance
2015 attendance
2016 attendance


COST PER AUDIENCE MEMBER
$4.50
$4.00
$3.50
$3.00
$2.50
$2.00
$1.50
$1.00
$0.50
$0.00
0
1000
2000
3000
4000
5000
6000
2016
2012
2011
2014
2015
2013


COST PER YEAR
Cost
$4,450
$5,195
$4,645
$8,400
$13,300
$14,850
1
2
3
4
5
6

FINAL ASSESSMENT

This summer was a great learning experience for me. Although the yearly attendance did not surpass 2015's numbers we still had the second highest attendance in the history of the Event Series.

The community truly appreciates these performances and the artists that perform find the venue unique and very fun to play in.

The City of Ramsey and the City of Ramsey Foundation have built a summer program that has become part of the summer atmosphere. It is anticipated every week and as the we continue to find groups that fit the numerous demographics of Ramsey, attendance and involvement will continue to remain high.

Thanks again for this great opportunity!

THANKS FOR A GREAT SUMMER!

It was a privilege working for & with all of you.

Park and Recreation Commission **5. 3.**

Meeting Date: 04/13/2017

By: Mark Riverblood, Engineering/Public Works

Information

Title:

Recreation Programing for 2017

Purpose/Background:

As the Commission is aware, one of City Council's *Strategic Imperative's*; is to "***Create a diverse and robust offering of recreational opportunities".*** To address this goal, City Council has allocated $25,000 within the 2017 General Fund budget for recreation programming. Staff has been engaged in developing programs and opportunities since January.

For the meeting, Parks and Recreation Intern, Tillery Bailey will provide a summary of the successes to date, the upcoming programs—and receive feedback from the Commission for future recreation programming.

Notification:

Observations/Alternatives:

Funding Source:

.

Recommendation:

Staff recommends providing feedback and ideas on recreation programming.

Action:

None required/Based upon discussion.

Attachments

Rec Programing Presentation

Form Review

Inbox	Reviewed By	Date
Grant Riemer	Grant Riemer	04/07/2017 12:35 PM
Form Started By: Mark Riverblood		Started On: 04/07/2017 12:10 PM
Final Approval Date: 04/07/2017		

Recreation Programming Update

Park & Recreation Commission

April 13, 2017

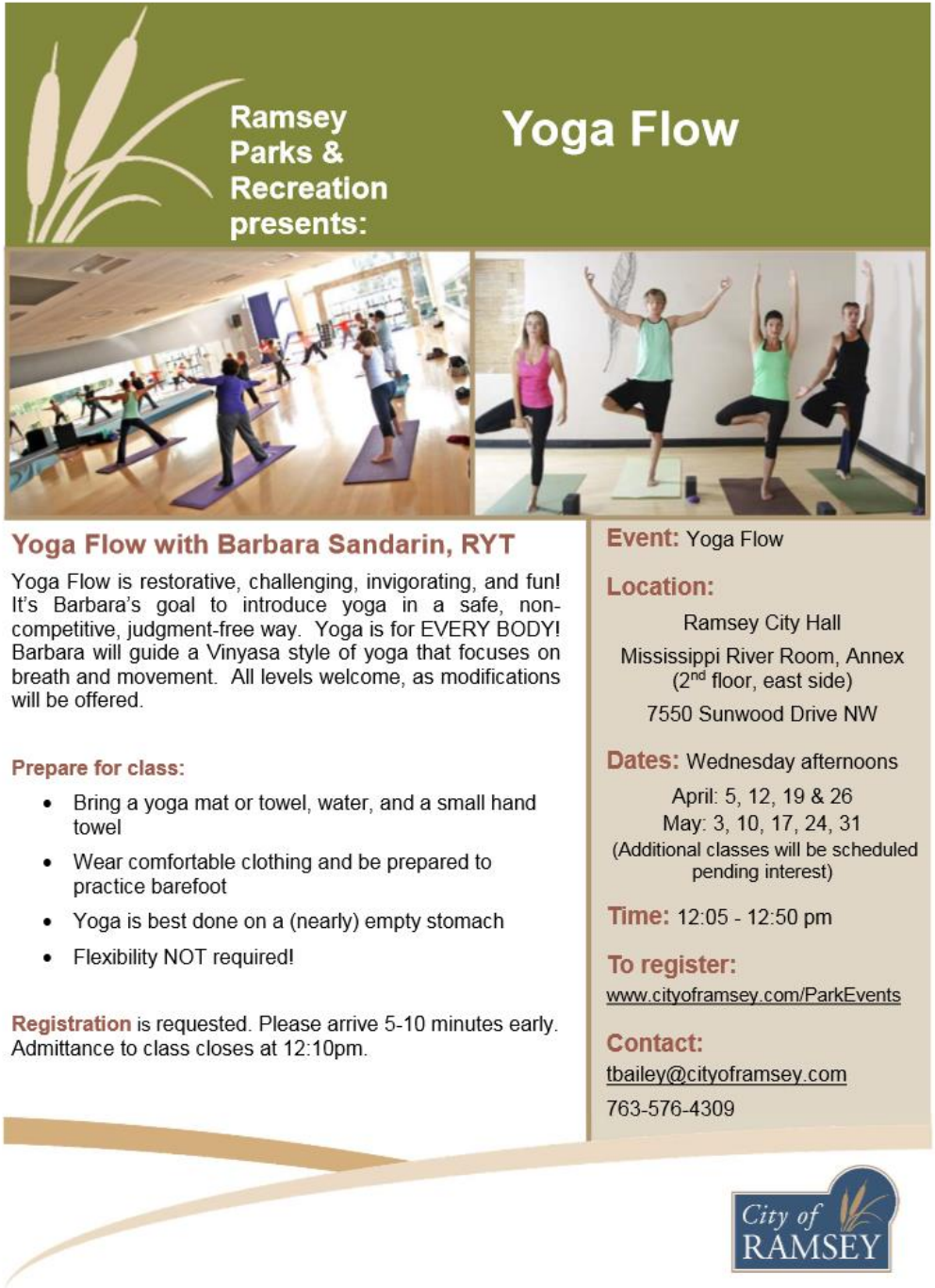
Highlights

- Yoga
- Mike Lynch Starwatch Party
- Art in the Park
- Programming questionnaire

Yoga Flow

"I really think this is great! I have lived in Ramsey 37 years and work close. The timing is good. Wish it could be more days. Thanks so much for getting this together...."

"Class was relaxing and kept me challenged in a good way."

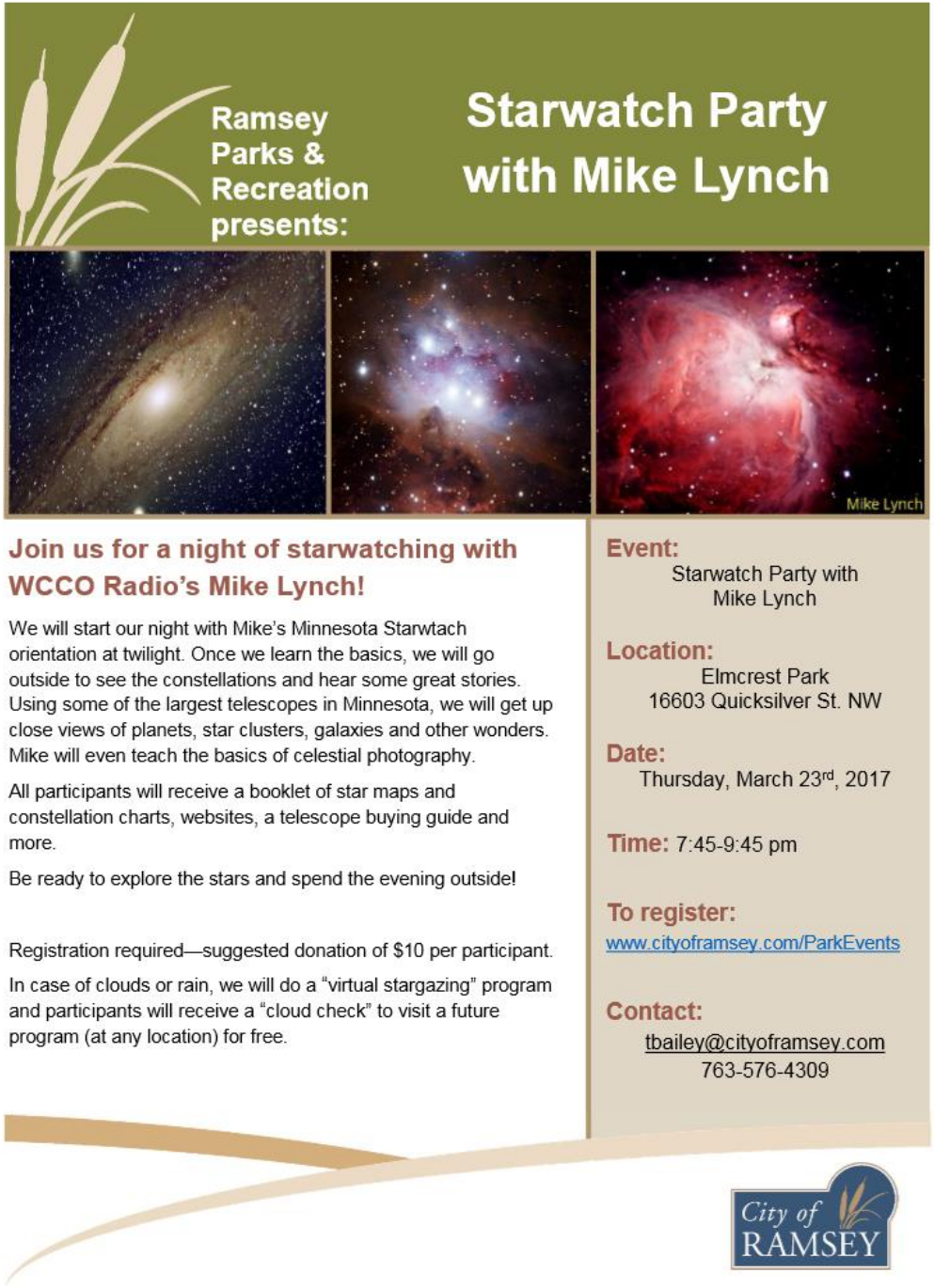


STARWATCH PARTY

"Good time...Even with the cloudy skies it was great."

"Informative and interesting. Loved seeing the large telescopes."

"It was Mike Lynch! What else is there to say?!"



Art in the Park

"I had no idea what a bee house was. So I went. Of course it was focused on younger people and all had a great time and learned about the importance of bees and how we can help."
Staff was "extremely friendly and helpful"



Art in the Park







City of RAMSEY

Programming Questionnaire

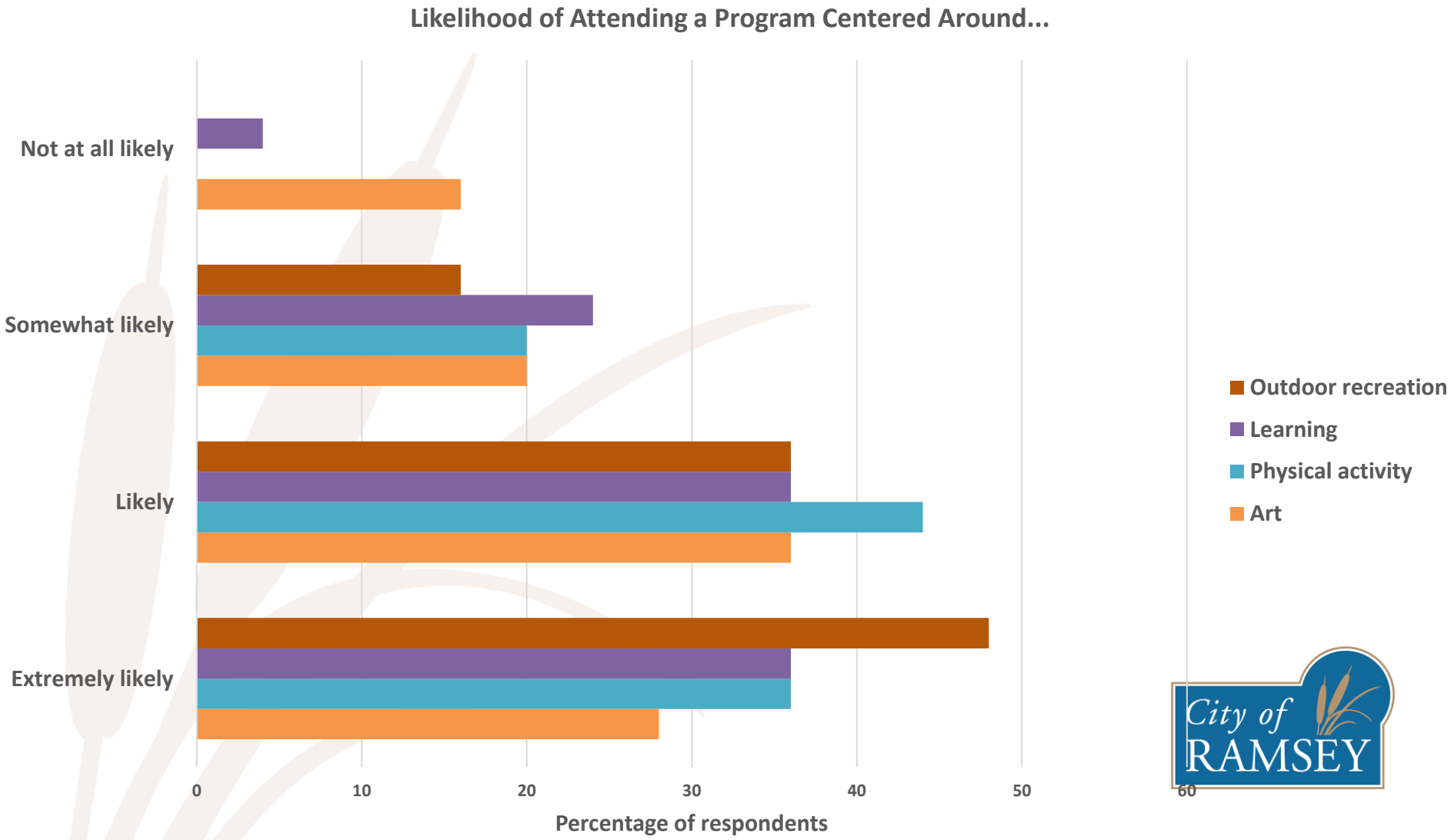
- To what extent have you learned about the City of Ramsey's new recreation offerings?
- How likely are you to attend a program center around….art, physical activity, learning, outdoor recreation?
- Which day(s) of the week are you most likely to attend a City sponsored event?
- Which time(s) are you most likely to attend a City sponsored event?
  - Weekday or weekend
  - 8am-12pm, 12pm-4pm, 4pm-8pm

City of RAMSEY

Programming Questionnaire

- How much of a concern is program cost?
- Which best describes your family in Ramsey?
- What would you like to see the City offer in terms of recreation programs?

PROGRAMMING QUESTIONNAIRE



PROGRAMMING QUESTIONNAIRE

- What would you like to see the City offer in terms of recreation programs?
  - "Introduction to _____ type sports programs. I'd like to introduce my young children to different sports without the long time commitment and expense that is found with the athletic associations…I have taken my children over to Andover previously, for these types of programs, but I would prefer to stay in my community."
  - "Movies in the park and continued art in the park events (those are so fun!), pet friendly events would be nice, too."
  - "I would like to see fitness and nutrition education classes offered. These classes are normally expensive at some of the big box fitness clubs."
  - "Anything outdoors, yoga, exercise classes"
  - "What you have started with is awesome! Movies?"

City of RAMSEY

PROGRAMMING QUESTIONNAIRE

- What would you like to see the City offer in terms of recreation programs?
  - “Family and child based programs! Ramsey is growing leaps and bounds, but unfortunately is very limited in it's parks and recreational activities. Variety of day Camps, family nights out in the park. Improvements on the park systems. A splash pad would be amazing (we frequent the Champlin or Otsego one)! A recreational center (YMCA) as I currently drive to the Y in Elk River or Andover. I live in Ramsey, but unfortunately have to support businesses and programs in the other cities because Ramsey is so lacking in family/child oriented programs and facilities.”

City of RAMSEY

Upcoming Events

- Yoga Flow, ongoing
- Intro to Birding, Thursday 4/20 and Saturday 4/29
- Art in the Park, Friday 4/14
- Movie in the Park, Friday 5/5
- Learn to Garden, Thursday 5/11
- Art in the Park, Friday 5/12
- Kayaking with Anoka County Parks, Wednesday 5/17

City of RAMSEY

Ramsey Parks & Recreation presents:

Basics of Stand Up Paddle Boarding





Anoka County
PARKS & RECREATION

Learn How to Paddle Board with the City of Ramsey and Anoka County Parks & Recreation

Stand up paddle boarding is easy, fun, and a great workout! This class is the perfect introduction for paddle board beginners. Class sizes are small and the instruction is quick and easy, which means most of your time will be spent out on the water exploring.

Prepare for class:
Dress in layers for the weather. Bring a hat, sunscreen, sunglasses, and shoes that can get wet. Equipment will be provided.

Registration is required- $15 per person.
Class is limited to the first 8 registrants. Participants must be at least 15 years of age.

Event:
Basics of Stand Up Paddle Boarding

Location:
Sunfish Lake Park
Pavilion
6330 Sunwood Drive NW
Ramsey, MN 55303

Date and time:
Thursday, June 22, 6:00 - 8:00 pm
Friday, July 7, 2:00 - 4:00 pm
Monday, August 28, 6:00 - 8:00 pm

To register:
cityoframsey.com/ParkEvents

For more information:
Todd Murawski, 651-429-8007
Todd.Murawski@co.anoka.mn.us

City of RAMSEY

Ramsey Parks & Recreation presents:

Introduction to Kayaking





Anoka County
PARKS & RECREATION

Get outdoors, learn something new, and experience your parks!

Learn the basics of kayaking while you explore Sunfish Lake in Ramsey. Regardless of skill and comfort levels, participants will enjoy their kayaking experience. Class will cover basic strokes, boat safety, bracing, and determining which type of boat is best for you.

Prepare for class:
Dress in layers for the weather. Bring a hat, sunscreen, sunglasses, and shoes that can get wet. Equipment will be provided.

Registration is required- $15 per person.
Class is limited to first 8 registrants. Participants must be at least 15 years of age.

Event:
Introduction to Kayaking

Location:
Sunfish Lake Park
Pavilion
6330 Sunwood Drive NW

Date:
Wednesday, May 17, 2017

Time:
5:30 - 7:30 pm

To register:
cityoframsey.com/ParkEvents

For more information:
Todd Murawski, 651-429-8007
Todd.Murawski@co.anoka.mn.us

City of RAMSEY

Movies in the Park

Ramsey Parks & Recreation presents:

Movies In The Park







Enjoy a Movie under the Stars

Bring your friends and family to experience a movie at Elmcrest Park. Arrive before sunset to enjoy pre-movie music and concessions for sale. The movie will start soon after the sun is low in the sky.

When you register you will get to vote on the movie selection for May. If you attend the spring showing, you will get to vote for the fall movie.

Spring movie options include: Meet the Robinsons, Dumbo, The Karate Kid, Bolt, The Smurfs, Charlie and the Chocolate Factory.

Registration is encouraged but not required.

Event: Movies in the Park

Location:
Elmcrest Park
16603 Quicksilver Street NW

Date & Time:
Friday, May 5, 2017, 8:45 pm
Rain check: Friday, May 12, 8:45 pm

Friday, Sept. 8, 2017, 8:30 pm
Rain check: Friday, September 15, 8:30 pm

To register:
www.cityoframsey.com/ParkEvents

For more information:
tbailey@cityoframsey.com
763-576-4309

City of RAMSEY

Art in the Park

ART IN THE PARK:

Wine and Canvas Painting





Ramsey Parks & Recreation and the Rumriver Art Center present

Art in the Park

Spend your Friday night relaxing with friends, painting, and wine. You will create your own unique spring flower painting. Rumriver Art Center Instructors will lead participants step-by-step through this project, allowing you to understand the process of each technique and still be able to create your own version.

Registration is required. Suggested donation of $20 per person. Fee includes cost of all materials.

Event:
Wine and Canvas
Spring Flower Painting

Location:
Elmcrest Park
Meeting Room
16303 Quicksilver Street NW

Date:
Friday, April 14, 2017

Time:
6:30 – 8:30 pm

To register: Visit our website
www.cityoframsey.com/ParkEvents

Contact:
tbailey@cityoframsey.com
763-576-4309

In Progress

- 12 week summer program
- Summer Sports Sampler
- U of M Raptor Center program
- U of M Monarch Lab

Park and Recreation Commission **5. 4.**

Meeting Date: 04/13/2017

By: Mark Riverblood, Engineering/Public Works

Information

Title:

Recommend Revisions to the Draft Master Plan Amendment - Mississippi West Regional Park

Purpose/Background:

The purpose of this case is to provide a recommendation to Ramsey City Council on the Draft Master Plan Amendment for Mississippi West Regional Park. The Master Plan (attached) for the Regional Park was developed in 2010, and approved by Metropolitan Council in 2011. An amendment to the Plan, approved by Metropolitan Council, is required so as to 'remove' from the park approximately 5 acres of Right of Way parallel to Hwy #10 for the Riverdale Drive frontage road. This new city street between Ramsey Boulevard and Traprock Street is to be constructed beginning in 2017 and the location is depicted on page 3 of the Draft Master Plan attachment.

Regional Parks within the Metropolitan Area are managed by the county they are within, known as 'implementing agencies'—in the case of Mississippi West Regional Park, this is Anoka County Parks. As part of the development of the aforementioned Draft Master Plan Amendment, the County has solicited comment from the City of Ramsey, and thus Staff has prepared the recommendation attached to this case.

Notification:

Observations/Alternatives:

Considerable detail and rationale for the suggested revisions to the Draft Master Plan are contained within the 15-page City of Ramsey Response attached to this case. The recommended revisions to the Master Plan Amendment may be summarized as:

1. Clearly name the proposed pedestrian bridge as a future Phased Improvement of the regional park, thereby to be found in conformance with the Thrive 2040 Regional Parks Policy Plan, and the approved Master Plan.
2. Identify within the Draft Master Plan Amendment, a schedule for a negotiated cost-share agreement for completion of the skyway and pedestrian bridge—in a timeframe that allows for a joint application in 2018 for Transportation Advisory Board solicitation for funding (and potentially other sources).
3. Add a narrative and exhibit to the Draft Master Plan Amendment that shows the realignment of the Central Anoka County Regional Trail to a safe alignment for bicyclists and pedestrians (to the location of the pedestrian overpass when complete), which also will connect the regional park directly to the Metropolitan Transit system, and thereby to come into conformance with both the Thrive 2040 Regional Parks Policy Plan as well as the 2040 Transportation Policy Plan relating to directives for regional parks.

Addition information will be available at the meeting.

Funding Source:

This case does not require funding—rather, it recommends changes to the Draft Master Plan Amendment that in part, will position the City and County to be more competitive in seeking grant funding for the completion of the skyway and pedestrian bridge over Hwy #10.

Recommendation:

Staff recommends that the Commission support the recommended City of Ramsey Responses to the Draft Master Plan Amendment.

Action:

Motion to recommend City Council approve a Resolution supporting the Draft Master Plan Amendment for Mississippi West Regional Park with the recommended revisions.

Attachments

Draft Master Plan Amendment
Staff Recomendations for Draft Amendment
2010 Master Plan, Miss West
Exec Summary Ped Bridge
Met Council 2040 Plan

Form Review

Inbox	Reviewed By	Date
Grant Riemer	Grant Riemer	04/07/2017 11:47 AM
Form Started By: Mark Riverblood		Started On: 04/05/2017 11:57 AM
Final Approval Date: 04/07/2017		

MARCH 6, 2017



MISSISSIPPI WEST REGIONAL PARK MASTER PLAN AMENDMENT

MASTER PLAN AMENDMENT

Anoka County
PARKS & RECREATION

ANOKA COUNTY PARKS AND RECREATION
550 BUNKER LAKE BLVD NW, ANDOVER, MN 55304

ACKNOWLEDGEMENTS

ANOKA COUNTY BOARD OF COMMISSIONERS
Rhonda Sivarajah, Chair
Julie Braastad
Mike Gamache
Jim Kordiak
Matt Look
Scott Schulte
Robyn West

ANOKA COUNTY PARKS AND RECREATION COMMITTEE
Commissioner Jim Kordiak, Chair
Commissioner Mike Gamache
Commissioner Robyn West

METROPOLITAN COUNCIL

ANOKA COUNTY PARKS AND COMMUNITY SERVICES DIVISION
John VonDeLinde, Division Manager

ANOKA COUNTY PARKS AND RECREATION DEPARTMENT
Jeff Perry, Planning and Resource Manager
Karen Blaska, Park Planner
Danielle Sanborn, Landscape Architect
Crystal Passi, Landscape Planner
Andy Soltvedt, Marketing and Visitor Services Manager
Nicole Greenwell, Communication Specialist

MISSISSIPPI WEST REGIONAL PARK MASTER PLAN AMENDMENT

BACKGROUND

Mississippi West Regional Park is a 273-acre park located within the City of Ramsey adjacent to the Mississippi River and Trunk Highway 10. Refer to Figure 1 for the park's location in the county. Figure 2 shows that the main portion of the park consists of approximately 183 acres of upland along the river and two islands within the river of approximately 90 acres. Since the main portion of the park has 1-1/2 miles of shoreline along the Mississippi River, it offers a unique setting to provide recreational and educational opportunities in the area and it is part of the Mississippi River Critical Corridor Area and the Mississippi National River Recreation Area.



Anoka County Parks and Recreation System

FIGURE 1

In 1996, a concept master plan was approved by the Metropolitan Council and the park was incorporated into the metropolitan regional park system. Since then it has been updated with the Anoka County 20/20 Parks and Recreation Vision Plan and then again in 2006, when Anoka County adopted a new Parks and Recreation Comprehensive System Plan.

Moving forward from the 2006 comprehensive system plan, an amendment to the existing Mississippi West Regional Park master plan was developed and approved by the Met Council in 2011. This master plan outlined a five phase park development plan. Since that time, the County has reassessed the conceptual plan from 2006 based on the existing conditions, the natural resource restoration within the park and the proposed recreational and educational facilities. The County, with this master plan amendment, is proposing to change the vehicular access of the park, adjust the park boundary to accommodate the City of Ramsey's Riverdale Drive frontage road extension, add a few canoe camping sites on the islands and reprioritize the current phasing of the development plans. Development costs



Existing Mississippi West Regional Park Boundary

FIGURE 2

associated with this amendment are approximately $1,163,000 and are anticipated to be completed within the next five to ten years.

BOUNDARIES

The current park boundary contains 273 acres and approximately 3 -1/2 miles of shoreline, including the islands of Foster and Cloquet, as shown in Figure 2.

A future City of Ramsey Riverdale Drive frontage road extension project is anticipated to impact the park boundary adjacent to Highway 10. It is anticipated that this project will impact approximately five acres of the park in a linear fashion between Ramsey Boulevard and Traprock Street. See Figure 3 for proposed layout plan of the

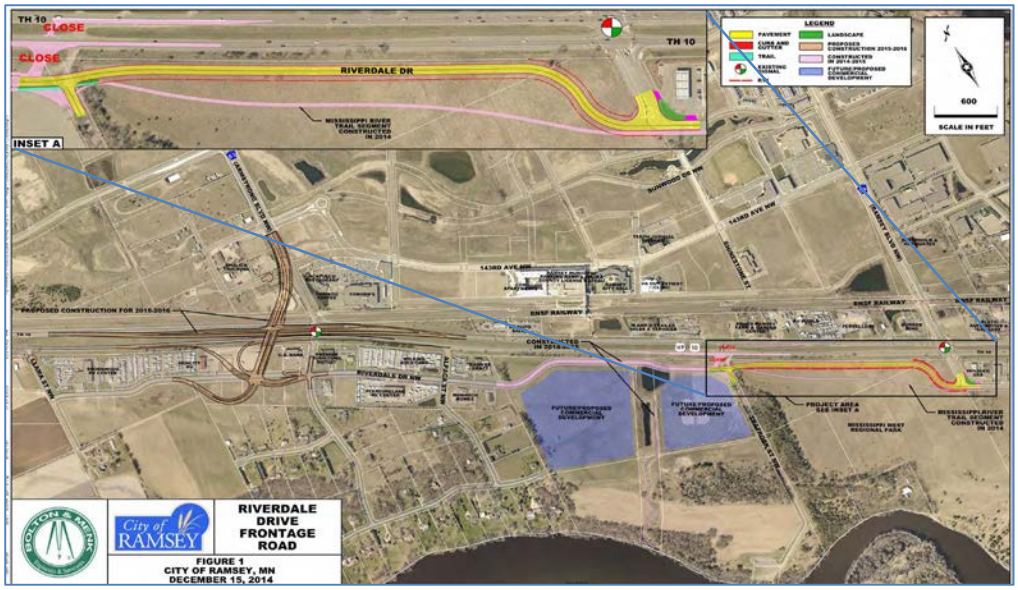


FIGURE 3



FIGURE 4 Proposed Mississippi West Regional Park Boundary

project and Figure 4 for the approximate impact to the park. It is anticipated that the City of Ramsey will provide the market value of $200,000 for the parkland impact to the County, which will be used for equally valuable facility improvements within the park. Some of these improvements include constructing a paved entrance road, constructing a parking lot and/or constructing additional trails within the park. Refer to the Development Concept and Exhibit 1 & 2 in the Appendix for more information on the City of Ramsey project.

There are no parcels that need to be acquired for this boundary adjustment, therefore no acquisition costs associated with this amendment are to be incurred and there are no other anticipated special assessments or other conditions that would affect park development.

STEWARDSHIP PLAN

Future management and stewardship of the park will continue as regional recreation open space in the regional system. Since this park is only partially developed as far as amenities and recreational opportunities go, the stewardship plan for the park thus far has focused on natural resource management and restoration. The County has conducted several restoration projects to restore the previously fallow farm fields to native prairie and grasslands. Future restoration projects are proposed within the riparian area along the river and to the riverbank itself, as well as planting a diverse variety of trees and shrubs to increase the biodiversity in the park.

Since the park is relatively undeveloped, the majority of the current operational and maintenance expenses relate to the on-going management of the native prairie and grassland restorations. Funds for those expenses have been offset by the parks general operating budget, the Metropolitan Council's Operations and Maintenance grant program and the Lottery in Lieu of program. Future development of the park will increase the operations and maintenance requirements within the park, but those expenses are anticipated to be offset by an increase in revenues related to the sale of daily and annual park passes, rental fees and special use permit fees as well as an increase in the operating budget.

There are no non-recreational uses planned for in the development of this park.

DEMAND FORECAST

Regional parks and trails have been increasing in popularity and as the population grows the need for additional recreation resources and amenities grow as well. The population in the City of Ramsey is anticipated to grow, as is Anoka County. The table below shows the Thrive 2040 MSP – Forecasts as of July 8, 2015.

Population Forecast[1]

YEAR	RAMSEY	ANOKA COUNTY
2010	23,668	330,844
2040	34,700	438,820

According to the Metropolitan Council Regional Forecast to 2040, the metro regional area is anticipated to grow by 22% between 2010 and 2040. By 2040, seniors are expected to comprise 20% of the population and people of color will comprise 40%. As the population increases, diversifies, and ages, demand for easily accessible outdoor recreation opportunities and open space increases.

The outdoor recreational use patterns in the metropolitan area have also been growing steadily. Recreational visits to Anoka County regional parks and trails have increased from approximately 2.7 million visits in 2005 to over 3.4 million in 2015.[2] Visitation to Mississippi West Regional Park increased from 158,800 in 2012 to almost 200,000 in 2015 after the construction of the boat launch.[3] The additional development within the park, is anticipated to meet the future demands of the public.

The community engagement process revealed the importance of trails, as hiking and biking were two of the top three preferred uses in the parks as shown by the survey results in Figure 5.

Based on the 2014 Met Council's "Regional Park Use Among Select Communities of Color", it is anticipated that future proposed development within

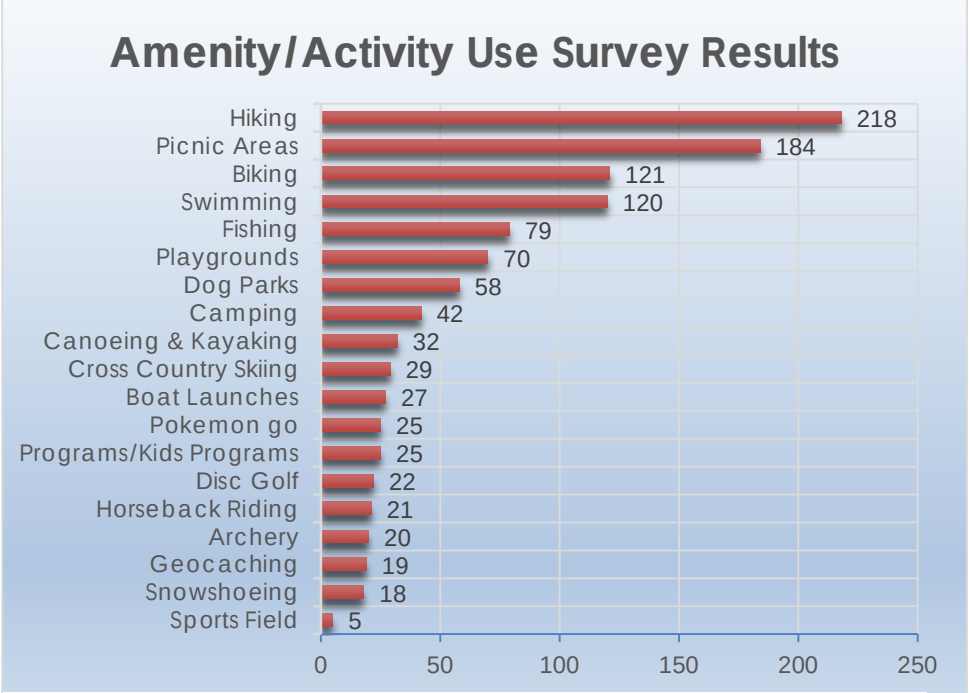


FIGURE 5

[1] Metropolitan Council, Thrive MSP 2040 Forecasts, Adopted May 28, 2014 and revised July 8, 2015

[2] Annual Use Estimate of the Metropolitan Regional Parks System for 2005 & 2015, Metropolitan Council

[3] Annual Use Estimate of the Metropolitan Regional Parks System for 2012 & 2015, Metropolitan Council

the park, i.e., picnic pavilions and trails will appeal to currently underserved populations who noted picnicking, walking/biking and gathering with family as their preferred outdoor activity. In addition, based on the park location on the river, it is anticipated that the fishing opportunities provided within the park will generally appeal to Asian Immigrant and Asian American populations as their preferred outdoor activities were noted as walking, fishing and rest or relaxation.

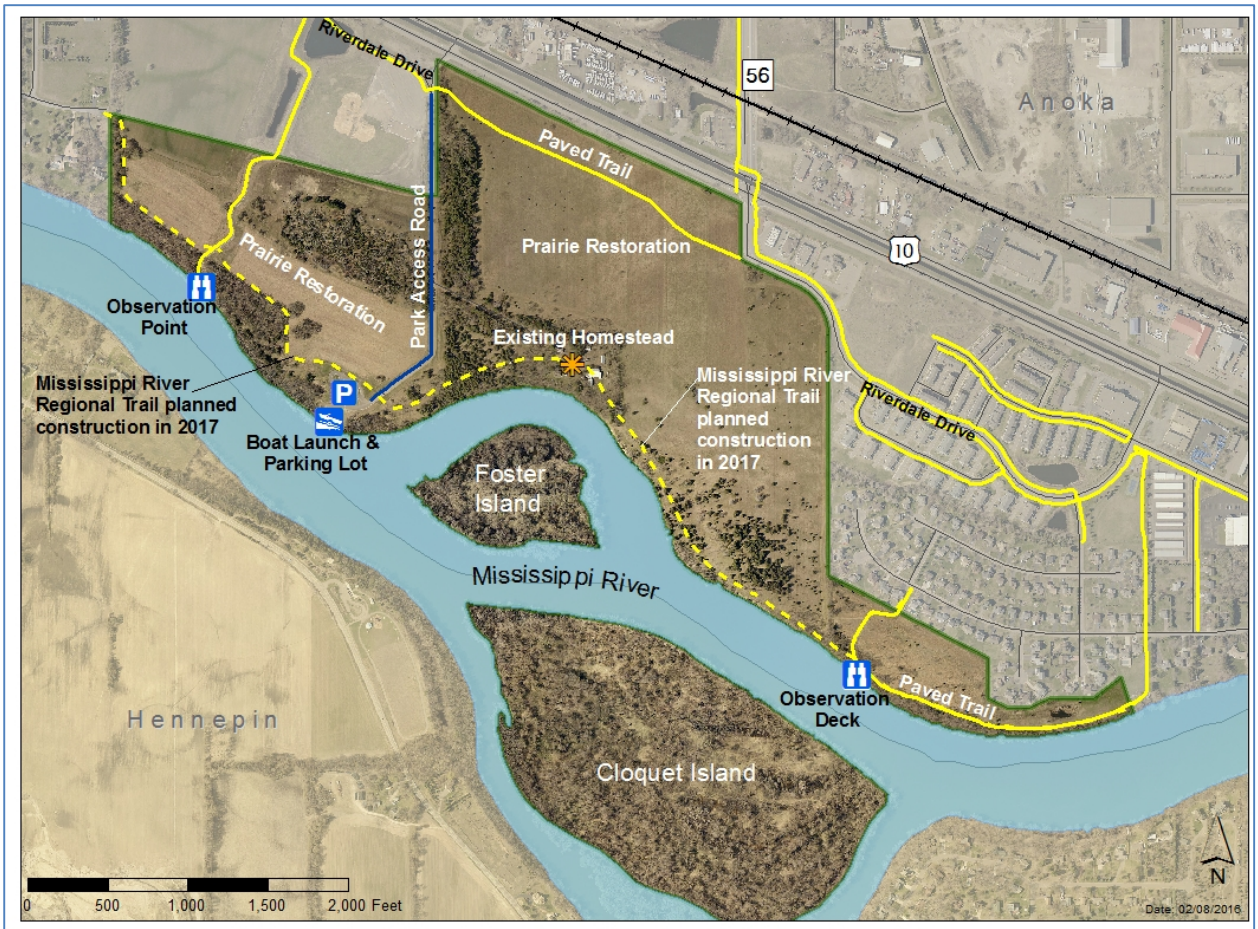
DEVELOPMENT CONCEPT

The development concept for the park was laid out in the 2010 Master Plan Amendment and illustrated in Figure 6. The amendment included the construction of a boat launch, infrastructure development, park facility development, visitor center development and a pedestrian crossing.



FIGURE 6

Since that time, some development has occurred and the current existing conditions, as shown in Figure 7, include a gravel roadway, a boat launch, a paved parking lot for the launch, some trails, two observation points, and the existing homestead site. The existing homestead site consists of a house and several outbuildings which is planned to be removed in 2017, prior to the construction of the Mississippi River Regional Trail through the park.



Mississippi West Regional Park - Existing Conditions

FIGURE 7

This master plan amendment proposes to change the vehicular entrance proposed in the 2010 master plan amendment. Per the 2010 master plan amendment, the vehicular entrance was proposed to be located off of Ramsey Boulevard and Riverdale Drive. To eliminate disturbance and reduce fragmentation in the park, yet still provide easy access to the park, the County is proposing to utilize Traprock Street for access into and out of the park. The road would need to be reconstructed and widened to a minimum of 24 feet to allow safe two-way traffic. In addition, a small parking lot and additional trails are proposed. Refer to Figure 8 for proposed projects. The cost estimate for this work is approximately $753,000. Some of these development costs are anticipated to be offset through the funding for the equally valuable facility exchange for the 5 acres needed for the City of Ramsey's frontage road project.

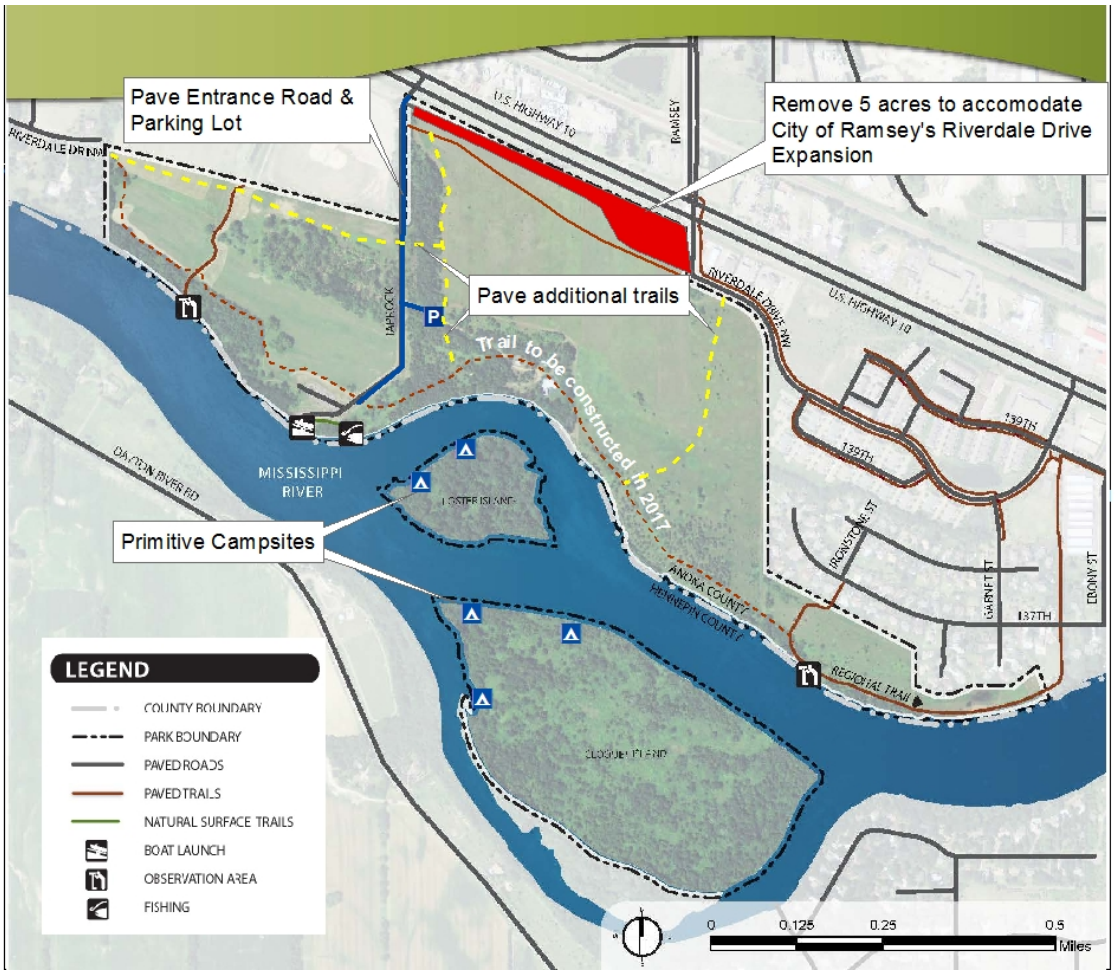


FIGURE 8

In addition, the County is proposing to add 3 to 5 canoe camp sites on Foster and Cloquet Islands. These would be primitive type sites with latrines. Total cost for this project is anticipated to be $10,000. The remaining development plans outlined in the 2010 master plan are still being planned for, but the phasing has been adjusted. The County is now proposing to construct the majority of the infrastructure (roads, additional parking lots, trails), one to two picnic shelters, a restroom, a playground and other smaller amenities within the next 5 to 10 years. A maintenance facility would also be part of that development. The remaining picnic shelters, restrooms, visitor center, and remaining infrastructure as outlined in the 2010 master plan will be implemented within the next 15-20 years as funding allows. Figure 9 illustrates all the projects proposed for the Mississippi West Regional Park Master Plan.



FIGURE 3

Wayfinding within the park includes several different types of signs. A monument entrance sign will be located near the vehicular entrance to the park, as illustrated in Figure 10. Vehicular scaled directional signs will be placed along roadways for visitors to quickly find their way within the park. Trailhead signs and directional signs are placed at trailheads to provide an overview of the parks and help users orient themselves to the park. An example of a trailhead sign is shown in Figure 11. Directional and map signs will also be located at decision-making points along the trails. The estimated cost for signs throughout the park is approximately $50,000.



FIGURE 10



FIGURE 11

While there is a well for water on the site, there is not drinking water available at the park. Future plans include hooking into the city water and sewer services during the restroom and shelter phase of development. A sanitary sewer hook-up location is currently located along the existing Riverdale Drive. Water service locations will be completed as part of the frontage road extension project. The cost to hook into these services is estimated to be about $350,000.

CONFLICTS

Conflicts related to park development will be kept to a minimum through the proper planning and community engagement. See additional information regarding engagement in the Public Engagement and Participation section of this document.

The park is adjacent to Highway 10 to the north and the Mississippi River to the south. The highway and proposed frontage road will create experiential conflicts for users. Therefore, additional vegetated screening and buffering will be used to enhance the safety, aesthetics and quality of the park experience.

It is anticipated that the proposed City of Ramsey Riverdale Drive Extension project will impact about 5 acres of the park along the northern boundary. This impact is anticipated to be mitigated through an equally valuable facility exchange as illustrated in Figure 8.

It is anticipated that development will impact some of the native prairie and grassland restorations established within the park. The County anticipates temporary impacts to those areas will be restored. In areas where impacts are unavoidable, the County will mitigate those impacts by restoring other non-native areas within the park.

Conflicts between pedestrians and vehicular traffic will be kept to a minimum by reducing the number of trail and road crossings within the park and by working with the City of Ramsey to ensure safe crossings at city road intersections. Treatments for these areas may include signing, striping and signalized pedestrian crossings. In addition, signs within the parks will alert users of potential conflict areas, i.e. street crossings, driveway crossings, pedestrian cross-traffic, etc., and will provide way-finding and interpretive information.

PUBLIC SERVICES

Since this park is mostly undeveloped, currently there are no public services available within the park. As discussed in the development concept, future development will include hooking into city services for water and sanitary. Current city sanitary service is located near the northeast of the park and proposed city water service will be made available as part of the city's Riverdale Drive extension project. When restroom and pavilion development occurs, these services will be included as part of those development plans.

OPERATIONS

Anoka County Ordinance #2012-01, which will be updated in 2017, regulates the parks and trails under the jurisdiction of Anoka County and is enforced by the local police departments as well as the Anoka County Sheriff's Department. Park Service Specialists (formerly known as Park Rangers) provide education to the public regarding ordinances and other park information.

Current annual operations and maintenance costs for the park are estimated to be about $23,000. This includes staff time for on-going daily and general routine maintenance within the park, such as cleaning, mowing, sweeping, plowing, debris removal, and sign maintenance, as well as equipment expenses, repairs, service contracts and supplies and utility expenses. Once fully developed the operations and maintenance costs are anticipated to be around $150,000 annually. Expenses are typically offset by revenue generated through daily and annual park pass sales, picnic pavilion rentals, programs, special events and the parks operating budget. Additional supplementary funding is provided through the Regional Park Operations and Maintenance Grant Program.

Anoka County currently employs a remote building automation system that saves the department $5,000-10,000 annually compared to traditional energy systems by realizing energy reductions in heating, cooling, lighting, and domestic water during unoccupied and off-peak periods. The program enables staff to monitor, adjust, and troubleshoot building mechanical systems at all of the wide-spread park facilities from a single location, aiding in prompt management and repair. The County has recently undertaken a project to convert lighting in key facilities to LED technology, in an effort to reduce energy demands. The Maintenance and Parks Services Units utility vehicle fleets include a growing number of electric powered vehicles. Turf irrigation systems employ "rain sensor" technology to avoid using valuable water during periods of precipitation. The County has encouraged employees to go "digital" to reduce the amount of paper in the workplace, by utilizing smaller more portable laptop computers and tablets. The county also recently consolidated its contract filing system so as to reduce the amount of paper files, as well as digital files.

The County, through the Recycle & Resource Solutions Department employs a refuse and recycling program that requires recycling of paper, plastics, etc. Refuse that cannot be reused or recycled is collected and disposed of consistent to applicable laws.

PUBLIC ENGAGEMENT AND PARTICIPATION

INTRODUCTION

The public engagement and participation plan identifies local cities, population groups and organizations that are specifically targeted to enable the County to engage the public in an inclusive, accessible and results oriented manner in developing the Mississippi West Regional Park Master Plan Amendment.

It also describes the approaches and methods used for engagement.

Stakeholders targeted for inclusion in community engagement activities included:

- Diverse population groups not currently represented
- Children and young people
- Elderly people
- Residents in the local and regional area's
- Government Officials/City and County Staff

Outcomes anticipated by the engagement process associated with the development of this master plan are as follows:

- Build positive relationships with local communities/residents.
- Build awareness of the County's regional park and trail system.
- Build community ownership of and understanding of the park and the County's planning process.
- Identify community priorities and expectations for the future of the park.

COMMUNITY ENGAGEMENT PROCESS

The County developed a "Plan Your Parks" marketing strategy to share the master plan amendment projects with community members, local cities, staff and other governmental agencies for feedback and input. Multi-lingual postings, e-mail blasts, social media, and pop-up events were included within the strategy and different methods of engagement were employed to understand what works best for different community groups.

Plan Your Parks - Voting

The County placed static picture boards on easels at different locations throughout the county, i.e. Driver's License Center, Library, etc., to share the proposed projects and allow the public to share their preferred park amenities, preferred trail surfacing, ways of accessing the parks and park safety. Refer to Figure 12. This method was considered successful in the amount of responses received, but unsuccessful in that this method could not track actual number of respondents or if underserved populations were participating.



FIGURE 12

Plan Your Parks - Social Media

The County shared a "Plan Your Parks" advertisement on social media and the County Parks home page. Refer to Figure 13. The post on social media specifically targeted underserved minority populations within a 20-mile radius and reached almost 8000 people. The post included a short anonymous survey in English, Spanish and Somali that asked for input on access to parks, transportation to parks, preferred amenities and activities, preferred trail surfacing, park cleanliness, city respondent was from, age, sex and ethnicity. There were 100 survey respondents and most were regular park users. The majority of respondents were female, Caucasian, between 25-64 years of age and from Anoka County. Other respondents were between 15-24 years of age, were American Indian/Alaska Native, Hispanic or Latino or of another ethnicity not specified. Some respondents were from Hennepin and Sherburne counties.



FIGURE 4

Plan Your Parks - Public Events

The County conducted two public events to reach non-park users and underserved populations. One event has held at a local mall during a busy shopping season and the other was held at the County's Blaine Service Center. Refer to Figures 14 and 15 for images of the events. At both events, staff attempted to track age, ethnicity and gender of each individual engaged. The mall event engaged approximately 75 people. Of those 75 people, approximately half were considered part of the underserved population. About half the people were estimated to be between 25-64, while the others were split between the over 65 years of age range or under 25 years of age range. This event is considered a success in that half of those engaged were part of the targeted underserved population.



FIGURE 14



FIGURE 5

COMMUNITY ENGAGEMENT RESULTS

There was an estimated total of 400 people engaged during the public participation process. Of the total number engaged, 132 people were actively engaged by providing feedback through one on one discussions at the pop-up events. The others participated through anonymous online surveys and/or "sticky dot" surveys conducted at a variety of locations throughout the County.

DEMOGRAPHICS

The demographics of those 132 people actively engaged were tracked to ensure the Department was actively engaging the underserved population. While the majority of those engaged were part of the existing service population, 40% engaged were part of the underserved populations. Figure 16 illustrates the difference.

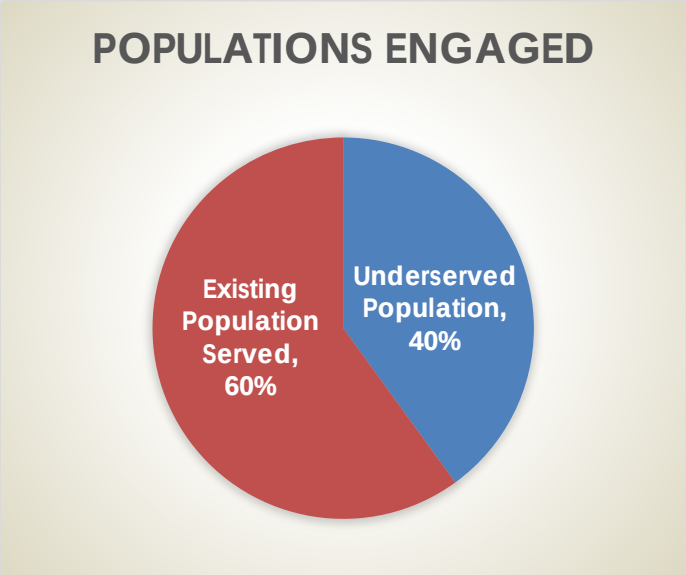


FIGURE 6

Of those engaged, 62% were female and 38% male as shown in Figure 17. Ages categories are shown in Figure 18 and generalized ethnicities are shown in Figure 19.

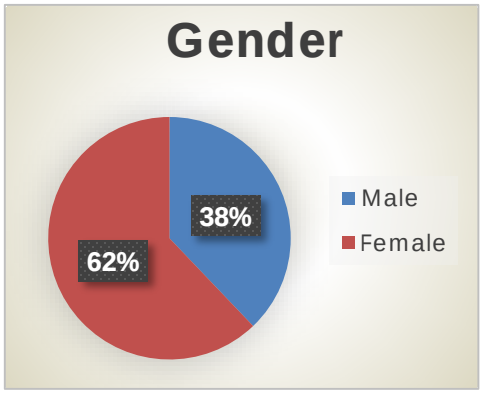


FIGURE 7

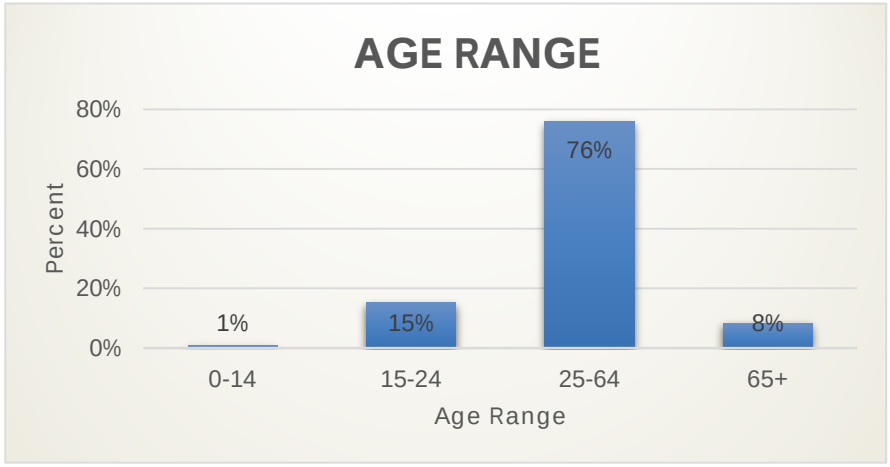


FIGURE 8

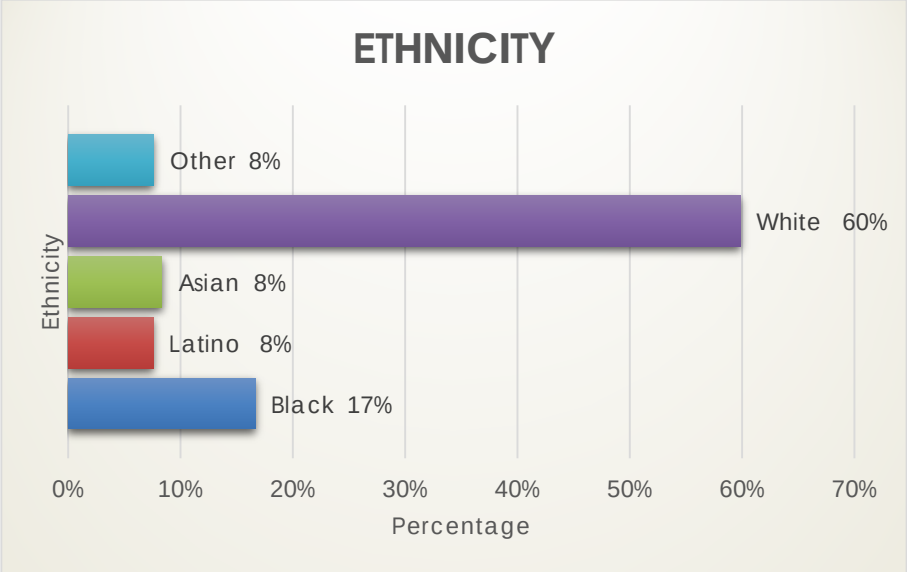


FIGURE 9

SURVEY RESULTS

Throughout the engagement process park amenity use was surveyed. Results are shown in Figure 20. The survey results show that the top three activities for parks and trails were hiking, biking and picnicking, followed closely by swimming, fishing and use of playgrounds. These results for the hiking, biking and picnic areas, provide support for the projects outlined in this master plan amendment. As does the preferred trail surfacing results as shown in Figure 21. In addition, when asked how users typically access the parks, the majority said drive, but 41% said walk or bike, as shown in Figure 22. Figure 23, shows the preferred method of accessing a park. 62% would prefer to walk or bike to a park as opposed to having to drive. Again, this shows support for the trail projects outlined in the amendments and shows the importance of connectivity throughout the local and regional trail systems.

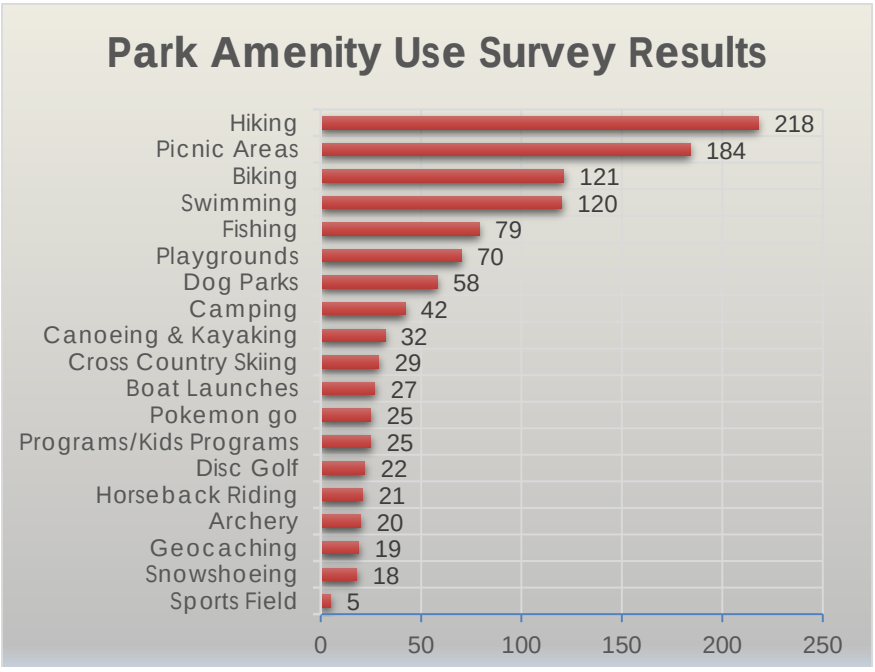


FIGURE 10

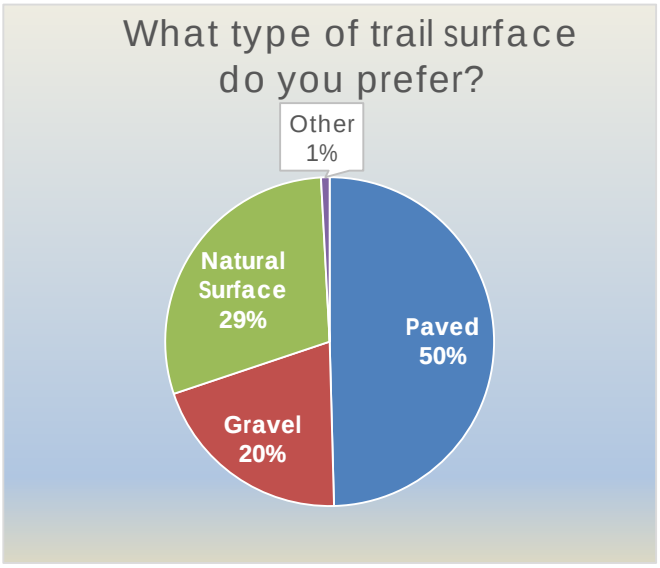


FIGURE 11

This survey information also shows a lack of public transportation options that provide stops and/or service to regional parks and trails systems. Going forward, the Parks and Recreation Department will work closely with the County Transit Department, the County's Transportation Management Organization and the Metropolitan Council to find solutions to increase transit access to the regional parks and trails.

The Department also surveyed participants about safety in the parks and whether they feel safe when they are in the parks. Resoundingly, 91% said yes, they feel safe. Refer to Figure 24. While the County strives to create safe and welcoming spaces, future engagement events should delve deeper into that 9% that did not feel safe in the parks to determine what could be done to ensure everyone feels welcome and safe.

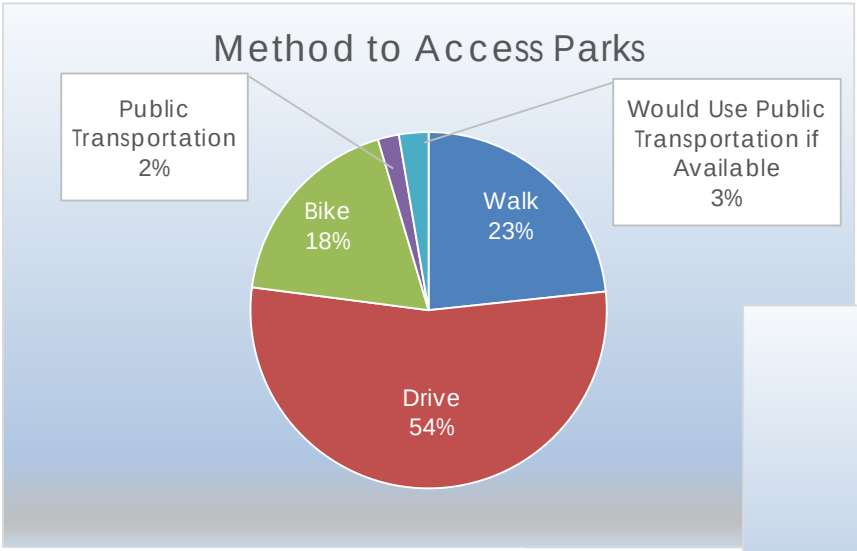


FIGURE 22

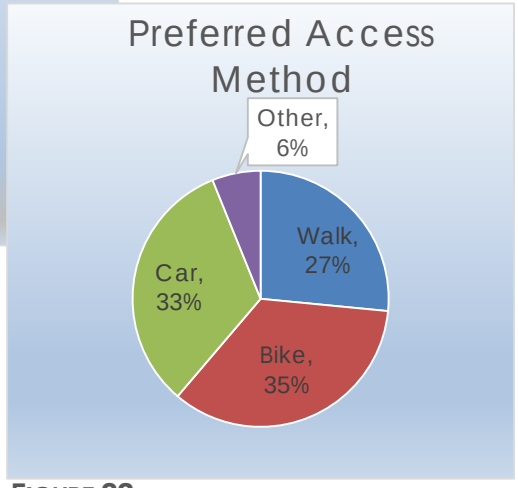


FIGURE 23

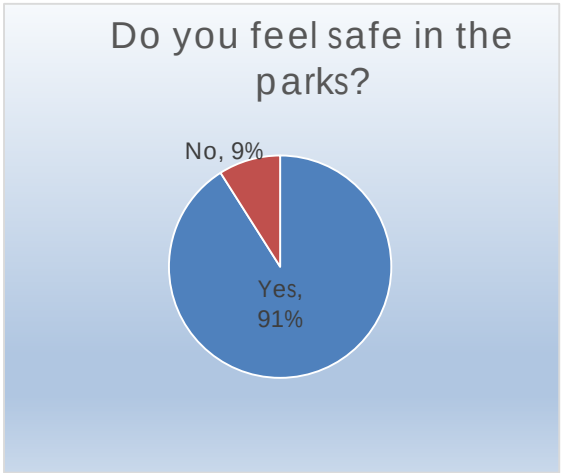


FIGURE 12

ENGAGEMENT GOING FORWARD

Since engaging the public for these master plan amendments, there are a few a few items that stood out and should be explored in more detail.

DEMOGRAPHICS

The Department should continue to reach out to the underserved populations, establish connections and build relationships. The pop-up events worked great for reaching underserved populations, but didn't provide for in-depth discussions. The Department should continue to explore other locations that will be more inviting and welcoming to underserved populations and implementing listening sessions for more in-depth conversations. Due to the majority of respondents being between 25-64, the Department should look at targeting the youngest and oldest age groups for input in the future.

AMENITIES

While hiking, biking and picnicking are the Department's bread and butter and those are the most demanded amenities, the lower participant numbers for some of the other amenities should be explored to see what could be done to increase participation.

ACCESS

Since the majority of participants end up driving the parks and trails, the Department should work with County's Transportation Division, local cities and the Metropolitan Council to ensure multiple modes of transportation options exist for access to the system and that future trail provide the needed connections between the residential areas surrounding the park.

SAFETY

While the majority of participant's felt safe in the parks, it is advisable to explore why some people might not feel safe or welcome in the parks and evaluate solutions.

AWARENESS

While participants were not specifically asked whether they were aware of the Anoka County Parks and Recreation System, anecdotally, many participants were unaware

of all the regional parks and trails within the system. They may be familiar with a park they live near, but they aren't aware of all the other parks and amenities the County has to offer. Therefore, any future engagement events should help to create awareness about the overall system.

While some of the above issues are not specific to the proposed projects in this amendment, they do show larger scale issues that need to be addressed. The lack of knowledge of the park system show the need for additional marketing, programming and engagement efforts. The lack of participation in some amenities will need to be further analyzed to determine why people don't participate and why they do not feel safe in parks and the County will need to work with the Anoka County Transportation Division and the Metropolitan Council's Transit Department to provide better public transportation access to the parks.

The Parks and Recreation Department will request input from the City of Ramsey, other County staff, and other jurisdictional government agencies for input on the amendment for their input.

Finally, the County will keep the public informed by continuing engagement beyond the planning process, by providing the public with information regarding the plans progress and future opportunities for engagement and input via websites, social media and local and County governmental meetings.

The resulting approved plan will be posted online for the public to access easily.

PUBLIC AWARENESS

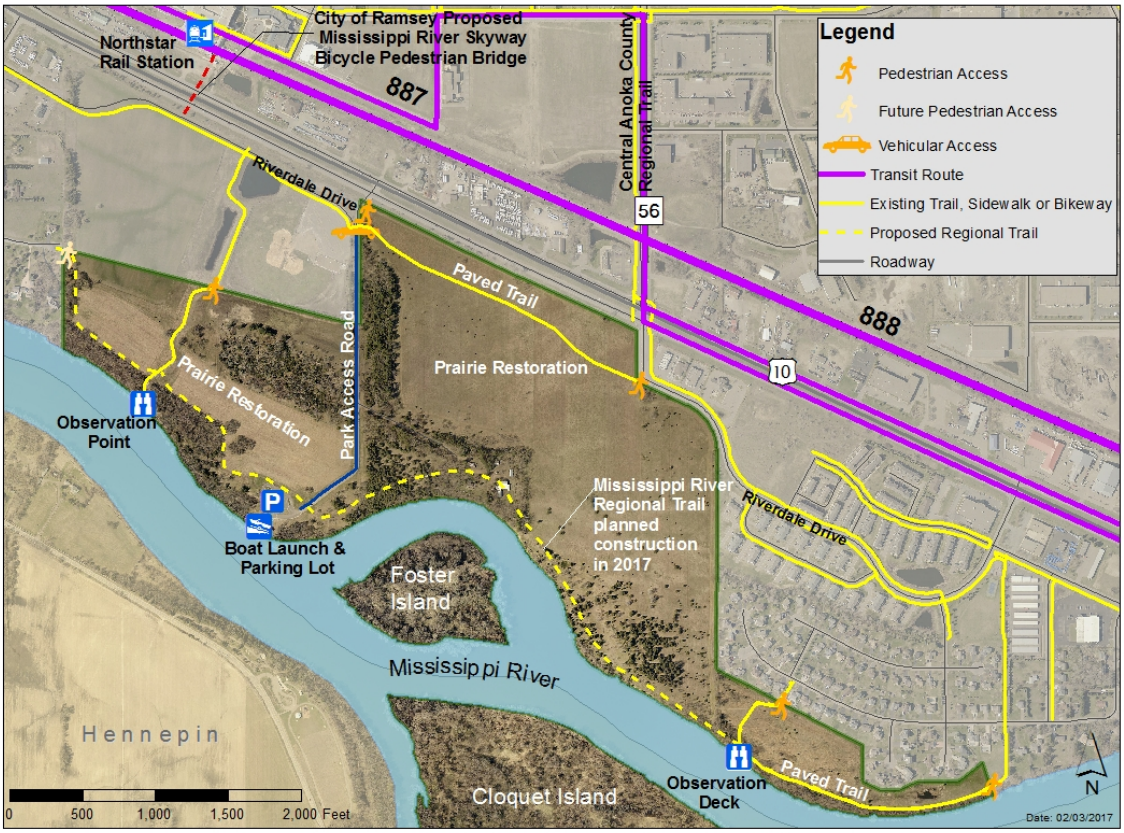
Public awareness is an important component to regional park and trail systems. The County will provide public education efforts through the Metropolitan Council's regional-wide awareness program, as well as, public information maps, websites (www.anokacountyparks.com & www.anokacounty.us), social media, publications and brochures provided by Anoka County Parks and Recreation Department and Commute Solutions, the County's Transportation Management Organization. In addition, any future public engagement events that occur will include information on the system to increase awareness and promote the park amenities and recreational opportunities throughout the County. Since the park is located in the Mississippi National River Recreation Area, Anoka County will also work with National Park Service staff to engage the public and provide information regarding the park through their website, social media, publications and brochures.

ACCESSIBILITY

Anoka County continually strives to provide equal access to all residents of Anoka County and the region. Park and trail use is open to any and all citizens. A few of the regional parks have a nominal $5.00 daily entrance fee, which is used to help offset the operations and maintenance for the parks. This fee is not anticipated to be collected until the park fully developed, which is not expected to occur for 10 to 15 years.

Figure 25 illustrates existing transit access near the park. Currently transit is limited to Bus Route 887 and Northstar Route 888 with no direct stops at the park, although the park can be reached via trail. The future City of Ramsey pedestrian bridge across Highway 10 is proposed to provide a safe crossing over Highway 10 and provide access to the park via the city's trail system.

In addition, the Anoka County Traveler Transit Link and Metro Transit's Mobility Link provide dial-a-ride services for a minimal fee. Transit Link will pick up and drop off passengers anywhere there is an address. The address for the park is 13935 Traprock Street. Currently all of the vehicles are equipped with bike racks so passengers wishing to bike on the trail could use Transit Link to preschedule a drop-off and return trip.



Mississippi West Regional Park - Access & Transit

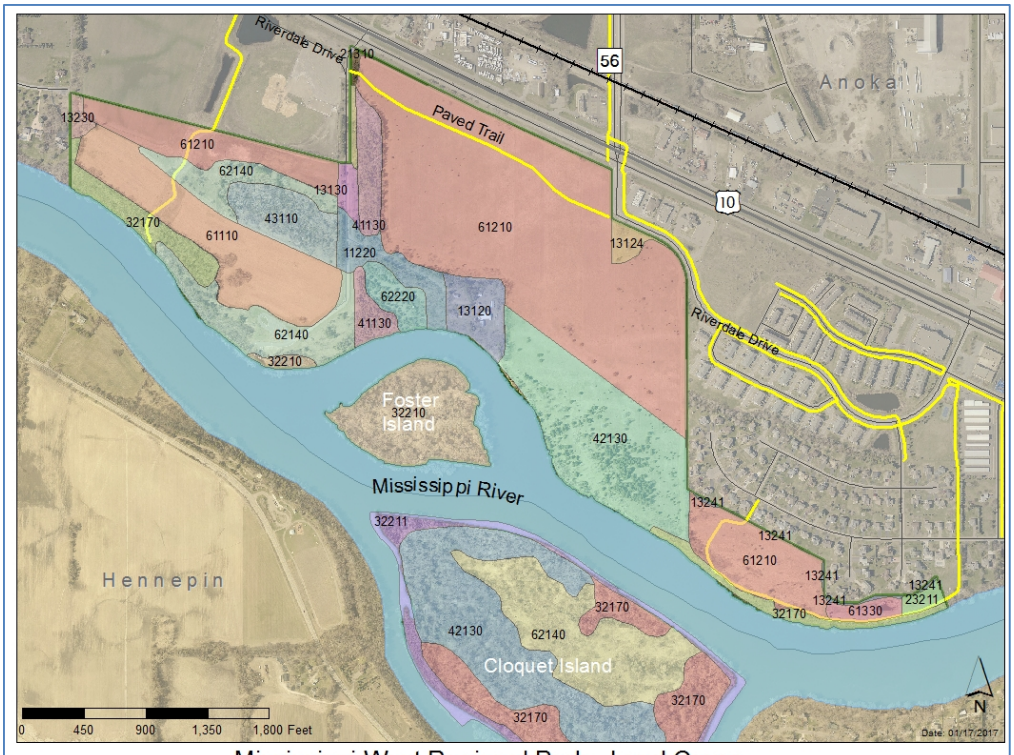
FIGURE 13

NATURAL RESOURCES

Anoka County has maintained a strong commitment to preserving and restoring natural resources within its park, trails and open space system. The expansive 11,000-acre park system contains a diverse system of wildlife species and natural areas including upland forests, deciduous woodlands, upland prairies, forested wetlands, shrub wetlands and open wetlands. To manage the natural resources and maintain parks and trails identity and natural connection to the river, Anoka County will provide for:

- The protection, restoration and enhancement of native plant and animal habitats throughout the park and along the trail corridor;
- Protection and improvement of water and soil resources;
- Increase public awareness regarding the diverse natural resources in the area;
- Sustainable practices related to park development, operations and maintenance.

General natural resources management strategies include identifying and assessing remnant plant and animal communities, monitoring rare species, controlling invasive species, ecologically restoring native plant and animal habitat, controlling detrimental



Mississippi West Regional Park - Land Cover

FIGURE 26

insects and disease, wildlife management, enhancing water quality, erosion control and cooperative land stewardship.

A sustainable development framework is utilized in all new park and trail development and redevelopment to ensure ecologically sound land stewardship with an emphasis on maintaining the longevity of the facilities for public benefit.

Figure 26 shows the existing land cover in the park, based on the Minnesota Land Cover Classification. The legend can be found in the Appendix as Exhibit 3.

Based on the land cover and restoration projects that have occurred within the park, the following natural resource management components are an integral part of Anoka County's planning efforts associated with the development of Mississippi West Regional Park:

- Anoka County's Natural Resources Unit will be directly involved with the design, construction and monitoring of the proposed park redevelopment. A concerted emphasis will be placed on avoiding and minimizing any adverse impacts to the plant and animal habitat, as well as to the river. In addition, Anoka County will focus on incorporating local native seed and plant material that will compliment the ecology and function of the surrounding native plant communities.

- Protection of surface water resources will be a top priority for this project. Anoka County will work very closely with the City of Ramsey, the local Watershed Management Organization, the National Park Service's Mississippi National River Recreation Area, the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency (MPCA), and the Metropolitan Council to ensure that the standards and requirements for resource protection are met. The MPCA's best management practice guidance document recommendations will be followed in the design and incorporation of stormwater pollutant and runoff flow reduction measures constructed in conjunction with Park upgrades.

  The MPCA best management practices guidance documents can be found at: http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/index.html.

The overall vegetation management goal for Anoka County is to identify restoration needs and to define and implement adaptive management strategies that will sustain the biological diversity, production, and function of native plant communities. Vegetation management within the park will focus on preserving native plants, introducing local native plants, eradicating invasive species, maintaining water quality within the watershed and providing for linear plant and wildlife corridor connections. The Minnesota Department of Natural Resources reference *"Guidelines for Managing and Restoring Natural Plant Communities Along Trails and Waterways"* will be used as part of the long term management plan for this park.

Considering that ecosystems are dynamic and continually changing over time and space, an adaptive management approach and framework fits very well with the County's practice of ecological restoration and stewardship. In the context of ecological restoration, the following adaptive management principles will guide the stewardship plan the Rice Creek West Regional Trail Corridor:

Problem Assessment:
Define the scope of degradation to the site, synthesize the existing knowledge about it, and explore the potential outcomes of alternative restoration actions.

Design:
Design a restoration plan and monitoring program that will provide reliable feedback and information about the effectiveness of restoration methods.

Implementation:
Effective restoration is usually a multi-step process, requiring not only installation, but many years of maintenance and monitoring.

Monitoring:
Biological indicators are monitored to determine how effective the restoration methods are in meeting the project objectives.

Evaluation:
The actual outcomes are compared to the anticipated outcomes. In addition, the reasons for the underlying differences are interpreted.

Adjustment:
Practices, objectives, and models used during the restoration process may lead to reassessment of the problem, new questions, and new options to try in a continual cycle of improvement for a given project.

Management and stewardship practices for maintenance in the park will include periodic mowing, prescriptive fire management, invasive species surveys, hazard tree assessments, seed collection and propagation, invasive species removal, turf management, brush and tree maintenance, erosion control, forest health assessments and maintenance, wildlife surveys and management as needed, and interpretive signage. Maintenance and stewardship practices also include regular trimming of trees and vegetation along roadways, trail corridors, park facilities and structures.

The two highest priority projects for natural resources would be:

1) Removal of invasive species throughout the park through the use of bio-control agents.
2) Planting of native trees throughout the park as replacement for anticipated losses due to disease or storm damage.

A review of the Natural Heritage Information System (NHIS) revealed that there is known occurrences of rare features within the park. Rare features that *may* be adversely affected by the proposed project include:

- The Black Sandshell (*Ligumia recta*), a state-listed special concern mussel, has been documented in the Mississippi River near the park.

- Blanding's turtles (*Emydoidea blandingii)*, a state-listed threatened species, have been reported within a one-mile search radius of the park and could very well be encountered on site.

The area is an important migratory stop for waterfowl, waterbirds, raptors and neotropical migrants and as such is designated as part of the North Metro Mississippi River Important Bird Area. In the past, Bald Eagles (*Haliaeetus leucocephalus*) and colonial waterbirds have been known to nest on Cloquet and Foster Islands. Therefore, the County had a survey conducted to locate any nests near the project area. The only nest found was a Bald Eagle's nest, which is currently located across the river from the park and is greater than 660' from any proposed disturbance. Therefore, no further action should be required to comply with the Bald and Golden Eagle Protection Act, but prior to each phase of development, a new survey shall be conducted to verify nesting locations and ensure compliance with Protection Act.

The County is confident it can avoid disturbance to the listed species during the development of the park using recommendations and best management practices as outlined by the Department of Natural Resources and US Fish and Wildlife Service.

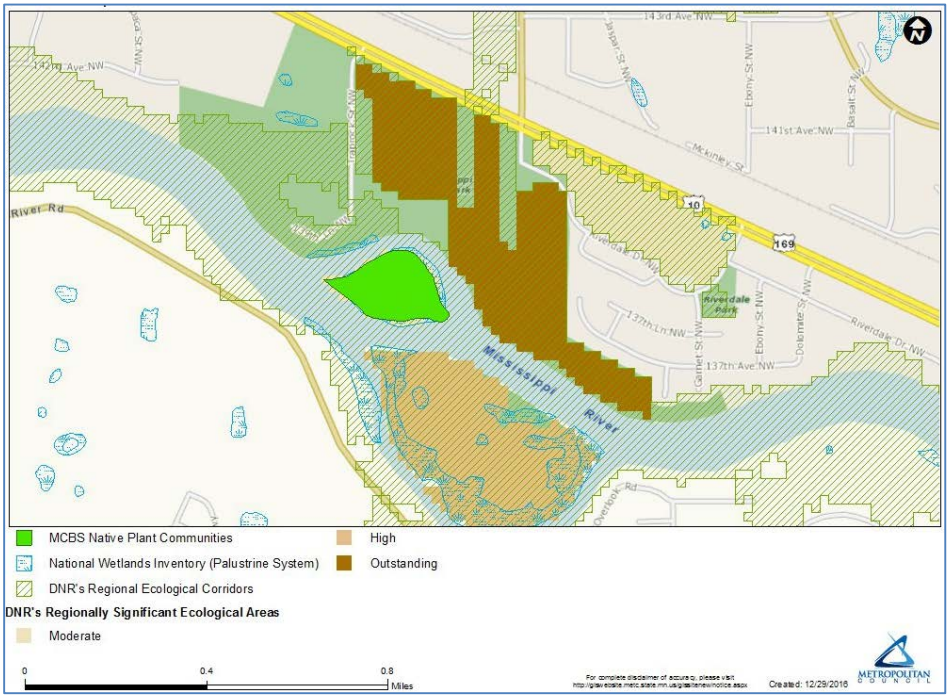


FIGURE 27

As shown in Figure 27, Areas within the park and Foster and Cloquet Islands are listed as sites with High or Outstanding biodiversity significance, therefore any proposed development strive to enhance the biodiversity within the park and not negatively impact it.

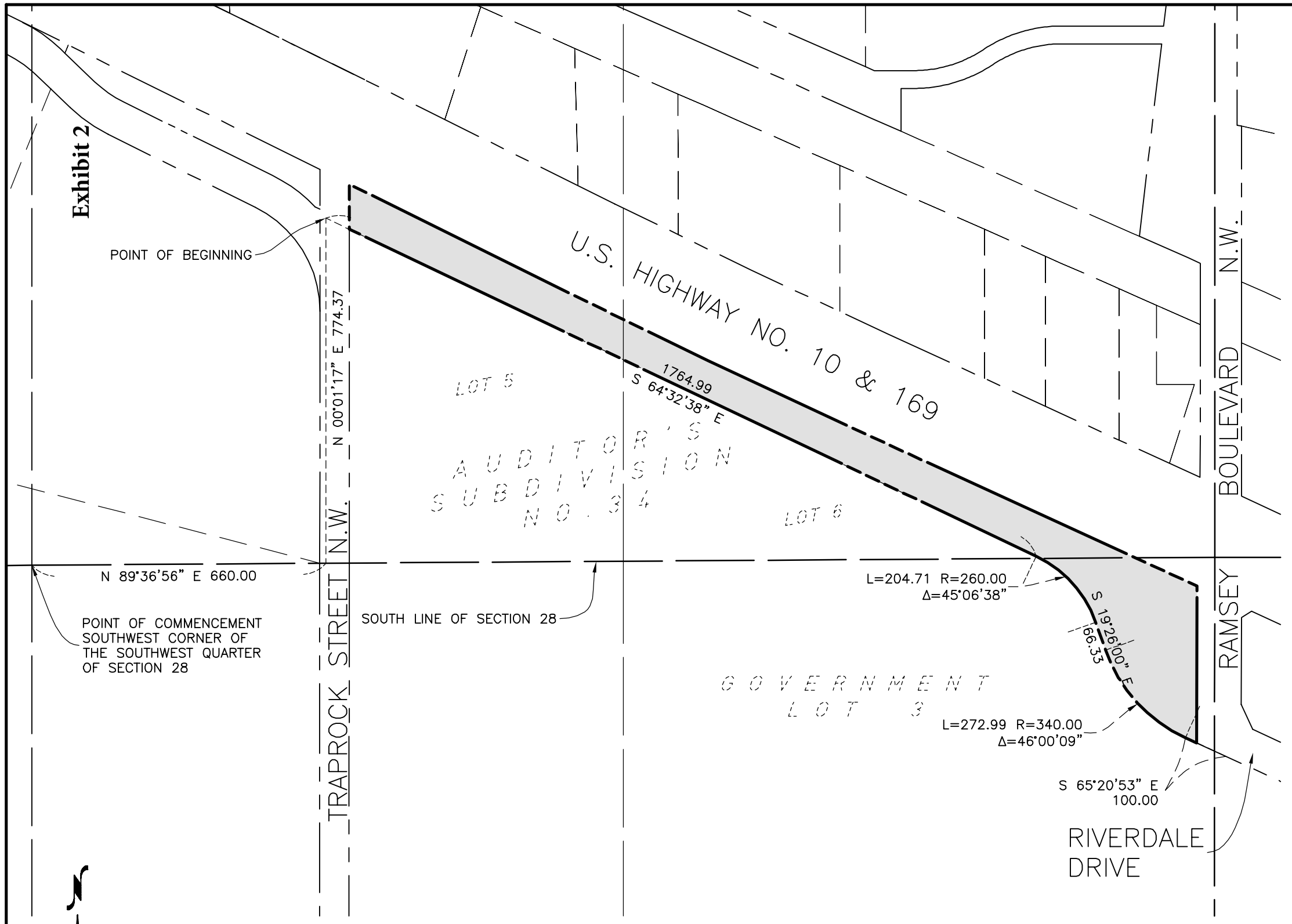
Care will be taken during the planning and design phase of development to ensure minimal impacts and maximize diversity.

APPENDIX

Exhibit 1

ALIGNMENT - RIVERDALE DR OPTS PROFILE
BITUMINOUS
CHAIN LINK FENCE
LOCAL
CHANNEL LANE - RIGHT
CHANNEL LANE - LEFT
BIT
CMP
RCP
900
895
890
885
880
875
870
865
860
855
850
845

Exhibit 2



PROPOSED DESCRIPTION

Those parts of Lots 5 and 6, AUDITOR'S SUBDIVISION NO. 34, according to the recorded plat thereof, Anoka County, Minnesota and that part of Government Lot 3, Section 33, Township 32, Range 25, said Anoka County, which lies southerly of U.S. Highway No. 10 & 169 per Minnesota Department of Transportation Monumentation Plat 02-05, lies easterly of Traprock Street North West, and northerly of the following described line:

Commencing at the southwest corner of the southeast quarter of Section 28, said Township 32; thence North 89 degrees 36 minutes 56 seconds West, assumed bearing along the southerly line of said Section 28, a distance of 660.00 feet; thence North 00 degrees 01 minutes 17 seconds East, a distance of 774.37 feet to the point of beginning of the line to be described; thence South 64 degrees 32 minutes 38 seconds East, a distance of 1764.99 feet; thence southeasterly, a distance of 204.71 feet, along a tangential curve concave to the southwest, having a radius of 260.00 feet, and a central angle of 45 degrees 06 minutes 38 seconds; thence South 19 degrees 26 minutes 00 seconds East, tangent to the last described curve, a distance of 66.33 feet; thence southeasterly, a distance of 272.99 feet, along a tangential curve concave to the northeast, having a radius of 340.00 feet, and a central angle of 46 degrees 00 minutes 09 seconds; thence South 65 degrees 20 minutes 53 seconds East, tangent to the last described curve, a distance of 100.00 feet and said line there terminating.

EXCEPTING therefrom that part lying within Ramsey Boulevard (formerly known as Riverdale Drive) as delineated and dedicated on the plat of RIVENWICK THIRD ADDITION, according to the recorded plat thereof, Anoka County, Minnesota.

PROPOSED RIGHT OF WAY TO BE ACQUIRED CONTAINING 231,394 SQ. FT.

0 250 500
SCALE IN FEET

SURVEYOR'S CERTIFICATION

I hereby certify that this survey 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.

Nathaniel T. Stadler
License Number 43934

02/08/2016
Date

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RIGHT OF WAY TO BE ACQUIRED EXHIBIT
RAMSEY, ANOKA COUNTY, MINNESOTA

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
7533 SUNWOOD DR NW, SUITE 206
RAMSEY, MINNESOTA 55303
(763)-433-2851

LOTS 5 & 6 AUDITOR'S SUBDIVISION,
ANOKA COUNTY, MINNESOTA
GOVERNMENT LOT 3, SECTION 33,
TOWNSHIP 32, RANGE 25

FOR: CITY OF RAMSEY

H:\RAMS\R16111092\CAD\C3D\111092EX1.DWG 02-08-2016 10:19a.m.

JOB NUMBER: R16.111092 FIELD BOOK: N/A DRAWN BY: ALH

S28-T32-R25-43-44, S33-T32-R25-11

Legend

Exhibit 3

Land Cover

- 11220, 11% to 25% impervious cover with deciduous trees
- 11230, 26% to 50% impervious cover with deciduous trees
- 13120, 11% to 25% impervious cover with perennial grasses and sparse trees
- 13124, Short grasses and mixed trees with 11-25% impervious cover
- 13130, 26% to 50% impervious cover with perennial grasses and sparse trees
- 13211, Short grasses with 4-10% impervious cover
- 13230, 26% to 50% impervious cover with perennial grasses
- 13241, Short grasses with 51-75% impervious cover
- 23211, Short grasses on upland soils
- 32170, Altered/non-native deciduous forest
- 32210, Floodplain forest
- 41130, Eastern Red Cedar woodland
- 42130, Altered/non-native deciduous woodland
- 43110, Altered/non-native mixed woodland
- 61110, Mesic Prairie
- 61210, Dry Praire
- 61330, Temporarily flooded altered/non-native dominated grassland
- 62140, Grassland with sparse deciduous trees - altered/non-native dominated vegetation
- 62220, Grassland with sparse conifer or mixed deciduous/coniferous trees - altered/non-native dominated
- 32170, Altered/non-native deciduous forest
- 32211, Floodplain forest silver maple subtype
- 42130, Altered/non-native deciduous woodland
- 62140, Grassland with sparse deciduous trees - altered/non-native dominated vegetation
- RAILROAD
- ROAD
- Existing Trail, Sidewalk or Bikeway
- WATER

To: Anoka County Parks
Fm: City of Ramsey Staff
Re: Draft Master Plan Amendment for Mississippi West Regional Park

Overview

The City of Ramsey is in receipt of the March 6th, 2017 Draft Master Plan Amendment for Mississippi West Regional Park, (hereafter referred to as the 'Draft Amendment'). We understand that Anoka County Staff has requested City Staff's comments, and further understand that the 60 day comment period is applicable here too, which will allow enough time for review by the Park and Recreation Commission, Environmental Policy Board and City Council.

Foremost Staff appreciates Anoka County's willingness to accommodate the Riverdale Drive frontage road project, which is the impetus for the developing and submitting to Metropolitan Council the Master Plan Amendment for approval. The request for early comment is valuable as well, to ensure that the **Public's best interests** are carried forward within the original Master Plan, or improved upon within the Draft Amendment.

Requested Revisions

The City requests the following revisions to the Master Plan Amendment:

1. Clearly name the proposed pedestrian bridge as a future Phased Improvement of the regional park, thereby to be found in conformance with the *Thrive 2040 Regional Parks Policy Plan*, and the approved Master Plan.
2. Identify within the Draft Master Plan Amendment a schedule for a negotiated cost-share agreement for completion of the skyway and pedestrian bridge—in a timeframe that allows for a joint application in 2018 for Transportation Advisory Board solicitation for funding (and potentially other sources).
3. Add a narrative and exhibit to the Draft Master Plan Amendment that shows the realignment of the Central Anoka County Regional Trail to a safe alignment for bicyclists and pedestrians (to the location of the pedestrian overpass when complete), which also will connect the regional park directly to the Metropolitan Transit system, and thereby to come into conformance with both the *Thrive 2040 Regional Parks Policy Plan as well as the 2040 Transportation Policy Plan* relating to directives for regional parks.

   Further, that the City be afforded the full 60 Day Review Period in order to review the Master Plan Amendment with our Parks and Recreation Commission, Environmental Policy Board, and City Council.

Staff Review

Ensuring that the pedestrian bridge remain a named, phased element of the park's development is essential in calling attention to its significance as a Regional facility—as this is strategically important to securing grant funding.

Conformance with Anoka County Policies and Plans



Evidence of the importance and relevance for continued collaboration and cooperation in securing funding for completion of the skyway and pedestrian bridge is noted on page 17 of the Draft Amendment. It cites survey results from the 2016 'Plan Your Parks' – Public Events: *"62% would prefer to walk or bike to a park as opposed to having to drive. Again, this shows support for the trail projects outlined in the amendments and shows the importance of connectivity throughout the local and regional trail system."*

Further evidence that the pedestrian crossing with direct connection to the Northstar rail station and the 887 Bus Route stop, should remain a priority is cited on page 20 of the Draft Amendment:

"Since the majority of participants end up driving to the parks and trails, the Department should work with County's Transportation Division, local cities and the Metropolitan Council to ensure multiple modes of transportation options exist for access to the system and that future trails provide the needed connections between the residential areas surrounding the park."

Compliance with Regional Policies and Plans

Like the City of Ramsey, Anoka County is also in the process of updating its Comprehensive Plan. Pursuant to Minn. Statute 473.864, the County's park plans must be consistent with both the Metropolitan Council's *Thrive 2040 Regional Parks Policy Plan* as well as the *2040 Transportation Policy Plan*. Both the City and County's comprehensive plans are reviewed by the Metropolitan Council based on three primary criteria:

- Conformance with metropolitan system plans
- Consistency with Metropolitan Council policies
- Compatibility with adjacent and affected governmental units.

When a plan meets these criteria, the Metropolitan Council authorizes comprehensive plans, and park plans to be put into effect. If a plan does not meet the review standards,

Staff Review

the Council can require the jurisdiction to modify its plan to conform to the Council's system plans. The City of Ramsey believes that the policies of the *Thrive 2040* system plans will be better advanced when it fully acknowledges and includes the Mississippi Skyway as a critical connection to regional systems; including transit, the Mississippi River Trail (MRT) and its important role in accessing the regional park.

Thrive MSP 2040 also provides specific Directives for parks' implementing agencies, most notably: *"Promote expanded multimodal access to regional parks, regional trails, and the transit network, where appropriate."* Advocating for completion of the skyway across U.S. Highways #10 & #169 as part of the planning for Mississippi West Regional Park will advance this Directive.

Ramsey believes that removal of this existing planned improvement from the existing Master Plan presents a conflict with regional policies. *ThriveMSP 2040 outlines several outcomes: "Thrive's regional vision includes five desired outcomes: stewardship, prosperity, equity, livability, and sustainability. While each outcome is described below, it is important to note that the five outcomes reinforce and support one another to produce greater benefits than any single outcome alone. The outcomes provide policy direction for this 2040 Regional Parks Policy Plan."*

The current/approved Metropolitan Council's approved master plan for Mississippi West Regional Park, shows an elevated pedestrian crossing of U.S. Highways #10 & #169 as one of the Phased improvements to the Mississippi West Regional Park. Ramsey believes it important for this improvement to remain in the Master Plan. The improvement would connect the following existing regional systems.

1. Mississippi West Regional Park Boat Landing
2. Northstar Commuter Rail – Ramsey Station
3. US Highway 10/169 (A Major Arterial)
4. Central Anoka County Regional Trail
5. Anoka County Mississippi River Regional Trail
6. Tier 1 Priority Regional Bicycle Transportation Corridor

The exhibit below shows the proposed, realigned trail corridor in a red dashed line, as proposed by the City of Ramsey.

Staff Review



Figure 1: COR Master Plan/Suggested Realignment of Central Anoka County Regional Trail

Considerable investments in regional improvements converge in this location, including the $13 million dollar rail station, with $1.1 million dollar pedestrian skyway over Veteran's Drive, $8 million dollar covered transit and parking facility, as well as approximately one half million in boat landing and river access improvements. Additionally, the Mississippi River Regional Trail has been completed and in use from the City of Anoka, through the City of Ramsey and into the park (portions depicted below). The trail together with two bridges on the 80-acre King's Island represents over one million dollars in bike facilities that are also a key component of the Mississippi National River and Recreation Area. <u>The Final Plans and Specifications for the Mississippi Skyway are being prepared today, and funded by a $490,000 grant from the National Park Service.</u>

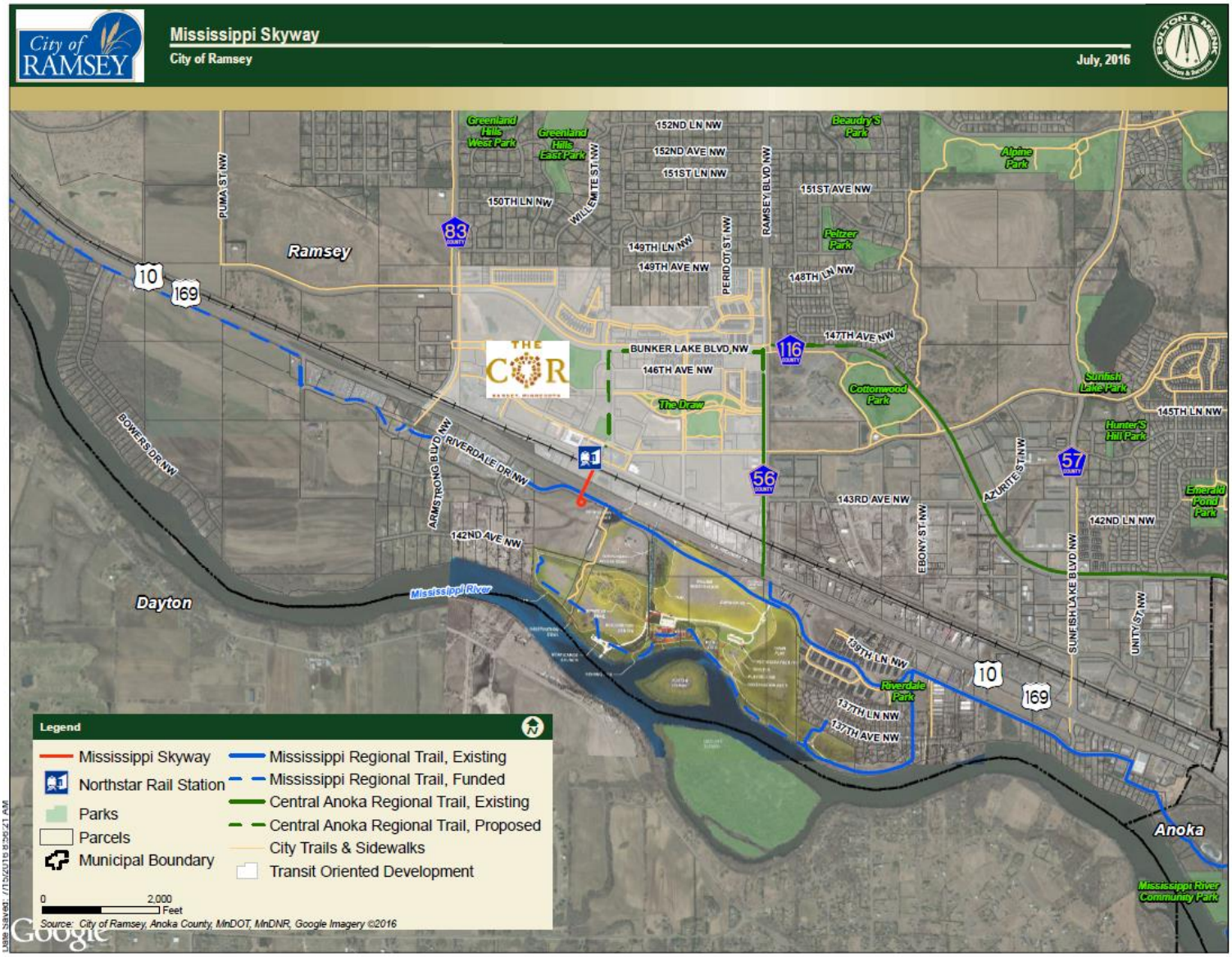


Figure 2: Regional Intersections of Mississippi Skyway

It is this inter-jurisdictional trail with multi-modal connections and host of retail services that will make this pedestrian bridge the nexus of regional systems and destinations, and merits the concurrent alignment of the Central Anoka County Trail at such time the elevated highway crossing is in place. <u>The realigned Regional Trail should also be discussed within the completed Master Plan Amendment.</u>


149TH AVE NW
PERIDOT
148T
THE
COR
RAMSEY, MINNESOTA
BUNKER LAKE BLVD NW
116
COUNTY
146TH AVE NW
Central Anoka Regional Trail, Proposed
The Draw
ARMSTRONG BLVD NW
RIVERDALE DR NW
56
COUNTY
142ND AVE NW
Mississippi River

Advancing ThriveMSP 2040 Outcomes

The following highlights anticipated *Thrive Outcomes* relating to the 2040 Regional Parks Policy Plan of an aligned regional trail with a grade-separated pedestrian crossing of Hwy's #10 & #169 and connection to the MRT.

Stewardship



Mississippi River at the regional park

Mississippi West Regional Park possesses a bounty of natural resources, including woodland habitats, restored native prairie, and a segment of the Nation's most prominent river with Wild and Scenic designation. Advancing multi-modal connections to the park for the region's residents and visitors is a strategic investment that makes available these rich natural assets for those who choose not to travel by automobile. Broadening access to these regional amenities exposes people to the intrinsic beauty of the park and river, and thus builds support for on-going stewardship of natural resources and the environment.



Workforce Housing in The COR, completed in 2013

Prosperity

Investment in the pedestrian overpass will make the commercial and retail areas on both sides of Hwy's #10 & #169 more attractive to quality business that are concerned with quality of life for their employees in terms of the ability to walk during break periods to and from the park. In addition, improved connection to the trail systems the bridge will provide for, allows a greater proportion of the workforce to commute without an automobile and expands transit access – both of which enhance economic competiveness.



Rail and bus service can provide access to the natural-resource based Mississippi West Regional Park from the urban cities

Staff Review

Equity



Increasingly, people are using the Northstar Commuter Rail to expand recreational access to the region's parks and trails

The transit-oriented development known as The COR includes a mix of residential housing choices for people of all incomes. Providing a 'means' to access Mississippi West Regional Park sans an automobile also means creating real choices in where residents may live, travel and recreate. The grade-separated pedestrian crossing of the highway and rail line creates the nexus between housing, transportation and recreation, and thus leverages multiple investments to build a more equitable region.

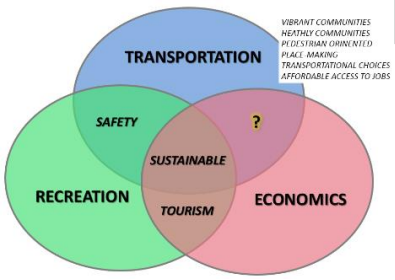
Livability





U.S. Hwy's #10 & #169 can be a barrier to accessing Nature associated with the regional park and trail on the south side of the highway. Livability is enhanced by *one* connecting piece of infrastructure – the pedestrian crossing and bicycle facility. This will provide transportation choices, and access to Nature and outdoor experiences for a range of the region's demographic and economic make-up. The COR is by design, pedestrian-oriented as well as transit-oriented. Aligning resources (the pedestrian bridge), supports walkable places and promotes healthy communities and active living.

Sustainability



The Mississippi Skyway exemplifies sustainability as bicycles will always be an efficient means of short trips – made more effective especially with the proposed bridge's physical connection to the commuter rail station. With a 100-plus year lifespan, the facility will help to ensure regional vitality for generations to come. This also adds and preserves capacity for all the public and private investments it connects to, thereby quite literally investing in the future.

Staff Review

Integration



The pedestrian facility will be the embodiment of the intentional combining of related activities and infrastructure to achieve more effective results in coordinating the way people travel, commute, work and play. The bike and ped bridge will be an example of the County, City and Council effectively working with all partners and stakeholders throughout the region to secure funding for a project that will have multiple benefits.

Collaboration



The Mississippi Skyway, with its direct connection to the National Mississippi River Trail and U.S. Bikeway #45 - when completed with a realigned Central Anoka County Trail, will be an unequaled example of collaboration in advancing the region most effectively towards shared outcomes. The pedestrian bridge is an expensive facility, no single entity has the capacity to fund it alone, and therefore a *shared* strategy is truly in the region's interest. Indeed, it is the Metropolitan Council's mission to foster these partnerships and reciprocal relationships to address regional opportunities and solutions—therefore maintaining the pedestrian bridge as a named Phased improvement within the Master Plan for the park is essential.

Accountability and Additional Directives



Ramsey Station, October 2014: People use the rail and bus service for commuting, efficient access to the airport, as well a connection to the region's trail systems

Identifying the proposed pedestrian bridge over U.S. Hwy's #10 & #169 as a priority for the regional partners to secure Federal funding; will fulfill the Council's mission of an equitable return on investments across the geographic region. This positions the Council, the Metropolitan Parks and Open Space Commission, regional park agencies, municipalities, the National Park Service, and state partners to effectively collaborate on:

~ Expanding the Regional Parks System to conserve, maintain, and connect natural resources identified as being of high quality or having regional importance, as identified in the 2040 Regional Parks Policy Plan

Staff Review



~ Provides a comprehensive regional park and trail system that preserves high quality natural resources, increases climate resiliency, fosters healthy outcomes, connects communities, and enhances quality of life in the region

~ Promotes expanded multimodal access to regional parks, regional trails, the Mississippi National River and Recreation Area, and the transit network, and as such, strengthens equitable usage of regional parks and trails by all our region's residents - across age, race, ethnicity, income, national origin, and abilities

Advancing 2040 Regional Transportation Policy Plan

Following the abstract on pedestrian bridge's relevance as a regional improvement directly associated with the park, is a summary of *Thrive's* 2040 Transportation Policy Plan's ***objectives*** (in quotes) and why it is imperative that the completion of the skyway over Hwy #10 and Riverdale Drive remain a named Phased Improvement within the Master Plan for Mississippi West Regional Park—and for the Master Plan Amendment to be consistent with the Transportation Policy Plan's goals, objectives and strategies.

Project Abstract

The Mississippi Skyway is a pedestrian bridge extension of the existing skyway over Veterans Drive from the 800-stall public parking ramp to the Northstar Ramsey Rail Station. The extension will continue over U.S. Highways #10 & #169 to the Regional Park and Trail on the south side of the highway and frontage road.

This section of Highways #10 & #169 is a barrier to pedestrian and bicycle movements at the Ramsey Station. It is a 4-lane divided highway that is a primary east-west route in Anoka County, serving as a commuter corridor to the Minneapolis/Saint Paul Metropolitan Area with annual average daily traffic of 39,000 vehicles per day in the immediate project area. BNSF freight rail line runs parallel to the highway, and there has been a nearly 40 percent increase in freight traffic since 2012, with 71 trains per day each day at present. This rail line also serves as the Northstar Commuter Rail Corridor.

Staff Review



~ "*Overcome physical barriers and eliminate critical systems gaps.*"

The proposed extension of the bicycle and pedestrian bridge both addresses gaps and barriers within the regional systems, and at the same time will improve convenience and continuity for bicyclists and ADA accessibility.

~ "*Facilitate safe and continuous trips to regional destinations.*"

Developing the proposed multiuse trail and bicycle facility (skyway extension) within the Tier One **Regional Bicycle Transportation Network** will improve the convenience and safety of bicycling and ADA accessibility along, and connecting to, existing facilities - including the Mississippi River Trail and the regional park.

~ "*Integrate and/or supplement existing and planned infrastructure.*"

The Mississippi Skyway provides the connection between regional amenities creating an effective nexus between housing, transportation, employment and recreation. The Mississippi Skyway will **link existing and future public investments with a single project, enhancing the value of each.**

Staff Rev

~ "*Provide improved opportunities to increase the share of trips made by bicycle.*"

The dramatically improved, safe connections the skyway extension will accomplish - together with access to transit will increase the likelihood of choosing bicycling for transportation over other travel modes—and especially for Metropolitan area residents beyond the City of Ramsey.



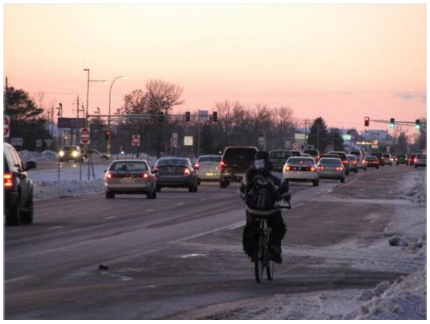
Excerpt from the Hwy 10 Study - Injury and fatal crash locations along Hwy 10 in Ramsey, 2003-12

The Draft Amendment cites on page 11: "*Conflicts between pedestrians and vehicular traffic will be kept to a minimum by reducing the number of trail and road crossings within the park and by working with the City of Ramsey to ensure safe crossings at city road intersections. Treatments for these areas may include signing, striping and signalized pedestrian crossings.*"

The above strategy to mitigate conflicts may be effective immediately adjacent to the park, but would be deficient with respect to bicyclists and pedestrians utilizing the Central Anoka County Trail as it exists today. The intersection of Ramsey Boulevard and Highways #10 & #169 (below) has traffic speeds of 60 MPH and is more than 220' feet across—and including turn lanes, has 32 points of conflict to negotiate.



As evidenced by the above image of existing conditions, MnDOT and Anoka County Highway have not maintained the crosswalk striping. This should be addressed, as the 8' foot sidewalk (presently serving as the Central Anoka County Trail) connects to the intersection at the northwest, and an 8' bituminous trail is also at the southeast. Both are considered elements of the MRT and US Bikeway #45.



The proposed realignment of the Central Anoka County Regional Trail concurrent with the proposed pedestrian bridge discussed above, should be shown within the completed Master Plan Amendment, as it will provide demonstrable safe pedestrian and bicyclist's benefits for accessing the park from north of U.S. Highways #10 & #169.

Wayfinding is discussed on page 10 of the Draft Amendment. The City of Ramsey supports the signing plan outlined in the document. The final Master Plan should note that adjacent to the touch-down point of the proposed pedestrian bridge there is large wayfinding sign with maps of the local parks and trails—with the other side showing the entire National Park Service area from Ramsey to Hastings. This sign is within a plaza with seating along the MRT and across from the trail leading to the river in Mississippi West Regional Park.



MnDOT double sided Interpretive Kiosk

Review

Public Engagement and Participation is discussed within the Draft Amendment on pages 12 through 21. However, **it appears there was no community engagement specific to Mississippi West Regional Park**, nor was the City of Ramsey informed or invited to host public input on the plans for the park. As with most regional parks, the primary users are those nearest the park. The COR will have more than 2,000 residential units directly to the north of the park, with many more adjacent to this pedestrian oriented development—thousands of Ramsey residents are within walking and biking distance of the park today. In terms of Origins (residential units) and Destinations (the Regional Park), there exists the highway and rail line barrier discussed above. To the east of Ramsey in the City of Anoka, a similar situation of Origins and Destinations exist, and fatalities have occurred when pedestrians have crossed this same highway. Recently, hundreds's of thousands in public monies have been expended in constructing physical barriers in an attempt to save lives. It is imperative that Anoka County Parks and the City of Ramsey develop a cost-share plan for the ultimate construction of the remaining portion of the Mississippi Skyway, considering other Regional partners—and seek funding for grant monies that are uniquely available for pedestrian and bicycle facilities. This will be prudent planning and cooperation, in stark contrast to the potential future action of expending public monies on barriers.

In conclusion, the City of Ramsey unequivocally recommends that the Draft Master Plan Amendment be revised to:

- Clearly name the proposed pedestrian bridge as a future Phased Improvement of the regional park, thereby to be found in conformance with the *Thrive 2040 Regional Parks Policy Plan*, and the approved Master Plan.
- Identify within the Draft Master Plan Amendment a schedule for a negotiated cost-share agreement for completion of the skyway and pedestrian bridge—in a timeframe that allows for a joint application in 2018 for Transportation Advisory Board solicitation for funding (and potentially other sources).
- Add a narrative and exhibit to the Draft Master Plan Amendment that shows the realignment of the Central Anoka County Regional Trail to a safe alignment for bicyclists and pedestrians (to the location of the pedestrian overpass when complete), which also will connect the regional park directly to the Metropolitan Transit system, and thereby to come into conformance with both the *Thrive 2040 Regional Parks Policy Plan as well as the 2040 Transportation Policy Plan* relating to directives for regional parks.

Respectfully,

The City of Ramsey

Staff Review

Committee Report

C Community Development Committee

Item: 2011-70

For the Metropolitan Council meeting of March 30, 2011

Date Prepared: March 22, 2011

Subject: Mississippi West Regional Park Master Plan, Anoka County

Proposed Action:

That the Metropolitan Council:

1. Approve the Mississippi West Regional Park Master Plan (Referral No. 50004-1).

2. Require that Anoka County submit a negotiated cost sharing agreement related to the development of the pedestrian overpass described in Phase 5 of the master plan to the Metropolitan Council prior to seeking regional parks funding for the project, in order for the Council to determine the eligible costs for regional funding.

3. Advise Anoka County to work with the City of Ramsey to ensure that the Mississippi River Corridor Critical Area and Wild and Scenic River programs and standards are implemented during the park development phases.

Summary of Committee Discussion / Questions:

Chair Cunningham inquired about the Mississippi River Corridor Critical Area designation. Jan Youngquist, Planning Analyst, described that the Minnesota Department of Natural Resources (DNR) oversees the Mississippi River Critical Area Program. The Critical Area Corridor follows the Mississippi River and stretches from the City of Ramsey in Anoka County past Hastings in Dakota County. The DNR establishes rules for protecting the river, similar to zoning code requirements, which are implemented by local municipalities.

The Community Development Committee unanimously approved the recommendation.

MISSISSIPPI WEST REGIONAL PARK MASTER PLAN



ANOKA COUNTY, MINNESOTA
December 2010
Approved by Met Council April 2011

Prepared by:
Anoka County Parks and Recreation Department
550 Bunker Lake Boulevard NW
Andover, MN 55304

SPECIAL ACKNOWLEDGEMENTS

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METROPOLITAN COUNCIL

ANOKA COUNTY PARKS AND RECREATION DEPARTMENT

John VonDeLinde, Director
Karen Blaska, Park Planner

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APPENDIX

I. EXECUTIVE SUMMARY

Mississippi West Regional Park is a 273 acre park located within the City of Ramsey between the Mississippi River and Trunk Highway 10. The park has 1-1/2 miles of shoreline along the Mississippi River and offers a unique setting to provide recreational and educational opportunities in the area. It is part of the Mississippi River Critical Corridor Area and the Mississippi National River Recreation Area.

In 1996, a concept master plan was approved by the Metropolitan Council and the park was incorporated into the metropolitan regional park system. Since then it has been updated with the Anoka County 20/20 Parks and Recreation Vision Plan and then again in 2006, when Anoka County adopted a new Parks and Recreation Comprehensive System Plan. Input for the system plan was obtained through a variety of stakeholders, including a 20 member citizen advisory group and all local units of government in Anoka County. The system plan addresses current and future system needs, including an updated concept plan for Mississippi West Regional Park.

This master plan was developed based on the conceptual plan from 1996, the history of the land, the existing conditions, nature resources in the area, sustainability, demand for additional recreational and educational facilities and accessibility.

Concept Plan from 1996



The proposed development concept for Mississippi West Regional Park includes many recreational amenities typically found in the regional parks; picnic areas, restroom buildings, trails, roads and parking lots. The central feature proposed for Mississippi West Regional Park is an interpretive or visitor center that would serve as a "living laboratory" that incorporates best management practices in sustainability and natural resource restoration, i.e. minimizing impervious surfaces and using native plant species. Interpretive information regarding best management practices will educate visitors regarding restoration of disturbed sites in ways that enhance the natural resources and promote long term conservation. In addition, an arboretum style garden will educate visitors on the differences between native and non-native plant species in the area and the required maintenance for each type. Facilities of this type require a supporting maintenance facility that would be included in the park development.

Development is proposed to occur in phases. The first phase of development is the design, engineering and construction of a temporary road, boat launch and fishing pier on the river. The next phase will be the construction of the necessary infrastructure such as roadways, trails, parking lots, utilities, and lighting. Following that, construction of new picnic facilities, restroom buildings, a gatehouse, additional trails, and a play structure will occur. The fourth phase of development will include an interpretive and/or visitor center with additional parking, trails and interpretive features, an arboretum style garden, as well as natural resource restoration.

As proposed by the City of Ramsey, there could be an additional phase that would include a pedestrian overpass for Truck Highway 10 that would connect the park with Ramsey Town Center. This phase could occur earlier depending on available funding.

Estimated costs for each phase are as follows:

Concept Development Estimate	
Item	Total Cost
Phase I - Boat Launch Construction	$ 400,000
Phase 2 - Infrastructure Development	$ 2,290,000
Phase 3 - Park Facility Development	$ 1,570,000
Phase 4 - Visitor Center Development	$ 1,780,000
Phase 5 - Pedestrian Crossing Development	$ 2,585,000
Total	**$ 8,625,000**

Annual operations and maintenance costs for the park are estimated to be about $140,000.

Anoka County will be responsible to provide the on-going daily and general routine maintenance of the park. Anoka County will inspect the park and trails regularly and will provide any capital improvements the park requires, such as bituminous overlays, reroofing, etc. Park signs will be provided and maintained by the county.

Revenue for the operation and maintenance of the park will come from the Anoka County Parks and Recreation Department's annual operations and maintenance budget, which includes revenues from picnic shelter rentals, room rentals, programs, and park entrance fees. Supplementary funding is provided through the Regional Park Operations and Maintenance Grant Program.



Master Plan for Mississippi West Regional Park

II. BACKGROUND

A. Park History

Mississippi West Regional Park was incorporated into the metropolitan regional park system in 1996. Since then, little recreation development has occurred due to a life estate within the park, which ended in 2007. The County has restored 49.9 acres of fallow fields to native prairie habitat and continues to restore the remaining fields as funding allows. In 2008, the County partnered with the City of Ramsey on a storm water outlet project related to the development of the Ramsey Town Center. This project ultimately provided a bituminous trail on top of a storm water outlet to the Mississippi River providing easy access to the river. Outside of this trail and a few fire breaks which serve as natural surface walking trails, there are no other recreational amenities in the park currently.



B. Existing Conditions

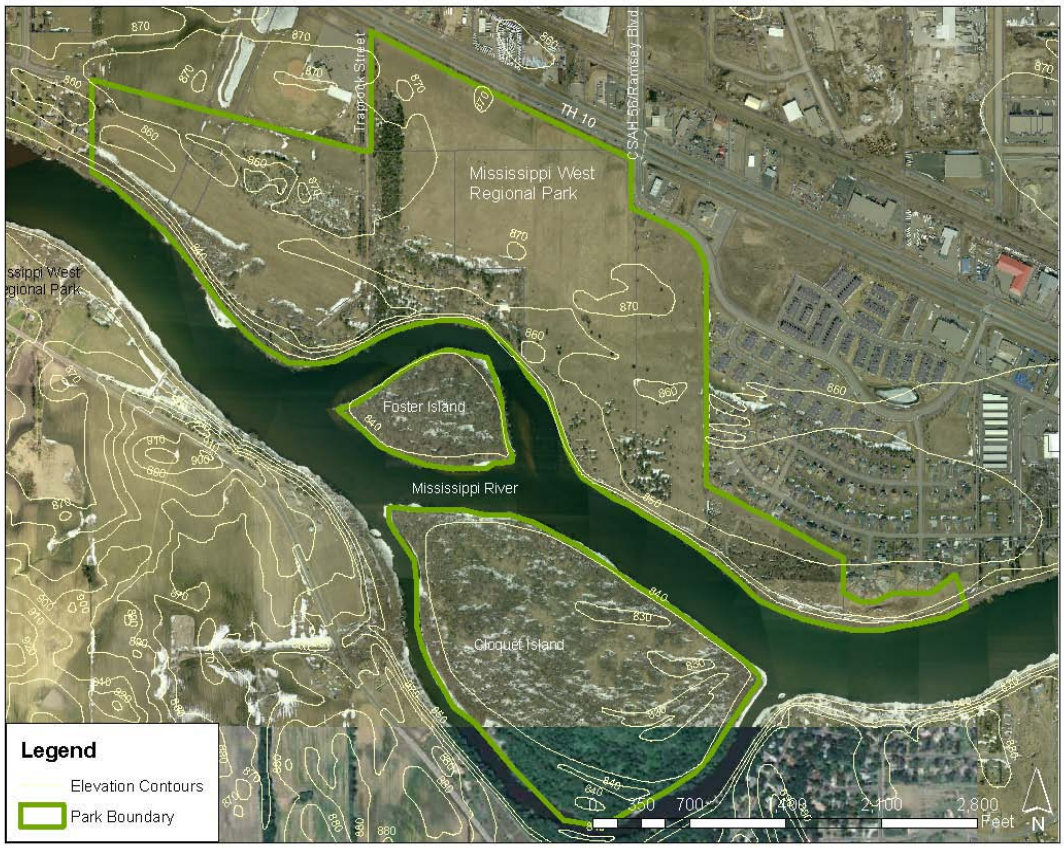


Aerial view of Mississippi West Regional Park

First and foremost, the park has approximately 1-1/2 miles of river frontage along the Mississippi River, which provides several extraordinary scenic vistas of the river. Foster and Cloquet Islands have remained relatively undisturbed.



View of Mississippi River from the park



Elevation contours in park

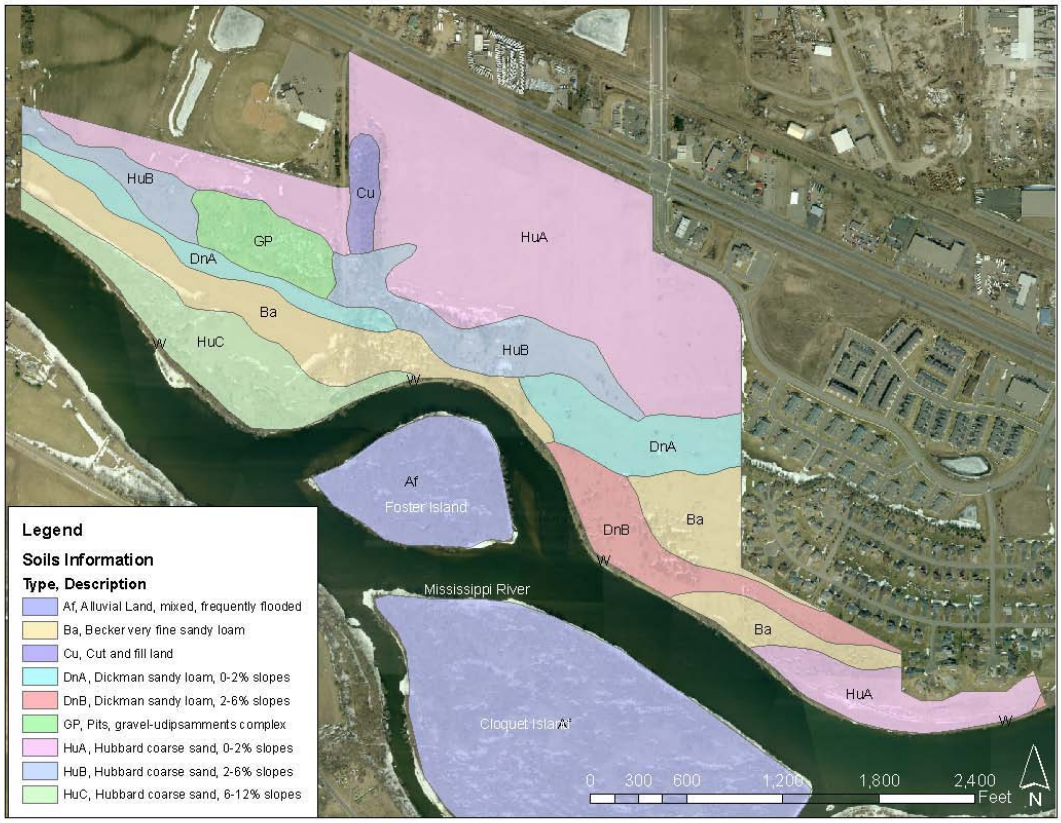
The park contains fairly level topography with the majority of relief located at an old gravel pit and along the river. Due to the relief in those areas and erosion that has occurred, sections of the banks should be repaired to reduce and avoid further sediment loading into the river.



Mississippi River bank erosion

The majority of the soil types within the park are Hubbard course sand with 0-12% slopes. The remaining soils are Becker, very fine sandy loam and Dickman sandy loam with 0-6 % slopes. There are a few small areas that have been cut and filled along the existing road. Therefore, overall the soils in the park are very suitable for development.

The soils of Foster and Cloquet Islands are an alluvial mix that floods frequently, therefore no development is proposed for the islands, although some natural resource restoration may occur.

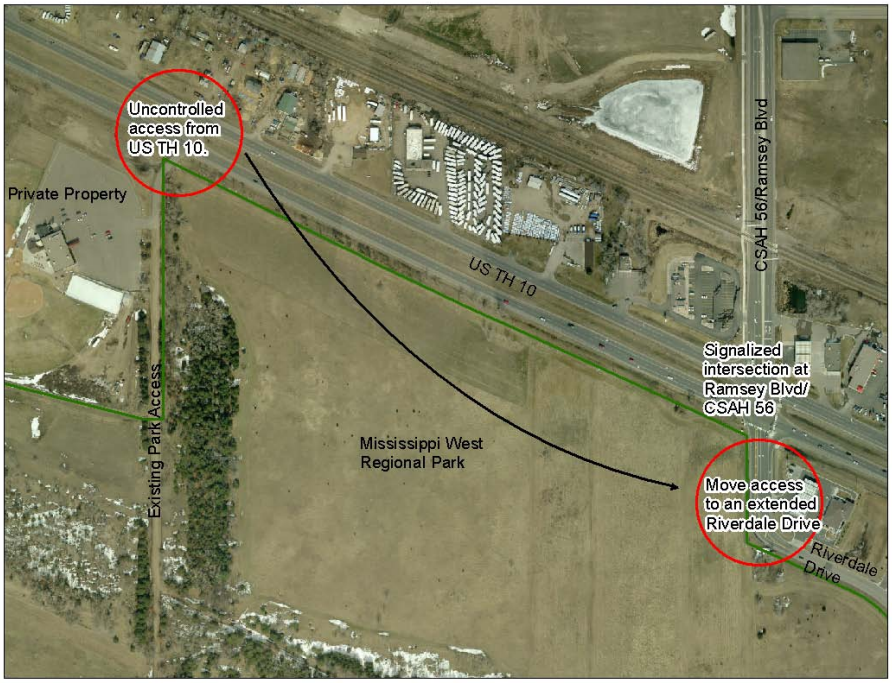


Soil Types

A wetland review was performed in September 2010. Anoka County Soil Survey and the National Wetland Inventory (NWI) were referenced as well as conducting an onsite review. There were no hydric soils and no wetlands as inventoried by the NWI except for those directly associated with the river. See Appendix.

Other existing natural resources include previously disturbed woodland and grassland areas, riparian edges and river bluffs, which contain several invasive species that will need to be eliminated and restored with native species. Native prairie has been restored in some areas of the park and the remaining fields are scheduled to be restored to a native grassland/prairie sometime in the future.

Current access to the park is through an uncontrolled intersection off Trunk Highway 10 and follows a gravel road (Traprock Street) back into the park. Long-term plans will provide access off of Riverdale Drive through a signalized intersection at CSAH 56/Ramsey Blvd.



Move Park Access

Currently, there are a few existing structures in the park: one habitable house, one uninhabitable house, a few garage buildings and several outbuildings. Most structures, other than the habitable house, are in a state of disrepair and pose liability issues. The structures are proposed to be demolished and removed.

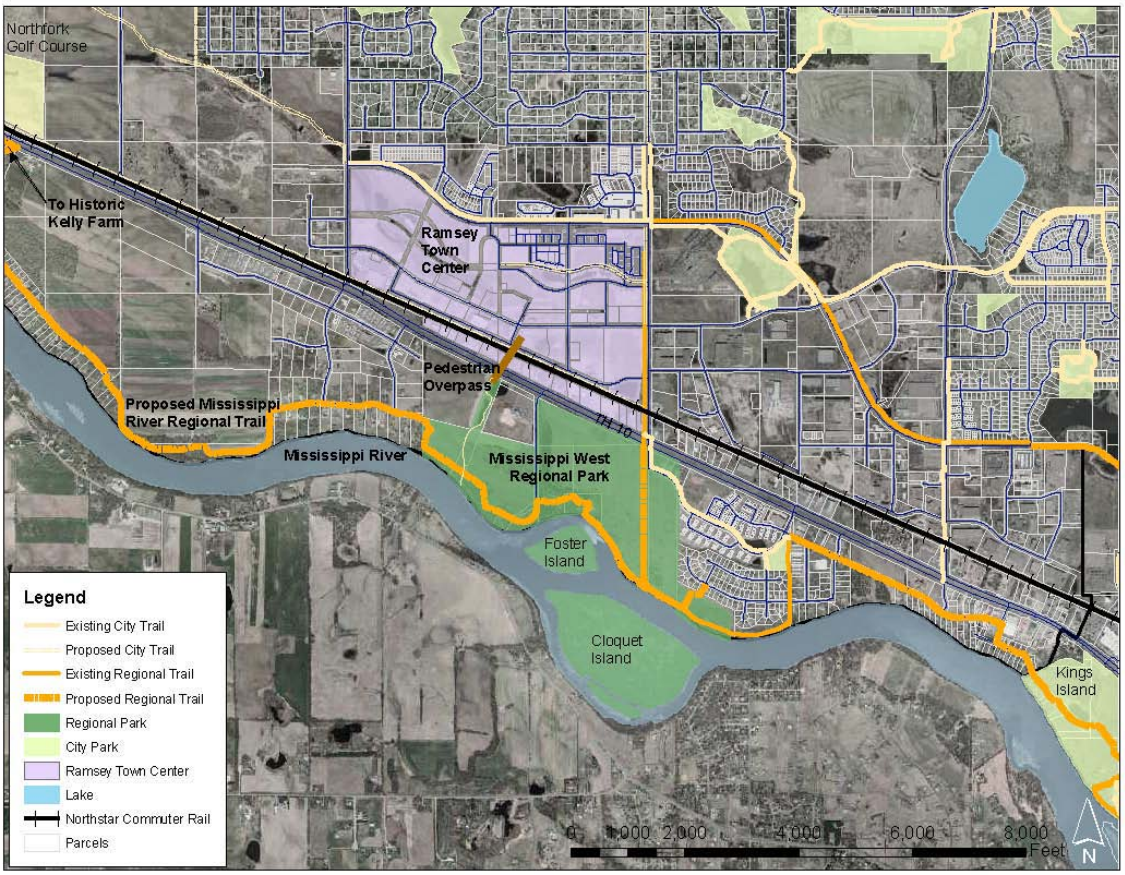






C. Surrounding Amenities

A few of the surrounding amenities include the proposed Mississippi River Regional Trail (MRT), which runs adjacent to the river from Elk River to Minneapolis and traverses through Mississippi West Regional Park.



Amenities around Mississippi West Regional Park

Ramsey Town Center (RTC) is a 369.5 acre development north of Highway 10 and the park. RTC was planned to include 2400 residential units and 1.65 million square feet of commercial, industrial, and institutional space. In addition, the City of Ramsey proposes a Northstar Commuter Station and a pedestrian overpass over Trunk Highway 10.

Approximately one mile west of the Anoka County/ Sherburne County line is the historic Oliver Kelley Farm. This farm is owned by the Minnesota Historical Society and is used as an interpretive center and working example of an 1860's Farm.



D. Historical/Cultural Background Information

At this time, the County is unaware of any known or suspected archaeological resources in the area that will be affected by this project. The State Historical Preservation Office will be consulted for further information as park development occurs.

III. BOUNDARIES AND ACQUISITION COSTS

All parcels within the park boundary are currently under County ownership. Therefore, there will be no boundary changes or acquisition costs related to the proposed master plan development. To address potential park impacts due to a proposed interchange at CSAH 56/TH 10, a Memorandum of Understanding has been signed by the Metropolitan Council, MN Department of Transportation, MN Department of Natural Resources and Anoka County. See Appendix.



Park Boundary

IV. STEWARDSHIP PLAN

Management and stewardship of the park thus far has entailed natural resource restoration throughout the park. Approximately 50 acres of fallow agricultural fields have been restored to a native grassland prairie mix and current plans are to restore another 23

acres. Future plans include woodland restoration, bluff/riparian edge restoration and completing the remaining grassland prairie restoration.

Currently, there is a Parks and Recreation staff member who lives in the existing house and serves as caretaker for the park. This staff member has been able to notify the Department of any maintenance or operations issues that arise, allowing quick resolution.

Future park development would require balancing the impacts of recreational development with the restored natural resources in the park and sustainable development.

V. DEMAND FORECAST

Regional parks and trails have been increasing in popularity and as the population grows, the need for additional recreation sources and amenities grows as well. The population in Anoka County has been growing steadily and is predicted to grow 38% in the next 25 years. The City of Ramsey is predicted to grow approximately 32% from the year 2010 to the year 2030. This will create a very high demand for recreational opportunities.

Population Forecast*

	City of Ramsey
2010	30,000
2020	43,000
2030	44,000

*Metropolitan Council 2030 Regional Development Framework – System Statement

The outdoor recreational use patterns in the metropolitan area have been growing steadily. From 1995 to 2009, recreational visits to Anoka County regional parks and trails increased by almost 70% and is currently over 3.0 million visits per year.

According to the Minnesota Department of Natural Resources 2004 Outdoor Recreation Participation Survey of Minnesotans, nearly 82% indicated that outdoor recreation is “very important” or “moderately important” in their lives. Popular trail related activities are walking, hiking, biking, running, jogging or inline skating.

In addition, the Statewide Health Initiative Program (SHIP) is promoting living longer, healthier lives through the reduction in obesity and increased physical activity. Currently, Anoka County has received a SHIP grant to increase access to parks and trails and increase education regarding health, wellness and outdoor recreation.

With the population growth expected, the increase in recreational visits to regional parks and trails, and the increased concern for health and wellness, the demand for additional recreational facilities will increase.

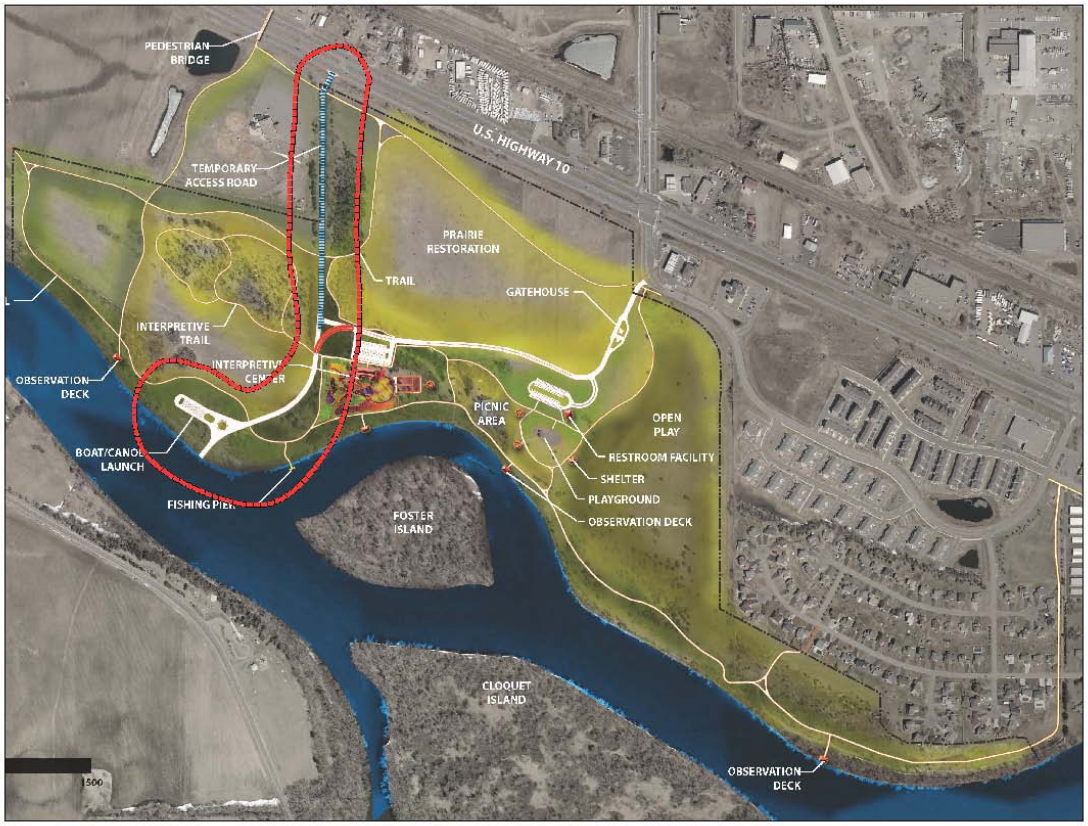
VI. DEVELOPMENT CONCEPT

The proposed development concept for Mississippi West Regional Park includes many recreational amenities typically found in the regional parks: picnicking areas, restroom buildings, trails, roads and parking lots. The central feature proposed for Mississippi West Regional Park is an interpretive or visitor center that would serve as a "living laboratory" that incorporates best management practices in sustainability and natural resource restoration. In addition, an arboretum style garden will education visitors between the differences of native and non-native plant species in the area and the required maintenance for each type. Best management practices will educate visitors about restoring disturbed sites in ways that enhance the natural resources, promote long term conservation, and use less costly alternative energy sources. In addition, a supporting maintenance facility will be included in the development.



Master Plan for Mississippi West Regional Park

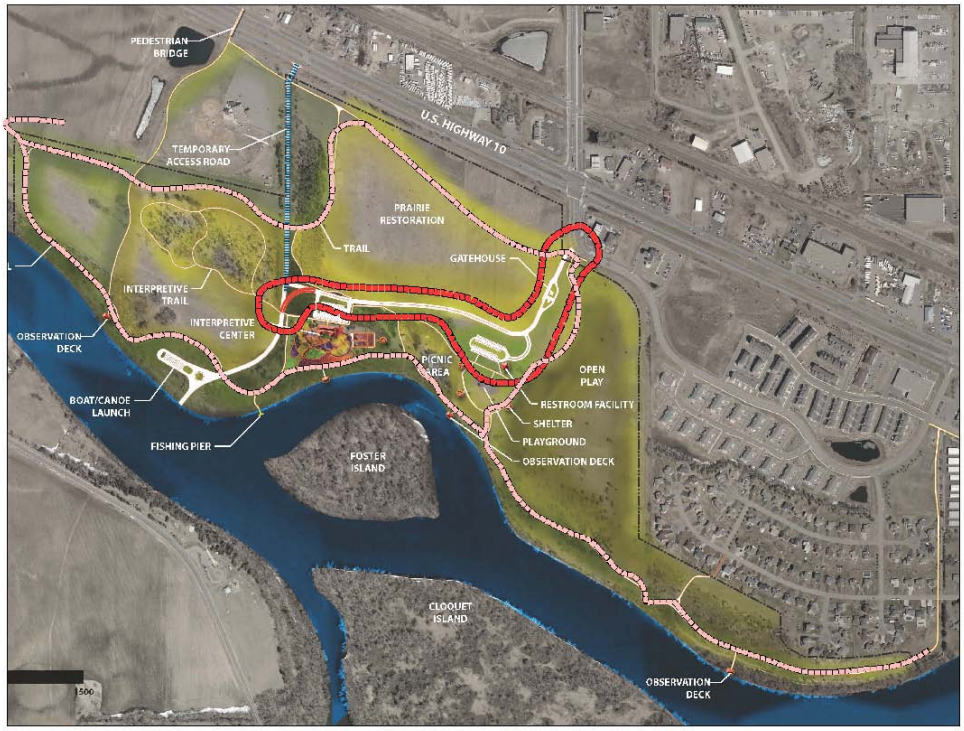
Development would occur in phases. The first phase of development is the design, engineering and construction of a temporary road, boat/canoe launch and fishing pier providing access to the river.



Phase 1 Development at Mississippi West Regional Park

Phase 1: Boat Launch Development Estimate	
Item	Total Cost (2010)
Design/Engineering (in-kind)	$ -
Boat Launch Road/Parking Lot	$ 190,000
Boat Launch	$ 40,000
Temporary Access Road	$ 50,000
Fishing Pier	$ 40,000
Signs	$ 5,000
Topographic Survey / Construction Staking	$ 10,000
Removal/Demolition of House and Hazard Material Abatement	$ 40,000
Permits (City, Watershed, DNR, COE, NPS)	$ 5,000
Subtotal	$ 380,000
Contingency and Fees	$ 20,000
Total	**$ 400,000**

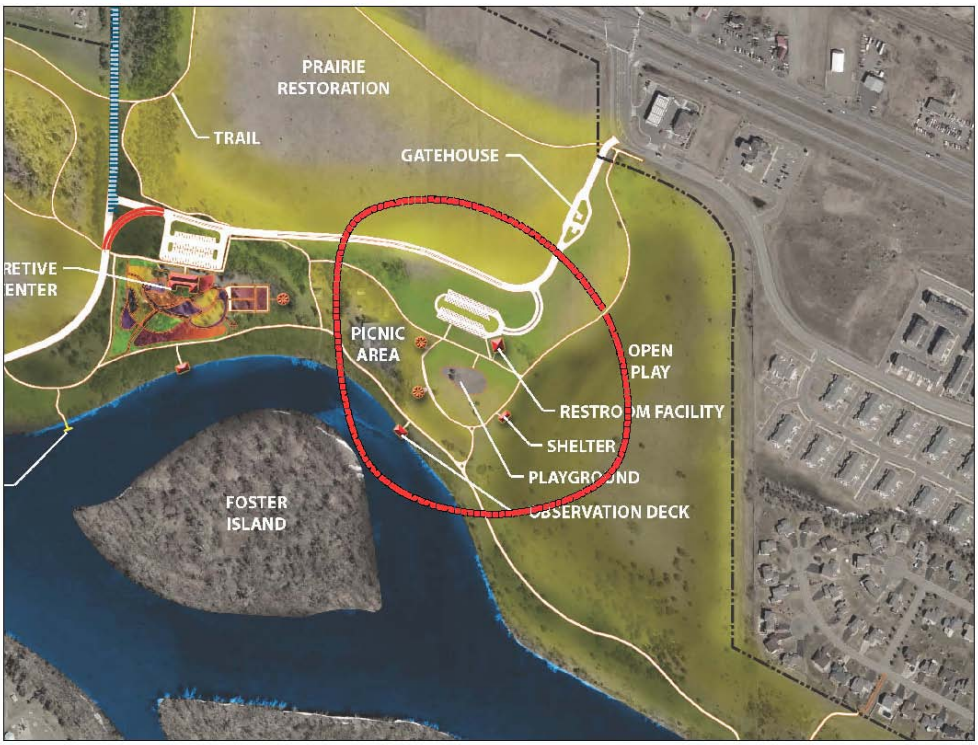
The next phase of development will be the design, engineering and construction of the main infrastructure for the park. This would include construction of roadways, parking lots, trails, utilities, installation of city water or a well, installation of city sanitary lines or a septic system and a maintenance facility. In addition, there would be some natural resource restoration and the installation of an observation deck or two. Lighting, signing and site furnishings for the roadway, parking lots and trails would be included in this phase as well. Existing structures would be torn down and removed.



Phase 2 Development at Mississippi West Regional Park

Phase 2: Infrastructure Development Estimate	
Item	Total Cost (2010)
Design & Engineering	$ 170,000
Roadways / Parking Lots	$ 950,000
Regional and Park Trails	$ 250,000
Maintenance Facility	$ 300,000
Utilities - Water/Sanitary/Electric/Fiber	$ 150,000
Observation decks	$ 100,000
Natural Resource Restoration	$ 25,000
Lighting/Signage and Site Furnishings	$ 25,000
Geotechnical Survey/Wetland Delineation and Assessment	$ 25,000
Survey/Construction Staking	$ 25,000
Material Abatement	$ 60,000
Permits (City, Watershed, DNR, COE, NPS)	$ 10,000
Subtotal	$ 2,090,000
Fees and Contingency	$ 200,000
Total	**$ 2,290,000**

After the infrastructure is in place, the next phase of development would include the construction of a few new facilities, such as three picnic shelters, one to two restroom buildings, a gatehouse, additional trails, a play structure, utilities, lighting and site furnishings as well as some additional natural resource restoration.



Phase 3 Development at Mississippi West Regional Park

Phase 3: Park Facility Development Estimate	
Item	Total Cost (2010)
Design - Architectural & Engineering Services	$ 120,000
Picnic Shelters (3)	$ 600,000
Restroom Building (2)	$ 200,000
Entrance Gate/POC station	$ 100,000
Connector Trails	$ 150,000
Play Structure	$ 100,000
Utilities	$ 50,000
Natural Resource Restoration	$ 25,000
Lighting, Signage and Site Furnishings	$ 25,000
Geotechnical Survey/Wetland Delineation and Assessment	$ 25,000
Survey/Construction Staking	$ 25,000
Permits (City, Watershed, DNR, COE, NPS)	$ 10,000
Subtotal	$ 1,430,000
Fees and Contingency	$ 140,000
Total	**$ 1,570,000**

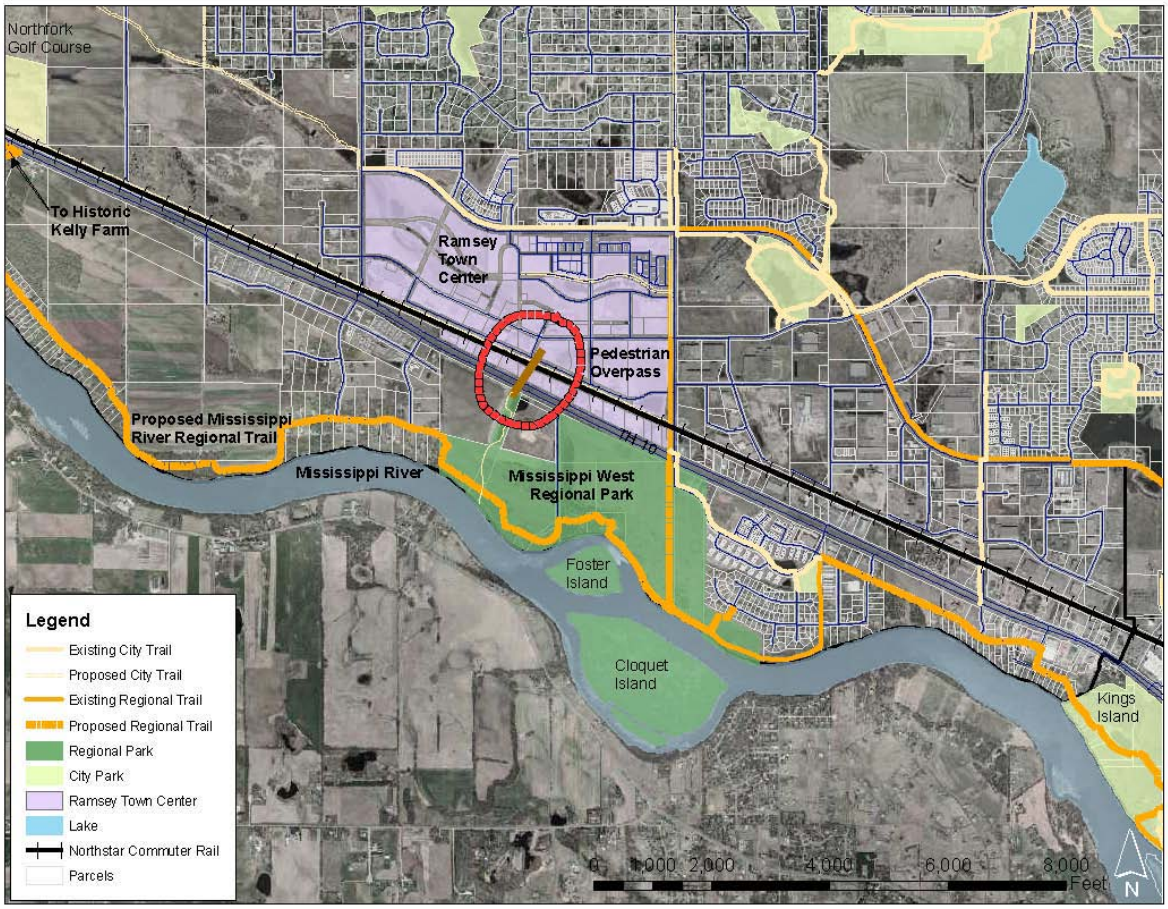
The fourth phase of development would include an interpretive and/or visitor center with additional parking, trails and interpretive features, as well as natural resource restoration and maintenance.



Phase 4 Development at Mississippi West Regional Park

Phase 4: Visitor Center Development Estimate	
Item	Total Cost (2010)
Design - Architectural & Engineering Services	$ 120,000
Interpretive / Visitor Center	$ 800,000
Site Work and Parking Lot	$ 300,000
Trails and Interpretive features	$ 150,000
Natural Resource Restoration	$ 40,000
Utilities	$ 100,000
Lighting, Signage and Site Furnishings	$ 50,000
Geotechnical Survey/Wetland Delineation and Assessment	$ 25,000
Survey/Construction Staking	$ 25,000
Permits (City, Watershed, DNR, COE, NPS)	$ 10,000
Subtotal	$ 1,620,000
Fees and Contingency	$ 160,000
Total	**$ 1,780,000**

The final phase of development would include a pedestrian overpass for Trunk Highway 10 that would connect the park with Ramsey Town Center. Estimated costs for the overpass would mostly likely shared between the MN Department of Transportation, Anoka County and the City of Ramsey.



Phase 5 Development at Mississippi West Regional Park

Phase 5: Pedestrian Connection Estimate	
Item	Total Cost (2010)
Design & Engineering Services	$ 200,000
Pedestrian Bridge	$ 2,000,000
Lighting, Signage & Site Furnishings	$ 75,000
Survey/Construction Staking	$ 50,000
Geotechnical Survey/Wetland Delineation and Assessment	$ 50,000
Permits (City, Watershed, DNR, COE, NPS)	$ 10,000
Subtotal	$ 2,385,000
Fees and Contingency	$ 200,000
Total	**$ 2,585,000**

VII. CONFLICTS

Conflicts related to park development will be kept to a minimum through proper planning and community involvement. With any new development in an existing residential area, there are common concerns among the area residents that are adjacent to the park or trail.

One of these concerns is the effect the increased usage of the park will have on their safety, security and privacy. Generally, regional parks in the metropolitan area do not have a high number of criminal activities related to park use. Privacy is always a concern and Anoka County will work with the affected residents to minimize perceived impacts. Various methods will be used, such as vegetated buffer or shifting a trail when possible, with the best methods being determined by Anoka County.

Conflicts between pedestrians and vehicular traffic will be kept to a minimum by creating an entrance road at the signalized intersection of TH 10 and CSAH 56.

There are plans to construct an interchange at Trunk Highway 10 and CSAH 56/Ramsey Blvd. This will impact the park by requiring approximately eight (8) acres of parkland be converted to highway uses for the project. To minimize the impacts to the park in the future, current plans avoid any development in the potentially impacted area and replacement land has been tentatively identified. A Memorandum of Understanding has been signed by the Metropolitan Council, MN Department of Transportation, MN Department of Natural Resources and Anoka County that addresses with issue. See Appendix.

Where the park is in close proximity to Highway 10, additional screening and buffering will be utilized to enhance the safety, aesthetics and quality of the park.

In addition, signage within the park will alert users of potential conflict areas, i.e. street crossings, driveway crossings, pedestrian cross-traffic, etc., and provide wayfinding and interpretive information.

VIII. PUBLIC SERVICES

As outlined in the Development Concept, the planned public services and facilities for the park will occur in phases, but initial development will provide a temporary access road, a boat/canoe launch and parking lot for access to the river. Portable toilets will be provided until a restroom building can be constructed.

IX. OPERATIONS

Anoka County Ordinance #2007-1 regulates the parks and trails under the jurisdiction of Anoka County and will be enforced by the local police departments and the Anoka County Sheriff's Department.

Anoka County will be responsible to provide the on-going daily and general routine maintenance of the park. This will include such maintenance as mowing, sweeping, plowing, clearing, debris removal, etc. Solid waste will be collected from trash and recycling receptacles located at high use areas and at regular intervals along the park trails. Anoka County will inspect the park and trails regularly and will provide any capital improvements the park requires, such as bituminous overlays, reroofing, etc. Park signs will be provided and maintained by the County.

Annual operations and maintenance costs for the park are estimated to be about $140,000.

Revenue for the operation and maintenance of the park will come from the Anoka County Parks and Recreation Department's annual operations and maintenance budget, which includes revenues from picnic shelter rentals, room rentals, programs, parks entrance fees and the County general fund. Supplementary funding is provided through the Regional Park Operations and Maintenance Grant Program.

The County will research the most energy efficient models in sustainable construction methods when developing the park. Currently, Anoka County employs remote building automation systems that save the department $5,000-$10,000 per year compared to traditional energy monitoring systems. New building construction would include alternate heating and cooling methods, such as geo-thermal heating and cooling.

Anoka County through the Environmental Services Department has a refuse and recycling policy that requires recycling of paper, plastics, etc. In the past, Anoka County has typically used recycled materials as much as possible for buildings and furnishing for the low maintenance these materials require.

X. CITIZEN PARTICIPATION

Anoka County works with regulatory agencies and local units of government in the master planning process. The Mississippi National River Recreation Area, a part of the National Park System, and the Minnesota Department of Natural Resources was allowed the opportunity to comment on this Master Plan. City of Ramsey staff and City Council members were invited to comment on the plan as well.

In addition, an open house was held on October 20, 2010. A notice was published in the local weekly newspaper and on the Anoka County website a few weeks prior to the meeting. In addition, post card invitations were mailed out to nearby residents and local city and county officials.

A total of 18 citizens attended the open house. Virtually all attendees were in support of the proposed plan. Residents were particularily appreciative of the current and planned protection and restoration of natural resources in the park and the minimized impact to adjoining residences through careful design and setbacks of any planned development.

Some additional comments and suggestions were:

- Allow for pontoon use of the boat launch;
- Post a sign to advise boaters of shallow waters or low water conditions;
- Restrict launch use to non-motorized boats because of shallow waters;
- No buildings near residential areas;
- Excited for the trails and connectivity between Ramsey and Anoka through the Mississippi River Trail.

Comments specific to the boat launch will be addressed and incorporated into the design phase of that project.

Refer to Appendix for the public notices.

XI. PUBLIC AWARENESS

Public awareness is an important component to regional park and trail systems.

As development occurs, the County will provide public education efforts through the Metropolitan Council's regional-wide awareness program, as well as, public information maps, websites, publications and brochures provided by Anoka County Parks and Recreation Department. Since the park is located in the Mississippi National River Recreation Area, Anoka County will also work with National Park Service staff to provide information regarding the park.

XII. ACCESSIBILITY

Anoka County continually strives to provide equal access to all residents of Anoka County. Park and trail use is open to any and all citizens. There is a nominal $5.00 vehicle entrance fee to help offset maintenance and operations costs, but if visitors use public transportation, walk or bicycle to the park, entry is free, which minimizes economic barriers for park visitors. In addition, to public transportation, the Anoka County "Traveler" provides transportation services to the citizens of Anoka County for a minimal fee. This service offers rides to specific locations and is available to those in need.

The facilities and amenities within the park, as well as, access points will conform to the standards mandated by the Americans with Disabilities Act.

XIII. NATURAL RESOURCES

Anoka County has maintained a strong commitment to preserving and restoring natural resources within its parks and open space system. The expansive 10,500 acre park system contains a diverse system of wildlife species and natural areas including upland forests, deciduous woodlands, upland prairies, forested wetlands, shrub wetlands and open wetlands. To manage the natural resources and maintain the parks identity and natural connection to the river, Anoka County will provide for:

- The protection, restoration and enhancement of native plant and animal habitats throughout the park;
- Protection and improvement of water and soil resources;
- Increase public awareness regarding the diverse natural resources in the area; and
- Sustainable practices related to park development, operations and maintenance.

General natural resources management strategies include identifying and assessing remnant plant and animal communities, monitoring rare species, controlling invasive species, ecologically restoring native plant and animal habitat, controlling detrimental insects and disease, wildlife management, enhancing water quality, erosion control and cooperative land stewardship.

A sustainable development framework is utilized in all new park and trail development and redevelopment to ensure ecologically sound land stewardship with an emphasis on maintaining the longevity of the facilities for public benefit.

The following natural resource management components are an integral part of Anoka County's planning efforts associated with the development of Mississippi West Regional Park:

1. Anoka County's Natural Resources Unit will be directly involved with the design, construction and monitoring of the proposed park development. A concerted emphasis will be placed on avoiding and minimizing any adverse impacts to the plant and animal habitat, as well as to the overall watershed. In addition, Anoka County will focus on incorporating local native seed and plant material that will compliment the ecology and function of the surrounding native plant communities.

2. Protection of surface water and ground water resources will be a top priority for this project. Anoka County will work very closely with the Cities of Ramsey and Anoka, the Lower Rum River Watershed Management Organization, the National Park Service's Mississippi National River Recreation Area, the Minnesota Department of Natural Resources and the Metropolitan Council to ensure the standards and requirements for resource protection are consistent with the Council's model ordinance for storm water management.

3. The overall vegetation management goal for Anoka County is to identify restoration needs and to define and implement adaptive management strategies that will sustain the biological diversity, production, and function of native plant communities. Vegetation management within Mississippi West Regional Park will focus on preserving native plants, introducing local native plants, maintaining water quality within the watershed and providing for linear plant and wildlife corridor connections. The Minnesota Department of Natural Resources reference

"Guidelines for Managing and Restoring Natural Plant Communities Along Trails and Waterways" will be used as part of the long term management plan for this park.

Considering that ecosystems are dynamic and continually changing over time and space, an adaptive management approach and framework fits very well with the County's practice of ecological restoration and stewardship. In the context of ecological restoration, the following adaptive management principles will guide the stewardship plan for Mississippi West Regional Park;

1. Problem Assessment:
   Define the scope of degradation to the site, synthesize the existing knowledge about it, and explore the potential outcomes of alternative restoration actions.
2. Design:
   Design a restoration plan and monitoring program that will provide reliable feedback and information about the effectiveness of restoration methods.
3. Implementation:
   Effective restoration is usually a multi-step process, requiring not only installation, but many years of maintenance and monitoring. Anoka County's Natural Resources Unit has begun restoring natural plant communities within Mississippi West Regional Park. At the time of acquisition, 121 acres of the property consisted of agricultural fields and pasture land. Since acquisition, Anoka County's Natural Resources Unit has restored 49.9 acres to native prairie with another 23.3 acres scheduled for restoration in 2011. The objective of the Natural Resources Unit is to restore the remaining acreage as funding becomes available.
4. Monitoring:
   Biological indicators are monitored to determine how effective the restoration methods are in meeting the project objectives.
5. Evaluation:
   The actual outcomes are compared to the anticipated outcomes. In addition, the reasons for the underlying differences are interpreted.
6. Adjustment:
   Practices, objectives, and models used during the restoration process may lead to reassessment of the problem, new questions, and new options to try in a continual cycle of improvement for a given project.

Management and stewardship practices for maintenance in the park will include periodic mowing, prescribed fire management, invasive species surveys, hazard tree assessments, seed collection and propagation, invasive species removal, turf management, brush and tree maintenance, erosion control, forest health assessments and maintenance, wildlife surveys and management as needed, and interpretive signage. Maintenance and stewardship practices also include regular trimming of trees and vegetation along roadways, trail corridors, park facilities and structures.

Appendix

List of Appendices:

County Context Map

Mississippi West Regional Park Master Plan

Portions of Park Development Chapter of the Anoka County Parks and Recreation Comprehensive System Plan

Portions of the 20/20 Vision Plan for the Anoka County Parks and Recreation System

Hakanson Anderson wetland review information

Memorandum of Understanding between MNDNR, MNDOT, Metropolitan Council and Anoka County

Minnesota Land Cover Classification System information

Anoka County Resolution

Review request letters to City of Ramsey, National Park Service and MN Department of Natural Resources

Public Meeting Notice



Anoka County Park System

Rum River North
County Park

Martin Island
Linwood Lakes
Regional Park

Lake George
Regional Park

Sandhill Crane
Natural Area

Coon Lake
County Park

Rum River Central
Regional Park

**Mississippi West
Regional Park**

Rum River South
County Park

Bunker Hills
Regional Park

Rice Creek
Chain of Lakes
Park Reserve

Coon Rapids Dam
Regional Park

Manomin
County Park

Rice Creek West
Regional Trail / Locke

Islands of Peace

Anoka County
Riverfront
Regional Park

Kordiak
County Park

ANOKA COUNTY PARKS

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MISSISSIPPI WEST REGIONAL PARK MASTER PLAN

Conceptual Design
(10.01.2010)



ANOKA COUNTY PARKS

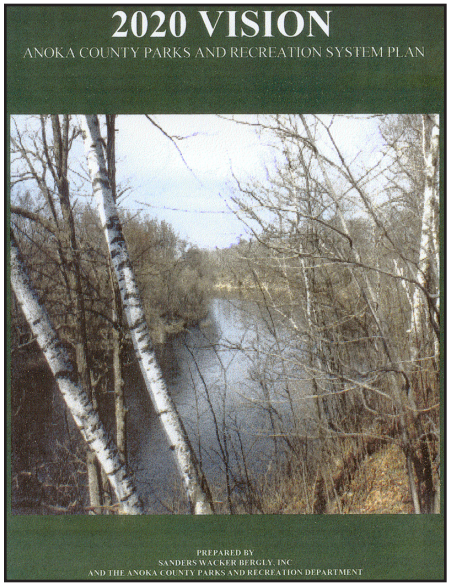
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park master plans

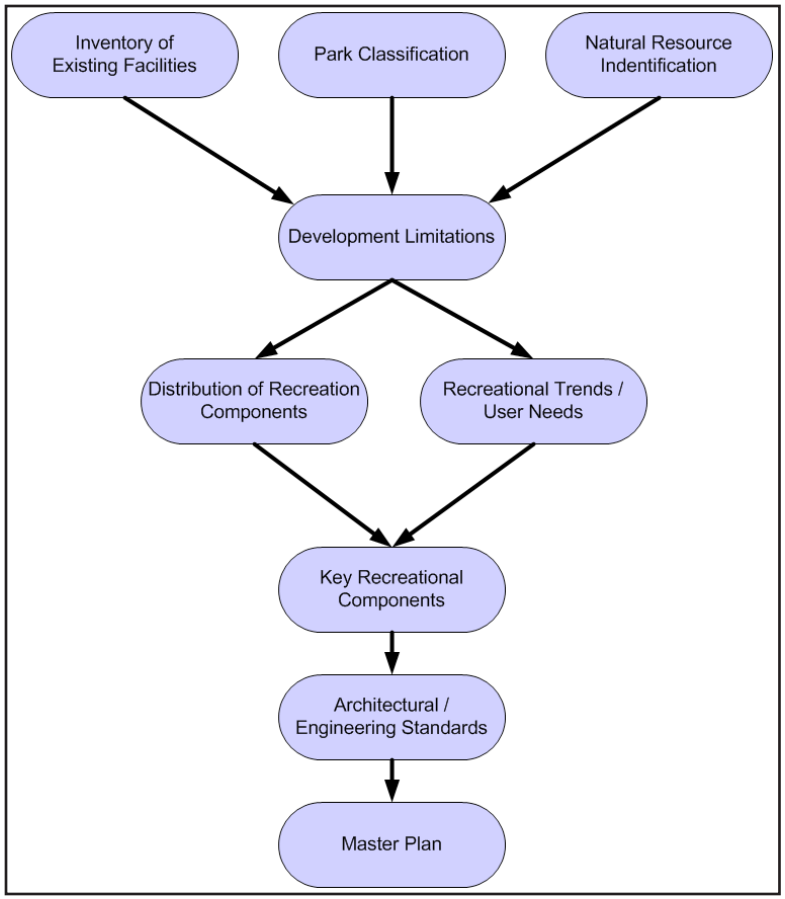
PARK MASTER PLANS

Introduction

Since the mid-1990's, Anoka County has invested in the renovation, upgrading and expansion of recreation and support facilities within the park system. Approximately $28 million, mostly from outside funding sources, has been spent on improvements. This effort was guided by the 2020 Vision Plan and has led to substantial enhancements to the park system. Facility enhancements have provided many dividends to our customer base, which is evident by the response from users and the increasing popularity of the park system. Today, the parks are much more appealing, usable and safe.



Because of the increased popularity and satisfaction from users, the same principles that guided the development through the 2020 Vision Plan, are again used to plan, design and develop the park system from this point forward. A review of the recreation trends, survey of users, understanding the natural resource base and its limitations, modern design standards and increased accessibility, are all components that enable proper recreational development. In addition, existing facilities and desired future development was reviewed by a multi-disciplinary team of individuals ensuring a wide variety of perspectives. This planning process will create park development that is of high quality, efficient, accessible and aesthetic to all users.



Planning Process

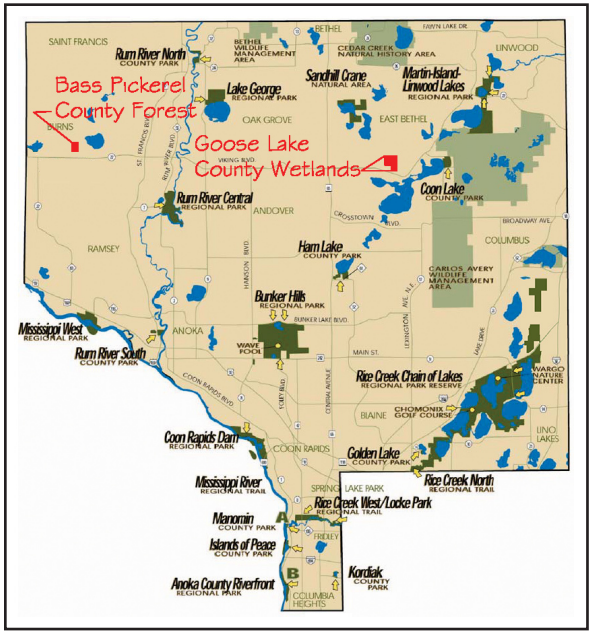
The master planning process for each park included a review and analysis of several different categories. These were inventory of existing facilities; review of park classification; identification of natural resource and ecosystems; review of development limitations; identification of key recreational components; distribution of recreational facilities; identifying recreation trends and user needs; and review of architectural and engineering standards. In addition, a complete inventory of land parcel ownership and boundary alignment was conducted in detail. A review of each category follows.

Inventory of Existing Facilities

An overview of the existing facilities in each park was made. This included quantitative aspects of trails, recreational and interpretive facilities, support facilities, special use facilities and other amenities. A qualitative assessment was made as well, including the accessibility, aesthetic functionality and condition of existing facilities. Understanding the existing structure of the park enables planners to better identify future redevelopment needs and costs. The inventory also codifies all facilities throughout the county for future reference.

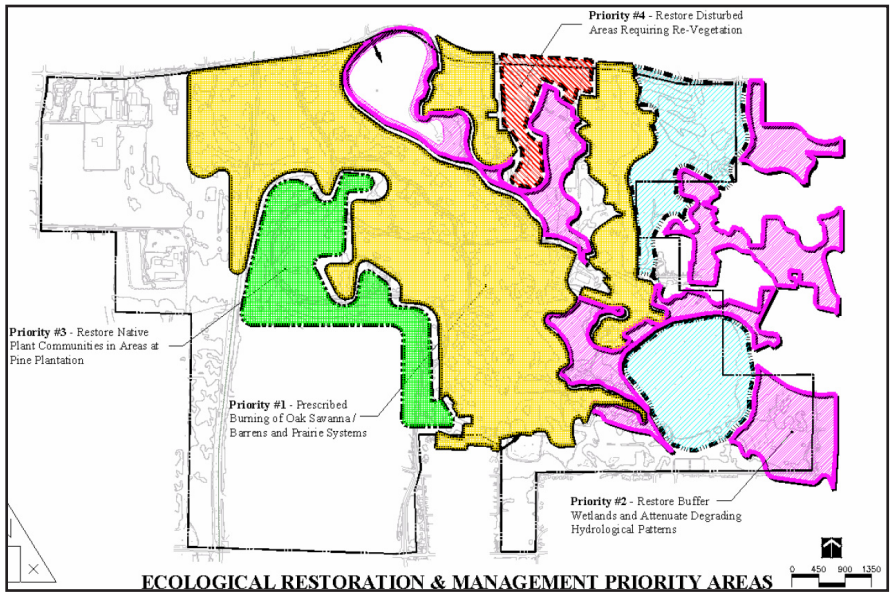
Park Classification

A review of the each park's classification was made, being either regional or county, to determine the current appropriateness of its classification. This review assists in determining the best value and direction to take to meet the future needs of the citizens. Parks that have experienced substantially increased use, in light of population expansion, were analyzed to see if reclassification would assist in future development. Regional designation would allow a park to receive additional dollars, in terms of both development funding and operations and maintenance funding. On the other hand, parks that receive very little regional use could be identified as potential transfers to local jurisdictions.



Natural Resource Identification

An overview of the existing natural resources was taken to determine the areas of significant resource value and the suitability for development. Identifying the high-quality natural ecosystems, and areas for potential restoration, will ensure continued preservation of our natural resources. High quality resources also enhance the park user's experience. Planned park development should not cause excessive impact to quality resources. Designs should reflect limited impact and limited fragmentation of existing natural communities. Through these efforts, forests, prairies and water resources will be improved.

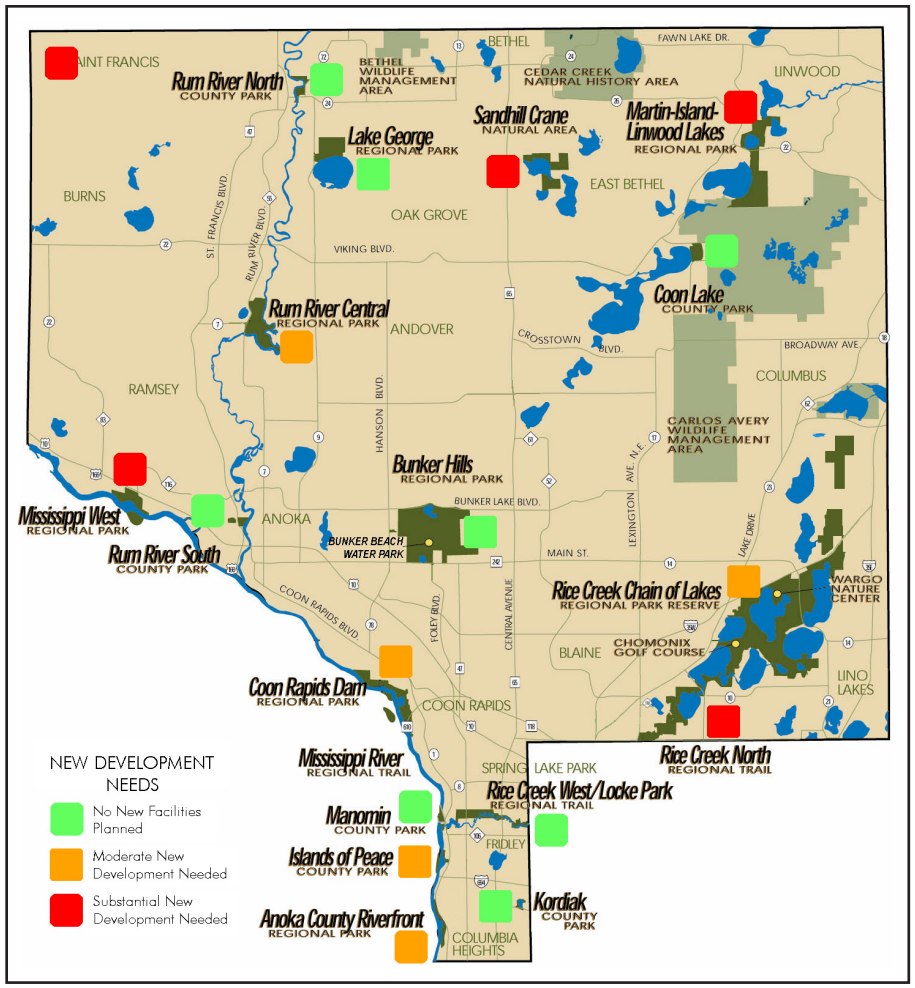


Development Limitations

A review of existing site characteristics, including soils, vegetation, hydrology and topography is incorporated into the master planning process. This type of information enables park designers to minimize impacts to the landscape, as well as, reduce development and long-term maintenance costs by designing appropriate facilities within the existing site conditions framework.

Key Recreational Components

Unique features within each park, either natural or man-made, can provide a contextual framework for the design of the Master Plan. Creating a common theme will provide uniformity and a "sense of place." In addition, points of interests or unique landscapes can be incorporated into the design to enhance the educational or recreational experience.



Distribution of Recreational Components

A review of existing facilities was conducted throughout the park system to establish a quantifiable measure of recreational opportunities. It is important to ensure that different types of recreation offerings are distributed "evenly" throughout all areas of the county so that all citizens will have relatively "equal" access to the types of recreation provided by the county. The county has a strong history of locating parks in a well dispersed fashion, thus recreational opportunities should be available throughout as well.

Recreational Trends and User Needs



While there are 'tried and true' recreational uses that the regional park system offers, the county should anticipate recreational trends and needs of the future park users. The increase in fitness and health awareness, for example, is just one of the many changing demands that will play an important role in the use and design of the park system. In the past, the county has been attentive to the demographic groups that utilize the park system and the Master Plans will remain flexible and evolve through user input and discussion.

Architectural/Engineering Standards

With recent technological advances and increased ecological understanding of our environment, it is imperative that the county incorporate modern utility and function in park and facility design. The county will follow state and local energy and environment codes and perform 'best practices' in a structured planning process in order to offer park visitors with the high-quality, environmentally sensitive, and long-lasting recreational facilities. In addition, the design process will incorporate standards of: Universal Design, ADA Accessibility, Public Safety,

Cost Efficiency, and Uniformity. Underlying these standards is the goal of creating a design that is visually and aesthetic pleasing that will attract continued use of the park system.

Park Master Plans

Each regional and county park has a master plan incorporating the above elements. Each park master plan has a written description that gives a brief synopsis of the park, its natural features and existing facilities, a planning concept and key elements of the master plan. Future facilities, acquisition and development are identified along with estimated costs. Selective areas or recreational features are highlighted on some parks.

Acquisition and development of the Anoka County park system began in the 1960's and was based on the goal of providing outdoor, natural resource-based recreation. Connected with this goal was the objective of protecting the county's natural landscapes and resources. Since the unfolding of the 2020 Vision plan, many of these goals were maintained and expanded upon. The goals and objectives developed in this plan will assist in the continued development and stewardship of the county's parks and open spaces.

As is shown in each Master Plan, future development will focus primarily on upgrading existing facilities to meet current growing demand of outdoor recreation and adding new facilities that provide additional passive or unstructured recreational opportunities. Projects will be planned and designed that will result in facilities and use patterns that are compatible with the surrounding landscape. Design objectives have been established to maximize recreational value, while maintaining natural resources.

System Development Costs

The table below lists the total anticipated amount for all acquisition, development and redevelopment. While the total is fairly sizable, it should be noted that for the past eight years since the establishment of the 2020 Vision plan, over $20 million has been spent on developing and redeveloping the park system. This equates to expenditures of approximately $2.5 million per year. Following this same average of financial commitment, the proposed park development efforts outlined in this chapter would extend out over the next ten years.

In the past, the county has been aggressive in securing financial support for development and redevelopment projects. This effort will continue. Funding sources, such as, the Metropolitan Council, Minnesota Department of Natural Resources, National Park Service, and others will be pursued for financial commitments. The county has established an excellent track record working with these agencies in fulfilling commitments through various grant agreements. Grants have been direct support, as well as, matching grants through financial or force-account sources. These agreements will continue to benefit the county through the next phase of development.

Regional Parks	
Anoka County Riverfront/Islands of Peace	$1,825,000
Bunker Hills	7,125,000
Coon Rapids Dam	1,910,000
Lake George	1,370,000
Martin-Island-Linwood	5,680,000
Mississippi West	6,000,000
Rice Creek Chain-of-Lakes	5,470,000
Rum River Central	2,730,000
Sugar Hills	15,600,000
County Parks	
Coon Lake	$1,290,000
Kordiak	330,000
Locke	280,000
Manomin	355,000
Rum River North	375,000
Rum River South	355,000
Special Units	
Sandhill Crane	$605,000
Total	**$51,300,000**

Mississippi West Regional Park

Mississippi West Regional Park is located in the city of Ramsey between the Mississippi River and Highway 10. With over a mile of shoreline, two islands and 273 acres, the park offers a unique setting to provide recreation and education within this scenic and fast developing area.

Features:
- 273 Acres
- Mississippi River
- Old Farmstead
- Oak Forest
- Flood Plain Islands
- Prairie Restoration Area

Existing Facilities:
- None



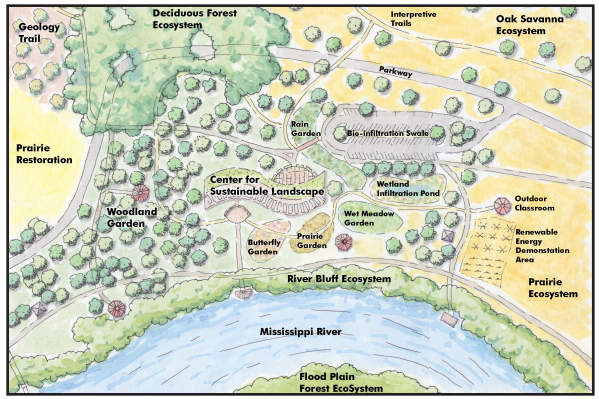


Planning Context:

As a regional entity, the park will incorporate facilities to accommodate a large and growing population. The park should take advantage of the river's wild and scenic qualities, while creating visual or physical buffers from the busy highway traffic. The park will incorporate the Mississippi River Regional Trail Corridor and plans for a connection to the future Ramsey Town Center are proposed. As a regional entity, serving a large user base, planning and design should incorporate the growing trends of the general population and governmental agencies to restore and protect natural resources and the environment.

Master Plan:

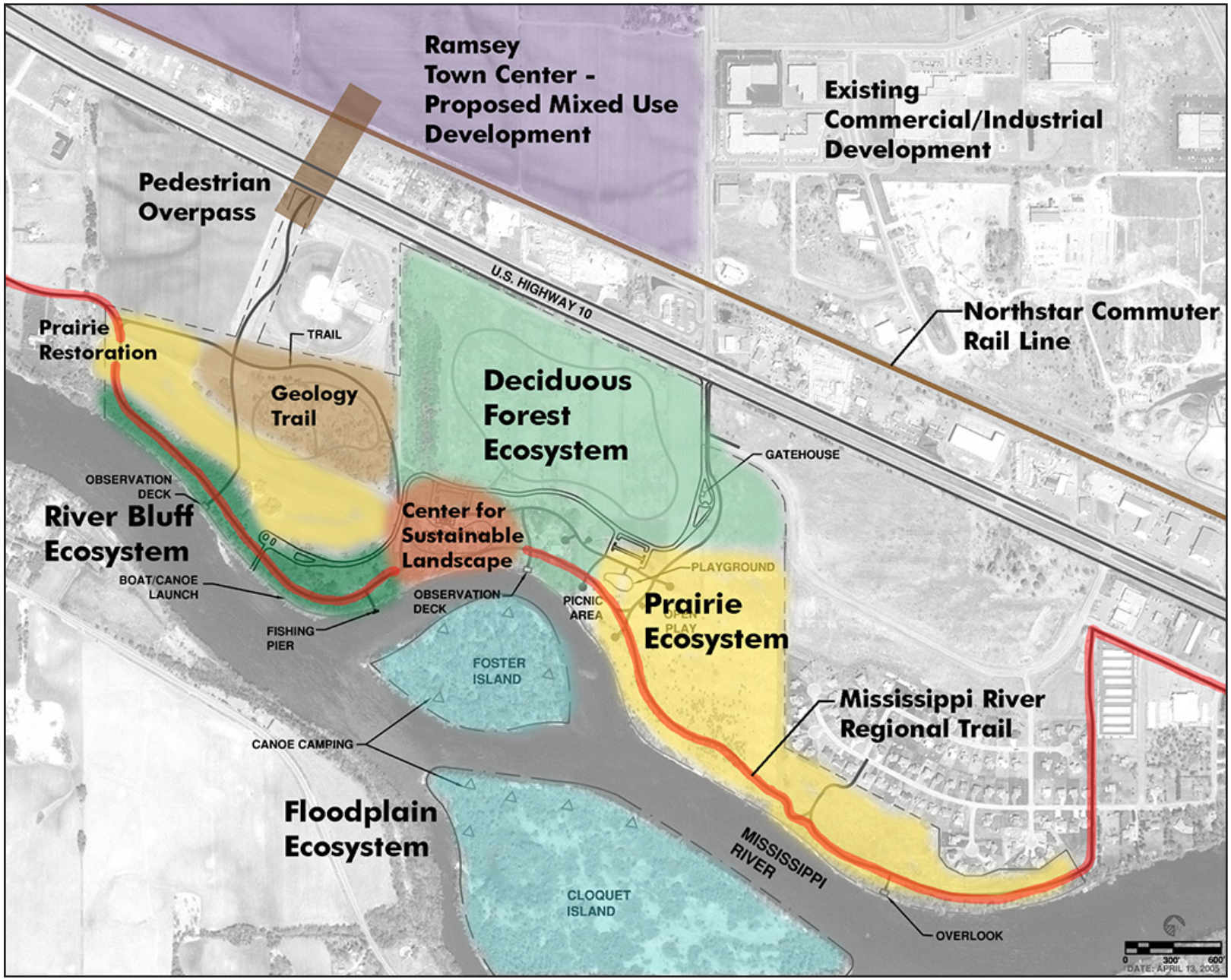
The Master Plan for Mississippi West Regional Park proposes the development of a Center for the Sustainable Landscape. It could include an educational/ interpretive center to serve as a "learning laboratory" and best management practices to utilize sustainable design and "green architecture" for implementation and construction of the park. Recreational facilities will include roadways and parking lots, picnic facilities, restrooms, hike and bike trails, interpretive facilities, regional trail access and prairie restoration areas. In addition, observation and scenic overlooks along with fishing platforms would be built along the river. Canoe camping is proposed for Foster and Cloquet islands.



Site Plan for Landscape Center

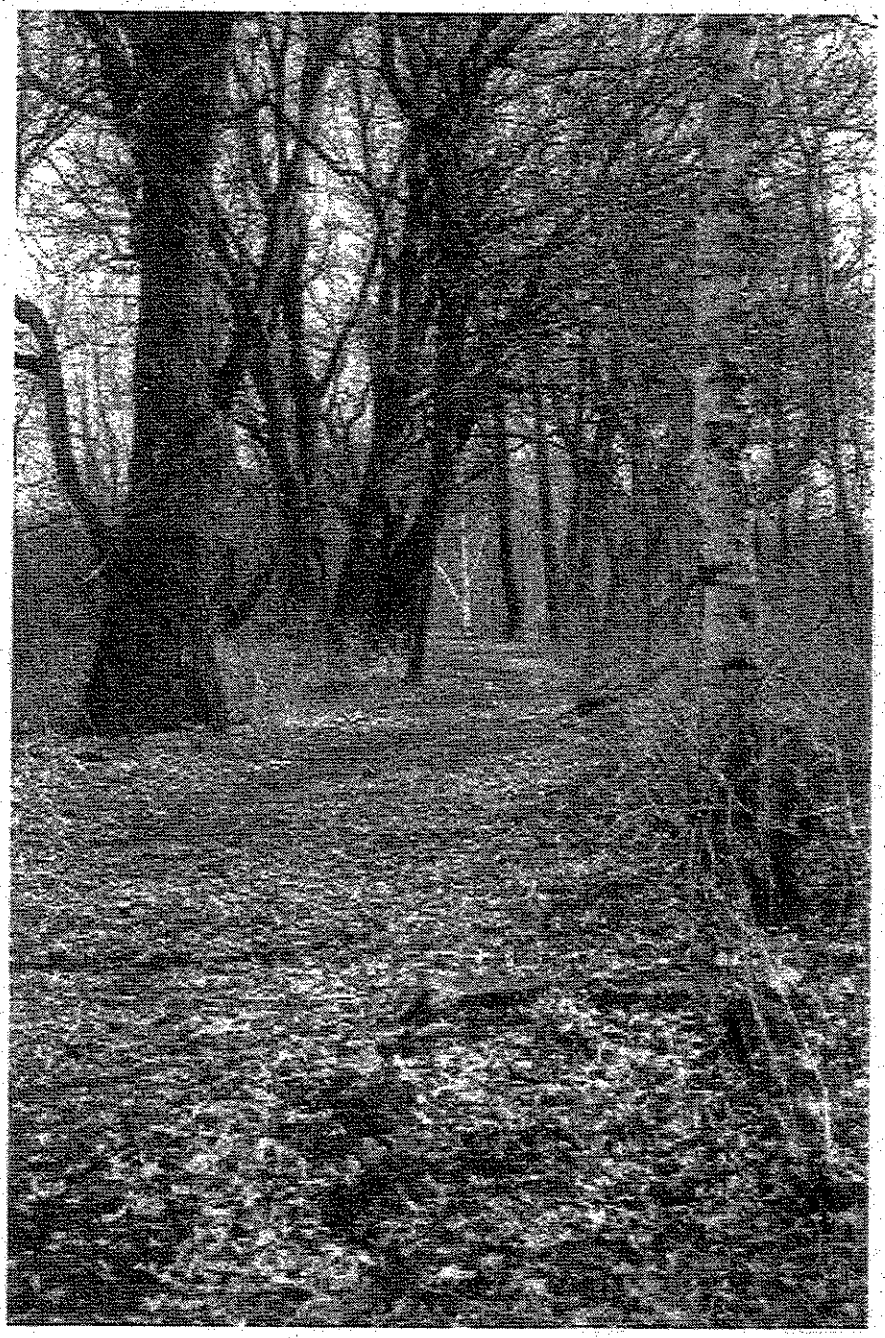
Future Needs / Development:

• Picnic / Restroom Facilities	$1,000,000
• Roadways, Parking lots, Utilities	800,000
• Sustainable landscapes / gardens	400,000
• Trails and interpretive features	200,000
• Recreational amenities	500,000
• Boat / Canoe Launch	400,000
• Regional Trail	200,000
• Gardens and Landscape Restoration	400,000
• Outdoor exhibits and displays	200,000
• Connection to multi-modal node / town center	400,000
• Interpretive / Educational Facility	1,500,000
Total Projected Future Cost:	**$6,000,000**



Mississippi West Regional Park Master Plan

CHAPTER 12 - PARK DEVELOPMENT AND LAND STEWARDSHIP



CHAPTER 12

PARK DEVELOPMENT AND LAND STEWARDSHIP

complete revision

12.1 INTRODUCTION

Many of the recreation facilities in the Anoka County Park System are in need of upgrading as a result of heavy use, changing safety and design standards, growing recreation demand and changes in leisure time interests. The Anoka County Parks and Recreation Department will pursue redevelopment of existing facilities, development of new facilities and expansion of park lands in its effort to continue to provide a high quality recreation service to the county residents.

The 2020 Vision planning process has shown that county residents have a strong interest in outdoor recreation activities. The high percentage of family households, the influx of new home buyers and the large population of aging baby boomers suggests that recreation facilities must appeal to a broad cross-section of age groups. There is a need to serve children with an interest in activities such as swimming and active play; teenagers and young adults with interests such as roller blading and volleyball and older adults with interests such as hiking and picnicking.

The planning process also has shown that residents are interested in natural resource based recreation activities such as hiking in natural areas and bird watching and that they support the protection and enhancement of natural areas in the park system. The mission statement prepared during the planning process expresses this clearly by saying: The purpose of the Anoka County Park and Recreation Department is to provide parks, open space and leisure services for the public. Our primary mission encompasses the protection, preservation, and restoration of a natural, resource-based park system.

The Anoka County Parks and Recreation Department is pursuing improvements to recreation facilities throughout the various park types in the system. The park system is comprised of the following park classifications:

Regional Park Reserve
Park land classified as a regional park reserve serves a multi-county area and is characterized, by the Metropolitan Council, as an area of natural or ornamental quality for nature-oriented outdoor recreation such as viewing and studying nature, wildlife habitat, conservation, swimming, picnicking, hiking, boating, camping and trail uses. A park reserve is over 1,000 acres in size and of sufficient area to encompass the resource envisioned for preservation. It has a diversity of unique resources, such as topography, lakes, streams and marshes. The Metropolitan Council requires that no more than 20% of the land area be developed with any type of constructed improvements including buildings, outdoor recreation facilities, roads, paths and the like.

Regional Park
Park land classified as a regional park serves a multi-county area and is characterized, by the Metropolitan Council, as an area of natural or ornamental quality for nature-oriented outdoor recreation such as picnicking, boating, fishing, swimming, camping and trail uses. A regional park is typically 200-1000 acres with a natural setting contiguous to water bodies or water courses.

County Park
Land classified as a county park is an area of natural or ornamental quality for nature-oriented outdoor recreation such as limited primitive camping, picnicking, boating, fishing, swimming and trail uses. Although the service areas are intended to be county-wide, in many cases the county parks are used primarily by the communities that surround them or are nearby. The park sites can be 10 to 200 acres in size and the settings are generally contiguous to water bodies or water courses.

Linear Park/Greenway
Land classified as a linear park/greenway is developed for one or more varying modes of recreation travel such as hiking, biking, snowmobiling, horseback riding, cross-country skiing, canoeing and driving or is intended to protect a sensitive, linearly occurring natural resource such as a wetland or upland native plant community. The service area may be local or regional in scale. The linear park/greenway must be of sufficient width and length to provide maximum protection of resource or maximum use as a trail corridor. Trail routes may utilize man-made or naturally occurring resources such as utility corridors, road rights-of-way, drainage ways, bluff lines, vegetation patterns, etc.

Special Feature
A special feature is a specialized or single-purpose recreation facility such as golf course, nature center, marina, arboretum and sites of historic or archaeological significance. The service area may be county-wide or regional. The size of the site matches standards for a specific facility (e.g. golf course) or is determined by the area occupied by the featured item (e.g. historic building).

The special features included in the Anoka County Park System include 4-H Camp Salie in Martin Island Linwood Lakes Regional Park, Chomonix Golf Course in Rice Creek Chain of Lakes Regional Park Reserve (RCCL), Wargo Nature Center in RCCL, Banfill House in Manomin County

Park, Riedel Farm Estate in Riverfront Regional Park, and Coon Rapids Dam in Coon Rapids Dam Regional Park and the Wave Pool in Bunker Hills Regional Park. Discussion of each feature in this chapter is included in the section devoted to the park in which the feature is located.

Conservancy Lands
"Conservancy lands" are areas of unique quality such as watercourses and wetlands that are preserved for environmental or aesthetic benefits to the community and/or because of the negative environmental or economic effects of development in them. The service area may be a municipality, township or county. The site should be sized adequately to protect the resource.

The Anoka County Parks and Recreation Department will utilize the 2020 Vision plan and individual park master plans as tools for identifying appropriate improvements or expansion for each park in the system. Cooperative efforts with municipalities and with other local, regional and state agencies are also key to effective development and maintenance of recreation facilities in the county.

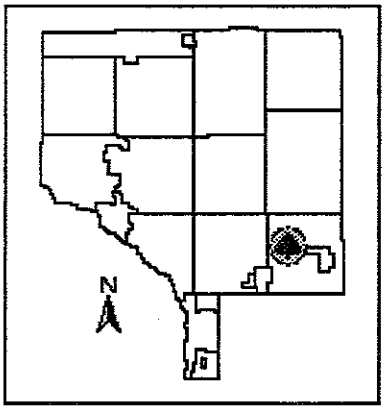
This chapter includes:

a. Discussion of development, redevelopment, natural resource management and expansion of Anoka County Parks;
b. Recommendations for possible disposition of several existing parks that are classified as "county parks";
c. Recommendations concerning the possible disposition of parks that are classified as "conservancy lands";
d. Recommendations concerning sale of non-park property currently owned by the parks and recreation department.
e. Discussion concerning the protection of natural areas that are currently in private ownership.

12.2 REGIONAL PARK RESERVES

"Park reserves" are typically the largest of the park types in a county park and recreation system. They are managed to provide recreation opportunities but are also intended to protect major natural resource areas. Because of their large size, the parks provide opportunities to preserve regionally significant plant communities and wildlife habitat areas. Refer to Chapter 11 - System Standards for more information on the role that a regional park reserve plays in the Anoka County Park and Recreation System.

Park: RICE CREEK CHAIN OF LAKES REGIONAL PARK RESERVE



Size: 2,550 acres
Estimated visitors in 1996: 178,300

OVERVIEW

Rice Creek Chain of Lakes is the only "Regional Park Reserve" in Anoka County. It is expected that it will become a major focal point in the Twin Cities regional park system. The park currently attracts visitors from throughout the metro area and offers a wide array of educational opportunities with its broad scope of natural history, cultural and archaeological resources. In addition, the Wargo Nature Center, Chomonix Golf Course, camping facilities, water based activities and future trails make it an attractive destination similar to Morris T. Baker Park Reserve in Hennepin County or Lake Elmo Park Reserve in Washington County.

The Wargo Nature Center and Chomonix Golf Course are classified as two of the park system's "special features" (see Chapter 11). Wargo is an outdoor learning center designed to be used by the community. The 10,000 square foot center is nestled on a beautiful peninsula overlooking George Watch Lake. Environmental education classes for school children of all ages are held both at the Wargo Nature Center and the Coon Rapids Dam Visitor Center. They are designed to assist educators in meeting the state's environmental education learner outcomes and to provide children with a better understanding of the natural world. Over 10,000 students participated in environmental education programming during the 1996-97 school year. Programming is developed to promote positive environmental values and is available for persons of all ages and abilities. Public programs are held at various locations around the county. Program content changes with the seasons and includes topics such as maple syruping, pond studies, apple cidering and snowshoeing. With financial support from Anoka Electric Cooperative, the Wargo Nature Center has been able to develop and implement the Wildlife Outreach Program; an environmental education program for grades 1-6 which

takes place in the schools. It is made available to schools in Anoka/Hennepin School District 11 at no cost. These programs have been tremendously successful with over 40,000 students participating each year.

Chomonix Golf Course is an 18-hole, par 72 championship facility. The focus of Chomonix is to provide a positive and pleasurable golf experience to all players at a reasonable cost. The golf course hosts corporate and general public golf tournaments, golf leagues, junior golf programs and lessons during the summer months. Winter activities include cross-country skiing. The facility has about 6.5 miles of groomed, double tracked trails. A special winter event is the annual "Ski by the Light of the Moon". In 1997, the facility hosted 41,664 golfers and countless numbers of walkers, joggers and cross country skiers. The course is one of Anoka County's Enterprise Funds with operating expenses of $500,000 to $600,000 per year. Revenues generated are $800,000 - $1 million per year.

Future development and redevelopment in the Rice Creek Chain of Lakes will focus on upgrading the quality and accessibility of existing facilities and increasing their carrying capacity. The extensive system of lakes and waterways in the park offer extraordinary, but largely undiscovered, opportunities for canoeing that make it unique in the Twin Cities area.

Rice Creek Chain of Lakes is surrounded by municipalities (Lino Lakes, Blaine, Centerville and Circle Pines) and is also close to population centers located in Ramsey County. Because it is located within a short of distance of a large population base and completely within the 2020 Metropolitan Urban Service Area (MUSA), it will be developed to a higher level in the near term than parks in rural areas. Its "park reserve" status limits development to 20% of the total land area, but carefully managed facility development and programs can greatly expand its carrying capacity without undue threats to its natural and archaeologic resources.

RECREATION FACILITIES

Proposed Development:
Playground; thirty new campsites at existing campground; courtesy docks at boat launch; campground amphitheater

Proposed Redevelopment:
Upgrade sand blanket and reduce slope at Centerville beach and construct beach playground.

TRAILS

Proposed Development:
Three trail bridges over Rice Creek, 8 miles of bituminous trail, 12 miles of soft surface trail; boardwalks in wetland areas

SPECIAL FEATURES

Proposed Development:
Construct building to enclose archeological dig at Heritage Lab Site

INTERPRETIVE FACILITIES

Proposed Development:
Archeological dig site including displays and active dig site; interpretive displays on Native American culture; interpretive prairie shelter; boardwalks

BUILDINGS AND SHELTERS

Proposed Development:
Multi-use building including trail head, equipment rental, gathering space, concessions, toilets; picnic pavilion and restrooms at Centerville Beach; screened pavilion and restrooms at existing campground; large event pavilion at Chomonix Golf Course; contact station

Proposed Redevelopment:
Maintenance shop and club house renovations at Chomonix Golf Course; upgrade four existing restroom facilities at scattered park sites

ROADS AND PARKING

Proposed Development:
Parking lot at boat launch; security lighting at campground parking lots

Proposed Redevelopment:
Pave all main roads and parking lots and roads at Heritage Lab site and campground; new signage at campground

LANDSCAPING AND AMENITIES

Planting at existing campground to define spaces, provide shade and improve appearance

NATURAL RESOURCE MANAGEMENT

Continue to protect heron rookery and maintain nesting data base; conduct white-tailed deer population density study; Wargo Nature Center to continue focus on forest resource and prairie management.

ACQUISITION, EASEMENTS AND LAND TRUSTS

A land swap is currently underway in which the county will receive land located south of Centerville Lake in exchange for property located to the east of the I-35W interchange near the northwest corner of the park.

The county and the MNDNR are exploring the possibility of acquiring and protecting wetlands adjoining Rice Creek

and extending from I-35W at the north end of the park to Howard Lake. The area currently appears as a possible greenway corridor on the MNDNR's draft map titled Potential Greenways & Natural Areas for the Metro Region. This would link Rice Creek Chain of Lakes to Carlos Avery Wildlife Management Area and Coon Lake Park.

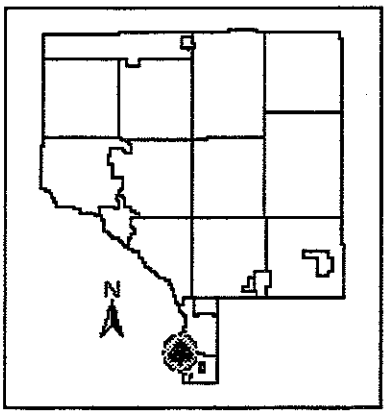
ESTIMATED COST OF FULL DEVELOPMENT

$4,419,000.00 in 1997 dollars for projects not including Chomonix Golf Course-related improvements; $1,521,000.00 for Chomonix Golf Course improvements (refer to Chapter 17 for information on development priorities).

12.3 REGIONAL PARKS

A "regional park" is generally 200 to 1,000 acres in size and provides a variety of natural resource-based recreation opportunities but also preserves and protects significant natural areas. There are seven "regional parks" in Anoka County including Bunker Hills, Coon Rapids Dam, Lake George, Martin Island/Linwood Lakes, Riverfront, Rum River Central and Mississippi West Regional Parks. Because of their size and regional significance, these parks, along with Rice Creek Chain of Lakes Regional Park Reserve, form the core of the Anoka County Park System. Refer to Chapter 11 - System Standards for more information on the role of regional parks in the Anoka County Park and Recreation System.

Park: RIVERFRONT REGIONAL PARK
ISLANDS OF PEACE



Size: 218 acres
Estimated visitors in 1996: 180,000

OVERVIEW

Riverfront Regional Park is considered to be the gateway to the Anoka County Park System at the south end of the county. The park is in a densely populated area within the current MUSA boundary and is surrounded by industrial uses. It is located on the bank of the Mississippi River and adjacent to major vehicular and bike routes. Because the park is highly visible, it makes a bold statement that reflects on the image of the park system as whole.

Future development and redevelopment in the park will focus on enhancing its esthetic character to project a strong and positive image. Designs will emphasize the river setting and the historic character established by the Riedel Farm Estate and the Banfill House in nearby Manomin Park. There will be continuity in the design of site elements such as lighting, signage and landscaping in Riverfront/Islands of Peace and Manomin Parks to help clarify that they are both part of the county parks system.

Recreation facilities at Riverfront Park will continue to be passive or unstructured in nature with an emphasis on providing for social gatherings, picnicking and hiking. In addition to these activities, regional trail use at Riverfront is a focus as a result of the park's relationship to the Mississippi River Regional Trail that follows East River Road adjacent to the site.

The historic Riedel Farm Estate is classified as one of the park system's "special features" (see Chapter 11) and offers unique opportunities for special programming. The farmstead was built in the 1880's by Albin Riedel and was purchased from F.M.C. by the Parks and Recreation Department in the 1980's. The house is currently available to the community for special events and is commonly used for groom's dinners, wedding receptions, business meetings and corporate retreats. Some additional programs to be considered in the future include use of the house as an extension of the Banfill-Locke Center for the Arts and use as a day conference center. A renovation plan has been completed recently to guide future improvements to the house and site.

The Islands of Peace building facility will continue to accommodate social activities of the surrounding neighborhoods by serving as a meeting and gathering place. This area of the park is also a possible mooring place for boaters enjoying upper reaches of the Mississippi River south of the Coon Rapids Dam. In addition, Islands of Peace is an important node along the Mississippi River Regional Trail serving as a trail head and rest stop.

Riverfront/Islands of Peace is about one mile from the Minneapolis City limits and is closer to the core of the current Metropolitan Urban Service Area than any other regional park in Anoka County. This urban context creates high demand for the recreation opportunities that the park has to offer. For this reason, park development and redevelopment projects will be scheduled at a somewhat faster rate than parks in rural areas.

INTERPRETIVE FACILITIES

Proposed Development:
Information kiosk; trail interpretive signs

BUILDINGS AND SHELTERS

Proposed Development:
Three picnic pavilions; interpretive/multi-use building; restrooms; visitor contact station

ROADS AND PARKING

Proposed Development:
Bituminous parking lot at new boat ramp; security lighting

Proposed Redevelopment:
Bituminous access road and parking lot upgrades

ACQUISITION, EASEMENTS AND LAND TRUSTS

The county will consider acquiring three residential properties located on County Highway 7 on the west side of the park (see figure 12.3). All three properties are surrounded on three sides by park land. The total acreage of the three parcels is approximately 9 acres.

The county proposes to partner with the City of Andover in purchasing land (none specified at this time) on the east side of the river and providing vehicle parking and pedestrian access to the park, by bridge, from the east.

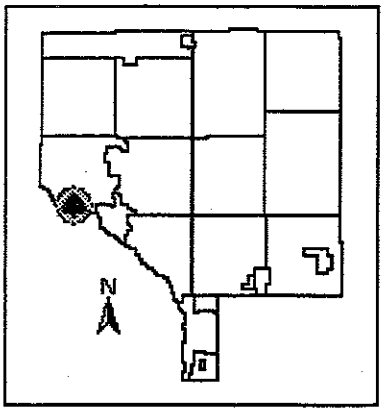
NATURAL RESOURCE MANAGEMENT

Riverbank stabilization; oak savanna restoration; conduct butternut regeneration study

ESTIMATED COST OF FULL DEVELOPMENT

$2,605,000.00 in 1997 dollars not including Phase I improvements which are currently underway (refer to Chapter 17 for information on development priorities)

Park: MISSISSIPPI WEST REGIONAL PARK



Size: 273 acres

OVERVIEW

Mississippi West Regional Park is located on the Mississippi River and is the newest addition to the Anoka County Park system. It was incorporated into the Metropolitan regional System in 1996. The park is located on a State Highway 10 within the MUSA boundary and in a rapidly developing urban area. The land is currently undeveloped and is comprised of woodland habitat and cultivated fields. The property was donated to the county but the benefactor maintains a residence there along with another homestead having a life estate. No development will be scheduled until the property is vacated and can be arranged through the Metropolitan Council.

Mississippi West's location along the river and on the Mississippi River Regional Trail corridor, creates strong ties to Anoka's Peninsula Point Park, Coon Rapids Dam Regional Park, Manomin County Park and Riverfront/Islands of Peace Regional Park. The river binds the five parks together, but each is different in character and displays a unique, natural and cultural history. The relationship creates excellent opportunities for development of a variety of water and land-based facilities and interpretation of the river environment and the history of the sites and surrounding areas. Site elements such as signs, furniture, lighting and landscaping will be designed to create continuity in the image and appearance of the parks and to identify them with the "Mississippi River System of Parks".

Mississippi West will provide access to the Mississippi River and to the regional trail system. The topography at the river and the shoreline condition provide a good opportunity for boat and canoe access. In addition, the location of the park near the west end of the Mississippi River Regional Trail in Anoka County makes it attractive for location of a major trail head.

Other development in the park will focus on passive, unstructured activities such as hiking, picnicking, education and cultural and historic interpretation. Development of an arboretum will also be considered for the site. A master plan has been completed for the park that defines proposed improvements for the park more completely.

TRAILS

Proposed Development:
Mississippi River Regional Trail head; hiking and biking trails throughout the park

BUILDINGS AND SHELTERS

Proposed Development:
Picnic pavilions; restrooms; interpretive building facility; visitor contact station; retreat center (existing Anderson residence); picnic furnishings

ROADS AND PARKING

Proposed Development:
Paved roadways and parking lots to serve all areas of the park

LANDSCAPING AND AMENITIES

Arboretum development; picnic furnishings, benches, signs, lighting, etc. having designs consistent with Parks and Recreation Department standards

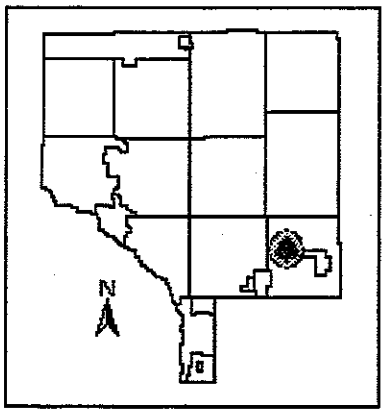
NATURAL RESOURCE MANAGEMENT

Prairie restoration

12.5 LINEAR PARKS

"Linear parks" or trails provide important connections between regional parks in the county park system and between parks and population centers in the county. There are three existing linear parks in Anoka County including Rice Creek North Regional Trail, Rice Creek West Regional Trail and Mississippi River Regional Trail. Refer to Chapter 11 - System Standards for more information on the role of linear parks in the Anoka County Park System.

Park: RICE CREEK NORTH REGIONAL TRAIL



Size: 389 acres - 3.8 mile developed trail length
Estimated visits in 1996: 49,000

OVERVIEW

Rice Creek North Regional Trail is a greenway/trail connection between Rice Creek Chain of Lakes Regional Park Reserve and a trail length in Ramsey County that is planned to extend through Shoreview and the Twin Cities Army Ammunition Plant site. Heading west, the trail will then link with Rice Creek West Regional Trail in Fridley. The greenway/trail is a valuable regional trail link that protects sensitive wetland and creek habitat areas and provides attractive undeveloped open space. In addition, the trail links to several local parks and trail systems. There is also a Native American burial mound in the park that will be protected.

Improvements planned for the park focus on development of trails and support facilities and on interpretation of the Native American heritage represented by the burial site located there.

TRAILS

Development:
Two foot bridges; boardwalk; bituminous trail expansion; trail connection into Rice Creek Chain of Lakes Regional Park; trail directional signage

INTERPRETIVE FACILITIES

Development:
Native American interpretive plaque

ROADS AND PARKING

Development:
Bituminous parking lot including security lighting

Hakanson Anderson

Main Office:
3601 Thurston Avenue, Anoka, MN 55303
Phone: 763/427-5860 Fax: 763/427-0520
www.haa-inc.com

35 YEARS

September 22, 2010

Scott Yonke
Anoka County Parks and Recreation
550 Bunker Lake Boulevard NW
Andover, MN 55304

Re: Wetland Review for Mississippi West Regional Park, Ramsey, MN

Dear Mr. Yonke:

Thank you for the opportunity to review the wetlands for this site. It has been a pleasure to work with you.

I reviewed the Anoka County Soil Survey and the National Wetland Inventory (NWI) as well as an onsite review along the location of the access road (shown as 139th Lane on soils map) and proposed boat/canoe launch areas. There were no hydric soils per the soil survey and no wetlands as inventoried by the NWI except for those directly associated with the river. Also, no jurisdictional wetlands were identified using the Routine Determination methodology described in the Corps of Engineers Wetlands Delineation Manual (Waterways Experiment Station, 1987) and the appropriate regional supplement as required by Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. I did not review any other proposed trails or facilities as shown in the Master Plan dated 5/25/2010.

There may be wetlands associated with the Mississippi River below the Ordinary High Water level. Please contact Kate Drewry at 651/259-5753 in regards to this and the MNRRA program.

The Corps of Engineers could also require a permit under Section 404 of the Clean Water Act. Please contact Tim Fell at 651/290-5360.

If you have questions or need additional information please call me at 763/427-5860.

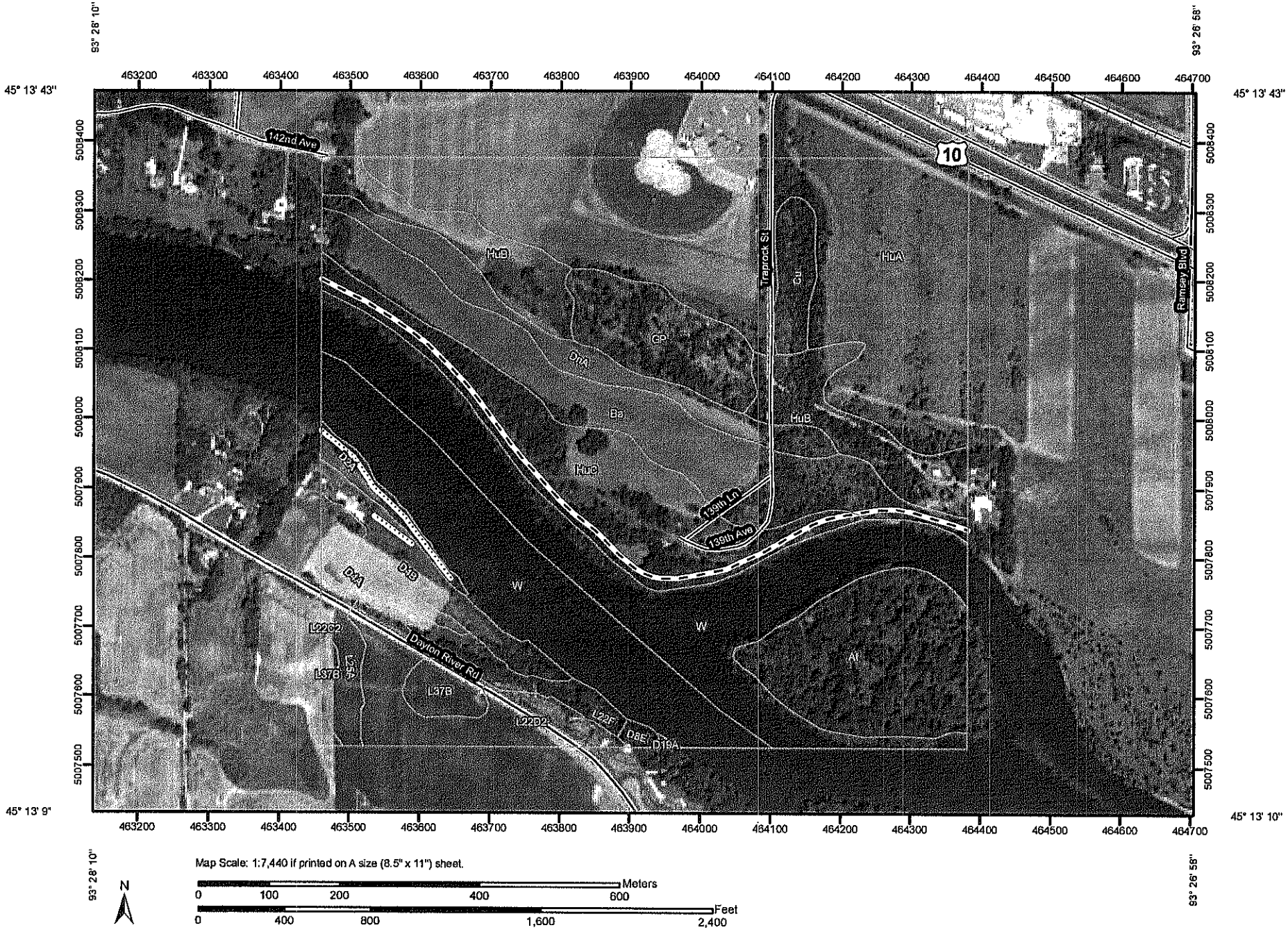
Sincerely,
HAKANSON ANDERSON ASSOCIATES, INC.

Becky L. Wozney, Wetland Specialist
Certified Wetland Delineator

Cc: Steve Jankowski, Lower Rum River WMO
Karen Blaska, Anoka County Parks and Recreation
Dennis Rodacker, Anoka Conservation District
Lynda Peterson, Board of Water and Soil Resources

Att: Anoka County Soil Survey
National Wetland Inventory
Master Plan

Soil Map—Anoka County, Minnesota, and Hennepin County, Minnesota
(Mississippi West Regional Park)



Map Unit Legend

Anoka County, Minnesota (MN003)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Af	Alluvial land, mixed, frequently flooded	14.6	7.5%
Ba	Becker very fine sandy loam	17.7	9.1%
Cu	Cut and fill land	2.9	1.5%
DnA	Dickman sandy loam, 0 to 2 percent slopes	6.7	3.5%
GP	Pits, gravel-Udipsamments complex	7.8	4.0%
HuA	Hubbard coarse sand, 0 to 2 percent slopes	43.9	22.6%
HuB	Hubbard coarse sand, 2 to 6 percent slopes	12.7	6.6%
HuC	Hubbard coarse sand, 6 to 12 percent slopes	17.4	9.0%
W	Water	25.4	13.1%
Subtotals for Soil Survey Area		**149.2**	**77.0%**
Totals for Area of Interest		**193.9**	**100.0%**

Hennepin County, Minnesota (MN053)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
D2A	Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded	1.7	0.9%
D4A	Dorset sandy loam, 0 to 2 percent slopes	2.8	1.5%
D4B	Dorset sandy loam, 2 to 6 percent slopes	4.9	2.6%
D8E	Sandberg loamy coarse sand, 18 to 35 percent slopes	0.4	0.2%
D19A	Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded	0.1	0.0%
L22C2	Lester loam, morainic, 6 to 12 percent slopes, eroded	0.1	0.1%
L22D2	Lester loam, morainic, 12 to 18 percent slopes, eroded	7.6	3.9%
L22F	Lester loam, morainic, 25 to 35 percent slopes	2.9	1.5%
L25A	Le Sueur loam, 1 to 3 percent slopes	2.4	1.2%
L37B	Angus loam, morainic, 2 to 5 percent slopes	2.7	1.4%
W	Water	18.9	9.8%
Subtotals for Soil Survey Area		**44.7**	**23.1%**
Totals for Area of Interest		**193.9**	**100.0%**

U.S. Fish and Wildlife Service
National Wetlands Inventory

Mississippi West Regional Park

Sep 22, 2010



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deetwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Minnesota Department of Transportation

Memo

Metro Program Delivery
Waters Edge
1500 West County Road B2
Roseville, Minnesota 55113

Rd No.
File: TH 10
02-596-10
Environmental
Section 4(f)

Office Tel: 651.234.7722
Fax: 651.234.7609

RECEIVED
MAY 28 2009
ANOKA COUNTY
HIGHWAY DEPT

May 28, 2009

To: Distribution

From: Mark J. Lindeberg
North Area Engineer

Subject: MOU for Park taking
TH 10 in Ramsey
SP 0202-90

Enclosed is a fully executed copy of the MOU that addresses the mitigation of the taking of Park land for the future construction of an interchange at TH 10 and Ramsey Boulevard (CSAH 56). We have all been involved in the development of this MOU and our respective agencies have signed the MOU. Please retain this file for your agencies future use.

Please contact me with any questions that you may have.

Distribution:
Marybeth Block
Department of Natural Resources
DNR Central Regional Headquarters
1200 Warner Rd.
St. Paul, MN 55106

Jan Youngquist
Metropolitan Council
Parks Department
390 Robert St. N.
St. Paul, MN 55101

Jack Corkle
Anoka County Highway Department
1440 Bunker Lake Blvd NW
Andover, MN 55304

Rick Dalton
Minnesota Department of Transportation
1500 West County Road B-2
Roseville, MN 55113

COPY
Orig. at CAO

MEMORANDUM OF UNDERSTANDING

PURSUANT TO SECTION 4(f) OF THE DEPARTMENT OF TRANSPORTATION ACT OF 1966 AMONG THE MINNESOTA DEPARTMENT OF TRANSPORTATION (MN/DOT), THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES, (MNDNR), THE METROPOLITAN COUNCIL, AND THE COUNTY OF ANOKA REGARDING TRUNK HIGHWAY 10 PRELIMINARY INTERCHANGE DESIGN (S.P. 199-010-09 AND S.P. 02-596-10)

CITY OF RAMSEY, COUNTY OF ANOKA, MINNESOTA

WHEREAS, the Minnesota Department of Transportation (Mn/DOT), the County of Anoka and the City of Ramsey in partnership are preparing preliminary engineering and environmental documentation in support of right of way preservation for a future project to convert the segment of Trunk Highway (TH) 10 in Ramsey from an expressway to a freeway, including construction of grade-separated interchanges at County State Aid Highway (CSAH) 56 (Ramsey Boulevard) and CSAH 57 (Sunfish Lake Boulevard) and replacement of direct access to TH 10 with access from frontage/backage roads (Project); and

WHEREAS Mississippi West Regional Park (Park) (Figure 1 attached) is located in the Project area vicinity; and

WHEREAS, the Project includes the extension of Riverdale Drive west of realigned Ramsey Boulevard, in order to restore access to properties that will lose direct access to TH 10 through its conversion from expressway to freeway; and

WHEREAS, the proposed extension of Riverdale Drive severs the corner of land within the Park that is located in the southwest quadrant of the proposed TH 10/Ramsey Boulevard interchange from the remainder of the Park; and

WHEREAS the Park is (1) owned by the County of Anoka, (2) part of the regional park system which is the responsibility of the Metropolitan Council, and (3) the site of a native prairie restoration funded by a Legislative Commission on Minnesota Resources (LCMR) grant administered by the Minnesota Department of Natural Resources (MnDNR); and

WHEREAS, in anticipation of federal funding, the Project is being reviewed by the Federal Highway Administration (FHWA) as a Class III Action (Environmental Assessment) under the National Environmental Policy Act (NEPA) of 1969 (Statute 42 USC 4321 et seq.); and

WHEREAS Section 4(f) legislation as established under the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) (Section 4[f]) provides protection for publicly owned parks from conversion to a transportation use.

NOW THEREFORE Mn/DOT, County of Anoka, Metropolitan Council, and MnDNR (Signatory Agencies) agree as follows:

1. Before takings for the Project, the Park parcel contains approximately 274 acres. Based on preliminary engineering conducted for the current study, the right of way needed for the Project plus the severed parcel totals 8.0 acres of Park land, (Parcel A depicted in Figure 1 attached), the acquisition of which constitutes a use under Section 4(f). Parcel A is also part of the LCMR-funded native prairie restoration area within the Park.

2. Minimization of impacts through the removal of the extension of Riverdale Drive west of Ramsey Boulevard from the Project will not be part of this Project because this extension, which is consistent with the City of Ramsey's transportation plan, is needed to restore access to properties on the south side of TH 10.

3. Mitigation of the Project's Park land acquisition impact is subject to approval by the Metropolitan Council in accordance with the requirements for conversion of regional parks system lands to other uses as outlined in the Regional Parks Policy Plan. Lands within the regional park system can only be converted to other uses if approved by the Metropolitan Council through an equally valuable land or facility exchange.

   Mitigation of the Project's Park land acquisition impact will occur through one of the following methods:

   a. Acquisition of replacement land of reasonably comparable to the value to Parcel A. Replacement land will be adjacent to the Park or another regional park within the County of Anoka.

   b. Financial compensation to Anoka County Parks, in an amount equal to the value of the acquired Park land, for the purpose of Park development.

   c. A combination of the two methods above in amounts that together are reasonably comparable to the value of Parcel A.

   The Metropolitan Council makes the final decision on whether or not there is an equally valuable land or facility exchange.

4. Mitigation of the Project's impact to the native prairie planting on Parcel A will involve native prairie restoration (with local ecotypes) of an area, like in size, elsewhere in the Park, the location and details of which will be subject to MnDNR review and approval.

5. Mitigation of Park impacts may occur in advance of Project construction if opportunities arise. Mitigation details and agreements will be finalized among the Signatory Agencies prior to implementation of mitigation or prior to Project construction, whichever occurs first.

6. In consideration of the above-referenced Project impacts and mitigation provisions the Signatory Agencies with jurisdiction over the Park resource agree that the Project does not adversely affect the activities, features or attributes of the Park.

7. The Park impact, proposed mitigation, and a proposed Section 4(f) *de minimis* finding will be reported in the Environmental Assessment (EA) that is being prepared for the Project. This EA will be published and a public hearing held to provide the opportunity for public comment on the features, activities and attributes of the Park. The final determination of Section 4(f) *de minimis* applicability will be made by FHWA following a review of any public comments received.

8. This Memorandum of Understanding will be re-evaluated and amended, if required, upon any of the following conditions:

   a. Proposal by any of the Signatory Agencies to implement specific Section 4(f) impact mitigation measures; and, as specific mitigation is defined, documenting the terms of agreement between Mn/DOT and the County of Anoka regarding the proportion of mitigation costs to be paid by each agency.

   b. Re-evaluation of the Project under NEPA.

   c. Request by any of the Signatory Agencies.

MINNESOTA DEPARTMENT OF TRANSPORTATION (Mn/DOT)

By: _____ 4/27/09
DATE

MINNESOTA DEPARTMENT OF NATURAL RESOURCES (MnDNR)

By: _____ 3/26/09
DATE

METROPOLITAN COUNCIL

By: _____ 3-19-09
DATE

COUNTY OF ANOKA

By: _____ 2/27/09
Dennis D. Berg, County Board Chair DATE

Attest

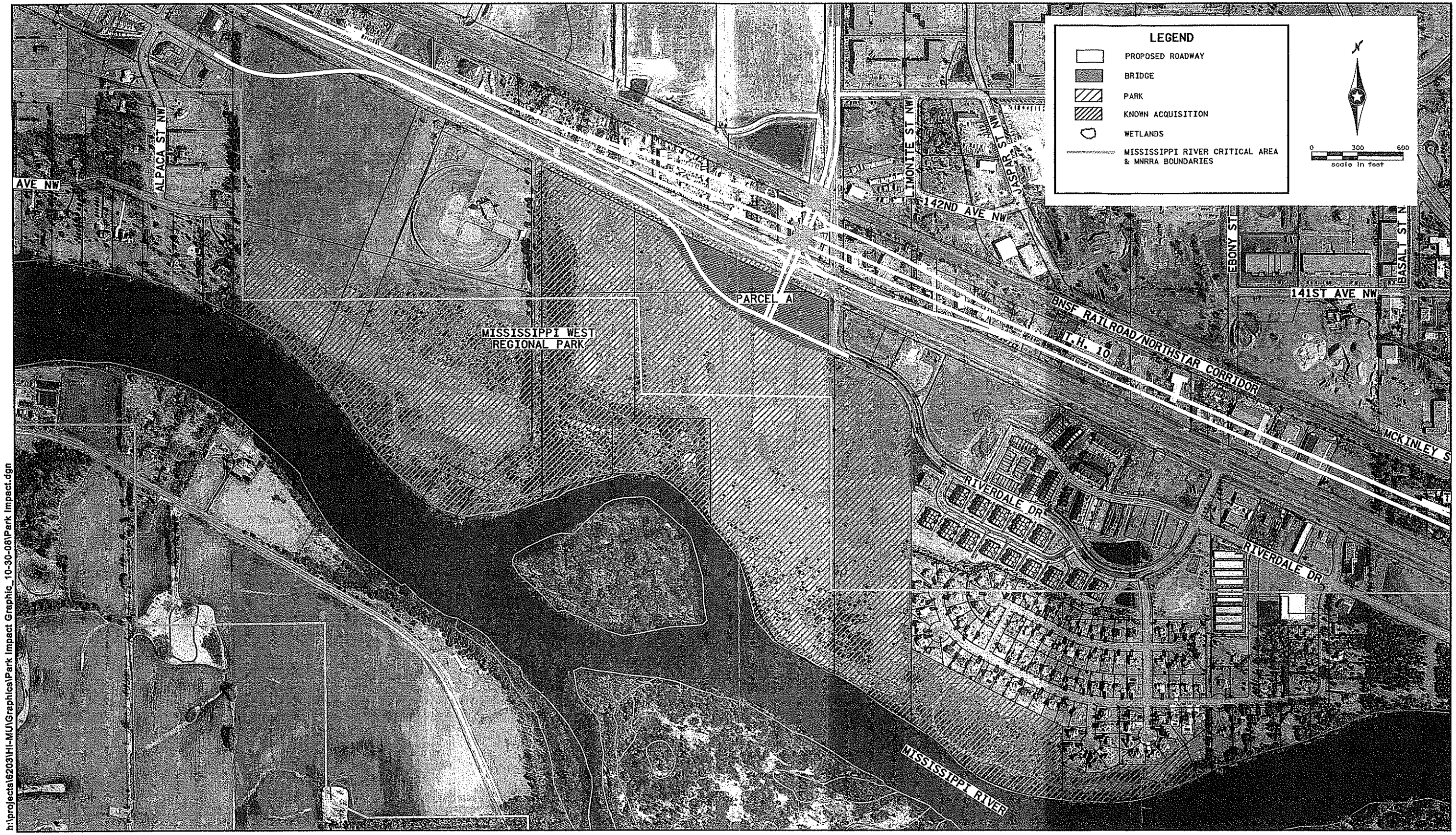
By: _____ 2/27/09
Terry L. Johnson, County Administrator DATE

Approved By

By: _____ February 13, 2009
John VonDeLinde, Director of Parks and Recreation DATE

Approved as to Form

By: _____ 3-3-09
Robert M. A. Johnson, County Attorney DATE



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Section 4(f) Park Impact

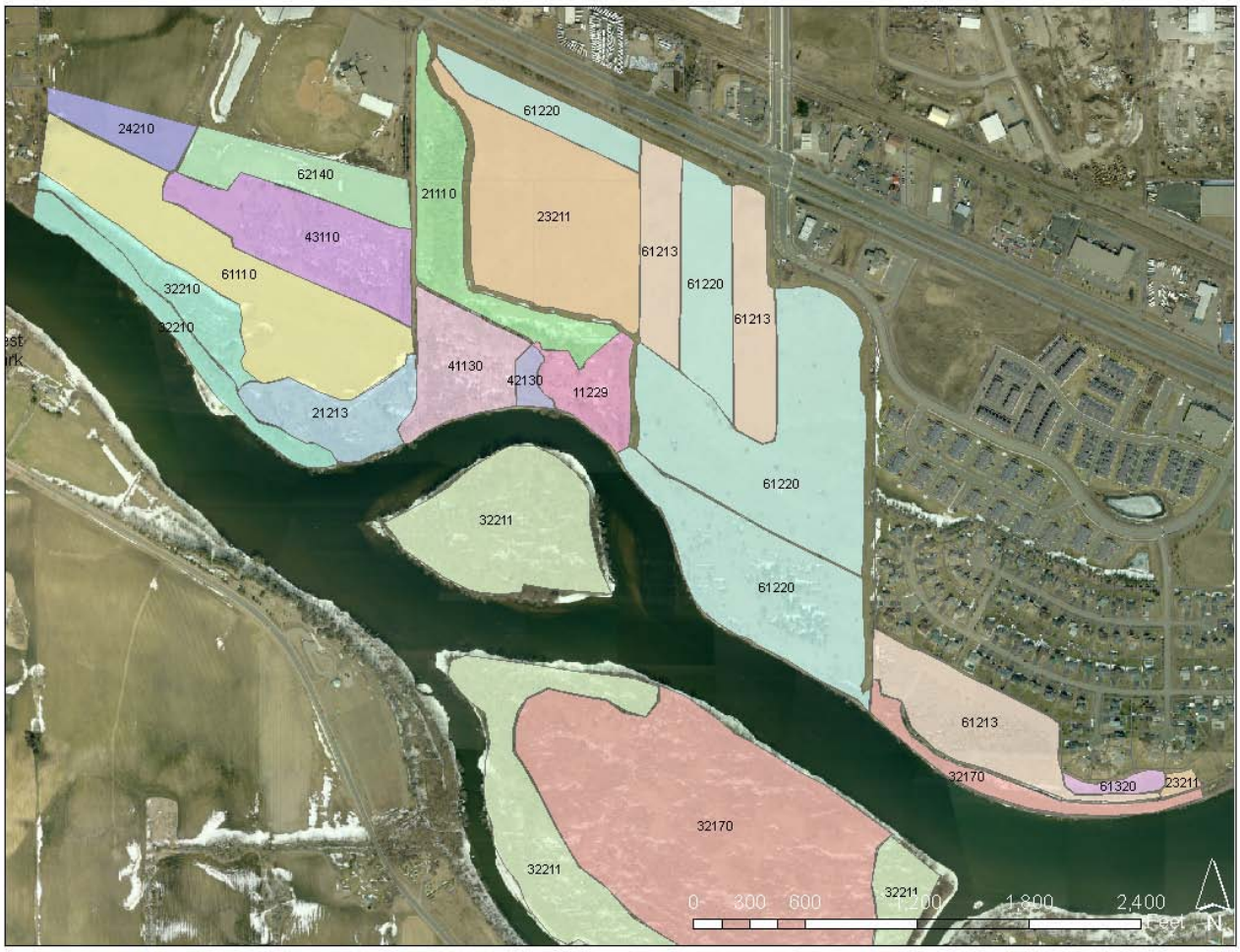
TH 10 in Ramsey
S.P. 199-010-09, S.P. 02-596-10, HPPH MN196(002)
Anoka County, City of Ramsey, Mn/DOT

Job 6203
10/30/2008

Figure 1

Minnesota Land Cover Classification System

A natural resource inventory of land cover types was conducted using the Minnesota Land Cover Classification System (MLCCS). Anoka County conducted a ground survey of Mississippi West Regional Park in September, 2010. The following community types were identified and classified as:



MN Land Cover Classification

MLCC Legend for Mississippi West Regional Park:

11229	Artificial surfaces with deciduous trees…other deciduous trees (4.6 acres)
21110	Upland soils with planted, maintained or cultivated coniferous trees (9.6 acres)
21213	Planted, maintained or cultivated deciduous trees…other deciduous trees (6.5 acres)
23211	Planted or maintained grasses…short grasses (4.1 acres)
24210	Upland soils with cultivated close grown cropland (3.7 acres)
32170	Upland deciduous trees…altered/non-native deciduous forest (54.7 acres)
32210	Upland deciduous forest…floodplain forest (5.2 acres)
32211	Upland deciduous forest…floodplain forest, silver maple subtype (46.5 acres)
41130	Upland coniferous woodland…eastern red cedar woodland (7.4 acres)
42130	Upland deciduous woodland…altered/non-native deciduous woodland (1 acre)
43110	Mixed coniferous – deciduous woodland…altered/non-native woodland (11.7 acres)
61110	Tall upland herbaceous vegetation…mesic prairie (19.7 acres)
61213	Medium-tall upland herbaceous…dry prairie, sand-gravel subtype (13.9 acres)
61220	Medium-tall upland herbaceous…medium-tall non-native dominated herbaceous vegetation (72.2 acres)
61320	Tall upland herbaceous vegetation…wet-meadow-temporarily flooded (1 acre)
62140	Grasslands with sparse deciduous trees…non-native dominated herbaceous vegetation with sparse deciduous trees (6.6 acres)

BOARD OF COUNTY COMMISSIONERS

Anoka County, Minnesota

DATE: December 14, 2010 **RESOLUTION #2010-168**

OFFERED BY COMMISSIONERS: Lang and LeDoux

RESOLUTION RELATING TO THE APPROVAL AND ADOPTION OF THE MISSISSIPPI WEST REGIONAL PARK MASTER PLAN

WHEREAS, it is necessary and in the public interest for the County of Anoka to provide open space recreational facilities within the County; and,

WHEREAS, the County of Anoka has worked with the City of Ramsey and other regulating agencies in a cooperative effort to locate and develop a regional park in the city; and,

WHEREAS, the County of Anoka and the Metropolitan Council have designated Mississippi West a regional park; and,

WHEREAS, the County of Anoka has through studies and evaluations developed a park development program for Mississippi West, which is required to be approved by the Metropolitan Council; and,

WHEREAS, the Metropolitan Council requires a Mississippi West Master Plan for this regional park; and,

WHEREAS, the local city representatives have reviewed and commented on the plan:

NOW, THEREFORE, BE IT RESOLVED that the Anoka County Board of Commissioners hereby adopts the Mississippi West Regional Park Master Plan which is dated December 2010, a copy of which is on file in the office of Anoka County administrator, 2100 3rd Ave., Anoka, MN 55303, and authorizes its submission to the Metropolitan Council for its approval so that park development will be eligible for future Metropolitan Council grant funding.

BE IT FINALLY RESOLVED that a copy of this resolution and Master Plan be forwarded to the Metropolitan Council, Anoka County Parks and Recreation Department, and the City of Ramsey.

STATE OF MINNESOTA)
COUNTY OF ANOKA) ss

I, Terry L. Johnson, County Administrator, Anoka County, Minnesota, hereby certify that I have compared the foregoing copy of the resolution of the county board of said county with the original record thereof on file in the Administration Office, Anoka County, Minnesota, as stated in the minutes of the proceedings of said board at a meeting duly held on December 14, 2010, and that the same is a true and correct copy of said original record and of the whole thereof, and that said resolution was duly passed by said board at said meeting.

Witness my hand and seal this 14th day of December 2010.

TERRY L. JOHNSON
COUNTY ADMINISTRATOR

	YES	NO
DISTRICT #1 – BERG	X	
DISTRICT #2 – LANG	X	
DISTRICT #3 – WEST	X	
DISTRICT #4 – KORDIAK	X	
DISTRICT #5 – LEDOUX	X	
DISTRICT #6 – SIVARAJAH	X	
DISTRICT #7 – ERHART	X	

Anoka County Parks and Recreation

550 Bunker Lake Boulevard NW, Andover, MN 55304

October 20, 2010

Susan Overson
National Park Service
Mississippi National River Recreation Area
111 E. Kellogg Blvd. Suite 105
St. Paul, MN 55101

Re: Draft Master Plan for Mississippi West Regional Park

Dear Susan:

Enclosed please find a draft master plan for Mississippi West Regional Park located in Ramsey, MN.

As you know, the park is located within the Mississippi National River Recreation Area and is located along the Mississippi River Trail. When complete, the development of the park will provide a convenient stopping point along the MNRRA corridor either by boat or by bicycle.

I would like to take this opportunity to invite you to review and comment on the plan at your earliest convenience.

I look forward to working with you on the development of this park. If you have any questions, you can contact me at 763-767-2865 or via e-mail at karen.blaska@co.anoka.mn.us.

Thank you and regards,

Karen Blaska
Park Planner

Anoka County Parks and Recreation

550 Bunker Lake Boulevard NW, Andover, MN 55304

October 20, 2010

Molly Shodeen
Department of Natural Resources
1200 Warner Road
St. Paul, MN 55106

Re: Draft Master Plan for Mississippi West Regional Park

Dear Molly:

Enclosed please find a draft master plan for Mississippi West Regional Park located in Ramsey, MN. As you know, the park is located along the Mississippi River and provides great access to the river.

I would like to take this opportunity to invite you to review and comment on the plan at your earliest convenience.

I look forward to working with you on the development of this park. If you have any questions, you can contact me at 763-767-2865 or via e-mail at karen.blaska@co.anoka.mn.us.

Thank you and regards,

Karen Blaska
Park Planner

Anoka County Parks and Recreation

550 Bunker Lake Boulevard NW, Andover, MN 55304

October 11, 2010

Amber Miller
Planning Manager
City of Ramsey
7550 Sunwood Drive NW
Ramsey, MN 55303

Re: Draft Master Plan for Mississippi West Regional Park

Dear Amber:

Enclosed please find a draft master plan for Mississippi West Regional Park located in Ramsey, MN. I would like to take this opportunity to invite you to review and comment on the plan at your earliest convenience.

The Anoka County Parks and Recreation Department is holding a public meeting on October 20th, 2010 from 4:00pm to 7:00pm at Ramsey Municipal Center, to obtain public comment on the plan.

If you have any questions, you can contact me at 763-767-2865 or via e-mail at karen.blaska@co.anoka.mn.us.

Thank you and regards,

Karen Blaska
Park Planner

Public Meeting Notice

Mississippi West Regional Park
Master Plan

The Anoka County Parks and Recreation Department will hold a public meeting on October 20, 2010 from 4:00 p.m. to 7:00 p.m. at Ramsey Municipal Center, 7550 Sunwood Dr NW, Ramsey, MN 55303 to obtain public comment on the master plan for Mississippi West Regional Park located in Ramsey, MN. Proposed plans include picnic facilities, restroom buildings, trails, interpretive center, boat launch, fishing pier, observations decks, natural resource restoration, roadways and parking lots.

Anyone interested in learning more about the master plan or wanting to offer comments is invited to attend the meeting. Those who have questions, but are unable to attend, may contact Karen Blaska, Park Planner at 763-767-2865.

Kathryn Timm
Assistant County Attorney

Terry L. Johnson
County Administrator

Publish In:
Anoka County Union: October 8 and October 15, 2010

EXECUTIVE SUMMARY







Mississippi Skyway Preliminary Engineering Report

CITY OF RAMSEY, MINNESOTA

DECEMBER 2014

SRF Kimley»Horn BRAUN INTERTEC City of RAMSEY

EXECUTIVE SUMMARY

Project Need and Intent

The Mississippi Skyway pedestrian bridge will provide a critical direct pedestrian and bicycle connection between the City of Ramsey's 400-acre pedestrian-oriented 'COR' development, the Ramsey Northstar Station, Ramsey Park & Ride and the resources associated with the Mississippi River and attendant regional amenities. Currently, Trunk Highway 10 (TH 10) and the parallel BNSF Railway Company and Metro Transit Northstar Commuter Rail railroad corridor are barriers to safe pedestrian and bicycle access between The COR and the river.

At its heart, the project is about overcoming boundaries to safe bicycle and pedestrian circulation while expanding and enhancing multi-modal transportation, economic development and recreational options to promote a livable, vibrant region and community.

Regional Amenities and Connections

The Mississippi Skyway provides the connection between regional amenities creating an effective nexus between housing, transportation, employment and recreation. The Mississippi Skyway will link existing and future public investments with a single project, enhancing the value of each.

Mississippi River

The Mississippi River, known as America's Treasure, is a vital ecological feature on a global, national, and regional scale. The stretch of river from Ramsey and Dayton down through the Twin Cities area to Hastings is designated as a National Park entitled the Mississippi National River and Recreation Area (MNRRA). The river within Ramsey is also a part of the State's Wild and Scenic River system. A prominent part of the MNRRA is the 273-acre Mississippi West Regional Park in Ramsey, which includes an existing trail from the river to the touchdown point of the proposed skyway. The master plan for the park forecasts an interpretive center to compliment the native plant community restorations and recreational river access.

Regional Trail Connections

The Mississippi River Regional Trail from Mississippi West Regional Park to Anoka will be complete in the Spring of 2015. This trail is also designated US Bikeway #45 with attendant trail connections to the entire Metropolitan Park and Trail system.

The Mississippi Skyway will also allow the Central Anoka County Trail to be re-aligned through Ramsey's COR to the Mississippi River Trail and Mississippi West Regional Park.

The Central Anoka County Trail will provide several direct regional connections to:

- *Bunker Hills Regional Park*
- *Coon Creek Regional Trail*
- *Cities of Anoka, Blaine and Coon Rapids park and trail systems*
- *City of Ramsey's 50 miles of trails*
- *Rum River Central Regional Park*

City of Ramsey, or the Center of Ramsey referred to as The COR

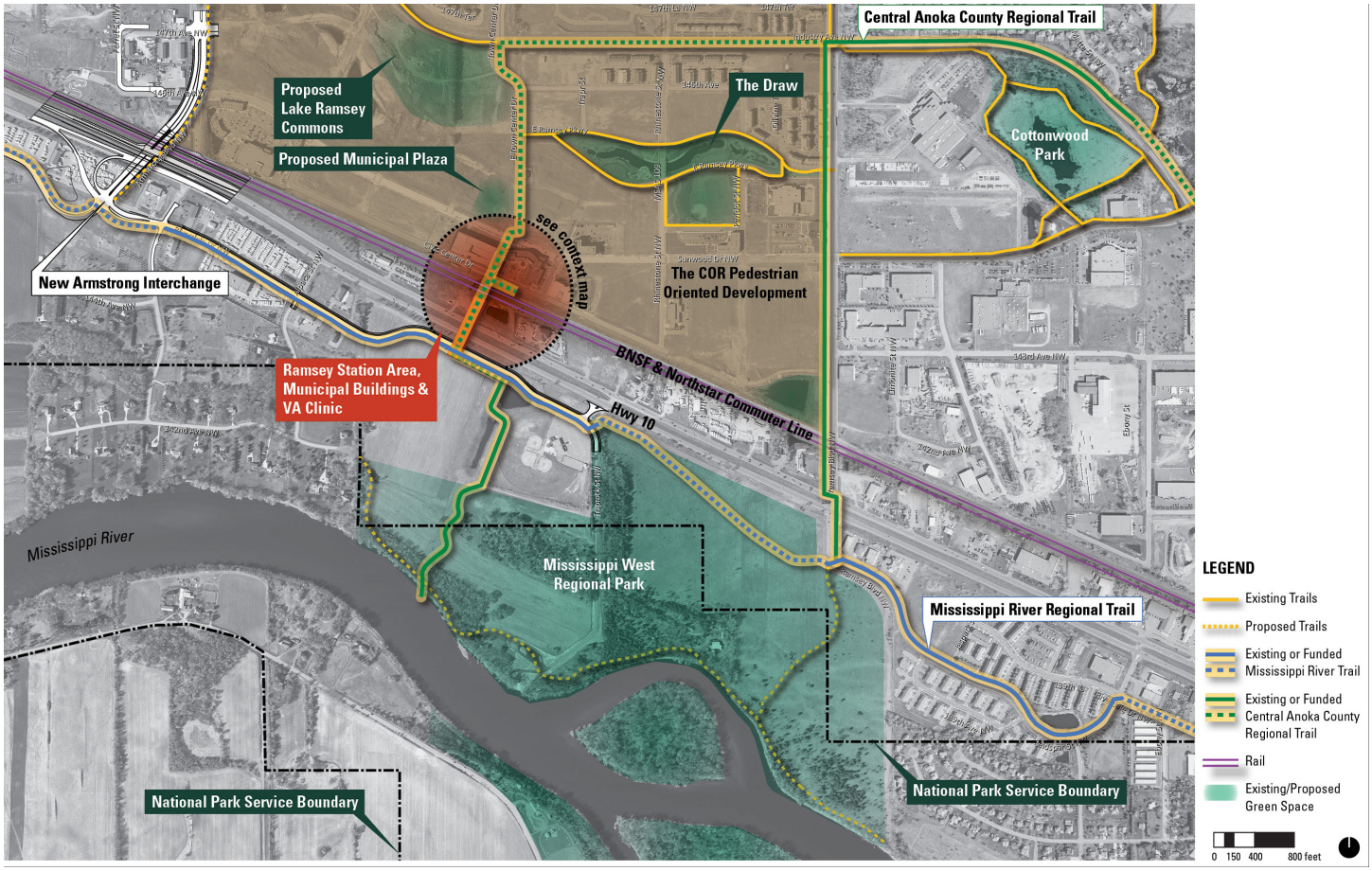
The City of Ramsey, with the Metropolitan Council, has envisioned a multi-modal town center entitled The COR with access via commuter rail, car, bicycle, and on foot. The 'COR' development is a planned 400 acre mixed-use and transit-oriented development site located north of TH 10 between CSAH 83 and CSAH 56. In the next years, the site is projected to add 6,550 people and 2,830 jobs. The COR includes a mix of residential housing choices for people of all incomes.

Establishing parks and creating quality recreational and open space opportunities remains a high priority for the City. The CITY OF RAMSEY 2030 COMPREHENSIVE PLAN UPDATE identifies the need to "Create vehicular and non-vehicular linkages to neighboring communities and between city neighborhoods, trails, recreation, work and shopping" as a component of their future planning checklist. This project serves to continue to develop non-vehicular modes of transportation, and link all of the area's transportation systems in the spirit of that goal.

Ramsey Northstar Commuter Rail Station and Park & Ride

The Ramsey Northstar Commuter Rail Station and Park & Ride facility, equipped with publicly available Electric Vehicle charging stations, provide accessible, affordable and quick transit access to the larger metro region. The station is adjacent to The COR and would be directly connected to the Mississippi Skyway pedestrian bridge, enhancing ridership and accessibility.

Opened in November 2012, the Northstar Station provides a 35-minute ride to the region's largest job center, downtown Minneapolis. Furthermore, at the Northstar's terminus at Target Field Station in downtown Minneapolis, Blue Line light rail transit connections are available to the airport, Mall of America, and scattered employment sites in Minneapolis neighborhoods. The Green Line provides additional access to the University of Minnesota, Downtown Saint Paul, and many Saint Paul neighborhoods. The Mississippi Skyway will expand access to these publicly funded investments.



Appendix E, Figure 1 – Project Location and Trail Map

Alternatives and Barriers to Safe Pedestrian Movement

The Mississippi Skyway would provide a safe grade-separated pedestrian and bicycle connection between The COR and the Mississippi River and across the existing barrier of the TH 10 corridor and rail line.

TH 10 is a 4-lane divided highway that is a primary east-west route in Anoka County, serving as a commuter corridor to the Minneapolis/St. Paul Metropolitan Area with annual average daily traffic of 43,500 vehicles per day in the project area.

BNSF runs parallel to TH 10. There has been a nearly 40 percent increase in freight traffic since 2012, when approximately 48 freight trains passed through each day. In addition to freight trains, these tracks also facilitate the Northstar Commuter Rail system.

In the Fall of 2014, the City of Ramsey constructed an extension of Riverdale Drive from Alpaca Street NW to Traprock Street NW at the regional park. This roadway extension is parallel to and immediately to the south of the existing Minnesota Department of Transportation's ROW occupied by TH 10.

The closest alternate pedestrian and bicycle crossing of TH 10 is at Armstrong Boulevard when the new interchange design is constructed. A user traveling from the Ramsey Northstar Station to the proposed south touch-down point of the Mississippi Skyway by way of Armstrong Boulevard would travel an additional 1.7 miles or an estimated 35 minutes of walking time. Such an extensive non-direct route would be prohibitive from a user's standpoint, and will continue to invite illegal pedestrian crossings as has been problematic throughout the highway and railroad corridors.

Absent a pedestrian overpass, TH 10, the railroad corridor and the parallel Riverdale Drive will continue to act as a physical barrier between Ramsey's mixed-use development, commuter rail station, and regional investments on both sides of the highway and the amenities along the Mississippi River which could hinder sustainable development potential and economic growth in the region.

Mississippi Skyway Preliminary Engineering Report

SRF Consulting Group, Inc. was engaged to assess the feasibility of constructing a grade separated crossing over TH10 and Riverdale Drive. The study included the following objectives:

- *Identify potential locations for a new pedestrian bridge crossing of TH 10 and Riverdale Drive.*
- *Conduct preliminary analysis of alignments and profiles for further consideration in future design phases.*
- *Identify impacts to adjacent private and public lands for possible Right-of-Way (ROW) easements and acquisitions.*
- *Identify impacts to existing utilities.*
- *Outline potential structure types and aesthetic options for consideration.*
- *Provide an outline of future tasks to continue to move the project forward in compliance with anticipated funding requirements.*
- *Review possible additional site development options for the surrounding site to facilitate pedestrian and bicycle connections to the approach areas.*

Throughout the process, multiple alignments were considered (see Appendix B & Appendix J). With assistance from the City, the preferred alignment selected was a straight alignment from the Ramsey Northstar Station over TH 10 and Riverdale Drive with a circular helix approach ramp on the south side of Riverdale Drive.

Wayfinding and bridge aesthetics were also taken into consideration. The proposed bridge aesthetics take their cue from the surrounding civic architecture including City Hall, the municipal parking ramp, and the Northstar Ramsey Station. Undoubtedly, MnDOT, local stakeholders and the greater community will have an interest in the visual quality of the structure. Further input from stakeholders will help ensure that the bridge will be an attractive and distinctive civic landmark that reflects community values.

Preferred Pedestrian Bridge Concept D

Seven different structure types were considered as feasible options for the pedestrian bridge. The City has identified Bridge Concept D in Appendix E as the preferred option, which includes dual bowstring truss center spans with concrete girder side spans. Preferred Bridge Concept D is described as follows:

- *Visual emphasis is at the center of the bridge at the arcing trusses.*
- *The new bridge will be distinct from the existing enclosed skyway but will complement its appearance.*
- *Center trusses and vertical piers are the dominant architectural features.*
- *A center pier is required in the TH10 median. Decorative railing enclosure creates an "open" experience on the deck without a roof.*

Estimated Project Costs and Funding Sources

A preliminary estimate of project costs has been developed based on the proposed pedestrian bridge options presented in this report. The preferred bridge concept costs are estimated at $5.1 million to $5.6 million. These costs are based on 2015 dollars and include a 10% contingency and an estimated 20% for engineering and construction administration cost.

In 2014, the National Parks Service (NPS) awarded the City a grant for construction related activity for the Mississippi Skyway pedestrian bridge. The "MISSISSIPPI RIVER SKYWAY BRIDGE - MISSISSIPPI NATIONAL RIVER AND RECREATION AREA (MISS)" grant provides total program funding of $490,000 with a grant availability sun-set date in 2017.

The City is considering multiple additional funding options and partners for the final design considerations, construction, and maintenance of the proposed pedestrian bridge facility.

This report has conservatively assumed the use of typical Federal funding sources for purposes of estimating total project costs. Note that multiple Federal funding sources are available, and each may present a different set of specific project criteria.

Next Steps

The Mississippi Skyway pedestrian bridge project will likely require a Cooperative Construction Agreement between the City and MnDOT.

An Environmental Review Summary has been prepared (see Appendix H) to identify existing resources within the vicinity of the Mississippi Skyway project. An environmental review document will be needed to meet requirements of the National Environmental Policy Act. The type of document will be determined when funding is identified based on coordination with funding partners and federal agencies. The construction of the bridge is anticipated to be a Categorical Exclusion (Type II document; no significant environmental impacts are anticipated.)

Right-of-Way: Easements and land acquisitions can be negotiated at this time and should be prepared to satisfy Federal real estate acquisition statutes and regulations.

Utility coordination may begin with impacted utilities so that utility owners can begin to determine the extent of the impact and the preliminary resolution, whether it be modification or relocation.

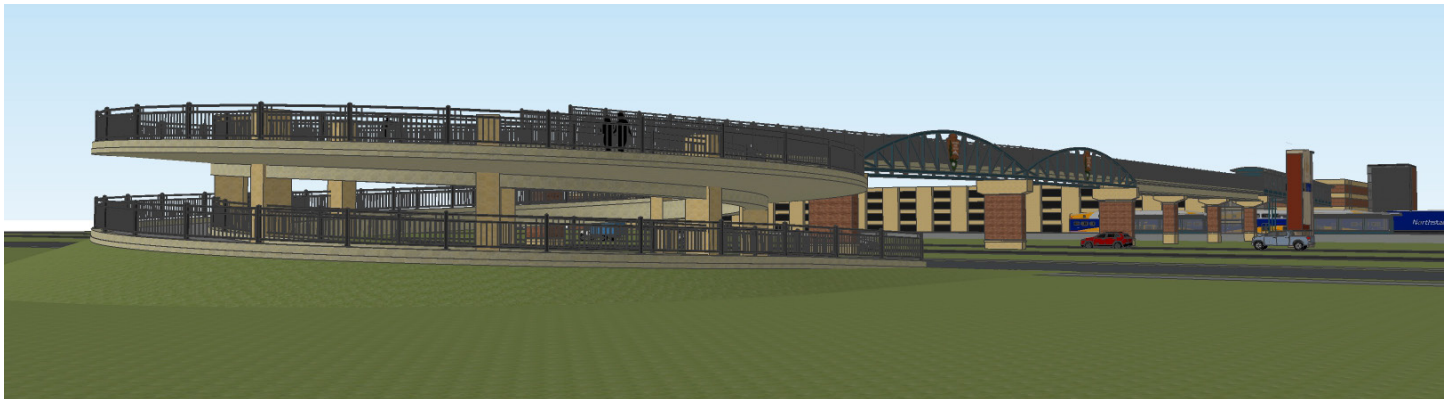
MnDOT coordination may continue. A MnDOT State/Federal Aid project coordinator will need to be assigned for determining the State/Federal processes to be followed and for review of preliminary and final construction documents.

The draft preliminary bridge plans included in the report may be advanced to a complete preliminary plan for review and approval by the MnDOT Bridge Office Preliminary Plan Review Unit. Upon approval of the preliminary plan, the final design and plans may be prepared and reviewed per the Cooperative Construction Agreement Process.

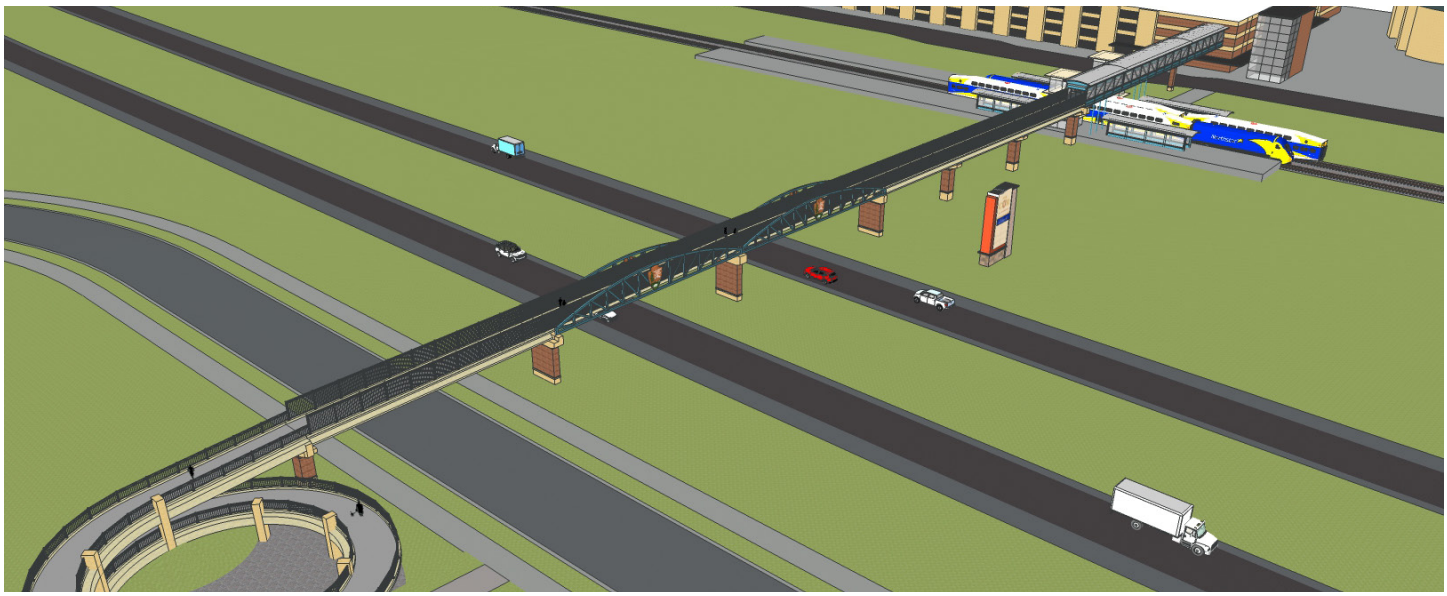
Preparation of funding applications and requests for letters of support may begin at this time while other steps outlined above are on-going.



Appendix E, Figure 20 – Preferred Concept D View from TH 10



Appendix E, Figure 19 – Preferred Concept D View of helix structure from the south



Appendix E, Figure 18 – Preferred Concept D Bird's eye view

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2040 REGIONAL PARKS POLICY PLAN



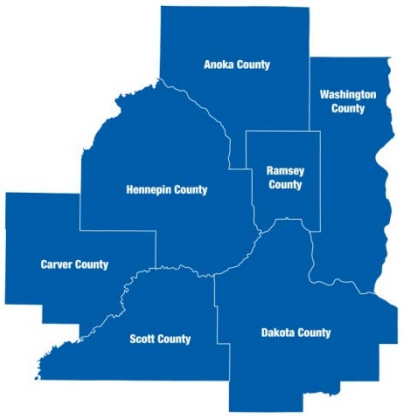
METROPOLITAN COUNCIL

February 2015

The Council's mission is to foster efficient and economic growth for a prosperous metropolitan region

Metropolitan Council Members

Susan Haigh	Chair
Katie Rodriguez	District 1
Lona Schreiber	District 2
Jennifer Munt	District 3
Gary Van Eyll	District 4
Steve Elkins	District 5
James Brimeyer	District 6
Gary L. Cunningham	District 7
Adam Duininck	District 8
Edward Reynoso	District 9
Marie McCarthy	District 10
Sandy Rummel	District 11
Harry Melander	District 12
Richard Kramer	District 13
Jon Commers	District 14
Steven T. Chávez	District 15
Wendy Wulff	District 16



The Metropolitan Council is the regional planning organization for the seven-county Twin Cities area. The Council operates the regional bus and rail system, collects and treats wastewater, coordinates regional water resources, plans and helps fund regional parks, and administers federal funds that provide housing opportunities for low- and moderate-income individuals and families. The 17-member Council board is appointed by and serves at the pleasure of the governor.

On request, this publication will be made available in alternative formats to people with disabilities. Call Metropolitan Council information at 651-602-1140 or TTY 651-291-0904.

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Chapter One: Planning for the Twin Cities Region

Thrive MSP 2040

Our region is anchored by three great rivers, dotted by hundreds of lakes, and endowed with wide expanses of green space, giving our residents beautiful landscapes that inspire and renew. Its largest river − the Mississippi − gave birth to two frontier settlements − Minneapolis and Saint Paul. Since then, our region has grown and prospered, and is now well-known for its high quality of life, its strong, resilient economy, and many other assets:

- Vibrant arts, music and theatre communities and professional sports teams
- Rich cultural diversity
- Abundant parks, recreational trails, conserved open space, fertile agricultural land, and natural resources
- A civic tradition of shared action.

Today, the Twin Cities metropolitan area − the jurisdiction of the Metropolitan Council − is a thriving region of nearly three million people living in 186 communities across the seven counties of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington. The region has emerged as a world-class metropolitan area − a great place to live, work, play and do business.

As we plan for our next 30 years, key challenges lie ahead − constrained fiscal resources, new demands stemming from demographic shifts, emerging environmental challenges, new regional planning priorities, and the increasing necessity of regional economic cooperation.

Under state law, the Metropolitan Council is responsible for preparing a comprehensive development guide for the seven-county Twin Cities metropolitan area. The Council's *Thrive MSP 2040*, adopted in May 2014, provides a framework for a shared vision for the future of the region over the next 30 years. *Thrive* establishes the policy foundation used by the Council to develop its regional systems and policy plans, as well as development policies and implementation strategies. Taken together, these constitute the comprehensive development guide that guides the orderly and economical development of the region. State statute specifies three metropolitan systems plans:

- Transportation Policy Plan (including Aviation)
- Water Resources Policy Plan
- Regional Parks Policy Plan

In addition to the three statutory metropolitan systems plans, the Council is developing a Housing Policy Plan. The Housing Policy Plan will provide an expanded policy framework to inform the Council's review of the housing elements and housing implementation programs of local comprehensive plans required in statute.

Thrive is the result of extensive engagement with the region's residents, civic, nonprofit and business leaders, and governmental officials. As a regional plan, *Thrive* addresses issues greater than any one neighborhood, city, or single county can tackle alone to build and maintain a thriving metropolitan region. Using an outcomes-based approach, *Thrive* puts forward five outcomes and three principles as the foundation of a prosperous, equitable, and livable region for today and generations to come.

Thrive Outcomes

Thrive's regional vision includes five desired outcomes: stewardship, prosperity, equity, livability, and sustainability. While each outcome is described below, it is important to note that the five outcomes reinforce and support one another to produce greater benefits than any single outcome alone. The outcomes provide policy direction for this *2040 Regional Parks Policy Plan*.

Stewardship

Stewardship advances the Council's longstanding mission of orderly and economical development by responsibly managing the region's natural and financial resources, and making strategic investments in our region's future. The region enjoys a bounty of natural resources including three major rivers, over 900 lakes, extensive wetlands, native prairie, woodland habitats, and an abundant groundwater system. The rich natural assets are a part of our regional identity, enhancing our quality of life and supporting a strong economy. However, challenges to the quality and extent of natural resources abound.

Prosperity

Prosperity is fostered by investments in infrastructure and amenities that make our region competitive in attracting and retaining successful businesses, a talented workforce, and strong economic opportunities. Regional economic competitiveness results from our strategic, long-term public and private decisions that build on and grow our region's economic strengths relative to other regions. Advancing prosperity includes:

- Fostering conditions for shared economic vitality by balancing major investments across the region,
- Protecting natural resources that are the foundation of prosperity,
- Planning for and investing in infrastructure, amenities, and quality of life needed for economic competitiveness, and
- Encouraging redevelopment and infill development.

Equity

Equity means connecting all residents to opportunity and creates viable housing, transportation, and recreation options for people of all races, ethnicities, incomes, and abilities so that all communities share the opportunities and challenges of growth and change. Promoting equity includes:

- Using the Council's influence and investments to build a more equitable region
- Creating real choices in where we live, how we travel, and where we recreate for all residents, across race, ethnicity, economic means, and ability
- Investing in a mix of housing affordability along the region's transit corridors, and
- Engaging a full cross-section of the community in decision-making.

Livability

Livability focuses on the quality of our residents' lives and experiences in the region, and how places and infrastructure create and enhance the quality of life that makes our region a great place to live. Enhancing livability means:

- Increasing access to nature and outdoor recreation through regional parks and trails
- Providing transportation choices for a range of demographic characteristics and economic means
- Supporting bicycle facilities to promote bicycling for transportation, recreation, and healthy lifestyles
- Aligning resources to support transit-oriented development and walkable places, and
- Promoting healthy communities and active living through land use, planning, and investments.

Sustainability

Sustainability seeks to protect our regional vitality for generations to come by preserving our capacity to maintain and support our region's well-being and productivity over the long term. The region's investments in prosperity, equity, and livability will fall short over the long term if the region exhausts its resources without investing in the future.

Thrive Principles

Thrive identifies the principles of integration, collaboration, and accountability to carry out the Council's work. The three principles reflect the Council's efforts to integrate policy areas, support local governments and regional partners, and promote and implement the *Thrive* regional vision. Each principle is explained below.

Integration

Integration is the intentional combining of related activities to achieve more effective results, using multiple policy tools to address complex regional challenges and opportunities. The *Thrive* outcomes described above are lofty ideals that cut across the Council's functions and responsibilities, thereby requiring the Council to use its full range of authorities and activities in more coordinated ways. Achieving integration involves moving beyond organizational silos and coordinating effectively with partners and stakeholders throughout the region.

Collaboration

Collaboration recognizes that shared efforts advance our region most effectively toward shared outcomes. Addressing the region's issues requires collaboration because no single entity has the capacity or authority to do the work alone. For the Council, acting collaboratively means fostering shared strategies, supportive partnerships, and reciprocal relationships. It also represents convening the region's best thinkers, experts, and stakeholders to address complex regional issues beyond the

capacity or authority of any single jurisdiction or institution. Additionally, it involves providing technical assistance and enhanced information to support local planning and decision-making.

Accountability

For the Council, accountability includes a commitment to monitor and evaluate the effectiveness of our policies and practices toward achieving shared outcomes and a willingness to adjust course to improve performance. Acting accountably means: a) adopting a data-driven approach to measure progress, b) creating and learning from *Thrive* indicators, c) providing clear, easily accessible information, and d) fulfilling the Council's mission.

Thrive's Additional Directives for the 2040 Regional Parks Policy Plan

Thrive articulates a long-range vision for the region. The vision aims to foster and contribute to the five desired outcomes through the use of the three principles described in the previous section. While the focus in *Thrive* is on the overarching vision for the region, *Thrive* provides directives for the *2040 Regional Parks Policy Plan*. *Thrive* specifies that the Council will collaborate with the Metropolitan Parks and Open Space Commission, regional park agencies, and state partners to:

- Expand the Regional Parks System to conserve, maintain, and connect natural resources identified as being of high quality or having regional importance, as identified in the *2040 Regional Parks Policy Plan*
- Provide a comprehensive regional park and trail system that preserves high-quality natural resources, increases climate resiliency, fosters healthy outcomes, connects communities, and enhances quality of life in the region
- Promote expanded multimodal access to regional parks, regional trails, and the transit network, where appropriate
- Strengthen equitable usage of regional parks and trails by all our region's residents, such as across age, race, ethnicity, income, national origin, and ability

Regional Growth and Demographics

By 2040, our region is projected to be home to almost 3.7 million people, a gain of 824,000 residents from 2010. Such robust growth is a sign of the region's economic health and vitality. With this growth will come new jobs, greater racial and ethnic diversity, expanded economic opportunities and increased tax revenues. Accommodating growth poses challenges, however, as the increasing public concern about traffic congestion demonstrates. Although there is still open space and available land in some parts of the region, the additional population and the systems that will serve it will make expanding or even preserving space for parks and trails more challenging.

	2000	2010	2040
Population	2,642,062	2,849,567	3,673,660
Households	1,021,456	1,117,749	1,509,170
Employment	1,606,263	1,543,872	2,094,380

In addition, our population is changing in ways that will influence how we develop and redevelop:

- Our region is aging rapidly. More than one in five residents will be age 65 and older in 2040, compared to one in nine in 2010.
- The region will gain 391,000 new households by 2040.
- By 2040, 40% of the population will be people of color, compared to 24% in 2010. The share of people of color increases among younger age groups; 54% of residents under age 18 will be people of color in 2040.

While the rich and growing racial and ethnic diversity is an asset to our continued economic vitality, our region has some of the largest disparities by race and ethnicity of any large metropolitan area in the nation. Importantly, these disparities and shifting demographics have implications for nature-based outdoor recreation providers. Broad based trends consistently indicate that recreation participation is far greater for white and/or non-Hispanic populations within the state and the nation than for people of color. [see Minnesota's State Comprehensive Outdoor Recreation Plan (SCORP), 2014]. In addition, SCORP cites several studies showing that involvement in nature-based outdoor recreation among young adults and their children has decreased since the 1990s. The relative participation of different segments of the population in nature-based outdoor recreation, together with their respective population growth rates, create significant challenges ahead in terms of park and trail utilization, as well as maintaining broad-based public support for park and trail investments. To this end, the *2040 Regional Parks Policy Plan* incorporates specific aims to strengthen equitable usage of our regional parks and trails by all our region's residents.

Community Designations

The seven-county region contains a wide range of communities, from agricultural townships to densely developed downtown neighborhoods. Recognizing that one size does not fit all, the Council uses community designations to group communities with similar characteristics in order to implement regional policy at the local level through comprehensive plans (See Figure 1-1). Community designations fall within two main categories, the Metropolitan Urban Service Area and the Rural Service Area.

Metropolitan Urban Service Area

The Metropolitan Urban Service Area constitutes about half of the land in the region, but accounts for more than 90% of the region's population. The Council supports the Metropolitan Urban Service Area

through investments such as regional wastewater services, regional highways, transit service, the Regional Parks System, and programs that support redevelopment. Some of the region's most popular regional parks are located in the Metropolitan Urban Service Area, including Como Regional Park, Zoo and Conservatory; Minnehaha Regional Park; and Hyland-Bush-Anderson Lakes Park Reserve. Trails including the Bruce Vento and North Cedar Lake Regional Trails; connect people to regional parks and local amenities. The Metropolitan Urban Service Area is divided into five community designations:

- Urban Center
- Urban
- Suburban
- Suburban Edge
- Emerging Suburban Edge

Thrive forecasts project that over the next 30 years growth and redevelopment will occur throughout the region. Not only will growth occur in the suburban communities; the urban communities will continue to redevelop. Forces driving this change are our aging population, new residential preferences among younger households, and increasing interest in sustainable lifestyles. Demographic changes, emerging preferences, and shifting development patterns will increase our need to expand multimodal access to our regional parks, regional trails and transit system.

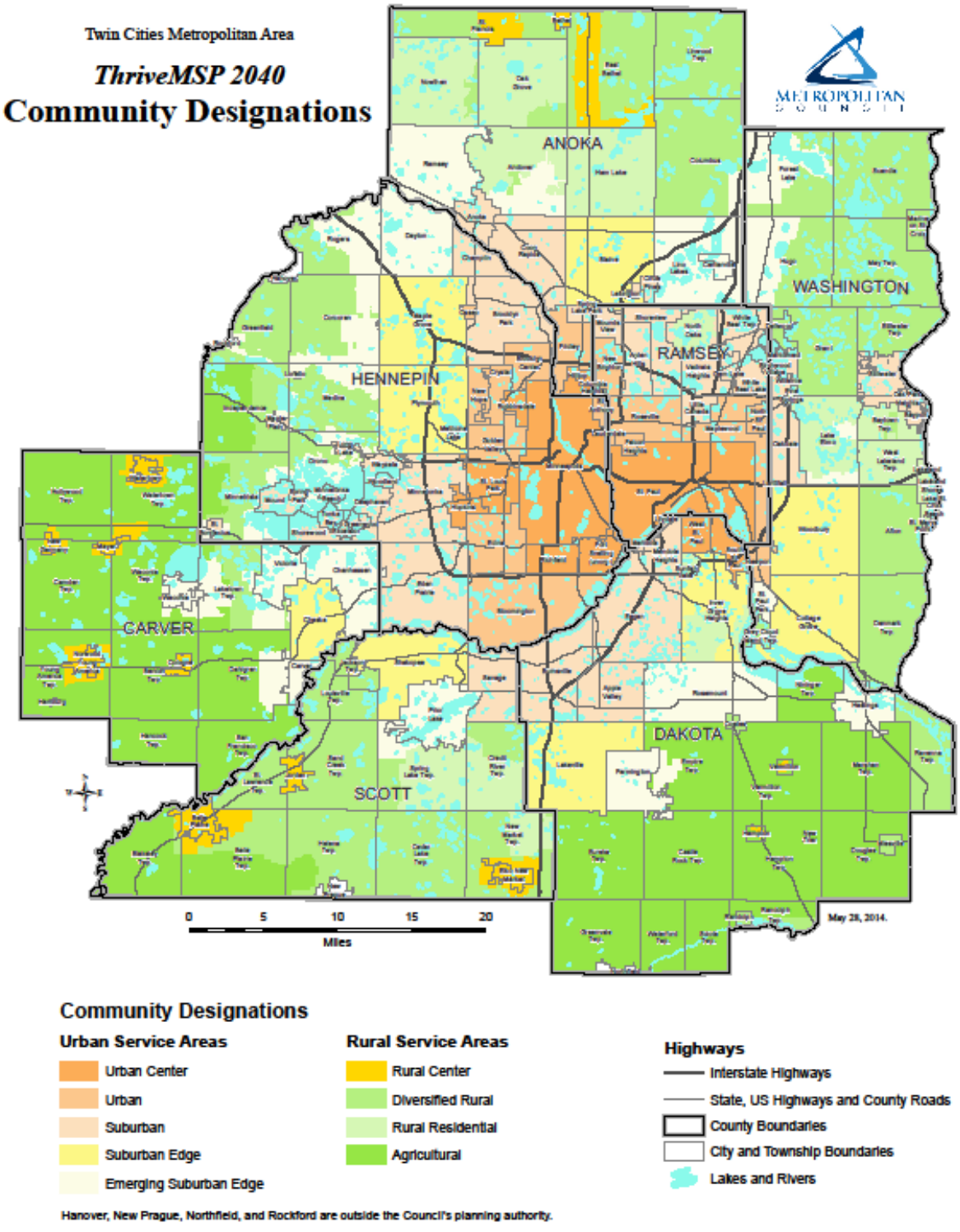
Rural Service Area

About half of the land in the Twin Cities region is located in the Rural Service Area. This area includes a range of land uses, including cultivated farmland, vineyards, hobby farms, gravel mines, woodlands, small towns, scattered and clustered housing, open spaces, and significant expanses of the region's natural resources. Aside from the Regional Parks System, investments in regional service and infrastructure are limited in the Rural Service Area. The Rural Service Area is divided into four community designations:

- Rural Center
- Rural Residential
- Diversified Rural
- Agricultural

The Rural Service Area contains some of the Regional Parks System's large park reserves, including Crow Hassan and Big Marine Park Reserves. In addition to providing passive recreation opportunities, the park reserves also preserve, maintain, and connect high quality or regionally important natural resources.

Figure 1-1. Thrive MSP 2040 Community Designations



Local Comprehensive Plans

The policy direction from *Thrive* and the Council's systems and policy plans − including this *2040 Regional Parks Policy Plan* – provides guidance to local governments in developing their comprehensive plans. Under state law, each county, city and township in the seven-county metropolitan area must review and, if necessary, amend its local comprehensive plan at least every 10 years to ensure that the local plan − and local fiscal devices and official controls − conforms with the Council's metropolitan system plans (Minn. Stats. 473.864).

Following the adoption of the *2040 Regional Parks Policy Plan* and once the Council issues system statements, as required under the Metropolitan Land Planning Act, local communities have three years to update their local comprehensive plan. If the Council issues system statements based on a future amendment to the *2040 Regional Parks Policy Plan*, local communities have nine months to amend their comprehensive plans.

Local comprehensive plans are reviewed by the Council based on three primary criteria:

- Conformance with metropolitan system plans
- Consistency with Council policies
- Compatibility with adjacent and affected governmental units.

When a plan meets these criteria, the Council authorizes it to be put into effect. If a plan does not meet the review standards, the Council can require the jurisdiction to modify its plan to conform to the Council's system plans.

Conformance

A local comprehensive plan will conform to the metropolitan system plans if the local plan:

1. Accurately reflects the components of the metropolitan system plans
2. Integrates public facilities plan components
3. Addresses land use policies, plans for forecasted growth, meets density standards and maximizes the efficiency and effectiveness of the regional systems

In their local comprehensive plans, communities need to acknowledge and plan for the Regional Parks System facilities in their jurisdiction as identified in the *2040 Regional Parks Policy Plan.* The Council will review local plans to ensure they will not cause detrimental impacts to Regional Parks System facilities and that the plans do not preclude or substantially limit the future acquisition of lands officially identified for the Regional Parks System in the *2040 Regional Parks Policy Plan*.

Consistency

Consistency is generally achieved if the local plan:

1. Addresses the community role for the land use policies contained in *Thrive,* including:

   Natural Resource Protection: Conserve, restore, and protect the region's natural resources to ensure their ongoing availability, to support public health, and to maintain a high quality of life.

Access, Mobility and Transportation Choice: Sustain and improve a multimodal transportation system to support regional growth, maintain regional economic competitiveness and provide choices and reliability for the system's users. To help meet this policy, local communities are encouraged to plan and develop local trail connections to regional trails as identified in the 2040 Regional Parks Policy Plan and to plan for and connect to the Regional Bicycle Transportation Network as identified in the 2040 Transportation Policy Plan, where appropriate.

2. Addresses the linkage of local land uses to local parks and open space as well as the Regional Parks System.

3. Includes an implementation plan describing public programs, fiscal devices and other specific actions (sequencing and staging activities) that implement the comprehensive plan and ensure conformance with regional system plans.

4. Addresses official controls and includes a capital improvement program (sewers, parks, transportation, water supply and open space) that accommodates planned growth and development.

Compatibility

Compatibility with adjacent and affected governmental units is generally achieved if the local plan adequately documents that it has addressed the concern(s) of all adjacent and affected jurisdictions, based on comments or concerns from these entities.

As local communities update their comprehensive plans, the Council encourages them to identify locally important natural areas for protection through acquisition, conservation easements, and conservation-sensitive development practices. In addition to planning for the recreational needs of its residents, the Council encourages communities to plan local trail connections to the Regional Parks System. Together, the region, the regional park implementing agencies, local communities, nonprofit organizations, and the private sector can preserve natural areas and enhance multimodal access to regional parks and trails.

Chapter Two: Overview of the Regional Parks System and the 2040 Regional Parks Policy Plan

Introduction

The benefits of parks have been extensively documented[1]. Parks and open green space positively contribute to human health and well-being. Benefits to physical well-being include increased physical activity, reduced risk of various chronic illnesses, as well as obesity. Benefits to psychological well-being include stress reduction, attention restoration, and improved cognitive functioning. Social well-being benefits include increased social capital, family bonding, and social integration. Parks and open green space also contribute many environmental benefits including biodiversity conservation, air and water purification, erosion control, climate regulation, carbon dioxide sequestration, among other ecosystem services.[2]

Benefits afforded by the Regional Parks System, such those illustrated above, help to keep our region at the top of national livability rankings. The Twin Cities area's 62 regional parks, park reserves, and special recreation features, plus more than 340 miles of regional trails, showcase the unique landscapes of the region and provide year-round recreation. Our residents have consistently singled out the region's parks, trails and natural environment as the most attractive feature of the region.[1] Drawing over 47 million annual visits in 2013, the Regional Parks System provides access to natural space that contributes to physical and emotional well-being. Many of our region's most well-known and iconic sites are part of the Regional Parks System − the Minneapolis Chain of Lakes, Como Zoo and Conservatory, Lebanon Hills Regional Park, Bunker Hills Regional Park, Elm Creek Park Reserve, and Lake Elmo Park Reserve.

The 2040 Regional Parks Policy Plan advances the Thrive MSP 2040 outcomes of Stewardship, Prosperity, Equity, Livability, and Sustainability by striving to:

- Expand the Regional Parks System to conserve, maintain, and connect natural resources identified as being of high quality or having regional importance, as identified in the *2040 Regional Parks Policy Plan*
- Provide a comprehensive regional park and trail system that preserves high-quality natural resources, increases climate resiliency, fosters healthy outcomes, connects communities, and enhances quality of life in the region
- Promote expanded multimodal access to regional parks, regional trails, and the transit network, where appropriate

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[1] Dinnie, E., Brown, K.M., Morris, S. (2013). Negotiating the social well-being benefits of urban green space. *Landscape and Urban Planning,* 112, 1-9.
Wolch, J.R., Byrne, J., & Newell, J.P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. *Landscape and Urban Planning,* 125, 234-244.

[2] Gómez-Baggethun, E. & Gren, A. (2013). Urban ecosystem services. In T. Elmqvist et al. (eds.), *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities: A Global Assessment*, pp. 175-251.

- Strengthen equitable usage of regional parks and trails by all our region's residents, such as across age, race, ethnicity, income, national origin, and ability

The Regional Parks System plays a key role in providing parks and open space for the metropolitan area. But by itself, it cannot and was never intended to provide all of the metropolitan area's recreational opportunities. The Regional Parks System is one component of the greater recreation and open space system for the metropolitan area that includes local, state, and federal parks and open space areas, as well as private sector facilities. All these other facilities and services complement those of the Regional Parks System.

This chapter provides an overview of the Regional Parks System and the 2040 Regional Parks Policy Plan. These concepts are explored in more detail in subsequent chapters of this plan.

The Regional Parks System

The Regional Parks System, supported by the Council in partnership with cities, counties and special park districts, was established in 1974. At that time, the Legislature found that:

> *"The pressure of urbanization and development threatens the most valuable remaining large recreational open spaces in the metropolitan area at the same time as the need for such areas is increased. Immediate action is therefore necessary to provide funds to acquire, preserve, protect and develop regional recreational open space for public use." (Minn. Stat. 473.302)*

In response to state legislation, about 31,000 acres of existing parks were designated as "regional recreation open space." The newly designated regional parks had about five million visits in 1975. Over the past 40 years, the Council has invested state and regional funds to help local park agencies develop those first designated regional parks, as well as to acquire and develop new parks and trails for the growing metropolitan population. The Regional Parks System strives to build upon the world class system of interconnected parks and natural areas first established in Minneapolis by such visionaries as Horace Cleveland and Theodore Wirth, and extend that model throughout the region.

As of 2014, the Regional Parks System includes:

- 54,286 acres open for public use
- 54 regional parks and park reserves
- Eight special recreation features, such as the zoo and conservatory at Como Regional Park
- 40 regional trails, with 340 miles currently open to the public
- Over 47 million visits each year
- An investment of more than $658 million in state and regional dollars since inception, with an additional $163 million of state funds to partially finance operations and maintenance of the regional park system

Regional parks contain significant regional natural resources such as lakeshore, wetlands, hardwood forests, native prairies and groundwater recharging areas. If you were to visit one regional park, park reserve or special recreation feature each weekend − not even counting the trails, it would take you more than a year to get to them all. It's an amazing system, one that has few rivals anywhere in the

world. It demonstrates the importance of natural spaces and outdoor recreation to Minnesotans, including those living in the metropolitan area. The Regional Parks System is comprised of four main components: regional parks, park reserves, regional trails, and special recreation features.

Regional Parks

Regional parks most notably contain a diversity of nature-based resources, either naturally occurring or human-built, and are typically 200-500 acres in size. Regional parks accommodate a variety of outdoor recreation activities. In 2014, a total of 42 regional parks were open to the public. Examples of regional parks include:

- Battle Creek-Indian Mounds Regional Park (City of St. Paul and Ramsey County)
- Lake Waconia Regional Park (Carver County)
- Lebanon Hills Regional Park (Dakota County)
- Theodore Wirth Regional Park (Minneapolis Park and Recreation Board)
- Spring Lake Regional Park (Scott County)

Park Reserves

Park reserves, like regional parks, provide for a diversity of outdoor recreation activities. One major feature that distinguishes the park reserve from a regional park is its size. The minimum size for a park reserve is 1,000 acres. An additional characteristic of park reserves is that they are required to manage at least 80% of the park reserve as natural lands that protect the ecological functions of the native landscape. As of 2014, a total of 12 park reserves were open to the public. Examples of park reserves include:

- Hyland-Bush-Anderson Lakes Park Reserve (City of Bloomington and Three Rivers Park District)
- Lake Elmo Park Reserve (Washington County)
- Rice Creek Chain of Lakes Park Reserve (Anoka County)

The Council's 2008 Regional Park System Visitor Survey found the most popular activities in regional parks and park reserves included: 1) walking, 2) swimming, 3) biking, 4) picnicking, and 5) playground use.

Regional Trails

The Council has defined two major types of trails to serve the region: 1) destination or greenway trails and 2) linking trails. Destination or greenway trails typically follow along routes with high-quality natural resources that make the trail itself a destination. Examples of destination or greenway trails include:

- Minnehaha Parkway Regional Trail (Minneapolis Park and Recreation Board)
- Rush Creek Regional Trail (Three Rivers Park District)

Linking trails, on the other hand, are predominately intended to provide connections between various Regional Parks System units, most notably regional parks or park reserves. Examples of linking trails include:

- East Anoka County Trail (Anoka County)
- Highway 96 Regional Trail (Ramsey County)

As of 2014, 40 regional trails totaling approximately 340 miles were open for public use.

Special Recreation Features

Special recreation features are defined as Regional Parks System opportunities not generally found in the regional parks, park reserves or trail corridors. Special recreation features often require a unique managing or programming effort. As of 2014, there were eight special recreation features open to the public. Examples of special recreation features include:

- Como Zoo (City of St. Paul)
- Gale Woods Farm (Three Rivers Park District)
- Square Lake (Washington County)

Additional information on Regional Parks System facilities is provided in Chapter 3.

Regional Parks System Management Structure

The organizational structure of the Regional Parks System is unique. It is built upon a strong partnership among the Council and several governmental agencies, including cities, counties, and special park districts. While each agency has a role in the Regional Parks System, collaboration is the cornerstone and the strength of the Regional Parks System.

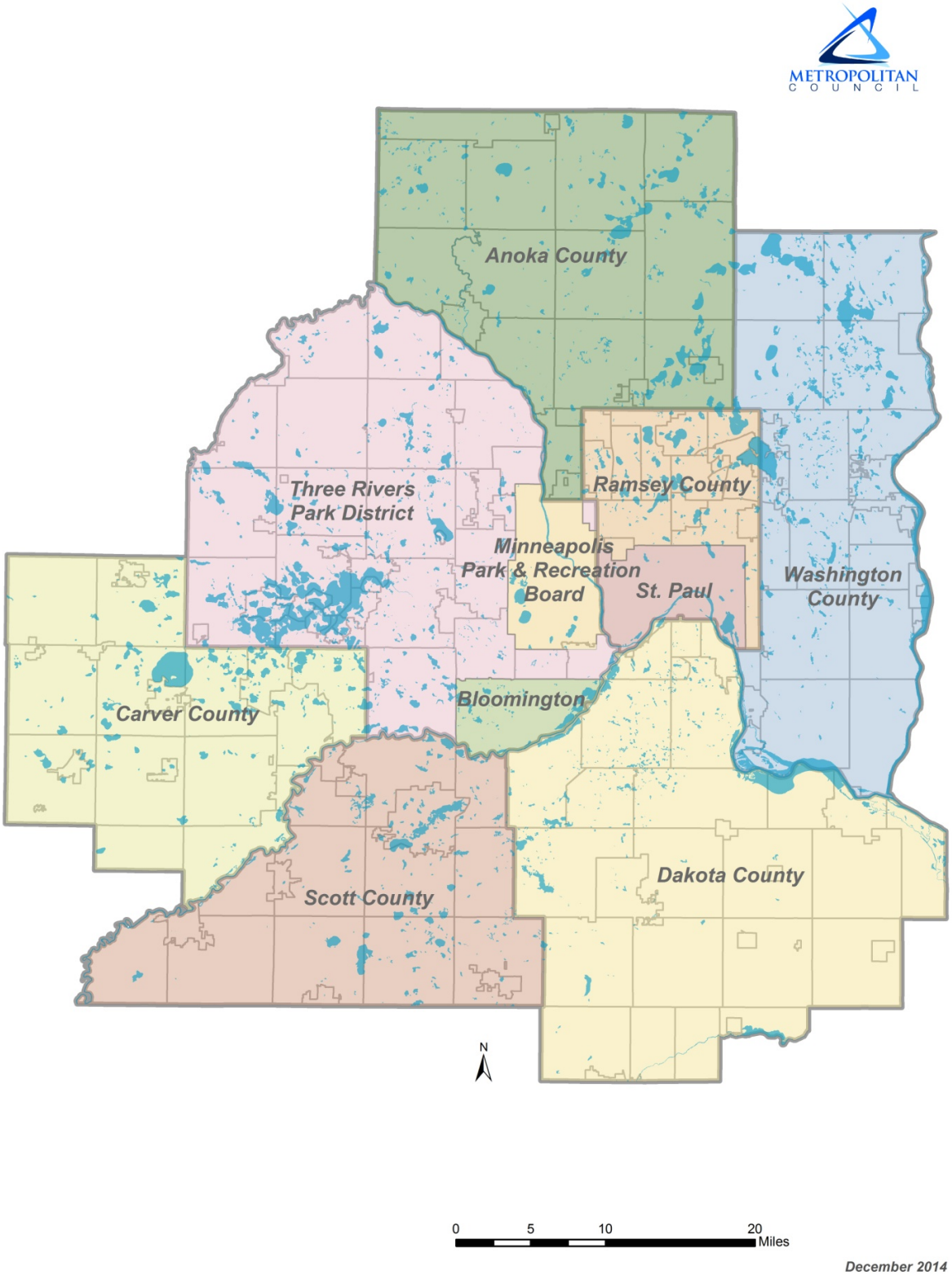
Regional Park Implementing Agencies Role

Cities, counties, and special park districts own and operate regional parks and trails − the Minneapolis Chain of Lakes' facilities, paths and activities are the responsibility of the Minneapolis Park and Recreation Board, for example − but once a park becomes part of the Regional Parks System, the Council supports it with planning, funding, information, marketing, and advocacy. The agency partners that own and operate the Regional Parks System are called regional park implementing agencies. A map of the regional park implementing agency areas is shown in Figure 2-1.

The regional park implementing agencies are:

Anoka County
City of Bloomington
Carver County
Dakota County
Minneapolis Park and Recreation Board
Ramsey County
City of Saint Paul
Scott County
Three Rivers Park District
Washington County

Figure 2-1. Regional Park Implementing Agencies



Metropolitan Council Role

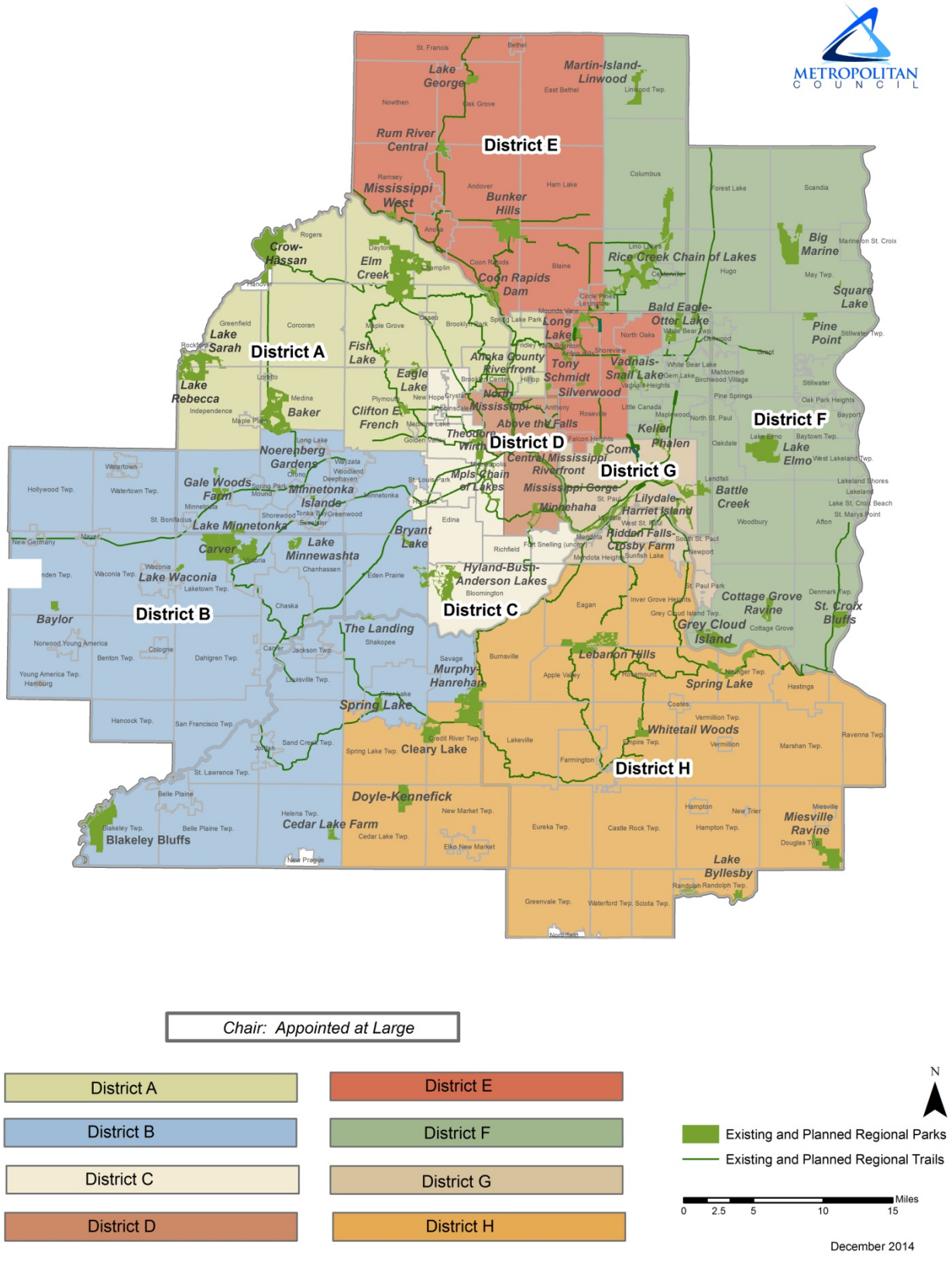
Regional Parks System legislation directs the Council to take the leading role in providing for a Regional Parks System that will complement the recreational open space opportunities provided in the area by the federal, state and local units of government. State law gives the Council the authority to determine which parks and trails in the seven-county area are included in the Regional Parks System and to generally identify areas that should be acquired for the Regional Parks System. The Council is charged with determining whether these lands are regionally important and would collectively provide a balanced system of outdoor recreation for the region. See page 24 for an overview of key Minnesota legislation.

As described shortly, the Council also contributes and administers funding to the regional park implementing agencies to acquire, develop and operate the Regional Parks System.

Metropolitan Parks and Open Space Commission Role

The Metropolitan Parks and Open Space Commission, appointed by the Council, uses its expertise to advise the Council on the review of regional park and trail master plans, grants for land acquisition and capital improvements. It also provides recommendations on updates and amendments to the Regional Parks Policy Plan. The commission consists of eight volunteer members, who represent specific districts throughout the region and a chair who is appointed at large. A map of the districts is shown in Figure 2-2.

Figure 2-2. Metropolitan Parks and Open Space Commission Districts



Regional Parks System Funding

As previously noted, the Council contributes and administers funding to the regional park implementing agencies. Funding for the Regional Parks System funding currently consists of four main grant programs. Each grant program is intended for different purposes and is comprised of various funding sources. Only regional park implementing agencies, listed above, qualify for the grant programs. Each grant program is highlighted briefly below. Additional detailed information can be found in Chapter 5.

Capital Improvement Program

The Council's Capital Improvement Program (CIP) is intended for Regional Park System acquisition, development, and redevelopment projects. The fund is financed by state (60%) and Council (40%) bonds. The amount of funds each regional park implementing agency receives is based on a formula specified in Chapter 5.

Parks and Trails Legacy Fund Program

The Parks and Trails Legacy Fund program was created after the statewide passage of the Minnesota's Clean Water Land and Legacy Amendment in 2008. Along with state and Greater Minnesota regional parks and trails, the Council receives a portion of the Parks and Trails Legacy appropriations for the Regional Parks System.

The Council administers the Parks and Trails Legacy funds to regional park implementing agencies. The Parks and Trails Legacy Plan, which is described in Chapter 5, was developed to guide the use of the funds. Each regional park implementing agency's share of the funds is based on a formula specified in state statute (Minn. Stat. 85.53, subd 3). Also stipulated in state statute is the requirement that 10% of the total Parks and Trails Legacy appropriations be set aside for land acquisition. Appropriations from the Parks and Trails Legacy funds for acquisition are made available to regional park implementing agencies through the Council's Park Acquisition Opportunity Fund Grant Program, described below.

Park Acquisition Opportunity Fund Grant Program

The Park Acquisition Opportunity Fund Grant program is organized into two separate programs, corresponding to different funding sources. The two programs are the Parks and Trails Legacy Fund (PTLF) and the Environment and Natural Resources Trust Fund (ENRTF). As noted above, 10% of the Parks and Trails Legacy Fund appropriations are set aside for land acquisition, which are used for the PTLF acquisition opportunity grant program. The ENRTF acquisition opportunity grant fund is comprised of appropriations received by Legislative-Citizen Commission on Minnesota Resources (LCCMR) for land acquisition. The Council matches every $3 of PTLF or ENRTF appropriations with $2 of Council bonds. Both programs in the Council's Park Acquisition Opportunity Fund Grant program are non-competitive and awarded based on funding availability among other considerations detailed in subsequent chapters.

Operations and Maintenance

The Council administers pass-through funds from the state to regional park implementing agencies to pay for a portion of their operations and maintenance costs. The share each regional park implementing agency receives is based on a formula specified in state statute (Minn. Stat. 423.351).

In addition to the four grant programs highlighted above, the Council also provides additional funds and administers other investments. For example, the Council administers pass-through grants from the state to regional park implementing agencies. These dollars are legislatively earmarked for a particular regional park implementing agency or park and trail unit. Additionally, the Council provides other funding investments not included above. For example, legislation created a special fund for North Mississippi Regional Park. In another example, Council bonds have been issued to pay for acquisitions without state matching funds. In sum, the total investment the state and Council have made toward the Regional Parks System between 1974 and 2014 totals $821 million (Table 2-1).

Table 2-1. 40-year Regional Park System State and Regional Funding Investments, 1974-2014

Capital Improvement Program (State and Council Funds)	**Parks and Trails Legacy Fund** (State Funds)	**Park Acquisition Opportunity Fund Grant Program** (State and Council Funds)		**Operations and Maintenance** (State Funds)	**Pass-Through Grants** (State Funds)	**Other Investments** (State and Council Funds)
		ENRTF[1]	**PTLF**[2]			
$414.1 M	$84.1M	$15.1 M	$15.6 M	$163.0 M	$104.7M	$25.1 M

[1] Environment and Natural Resources Trust Fund acquisition account
[2] Parks and Trails Legacy Fund acquisition account

About eight /tenths of a percent (0.82%) of the total state and local taxes paid by a household in the region go to support the Regional Parks System. For the owner of a $250,000 home in the seven-county metropolitan area, the average annual cost of the Regional Park System is $67 − including $26 in state income and sales taxes and $41 in regional and local property taxes.

The investments and funding sources described above are not the only funding sources for the Regional Park System. Each regional park implementing agency provides their own mix of funding for their respective regional parks and trails. Other funding sources also exist, including federal grants, public-private partnerships, and private donations. In addition to the four grant programs highlighted above, the Council is committed to creating a set-side competitive grant program that is specifically targeted to enhance equitable usage of regional parks and trails. This grant program, tentatively called the Park Equity grant program, will be created using Council bonds and funded on an annual basis. Because of existing constraints on Council bonds, the grant program will provide funding only for acquisition, development, or redevelopment projects in the Regional Park System. Additional details of the new grant program are described in Chapter 4.

Regional Parks Policy Plan

Managing a Regional Parks System that involves a number of different local entities, in addition to the Council, requires coordinated policies and strategies. The *2040 Regional Parks Policy Plan* lays out the goals for the development of the Regional Parks System and the strategies designed to meet these goals.

Over the past 40 years, the Regional Parks System has made significant strides toward achieving the *Thrive* outcomes of stewardship, prosperity, livability, and sustainability. By protecting high quality natural resources and providing a world-class system of recreational opportunities, the Regional Parks System has strongly contributed to the high quality of life in the region. The policies laid out in the *2040 Regional Parks Policy Plan* reflect the Council's commitment to support and protect the Regional Parks System.

The equity outcome as described in *Thrive* is a new direction for the Council. The regional park implementing agencies have various programs and practices to help reach and serve their diverse base of users. The *2040 Regional Parks Policy Plan* strives to build upon the good work that the regional park implementing agencies have been doing to advance equity. The Council seeks to strengthen equitable usage of the Regional Parks System, which is a key theme of this plan.

Planning for 2040

The metropolitan area has historically made a substantial investment in conserving green spaces by establishing regional parks, park reserves and trails. Federal, state, and local governments have invested in parks, natural areas, and wildlife refuges that provide additional habitat and recreational activities. Local communities have invested millions of dollars in community and neighborhood parks and recreation areas.

Protecting remaining high quality natural resource lands in the metropolitan area builds on past investments and offers an excellent opportunity for further investment in the Regional Parks System as the region grows by 824,000 more people in the next 25 years. To that end, the vision for the Regional Parks System includes expanding it to nearly 70,000 acres and tripling the trail system from 340 miles today to more than 1,100 miles by 2040. New regional trails and greenway corridors will link regional parks and park reserves. Also proposed are two additional regional parks in Carver County and a regional park in the northwest corner of Anoka County – an area that has been identified as a potential park since 1974. These planned regional parks and trails will enable residents to enjoy a variety of new park experiences throughout the region.

In the 1880s, Horace Cleveland, a founding father of the Minneapolis parks system, said:

> *"Look forward for a century, to the time when the city has a population of a million, and think what will be their wants. They will have wealth enough to purchase all that money can buy, but all their wealth cannot purchase a lost opportunity, or restore natural features of grandeur and beauty, which would then possess priceless value..."*

This sentiment still rings true. Preserving natural areas with an eye toward the future is critical to our region's livability, sustainability, stewardship, and prosperity. The Regional Parks System represents a major, well-established conservation effort for land and water resources. The area's growing population will need additional large-scale park and open space lands with interconnected trails in the future. The region needs to identify natural areas that could be added to the Regional Parks System and make plans for their acquisition before the opportunity is lost.

Key Minnesota Legislation for the Regional Parks System

Regional Recreation Open Space System (Minn. Stat. 473.302)

"The legislature finds that the pressure of urbanization and development threatens valuable recreational open space areas in the metropolitan area at the same time as the need for such areas is increased. Immediate action is therefore necessary to provide funds to acquire, preserve, protect and develop regional recreational open space for public use."

Regional Recreation Open Space (Minn. Stat. 473.121, subd. 14)

"'Regional recreation open space' means land and water areas, or interests therein, and facilities determined by the Metropolitan Council to be of regional importance in providing for a balanced system of public outdoor recreation for the metropolitan area, including but not limited to park reserves, major linear parks and trails, large recreation parks, and conservatories, zoos, and other special use facilities."

Regional Recreation Open Space System Policy Plan (Minn. Stat. 473.147, subd. 1)

"The policy plan shall identify generally the areas which should be acquired by a public agency to provide a system of regional recreation open space comprising park district, county and municipal facilities which, together with state facilities, reasonably will meet the outdoor recreation needs of the people of the metropolitan area and shall establish priorities for acquisition and development."

"The policy plan shall include a five-year capital improvement program, which shall be revised periodically, and shall establish criteria and priorities for the allocation of funds for such acquisition and development."

Grants for Recreation Open Space (Minn. Stat. 473.315, subd. 1)

"The Metropolitan Council with the advice of the commission may make grants, from any funds available to it for recreation open space purposes, to any implementing agency, as defined in section 473.351, to cover the cost, or any portion of the cost, of acquiring or developing regional recreation open space in accordance with the policy plan; and all such agencies may enter into contracts for this purpose or rights or interests therein."

Metropolitan Area Regional Parks Funding (Minn. Stat. 473.351, subd. 1a.)

"'Implementing agency' means the counties of Anoka, Washington, Ramsey, Scott, Carver, Dakota, the city of St. Paul, the city of Bloomington, the Minneapolis Park and Recreation Board, and the Three Rivers Park District."

Park and Trails Fund (Minn. Stat. 85.53)

"Grants funded by the parks and trails fund must be implemented according to section 16B.98"

Grant Management Process (Minn. Stat. 16B.98, subd.6)

Grant administration. "A granting agency shall diligently administer and monitor any grant it has entered into."

Session law also provides important directives. For instance, the Omnibus Legacy Bill, updated biennially, provides additional guidance and requirements related to Parks and Trails Legacy spending.

Applicable Funding Formulas

Parks and Trails Fund (Minn. Stat. 85.53, subd. 3):

"(1) 45 percent of the money must be disbursed according to the allocation formula in section 473.351, subdivision 3, to each implementing agency; (2) 31.5% of the money must be distributed based on each implementing agency's relative share of the most recent estimate of the population of the metropolitan area; (3) 13.5 percent of the money must be distributed based on each implementing agency's relative share of nonlocal visits based on the most recent user visitation survey conducted by the Metropolitan Council; and (4) ten percent of the money must be distributed as grants to implementing agencies for land acquisition within Metropolitan Council approved regional parks and trails master plan boundaries under the council's park acquisition opportunity grant program."

Operations and Maintenance Funds (Minn. Stat. 473.351, subd. 3)

"The Metropolitan Council shall distribute the operations and maintenance money as follows: (1) 40 percent based on the use that each implementing agency's regional recreation open space system has in proportion to the total use of the metropolitan regional recreation open space system; (2) 40 percent based on the operation and maintenance expenditures made in the previous year by each implementing agency in proportion to the total operation and maintenance expenditures of all the implementing agencies; and (3) 20 percent based on the acreage that each implementing agency's regional recreation open space system has in proportion to the total acreage of the metropolitan regional recreation open space system."

Chapter Three: System Plan

Introduction

The overarching outdoor recreation system in the region consists of lands owned or managed by federal, state, and local governments, as well as lands privately owned by nonprofit or for-profit agencies. All play an important role in supporting and protecting the outdoor recreation system. The system is designed to meet the recreational needs and the natural resources protection goals of the region. The outdoor recreation system consists of a wide range of facilities, from state parks to regional trails to neighborhood playgrounds to private nature centers. The Regional Parks System is one part of this well-rounded system of outdoor recreation.

The Regional Parks System primarily consists of lands located in a high-quality natural resources setting that are contiguous to lakes, rivers, or other water bodies. Natural resource restoration and protection is a key objective in the Regional Parks System. Regional parks and park reserves include large areas of land or water that often extend into multiple political jurisdictions. Regional trails may traverse several communities and provide connections between regional parks, park reserves, and the greater regional trail network. Regional parks and trails draw visitors from across the region and beyond.

Recreational parks and open space provided by the federal and state government generally serve similar recreational demands as the Regional Parks System. Local recreational open space facilities provide facilities for active recreation, such as playgrounds, athletic fields, courts, and aquatic centers. Private operations also make substantial contributions to the development of facilities and the provision of services and include golf courses, riding facilities, marinas, day camps and downhill ski areas.

National Parks and Federal Lands

Our region includes the Minnesota Valley National Wildlife Refuge as well as two national parks--the Mississippi National River and Recreation Area and the St. Croix National Scenic Riverway.

Minnesota Valley National Wildlife Refuge

The Minnesota Valley National Wildlife Refuge is a corridor of land and water along the Minnesota River that stretches from Bloomington to Henderson and is managed by the U.S. Fish and Wildlife Service. The refuge was established in 1976 to provide habitat for a large number of migratory waterfowl, fish, and other wildlife species threatened by commercial and industrial development, and to provide environmental education, wildlife recreational opportunities, and interpretive programming for Twin Cities residents.

Mississippi National River and Recreation Area

The 54,000-acre Mississippi National River and Recreation Area (MNRRA) was established in 1988 and is a unit of the National Park Service. The National Park Service owns very little land within its borders but partners with local governments, state agencies, and organizations to protect the significant resources along the 72-mile stretch of river running through the region. Several regional parks and trails, which are owned and operated by regional park implementing agencies, are located within the MNRRA corridor.

St. Croix National Scenic Riverway

A portion of the St. Croix National Scenic Riverway is located in the region. The St. Croix National Scenic Riverway is a unit of the National Park Service located on the St. Croix River and the Namekagon River in Wisconsin. The National Riverway includes the two rivers and their riparian areas and occupies the boundary between Wisconsin and Minnesota. The St. Croix National Scenic Riverway is maintained and managed by the National Park Service and the Minnesota and Wisconsin Departments of Natural Resources.

State Parks, Lands, and Trails

The Minnesota Department of Natural Resources (DNR) manages state parks, lands and trails in the region, including Afton, Fort Snelling, and William O'Brien State Parks; the Minnesota Valley State Recreation Area; and the Brown's Creek, Gateway, Luce Line, and Minnesota Valley State Trails. The DNR also provides wildlife management areas for hunting, trapping, fishing, wildlife viewing and other compatible recreational uses. Scientific and natural areas are open to the public for nature observation and education, but are not meant for intensive recreational activities.

There are six state water trails and their attendant system of boat and canoe launches that travel through the metropolitan area along the Cannon, Crow, Minnesota, Mississippi, St. Croix, and Rum rivers. The DNR and its local unit of government partners actively manage the state water trails for canoeing, kayaking, boating and camping. Additionally, 72 miles of the Mississippi River and four miles of the Minnesota River have been designated as the Mississippi National River and Recreation Area Water Trail, a national water trail.

Federal and state agencies are encouraged, but not required, to submit master plans for recreational open space units within the seven-county region to the Council for its review. To the extent these master plans indicate that facilities will fulfill regional recreation open space objectives and are consistent with the *2040 Regional Parks Policy Plan*, the Council will provide these lands protection under the Metropolitan Significance Review regulations and the Metropolitan Land Planning Act, as described in the System Protection Policy found in Chapter 4. However, the Council does not grant regional funds to state or federal agencies for capital improvements or for operations and maintenance of these facilities. Figure 3-1 depicts the national, federal and state recreation lands and corridors in the region.

Local Parks

Local recreational open space facilities provide for a very large number and variety of recreational activities that occur in the metropolitan area. Local parks are often more intensely developed than regional parks and provide facilities for active recreation, such as playgrounds, athletic fields, courts, and aquatic centers. Local parks are designed to serve a neighborhood or community and are frequently located in residential areas.

Local parks are usually much smaller than regional parks and are located and designed to serve the local population, rather than primarily based on natural resource amenities. Local trails typically provide connections between community destinations, such as schools, libraries, and community centers. Although local recreational open space areas are not covered by this plan, the facilities and services

they offer are taken into consideration when master plans of the regional system are prepared and reviewed.

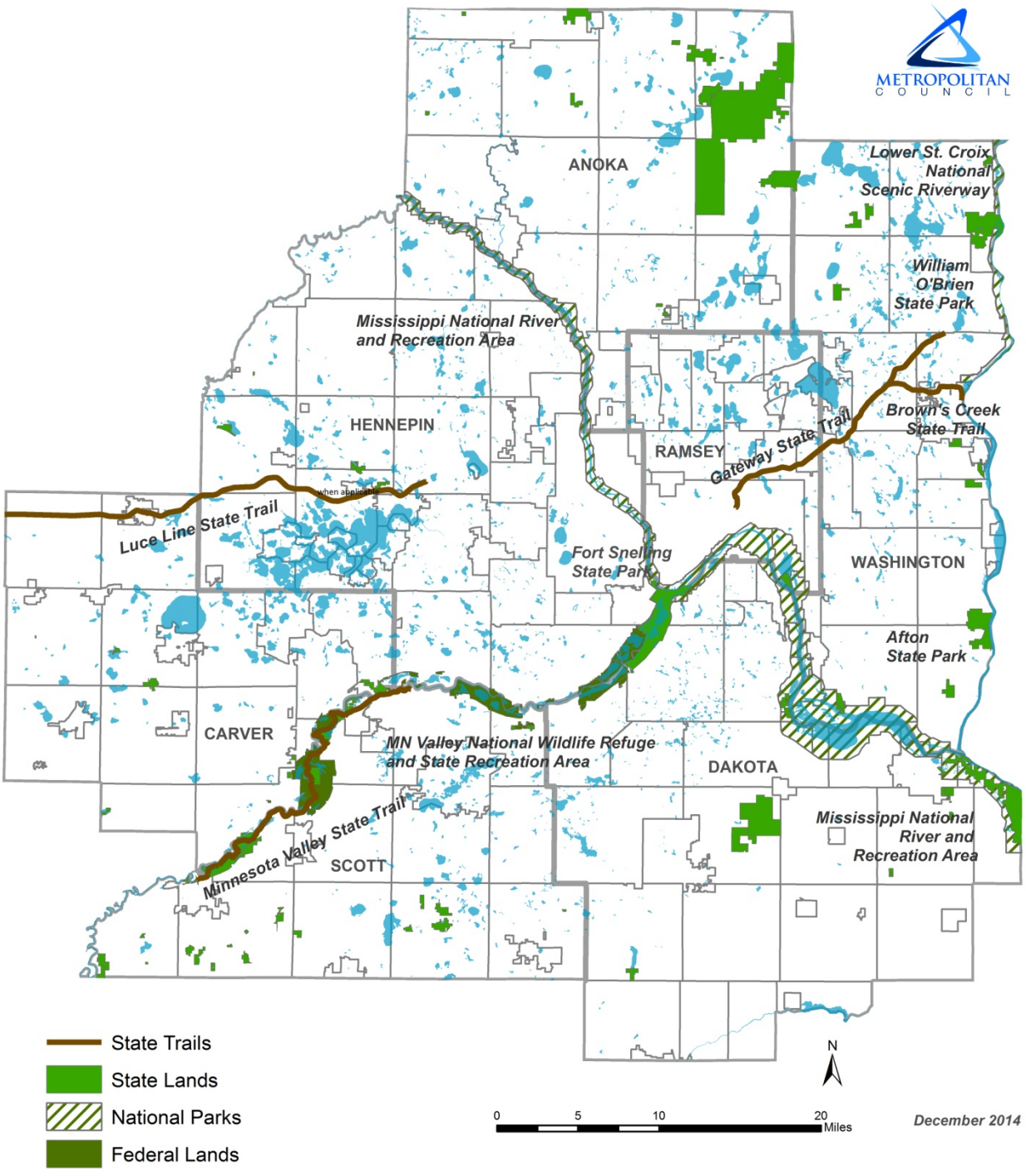
Private Recreation

Public recreational open space facilities do not meet all the demands for such recreation required by the area's residents. Private operations also make substantial contributions to the development of facilities and the provision of services. The most prominent facilities provided by the private sector are golf courses, riding facilities, gun clubs, marinas, day camps, and downhill ski areas. There are also multiple recreational open space areas owned and operated by corporations, employees' associations, benevolent associations, and nonprofit social agencies. These private facilities reduce the burden on the public sector, provide additional opportunities, and help to preserve thousands of acres of land in open space. They complement activities and experiences offered by the public sector.

Nonprofit Partners

Nonprofit organizations, such as the Parks and Trails Council of Minnesota, the Trust for Public Land and the Nature Conservancy, have a long history of supporting the outdoor recreation system in the region by protecting and restoring natural areas and wetlands, helping acquire park land, and advocating for the importance of recreation and open space.

Figure 3-1. National, Federal, and State Recreation Lands in the Region



Components of the Regional Parks System

Not all recreation facilities warrant regional status. Table 3-1 provides a classification system for local and regional facilities.

Table 3-1. Classification System for Local and Regional Park Facilities

Classification System for Local and Regional Facilities					
Component	**Use**	**Service Area**	**Size**	**Site Attributes**	**Site Location**
Local Facilities					
Mini-park	Specialized facilities that serve a concentrated or limited population or specific group such as tots or senior citizens	Less than 1/4 mile radius	< 1 acre		May be publicly or privately owned and/or incorporated into a development site, such as apartment, townhouse, or condominium complexes, or commercial centers.
Neighborhood park/playground	Area for intense recreational activities such as field games, court games, crafts, apparatus area, skating, and neighborhood centers.	¼ to ½ mile radius to serve a population of 4,000 – 5,000 (one neighborhood)	< 25 acres	Physical geography suited for intense development.	Proximity to elementary schools or residential neighborhoods.
Community playfield	Area for intense recreational facilities such as athletic fields and swimming pools; could include a neighborhood use.	3 - 5 neighborhoods or one community	25 - 50 acres	Physical geography suited for intense development.	Proximity to secondary schools and other public facilities.
Community park	Area of natural or ornamental quality for outdoor recreation such as walking, viewing, sitting, picnicking; could have some field and court games.	3 - 5 neighborhoods or one community	25 - 100 acres	Affords natural features with varied physical geographic interest.	Proximity to community facilities and resources.
County park	Area of natural or ornamental quality for outdoor recreation such as walking, viewing, sitting, picnicking; could have some field and court games.	County	25 - 100 acres	Affords natural features with varied physical geographic interest.	Proximity to community facilities and resources and/or where resource occurs.

Classification System for Local Facilities

Component	Use	Service Area	Size	Site Attributes	Site Location
Local Facilities					
Conservancy lands	Area of natural quality such as watercourses and wetlands that are preserved for environmental or aesthetic benefits to the community and/or because of the negative environmental or economic effects of development in them.	Municipality, township, county	Variable, based on extent of resources	Natural resources that merit preservation and that would be negatively affected by development.	Where resource occurs.
Local linear parks, trail, corridors and parkways	Area developed for one or more varying modes of recreational travel such as hiking, biking, snowmobiling, horseback riding, cross-country skiing, canoeing and driving.	A neighborhood or several neighborhoods in a city or township	Contained within one city or township. Width and length minimums vary by locality.	On or off-road trails that may or may not traverse scenic areas while assuring the trail treadway has no adverse effect on the natural resource base.	Where needed to link neighborhoods to components of the local or regional recreation system and/or community facilities such as schools, libraries, commercial areas and to link to adjacent municipalities.
County linear parks, trail, corridors and parkways	Area developed for one or more varying modes of recreational travel such as hiking, biking, snowmobiling, horseback riding, cross-country skiing, canoeing and driving.	Several cities and/or townships in a county.	Traverses one or more municipalities. Width and length minimums vary by county.	On or off-road trails that may or may not traverse scenic areas while assuring the trail treadway has no adverse effect on the natural resource base.	Often found adjacent to major roadways within the county. Other locations where needed to link cities to components of the local or regional recreation system and/or community facilities such as schools, libraries, commercial areas and to link to adjacent counties.

Classification System for Regional Facilities

Component	Use	Service Area	Size	Site Attributes	Site Location
Regional Facilities					
Regional park	Area of natural or ornamental quality for nature-oriented outdoor recreation such as picnicking, boating, fishing, swimming, camping and trail uses.	3 - 5 communities	200 - 500 acres (100 minimum)	Complete natural setting contiguous to water bodies or watercourses where possible.	Where natural resource occurs--particularly water.
Regional park reserve	Area of natural quality for nature-oriented outdoor recreation such as viewing and studying nature, wildlife habitat, conservation, swimming, picnicking, hiking, boating, camping and trail uses.	County, multi-county area	1000 + acres; sufficient area to encompass the resource envisioned for preservation.	Diversity of unique resources, such as topography, lakes, streams, marshes, flora, fauna.	Where natural resource occurs.
Regional destination trail	Area developed for one or more varying modes of nonmotorized recreational travel such as hiking, biking, horseback riding, cross-country skiing, and canoeing.	The entire metropolitan region	Sufficient corridor width to protect natural resources and can safely accommodate trail use. Sufficient length to be a destination itself, or to serve as a link between regional parks system units.	When feasible, off-road trails that utilize human made and/or natural linear resources such as utility corridors, railroad and highway rights of way, stream / river valleys, or at the edges of forest or prairie. On-road trails are acceptable when off-road trails are not feasible.	Preferably adjacent to high quality natural areas. The trail treadway should be placed where it has no adverse impact on the natural resource base.

Classification System for Regional Facilities

Component	Use	Service Area	Size	Site Attributes	Site Location
Regional Facilities					
Regional linking trail	Area developed for one or more varying modes of nonmotorized recreational travel such as hiking, biking, horseback riding, cross-country skiing, and canoeing.	The entire metropolitan region	Sufficient corridor width to protect natural resources and can safely accommodate trail use. Sufficient length to link regional parks system units.	When feasible, off-road trails that utilize human made and/or natural linear resources such as utility corridors, railroad and highway rights of way, stream / river valleys, or at the edges of forest or prairie. On-road trails are acceptable when off-road trails are not feasible.	Linkages between components of the regional parks system. When feasible, linking trails should attempt to connect to population, economic and social centers along its route. The trail treadway should be placed where it has no adverse impact on the natural resource base.
Special recreation feature	Area that preserves, maintains, and provides specialized or single-purpose recreational activities, such as nature center, marina, zoo, conservatory, arboretum, display gardens, hunter training education facilities, downhill ski area, sites of historic or archeological significance, and bridging facilities. Bridging facilities are specialized or single-purpose facilities that are intended to attract and introduce new outdoor recreation users to the Regional Parks System.	Regional-(metropolitan area)	Specific standard applicable to desired feature.	Appropriate to particular special recreation feature.	Where most advantageous for the special recreation feature and the overall park system.

Components of the Regional Parks System are categorized into four major components. These four components are regional parks, park reserves, regional trails, and special recreation features.

Regional Parks

Areas selected for regional parks should contain a diversity of nature-based resources, either naturally occurring or human-built. The recreational quality of a regional park is measured by the presence or absence of outstanding natural resources and the ability to provide adequately for a wide range of natural resource-related recreational opportunities. Access to water bodies suitable for recreation – such as swimming, boating and fishing – is particularly important and most of the regional parks are focused on lakes, rivers or streams.

A regional park should be large enough to accommodate a variety of activities, preserve a pleasant natural aspect, and buffer activity areas from each other and from surrounding areas. This is interpreted as requiring 200 to 500 acres of land. Occasionally, because of the quality of the resource, an exception may be made and a regional park may be as small as 100 acres. Experience has shown this to be the minimum size acceptable for the range and type of activities expected to be accommodated.

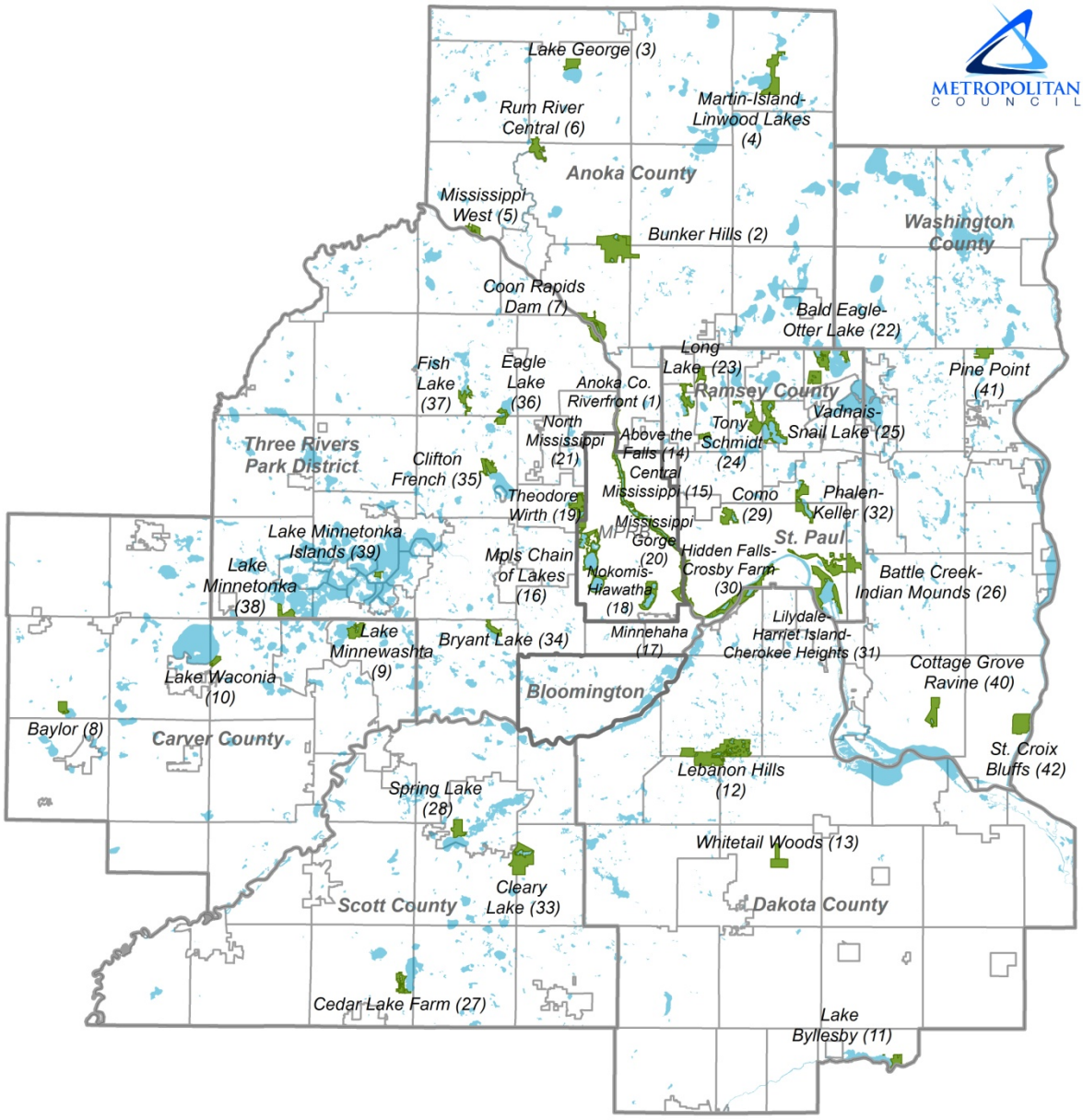
As of 2014, there are 42 regional parks developed and open to the public. These regional parks are listed in Table 3-2 and shown on Figure 3-2.

Table 3-2. Regional Parks Open to the Public (2014)

	Regional Parks	Regional Park Implementing Agency
1	Anoka County Riverfront Regional Park	Anoka County
2	Bunker Hills Regional Park	Anoka County
3	Lake George Regional Park	Anoka County
4	Martin-Island-Linwood Lakes Regional Park	Anoka County
5	Mississippi West Regional Park	Anoka County
6	Rum River Central Regional Park	Anoka County
7	Coon Rapids Dam Regional Park	Anoka County/Three Rivers
8	Baylor Regional Park	Carver County
9	Lake Minnewashta Regional Park	Carver County
10	Lake Waconia Regional Park	Carver County
11	Lake Byllesby Regional Park	Dakota County
12	Lebanon Hills Regional Park	Dakota County
13	Whitetail Woods Regional Park	Dakota County
14	Above the Falls Regional Park	Minneapolis Park & Recreation Board
15	Central Mississippi Riverfront Regional Park	Minneapolis Park & Recreation Board
16	Minneapolis Chain-of-Lakes Regional Park	Minneapolis Park & Recreation Board
17	Minnehaha Regional Park	Minneapolis Park & Recreation Board
18	Nokomis-Hiawatha Regional Park	Minneapolis Park & Recreation Board
19	Theodore Wirth Regional Park	Minneapolis Park & Recreation Board
20	Mississippi Gorge Regional Park	Minneapolis/Saint Paul

21	North Mississippi Regional Park	Minneapolis/Three Rivers
22	Bald Eagle-Otter Lake Regional Park	Ramsey County
23	Long Lake Regional Park	Ramsey County
24	Tony Schmidt Regional Park	Ramsey County
25	Vadnais-Snail Lake Regional Park	Ramsey County
26	Battle Creek & Indian Mounds Regional Park	Ramsey County/St. Paul
27	Cedar Lake Farm Regional Park	Scott County
28	Spring Lake Regional Park	Scott County
29	Como Regional Park	Saint Paul
30	Hidden Falls-Crosby Farm Regional Park	Saint Paul
31	Lilydale-Harriet Island & Cherokee Heights Regional Park	Saint Paul
32	Phalen-Keller Regional Park	Saint Paul/Ramsey County
33	Cleary Lake Regional Park	Three Rivers (Scott County)
34	Bryant Lake Regional Park	Three Rivers Park District
35	Clifton E. French Regional Park	Three Rivers Park District
36	Eagle Lake Regional Park	Three Rivers Park District
37	Fish Lake Regional Park	Three Rivers Park District
38	Lake Minnetonka Regional Park	Three Rivers Park District
39	Lake Minnetonka Islands Regional Park	Three Rivers Park District
40	Cottage Grove Ravine Regional Park	Washington County
41	Pine Point Regional Park	Washington County
42	St. Croix Bluffs Regional Park	Washington County

Figure 3-2. Regional Parks Open to the Public (2014)



Park Reserves

Park reserves, like regional parks, are expected to provide for a diversity of outdoor recreational activities. The major feature that distinguishes the park reserve from a regional park is that the park reserve is also intended to provide, protect, and manage representative areas of the original major landscape types in the metropolitan area and enable appreciation and enjoyment of the natural resources that influenced the region's development.

Park reserves are substantially larger than regional parks because they are to contain a diversity of natural resources with adequate space to protect and manage natural resources and provide for the compatible outdoor activities. The minimum size for a park reserve is 1,000 acres, but larger park reserves are desirable. To establish and maintain an uncompromised sense of nature and protect high-quality natural resources, at least 80% of each park reserve should be managed as wild lands that protect the ecological functions of the native landscape. This would permit up to 20% of a park reserve to be developed for compatible recreational activities.

The eight regional landscape types that have been used in selecting areas for park reserves are:

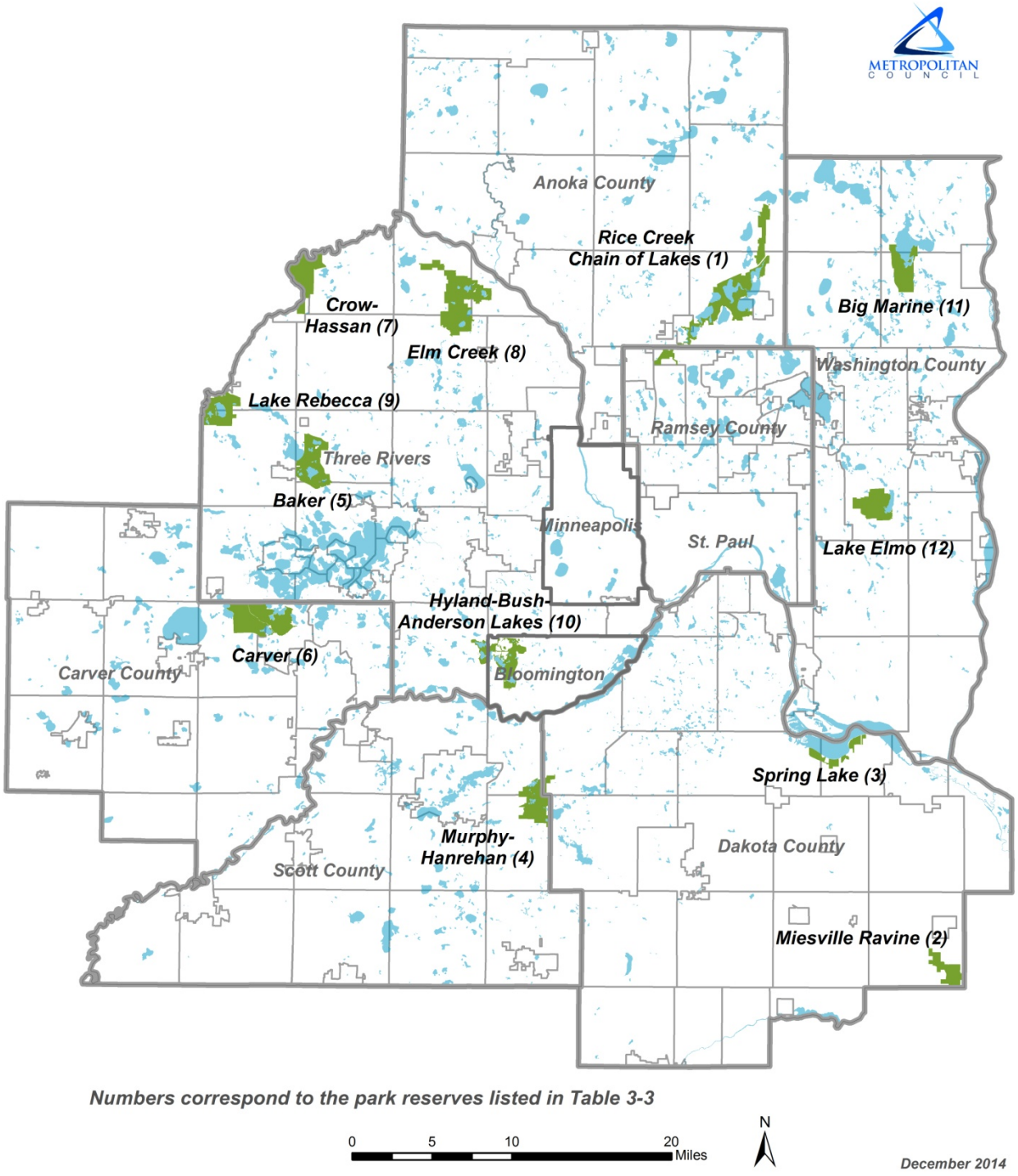
- Sand plains
- St. Croix ground moraine
- Des Moines ground moraine
- Terminal moraine
- Lightly glaciated area
- Mississippi River Valley
- Minnesota River Valley
- St. Croix River Valley

As of 2014, the Regional Parks System included 12 park reserves developed and open to the public, which are listed in Table 3-3 and shown in Figure 3-3.

Table 3-3. Park Reserves Open to the Public (2014)

	Park Reserves	Park Agency
1	Rice Creek Chain-of-Lakes Park Reserve	Anoka County
2	Miesville Ravine Park Reserve	Dakota County
3	Spring Lake Park Reserve	Dakota County
4	Murphy-Hanrehan Park Reserve	Three Rivers (Scott County)
5	Baker Park Reserve	Three Rivers Park District
6	Carver Park Reserve	Three Rivers Park District
7	Crow-Hassan Park Reserve	Three Rivers Park District
8	Elm Creek Park Reserve	Three Rivers Park District
9	Lake Rebecca Park Reserve	Three Rivers Park District
10	Hyland-Bush-Anderson Lakes Park Reserve	Three Rivers/Bloomington
11	Big Marine Park Reserve	Washington County
12	Lake Elmo Park Reserve	Washington County

Figure 3-3. Park Reserves Open to the Public (2014)



Regional Trails

Regional trail corridors are intended to provide for recreational travel along linear pathways throughout the metropolitan area. Ideally, they are selected to follow natural or linear features that traverse areas of scenic appeal and/or historical, architectural and developmental interest while assuring that the trail treadway will have no adverse effect on the natural resource base. The regional trails are selected to pass through or provide connections between components in the Regional Parks System. The regional parks and park reserves perform the important function of providing places for parking, comfort facilities and safe water supplies.

Trails also are selected for their ability to intersect with local trail networks, with the regional trails functioning much like regional highways that interconnect with more local arterials and local streets. The regional trail network, especially in the urban areas, serves as commuting routes for bicyclists in addition to serving recreational purposes. As the regional trail and transit systems expand, opportunities to provide connections between these forms of travel should be explored. People can ride the bus or light rail to access a regional trail, and conversely, people can use regional trails to access transit.

Regional trails can also be developed as greenways, or linear parks, where the trail itself is a destination. These greenways typically include wide corridors that provide opportunities for improving wildlife habitat, protecting natural resources, and providing recreational opportunities.
People tend to prefer trails that are relatively close to where they live. Surveys conducted by the Metropolitan Council show that more than 75% of trail visitors live within 3 miles of the trails they used. However, trail users are traveling from one city or county to another. It is this inter-jurisdictional trail length that makes these trails regionally significant.

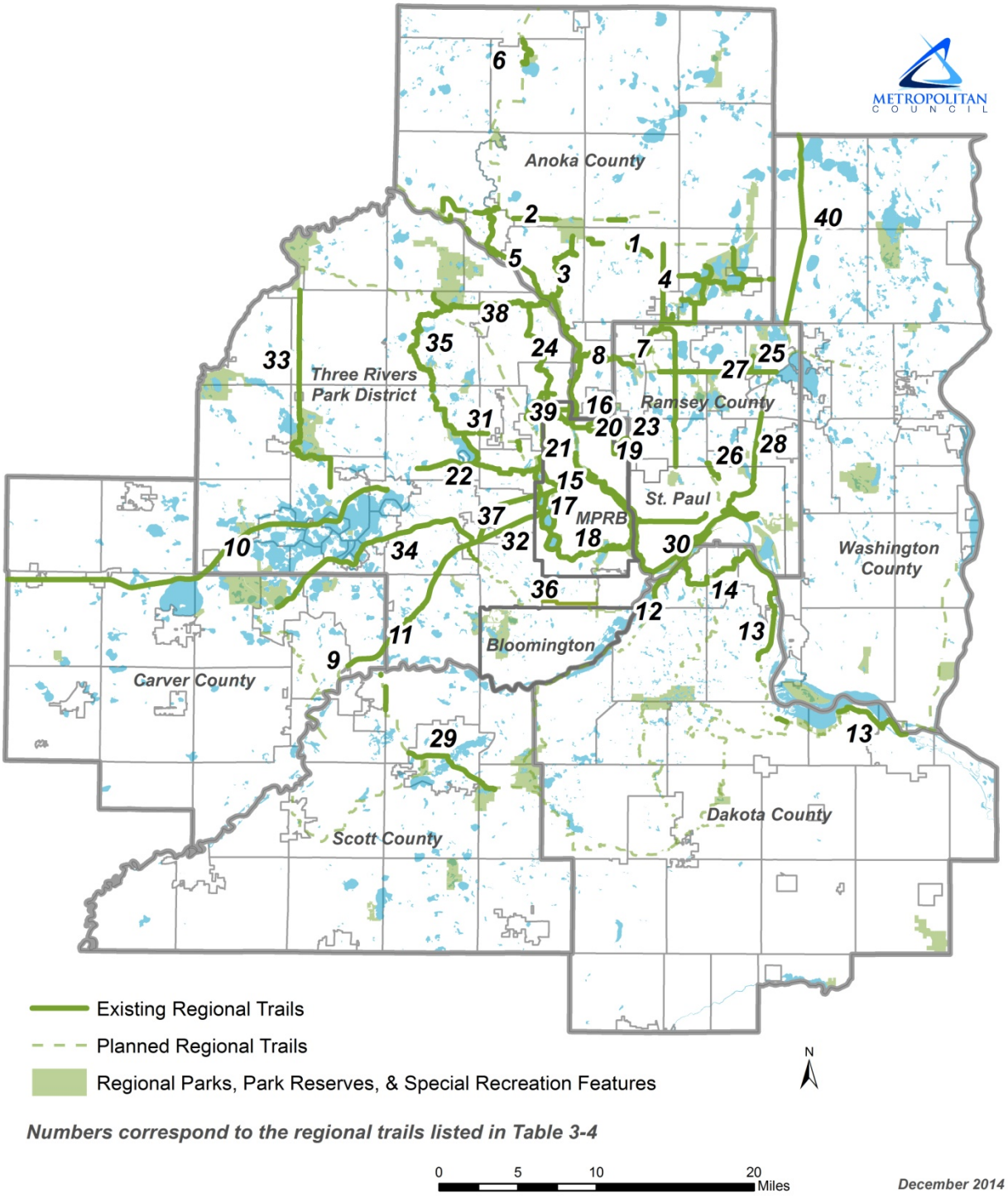
As of 2014, there were 40 regional trail corridors, with a total of 340 miles open to the public, listed in Table 3-4 and Figure 3-4. Many trails are constructed in phases, some as part of roadway improvement projects or local development. Therefore, although a trail is listed as being open, some portions of the trail corridor may be developed in the future and are not yet open to the public.

Table 3-4. Regional Trails Open to the Public (2014)

	Regional Trails	**Park Agency**
1	Bunker Hills-Chain of Lakes Regional Trail	Anoka County
2	Central Anoka Regional Trail	Anoka County
3	Coon Creek Regional Trail	Anoka County
4	East Anoka County Regional Trail	Anoka County
5	Mississippi River Regional Trail (Anoka Co)	Anoka County
6	Rum River Regional Trail	Anoka County
7	Rice Creek North Regional Trail	Anoka County/Ramsey County
8	Rice Creek West Regional Trail	Anoka County/Ramsey County
9	Southwest Regional Trail	Carver County
10	Dakota Rail Regional Trail	Carver County/Three Rivers
11	Minnesota River Bluffs LRT Regional Trail	Carver County/Three Rivers

12	Big Rivers Regional Trail	Dakota County
13	Mississippi River Regional Trail (Dakota Co)	Dakota County
14	North Urban Regional Trail	Dakota County
15	Cedar Lake Regional Trail	Minneapolis Park & Recreation Board
16	Columbia Parkway Regional Trail	Minneapolis Park & Recreation Board
17	Kenilworth Regional Trail	Minneapolis Park & Recreation Board
18	Minnehaha Parkway Regional Trail	Minneapolis Park & Recreation Board
19	Ridgway Parkway Regional Trail	Minneapolis Park & Recreation Board
20	St. Anthony Parkway Regional Trail	Minneapolis Park & Recreation Board
21	Victory Memorial Parkway Regional Trail	Minneapolis Park & Recreation Board
22	Luce Line Regional Trail	Minneapolis/Three Rivers
23	Northeast Diagonal Regional Trail	Minneapolis/Three Rivers
24	Shingle Creek Regional Trail	Minneapolis/Three Rivers
25	Birch Lake Regional Trail	Ramsey County
26	Trout Brook Regional Trail	Ramsey County
27	Highway 96 Regional Trail	Ramsey County
28	Bruce Vento Regional Trail	Ramsey County/St. Paul
29	Scott County Regional Trail	Scott County
30	Samuel Morgan Regional Trail	Saint Paul
31	Bassett Creek Regional Trail	Three Rivers Park District
32	Cedar Lake LRT Regional Trail	Three Rivers Park District
33	Lake Independence Regional Trail	Three Rivers Park District
34	Lake Minnetonka LRT Regional Trail	Three Rivers Park District
35	Medicine Lake Regional Trail	Three Rivers Park District
36	Nine Mile Creek Regional Trail	Three Rivers Park District
37	North Cedar Lake Regional Trail	Three Rivers Park District
38	Rush Creek Regional Trail	Three Rivers Park District
39	Twin Lakes Regional Trail	Three Rivers Park District
40	Hardwood Creek Regional Trail	Washington County

Figure 3-4. Regional Trails Open to the Public (2014)



Special Recreation Features

Special recreation features, which are called for in state legislation (Minn. Stat. 473.121, subd. 14), are defined as Regional Parks System opportunities not generally found in the parks, the park reserves or the trail corridors. Special recreational features often require a unique managing or programming effort on the part of the regional park implementing agency.

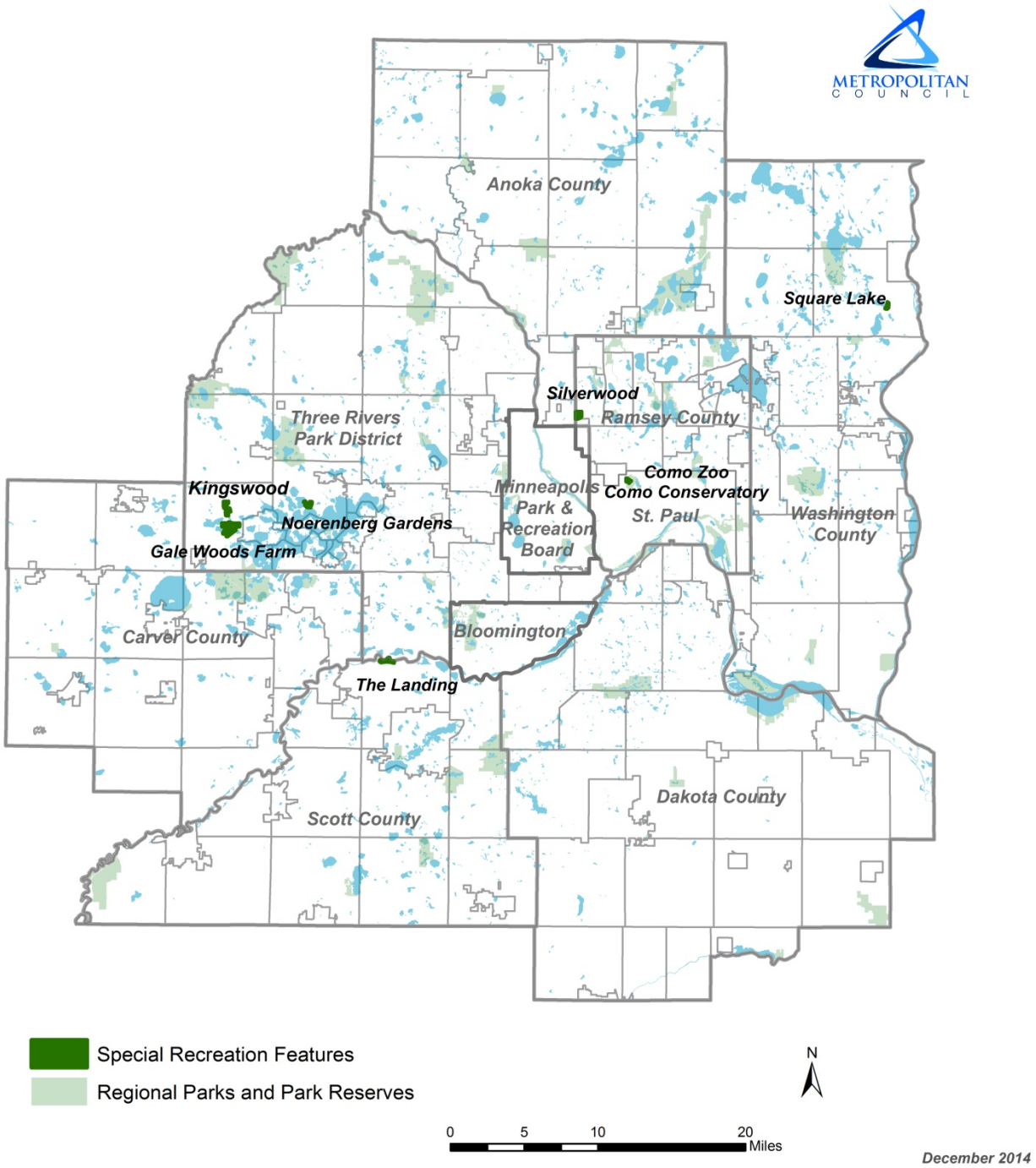
As of 2014, there are eight special recreation features developed and open to the public:

- Como Park Zoo at Como Regional Park in Saint Paul
- Marjorie McNeely Conservatory at Como Regional Park, in Saint Paul
- Gale Woods Farm on the shore of Whaletail Lake in Minnetrista
- Kingswood, on the shore of Little Long Lake in Minnetrista
- The Landing, along the Minnesota River in Shakopee
- Noerenberg Gardens on the northwest side of Lake Minnetonka
- Silverwood on the shore of Silver Lake in the City of St. Anthony
- Square Lake in Washington County.

The Como Zoo and Marjorie McNeely Conservatory are managed within Como Regional Park. Gale Woods Farm provides opportunities for visitors to learn about agriculture, food production, and land stewardship. Kingswood provides nature-based service learning programs to preserve the unique and significant natural resources of the site. The Landing provides a historical representation of life in a river town in the 1800s. Noerenberg Gardens was given to Three Rivers Park District with the understanding that it was a unique and regional-level attraction with stunning floral gardens. Silverwood integrates arts, environmental education, and gardens to serve as a center for arts and the environment. Square Lake provides beach and boat access to one of the clearest lakes in the metropolitan area and attracts scuba divers from across the region.

New special recreation features need to be complementary to the rest of the Regional Parks System and not be a financial burden to the system. Special recreation features are highlighted in Figure 3-5.

Figure 3-5. Special Recreation Features Open to the Public (2014)



Regional Parks System Plan

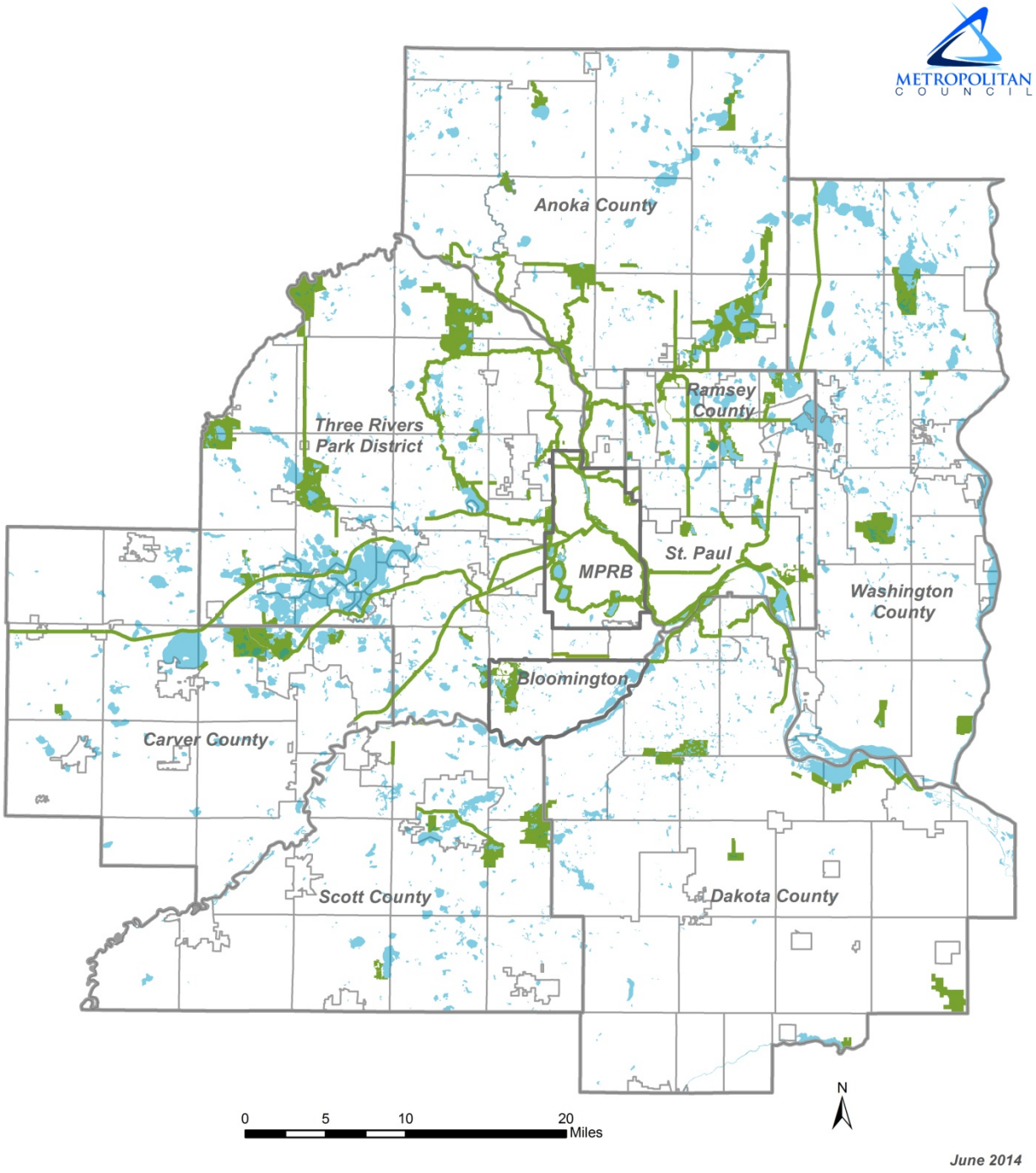
There are six components that make up the System Plan, which all together comprise the vision for the Regional Parks System in 2040:

- Existing Regional Parks System facilities
- Planned Regional Parks System facilities that are not yet open to the public
- Regional Parks System Boundary Adjustments
- Regional Park Search Areas
- Regional Trail Search Corridors
- 2040 System Additions

Existing Regional Parks System Facilities

As described in the previous section, the Regional Parks System as of 2014 includes 42 regional parks, 12 park reserves, 40 regional trails, and 8 special recreation features that are open for public use. These Regional Parks System facilities have a total land area of about 54,286 acres that have been acquired by the regional park implementing agencies, with 4,789 acres of inholdings within the boundaries of these parks and trails that have not yet been acquired. Figure 3-6 shows the Regional Parks System facilities that are open to the public as of 2014.

Figure 3-6. Regional Parks System Facilities Open to the Public (2014)



Planned Regional Parks System Facilities

In addition to the facilities that are open to the public, there are three regional parks and one park reserve that have Council-approved master plans, but have not yet been developed. These facilities are listed in Table 3-5 and shown in Figure 3-7. Approximately 1,353 acres have been acquired for these four planned Regional Parks System facilities, with an additional 3,767 acres to be acquired in the future.

Table 3-5. Planned Regional Parks Not Open to the Public

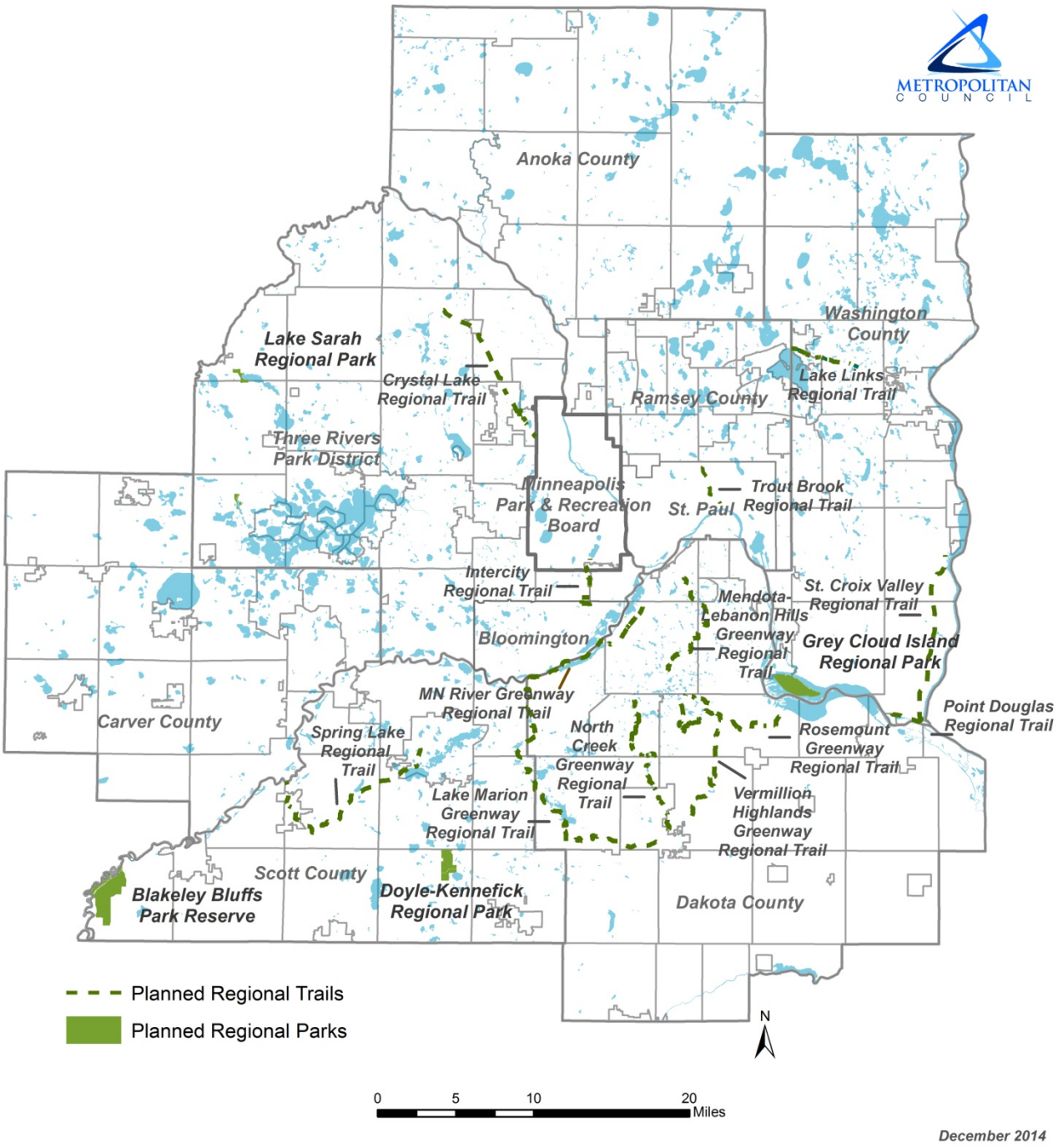
Regional Park Implementing Agency	Regional Park or Regional Trail
Scott County	Doyle-Kennefick Regional Park
Scott County	Blakeley Bluffs Park Reserve
Three Rivers Park District	Lake Sarah Regional Park
Washington County	Grey Cloud Island Regional Park

Thirteen regional trails, totaling 147 miles, have Council-approved master plans, but are not yet developed or open to the public, as listed in Table 3-6 and shown in Figure 3-7.

Table 3-6. Planned Regional Trails Not Open to the Public

Regional Park Implementing Agency	Regional Park or Regional Trail	Trail Mileage
Dakota County	Lake Marion Greenway RT	20
Dakota County	Mendota-Lebanon Hills Greenway RT	8.5
Dakota County	Minnesota River Greenway RT	17
Dakota County	North Creek Greenway RT	14
Dakota County	Rosemount Greenway RT	13
Dakota County	Vermillion Highlands Greenway RT	13
Ramsey County/Washington County	Lake Links RT	5
Scott County	Spring Lake RT	13.5
Saint Paul	Trout Brook RT	4
Three Rivers Park District	Crystal Lake RT	11
Three Rivers Park District	Intercity RT	5
Washington County	Point Douglas RT	2
Washington County	St. Croix Valley RT	20.5

Figure 3-7. Planned Regional Parks and Trails Not Yet Open to the Public



Regional Park Boundary Adjustments

The *2030 Regional Parks Policy Plan* recommended Master Plan Boundary Adjustments for five regional parks, one park reserve, and seven regional trails. The proposed adjustments to existing regional parks and trails were identified to protect areas of high-quality natural resources or to provide recreation. Some of the boundary adjustments were achieved through a master plan amendment, such as the addition of the Bruce Vento Nature Sanctuary to the Bruce Vento Regional Trail in Saint Paul.

Others have been removed from the System Plan because they have been acquired for other recreational purposes. For example, a portion of the Seminary Fen that was proposed to be added to the Minnesota River Bluffs Regional Trail in Carver County was acquired by the Minnesota Department of Natural Resources. Additionally, land designated as a proposed boundary adjustment area for Rum River Central Regional Park was purchased by Anoka County using non-regional funds. This area became the Cedar Creek Conservation Area, which is not part of the Regional Parks System. Four boundary adjustment areas are included in the 2040 System Plan, which are described in Table 3-7.

Table 3-7. Master Plan Boundary Adjustments

Regional Park Implementing Agency	Regional Parks System Unit	Estimated Acreage	Description
Carver County	Baylor RP	100	Acquire approximately 100 acres of land adjacent to Eagle Lake, including lakeshore
Carver County	Lake Waconia RP	30	Add Coney Island to the regional park. Includes a great blue heron nesting colony and maple-basswood forest. Potential boundary expansion provides opportunity for preservation, interpretation and compatible recreation.
Ramsey County	Highway 96 RT	47	Adds Snail Lake Marsh to the Highway 96 Regional Trail to provide area for trail facilities and interpretation.

Regional Park Search Areas

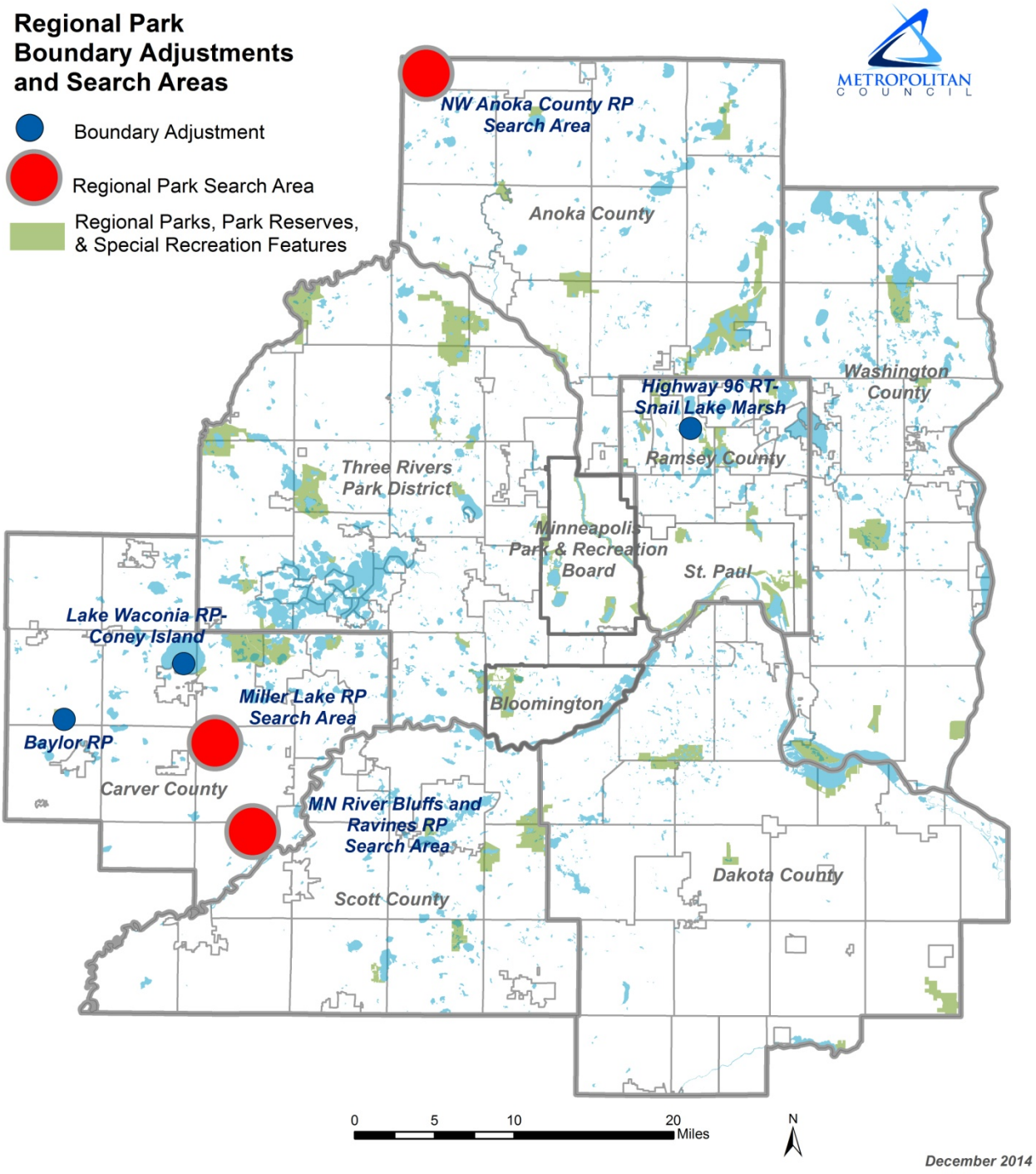
The *2030 Regional Parks Policy Plan,* updated in 2010, identified six regional park search areas in the region. Two of the search areas, one in Dakota County and one in Scott County, have been planned, acquired, developed, and are now open to the public as Whitetail Woods Regional Park and Cedar Lake Farm Regional Park, respectively. Another search area has been shaped into the planned Blakeley Bluffs Park Reserve, for which Scott County has been acquiring land.

Three regional park search areas, totaling approximately 1,700 acres remain, which are described in Table 3-8. Figure 3-8 shows a map of the regional park boundary adjustment and regional park search areas.

Table 3-8. Regional Park Search Areas

Regional Park Implementing Agency	Regional Park Search Area	Estimated Acreage	Notes
Anoka County	NW Anoka County RP Search Area	1,000	Very high-quality natural resource area unique in Anoka County.
Carver County	Miller Lake RP Search Area	200	Very attractive lake resource and appropriate setting for a regional park
Carver County	Minnesota Bluffs and Ravines RP Search Area	500	Large areas of regionally significant natural resources, excellent recreation potential.

Figure 3-8. Regional Park Boundary Adjustments and Search Areas



Regional Trail Search Corridors

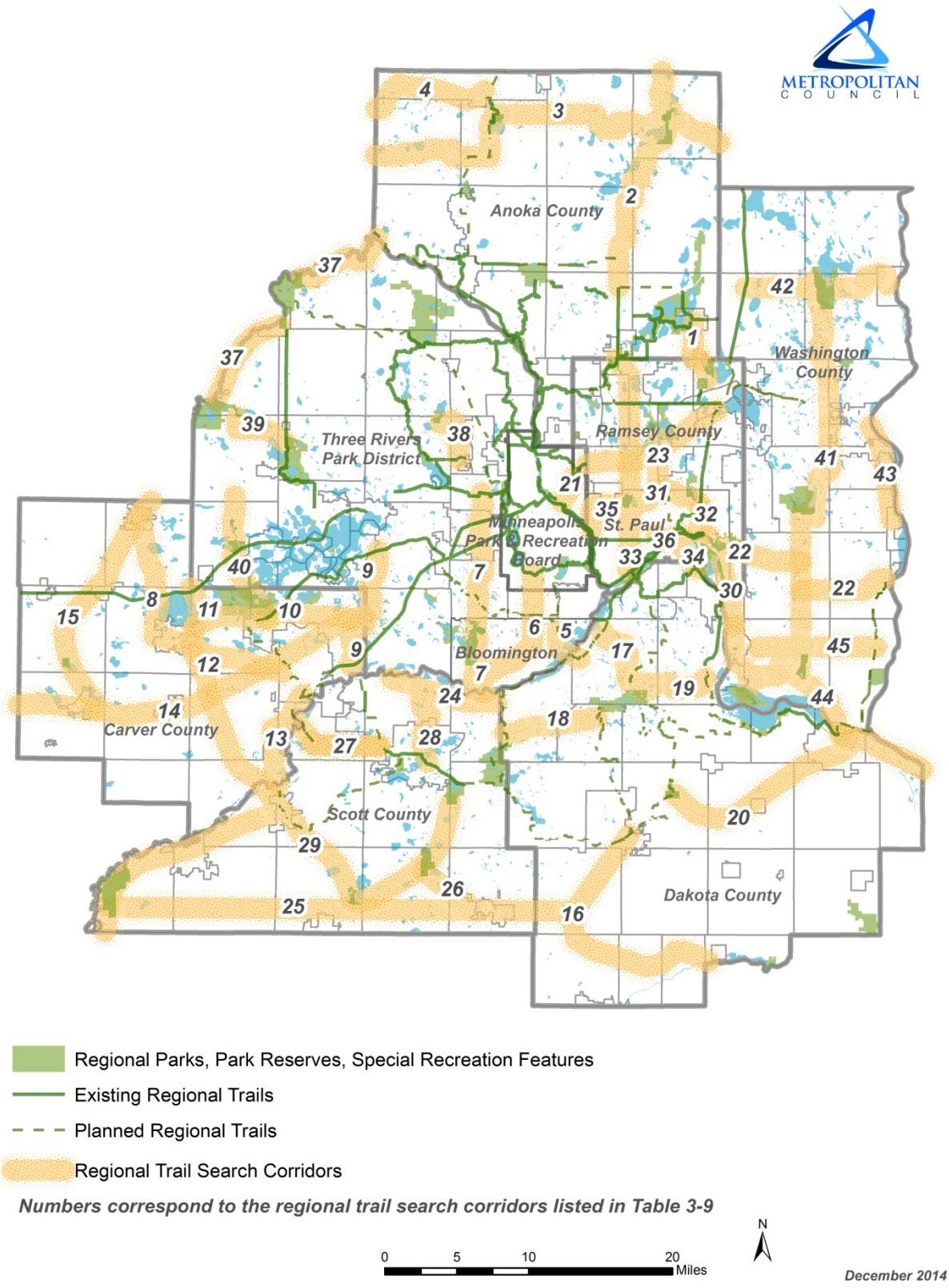
There are 45 proposed regional trails without Council-approved master plans that identify the trail alignments. Many of these trails have been considered part of the Regional Parks System for several years and were mapped in previous Regional Parks Policy Plans as proposed trails showing a tentative alignment. Since alignments for these trails have not yet been approved by the Council as part of a master plan, and are therefore not eligible for Regional Parks System funding for acquisition and development, they are being shown as regional trail search corridors. The estimated mileage of these regional trail search corridors is 488 miles. Regional park implementing agencies are encouraged to prepare master plans for these trails. The regional trail search corridors are listed in Table 3-9 and shown in Figure 3-9.

Table 3-9. Regional Trail Search Corridors

Map Desig-nation	Regional Park Implementing Agency	Regional Trail Search Corridor	Est. Miles
1	Anoka County	Chain of Lakes-Otter Lake	3
2	Anoka County	East Anoka County Regional Trail Extension	14
3	Anoka County	North Anoka County	22
4	Anoka County	Sugar Hills	14
5	Bloomington	Intercity Extension	2
6	Bloomington	South Hennepin East (CP Rail)	9
7	Bloomington & Three Rivers Park District	South Hennepin West (CP Rail)	14
8	Carver County	County Road 10	19
9	Carver County & Three Rivers Park District	Highway 101	9
10	Carver County	Highway 5	7
11	Carver County	Lake Waconia	6
12	Carver County	Lake Waconia-Carver	13
13	Carver County	Minnesota River Bluffs LRT Extension	6
14	Carver County	Twin Cities & Western	25
15	Carver County	Western Carver County	17
16	Dakota County	Chub Creek Greenway	20
17	Dakota County	Lebanon Hills-Big Rivers	7
18	Dakota County	Lebanon Hills-Lake Marion	7
19	Dakota County	Lebanon Hills-Mississippi	5
20	Dakota County	Vermillion River Greenway	17
21	Minneapolis Park & Recreation Board	Grand Rounds Missing Link	3.5
22	Ramsey County, Saint Paul & Washington County	Afton Bluffs	17
23	Ramsey County	Trout Brook Extension	3.5

24	Ramsey County & Saint Paul	Lexington Avenue/Parkway	16
25	Scott County	Big Rivers Extension	5
26	Scott County	Elko New Market-Blakeley-Doyle Kennefick	32
27	Scott County	Elko New Market-Doyle Kennefick	5
28	Scott County	Louisville	5
29	Scott County	Prior Lake Outlet	6
30	Scott County	Southern Scott	35
31	Saint Paul	Point Douglas (Bruce Vento-Washington County)	4
32	Saint Paul	Como-Phalen (Wheelock Parkway)	6
33	Saint Paul	Johnson Parkway	2
34	Saint Paul	Mississippi River (Harriet Island-South St. Paul)	3
35	Saint Paul	Mississippi-Como	4
36	Saint Paul	Summit Extension	1
37	Three Rivers Park District	Crow River	17
38	Three Rivers Park District	Eagle Lake-Bassett Creek	4
39	Three Rivers Park District	Lake Sarah	5.5
40	Three Rivers Park District	Minnetrista	9
41	Washington County	Central Greenway	26
42	Washington County	Glacial Hills	12
43	Washington County	Middle St. Croix Valley	8
44	Washington County	Mississippi River	13
45	Washington County	Prairie View	9

Figure 3-9. Regional Trail Search Corridor Map



Revisions to the Regional Parks System Plan

Minn. Stat. 473.147, subd. 1, states that:

> The Metropolitan Council, after consultation with the [Metropolitan] Parks and Open Space Commission…and after appropriate public hearings, shall prepare and adopt a long-range system policy plan for regional recreation open space as part of the Council's Metropolitan Development Guide…The policy plan shall identify generally the areas which should be acquired by a public agency to provide a system of regional recreation open space comprising park district, county and municipal facilities, which together with state facilities, reasonably will meet the outdoor recreation needs of the people of the metropolitan area and shall establish priorities for acquisition and development.

Minn. Stat. 473.121, subd. 14 defines "regional recreation open space" as:

> …land and water areas, or interests therein, and facilities determined by the Metropolitan Council to be of regional importance in providing for a balanced system of public outdoor recreation for the metropolitan area, including but not limited to park reserves, major linear parks and trails, large recreation parks, and conservatories, zoos, and other special use facilities.

In response to these laws, the Council will evaluate proposed additions to the Regional Parks System to determine whether the general areas are of regional importance and will help provide a balanced system of public outdoor recreation for the metropolitan area. Additionally, the proposed additions must meet the applicable criteria described in Chapter 4 for regional parks, park reserves, special recreation features, or regional trails.

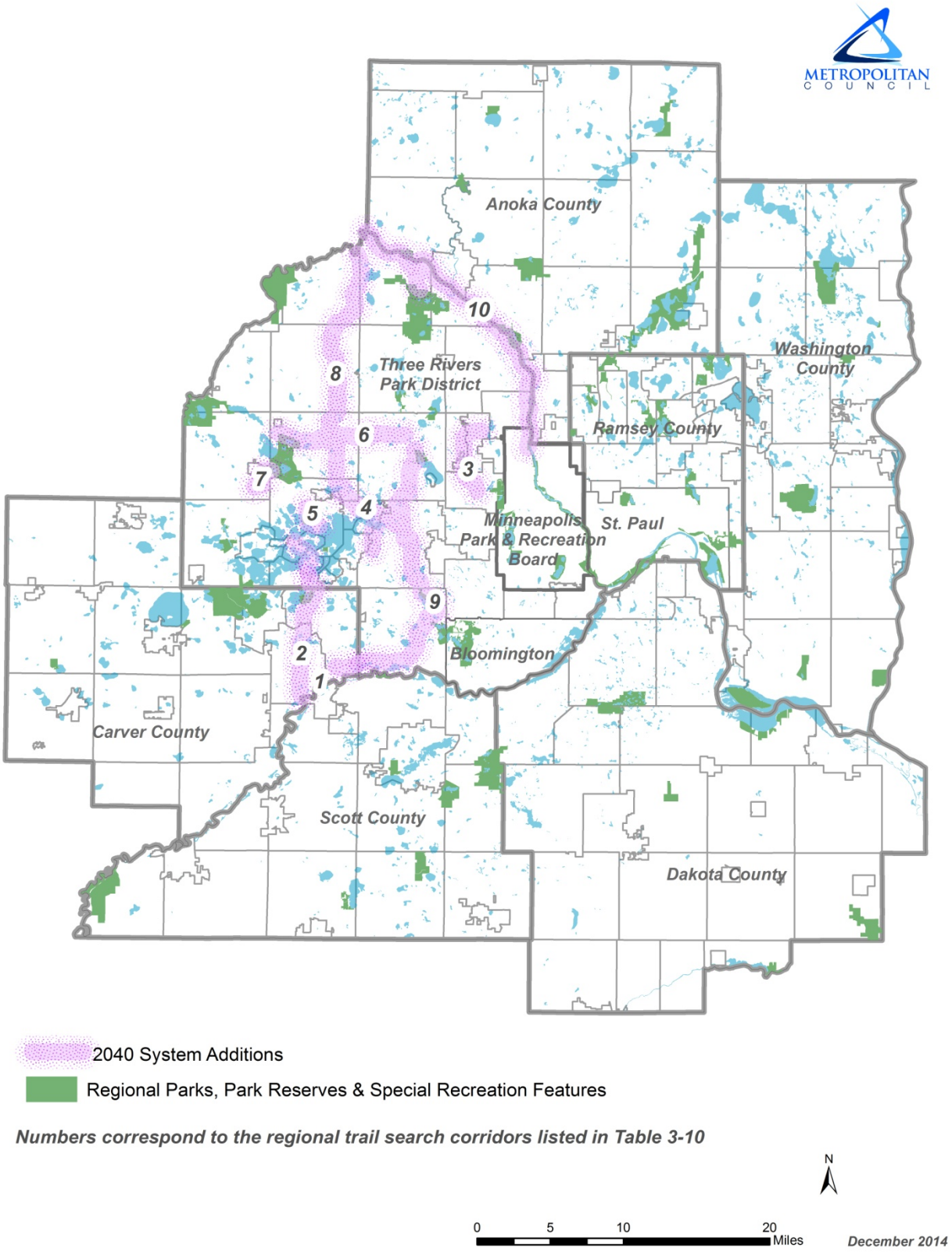
2040 Regional Trail Search Corridor Additions

As part of the development of the *2040 Regional Parks Policy Plan* in 2014, the Council provided an opportunity for regional park implementing agencies to propose additions to the Regional Parks System. Carver County and Three Rivers Park District submitted requests to consider several regional trail search corridors. The Metropolitan Parks and Open Space Commission and the Council's Community Development Committee reviewed the proposed regional trail search corridors based on state law described above and the criteria for regional trails described in Chapter 4. Ten regional trail search corridors, totaling approximately 111 miles, met the criteria and are recommended as System Additions to the *2040 Regional Parks Policy Plan*. These System Additions are described in Table 3-10 and shown in Figure 3-10.

Table 3-10. Regional Trail Search Corridor System Additions

Map Desig-nation	Regional Park Implementing Agency	Regional Trail Search Corridor	Estimated Mileage	Description
1	Carver County	County Road 61	1	Connects MN River Bluffs RT, MN Valley National Wildlife Refuge, Seminary Fen and North-South 2 RT System Addition
2	Carver County	Highway 41	7.5	Connects Southwest RT, MN River Bluffs RT, MN Valley National Wildlife Refuge and State Recreation Area, Twin Cities & Western RT Search Corridor, Hwy. 5 RT Search Corridor, Lake Minnewashta RP
3	Three Rivers Park District	CP Rail Extension	5.5	Extension of existing CP Rail RT Search Corridor north between the Luce Line RT and Crystal Lake RT
4	Three Rivers Park District	Dakota Rail Extension	2	Connects eastern terminus of the Dakota Rail RT to North-South 2 RT System Addition
5	Three Rivers Park District	Lake Independence Extension	7	Extension of existing Lake Independence RT south to connect with Luce Line State Trail, Dakota Rail RT, Lake Minnetonka LRT RT to Hwy. 41 RT Search Corridor in Carver County
6	Three Rivers Park District	Lake Sarah Extension	10	Extension of existing Lake Sarah RT Search Corridor east to connect Baker PR to Medicine Lake RT
7	Three Rivers Park District	Minnetrista Extension	2.2	Extension of existing Minnetrista RT Search Corridor north to connect Luce Line State Trail to Baker PR
8	Three Rivers Park District	North-South 1	28	Connects Crow River RT Search Corridor, Rush Creek RT, Luce Line State Trail, Dakota Rail RT. Lake Minnetonka LRT RT and Hwy. 101 RT Search Corridor
9	Three Rivers Park District	North-South 2	20	Connects Medicine Lake RT, French RP, Luce Line RT, Lake Minnetonka LRT RT, MN River Bluffs LRT RT, Bryant Lake RP and County Rd. 61 RT System Addition
10	Three Rivers Park District	West Mississippi River	28	Connects Crow River RT Search Corridor, Elm Creek PR, Rush Creek RT, Coon Rapids Dam RP, Twin Lakes RT, North Mississippi RP

Figure 3-10. Additions to the Regional Parks System



Regional Park Study Areas

Typically, new regional parks are proposed as search areas that have been identified based on high-quality natural resources located in portions of the region where population growth is expected. However, there are times when a regional park implementing agency may want to propose including existing parks into the Regional Park System. In an effort to make an informed decision, further study is required to assess whether the proposed addition is of regional significance. The proposed area for consideration is called a Regional Park Study Area. Designation as a Regional Park Study Area does not guarantee that a park will become part of the Regional Parks System. It acknowledges that studies would need to be conducted to determine whether the facility warrants regional status. Once these studies are complete, the information would be presented to the Metropolitan Parks and Open Space Commission and the Council for evaluation. The Council's 2008 Regional Parks and Trails Survey shows that at least 40% of visits to most regional parks are made by people who do not live in the jurisdiction of the respective regional park implementing agency where the park is located. Therefore, the benchmark applied for qualifying as a regional distribution of visitation is 40% non-local visits in evaluating a regional park study area.

Deletion of a Proposed Regional Park Study Area

The *2030 Regional Parks Policy Plan* included a regional park study area in northern Dakota County. Dakota County proposed evaluating the feasibility of combining Thompson County Park in West St. Paul with Kaposia Park and Kaposia Landing, two local parks in South St. Paul, into one regional park unit. Council staff worked with Dakota County to conduct visitor origin surveys at these parks in 2012. The results of the study determined that 16.7 percent of visits were non-local and that the Thompson Kaposia Study Area did not meet the regional visitation distribution criteria. The Thompson-Kaposia Regional Park Study Area has been removed from the System Plan Map as part of the 2040 Regional Parks Policy Plan.

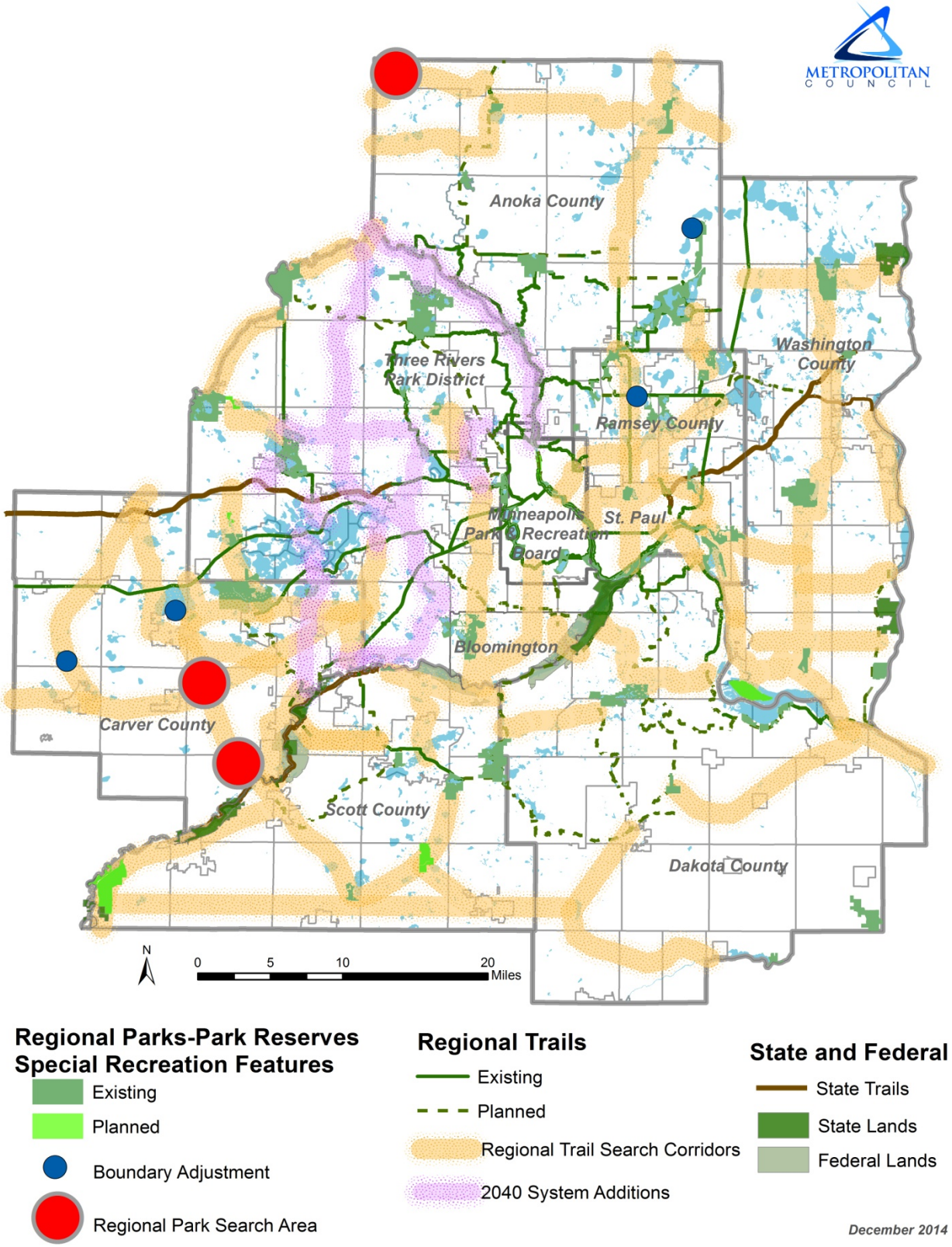
2040 Regional Parks System Plan Summary

As Figure 3-11 illustrates, the 2040 System Plan includes:

- Existing Regional Parks System facilities (2014)
  - 42 regional parks
  - 12 park reserves
  - 8 special recreation features
  - 40 regional trails, consisting of 340 miles
- Planned Regional Parks System facilities that are not yet open to the public
  - 4 regional parks
  - 1 park reserve
  - 12 regional trails, consisting of 147 miles
- Regional Parks System Boundary Adjustments
  - 2 regional parks
  - 1 park reserve

  - 1 regional trail corridor
- Regional Park Search Areas
  - 3 regional park search areas
- Regional Trail Search Corridors
  - 45 regional trail search corridors, with approximately 488 miles
- 2040 System Additions
  - 10 regional trail search corridors, with approximately 111 miles

Figure 3-11. 2040 Regional Parks System Plan Map



Chapter Four: Policies and Strategies

Introduction

The policies presented in this document are the Council's objectives for the kind of regional recreation open space facilities and services the region needs to acquire, develop, and operate in the future. The policies provide direction to ongoing efforts to plan, develop, operate, and protect the system.

The strategies are short- to medium-term actions that will advance the policies. Some of the strategies represent actions that the Council will take in developing the system or responding to particular conditions. Other strategies are directed to the regional park implementing agencies involved in implementation of the plan. The strategies are incremental actions; each contributes to achieving the Council's policies. Guidelines for implementation and administration are found in the "Management Procedures" portion of the Policy Plan.

This section of the Regional Parks Policy Plan lists the overall policies for recreation activities and facilities, planning, siting and acquisition, finance, and system protection for the Regional Park System. Strategies for accomplishing each policy are stated briefly, explained in more detail, and followed by the history and development of each strategy.

Recreation Activities and Facilities Policy

Provide a regional system of recreation opportunities for all residents, while maintaining the integrity of the natural resource base within the Regional Parks System.

Recreation Activities and Facilities − Strategy 1: Activities in regional parks must be tied to the natural resources of the parks, but not adversely affect them.

Minn. Stat. 473.147 requires the Council to prepare a policy plan that "…shall identify generally the areas which should be acquired by a public agency to provide a system of regional recreation open space comprising park district, county and municipal facilities, which, together with state facilities, reasonably will meet the outdoor recreation needs of the people of the metropolitan area and shall establish priorities for acquisition and development."

Minn. Stat. 473.121, subd. 14 defines regional recreation open space as "…land and water areas, or interests therein, and facilities determined by the Council to be of regional importance in providing for a balanced system of public outdoor recreation for the metropolitan area, including but not limited to park reserves, major linear parks and trails, large recreation parks, and conservatories, zoos, and other special use facilities."

Based on the legislative directive and definition of "regional recreation open space," activities in the Regional Parks System should:

- Be strongly tied to high-quality natural resources and to the balanced distribution of these resources around the area.
- Require land acreage to serve a regional scale audience

- Be reasonably, feasibly, and safely accommodated without detriment to existing uses as determined through master plans or through policy board decisions of regional park implementing agencies.
- Protect the environment/ecology of the site and not negatively impact its natural resources.

Based on the criteria above, activities that should be accommodated in the Regional Parks System include:

Boating	Horseback riding
Bicycling	Nature appreciation
Camping	Picnicking
Cross country skiing	Snowshoeing
Cultural or historical interpretation	Snowmobiling (in some cases)
Fishing	Swimming
Hiking/walking/trail running	Wildlife viewing

This list does not include unique activities such as those offered by the Como Park Zoo and Marjorie McNeely Conservatory, because these two facilities are, by law, to be included in the Regional Parks System as Special Recreation Features.

The regional activities selected require large tracts of land, or land endowed with unique natural resources, or both. The land needs are easier to meet at the regional level than at the municipal level and the associated activities are more likely to be developed or provided at a regional level than by cities and townships.

When it was established in the 1970s, the Regional Parks System included several existing parks that had activities not currently considered appropriate for inclusion in the regional system. Many of these activities continue to operate legitimately today, such as ball diamonds and tennis courts, but they are not eligible for regional funding for improvement or expansion.

Land is acquired for the Regional Parks System with the intent that it may eventually be developed in a way that provides for the recreational activities listed above. Adherence to this basic list of activities has served the regional system well over the last 40 years and has helped to fend off efforts to acquire and develop Regional Parks System lands for other ventures.

Regional park agencies should consider various factors when determining whether other uses, described below, should be accommodated in regional parks and trails and included in regional park or trail master plans.

- Inline skating and roller skiing. These activities require a treadway wider than eight feet if pedestrians, bicyclists and inline skaters are on the same treadway and traveling in opposite directions. Inline skating and roller skiing also require a smoother/harder surface than bicycling and pedestrian uses. Inline skating and roller skiing are more popular on flat-terrain trails, such as abandoned railroads, than on hilly terrain trails going cross-country.

Inline skating seems to be more popular on looped park trails than on long-distance regional trails. However, skaters will go out and back on linear trails at a distance that meets their physical conditioning. Inline skating can be added as a primary use on a regional trail if the trail treadway is or could reasonably be made sufficiently wide, smooth and flat to safely accommodate skaters, pedestrians and bicyclists.

- Mountain biking. Challenging, hilly terrain is attractive to mountain bicyclists, but the trail treadway must be designed to minimize soil erosion. In some cases, mountain biking on turf trails may be permitted only during dry times of the year if the underlying soil and slopes are not able to withstand mountain bike use when it is seasonally wet. Mixing mountain biking and pedestrian users on the same trail treadway should be carefully evaluated during the trail design process. Trail user rules may be needed to provide a safe and enjoyable experience for both kinds of users. Mountain bike trail terrain is best provided in closed loop trails within regional parks or park reserves rather than in cross-country trails between parks. Regional park implementing agencies are encouraged to consider sustainable design standards, such as those provided by the International Mountain Biking Association, during the trail design process.
- Night trail use. Opening trails at night allows those who work during the weekdays to use them more frequently. Walking and cross-country skiing at night increases trail uses during the off-peak spring, fall and winter seasons. Trail lighting projects are encouraged where appropriate, especially on trails with high demand. When considering lighted trails, however, it's important to assess the lighting's impact on nocturnal wildlife as well as adjacent land uses.

Mixing motorized and non-motorized trail uses, such as snowmobiling and hiking, requires appropriate trail design and possibly speed controls and signage to safely accommodate both uses. Regional park implementing agencies are encouraged to engage the public to develop solutions to any multi-use trail conflicts.

To accommodate trail users of all abilities, trail uses such as motorized wheelchairs or three-wheel bicycles should be reasonably accommodated to serve persons with mobility impairments wherever possible.

There has been a demand for organized amateur athletic facilities that serve several municipalities or organized league play within a municipality. Municipal recreation departments and/or school districts provide these athletic field complexes. The Minnesota Amateur Sports Commission (MASC) is responsible for elevating the social and economic benefits of sports to enrich the lives of all Minnesotans. Grants for such facilities go through the MASC, not the Council. Such athletic field complexes do not require a high-quality natural-resource land base; they are easier to develop on formerly disturbed lands. As such, athletic field complexes are inappropriate for development on Regional Parks System lands. However, informal ball fields that can be used for a variety of pickup games are encouraged. The concept of an informal ball field encourages recreational use in this manner, but is not intended for programmed or league sports, since those services are offered in other recreational settings.

When new recreational activities become popular, regional park implementing agencies need to see if it is appropriate to accommodate them on Regional Parks System lands. For example, in the last 10 years, adventure racing, kayaking, standup paddle boarding, triathlons, and windsailing have become

increasingly popular (Outdoor Foundation, 2013). These activities may preclude the use of an area for other uses, but this doesn't mean they are unacceptable within Regional Parks System lands in all cases. To accommodate new recreation activities on Regional Parks System lands, the regional park implementing agency must first assess how well the proposed activity meets the standards for recreational activities and then incorporate any physical changes to the Regional Parks System landscape through a master plan amendment process that includes significant public engagement.

In some instances, there may be no need for any physical change to the regional park or trail unit, but a change in visitor or park management rules or policies may be necessary, such as allowing off-leash dog use on a trail, for example. Another management issue might be permitting a limited controlled hunt as a means of maintaining the health of a park's deer herd. In both cases, there are no physical changes to the park/trail unit requiring capital improvements, simply a change in how the park/trail unit is used or managed. Such park/ trail management issues should be resolved by the regional park implementing agency's policy board after appropriate public input and consideration of how these management changes affect the regional park's environment, users, and the adjacent property.

Some new recreation open-space uses may be compatible with the long-range basic mission of the Regional Parks System. In some instances, new uses may enhance the viability of the regional system and expand the range of opportunities available in the parks, park reserves, and trails. Other recreation open-space uses may substantially reduce the ability of the regional facilities to carry out their planned roles or may diminish the quality of the recreational experience.

Off-road vehicles (ORVs) are defined as all-terrain vehicles (ATVs), off-road motorcycles (ORMs) and four-wheel-drive vehicles being used off designated roads. For the purpose of this 2040 Regional Parks Policy Plan, snowmobiles are not considered to be ORVs. Snowmobiles have been permitted on regional trails and in some regional parks when local ordinances and the regional park implementing agency have authorized such use. Local units of government in the rural areas of the region also work with the Minnesota Department of Natural Resources and snowmobile clubs to provide rights-of-way for snowmobile trails that link to other trails outside the region.

The Council acknowledges that the Minnesota Department of Natural Resources (DNR) has statutory authority under Minn. Stat. 84.03 to provide for regulated use of off-road vehicles through its management of several legislatively dedicated accounts that contain license receipts and a portion of Minnesota gas tax revenues from the use of these vehicles. Siting and managing an off-road vehicle use area in the region that doesn't adversely affect nearby land uses and natural resources will require cooperation between the affected local unit of government and the DNR. Regional park implementing agencies may participate in siting an off-road vehicle use area, but the lead responsibility for siting and funding the area will be provided by the DNR under the authority it is granted in statute.

Regional park concessioners may operate within the Regional Parks System if the appropriate approvals from the regional park implementing agency have been obtained, as each agency may have different policies and procedures in place. Concessioners must provide park related amenities and services to park visitors without negatively impacting the natural resources of the regional park. Regional park implementing agencies must contact the Council to determine whether a master plan amendment is required to accommodate the concessioners.

In summary, the initial decision on whether a new activity can and should be accommodated is up to the regional park implementing agency responsible for the regional park, park reserve, special recreation feature, and regional trail. The Council will become involved if the regional park implementing agency decides it would like to accommodate a new activity but the Council deems the use incompatible with the nature-based system or finds that a master plan amendment is necessary before the new activity can be accommodated.

Recreation Activities and Facilities − Strategy 2: Most heavy recreational use should be accommodated in the more urban regional parks.

Facilities that attract many users require large capacity roads and connection to a municipal sewage treatment system. These facilities should be confined to parks and park reserves located in the region's Metropolitan Urban Service Area, as defined in Chapter 1, unless the demands for heavily used services cannot be adequately met at Regional Parks System units in those areas. If facilities need to be developed in the Rural Service Area, the master plan should justify facilities that will attract large numbers of users and indicate how support services and facilities, such as roads and sewers, will be provided.

When feasible, the transit system should be planned to provide access to Regional Parks System units. Transit planners should consider routes and facilities that are sensitive to parks, park users, park development plans, and local agencies' rules and regulations.

Many regional parks and park reserves are located in the Rural Service Area because a high-quality natural resource base has long been a major criterion for determining lands that are appropriate for the Regional Parks System. Many of the rural park reserves were existing parks that were designated as regional recreation open space when the Regional Parks System was established in 1974. In order to build up a large recreational land reserve to be used for future populations, it has been necessary to acquire land in the Rural Service Area.

Much of the demand for recreational facilities, especially those that attract large numbers of users, can be adequately accommodated at properties in the Metropolitan Urban Service Area. Some activities, such as nature study, camping, and water recreation, because of their resource demand, will likely be accommodated at parks or park reserves located in the Rural Service Area. Intense developments at parks and park reserves in the Rural Service Area should be the exception rather than the rule and should be considered on a property-by-property basis. Developments intended to enhance the protection and preservation of natural resources, whether in the Metropolitan Urban Service Area or the Rural Service Area, advance the strong conservation role of park reserves.

Recreation Activities and Facilities − Strategy 3: Strengthen equitable usage of regional parks and trails among all residents, across race, ethnicity, income, and ability.

The regional park implementing agencies provide outstanding facilities, amenities, staffing, and programming to offer a welcoming environment. Activities hosted within the Regional Parks System include a breadth of opportunities for visitors, such as movies and music in the park, day camps, festivals, nature programming, among others. The benefits of park use are numerous, including

improvements to physical health, well-being, learning, family bonding, and community building. Therefore, it is imperative that all residents have the opportunity to enjoy the bountiful resources the Regional Parks System provides.

The regional park implementing agencies should act to remove or reduce barriers which prevent use of the regional system. Barriers may include safety concerns, cost, transportation, and lack of information about programming and facilities. If needed, new facilities and/or programs (including marketing programs) should be designed to increase use of the Regional Parks System by all the residents of the region, irrespective of race, ethnicity, income, and ability.

Metro Transit and other transit providers are encouraged to work with the regional park implementing agencies to identify any transportation barriers and design programs to increase the level of access to the Regional Parks System.

The Regional Parks System has been designed and developed to provide outdoor recreation opportunities for all of the residents of the area, with facilities and services geared to meet the demands and abilities of the general population. The Americans with Disabilities Act (ADA), passed by the U.S. Congress in 1990, has created specific requirements for development and rehabilitation projects in the Regional Parks System. All new projects and updated master plans for the system include ADA review. Regional Park Implementing agencies are encouraged to use U.S. Access Board guidelines for Outdoor Developed Areas as a minimum standard of accessibility on all new or substantially altered capital projects within the Regional Parks System. Additionally, regional park implementing agencies are encouraged to provide physically challenged participants with similar park/trail experiences through adaptive programs.

Findings from the 2008 Regional Parks Visitor Study found that people of color underuse the regional system. In 2014, the Council released its research findings on Regional Parks System use among select communities of color. A total of 16 focus groups were held throughout the metropolitan region to assess recreational preferences, barriers to recreation participation, and suggestions to enhance participation. In sum, 263 individuals participated in the focus groups and self-reported diverse racial, ethnic, and cultural backgrounds. Study findings revealed the most preferred outdoor recreational activities included walking, picnicking or barbequing, and playground use. In terms of barriers to using the Regional Parks System, the most frequently identified barriers were lack of awareness, available time, fear or safety concerns, language barriers, and weather. Focus group participants identified key suggestions to enhance park use, including:

- Increasing awareness
- Addressing safety
- Enhancing capacity of gathering spaces
- Creating a regional park ambassador program
- Increasing and diversifying programming
- Providing more events in regional parks

In addition to the study noted above, the Council invited feedback from around the region to identify strategies that would have the greatest impact on strengthening equitable use of the Regional Parks System. Based on the insights provided by more than 400 individuals, the Council has committed to

several strategies to enhance equitable use. While the strategies are highlighted briefly below, each bulleted summary is further described in the associated policy and strategy section that follows. To summarize, in an effort to enhance equitable usage of the Regional Park System, the Council will:

- Create a set-aside competitive Park Equity grant program for capital projects, specifically targeted toward projects that would enhance equitable usage of the Regional Parks System.
- The Metropolitan Council and regional park implementing agencies will work together to ensure the 25-year Parks and Trails Legacy Plan's intent to "connect people to the outdoors" is achieved.
- Work with regional park implementing agencies to prioritize funding requests, using equity as a key factor.
- Conduct studies to inform Regional Parks System planning and management. Such efforts will include:
  - A region-wide visitor survey every five years to monitor changes in Regional Parks System use.
  - Targeted studies to better understand and provide for the outdoor recreational needs and preferences across social classes, age groups, racial, ethnic, and educational backgrounds, and ability status.
- Create a Regional Parks System ambassador program to assist with expanding awareness of the Regional Parks System and bring parks to the people.
- Convene stakeholder meetings with regional park implementing agencies, partners, community-based organizations, and advocacy groups to enhance knowledge and continuous improvement.
  - Information shared will be systematically collected and shared electronically
- Require regional park implementing agencies to incorporate a public engagement process that includes involvement from individuals representing diverse races, ethnicities, classes, ages, abilities, and national origin when developing a regional park or trail master plan.
  - To that end, the Council will provide staff assistance, where appropriate.
- Encourage regional park and trail design that conforms to changing recreational preferences. Examples of recreational preferences include:
  - Amenities suited for the aging population and those with limited mobility.
  - Non-fee picnic areas that accommodate mid-sized groups (for example, 15-25 people).
  - Clustering of amenities for multigenerational family gatherings.
  - Informal ball fields for pick-up games.

Recreation Activities and Facilities − Strategy 4: Bicycle and pedestrian facilities should be coordinated between the Regional Parks System and the transportation system.

Safe, high-quality, continuous, barrier-free bicycle and pedestrian systems shall be developed, maintained, and improved to function as integral parts of the Council’s Regional Parks System and

transportation system. The Council is responsible for regional transportation planning, including bicycle transportation facilities. Since regional trails also serve commuters, it is important that the Regional Parks System and the transportation system work together when developing trail and transportation plans.

A comprehensive network of trails that serve both recreation and transportation needs is desirable. This network should link state, regional, county and local trails, and should be integrated with other transportation modes, including the transit system.

Regional trails are primarily multi-use recreation trails, although some regional trails also serve bicycle commuter functions. The majority of regional trail miles should be developed so they are off or away from roadways. However, in some instances it may be necessary for a short stretch of trail, to be adjacent to or on a road in order to bypass natural or man-made barriers or private property.

Regional trails will primarily consist of these types of facilities:

- Off-road facilities, which are paths within or adjacent to the road rights-of-way but separated from the roadway surface. They may be used for walking and inline skating as well as bicycling.
- Independent trails, such as trails using abandoned railroad corridors or utility easements that exist in their own independent rights-of-way.

In addition to pedestrians and inline skaters, regional trails are intended to serve:

- Casual or new adult and teenage bicyclists who prefer comfortable access, preferably by a direct route on low-speed or low-traffic streets. These bicyclists are most comfortable on designated bikeways, off-road facilities and independent trails, or having access to streets with low vehicle speeds and volumes.
- Pre-teen bicyclists whose roadway use is usually accompanied by a parent. They need access to local schools, libraries, recreation facilities, shopping, or other residential areas. These bicyclists have a strong preference for separation of bicycles from motor vehicles through off-road facilities or independent trails.

Regional trails may also serve the most experienced bicyclists, who want direct access to destinations at maximum speed with minimum delays. Highly experienced bicyclists primarily rely on the road system for routes, and value using roads like other vehicles for commuting, but occasionally enjoy independent trails if they are relatively continuous and not overly crowded.

Regional Bicycle Transportation Network

In preparing the *2040 Transportation Policy Plan*, the Council conducted a Regional Bicycle System Study in 2013-2014. The purpose of the study was to develop a more complete understanding of how the region's on-street bikeways and off-road trails interact and how they serve regional transportation trips by bicycle. The primary outcome of the study was to identify a Regional Bicycle Transportation Network, which defined a two-tiered network for planning and implementation. The Tier 1 (high priority) network was identified where bicycle travel was greatest, population and job densities were highest, and where there were the most opportunities to connect regional job concentrations and activity centers

with population centers and the regional transit system. Figure 4-1 shows the Regional Bicycle Transportation Network corridors.

The intent of the Regional Bicycle Transportation Network is to encourage planning and implementation of future bikeways by cities, counties, park agencies, and the state that will integrate a seamless network of on-street bikeways and off-road trails to most effectively improve conditions for bicycle transportation region-wide. The Regional Bicycle Transportation Network corridors are intended to serve as the “backbone” arterial system for biking in the region. Figure 4-2 shows existing and planned regional trails with regard to the Regional Bicycle Transportation Network corridors and also highlights the overlap between bicycle recreation and bicycle transportation networks.

Existing regional trails or segments of regional trails that serve a transportation function were included in the proposed Regional Bicycle Transportation Network, such as the Cedar Lake Regional Trail, the Samuel Morgan Regional Trail, and portions of the Luce Line Regional Trail.

For more information on the Regional Bicycle Transportation Network, please refer to the *2040 Transportation Policy Plan. (insert link to Regional Bicycle Transportation Network section of 2040 TPP in the final version of the 2040 RP3).*

Figure 4-1. Regional Bicycle Transportation Network Corridors

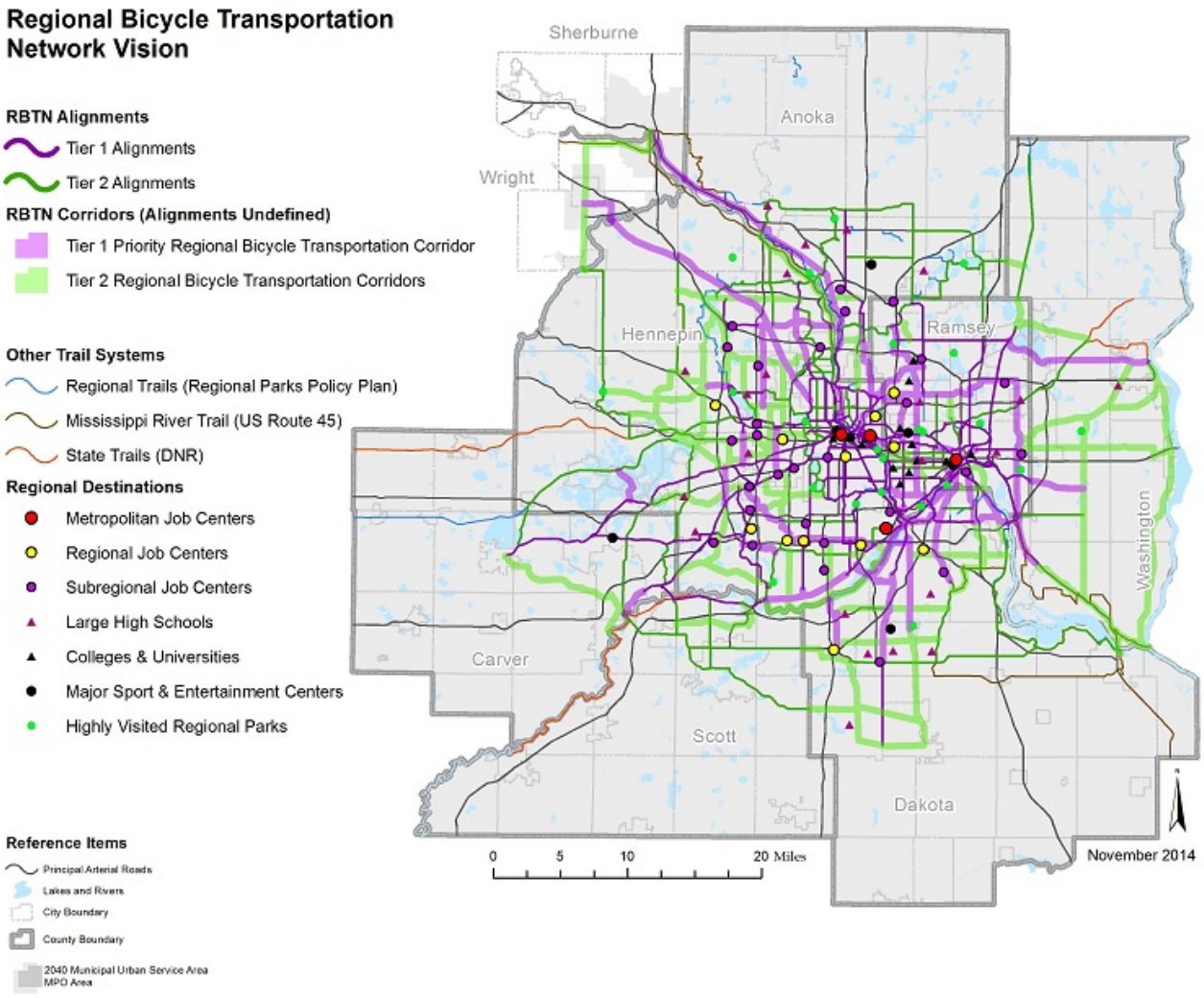
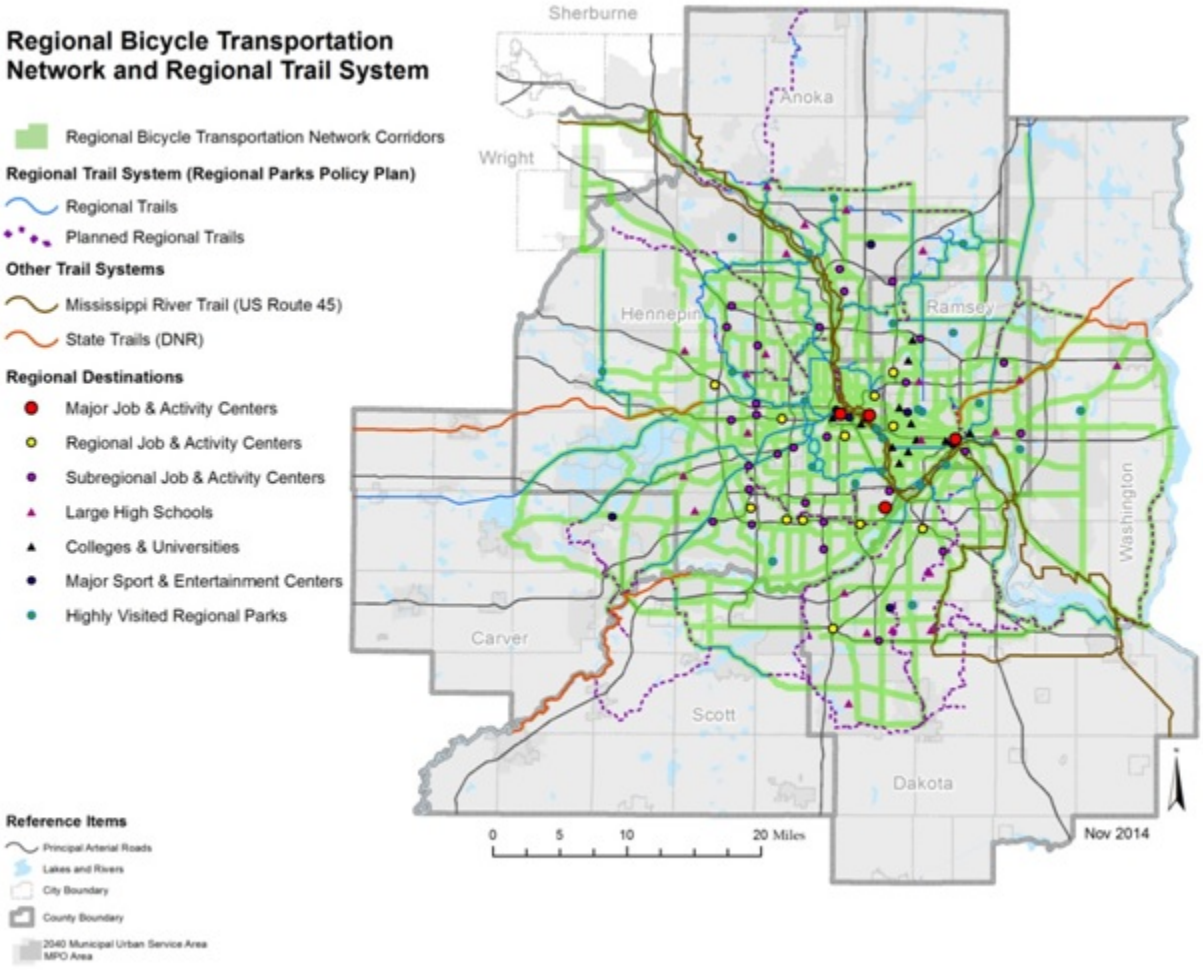


Figure 4-2. Regional Bicycle Transportation Network Corridor and Regional Trails



Siting and Acquisition Policy:

Identify lands with high-quality natural resources that are desirable for Regional Parks System activities and put these lands in a protected status so they will be available for recreational uses and conservation purposes in perpetuity.

Siting and Acquisition − Strategy 1: Lands with natural resource features and/or access to water will have priority over other proposed park land.

Future Council designation of lands for the Regional Parks System should emphasize important natural resource features, access to water bodies, and natural resource features that enhance outdoor recreation. Geographic balance or proportionate distribution tied to population distribution patterns can be given weight when natural resource features can be provided through restoration.

The legislative charge to the Council is to prepare a policy plan that "…shall identify generally the areas which should be acquired by a public agency to provide a system of regional recreation open space comprising park district, county and municipal facilities, which, together with state facilities, reasonably will meet the outdoor recreation needs of the people of the metropolitan area and shall establish priorities for acquisition and development" (Minn. Stat. 473.147, subd. 1).

Regional recreation open space is defined as "…land and water areas, or interests therein, and facilities determined by the Council to be of regional importance in providing for a balanced system of public outdoor recreation for the metropolitan area, including but not limited to park reserves, major linear parks and trails, large recreation parks, and conservatories, zoos, and other special use facilities" (Minn. Stat. 473.121, subd. 14).

Water is a major attraction in almost every park unit of the Regional Parks System and an amenity along many regional trails. Most surface water is public, with the waterbeds owned by the state, so it is appropriate to provide access to these water bodies through the Regional Parks System.

Major considerations in deciding which lands should be brought into the Regional Parks System are:

- Acquiring lands with natural qualities most desirable for the outdoor recreational activities
- Protecting an important natural resource feature, such as linking other natural resource areas or water bodies together, which in turn provide a larger natural habitat opportunity; help protect or improve water quality, or provide a larger habitat for protected or endangered species
- Assuring that regional park facilities are evenly distributed around the metropolitan area or distributed in proportion to the existing and forecasted urban development

The legislative directive is clear that the land should be of "regional importance." Regional importance is not directly defined in the law, but the legislative directive requires that regional parklands, plus state facilities, should reasonably meet the outdoor recreation needs of the people of the metropolitan area. Therefore, lands of "regional importance" would be comparable in size, draw users from rather large geographic areas, and contain natural resources similar to the state parks and trails in the metropolitan region. Lands that serve only a municipality or neighborhood would not be considered to have "regional importance."

Past acquisition activity has tended to favor lands with high-quality natural resources over even geographic distribution. This has produced a Regional Parks System with more lands and facilities in the west and southwest portions of the metropolitan area than in other sectors.

This geographic imbalance in the Regional Parks System is ameliorated by the presence of state parks in the St. Croix Valley and at Fort Snelling and by the existence of a high-quality highway system with most of the regional facilities within a drive of 30 minutes or less from the urbanized area. The restoration of urban areas that include natural resource features (for example, Above the Falls Regional Park and the Bruce Vento Regional Trail and Nature Sanctuary) have provided opportunities to create regional park sites or regional trails that also address the emerging redevelopment of the Urban Centers.

Siting and Acquisition − Strategy 2: Priorities for land acquisition are set by regional park implementing agencies in Council-approved master plans.

Priorities for acquiring park and park reserve lands identified in Council-approved master plans are lands that are available for purchase now, which would be lost to the Regional Parks System if timely action is not taken, and that are:

- Essential to protect the natural resources that define a park or park reserve and make it usable to the public as planned.
- Essential for the park or park reserve to reach its full service potential for regional natural resource-based outdoor recreation as defined in the Council's Regional Parks System plan and the park unit's master plan.

Most master plans provide for a range of recreational activities and developments that require lands in addition to those strictly needed to protect and enjoy the prime natural resource base. The full intent of the master plan will not be realized until these additional lands have been acquired for the system.

All privately owned parcels within a Council-approved master plan boundary are "inholdings" until they are acquired. Some parcels have homes on them and are called "residential inholdings." The acquisition of inholding parcels − especially those containing homes or those likely to be developed for residential or other urban uses − should be protected by first-right options to purchase, official mapping, life estates or other means. It is imperative that efforts are made to acquire these parcels because every time the land is sold to another private party, the land remains unavailable for Regional Parks System purposes. If once-vacant land is developed for housing or other uses, it may become unreasonably expensive to acquire and is essentially lost to the Regional Parks System.

The Council, with the advice of the Metropolitan Parks and Open Space Commission, will work with regional park implementing agencies to systematically review inholding parcels that have been developed to determine whether the land is essential to protect the natural resources that define the park and make it usable to the public as planned, or whether the land is essential for the park or park reserve to reach its full service potential for regional natural resource-based outdoor recreation as defined in this policy plan and the park unit's master plan. The results of that review may conclude that some parcels or a portion of a parcel no longer meet those requirements and should be removed from the park's boundary through a master plan amendment. For example, historically small parcels with homes on the edge of parks have either been removed from the park boundary or subdivided, with the undeveloped land acquired for the park and the home removed from the park boundary.

Because of strong public attraction to water resources, acquisition of any additional public water frontage identified in a Council-approved master plan should be given a very high priority. The high demand and rapidly escalating value of water frontage will only make those lands more costly in the future. The priority is to acquire water frontage lands when they are most affordable − when they are undeveloped or, at least, developed with less expensive homes. Trying to convert land with water frontage to public use after it's been fully developed is politically difficult and very expensive.

Siting and Acquisition − Strategy 3: New regional trails must serve a regional audience and provide connections between regional parks, park reserves, and regional trails without duplicating an existing trail.

To qualify for regional trail status, an existing or proposed trail:

- must serve a regional audience, based on visitor origin and service-area research on regional trails
- should not duplicate an existing trail, and
- should connect two or more units of the Regional Parks System

The trail may include part of an existing county or local trail if it is a destination itself, providing a high-quality recreation experience that traverses significant natural resource areas where the trail treadway will have no adverse impact on the natural resource base, and/or it links two or more units of the Regional Parks System.

The regional trail system in the metropolitan area is like the highway system, with regional and local components. The regional component consists of trails in the regional trail system and state administered trails. These trails are complemented by shorter, local trails, which may eventually feed into units of the regional trail system. The opportunities for interesting regional trail recreation experiences are substantially enhanced where local trails intersect with or are reached by elements of the regional system.

The Council has defined two major types of trails to serve the region: 1) destination or greenway trails and 2) linking trails. Destination or greenway trails typically follow along routes with high-quality natural resources, which make the trail itself a destination. Linking trails, on the other hand, are predominately intended to provide linkages between various Regional Parks System units, most notably regional parks or park reserves.

Destination Regional Trails or Greenways should be located to reasonably maximize the amount of high-quality natural resources within the trail corridor boundaries. For destination regional trails or greenways, there should be no spacing minimums or maximums between them; instead, the decision to locate the trail should be based on the availability of existing high-quality natural resources or the opportunity to restore, enhance, protect, or re-create natural resources.

The main criterion used to define regional parks and park reserves − the presence of high-quality natural resources − is also relevant to the location of a destination regional trail or greenway. Attractive settings contribute strongly to the quality of trail recreational experience. Since trails or greenways are

linear elements, areas along rivers and streams or chains of lakes are excellent candidates for incorporation into the regional trail system.

Natural features in the greenway or adjacent to the trail treadway serve ecological and environmental educational purposes, too. Restoration and management practices emphasizing native species can maintain and enhance the aesthetic, habitat, and other resource values of these areas.

Linking Regional Trails should be located within the Metropolitan Urban Service Area and may be located in the Rural Service Area of the region, as defined in Chapter 1. For linking regional trails, any two trails running parallel to each other, and not separated by natural or human-built barriers, should be at least 1.5 miles apart so as not to overlap the localized service area of those trails. Whenever possible, linking regional trails should be located to reasonably maximize inclusion of high-quality natural resources and connections to local trails, areas of lifecycle and affordable housing, the transit network, and areas of infill and redevelopment.

Visitor origin data from the Council's *2008 Regional Parks and Trails Survey* indicate that regional trails in the metropolitan area are used most by people who live nearby or can reach the trail in a short bicycle trip or drive. Therefore, a priority is to develop trail corridors in the Metropolitan Urban Service Area, where more than 90% of the population lives. Some of the metropolitan area's inner-ring suburbs are not close to regional parks and don't have large tracts of land that would be available for future development of parks for the regional system. Regional trail development should be pursued in these suburbs when the need has been identified, to help achieve geographic balance of Regional Parks System facilities.

In the Metropolitan Urban Service Area, attention should be given to both high-quality natural resources and to major human-built or developed resources in the fully developed areas. Interesting human-built resources include historical and architectural buildings and sites, education facilities, cultural facilities, and major public and private buildings. Utilizing the surface rights of underground utility corridors, such as large sewers, for trail purposes protects the utility for access/maintenance and provides a linear corridor for the trail.

When determining the boundaries of regional trail corridors, regional park implementing agencies should consider high-quality natural resource lands adjacent to the trail treadway to enhance the natural resource values of the trail. This is especially appropriate when the trail treadway is primarily an abandoned rail bed, in a power line corridor, or along a highway. These pockets of natural areas not only enhance the recreational experience of the trail user but also enhance the values of the primary land near the entire trail. Retaining these areas in their natural condition is the best use of the land, especially if it would be difficult to develop them for other land uses. An example would be including wetlands adjacent to the trail within the trail boundary. The wildlife habitat, water-quality values, plus the aesthetic values of the wetlands enhance the trail user's experience and encourage best land-use practices, since the wetland could not be developed economically compared to "dry" land.

Regional trails may pass through local parks along their route. The regional trails can enhance access to these local parks, and the parks may provide amenities for trail users. Because of this synergy, there may be a desire to incorporate these local parks into the regional trail corridor. However, these local parks may not be regionally significant and may only serve a local audience. In determining whether an

existing local park should become part of the regional trail corridor, the Council will evaluate the request in terms of its regional importance and whether the park itself serves a regional or local audience.

As described in Chapter 3, the 2040 Regional Parks System Plan Map includes over 700 miles of planned regional trails and regional trail search corridors throughout the region. Regional trails are one component of a more comprehensive bicycle and pedestrian network, which serves recreation and transportation purposes. To that end, future regional trail proposals need to be evaluated within a comprehensive, region-wide framework, most notably within the context of the Regional Bicycle Transportation Network. This framework will ensure that regional facilities are not duplicated.

The Council will work with all of the regional park implementing agencies to better integrate the regional trail network across jurisdictions and to assess the role of proposed regional trails with respect to the Regional Bicycle Transportation Network. Additionally, efforts will include a comprehensive evaluation of funding for the regional trail system.

Siting and Acquisition − Strategy 4: Special recreation features must enhance services and facilities already offered, not compete with or duplicate them.

Special recreation features proposed for inclusion in the Regional Parks System must:

- Be unique and complement or enhance the services already offered by the regional system
- Be capable of functioning within the existing management structure of the Regional Parks System
- Not duplicate or compete with recreation facilities adequately provided by the public or private sector
- Not drain funds from other facilities in the system either because they have an existing or committed financial base or because a prior agreement for a public subsidy has been reached that is in the public's interest
- Demonstrate the existence or potential for drawing a sizable number of people from throughout the metropolitan area
- Be tied to natural resources
- Be approved by the Council through the master plan process

Regional Parks System legislation indicates that the system should contain parks, park reserves and trails, and zoos, conservatories, and "other special-use facilities" (Minn. Stat, 473.121, subd. 14). The term "other special-use facilities" is not defined in legislation. This policy plan refers to them as a special recreation feature, which is defined to be a facility that preserves, maintains, and provides specialized or single-purpose recreational activities, such as:

Nature center	Marina
Zoo	Downhill ski area
Conservatory	Arboretum
Display gardens	Hunter training education facilities
Sites of historic or archeological significance	Bridging facilities*

*Bridging facilities are specialized or single-purpose facilities that are intended to attract and introduce new outdoor recreation users to the Regional Parks System.

Furthermore, special recreation features must:

- Contribute to the inventory of available and needed recreation opportunities
- Contain distinctive developments and/or unique natural landscapes not commonly found in the parks, park reserves, and trails
- Require special programming or management

As of 2014, there are eight special recreation features open to the public:

Como Zoo	Kingswood	Silverwood
Como Conservatory	The Landing	Square Lake
Gale Woods Farm	Noerenberg Gardens	

Planning Policy:

Promote master planning and help provide integrated resource planning across jurisdictions.

Planning − Strategy 1: Regional park implementing agencies are required to prepare a master plan for each Regional Parks System facility it owns and/or operates.

Minn. Stat. 473.313 requires a master plan to be developed by each regional park implementing agency in consultation with all affected municipalities. While the statute requires only one master plan per regional park implementing agency, the Council requires individual master plans for each regional park, park reserve, trail and special recreation feature. Master plans prepared by the regional park implementing agencies are critical in defining the specifics of acquisition, development and operation of regional facilities.

The plans include the regional park implementing agency's estimates of use and costs. The master plan process allows residents to participate in the development of the plan and other units of government to know what is planned for a park and how it affects them. Collectively, these master plans form the regional park implementing agencies' part of the regional system plan. For a regional park implementing agency to receive a grant for acquisition or development through the Regional Parks Capital Improvement Program, the proposed project must be consistent with a Council-approved master plan.

Master plans will be reviewed by the Council for consistency with this and other Council policy plans. Inconsistent plans will be returned with comments to the regional park implementing agency, which must be revised, resubmitted, and approved by the Council to be eligible for Council funding.

Minn. Stat. 473 313 provides for the state mandate on master plans; however, it does not provide guidance on timeliness of revisions. A plan is revised when the regional park implementing agency submits a master plan amendment to the Council to change its original proposal for acquisition and/or development, or when it has developed significant additional detail. The Council may approve or reject

the master plan amendment for cause and return the plan to the regional park implementing agency for revisions to address the Council's concerns.

Master Plan Content Requirements and Funding Process

Each master plan for regional parks, park reserves, and special recreation features must include information for each of these items:

- **Boundaries and acquisition costs.** A list of parcels to be acquired and the estimated total cost and schedule for their acquisition, and information on natural resources, site suitability, special assessments, potential contamination based on data from the Minnesota Pollution Control Agency and other conditions that affect acquisition of the site or location of the boundaries.
- **Stewardship plan:** A program for managing park property, including activities, expenses and anticipated revenue prior to developing the property for recreation purposes. Planned non-recreation uses and disposition of revenue from such use should be detailed.
- **Demand forecast:** The recreational demand to be met by the site as identified by the Council, the regional park implementing agency, or other sources.
- **Development concept:** A plan for recreational development and natural resource management that should include:
    - Description and location of planned development and natural resources management projects.
    - Approximate capacity of each facility.
    - Mapping of existing and planned local and regional trail connections to the site and information on how they relate to development within the park.
    - Wayfinding signage plan, indicating the types of signs and general locations within the park.
    - Information on the source and location of drinking water that is adequate for the recreational uses of the park.
    - Schedule and cost estimates for each project.
    - Conflicts between recreational and natural-resource management needs in developing the park/trail unit should be addressed and resolved. Amendments to an acquisition-phase master plan should be made prior to funding recreation and visitor support facilities if there is insufficient detail on the scale and cost of the facility. Alternatively, the final design/engineering phase of a proposed facility should be funded first, with construction funding provided in a separate capital improvement grant.
- **Conflicts:** Identification of conflicts with other existing or proposed projects or land uses affecting the park/trail unit, including steps necessary for their resolution.
- **Public services:** A description of any non-recreational public services and facilities, such as roads or sewers, needed to accommodate the proposed recreational use, including the timing of these services and the arrangements necessary to provide them.
- **Operations:** Rules, regulations or ordinances affecting the site, including estimated operations and maintenance costs and sources of revenue to operate and maintain recreation facilities and

to manage natural resources in the park/trail unit. The operations plan should indicate how energy to operate and maintain the park unit is being managed and conserved. The plan should also state how solid waste from park users is recycled and disposed of consistent with applicable laws.

- **Public engagement and participation:** A process to engage the public and involve affected agencies, local units of government, and local, state, and federal recreation providers in the development of the master plan. The public engagement process must seek to mitigate existing racial, ethnic, cultural or linguistic barriers and include people of diverse races, ethnicities, classes, ages, abilities and national origin. A master plan must include the public engagement plan and describe the process undertaken to engage those mentioned above. The process must include opportunity for the public to be heard and to have influence over the contents in the master plan. The Council will provide staff assistance, where appropriate.

  Regional park implementing agencies are encouraged to include transportation and transit planners in the development of a master plan, when appropriate.

  The regional park implementing agency shall present the master plan and planned amendments to all affected agencies, local units of government, and local, state and federal recreation providers and address their concerns prior to submitting the plan to the Council. The master plan submitted to the Council shall include a summary of comments received that identifies issues raised and content resulting from engagement efforts.
- **Public awareness:** Plans for making the public aware of services available when the regional park is open, including how to access the park by transit, if applicable.
- **Accessibility:** A plan that addresses accessibility, affordability, and other measures designed to ensure that the facility can be used by people with limited mobility.
- **Natural resources:** As part of the master plan, there should be a natural-resource management component that includes:
  - A Natural Resources Inventory (NRI) as a part of the master plan process. An NRI should include a land cover inventory that is consistent with the Minnesota Land Cover Classification System developed by the Minnesota Department of Natural Resources and the MetroGIS – a consortium of government entities in the region that create, manage and share digital geographic-based data in a geographic information system (GIS). The natural resource inventory should include native plant communities mapped in the Minnesota County Biological Survey and listed species (rare, endangered, and threatened) that are documented in the Natural Heritage Information System. The natural resource inventory may include other land-based information.

    The Council has created the Natural Resources Digital Atlas (NRDA) − an easy-to-use mapping application designed to assist communities and other organizations and users in the Twin Cities metropolitan area to identify and protect locally or regionally significant natural resources. Using consistent, region-wide information based on the above data or tool will assure compatibility with other natural resource inventories that have been completed or will be done in the metropolitan region.

    The Natural Resource Inventory should be a basis for projects/proposals to restore degraded resources and maintain high-quality natural resource features, including the

estimated capital costs of natural resource restoration projects. Regional park implementing agencies should consult with natural resource professionals in the design and final construction of park facilities, especially trails, that are adjacent to or cross over natural resource areas. The final design and construction should allow the public to view and enjoy these natural habitats with minimal adverse impact on that habitat.

- Information on how surface water and groundwater resources in the unit, including wetlands, will be protected. This should include standards and requirements that are consistent with the Minnesota Pollution Control Agency's best management practices for stormwater management. The master plan should include provisions to, first, avoid wetland impacts; second, minimize impacts; and, finally, mitigate impacts when no other options are available.
- Information on how vegetation will be managed.

The effective date for these master plan requirements is July 1, 2015 in acknowledgement of regional park implementing agency planning processes that may be underway when the 2040 Regional Parks Policy Plan is adopted. Master plans submitted to the Council prior to this date will be reviewed subject to the requirements outlined in the 2030 Regional Parks Policy Plan.

Master plans for regional linking trails:

Each master plan for a regional linking trail must include information for each of these items:

- **Boundaries and acquisition costs:** A list of parcels to be acquired and the estimated total cost and schedule for their acquisition, and information on natural resources, site suitability, special assessments, potential contamination based on data from the Minnesota Pollution Control Agency, and other conditions that affect acquisition of the site or location of the boundaries
- **Demand forecast:** The recreational demand to be met by the trail, as identified by the Council, the regional park implementing agency, or other sources
- **Development concept:** A plan for development, including schedule and cost estimates for the project. The plan should include:
  - Mapping of existing and planned local and regional trail connections to the trail corridor
  - Wayfinding signage plan, indicating the types of signs and general locations along the trail corridor
- **Conflicts:** Identification of conflicts with other existing or proposed projects or land uses affecting the park/trail unit, including steps necessary for their resolution
- **Public services:** A description of any non-recreational public services and facilities, such as roads or sewers, needed to accommodate the proposed trail, including the timing of these services and the arrangements necessary to provide them.
- **Operations:** Rules, regulations or ordinances affecting the trail, including estimated operations and maintenance costs and sources of revenue to operate and maintain the trail.

- **Public engagement and participation: :** A process to engage the public and involve affected agencies, local units of government, and local, state, and federal recreation providers in the

development of the master plan. The public engagement process must seek to mitigate existing racial, ethnic, cultural or linguistic barriers and include people of diverse races, ethnicities, classes, ages, abilities and national origin. A master plan must include the public engagement plan and describe the process undertaken to engage those mentioned above. The process must include opportunity for the public to be heard and to have influence over the contents in the master plan. The Council will provide staff assistance, where appropriate.

Regional park implementing agencies are encouraged to include transportation and transit planners in the development of a master plan, when appropriate.

The regional park implementing agency shall present the master plan and planned amendments to all affected agencies, local units of government, and local, state and federal recreation providers and address their concerns prior to submitting the plan to the Council. The master plan submitted to the Council shall include a summary of comments received that identifies issues raised and content resulting from engagement efforts.

- **Public awareness:** Plans for making the public aware of services available when the regional trail is open, including how to access the trail by transit, if applicable.
- **Accessibility:** A plan that addresses accessibility, affordability, and other measures designed to ensure that the facility can be used by people with limited mobility.

The effective date for these master plan requirements is July 1, 2015 in acknowledgement of regional park implementing agency planning processes that may underway when the 2040 Regional Parks Policy Plan is adopted. Master plans submitted to the Council prior to this date will be reviewed subject to the requirements outlined in the 2030 Regional Parks Policy Plan.

Master plans for regional destination trails or greenways:

Master plans for regional destination trails or greenways shall include all of the elements outlined above for regional linking trails as well as a stewardship plan and natural resource inventory:

- **Stewardship plan:** A program for managing the surrounding greenway areas and natural resource features.
- **Natural resources:** As part of the master plan, the natural resource management component should include:
  - A Natural Resources Inventory (NRI) as a part of the master plan process. An NRI should include a land cover inventory that is consistent with the Minnesota Land Cover Classification system developed by the Minnesota Department of Natural Resources and Metro GIS – a consortium of government entities in the region that create, manage and share digital geographic-based data in a geographic information system (GIS).

    Using the same NRI format will ensure compatibility with other natural resource inventories that have been completed or will be done in the metropolitan region. The natural resource inventory should include native plant communities mapped in the Minnesota County Biological Survey and listed species (rare, endangered, and threatened) that are documented in the Natural Heritage Information System.

- The Natural Resource Inventory should be a basis for projects/proposals to restore degraded resources and maintain high-quality natural resource features, including the estimated capital costs of natural resource restoration projects. Regional park implementing agencies should consult with natural resource professionals in the design and final construction of the trail/ greenway, that are adjacent to or cross over natural resource areas. The final design and construction should allow the public to view and enjoy these natural habitats with minimal adverse impact on that habitat.
- Information on how surface water and groundwater resources in the unit, including wetlands, will be protected. If appropriate, this should include standards and requirements that are consistent with the Minnesota Pollution Control Agency's best management practices for stormwater management. The master plan should include provisions to, first, avoid wetland impacts; second, minimize impacts; and, finally, mitigate impacts when no other options are available.
- Information on how vegetation will be managed.

Design Considerations for Master Plans

The *2040 Regional Parks Policy Plan* incorporates the policy direction provided by *Thrive MSP 2040* to:

- Promote expanded multimodal access to regional parks, regional trails, and the transit network, where appropriate
- Strengthen equitable usage of regional parks and trails by all our region's residents, such as across age, race, ethnicity, income, national origin, and ability

To respond to these goals, regional park implementing agencies are encouraged to consider the following design elements in a regional park or trail master plan.

Promote expanded multimodal access:

- Provide connections to transit stops or park-and-rides when designating the alignment of a regional trail, where appropriate
- Provide bike racks and lockers located near activity areas in regional parks so visitors can safely store their bikes as they recreate
- Design multiple entrance points to a regional park to make it easier for bicyclist or pedestrian to access the park, where appropriate

Strengthening equitable usage:

- Provide amenities suited for the aging population and/or those with limited mobility, such as:
  - Siting picnic areas or short, looped trails close to parking lots or points of access
  - Providing benches as appropriate intervals along trails
- Designing non-fee picnic areas that accommodate mid-sized groups (for example, 15-25 people), which would allow for spontaneous gatherings:

  - Does not need to be a formal picnic shelter − could be a number of picnic tables grouped together
  - Would not require an advance reservation
  - Does not replace picnic areas that require reservations − both options may be offered

- Clustering of amenities for multigenerational family gatherings, such as picnic areas near playgrounds and open ball fields

Funding Process for Capital Projects

With regard to financing the construction of recreation and visitor support facilities proposed in a master plan, it is important that there is sufficient detail about the facility in the master plan and that the regional park implementing agency is ready to construct the facility when funds become available. As a condition for requesting Regional Parks System development funds in the first biennium of the regional parks capital improvement program (CIP), the Council will require regional park implementing agencies to assess and report to the Council whether sufficient information on the cost of the facility has been provided in the master plan and that the project's construction can begin if funds are provided.

Alternatively, the regional park implementing agency may choose to request capital improvement funds to finance the final design/engineering of the facility in the first biennium of the CIP and a separate grant for the facility's construction in the second biennium of the CIP. In either case, the regional park implementing agency must provide an opportunity for the general public and agencies affected by the particular park or trail to participate in the process to amend a master plan or the final design/engineering phase of a facility prior to funding its construction.

If a master plan amendment is needed before funding the construction of a facility, the regional park implementing agency must provide the general public and affected local units of government an opportunity to participate in the process, as outlined the master plan requirements described above.

Planning − Strategy 2: Promote enhanced multimodal access to regional parks, regional trails and the transit system, where appropriate.

The Regional Parks System plays a key role in advancing the livability of the region by increasing access to nature and outdoor recreation, thereby supporting healthy lifestyles and active living. The Council has a unique opportunity to help achieve this objective, through its roles in planning and operating the transit system, as well as planning for the Regional Parks System.

In 2014, Council staff conducted a stakeholder work session that included regional park implementing agency representatives, transportation and transit planners, land use planners, and park planning partners to discuss ideas to support this strategy. The ideas generated in the work session are classified into concepts that regional park implementing agencies are encouraged to consider and projects or discussions that the Council will pursue.

In addition to design considerations for master plans discussed in the previous section, regional park implementing agencies are encouraged to:

- Provide transit schedules and information at regional parks that are served by transit

- Include information on how to access a regional park or trail by transit on their agency's website, where applicable
- Improve wayfinding signage
- Promote regional trails with existing Transportation Management Organizations (TMOs). A TMO is public-private partnership that provides marketing and advocacy to promote multi-modal options for daily commutes
  - Commute Solutions: serves Anoka County
  - Commuter Connection: serves downtown Minneapolis
  - Commuter Services: serves Bloomington, Eden Prairie, Edina, Minnetonka, and Richfield along the Interstate 494 corridor
  - Smart Trips: serves Saint Paul
- Coordinate with local jurisdictions to identify and plan for local trail connections to regional parks and trails as well as last mile connections from transit
- Collaborate with bike-share programs to site bike stations near regional parks and trails

The Council will explore the following projects:

- Develop an integrated web application that identifies how to access regional parks and trails using alternative transportation.
- Collaborate with local agencies to develop a Bicycle and Pedestrian Wayfinding Best Practices Guide
- Collaborate with Metro Transit or local transit providers to determine the feasibility of the following actions:
  - Promoting regional parks at bus stops
  - Exploring options for siting new park-and-rides near or adjacent to regional parks, or new regional trails near park-and-rides or fixed-route transit lines
  - Promoting a transit day pass or family pass to regional parks
  - Providing free rides to large special events in regional parks
  - Adding transit stops that are convenient to regional parks and trails

Planning − Strategy 3: Joint-powers agreements for regional trails are encouraged.

Regional park implementing agencies are encouraged to enter into joint-powers agreements with local governments regarding the acquisition and operations/maintenance of regional trails.

Joint-powers agreements need not be identical, but regional park implementing agencies are encouraged to negotiate arrangements that:

- address the primary issue of how trail land ownership is controlled and how the trail is going to be managed, and
- ensure that the trail will be open to all people (not restricted by residence). The trail should be treated as a truly regional facility, since it will be eligible for regional and state funds to finance

its acquisition, development and operations/maintenance once the Council has approved a master plan for the regional trail

The duration of the joint-powers agreements should last the expected life of the trail and should be included in the trail master plans submitted to the Council as an assurance that any funds provided by the Council for the trail would be spent consistent with the Council-approved trail master plan.

Regional trails usually extend through several communities. Unlike regional parks, where the regional park implementing agency owns the park and usually coordinates with one or two local governments, regional trails affect several local governments and the land on which the regional trail travels may not be owned by the regional park implementing agency. The regional park implementing agency may lease the trail land and manage it through a joint-powers agreement with a local jurisdiction.

Regional park implementing agencies should include a copy of any joint-powers agreements as part of the regional trail master plan. This assures the Council that any funds it provides or passes on for the trail's acquisition, development or operations/maintenance will be consistent with the Council-approved master plan.

Planning − Strategy 4: Projects may share costs, if they are consistent with a Council-approved master plan.

Projects that are consistent with a Council-approved master plan but exceed regional need as determined by the Council may proceed on a cost-sharing basis. Regional park implementing agencies must obtain Council approval in advance of undertaking cost-shared developments.

It is possible that a regional park implementing agency may wish to make improvements that substantially differ in type, size, scale or cost from those in the Council-approved master plan and the adopted CIP, in order to meet expanded local recreational demands or satisfy above-average quality standards. These improvements are subject to Council approval of an amended master plan.

The master plan must include a funding proposal under which regional funds will be used only for the regional service facilities, not for facilities intended to serve local needs. In fairness to other regional park implementing agencies, it is necessary for the Council to limit funds to what is necessary to cover average improvements that will deliver adequate services, and not to pay for excessively ornate or elaborate facilities.

Even if all of the improvement funds come from regional park implementing agency sources or are raised through cost-sharing arrangements with other governments or the private sector, the regional park implementing agency must secure Council approval of a master plan amendment. The improvements are to be developed on Regional Parks System lands that are committed to specific long-term planned uses. These lands must be protected from the intrusion of activities and developments that are incompatible with the planned uses of the regional parks, park reserves, and trails, regardless of how the development was funded.

The regional park implementing agency may be required to pay the full amount or the extra portion of the project cost when the regional park implementing agency wants to develop a facility sooner than the Council has determined that it is needed to meet regional demand, or at a scale greater than regional demand warrants, or at a higher cost than the Council finds necessary to serve the regional interest. The following conditions apply to projects funded on a cost-sharing basis:

- The project must meet the same requirements of master planning and Council approval as any other Regional Parks System projects.
- Costs incurred by the regional park implementing agency as the local share of the project are not reimbursable.
- Where funds are available from private sources or sources other than the regional park implementing agency to share in project costs, the Council will work directly with the affected regional park implementing agency.

Finance Policy:

Provide adequate and equitable funding for the Regional Parks System units and facilities in a manner that provides the greatest possible benefits to the people of the region.

Finance − Strategy 1: Funds will be granted only to regional park implementing agencies.

Any funds provided by or through the Council for the Regional Parks System will be granted only to regional park implementing agencies for projects consistent with Council-approved master plans, capital improvement programs, or state law. As previously noted in Chapter 2, and defined by Minn. Stat. 473.351, the regional park implementing agencies are:

Anoka County
City of Bloomington
Carver County
Dakota County
Minneapolis Park and Recreation Board
Ramsey County
City of Saint Paul
Scott County
Three Rivers Park District
Washington County

Finance − Strategy 2: Capital Improvement Program funds are used for acquisition, development, and redevelopment of Regional Parks System units.

Development in Regional Parks System units should be based on the principle of providing and maintaining quality public park areas and facilities primarily for residents of the metropolitan area. The eligibility criteria (not in any priority order) for development and rehabilitation of regional park reserves, parks, trails, and special recreation features are:

- Projects that provide new facilities, rehabilitate facilities, or increase capacity where there is documented existing or projected high use, and where there will be no adverse effect on the natural resource base.

- Projects continuing a phased high-priority project or one of relatively high priority that is timed with other public improvement projects to achieve significant economies in cost of construction.
- A project providing a specific facility that meets a documented need, is currently not available, or is significantly under-represented in the system where there will be no adverse effect on the natural resource base.
- Regional trails that connect to other trails or regional facilities or extend existing trails.
- Natural resource restoration, invasive species control and other types of resource restoration and protection projects.
- Acquisition of parkland parcels or reimbursement for parkland parcels.
- Matching non-state and non-Council funds to develop/rehabilitate recreation facilities or restore natural resource areas is encouraged.
- Projects that provide essential facility improvements and natural resource enhancements to allow for the initial public use of a regional park once there is adequate demand and acquisition base to support the development.

Early efforts of the Regional Parks System program focused on acquiring desirable tracts of land and incorporating existing park facilities that are valuable to the region. Since the lands in question were being used, or were intended to be used, for some form of recreation, it was recognized that eventually the new lands would require development and the facilities in the older parks would have to be redeveloped through replacement or reconstruction.

Regional park implementing agencies are responsible for the development and rehabilitation needs for their units in the Regional Parks System. Each regional park implementing agency ranks its proposed development and rehabilitation projects for possible inclusion in the capital improvement program of the Council. All of the proposed development and rehabilitation projects may be desirable, but some − due to their location, their existing use or intended use − tend to be more valuable from a regional standpoint than others.

Adding recreational facilities to Regional Parks System units must not adversely affect the natural resource base that justifies the park or trail's regional designation. Regional park implementing agencies need to balance the carrying capacity of the recreational facilities against the carrying capacity of the park or trail corridor.

For regional trails, regional park implementing agencies are encouraged to connect existing trails to other Regional Parks System units, most notably regional parks and park reserves. Regional park implementing agencies are encouraged to negotiate with local communities and landowners to provide fencing or vegetative screening to meet safety and local community concerns. Fencing and screening along new or existing regional trails may be grant-eligible development costs. The Council and the Metropolitan Parks and Open Space Commission will consider such costs when reviewing trail development master plans and trail development funding requests. Excessive screening or fencing beyond a reasonable minimum should be cost-shared with the adjacent landowner since the additional cost provides no benefit to the trail-using public.

Finance − Strategy 3: Ensure Parks and Trails Legacy Funds are spent in a manner that conforms to the statewide Parks and Trails Legacy Plan.

The Council is the fiscal agent responsible for administering appropriations from the Parks and Trails Legacy Fund to the regional park implementing agencies. It is imperative that the Council ensures the Parks and Trails Legacy dollars are spent in the intended manner. To that end, the Council will ensure regional park implementing agencies target the funds to projects that capture the strategic direction outlined in the Parks and Trails Legacy Plan.

The Parks and Trails Legacy Plan, described in greater detail in Chapter 5, specify four strategic directions:

- *Connect people and the outdoors*
- *Acquire land, create opportunities*
- *Take care of what we have*
- *Coordinate among partners*

The four strategic directions parallel the policy direction put forward in Minnesota's Statewide Comprehensive Outdoor Recreation Plan (SCORP, 2014). Most notably, SCORP, citing changing population demographics and declining per-capita participation in nature-based outdoor recreation, emphasizes the importance of connecting people to the outdoors.

While regional park implementing agencies do a great deal to connect people to the outdoors, and their efforts should not be diminished, the additional funds made available by the Legacy Amendment enable them to do more in this regard. The additional funding allows for the enhancement of what is already being done and be innovative and creative in trying to capture and serve a broader and more diverse population.

Considering the statewide significance of connecting people to the outdoors, a percentage of Parks and Trails Legacy Fund dollars should be used for that purpose. In 2015, the Council − in close collaboration with regional park implementing agencies, Parks and Trails Legacy Advisory Committee, and other partners and stakeholders − will identify a minimum percentage of Parks and Trails Legacy appropriations that should be used to "connect people and the outdoors." Once determined and approved by the Council, the Council will require regional park implementing agencies to adhere to the determined minimum level of spending as it pertains to their annual share of the Parks and Trails Fund appropriations. It is important to note this in no way alters the funding formula that is applied to the overall Parks and Trails Legacy Fund appropriation. The minimum level of spending would be initiated during the 2018-2019 biennium, which begins on July 1, 2017.

Finance − Strategy 4: Investments to be funded by the Capital Improvement Plan and Parks and Trails Legacy Fund must be included on the legislatively authorized project list.

To access its share of grant funds from the Capital Improvement Program and Parks and Trails Legacy Fund, a regional park implementing agency must have the proposed project included on the

appropriate legislatively authorized project list. In certain circumstances, projects can be amended and the process for such an event is described in subsequent content.

Finance − Strategy 5: Where appropriate, equity will be a consideration in Regional Parks System funding and investment.

Thrive MSP 2040 states the Council will "strengthen equitable usage of regional parks and trails by all our region's residents, such as across age, race, ethnicity, income, national origin, and ability". Thrive MSP 2040 also states that the Council will use equity as a lens to evaluate its operations, planning, and investments. An equity lens, otherwise called an equity analysis toolkit or equity impact assessment, is a tool government agencies use to collect information related to their major activities. Many government agencies throughout the country are using an equity lens to inventory, monitor, and institutionalize equity principles. Typically, an equity lens consists of a short series of open-ended questions that clarify both the positive and adverse impacts a project may have on equity. As of 2014, the Council does not have an equity lens developed.

The Council, in collaboration with external partners and stakeholders, will develop a Council-wide equity lens to use to evaluate its operations, planning, and investments. The developed equity lens will serve as a base for creating an equity lens specific to the Regional Parks System, which will be called a Regional Parks System equity toolkit. The Council and the Regional Parks and Natural Resources unit staff will work in close collaboration with regional park implementing agencies, partners, community based organizations, advocacy groups, and other stakeholder groups to develop a Regional Parks System equity toolkit in 2015. Similar to the Council-wide equity lens, the Regional Parks System equity toolkit will be a short series of open-ended questions. Once approved by the Council, the Regional Parks System equity toolkit will be used by regional park implementing agencies and the Council in specific ways described in the following paragraphs.

Using the Regional Parks System equity toolkit, the Metropolitan Parks and Open Space Commission and Council will be involved in the prioritization of the project list proposed for funding for the Capital Improvement Program and Parks and Trails Legacy Fund.

As noted previously, for both the Capital Improvement Program and the Parks and Trails Legacy Fund, a list of projects must be provided to the state for legislative approval on a predetermined schedule. While regional park implementing agencies possess the greatest knowledge of the needs of their respective park and trail units, the Council has a role in reviewing and assessing the ranked list of proposed projects, from both a regional and fiscal perspective, before it is submitted to the state.

The Metropolitan Parks and Open Space Commission and the Council will evaluate the project lists using the Regional Parks System equity toolkit. Therefore, the regional park implementing agencies will be required to respond to questions included in the Regional Parks System equity toolkit for each proposed project on their respective project list. To evaluate the proposed list of projects submitted by the regional park implementing agencies, the Metropolitan Parks and Open Space Commission and the Council will discuss and evaluate the proposed projects based on the benefit a particular project may provide to all the region's residents, the needs and preferences of specific under-served populations, and the unintended consequences of the project. On occasion, based on the Council's evaluation, the Council may elect to recommend shifting the order of the prioritized list. Reprioritization will in no way apply to regional park implementing agency projects that serve as a match to Federal or State funds.

Given the state funding cycle for each fund source, the process outlined above would take effect at different times. For Parks and Trails Legacy Fund dollars, the process would be initiated during the 2018-2019 biennium funding cycle (beginning on July 1, 2017). For Capital Improvement Program dollars, the process would be initiated for 2019 fiscal year (beginning on July 1, 2018).

It is important to note that the review of proposed projects will in no way alter an agency's share of funding received from either the Capital Improvement Program or the Parks and Trails Legacy Fund.

Require regional park implementing agencies to complete a Regional Parks System equity toolkit in grant applications.

The Regional Parks System equity toolkit, once adopted, will also be completed by regional park implementing agencies when they submit grant applications. The Regional Parks System equity toolkit will not be used for screening purposes or to determine eligibility of funding, but will provide the Council a mechanism to track and monitor progress toward strengthening equitable use of the Regional Parks System.

Using Council bonds, the Council will create, fund, and administer a set-aside competitive grant program for capital projects explicitly aimed to strengthen equitable usage of the Regional Parks System.

The Council will levy Council bonds annually to fund a competitive grant program that is used solely to strengthen equitable use of the Regional Parks System. Considering existing limitations on Council bonds, the grant program will only provide funding for acquisition, development, or redevelopment projects in the Regional Park System.

To develop this grant program, the Council will work in close collaboration with regional park implementing agencies, partners, community-based organizations, advocacy groups, and other stakeholder groups in 2015 to formulate criteria and measures for awarding grants to regional park implementing agencies for capital projects aimed to strengthen equitable use.

The amount available for the grant program would vary annually. The amount available is primarily determined by four factors: 1) the Council's $40 million limit on outstanding park bond debt at any given time (Minn. Stat. 473.325), 2) the Council's policy to limit park bond levying to $7 million annually, 3) the amount required to fulfill Council's obligated match to state funds, as it pertains to other Regional Parks System grant programs, and 4) Council approval to levy bonds.

Finance − Strategy 6: The Council may reimburse regional park implementing agencies for the costs of acquiring some lands before they have been made part of the Regional Parks System or for development projects undertaken before they can be financed through the Metropolitan Regional Parks Capital Improvement Program.

Reimbursement for acquisition of land not currently designated in the 2040 Regional Parks Policy Plan

Reimbursement will be considered for early acquisition of land that is not currently designated as regional recreation open space by the Council in the *2040 Regional Parks Policy Plan* under certain conditions.

If land is acquired or protected under an option to purchase by a regional park implementing agency, or an entity under contract with that agency while the Council considers adding the land to the Regional Parks Policy Plan via a public hearing process, the Council will consider reimbursing the regional park implementing agency for the costs to acquire or protect the land via an option to purchase under the following conditions:

- The Council is informed in writing of the land acquisition or option to purchase before it occurs.
- The Council makes a preliminary finding through staff analysis that the proposed regional park unit is consistent with Siting and Acquisition Strategy 1 and the size/service area requirements for the applicable regional park system unit are met.
- The Council conducts a public hearing to designate the acquired land as regional recreation open space based on a draft acquisition master plan containing the acquired land or land held under an option to purchase. The hearing is conducted under the requirements of Minn. Stat. 473.147.
- Based on the findings/conclusions of the public hearing, the Council designates the land as regional recreation open space and approves an acquisition master plan that contains the acquired land or land held under an option to purchase.

If these conditions are met as required by Minn. Stat. 473.147, and 473.313, the Council will consider reimbursing the regional park implementing agency via a grant as permitted under Minn. Stat. 473.315 for the following costs:

- Appraisal costs incurred by the acquiring regional park implementing agency or entity under contract with the agency
- Surveying costs incurred by the acquiring regional park implementing agency or entity under contract with the agency
- Legal fees incurred by the acquiring regional park implementing agency or entity under contract with the agency
- Fees for service provided by an entity under contract by the regional park implementing agency to negotiate and purchase the land or obtain an option to purchase
- Principal payments made toward the purchase price including principal payments on a contract for deed or bond, or payments made on an option to purchase
- 180% of township or city taxes due on the parcel at the time of closing as required by Minn. Stat. 473.341

In order to comply with Minn. Stat. 16A.695 requirements on the expenditure of state bonds, to minimize the total costs of acquisition and to be consistent with reimbursements made on other projects, these costs are not grant-eligible:

- Acquisition costs incurred to acquire a local park, which is later designated a regional park
- Interest incurred by the acquiring regional park implementing agency or entity under contract with the agency on bonds it issued to buy the land, or interest incurred on a contract for deed payment
- Projected investment revenue lost by the acquiring regional park implementing agency or entity under contract with the agency, based on what it might have earned on funds it spent to acquire the land or to buy an option to purchase the land
- Interest on inter-agency or intra-agency loans used to finance the acquisition payment(s) or option to purchase

Reimbursement for development projects undertaken before they can be financed through the Capital Improvement Plan

Reimbursement will be considered for development projects provided that:

- the project is consistent in timing, scale, type, and cost with a Council-approved master plan
- all information required for the development grant is submitted to the Council prior to the regional park implementing agency undertaking the project, and
- the Council approves the project.

State funds are not eligible to be used for reimbursement grants when the regional park implementing agency uses the reimbursement to pay off its bonds or an account that was used to initially finance the project. In those cases, only Council bonds may be used. In cases where the regional park implementing agency uses the proceeds from the reimbursement grant to finance new capital projects, state funds as well as Council bonds may be used to finance the grant.

The Council will consider reimbursing the implementing agency based on whether the development or rehabilitation project meets the criteria − not on how the regional park implementing agency plans to spend the reimbursement grant. However, regional park implementing agencies should state how they would spend the reimbursement grant so that state funds as well as Council bonds can be used when possible.

This would eliminate any need for amendments to the Council's Unified Capital Budget, since the Regional Parks Capital Improvement Program (CIP) would accurately reflect, and inform the public and elected officials, how the funds will be spent.

Because Council bonds are limited to financing only 40% of the total biennial Regional Parks CIP, the following steps will be taken when considering reimbursement requests in a biennial Regional Parks CIP:

- Regional park implementing agencies should submit their CIP funding requests with the understanding that reimbursement grants should not exceed 40% of a regional park implementing agency's biennial CIP allocation.

- If the total requests for reimbursement grants exceeds 40% of the total biennial CIP, regional park implementing agencies should submit plans to the Council as to how they intend to spend the reimbursement grant. This information is necessary to ascertain whether or not state bonds can also be used to finance the reimbursement grant in addition to Council bonds. If the total dollar amount of requests for reimbursement requiring Council bond funding exceeds the amount of Council bonds available for that biennial CIP, regional park implementing agencies will be asked to modify their CIP requests for reimbursements for that biennium so that the amount requested for reimbursement does not exceed the amount available.

The Council will use best efforts to implement this reimbursement policy as described above. However, the Council does not, under any circumstances, represent or guarantee that reimbursement will be granted, and expenditure of local funds never entitles a regional park implementing agency to reimbursement.

Finance − Strategy 7: Regional trail corridors that may be used for transit in the future are eligible for Regional Parks System funding if it is clear the corridor will be used as a trail for at least 10 years.

Regional Parks System funds should only be used to acquire or develop a corridor identified for future transit use in a Council-approved transit implementation plan when there is a guarantee that the trail facility will be operational for its useful design life, as negotiated by the transit provider and the regional park implementing agency. As defined by the Federal Highway Administration, the useful design life of a trail is 10 years or more. In cases where trail recreation is to be a permanent partner with transitways, within the corridor, Regional Parks System funds will be used only for that part of acquisition and development attributable to trail use.

Occasionally, existing corridors previously used for railroad or road transportation becomes available for new uses. This is particularly true of railroad rights-of-way that are no longer required for service. The most likely new uses for these corridors are either recreational trails or transitways such as light-rail transit, commuter rail, or bus rapid transit.

The availability of these corridors may offer excellent opportunities for the regional trail system to expeditiously acquire links that would otherwise have to be assembled on a parcel-by-parcel basis. All surplus corridors put on the market should be evaluated for their suitability as additions to the regional trail system. If an available corridor traverses an area with high-quality natural resources, or if it constitutes part of a link in the regional trail system, the corridor should be considered for trail use as part of the Regional Parks System. In some cases, available corridors do not provide any linkages or offer any potentially interesting trail recreation experience. In these cases, the corridors are not suitable for inclusion in the Regional Parks System.

However, where either the linkage or natural resources criterion or both are met, two potential problem situations occur. First is a situation where the surplus corridor is wide enough to accommodate permanent use both as a transitway and for recreational trail purposes. It is hoped that differences between the transportation use and the recreation use can be resolved so that both types of activity can become permanent, valuable additions to the metropolitan area. Planning, development and management arrangements will have to be worked out among the various interests involved.

The trail use of rights-of-way owned by regional rail authorities is allowed as an interim use under agreements between the regional rail authority/transit provider and regional park implementing agencies. Signs on these trails inform the public that trail use may be displaced or shared with transit in the future.

A more difficult situation occurs when the corridor can accommodate either transit or trail recreation, but not both. In the interim, the corridor can be considered for recreational trail purposes. It is possible that the eventual conversion of the corridor to transit will not occur and, presumably, the corridor will be available for permanent recreational uses.

However, it is also possible that transit will eventually claim the corridor after several years. If the facility has been used as a recreational trail, it's possible that the trail will become popular and be viewed as a permanent part of the Regional Parks System. The Regional Parks System will experience a substantial dislocation and deprivation if one of its links is suddenly removed from the system. Public opposition over conversion from recreation to transportation use is likely. If the regional trail system and the transit system are to take this risk, it must be done with the clear understanding that trail recreation may only be a temporary use. No significant long-term recreation investment will be made in the facility unless it will be in operation for its useful design life of 10 years or more.

Finance − Strategy 8: The Council will actively seek funding from the state and other sources.

The Council will seek continued state funding for acquisition, development, and rehabilitation of all components in the Regional Parks System. The Council will also pursue other sources of funding where appropriate.

The Regional Parks System has been funded through a combination of state and local funding sources over the last 40 years. Funding for operations and maintenance of the regional system has been provided primarily by regional park implementing agencies through local taxes available to them and, to a lesser extent, user fees. Since 1985, the state has provided some supplemental funding to regional park implementing agencies to help fund their operations and maintenance costs. Minn. Stat. 473.351, subd. 3, states that:

- Each regional park implementing agency must receive no less than 40% of its actual operation and maintenance expenses to be incurred in the current calendar year budget as submitted to the Metropolitan Parks and Open Space Commission. If the available operation and maintenance money is less than the total amount determined by the formula, the implementing agencies will share the available money in proportion to the amounts they would otherwise be entitled to under the formula.

Between 1985 and 2014, state funding to support the operation and maintenance of the Regional Parks System has funded, on average, only 9.5% of the overall cost for operations and maintenance. Continued state supplemental support to finance 40% of operation and maintenance costs of the regional system will also be sought.

Importantly, any changes in the formula used to distribute state funds for operations and maintenance will require legislative action.

System Protection Policy:

Protect public investment in acquisition and development by assuring that every component in the system is able to fully carry out its designated role as long as a need for it can be demonstrated.

The Council has in place several mechanisms that protect the integrity of the Regional Parks System and of individual parts of the system:

- **Master plans:** The master plan defines acceptable activities within a system unit. The regional park implementing agencies must receive Council approval before proceeding with any activities inconsistent with the existing Council-approved master plan.
- **Restrictive covenants:** Regional park implementing agencies are required to record restrictive covenants on lands purchased with regional funds, to ensure that the land remains in regional recreation open space use unless the Council agrees to a change.
- **Land Planning Act:** Proposed plans of local governments that have a substantial effect on or represent a substantial departure from the *2040 Regional Parks Policy Plan* may be subject to a required modification by the Council to ensure that the system is protected.
- **Metropolitan significance:** Proposed development projects that have a substantial effect on or represent a substantial departure from the *2040 Regional Parks Policy Plan* may be required to undergo a review for metropolitan significance, with up to a one year delay in development if the project is found to adversely affect the system.

These standards in the metropolitan significance rules and in the plan amendment guidelines are currently used to determine an effect on or a substantial departure from the Regional Parks System:

- Impacts on the use of Regional Parks System facilities include, but are not limited to traffic, safety, noise, visual obstructions (for example, to scenic overlooks), impaired use of the facilities or interference with the operation or maintenance of the facilities.
- Impacts on natural resources include, but are not limited to, the impact on the level, flow or quality of a facility's water resources (lakes, streams, wetlands, groundwater) and impact on a facility's wildlife populations or habitats (migration routes, breeding sites, plant communities).
- A proposed project is considered to have an impact on the system if it may preclude or substantially limit the future acquisition of land in an area identified in the system plan of the Council's Regional Parks Policy Plan.

System Protection − Strategy 1: Local comprehensive plans may need to be changed if planned land uses would have a negative impact on current or planned regional park lands or facilities.

The Council may require plan modifications to local comprehensive plans, updates, or amendments if they:

- will more likely than not have adverse and substantial impacts on the current or future intended uses of the Regional Parks System lands or facilities, or
- are likely to have adverse and substantial impacts on lands that are officially recommended for acquisition in an adopted policy plan

There is a strong case for intervention in situations where potentially adverse land uses are proposed after a site for a Regional Parks System facility has been adopted by the Council in the System Plan section of this policy plan. Local governments will be notified of any changes to the *2040 Regional Parks Policy Plan* following Council adoption of the changes and will be given nine months to bring local plans and ordinances into conformance with the Council's plan.

The Council will review local comprehensive plan amendments and environmental documents to ensure that Regional Parks System sites and facilities are protected from land uses or projects that:

- represent substantial departures from the 2040 Regional Parks Policy Plan, or
- are likely to have a substantial impact on the Regional Parks System

Substantial departures from the 2040 Regional Parks Policy Plan or impacts on the Regional Parks System may include, but are not limited to:

- Plans that don't acknowledge the presence of the Regional Parks System unit
- Projects that create safety issues for Regional Parks System users
- Projects that impair the use and enjoyment of the Regional Parks System unit due to excessive noise, air pollution or water pollution, and
- Projects that interfere with the operation and maintenance of the Regional Parks System unit

Where appropriate, the Council will initiate or accept for initiation a metropolitan significance review of specific projects if it is necessary to help protect the Regional Parks System. A project that is consistent with a Council-approved local comprehensive plan is exempt from metropolitan significance reviews for metropolitan system effects.

In accordance with the Council's *Thrive* principles, increasing population densities in urban areas is preferable to scattered developments throughout the rural and agricultural areas of the metropolitan region. Increasing population densities adjacent to urban Regional Parks System units is not a detriment to those units if the urban development is designed in ways that are sensitive to areas that enjoy scenic views and the natural features of the Regional Parks System unit, and do not interfere with the operation and maintenance of the unit. The Council will work cooperatively with local governments

to help ensure urban development and land uses in areas adjacent to Regional Parks System units occur in ways that preserve the integrity of the Regional Parks System.

System Protection − Strategy 2: Conversion of Regional Parks System lands to other uses

Lands in the Regional Parks System will only be converted to other uses if approved by the Metropolitan Council through an equally valuable land or facility exchange as defined below:

"Equally valuable land" is defined as land that:

- is contiguous to the Regional Parks System unit containing the land proposed to be exchanged (within the same park/trail unit)
- has comparable or better natural resource characteristics, and
- could provide comparable or better recreation opportunities than the land being released from the covenant

In exceptional circumstances, the Metropolitan Council may accept as equally valuable land the addition of land to another unit of the regional parks system where:

- the replacement land has comparable or better natural resource characteristics
- the replacement land has comparable or better recreation opportunities than the land being converted, and
- no other reasonable alternative exists and where all other provisions of this policy can be met

"Equally valuable facility" is defined as an exchange of land for facilities when recreational benefits and/or natural resource benefits are increased as a result of the exchange. For example, some land within a regional trail corridor may be exchanged to widen a highway if a highway department constructs a trail overpass or underpass of the widened road at no cost to the regional park implementing agency.

The Metropolitan Council will consider conversion of regional park land to other uses only if the conversion will not harm the Regional Parks System. The following criteria will be used to determine whether regional parks system lands may be exchanged for other land or a facility:

Issues with respect to the existing park system unit:

- Whether the park system unit can continue to meet Council standards for sites and site attributes established for the particular type of park system unit (regional park, park reserve, trail greenway or special recreation feature)
- Whether the park system unit will continue to function as originally planned
- Whether environmental features (wildlife habitat, water quality) will be adversely affected and can be protected with the new use
- Whether the loss of site or function will be made up through acquisition of a site with comparable characteristics adjacent to or in the immediate area of the current location

- Whether the park system unit benefits from a facility in exchange for the parkland
- Whether the need for the conversion, as in the instance of transportation improvements, is generated by the recreational park system unit

Issues with respect to the alternative use:

- The land area needs of the proposed project
- Whether the specific site requirements for the proposed project are unique to the area proposed for conversion
- Whether the proposed project is consistent with Council policies
- Whether the proposed project is of greater benefit to the region than having the regional parks system unit remain in place

For those changes that represent a potential system impact, the Council will use a process comparable to the review period for plan amendments that have a potential impact on the regional system. The Council will use an expedited review or conversions such as small exchanges of land to provide right-of-way for access, an expedited review will be used.

Lands in the Regional Parks System may be subject to proposals for converting their use for a number of reasons. Some very limited conversions may be accommodated and still not affect the ability of the remaining area to offer the facilities and services planned. A well-designed transit waiting station or a properly located and operated yard waste compost site could be of positive value to the regional system and can be worked out between the proposing parties, the implementing agencies and the Council in accordance with the system management guidelines.

However, most conversions are likely to detract from the ability to provide the type and quality of outdoor recreation experiences promised in the master plan. Some of the undesirable conversion impacts will be obvious and direct, such as unsightly landscapes or structures, barriers to movement, loud noises, and night light or obnoxious odors. Other conversion impacts are more indirect, such as those that affect water quality and plant and animal life. In addition to adversely affecting the Regional Parks System's ability to deliver service, removal of lands for non-recreation open space uses also sets a bad precedent.

Restrictive covenants:

The Metropolitan Council requires that a restrictive covenant must be recorded on all land that has been acquired for the Regional Parks System using regional funds. The restrictive covenant ensures the parkland is used in perpetuity for regional parks system purposes and ensures that there is no sale, lease, mortgage of the parkland or other conveyance, restriction or encumbrance filed against the property unless the Council approves the action in writing and the Council's approval is recorded against the parkland.

The only restrictive covenant amendments approved by the Council in which no land was exchanged were for small strips of land needed for public highway improvements. The land was needed to make

roads safer and there was no alternative. These projects also improved access to the adjacent regional parks system unit.

System Protection − Strategy 3: The Council will reimburse regional park implementing agencies for contamination cleanup under certain conditions.

The Council will consider using Regional Parks System funds for soil contamination cleanup (remediation) or capping abandoned wells that have contaminated their ground water aquifer on Regional Parks System land.

For lands already under regional park implementing agency control:

A regional park implementing agency may use its share of regional park capital improvement funds for financing soil contamination remediation or capping abandoned wells that have contaminated their ground-water aquifer on regional park land if the following conditions are met:

- The land is already under ownership or control of a regional park implementing agency through a joint powers agreement or lease, and was acquired or was under the regional park implementing agency's control before Phase 1 environmental assessments were required.
- The land is essential to make the regional park or trail function as intended according to a Council-approved master plan, and no reasonable alternative exists to relocate the park or trail facilities elsewhere.
- The park or trail is essential in contributing to strengthening neighborhood livability consistent with *Thrive MSP 2040*.
- The cost of cleanup is not eligible to receive federal or state soil contamination cleanup funds or abandoned well-capping funds from any other program, or funding has been denied.
- The regional park implementing agency has an agreement with the party that will remediate/clean up the contamination or cap an abandoned well that absolves the regional park implementing agency from any future liability of pollution caused by the contaminated soil or contaminated groundwater.

For lands proposed to be acquired by a regional park implementing agency:

A regional park implementing agency may request a Park Acquisition Opportunity Fund grant to partially finance soil contamination cleanup (remediation) or capping abandoned wells that have contaminated their ground water aquifer on land that is proposed for acquisition. See Park Acquisition Grant Fund rules in Chapter 5 for further information.

System Protection − Strategy 4: Phase 1 Environment Site Assessments must be conducted for land that may be contaminated or that may have abandoned wells prior to seeking regional parks funding for acquisition.

Regional park implementing agencies must conduct Phase 1 Environmental Site Assessments on land that is suspected to be contaminated or land suspected to have abandoned wells as part its due diligence process for land acquisition. The Phase 1 Environmental Site Assessment will determine the

likelihood of soil contamination or abandoned wells, including the likelihood of contaminated groundwater aquifers. The findings of the site assessments should be included in the grant request submitted to the Council.

The cost of the Phase 1 Environmental Site Assessment is eligible for reimbursement as an acquisition cost.

Prior to the Council determining whether the contaminated land, including lands with abandoned wells, should be part of the regional park or trail corridor, the Council will make findings of fact regarding the following factors:

- The likelihood and extent of the contamination
- Whether the land is essential to make the regional park or trail function as intended according to a Council-approved master plan and the existence of a reasonable alternative to relocate the park or trail facilities elsewhere
- Whether responsible parties have been identified who will remediate the site
- Whether the estimated costs to clean up the contamination or cap the abandoned well(s) outweigh the need versus the recreational, economic and social benefits the regional park or trail would provide

If the Council concludes that the land should be added to the Regional Parks System, this does not imply that the Council will use Regional Parks System funds to clean up the site or cap abandoned wells. Regional Parks System funds will only be used for contaminated soil cleanup or capping abandoned wells if the four preceding conditions have been met.

System Protection − Strategy 5: Telecommunication towers will only be allowed in regional parks or reserves if there is no alternative site and if mitigation efforts are made to minimize the impact on Regional Parks System lands and users.

The growth in cellular telephone, personal communication system (PCS) telephone business and implementation of the Metropolitan Emergency Radio System has resulted in requests that Regional Parks System land be leased for antennae towers or that towers be located near Regional Parks System lands. Each of these radio frequency communication systems relies on a grid placement of towers. Co-location of antennae on fewer towers is not always possible, however, because the size of a particular grid varies from one system to another. In addition, co-location of antennas on one tower may not be possible if it causes frequency interference between the antennas. Federal laws allow local governments to regulate the placement of towers as long as there is no ban preventing reasonable market access for that communication system.

Antennae towers for telecommunication services and the Metropolitan Emergency Radio System are generally prohibited on lands within the Council-approved master plan boundaries of a Regional Parks System unit unless:

- The communication system is not able to function without placement of the tower on Regional Parks System land. All other alternatives must be considered for placement within the grid in order to avoid placing any tower on Regional Parks System land. The communication service

provider must demonstrate that this criterion is satisfied in requesting approval by the Council and regional park implementing agency to place a tower on Regional Parks System land. The only exception to this condition is that a tower for the Metropolitan Emergency Radio System may be placed on Regional Parks System land even if it could be placed on private land instead, upon meeting the following mitigation conditions:

  - If there is no feasible alternative to placing the tower on park land, the tower's impact on the Regional Parks System land must be minimized.
  - The tower must be screened from view of regional park/trail users as much as possible through tower placement and design features agreed to by the regional park implementing agency.
  - The tower must be located on land that has already undergone regional park or trail development and is accessible through the existing park road system. Land in park reserves or regional parks conserved for habitat restoration and interpretation must be avoided.

- Co-location of antennas on one tower is preferred over constructing several towers if co-location has less visual and other environmental impacts on Regional Parks System land. The only exception to this condition is if co-location would result in frequency interference between antennas.
- Payments for placing telecommunication towers in regional parks or park reserves should be dedicated to the regional park implementing agency that owns the land for acquisition, redevelopment, development, or operations and maintenance of its Regional Parks System units.

Regional park implementing agencies must submit a master plan amendment to the Council for review that proposes a tower placement. The master plan amendment should state how the conditions listed above have been met. The Metropolitan Parks and Open Space Commission and Council will then review the master plan amendment for consistency with the conditions of this policy and either approve, modify or reject the master plan amendment.

If the land for the tower's location has a restrictive covenant on it (required for land acquired with Council bonds), the regional park implementing agency shall amend the covenant to recognize the temporary use of the tower with any conditions required for the tower's lease and submit the amended covenant to the Council as part of the master plan amendment.

The Council will consider the master plan amendment and the restrictive covenant amendment concurrently and either approve or disapprove them, based on whether the tower will negatively impact the Regional Parks System unit. If a regional park implementing agency believes that a tower should not be placed on Regional Parks System land because the tower could not meet the conditions of this policy, the regional park implementing agency has the authority to deny the application.

Tower placement on Regional Parks System land shall be considered a temporary non-recreation use. As stated previously, any lease revenues for the tower easement must be used by the regional park implementing agency to further the acquisition, redevelopment, development or operations/maintenance of that regional park implementing agency's portion of the Regional Parks System. The regional park implementing agency must report the annual lease revenues to the Council

and how the revenues were spent if they exceed $2,500 per year. Regional park implementing agencies are encouraged to charge “at cost” fees for public safety radio equipment on towers located on Regional Parks System land.

System Protection − Strategy 6: Regional wastewater conveyance facilities and other utilities on Regional Parks System lands should be placed in ways that minimize negative impact on the regional park, its facilities and its users.

To provide sanitary sewer services to Regional Parks System facilities and/or to implement the regional wastewater system plan, the Council’s Environmental Services Division will work cooperatively with regional park implementing agencies to locate regional wastewater conveyance facilities on Regional Parks System lands in a manner that minimizes the impact on existing and planned park system facilities and natural resources.

For wastewater conveyance facilities located in existing Regional Parks System facilities, the Council, with the advice of the Metropolitan Parks and Open Space Commission, shall have the option to purchase an easement or a license.

For new Regional Parks System facilities, the Council reserves the option to include an easement for a future regional wastewater conveyance corridor as a condition of a Council grant used to acquire land, provided that the conveyance is consistent with the Council-approved master plan. If the Council requires an easement for a future regional wastewater conveyance corridor as a condition of its park acquisition grant, the Council will waive the Sewer Availability Charge for that regional park system facility.

To distribute electricity, natural gas, oil and drinking water, it may be necessary to place underground conduits/pipes or aboveground transmission poles/towers on Regional Parks System lands. Such utilities may be needed to serve visitors at that Regional Parks System unit, and to serve other land. Regional park implementing agencies should collaborate with the utility provider to determine where these utilities should be placed that minimizes impacts on the Regional Parks System unit’s natural resources and on its existing and future recreation and visitor support facilities, while providing reasonable access to the utility line for repair and maintenance.

Regional park implementing agencies may either sell or grant an easement or a license to the utility provider that specifies where the utility may be located, conditions for access to the utility, how impacts to the park by placement, repair or relocation of the utility will be mitigated and any time limit on the easement or permit. The utility provider may have to pay for the easement or permit based on the benefit the utility provides to the Regional Parks System unit.

Chapter Five: Finance

Financing the Metropolitan Regional Park System

Minn. Stat. 473.147, subd. 1, requires the Council − after consultation with the Metropolitan Parks and Open Space Commission, municipalities, park districts and counties in the metropolitan area − to prepare and adopt a system policy plan for regional recreation open space as part of the Council's development guide. The law also requires the Council to include a five-year capital improvement program plan in the parks policy plan, which should be revised periodically, and to establish criteria and priorities for allocating funds from the capital improvement program –referred to as the "Regional Parks CIP."

Minn. Stat. 473.325 allows the Council to issue general obligation bonds for the acquisition and betterment of the Regional Parks System. No more than $40 million of bond debt can be outstanding at any point in time. Since 1994, the Council has issued on average $7 million per year of short-term bonds (5 to 10 years) for grants to regional park implementing agencies for land acquisition and capital improvements to the park system.

Minn. Stat. 473.315 authorizes the Council, with the advice of the Metropolitan Parks and Open Space Commission, to make grants from any funds available to it to the regional park implementing agencies to cover the cost, or any portion of the cost, of acquiring and developing the regional park system in accordance with the parks policy plan. Following are summaries of how these grants are funded and managed:

Capital Improvement Program

The Regional Parks CIP must, in accordance with Minn. Stat. 473.147, include "criteria and priorities for the allocation of funds." Capital projects proposed for funding must be consistent with a Council-approved master plan. Projects proposed by each regional park implementing agency are prioritized by that agency. Each park agency has unique capital needs, which that park agency can best determine.

State bonds have been appropriated to the Council since 1976 to help finance the parks CIP. Since 1994, the Council has financed the parks CIP with a combination of state bonds and Council bonds. State bonds finance 60% of the parks CIP and Council bonds finance 40%. The premise for this mix of state and regional bonds is that people who live outside the seven-county metropolitan region visit and use the regional park system and should therefore help finance its capital costs. Taxes collected statewide and within the region to pay off the bond debt are proportional to the share of visits to the park system made by people living within the region, and those who live outside the region.

Since 2008, the Metropolitan Council has used a formula to determine how much of the CIP would be allocated to each regional park implementing agency. The formula balances two factors:

- The population within the jurisdiction of each park implementing agency compared to the region's total population. This factor is weighted 70%.
- The number of visits a park agency hosted from people who live outside the park agency's jurisdiction (non-local visits). This factor is weighted 30%.

The population factor recognizes the need to provide funds for park capital improvements to serve every person in the region relatively equally. Using non-local visits as a factor recognizes that these regional parks serve a regional and state-wide population. Therefore, a combination of both factors is accounted for in the Regional Parks CIP formula.

The results of this formula determine the amount each regional park implementing agency could request/receive from the Regional Parks CIP. For example, if Anoka County's share of the Regional Parks CIP is 10%, then 10% of appropriations would be granted to Anoka County for its projects in the CIP.

As noted above, the *2040 Regional Parks Policy Plan* must include a five-year capital improvement program plan (Table 5-1). The intent is to outline the funding strategy for the relative near term, such that regional park implementing agencies can use the information in their planning. These figures are subject to change based upon legislative action.

Table 5-1. Metropolitan Council Six-Year Parks Capital Improvement Plan, 2014-2019 (dollars in 1,000s)

	Years						
Sources of Funds	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**
State[1]	$ 31,026	$ 35,833	$ 23,325	$ 25,060	$ 23,630	$ 24,107	$ 162,981
Regional[2]	$ 9,061	$ 8,068	$ 6,083	$ 7,000	$ 7,000	$ 7,000	$ 44,212
Other[3]	$ 80	$ -	$ -	$ -	$ -	$ -	$ 80
Total Sources	**$ 40,167**	**$ 43,901**	**$ 29,408**	**$ 32,060**	**$ 30,630**	**$ 31,107**	**$ 207,273**
Uses of Funds							
Preservation (Redevelopment)	$ 13,034	$ 15,792	$ 10,947	$ 12,737	$ 12,216	$ 12,438	$ 77,164
Expansion (Land Acquisition)	$ 10,600	$ 9,113	$ 7,356	$ 7,409	$ 7,464	$ 7,520	$ 49,462
Improvements (Development)	$ 16,533	$ 18,996	$ 11,105	$ 11,914	$ 10,950	$ 11,149	$ 80,647
Total Uses	**$ 40,167**	**$ 43,901**	**$ 29,408**	**$ 32,060**	**$ 30,630**	**$ 31,107**	**$ 207,273**

[1] Funds include general obligation bonds issued by the state, Parks and Trails Legacy Fund appropriations, and Environment and Natural Resources Trust Fund appropriations.
[2] Funds include Council general obligation bonds issued by the Council.
[3] Interest earned by the Council. Interest earned must be granted to North Mississippi Regional Park (Laws of Minnesota 1985, First Special Session, Chap. 15, Sec. 5, Subd. 2(b) and Laws of Minnesota 1987, Chapter 384, Article 3, Sec. 45).

The revision of the Council's five-year capital improvement program plan is considered to be a substantial revision to the policy plan and will follow the Council's administrative procedures on amending a policy plan.

Parks and Trails Legacy Fund

In November 2008, Minnesota citizens approved a constitutional amendment, commonly called the Clean Water, Land and Legacy Amendment. The amendment created a new 3/8ths cent sales tax to be collected from July 2009-June 2034. Revenue from the sales tax is placed into four dedicated accounts. One of those accounts is called the Parks and Trails Fund.

The constitutional amendment states:

> "…the parks and trails fund…may be spent only to support parks and trails of regional or statewide significance…. The dedicated money under this section must supplement traditional sources of funding for these purposes and may not be used as a substitute." (Minn. Constitution, art. 11, sec. 15)

Legislation enacted in 2009 directs how money appropriated from the Parks and Trails Fund to the Council is distributed to the regional park implementing agencies under a formula in the legislation (Laws of Minn. 2009, ch. 172, art. 5, sec. 6, subd. 3) The Council awards grants to the regional park implementing agencies based on that formula for projects that support the regional park system.

In 2011, the *Parks and Trails Legacy Plan* was released, outlining the Parks and Trails vision for Minnesotans. The vision states:

> *"In 2035, our world class parks and trails connect everyone to the outdoors. They create experiences that inspire a legacy of stewardship for the natural world and they provide fun outdoor recreational opportunities that strengthen friendships, families, health, and spirit, now and into the future. Minnesotans experience the full range of benefits that outdoor recreation provides, reinforcing our identity as an outdoor culture*."

The Parks and Trails Legacy Plan specifies four strategic directives:

- Connect People and the Outdoors
  - Develop stewards of tomorrow through efforts to increase life-long participation in parks and trails.
- Acquire Land, Create Opportunities
  - Create new and expanded opportunities to serve current and future users.
- Take Care of What We Have
  - Provide safe, high-quality experiences through regular re-investment in infrastructure and natural resource management.
- Coordinate among Partners
  - Enhance coordination among the network of public, private, and nonprofit park and trail partners.

The strategic directions serve as the guidepost for how Parks and Trail Fund dollars should be invested. The Parks and Trails Legacy Plan should be consulted for additional information, specifically regarding particular activities (for example, investments) that are viewed as priorities to implement the Parks and Trails Legacy Plan. As the fiscal agent for the funds, the Council has the responsibility to ensure regional park implementing agencies target the funds to projects that capture the strategic direction outlined in the Parks and Trails Legacy Plan.

To that end, as previously noted in Chapter 4, the Council will identify a *minimum* percentage of Parks and Trails Legacy appropriations that should be used to "connect people and the outdoors." Once determined and approved by the Council, the Council will require regional park implementing agencies to adhere to the determined minimum level of spending as it applies to their annual share of the Parks and Trails Fund appropriations.

Park Acquisition Opportunity Fund

In 2001, the Council established a Park Acquisition Opportunity Fund grant program to assist regional park agencies in acquiring land for the Regional Parks System.

The Park Acquisition Opportunity Fund consists of two accounts:

- The Environment and Natural Resources Trust Fund (ENRTF) acquisition account, which is financed with 60% state appropriations from the ENRTF as recommended by the Legislative Citizen Commission on Minnesota Resources. The remaining 40% of the account is financed with bonds issued by the Council.
- The Parks and Trails Legacy Fund (PTLF) acquisition account, which is financed with 60% Parks and Trails Fund appropriations from the Land and Legacy Amendment. The remaining 40% is financed with Council bonds.

Park Acquisition Opportunity Fund Grant Rules

Qualifying Lands

All properties to be acquired must be within Council-approved master plan boundaries.

ENRTF acquisition requests must be intended for acquisitions of undeveloped land with high natural resource values, to comply with Minnesota Constitution art. XI, sec. 14 and Minn. Stat. Ch.116P.

PTLF acquisition requests do not have any restrictions on the condition of lands within Council-approved master plan boundaries.

Qualifying Land Acquisition Costs

The following items are eligible in calculating the total costs of the acquisition:

a. Appraisal cost for the acquiring regional park implementing agency or as part of a condemnation settlement/award consistent with applicable provisions of Minn. Stat. ch. 117;

b. Appraisal review cost needed to verify the value of a land donation, or the value of land obtained via parkland dedication ordinance and subsequently transferred to the regional park implementing agency when other land is obtained from the same landowner;

c. Phase 1 Environmental Site Assessment;

d. Environmental contamination remediation costs if consistent with the conditions specified in the "Special Circumstances" section below;

e. Legal services and closing costs to the park agency for costs associated with the purchase or condemnation settlement/award including attorney's fees, litigation expenses, appraisal fees and

other expert fees consistent with Minn. Stat., sec. 117.031, that the park agency must pay as part of a condemnation action;

f. State deed tax/Conservation Fee;

g. Title Insurance;

h. Pro-rated share of all property taxes/assessments due on the parcel at the time of closing that is borne by the park agency;

i. 1.8 times the city or township property tax due on the parcel in the year the land is acquired. This is the property tax equivalency payment, which is paid to the city or township at closing pursuant to Minn. Stat., sec. 473.341;

j. Negotiated purchase price for the parcel or condemnation settlement/award consistent with applicable provisions of Minnesota Statute ch. 117;

k. Relocation costs to the seller consistent with Minn. Stat. sec. 117.52 and Minn. Stat. sec. 473.315;

l. Land stewardship costs defined as follows: costs for boundary fencing or marking; stabilizing or rehabilitating natural resources to aid in the reestablishment of threatened natural resources or to prevent non-natural deterioration thereof; preventing the deterioration of structures that will be re-used for park purposes; removal of unneeded structures, dangerous land forms or attractive nuisances including capping abandoned wells as required under Minn. Stat., sec. 103I.301; and closing unneeded road(s) that provided access to the acquired land;

m. Development of the land to provide minimal access to it for public recreational use as reviewed and approved by the Council in consideration of the grant. Such development must be consistent with the applicable Council-approved master plan and may include the cost of an access road and/or trail, parking lot, and signage;

n. Interest costs to acquire the land can be counted as part of the park agency's 25% match to the grant. However, the interest costs are not eligible for reimbursement as part of that park agency's share of a future regional parks capital improvement program;

o. Holding costs incurred by an outside third party that purchased the property to hold on behalf of the park implementing agency; and

p. Other expenses not listed above that are directly related to the land acquisition.

All costs shall be documented with appropriate information/data and submitted to the Council with the grant request.

Grant Request Finance Amounts

The Park Acquisition Opportunity Fund grant may finance up to 75% of the costs to acquire land and related costs, or up to $1.7 million per acquisition account (ENRTF and PTLF acquisition accounts) for each state fiscal year (July 1 to June 30). The regional park implementing agency must finance at least 25% of the acquisition costs as a local match to the Park Acquisition Opportunity Fund grant.

Special circumstances may apply that could alter the amounts delineated above. “Special Circumstances,” below, provides additional information.

Park Implementing Agency 25% Local Match

The regional park implementing agency local match may be one or a combination of the following:

a. Non-state funds and non-Council funds provided by the regional park implementing agency. Regional Park CIP if the cash contribution is financed with a regional park implementing agency money (that is, the agency’s general fund or other account), but not with a grant from another entity such as a watershed district or local government aid provided by the state of Minnesota, that contribution is eligible for reimbursement as part of that park agency’s share of a future regional parks capital improvement program. Based on this rule, if the maximum grant of $1.7 million was awarded and the park agency provided a match of $566,667, any costs incurred by the park agency above the $566,667 and paid for with park agency funds for grant-eligible expenses, are also eligible for reimbursement consideration from that park agency’s share of future metropolitan regional parks capital improvement programs.

b. The value of a land donation by the seller. The value of the donation is the difference between the agreed upon purchase price based on a certified appraised value of the property and the lower amount the seller agrees to accept as payment for the land.

   The certification of the appraised value of the property will be based on a third-party review appraisal, where the third-party appraiser will perform a field review of the appraisal and determine if the appraisal met the requirements of the Uniform Standards of Professional Appraising Practice (USPAP). Both the appraisal and the review appraisal must be submitted to the Council as part of the grant request. The cost of the third-party appraisal review is a grant-eligible item.

c. The value of land that is obtained by a municipality under its park land dedication ordinance and transferred to a regional park implementing agency under a fee title or permanent easement agreement at the same time that the regional park implementing agency acquires additional land for that park or trail from the same landowner.

   The value of the dedicated land is based on a certified appraisal of the property. The certification of the appraised value will be based on a third-party review appraisal, where the third-party appraiser will perform a field review of the appraisal and determine if the appraisal met the USPAP requirements. Both the appraisal and the review appraisal must be submitted to the Council as part of the grant request. The cost of the third-party appraisal review is a grant-eligible item.

Grant Term

The effective term of the Park Acquisition Opportunity Fund grant is no more than 12 months or the expiration date of the state appropriation that finances the grant, whichever is less. A grant may be extended beyond the initial term of 12 months for cause. However the length of the extension cannot exceed the availability of the state funds financing the grant.

Special Circumstances

Lack of Available Acquisition Opportunity Funds

If funds are not available to fully fund a grant during a given fiscal year, up to 60% of the next fiscal year's appropriation and matching Council bonds for Park Acquisition Opportunity Fund accounts will be used to reimburse park agencies for up to 75% of the grant-eligible acquisition costs or $1.7 million − whichever is less − the park agency incurred to buy land that would have qualified for a Park Acquisition Opportunity Fund grant under the rules.

The park agency must request reimbursement consideration from the Council by providing all data required for a Park Acquisition Opportunity Fund grant required by the rules and obtain Council approval before it acquires the land. The 25% match is not grant-eligible for reimbursement from the Park Acquisition Opportunity Fund accounts. However, the park agency may request reimbursement of that match as part of its share of future park capital improvement programs.

Third-party Acquisitions

When funds are not available in the Acquisition Opportunity Fund accounts, park implementing agencies may choose to work with third parties to acquire Council-approved master plan acquisitions, for which reimbursement from the Council would be pursued when funds are available. In this instance, the Council may consider acquisition with a bonafide deferred closing.

Excess of Available Acquisition Opportunity Funds

One year before the expiration of the state appropriation to each Park Acquisition Opportunity Fund Grant account (that is, PTLF and ENRTF), the Council − in consultation with the regional park implementing agencies and the Metropolitan Parks and Open Space Commission − will conduct a review of these rules to determine if additional steps should be taken to increase the likelihood that the balance of the expiring state appropriation will be granted and spent before its expiration date.

An example of such a step would be to allow a park agency that has received the maximum amount allowed − $1.7 million from the ENRTF account or $1.7 million from the PTLF account in a state fiscal year, July 1 to June 30 to be eligible to receive an additional grant. Another step could be that 60 days before a state appropriation's expiration date, that grants are awarded to partially reimburse the local match of grants awarded from the applicable acquisition account that were initially financed with that state appropriation and matching Council bonds.

The total amount of these reimbursement grants would consume the remaining state appropriation and applicable Council bond match. The amount of each reimbursement grant should be proportionate to the local match amount initially funded by each park agency − not with other funding sources the park agency used as their match. These reimbursement grants would only be for grants initially financed from that soon-to-expire state appropriation and applicable Council bond match. If there were still funds remaining, reimbursement grants for the local matches on other acquisitions could be considered that were initially financed from that acquisition account but from an earlier appropriation.

Such variances to the rules for these situations would be considered by the Council without undertaking a public hearing process since the vetting of the changes is made by the park agencies affected by the

proposed change, and the change is only in effect until the expiration of the applicable appropriation for that account.

Acquisition Funds Delineated in Capital Improvement Fund

The requesting regional park implementing agency must use any available acquisition funds from its share of a regional parks capital improvement program provided by the Council or a line-item appropriation of state funds to buy land for a regional park/trail before it can request a grant from the Park Acquisition Opportunity Fund. A park agency's capital improvement program share that finances a reimbursement grant for the 25% local match to a previous Park Acquisition Opportunity Fund grant is excluded. The Park Acquisition Opportunity Fund grant may finance 75% of the gap between the total cost of an acquisition and the amount financed by the park agency's available acquisition funds from its share of a regional parks capital improvement program and/or a line item appropriation of state funds used for that parcel's acquisition.

Eminent Domain

Occasionally a park agency may need to acquire land by exercising its power of eminent domain by initiating a condemnation proceeding. When land is acquired through the condemnation process, a Park Acquisition Opportunity Fund grant may be awarded; however, a grant is awarded at the end of the condemnation proceeding that is based on 75% of the final settlement/award and associated grant-eligible costs under applicable provisions of Minn. Stat., ch. 117, to acquire the land and within the agency maximum for the fiscal year when the grant is awarded. The park agency should notify the Council prior to filing its petition in condemnation with the district court that it is acquiring land through condemnation and will be requesting a Park Acquisition Opportunity Fund grant when the final award is determined. The notification to the Council should be in a letter that contains the park agency's authorization to file its petition and the accompanying documents containing its appraisal of the land. In condemnation matters, the final settlement/award and final certificate should be submitted to the Council in lieu of a signed purchase agreement.

Environmental Contamination

Soil contamination remediation necessary to correct pre-existing environmental contamination known at the time of purchase, the remediation effort to the level needed to allow the land to be used for park and recreation purposes, and/or capping abandoned wells that have contaminated their groundwater aquifer are grant-eligible land acquisition expenses under the following conditions:

1) The aggregate cost of acquiring the land and remediation does not exceed the certified appraised value of the land at the time of purchase. The certification of the market value of the property will be based on a third-party field review of the appraisal. The appraisal review must determine that the appraisal followed USPAP. The appraisal review must be submitted to the Council.

   The cost of the third-party appraisal review is a grant-eligible item. In addition to the certification of the market value of the parcel, the park agency must submit documentation of the costs for remediation as listed below. The difference between the actual acquisition and remediation costs compared to the certified market value of the land prior to clean up may be applied towards the park agency's local match requirement.

2) The regional park implementing agency has an agreement with the party that will remediate/clean up the contamination or cap an abandoned well. The agreement will include mutually agreed upon environmental assurances from the Minnesota Pollution Control Agency limiting future liability for pollution caused by the contaminated soil or contaminated groundwater and follow guidance set by the Minnesota Department of Health for sealing unused wells, if appropriate.

   Grant-eligible expenses for soil remediation and well capping include:

   a. Costs to prepare Phase 1 and Phase 2 Environmental Site Assessments, the Quality Assurance Project Plan, Remediation Action Plan and the Environmental Engineer's Estimate
   b. Minnesota Pollution Control Agency (MPCA) Voluntary Investigation Cleanup (VIC) service charges
   c. Costs to implement the remediation action plan and secure appropriate assurances from the MPCA, and
   d. Other costs not listed above which are directly related to soil remediation or well capping

Documentation of these remediation costs plus other costs associated with the acquisition must be submitted to the Council as part of the grant request.

Subdivision of Lots

For parcels that can be subdivided into lots and the value of those lots is used to determine the fair market value of the parcel, such acquisitions may qualify for financing from both the ENRTF account and PTLF account. For example, lot(s) must contain high-quality natural resources without structures to qualify for ENRTF financing, and lot(s) that do not contain high-quality natural resources or have structures on them qualify for PTLF financing. The amount from each account shall be proportional to the appraised market value of the lots. However, the Council may grant additional funds from the PTLF account to finance a portion of the costs of land that qualifies for financing from the ENRTF account if there is not sufficient money in the ENRTF account to fully fund the grant.

Operations and Maintenance

Regional park implementing agencies raise funds to finance the costs to operate and maintain their portion of the regional park system through the following sources:

- Fees collected from people using their parks. Examples include vehicle entrance fees, picnic shelter rentals, recreational equipment rentals, room rentals at visitor centers, and tuition for educational programs.
- Local property taxes.
- Local Government Aid payments from the State of Minnesota.

In 1985, legislation was enacted that allowed state appropriations from the General Fund to be disbursed to regional park implementing agencies to supplement funding for operating and maintaining their portion of the Regional Parks System (Minn. Stat. 473.351).

State appropriations for regional park system operations and maintenance are distributed to regional park implementing agencies according to the following formula:

- 40% based on each agency's proportion of total regional system visits;
- 40% based on each agency's proportion of total regional system operation and maintenance expenditures in the previous calendar year; and,
- 20% based on each agency's proportion of total regional system acreage, with park reserve resource management lands divided by four.

In 2000, legislation was enacted that directed a portion of state lottery proceeds into a "natural resources fund," with the stipulation that a portion of the receipts deposited "may be spent only on metropolitan park and trail grants." This funding source is commonly called "lottery in lieu of sales tax" revenue (Minn. Stat. 297A.94(e)(3)). The Council disburses the appropriations from these two sources to the regional park implementing agencies based on the results of the formula contained in Minn. Stat. 473.351.

Table 5-2 illustrates the amount of appropriations disbursed to the regional park implementing agencies in relation to the total costs to operate and maintain the Regional Parks System from 1985 to 2013.

Pass-through Grants Financed with State Bonds

Some state bonding legislation appropriates funds for specific capital improvements to the regional park system that are passed-through the Council to the specified regional park implementing agency. These appropriations are typically for projects that have state-wide significance, for example appropriations to improve the Como Zoo and Marjorie McNeely Conservatory.

Table 5-2. Percent of Regional Park System Operations and Maintenance (O & M) Expenses Covered by State Appropriations, 1985-2013

Calendar Year (State Fiscal Year)	O & M Appropriation	Park Agency's O & M Expenses (1985-2013)	Percent of O & M Expenses Covered by State Appropriation
1985/(1986)	$ 2,000,000	$ 19,091,548	10.5%
1986/(1987)	$ 2,000,000	$ 22,656,187	8.8%
1987/(1988)	$ 2,000,000	$ 24,595,929	8.1%
1988/(1989)	$ 2,000,000	$ 26,461,148	7.6%
1989/(1990)	$ 2,000,000	$ 29,294,759	6.8%
1990/(1991)	$ 2,817,000	$ 31,107,785	9.1%
1991/(1992)	$ 2,759,000	$ 32,076,220	8.6%
1992/(1993)	$ 2,356,000	$ 33,453,546	7.0%
1993/(1994)	$ 2,238,000	$ 35,646,465	6.3%
1994/(1995)	$ 2,238,000	$ 37,928,496	5.9%
1995/(1996)	$ 2,238,000	$ 40,158,254	5.6%
1996/(1997)	$ 2,238,000	$ 41,322,602	5.4%
1997/(1998)	$ 3,000,000	$ 44,338,618	6.8%
1998/(1999)	$ 3,000,000	$ 49,242,255	6.1%
1999/(2000)	$ 4,500,000	$ 50,748,152	8.9%

2000/(2001)	$ 9,695,105	$ 54,801,219	17.7%
2001/(2002)	$ 7,865,716	$ 60,595,484	13.0%
2002/(2003)	$ 8,009,857	$ 63,587,498	12.6%
2003/(2004)	$ 7,452,000	$ 66,825,266	11.2%
2004/(2005)	$ 7,353,000	$ 70,124,610	10.5%
2005/(2006)	$ 7,870,000	$ 77,584,716	10.1%
2006/(2007)	$ 7,870,000	$ 80,326,028	9.8%
2007/(2008)	$ 8,620,000	$ 85,009,472	10.1%
2008/(2009)	$ 8,620,000	$ 85,230,866	10.1%
2009/(2010)	$ 8,794,000	$ 86,239,884	10.2%
2010/ (2011)	$ 8,854,000	$ 88,223,782	10.0%
2011/ (2012)	$ 8,540,000	$ 95,286,344	9.0%
2012/ (2013)	$ 8,540,000	$ 95,988,444	8.9%
2013/ (2014)	$ 8,540,000	$ 94,485,576	9.0%
Totals / Average Percent	**$ 154,007,678**	**$ 1,622,431,153**	**9.5%**

Donations from Private Sector

Private sector donations have been critical to match and leverage public sector financing of land acquisition and capital improvements for the Regional Parks System. Foundations of several park implementing agencies and “friends of parks or trails” organizations were the facilitator of these donations. No estimate of those donations is provided here. However, some examples include:

- Donation by Marjorie McNeely for capital improvements and a maintenance endowment for the Como Conservatory, which was renamed the Marjorie McNeely Conservatory in her honor
- Donations by individuals and corporations for improvements to Harriet Island Regional Park. Bricks and plaques honor those contributors
- Donation of land for Cedar Lake Farm Regional Park facilitated by the now defunct Regional Parks Foundation of the Twin Cities

Estimated Costs to Complete the System

State law requires that the *Regional Parks Policy Plan* estimate the cost of the recommended acquisitions and development of the park system, including an analysis of what portion of the funding is proposed to come from the state and Council levies, and other local government units (Minn. Stat. 473.147, subd. 1). The following analysis is an estimate of funding required to complete the system.

Table 5-3 provides cost estimates for existing regional parks and trails open to the public, planned regional parks and trails, regional park search areas, regional trail search corridors, and 2040 additions to the system. The associated estimated costs for each are described below.

The cost estimate for existing regional parks and trails open to the public include costs associated with acquisition of inholdings and future development. In order to produce the estimates, data were gathered from Council-approved master plans. In 2014, a total of 2,407 acres and 29 trail miles were inholding properties. The estimate to acquire inholding properties for both parks and trails total $59.3 million, while development costs total $187.7 million. A total estimate for future acquisition and development of existing regional parks and trails opened to the public totals $247 million.

The cost estimate for planned regional parks or trails − those park or trail units that have a Council-approved master plan but are not open to the public as of 2015 − include costs associated with acquisition of inholdings and future development. In order to produce the estimates, data were gathered from Council-approved master plans. In 2014, inholding properties totaled 2,739 acres and 222 trail miles. The estimate to acquire inholding properties for both parks and trails total $36.4 million, while development costs total $227.8 million. A total estimate for future acquisition and development of planned regional parks or trails totals $264.2 million.

The cost estimate for regional park search areas also includes costs associated with acquisition of inholdings and future development. The estimates for these were gathered from the *2030 Regional Parks Policy Plan*. Inholding properties totaled 7,546 acres, with an associated acquisition cost of $38.5 million. The estimated costs to develop the regional park search areas total $26.3 million. A total estimate for future acquisition and development of regional parks search areas is $64.8 million.

The cost estimate for regional trail search corridors were also gathered from *2030 Regional Parks Policy Plan*. Inholding properties totaled 1,745 acres and 479 trail miles, with an associated acquisition cost of $19.4 million. The estimated costs to develop the Regional Park Search Areas total $211.8 million. A total estimate for future acquisition and development of regional trail search corridors is $231.2 million.

The cost estimate for the 2040 additions to the system were calculated based on data provided by the regional park implementing agencies. The new trail search corridors, comprising 111 miles, will require approximately 400 additional acres. The cost to acquire the land is estimated to be $4.6 million, while development costs total $49.6 million. In sum, the cost to acquire and develop the 2040 additions to the system is estimated to total $54.2 million.

The entire system as completed – including inholdings, planned regional parks and trails, regional park search areas, and regional trail search corridors − would require an additional 14,836 acres to be acquired and 850 trail miles. The associated costs are estimated to be $158.2 million for acquisition and $703.3 million for development, totaling $861.4 million to complete the system.

Table 5-3. Estimated Acquisition and Development Costs for Regional Parks System 2015-2040 (2014 dollars)

Category	New Acreage	New Trail Mileage	Acquisition Cost	Development Cost	Total Cost
Existing Regional Parks and Trails Open to the Public (acquisition of inholdings and future development)[a]	2,407	39	$59.3 M	$187.7 M	$247.0 M
Planned Regional Parks and Trails (Council-approved master plan, not yet open to the public)[a]	2,739	222	$36.4 M	$227.8 M	$264.2 M
Regional Park Search Areas [Update from 2010 plan][b]	7,546	N/A	$38.5 M	$26.3 M	$ 64.8 M
Regional Trail Search Corridors[c]	1,745	479	$19.4 M	$211.8 M	$ 231.2 M
2040 Additions to the System (Regional Trail Search Corridors)[d]	400	111	$4.6 M	$49.6 M	$54.2 M
GRAND TOTAL	**14,836**	**851**	**$158.2 M**	**$703.3 M**	**$861.4 M**

M=million
Data Source:
[a] Master plans.
[b] 2030 Parks Policy Plan for "New Units" and "Completing the System".
[c] Master plans of comparable trails.
[d] Estimates from regional park implementing agencies

Chapter Six: Management Procedures

Amending the Policy Plan

The Council will amend the *2040 Regional Parks Policy Plan* only for a substantial revision. A substantial revision is defined by the Council as (1) a proposed revision that is intended to or could have the effect of changing the direction or intent of adopted Council policy; (2) addition or deletion of a policy; or (3) addition or deletion of a system element.

An amendment request initiated by the Metropolitan Parks and Open Space Commission should include documentation to substantiate that it constitutes a substantial revision as defined here. A Council decision to amend the plan on its own initiative or that of the Commission will be preceded by a finding that a substantial revision is proposed. When amending the policy plan, the Council will conduct a public hearing in accordance with Minn. Stat. 473.147 and adopted Council policy.

Updating the Policy Plan

Minnesota law requires the Council to conduct a comprehensive review of the Regional Parks Policy Plan at least every four years (Minn. Stat. 473.147). However, over a four-year period, changes occur in population, acquisition, development, and system use. Updating the data and factual information to keep the policy current with new trends and conditions is not a substantial revision to the policy plan, and will be accomplished through the ordinary process of consideration and approval by the Metropolitan Parks and Open Space Commission, the appropriate Council committee, and the full Council. The regional park implementing agencies will receive formal notice of any proposed update prior to consideration by the Metropolitan Parks and Open Space Commission.

System Plan

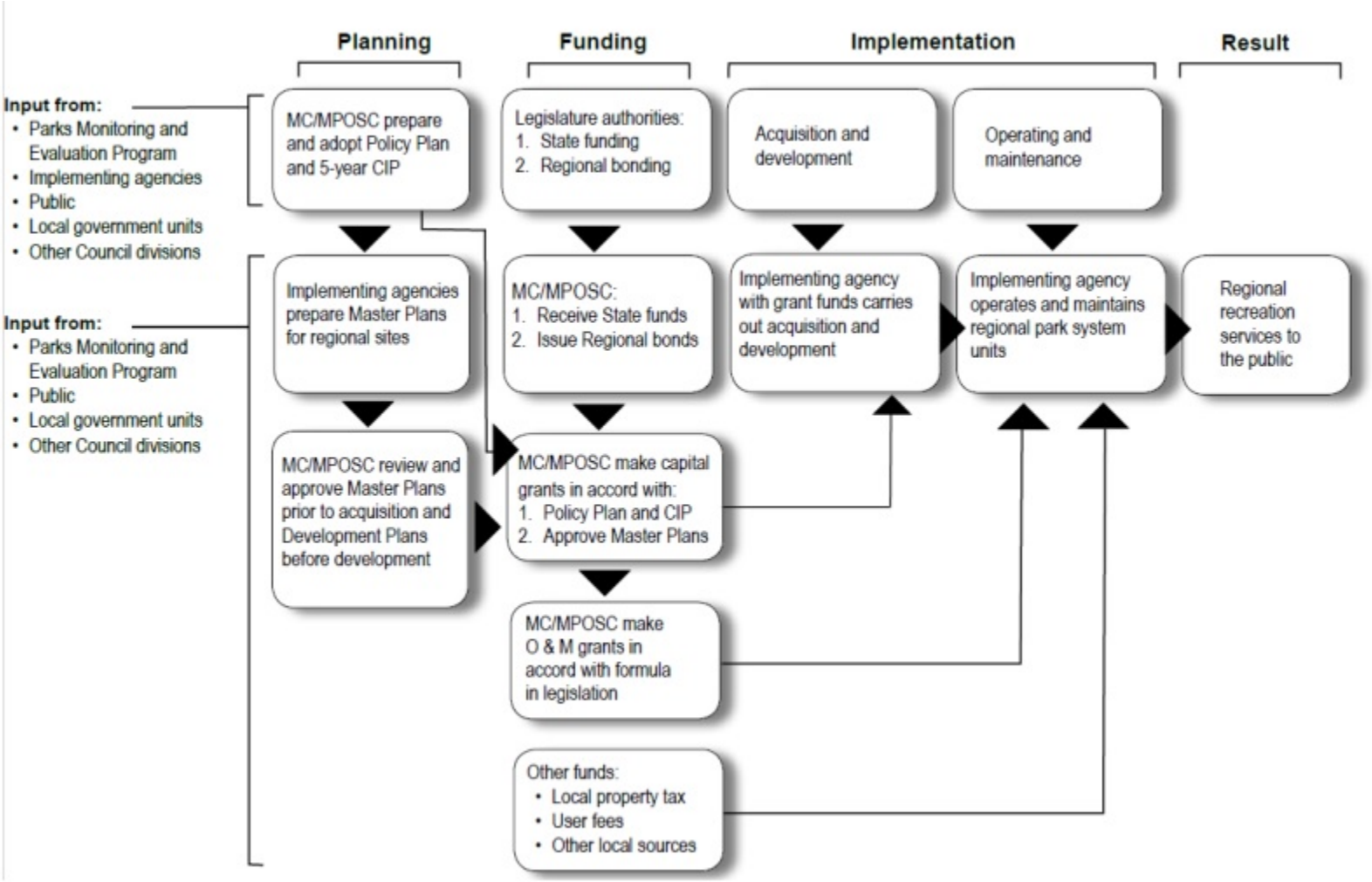
The Council has the responsibility to prepare a system plan for the Regional Parks System. The system planning process begins with the Council identifying “generally the areas which should be acquired,” as required by the 1974 Metropolitan Parks Act. The Regional Parks Policy Plan includes the system plan, which identifies the regional parks and trails that are included in the Regional Parks System.

The Council reviews the system plan portion of the Regional Parks Policy Plan every four years as part of the policy plan revision process and may add or delete planned elements to the system. Additions or deletions to the system proposed outside the regular plan review process are substantial revisions to the policy plan. Identification of specific boundaries and detailed planning for individual units of the system are addressed in master plans for each unit. The master plans are prepared by the regional park implementing agencies.

Minn. Stat. 473.351 limits regional parks funding to regional park implementing agencies and defines them to be as the counties of Anoka, Carver, Dakota, Ramsey, Scott and Washington; the City of St. Paul, the City of Bloomington, the Minneapolis Park and Recreation Board; and the Three Rivers Park District.

Figure 6-1 shows the Regional Parks System process. Regional park implementing agencies prepare a master plan for each Regional Parks System component within their respective jurisdiction consistent with the Council’s Regional Parks Policy Plan, These master plans are reviewed by the Council for consistency with the system plan and, when approved by the Council, constitute an element of the system plan.

Figure 6-1. Regional Parks System Process



Regional Parks System Capital Improvement Program Process

The Regional Parks CIP is one component of the Council's unified Capital Improvement Program (CIP). The unified CIP process includes several elements. It ranks projects across the system based on three factors: first, consistency with Council finance policy and strategies outlined in this policy plan; second, relationship to applicable state law regarding the allocation of funds among the regional park agencies; and third, ranking of those projects within each regional park agency's allocation.

The ranked project list in the CIP then serves as the basis for requesting legislative funding for the biennium. A draft funding request for state bonds is due in June and a final request is due in September preceding the second year of the legislative biennium.

The Metropolitan Parks and Open Space Commission, working with the regional park implementing agencies, initiates the annual process of revising the CIP. The Commission reviews requests from the regional park implementing agencies based on consistency with policies in this policy plan, applicable state law regarding the allocation of funds among the regional park agencies, and the relative share of each regional park implementing agencies share the funding request. The Metropolitan Parks and Open Space Commission will recommend a ranked list of projects to approve as a funding request for the Regional Parks portion of the Unified CIP, which is the capital improvement program for the entire Council.

After state bond appropriations have been authorized, the Council adopts amendments to the current year of the Council's Unified Capital Budget (CB), which award grants proposed for funding in the Unified CIP. Projects financed with state bonds and matched with Metropolitan Council bonds will follow applicable rider language of that appropriation and applicable Council policy requirements in the finance section of this plan.

The amendment to the Unified CB identifies which projects from the CIP are funded and the level of funding by revenue source. Adopting amendments to the Unified CB to award grants that had been proposed in the Unified CIP is not a substantial revision to the policy plan provided that all projects are consistent with the Unified CIP. Projects that are not consistent with the Unified CIP (for example, a project that was not in the CIP and is proposed to replace one that is, or to change the funding level from one project to another) will be reviewed by the Metropolitan Parks and Open Space Commission based on the project's consistency with the finance policy and strategies outlined in this policy plan and applicable state law and subsequently make a recommendation to the Council.

Regional Parks System Parks and Trails Legacy Fund Process

The process for distributing appropriations from the Parks and Trails Legacy Fund follows a process similar to that described above. There are important distinctions to make, however. First, a funding request for Park and Trails Legacy Fund appropriations is due to the state in October preceding the first year of the legislative biennium. Projects financed with appropriations from the Parks and Trails Legacy Fund will follow applicable rider language of that appropriation and Council policy requirements in the finance section of this plan. Similar to

Capital Improvement Program dollars, the Parks and Trails Legacy Fund appropriations are incorporated into the Unified Capital Budget and Unified Capital Improvement Plan.

Negotiated Purchase

Acquisition of land is costly and limited public funds must be used wisely. It is sometimes necessary to acquire land through condemnation, which can be a long and costly process. Whenever possible, regional park implementing agencies must make negotiated purchases based on appraisals by qualified appraisers to minimize the need for condemnation.

State Bond Declarations

The commissioner of Minnesota Management and Budget (MMB), through an order dated August 26, 2010, requires a state bond declaration to be recorded on the land that is acquired or improved with the state bonds. The declaration states that any lease or sale of the improved land must be approved by the commissioner of MMB while the declaration is in effect.

The declaration must be in effect for 125% of the useful life of the improvement on the land that was financed with the state bonds. For example, if state bonds were used to build a picnic shelter, and the picnic shelter has a useful life of 20 years, the declaration on the land where the picnic shelter is located would be in effect for 125% of 20 years, which is 25 years. If the land is to be sold before the state bonds are paid off that financed the improvement, the MMB will ask for a pro-rated refund of the state bonds that financed the grant.

To comply with the law, the Council will work with regional park implementing agencies on drafting declarations for each grant and will record them with the applicable land records office. A copy of the recorded bond declaration will be part of the Council's land records and part of MMB's records. A portion of the bond proceeds for the grant will pay the recording fee since this is a stipulation of using the state bonds and is ultimately the responsibility of the Council to ensure compliance with the law.

Stewardship

Use of Council grant funds is limited to the costs of acquisition and/or development of the Regional Parks System unit consistent with the Council-approved master plan. Grants for acquisition pay for the cost of real estate, relocation assistance, special assessments existing at the time land was designated for the regional system, land stewardship and legal fees and appraisals. Land stewardship is defined as boundary fencing or marking; stabilizing or rehabilitating natural resources to aid in reestablishing threatened natural resources or to prevent non-natural deterioration thereof; preventing the deterioration of existing structures; removal of unneeded structures, dangerous land forms or attractive nuisances; maintaining or closing existing roads; and developing the unit to support minimal recreational use, including access roads, parking lots, signage and restrooms until capital improvement funds are available to develop the Regional Parks System unit.

Special Assessments

Special assessments may be levied against parkland after its designation for the Regional Parks System. Such assessments are legitimate and grant-eligible when they are for benefits

conferred on the park that are consistent with the Council-approved master plan. To encourage prompt payment of special assessments by the regional park implementing agency, regional funds will not be used for penalties and interest charges resulting from late payments unless the regional park implementing agency has requested funds from the Council to pay the special assessments and did not receive them.

Under the provisions of Minn. Stat. 473.334:

> …the governing body [charging the assessment] shall not consider any use of the property other than as regional recreation open space property at the time that the special assessment is determined. The Metropolitan Council shall not be bound by the determination of the governing body of the city but may pay a lesser amount, as agreed upon by the Metropolitan Council and the governing body of the city, as they determine is the measure of benefit to the land for the improvement.

This statute does not pertain to assessments on Bald Eagle-Otter Lake Regional Park land located in White Bear Township. Special assessments on that park are governed by Minn. Stat. 435.19.

If a regional park implementing agency challenges a special assessment to determine the measure of benefit to the regional park unit, regional funds may be used to pay the assessment and for any penalties and interest incurred during the time of challenging the assessment, as well as for the regional park implementing agency's legal costs in challenging the assessment if agreed to previously by the Council.

Payment in Lieu of Local Property Taxes

Under the provisions of Minn. Stat. 473.341, 180% of the property taxes due to the city or township are paid when land is acquired for the Regional Parks System. This provides a financial cushion to the city or township for the loss of tax base. The payment in lieu of taxes is an eligible land acquisition grant expenditure.

Revenue from Nonrecreational Uses

Lands acquired with regional funds are to be used for Regional Parks System purposes. On occasion, usually during but not limited to a period prior to development, land may be used in various other ways. The Council has defined the following nonrecreational uses as consistent with Regional Parks System purposes:

- Sale of buildings, equipment or materials acquired with land
- Rent or lease of buildings to protect structures or secure services for the park, and
- Rent or lease of land for park benefits

All uses of this kind must be consistent with the Council-approved master plan. Revenue that regional park implementing agencies receive from such uses may be used in regional park lands for land stewardship or for the capital costs of providing recreation opportunities. Otherwise they will be returned to the Council. Any other use requires prior Council consent.

Revenue from recreation uses in Regional Parks System units consistent with the Council-approved master plan shall be used for park purposes as determined by the regional park implementing agency. Revenues generated by nonrecreational uses in regional park lands, consistent with a Council-approved master plan, shall be used in regional park lands either for stewardship or for the capital costs of providing regional recreation opportunities, unless the Council consents to another use.

Regional park implementing agencies shall make an annual report of such revenues when their revenues exceed an amount determined by the Council ($2,500 per year). Unused nonrecreational revenues will be returned to the Council by the end of the year succeeding the one in which they are earned.

Enterprise Activities

Regional parks, park reserves and special features may contain enterprise-fund recreation facilities that are compatible with the natural-resource base of the unit and do not conflict with the primary recreation uses of the park unit. Enterprise-fund recreation facilities include any facility that is expected to generate sufficient revenues to pay its own costs, such as golf courses, downhill ski areas, and water parks. These facilities are not eligible for regional park funds from the Council because enterprise-fund recreation facilities are expected to raise money for their development and operation in the same way as their private sector counterparts.

Equal Access

Development financed with regional funds and subsequent park operation must be carried out in a manner consistent with this policy plan, whether the land was acquired with regional funds or not. Development grant contract agreements require the regional park implementing agency to operate and maintain the facility so as to provide access to all persons in the region as described in the Council-approved master plan.

Design Plans

When master plans are first approved by the Council, it is often true that large or complex recreation facilities are only conceptually described. When development of a particular recreation facility within a regional system component is imminent and when funds allocated in the CIP are available, the regional park implementing agency may request a grant.

Upon Council approval, the regional park implementing agency may use an agreed-upon portion of the allocated amount to prepare construction documents through what is generally defined as the design development phase of the project. If preferred, the regional park implementing agency may proceed with design in advance of a grant and request reimbursement consideration in a future CIP by following the reimbursement policy in this policy plan. The remainder of the grant will be used to construct the project after the Metropolitan Parks and Open Space Commission has reviewed the nature, scope and cost of the project for consistency with the Council-approved master plan and the regional CIP.

The Council will make development grants to regional park implementing agencies as follows:

- Development grants will be made for improvements such as recreational buildings, utilities, roads, parking and landscaping in regional parks, park reserves, trail corridors and special-use areas.
- Development grants may be made for natural resource rehabilitation within park reserves and conservation zones of regional parks.
- The costs of preparing and executing construction documents for development are grant-eligible, including consultations with natural resource professionals to ensure the development does not adversely affect the park system unit's natural resource features.
- The Council may approve development grants before the preparation of construction documents for a project. Construction of such a project will not proceed until the Metropolitan Parks and Open Space Commission has been made fully aware of the nature, scope and estimated complete cost as determined in the design development phase of the process.
- Agency-wide improvements by regional park implementing agencies are grant-eligible expenses. When such eligible improvements are also used for other than regional park purposes, the regional funding will be on a negotiated, pro-rated basis.

Closing Grants

Financial transactions of Regional Parks System grants are reported through grant reimbursement forms requesting funds to reimburse the park agency for grant eligible expenses, which are audited by the Council. A final report is generated by the regional park implementing agency. A final audit is conducted when the project is completed.

Under the terms of the agreements, grant agreements are to be "closed" once all grant-eligible work has been completed and paid for with grant funds. If there are any unspent funds from the grant after the project is completed, the regional park implementing agency must contact the Council to determine whether the scope of the grant can be amended. This does not apply to Park Acquisition Opportunity Fund grants.

The Metropolitan Parks and Open Space Commission will review the grant scope amendment request for consistency with the Council-approved master plan for that project and/or other Council policy applicable to the request. Council approval is required to amend the scope of a grant. Legislative approval may be required to amend the scope of a Parks and Trails Legacy grant.

It is in the interest of the Council and the regional park implementing agencies to close out completed projects in a timely manner and free up unspent funds for other projects within the timeline of the state appropriation that initially funded the grant or a portion of the grant. Any unspent state funds and matching Council bonds that financed the grant are no longer available for the project. The undisbursed funds are retained by the state or the Council.

Executing Minor Amendments to Grant Agreements

To maximize the efficiency of the work of the Metropolitan Parks and Open Space Commission and the Council, the Council has authorized its regional administrator or his/her designee to

execute minor amendments to Regional Parks System grant agreements if such amendments meet at least one of the following criteria:

- The amendment is consistent with the *2040 Regional Parks Policy Plan*.
- The amendment does not change the intent of the grant agreement in any essential respect.
- The amendment extends the duration of the grant agreement within the timeline permitted under the applicable funding source for the grant.
- The amendment clarifies the Council's intent in entering the agreement.
- The amendment does not change the total amount of the grant.
- The amendment reflects changes officially adopted by the Council in the 2040 Regional Parks Policy Plan.
- The amendment is required under terms of the contract the Council has with the state agency that transmits state funds for the grant agreements.
- The amendment reflects changes officially adopted by the Council in Council policies or procedures (for example, changes in affirmative action plans or grant management procedures).
- The amendment executes restrictive covenants on land acquired with regional funds or releases restrictive covenants to permit another land use compatible with the park (for example, widening a county road that also provides access to the adjacent park).

Annual Legislative Reports on Parks and Trails Fund Expenditures

Laws of Minn. 2009, ch. 172, art. 3, sec. 3(b) requires the Council to submit an annual report on the use and expenditure of Parks and Trails Fund appropriations it receives by March 1. The annual report must detail the outcomes, which are identified and specified in grant applications. The outcomes identified shall be relevant to the type of project undertaken and the associated Parks and Trails Legacy Plan four strategic pillars, previously discussed.



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Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

Park and Recreation Commission **5. 5.**

Meeting Date: 04/13/2017

By: Mark Riverblood, Engineering/Public Works

Information

Title:

Consider Sketch Plan and Park Dedication Policy for Riverstone Addition; Case of Capstone Home

Purpose/Background:

Note: This case is copied forward from the Planning Commission's April 6th regular meeting. ***The Park and Recreation Commission is being asked to either affirm earlier policy direction on Park Dedication requirements for this proposed 90 acre plat—or, react to the Developer's request to receive partial Park Dedication credit for future amenities within the plat which would be owned and maintained by a future Homeowners Association.*** More information will be available for the meeting.

The purpose of this case is to review a sketch plan for a 293 lot subdivision (245 detached single-family and 48 townhomes). Please note that this has been revised from when the Planning Commission last saw the concept (originally closer to 350 lots; a number of the townhome lots have been removed.

A Sketch Plan affords the Planning Commission the opportunity to review a project before it enters the official Preliminary Plat stage. The Preliminary Plat (future step) is the most important step in the review process and gives the project 'entitlement' to the project.

Notification:

Staff attempted to notify all Property Owners within 700 feet of the Subject Property of the [Planning Commission's] Sketch Plan Review.

Observations/Alternatives:

There are a number of layers to the review of this project. Please see the attached review letter for specific review. Topics include, but are not limited to, the following:

- Comprehensive Plan
- Zoning and Subdivision Code
- Collector/Arterial Streets/Cost Share
- Park Dedication

Funding Source:

All costs associated with processing the Application are the responsibility of the Developer. Interior infrastructure as part of the project area are the responsibility of the Developer. The Developer is responsible for standard Development Fees.

Regarding the collector infrastructure (Bunker Lake Boulevard and Puma Street) that will serve multiple developments, please see the March 28 City Council Work Session for more information regarding proposed cost-share and assessment arrangements.

Recommendation:

For the meeting; Staff will 'walk-through' the long-standing policy of Park Dedication considerations, review the Park and Trail Plan for this area of the city, and highlight the Developer's request to receive Park Dedication credit for privately owned and maintained amenities within the proposed plat.

Action:

Affirm earlier policy direction on Park Dedication—or, provide recommendation(s) for consideration, relative to providing partial credit for privately owned amenities against Park Dedication fees due on the proposed Riverstone plat.

Attachments

Site Location Map
Plan Set
Environmental Assessment Worksheet
Staff Review Letter

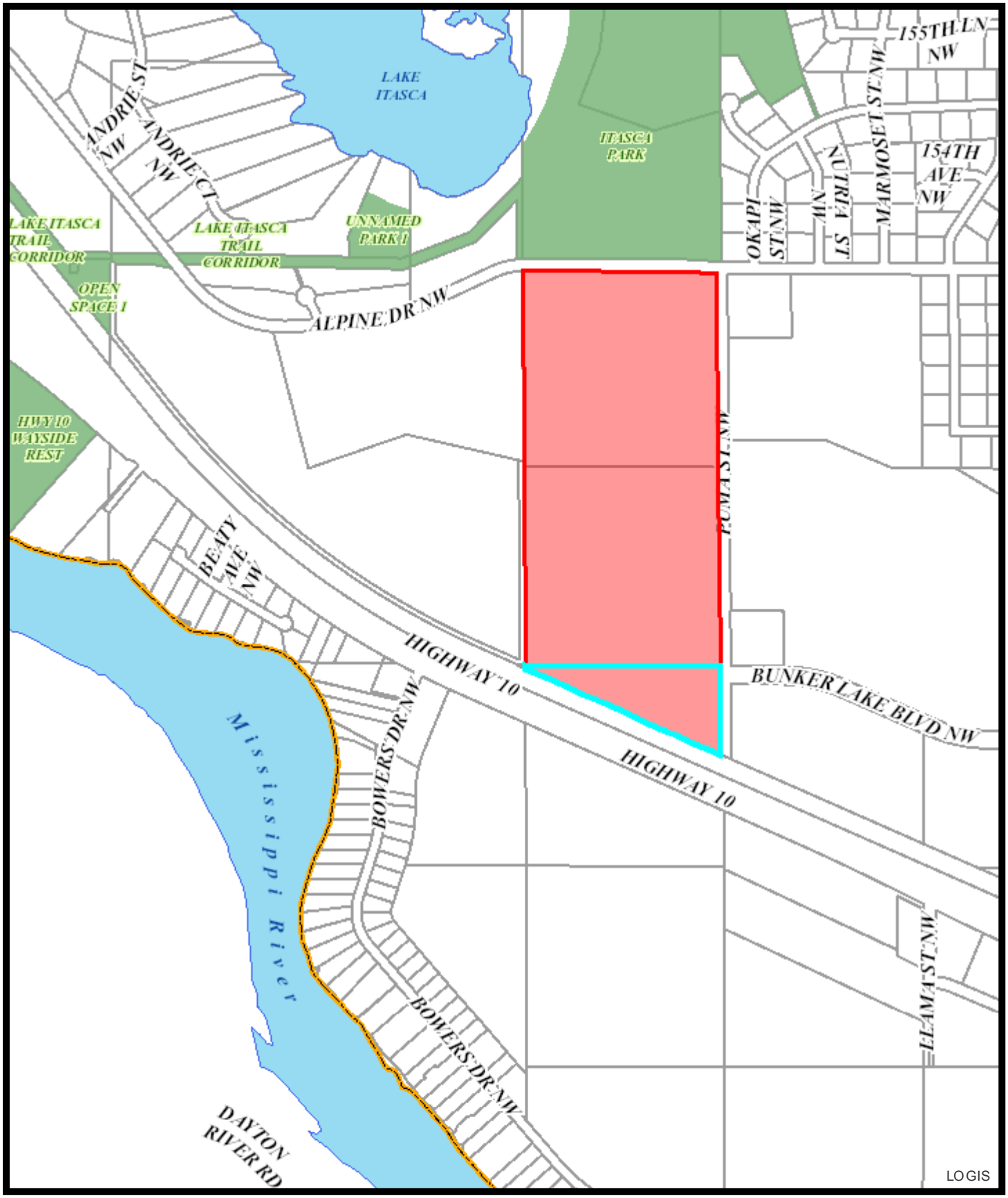
Form Review

Inbox	Reviewed By	Date
Tim Gladhill	JoAnn Shaw	04/06/2017 04:02 PM
Grant Riemer	Grant Riemer	04/07/2017 08:19 AM
Kurt Ulrich	MaryJo Warner	04/07/2017 01:08 PM
Form Started By: Mark Riverblood		Started On: 04/06/2017 10:39 AM
Final Approval Date: 04/07/2017		

29-32-25-22-0004

Site Location Map

Riverstone



Feet

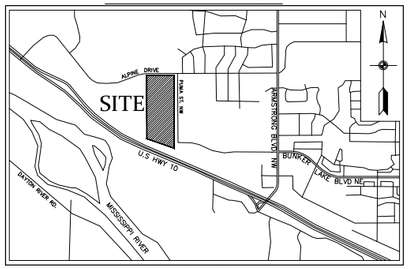
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Print Date: March 10, 2017

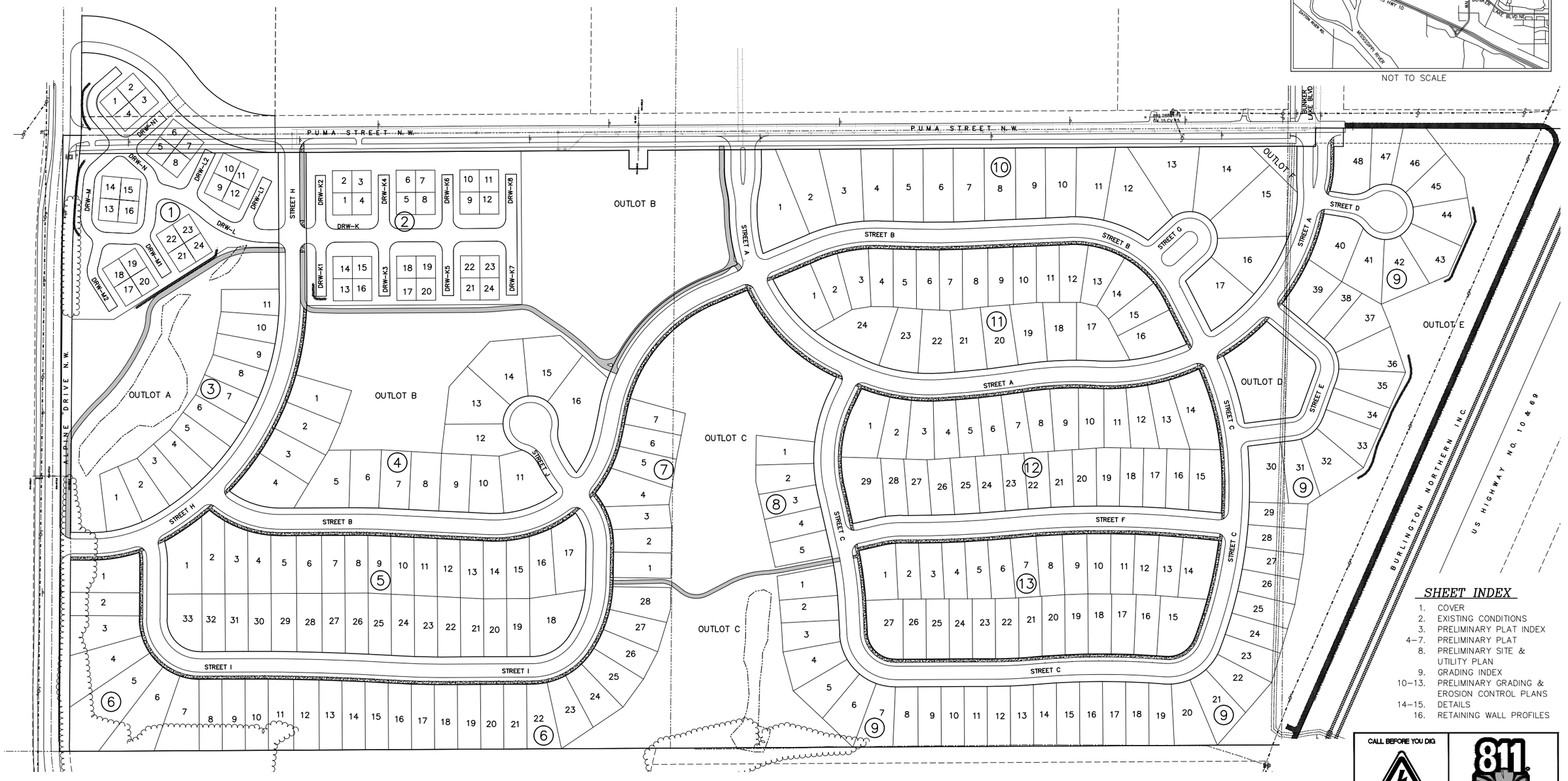
RIVERSTONE

RAMSEY, MINNESOTA

VICINITY MAP



NOT TO SCALE



SHEET INDEX

1. COVER
2. EXISTING CONDITIONS
3. PRELIMINARY PLAT INDEX
4–7. PRELIMINARY PLAT
8. PRELIMINARY SITE & UTILITY PLAN
9. GRADING INDEX
10–13. PRELIMINARY GRADING & EROSION CONTROL PLANS
14–15. DETAILS
16. RETAINING WALL PROFILES

BENCHMARK

1. Anoka County Benchmark No. 3076
   Elev.= 890.186 (NAVD 88)
2. Anoka County Benchmark No. 2078
   Elev.= 899.499 (NAVD 88)

N

0 50 100 200

(IN FEET)

CALL BEFORE YOU DIG

811

Know what's **below.** **Call** before you dig.

The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

Carlson McCain
• environmental
• engineering
• surveying

3890 Pheasant Ridge Drive NE, Suite 100
Blaine, MN 55449
Phone: (763) 489-7900
Fax: (763) 489-7959
www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature: DRAFT
Date: 3/08/17 License #: 25063

Drawn: ADB
Designed: BJK
Date: 3/08/17

Revisions:
1.

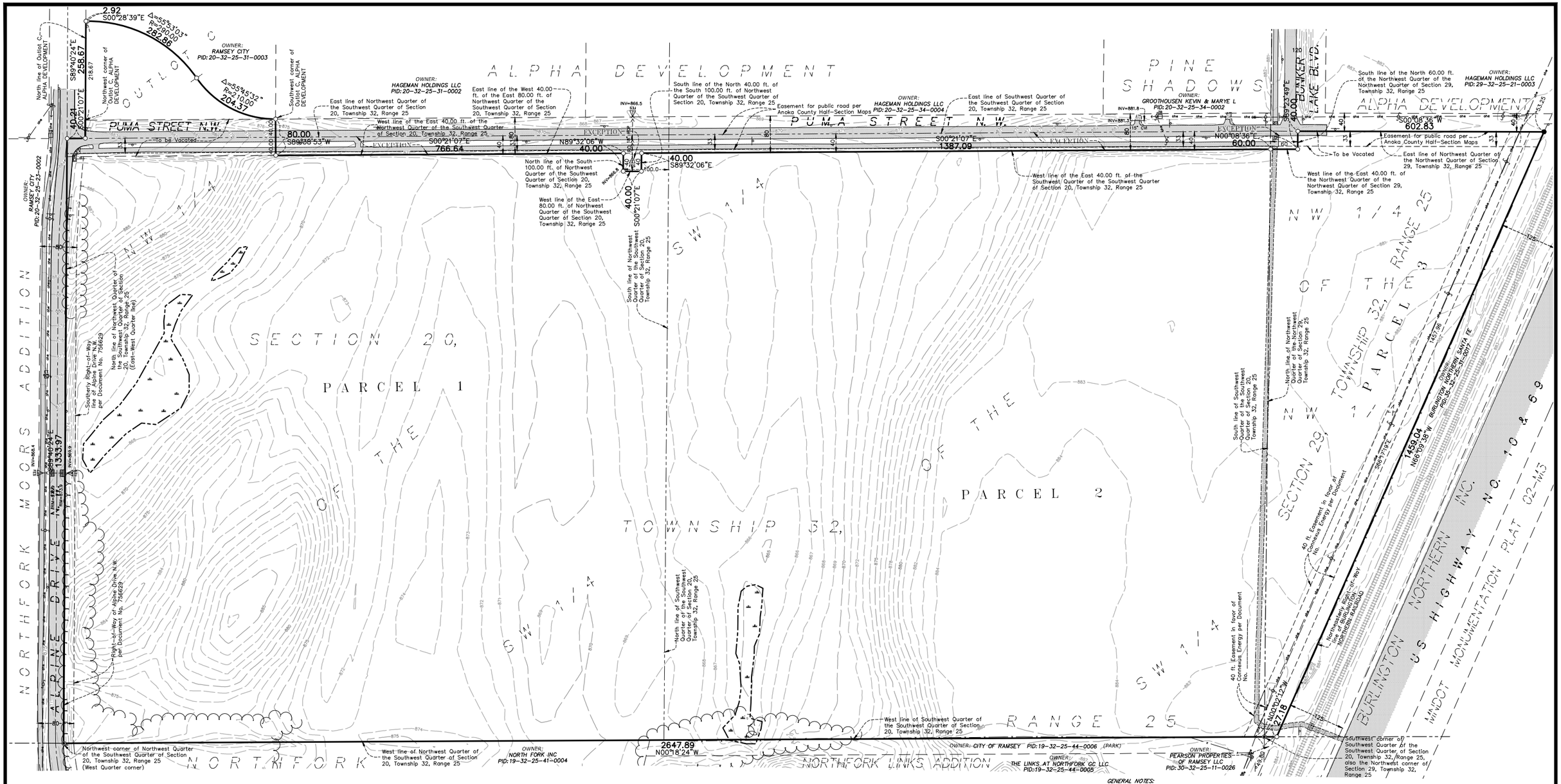
RIVERSTONE DEVELOPMENT, LLC.
14015 Sunfish Lake B, Suite 400
Ramsey, MN 55303

RIVERSTONE
Ramsey, MN

COVER SHEET

1 of 16

Save Date: 03/10/17 I:\jobs\6421 - 6440\6435 - ramsey site\cad c3d\engineering\preliminary\6435_cover.dwg



Parcel Description:
(Per Schedule A of Title Commitment No. 1273, with a commitment date of October 12th, 2016 at 7:30 A.M., prepared by Old Republic National Title Insurance Company)

Parcel 1:
The Northwest Quarter of Southwest Quarter of Section 20, Township 32, Range 25, Anoka County, Minnesota. EXCEPT the East 40.00 feet of said Northwest Quarter of Southwest Quarter lying southerly of the southerly right of way line of Alpine Drive as described in Document No. 756629.
AND ALSO EXCEPT the North 40.00 feet of the South 100.00 feet of the West 40.00 feet of the East 80.00 feet of said Northwest Quarter of Southwest Quarter.

Parcel 2:
The Southwest Quarter of Southwest Quarter of Section 20, Township 32, Range 25, Anoka County, Minnesota, EXCEPT the East 40.00 feet thereof.

Parcel 3:
The Northwest Quarter of Northwest Quarter of Section 29, Township 32, Range 25, Anoka County, Minnesota, lying northeasterly of the northeasterly right of way line of Burlington Northern Railroad, EXCEPT the North 60.00 feet of the East 40.00 feet of said Northwest Quarter of Northwest Quarter.

(Proposed Legal Description, subject to City approved parcel subdivision)
That part of Outlot C, ALPHA DEVELOPMENT, according to the recorded plat thereof, Anoka County, Minnesota lying westerly and northwesterly of the following described line:

Commencing at the Northwest corner of said Outlot C; thence South 89 degrees 40 minutes 24 seconds East, assumed bearing, along the North line of said Outlot C, a distance of 218.67 feet to the point of beginning of the line to be described; thence South 00 degrees 28 minutes 39 seconds East, 2.92 feet; thence southwesterly 282.86 feet along a tangential curve concave to the northwest, having a radius of 290.00 feet and a central angle of 55 degrees 53 minutes 03 seconds to a point of reverse curvature; thence continuing southwesterly 204.37 feet along a reverse curve concave to the southeast, having a radius of 210.00 feet and a central angle of 55 degrees 45 minutes 32 seconds to the Southwest corner of said Outlot C and said line there terminating.

(Proposed Legal Description, subject to City approved Right-of-Way Vacation)
That part of Puma Street Northwest, as created and dedicated in the plat of ALPHA DEVELOPMENT, according to the recorded plat thereof, Anoka County, Minnesota, lying southerly of the westerly extension of the north line of Outlot C, said plat, and lying northerly of the following described line:

Beginning at the southwest corner of said Outlot C; thence South 89 degrees 38 minutes 53 seconds West, 80.00 feet, assuming the North line of said Outlot C has a bearing of South 89 degrees 40 minutes 24 seconds East, and said line there terminating.

And

That part of the East 40.00 feet of the Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25, Anoka County, Minnesota, lying southerly of the southerly right of way line of Alpine Drive NW as described in Doc. No. 756629 and lying northerly of the following described line:

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LEGEND

- ◉ – Denotes Anoka County Cast Iron Monument
- ● – Denotes Found Iron Monument
- ○ – Denotes Set Iron Pipe, Marked with RLS 40361
- –o– – Denotes Miscellaneous Sign
- ▣ – Denotes Electric Box
- CB – Denotes Catch Basin
- EM – Denotes Electric Meter
- ▣ – Denotes Telephone Box
- UP – Denotes Utility Pole
- FES – Denotes Flared End Section
- HH – Denotes Hand Hole
- ——— – Denotes Overhead Electric
- ——>>—— – Denotes Storm Sewer
- — x — x — – Denotes Existing Fence as noted
- WL – *Denotes Wetland delineated by Kjolhaug Environmental Services Company in 2016*
- Denotes Gravel Surface
- Denotes Bituminous Surface
- – Denotes Existing 1 Ft. Contour
- – Denotes Existing 5 Ft. Contour

0 50 100 200 (IN FEET)

GENERAL NOTES:

1. The field work for this survey was completed on November 28th, 2016.
2. Bearings shown hereon are based on the North line of Outlot C, ALPHA DEVELOPMENT, according to the recorded plat thereof, Anoka County, Minnesota, which is assumed to bear South 89 degrees 40 minutes 24 seconds East.
3. BENCHMARK: Anoka County Benchmark No. 3076 Elevation= 890.186 (NAVD 88)
4. Surveyed property contains ±3,934,125 sq.ft. (±90.32 acres).
5. Wetlands shown hereon were delineated by Kjolhaug Environmental Services Company in 2016.
6. Above ground utilities have been field located as shown. Underground utilities shown hereon are those which were field marked by utility companies responding to Gopher State One Call, Ticket No. 162941258 and 162941314, dated 10/20/2016 or were taken from utility plans provided by the City of Ramsey. All underground locations shown hereon are APPROXIMATE. Prior to any excavations or digging, contact Gopher State One Call for an on-site location (651-454-0002).

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota

Print Name: Thomas R. Balluff, L.S.
Signature: D R A F T
Date: 3/8/2017 License #: 40361

DRAWN BY: JAB
ISSUE DATE: 3/8/2017
FILE NO: 1308

Revisions:

RIVERSTONE DEVELOPMENT, LLC
14015 Sunfish Lake B, Suite 400
Ramsey, MN, 55303

RIVERSTONE
Ramsey, Minnesota

EXISTING CONDITIONS

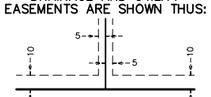
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RIVERSTONE

SITE DATA

TOTAL SITE AREA	**±90.32 AC.**	**TOTAL MULTI-FAMILY AREA**	**±7.38 AC.**
TOTAL ROW AREA	**±16.77 AC.**	NUMBER OF LOTS	48
TOTAL OUTLOT AREA	**±20.67 AC.**	NUMBER OF COMMON AREA LOTS	2
OUTLOT A	±2.73 AC.	MULTI-FAMILY LOT SIZE	±2,016 S.F.
OUTLOT B	±6.20 AC.	**TOTAL SINGLE FAMILY AREA**	**±45.50 AC.**
OUTLOT C	±6.39 AC.	NUMBER OF LOTS	245
OUTLOT D	±0.66 AC.	SMALLEST LOT	±6,056 S.F.
OUTLOT E	±4.58 AC.	LARGEST LOT	±19,592 S.F.
OUTLOT F	±0.11 AC.	AVERAGE LOT	±8,090 S.F.
TOTAL LOT AREA	**±52.88 AC.**	**EXISTING ZONING**	**R-1, R-2, R-3, B-2**
TOTAL NUMBER OF LOTS	**293**	**PROPOSED ZONING**	**PUD**
(SINGLE FAMILY AND MULTI-FAMILY LOTS)		**UTILITIES**	**AVAILABLE**
		GROSS DENSITY	**3.24**
		(SINGLE FAMILY + MULTI-FAMILY LOTS/ TOTAL SITE AREA)	

PROPOSED DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



being 5 feet in width, and adjoining side lot lines, and 10 feet in width and adjoining right of way lines and rear lot lines unless otherwise shown on this plat.

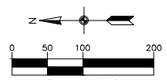
BENCHMARK

1. Anoka County Benchmark No. 3076 Elev.= 890.186 (NAVD 88)
2. Anoka County Benchmark No. 2078 Elev.= 899.499 (NAVD 88)

LEGEND

◉ – Denotes Anoka County Monument
● – Denotes Found Iron Monument
○ – Denotes 5/8 inch by 14 inch rebar, marked with RLS 40361

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LEGAL DESCRIPTION

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(Per Schedule A of Title Commitment No. 1273, with a commitment date of October 12th, 2016 at 7:30 A.M., prepared by Old Republic National Title Insurance Company)

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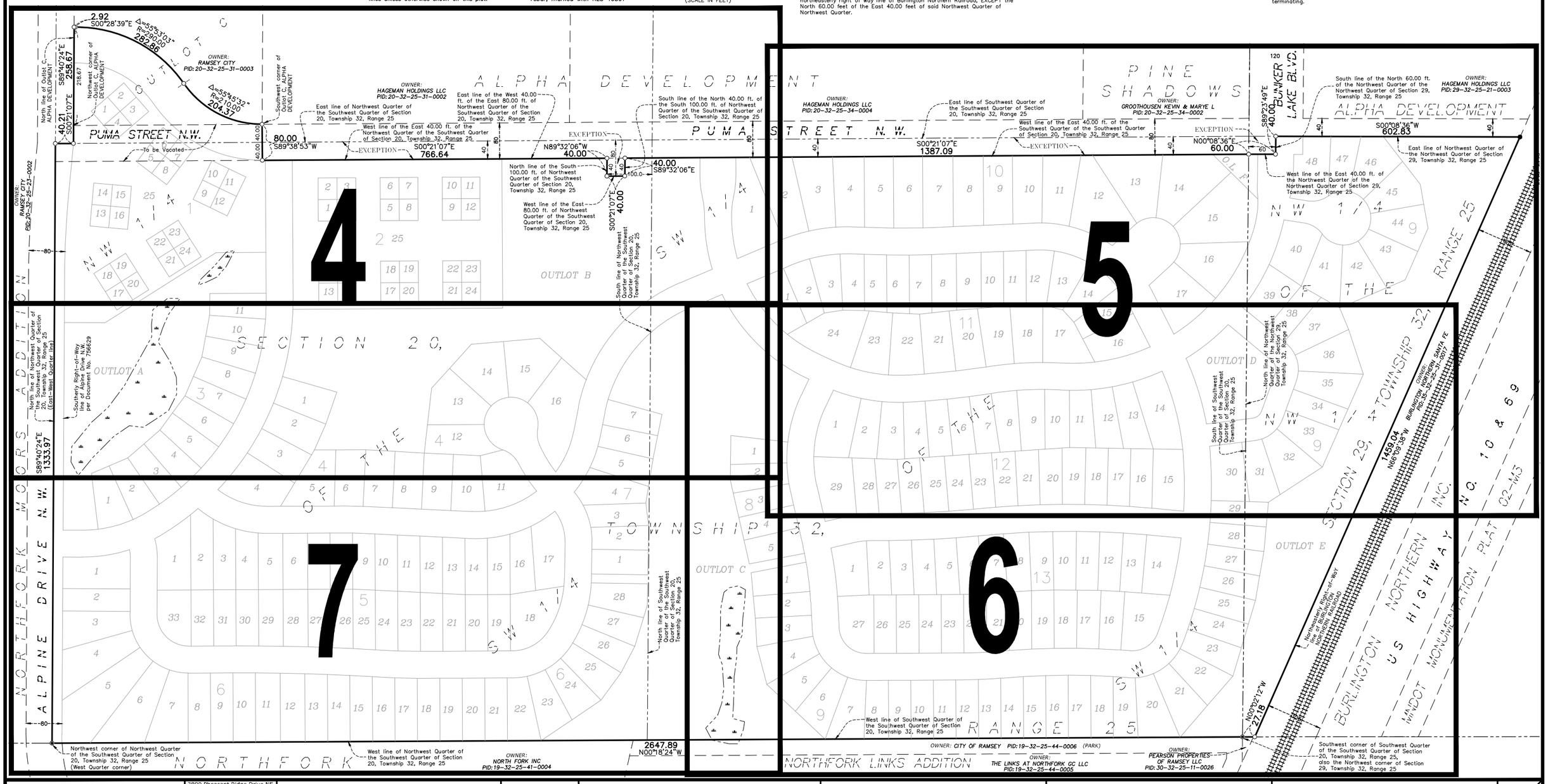
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Carlson McCain • environmental • engineering • surveying	3890 Pheasant Ridge Drive NE, Suite 100 Blaine, MN 55449 Phone: (763) 489-7900 Fax: (763) 489-7959 www.carlsonmccain.com	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota	Print Name: Thomas R. Balluff, L.S. Signature: D R A F T Date: 03/08/2017 License #: 40361	DRAWN BY: JAB ISSUE DATE: 03/08/2017 FILE NO: 1308	Revisions:

RIVERSTONE DEVELOPMENT, LLC 14015 Sunfish Lake B, Suite 400 Ramsey, MN, 55303	**RIVERSTONE** Ramsey, MN	**PRELIMINARY PLAT INDEX**	3 of 16

Save Date: 03/10/17 F:\jobs\6421 - 6440\6435 - ramsey site\cad c3d\survey\6435_prpindex.dwg

LEGEND

- ◉ – Denotes Anoka County Monument
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0 25 50 100
(SCALE IN FEET)

THORK MOORS ADDITION

ALPINE DRIVE N.W.

ALPINE DRIVE N. W. 889.6

S89°40'24"E 1333.97

North line of Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25 (East-West Quarter line)

Southerly Right-of-Way line of Alpine Drive N.W. per Document No. 756629

OUTLOT A
±118,973 sq.ft.
Drainage & Utility Easement
(Over all of Outlot A)

OUTLOT B
±269,973 sq.ft.
Drainage & Utility Easement
(Over all of Outlot B)

PUMA STREET N.W.

PUMA STREET N.W.

ALPHA DEVELOPMENT

North line of Outlot C, ALPHA DEVELOPMENT

Northwest corner of Outlot C, ALPHA DEVELOPMENT

Southwest corner of Outlot C, ALPHA DEVELOPMENT

OWNER: RAMSEY CITY PID: 20-32-25-31-0003

OWNER: HAGEMAN HOLDINGS LLC PID: 20-32-25-31-0002

OWNER: RAMSEY CITY PID: 20-32-25-24-0002

2.92 S00°28'39"E

Δ=55°43'03" R=290.00 282.86

243.8 R=250.00

Δ=55°45'32" R=210.00 204.37

243.3 R=250.00

S89°40'24"E 258.67

S00°21'07"E 40.21

S89°38'53"W 80.00

East line of Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25

West line of the East 40.00 ft. of the Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25

EXCEPTION

S00°21'07"E 766.64

East line of the West 40.00 ft. of the East 80.00 ft. of Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25

EXCEPTION
40.00
N89°32'06"W

North line of the South 100.00 ft. of Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25

West line of the East 80.00 ft. of Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25

S89°32'06"E 40.00

South line of the North 40.00 ft. of the South 100.00 ft. of Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25

40.00
S00°21'07"E

(To be Vacated)

SECTION 20, TOWNSHIP 32, RANGE 25

STREET H

STREET A

STREET B

STREET J

1 ±15,497 sq.ft.

2 ±10,082 sq.ft.

1 ±6,976 sq.ft.

2

7 ±6,588 sq.ft.

6 ±6,377 sq.ft.

5 ±7,337 sq.ft.

1 ±8,564 sq.ft.

2 ±8,606 sq.ft.

3 ±8,446 sq.ft.

4

11 ±6,625 sq.ft.

10 ±6,875 sq.ft.

9 ±6,875 sq.ft.

8 ±6,875 sq.ft.

3 7 ±6,875 sq.ft.

6 ±6,875 sq.ft.

5 ±6,875 sq.ft.

4 ±6,875 sq.ft.

3

14 ±12,007 sq.ft.

15 ±12,209 sq.ft.

13 ±11,744 sq.ft.

16 ±17,841 sq.ft.

4 12 ±9,479 sq.ft.

1 ±2,016 sq.ft.
2 ±2,016 sq.ft.
3 ±2,016 sq.ft.
4 ±2,016 sq.ft.
5 ±2,016 sq.ft.
6 ±2,016 sq.ft.
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18 ±2,016 sq.ft.
19 ±2,016 sq.ft.
20 ±2,016 sq.ft.
21 ±2,016 sq.ft.
22 ±2,016 sq.ft.
23 ±2,016 sq.ft.
24 ±2,016 sq.ft.

1 25 ±118,251 sq.ft.
Drainage & Utility Easement
(Over all of Lot 25, Block 1)

2 25 ±106,330 sq.ft.
Drainage & Utility Easement
(Over all of Lot 25, Block 2)

Drainage & Utility Easement

SEE SHEET 5

SEE SHEET 7

Carlson McCain
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• surveying

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Print Name: Thomas R. Balluff, L.S.
Signature: D R A F T
Date: 03/08/2017 License #: 40361

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ISSUE DATE: 03/08/2017
FILE NO: 1308

Revisions:

RIVERSTONE DEVELOPMENT, LLC
14015 Sunfish Lake B, Suite 400
Ramsey, MN, 55303

RIVERSTONE
Ramsey, MN

PRELIMINARY PLAT

4 of 16

Issue Date: 03/10/17 F:\jobs\6421 - 6440\6435 - ramsey site\cad c3d\survey\6435_prp.dwg

LEGEND

- ◉ – Denotes Anoka County Monument
- ● – Denotes Found Iron Monument
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0 25 50 100 (SCALE IN FEET)

Bearings shown hereon are based on the North line of Outlot C, ALPHA DEVELOPMENT, according to the recorded plat thereof, Anoka County, Minnesota, which is assumed to bear South 89 degrees 40 minutes 24 seconds East.

ALPHA DEVELOPMENT
OWNER: HAGEMAN HOLDINGS LLC
PID:20-32-25-34-0004

PINE SHADOWS
OWNER: GROOTHOUSEN KEVIN & MARYE L
PID:20-32-25-34-0002

BUNKER LAKE BLVD.

ALPHA DEVELOPMENT
OWNER: HAGEMAN HOLDINGS LLC
PID:29-32-25-21-0003

PUMA STREET N.W.
S00°21'07"E
1387.09

East line of Southwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25

West line of the East 40.00 ft. of the Southwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25

EXCEPTION

West line of the East 40.00 ft. of the Northwest Quarter of the Northwest Quarter of Section 29, Township 32, Range 25

EXCEPTION
N00°08'36"E
60.00

South line of the North 60.00 ft. of the Northwest Quarter of the Northwest Quarter of Section 29, Township 32, Range 25

PUMA STREET N.W.
S00°08'36"W
602.83

East line of Northwest Quarter of the Northwest Quarter of Section 29, Township 32, Range 25

Easement for public road per Anoka County Half-Section Maps (To be Vacated)

S89°23'49"E 40.00

Drainage & Utility Easement

STREET B
STREET C
STREET D
STREET E
STREET F
STREET G

OUTLOT D
±28,544 sq.ft.

OUTLOT E
±199,714 sq.ft.
Drainage & Utility Easement
(Over all of Outlot E)

OUTLOT F
±4,941 sq.ft.

SECTION 29, T.32, R.25
SECTION 20, T.32, R.25
OF THE FOURTH PRINCIPAL MERIDIAN

BURLINGTON NORTHERN SANTA FE
OWNER: BURLINGTON NORTHERN SANTA FE
PID:20-32-25-23-0017

1459.04
N66°09'55"W

BURLINGTON NORTHERN INC.
U.S. HIGHWAY 169

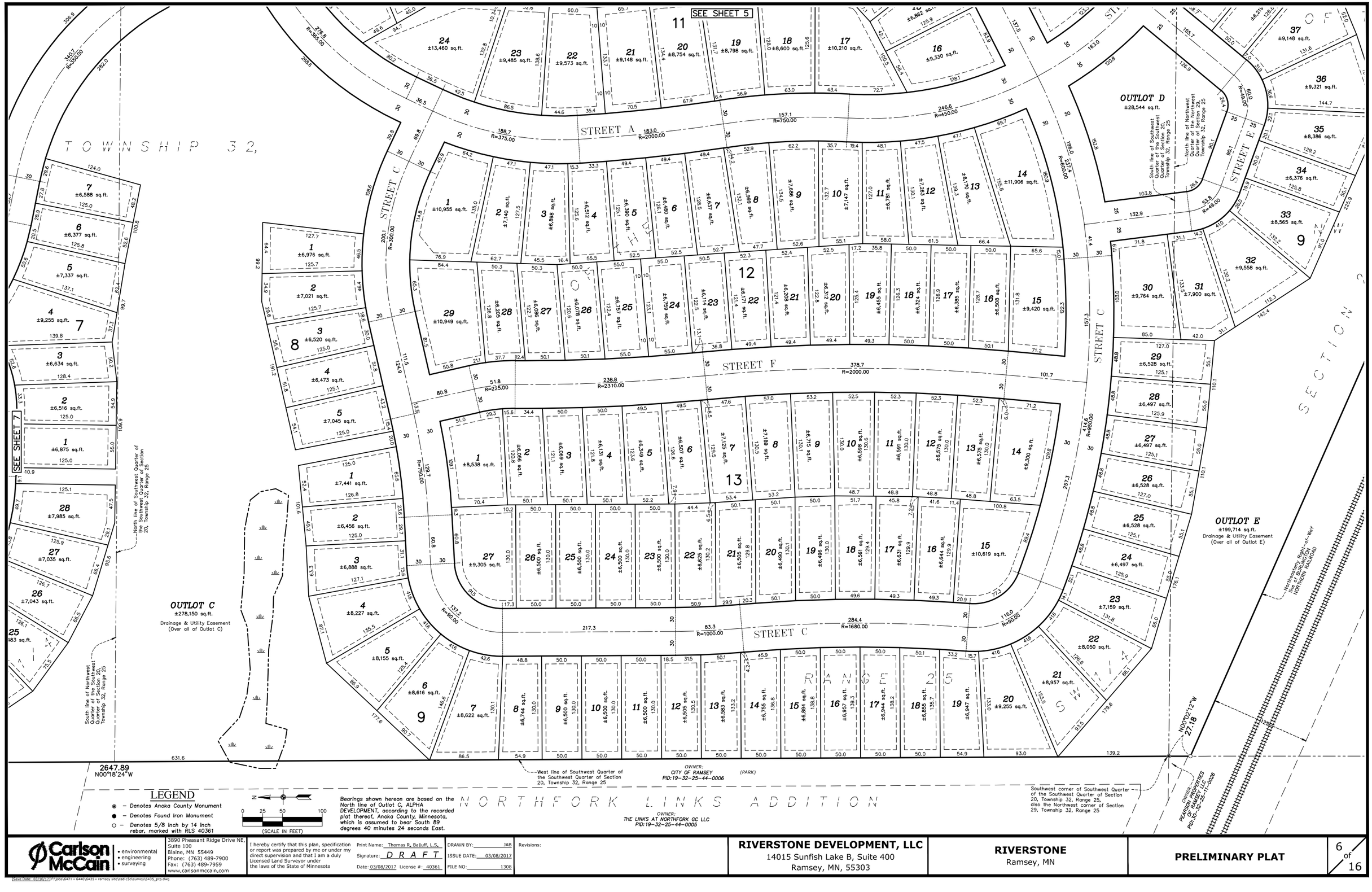
MNDOT MONUMENTATION PLAT 02-M3

SEE SHEET 4

SEE SHEET 6

Carlson McCain • environmental • engineering • surveying	3890 Pheasant Ridge Drive NE, Suite 100 Blaine, MN 55449 Phone: (763) 489-7900 Fax: (763) 489-7959 www.carlsonmccain.com	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota	Print Name: Thomas R. Balluff, L.S. Signature: D R A F T Date: 03/08/2017 License #: 40361	DRAWN BY: JAB ISSUE DATE: 03/08/2017 FILE NO: 1308	Revisions:	**RIVERSTONE DEVELOPMENT, LLC** 14015 Sunfish Lake B, Suite 400 Ramsey, MN, 55303	**RIVERSTONE** Ramsey, MN **PRELIMINARY PLAT** 5 of 16

Save Date: 03/10/17 F:\jobs\6421 - 6440\6435 - ramsey site\cad c3d\survey\6435_prp.dwg



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RIVERSTONE
Ramsey, MN

PRELIMINARY PLAT

6 of 16

Save Date: 03/10/17 F:\jobs\6471 + 6440\6435 + ramsey site\cad c3d\survey\6435_prp.dwg

SEE SHEET 4

NORTHFORK MOORS

ALPINE DRIVE N.W.

ALPINE DRIVE N. W.

889.6

461.8

S89°40'24"E
1333.97

Southerly Right-of-Way line of Alpine Drive N.W. per Document No. 756629

North line of Northwest Quarter of the Southwest Quarter of Section 20, Township 32, Range 25 (East-West Quarter line)

90.9

OUTLOT A
±118,973 sq.ft.
Drainage & Utility Easement
(Over all of Outlot A)

STREET H

STREET B

STREET I

STREET J

STREET K

STREET L

STREET M

STREET N

STREET O

STREET P

STREET Q

STREET R

TOWNSHIP 32,

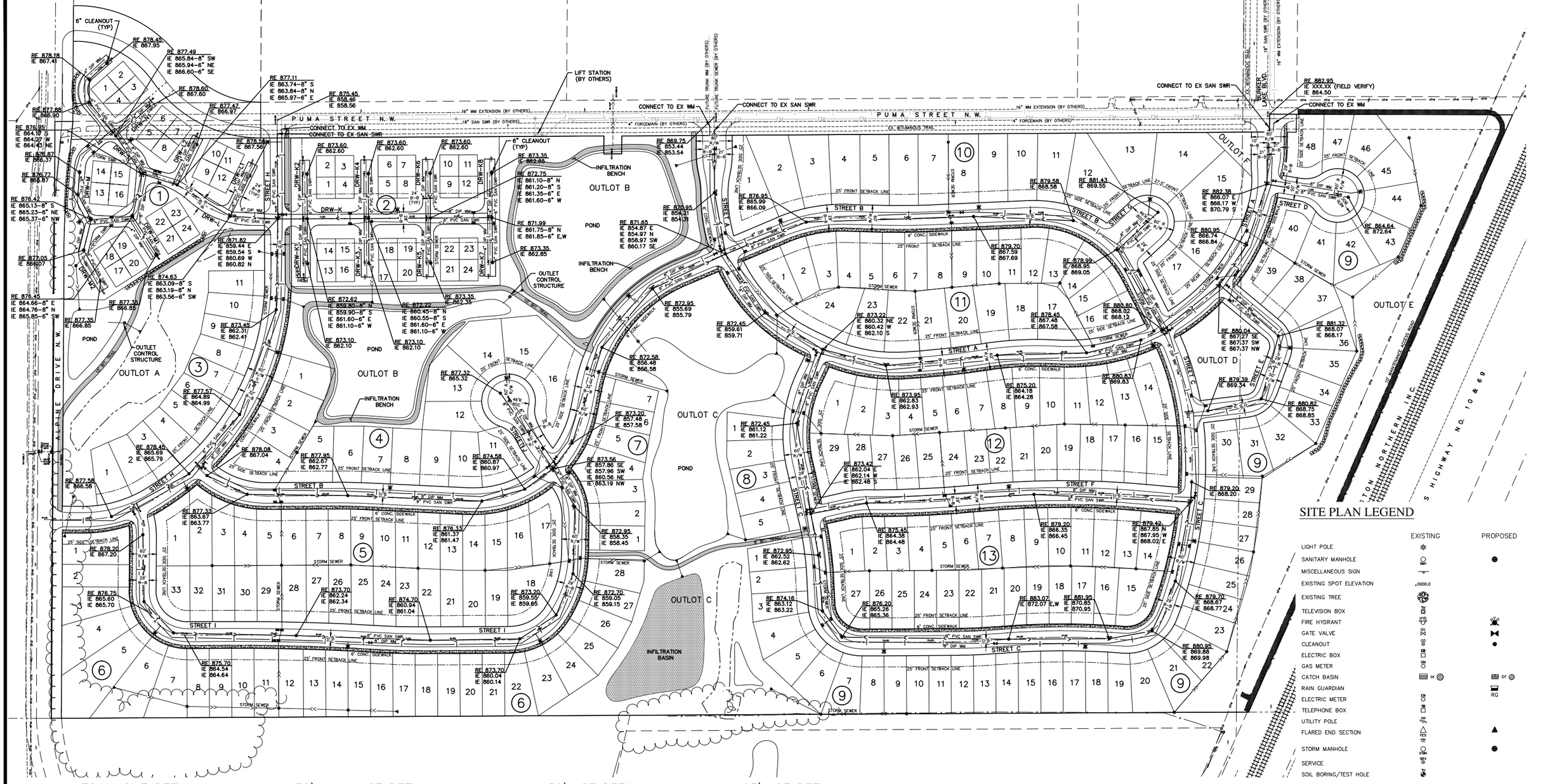
SEE SHEET 6

OUTLOT C
±278,150 sq.ft.
Drainage & Utility Easement
(Over all of Outlot C)

Drainage & Utility Easement

Drainage & Utility Easement

Drainage & Utility Easement



SITE PLAN LEGEND

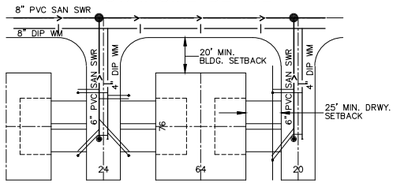
	EXISTING	PROPOSED
LIGHT POLE	☼	
SANITARY MANHOLE	SAN	●
MISCELLANEOUS SIGN		
EXISTING SPOT ELEVATION	x0000.0	
EXISTING TREE		
TELEVISION BOX	TV	
FIRE HYDRANT		
GATE VALVE		
CLEANOUT	CO	●
ELECTRIC BOX	ELEC	
GAS METER	GAS	
CATCH BASIN	or ⊘	or ⊘
RAIN GUARDIAN		RG
ELECTRIC METER	ELEC	
TELEPHONE BOX	TEL	
UTILITY POLE		
FLARED END SECTION		▲
STORM MANHOLE	STORM	●
SERVICE		
SOIL BORING/TEST HOLE		
RETAINING WALL		
PROPERTY LINE		
SETBACK LINE		
CURB		
WETLAND		
DITCH		
UNDERGROUND TELEPHONE	ut	
UNDERGROUND ELECTRIC	ue	
WATERMAIN		
SANITARY SEWER		
UNDERGROUND GAS	ug	
STORM SEWER		
FENCE	x	
OVERHEAD ELECTRIC	ohe	
EXISTING FENCE AS NOTED	x	
CONCRETE SURFACE		
BITUMINOUS SURFACE		

0 50 100 200

BENCHMARK

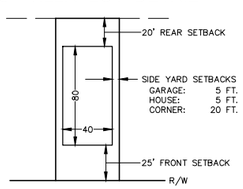
1. Anoka County Benchmark No. 3076
   Elev.= 890.186 (NAVD 88)
2. Anoka County Benchmark No. 2078
   Elev.= 899.499 (NAVD 88)

TOWNHOME DETAIL



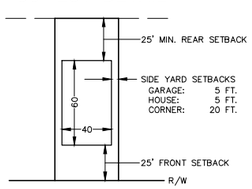
TYPICAL SERVICES SHALL BE:
WATER: 1" COPPER TYPE K
SEWER: 4" PVC SDR 26
CURB STOP TO BE PLACED 10' BEHIND THE CURB.

50' VILLA LOT DETAIL



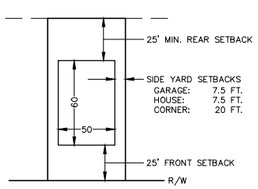
TYPICAL SERVICES SHALL BE:
WATER: 1" COPPER TYPE K
SEWER: 4" PVC SDR 26
CURB STOP TO BE PLACED AT THE R/W

50' LOT DETAIL



TYPICAL SERVICES SHALL BE:
WATER: 1" COPPER TYPE K
SEWER: 4" PVC SDR 26
CURB STOP TO BE PLACED AT THE R/W

65' LOT DETAIL



TYPICAL SERVICES SHALL BE:
WATER: 1" COPPER TYPE K
SEWER: 4" PVC SDR 26
CURB STOP TO BE PLACED AT THE R/W

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• surveying
3890 Pheasant Ridge Drive NE, Suite 100
Blaine, MN 55449
Phone: (763) 489-7900
Fax: (763) 489-7959
www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature: DRAFT
Date: 3/08/17 License #: 25063

Drawn: ADB
Designed: BJK
Date: 3/08/17

Revisions:
1.

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14015 Sunfish Lake B, Suite 400
Ramsey, MN 55303

RIVERSTONE
Ramsey, MN

PRELIMINARY SITE & UTILITY PLAN

8 of 16

[Save Date: 03/10/17] I:\jobs\6421 - 6440\6435 - ramsey site\cad c3d\engineering\preliminary\6435_site.dwg

SHEET 13 | SHEET 12 | SHEET 11 | SHEET 10

PUMA STREET N.W.

ALPINE DRIVE N.W.

BUNKER LAKE BLVD.

CRANE CREEK ENTRANCE

BURLINGTON NORTHERN INC.

US HIGHWAY NO. 10 & 69

0 50 100 200
(IN FEET)

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CURB LINE		
BITUMINOUS		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY		
STORM CATCH BASIN		DENOTES INLET PROTECTION
STORM MANHOLE		
OUTLET CONTROL STRUCTURE		
MANHOLE		
HYDRANT		
GATE VALVE		
TELEVISION BOX		
TELEPHONE BOX		
UTILITY POLE		
RETAINING WALL		
FENCE		
10' CONTOUR		
2' CONTOUR		
FEMA FLOOD PLAIN		
WETLAND LINE		
SPOT ELEVATION	00.0	00.0 E.O.F. 000.0
EMERGENCY OVERFLOW		
SILT FENCE		
TREE FENCE		
TREELINE		
SOIL BORING	TH	
GRADING LIMITS		
STORM CATCH BASIN		DENOTES INLET PROTECTION
WETLAND BUFFER SIGN		DENOTES SIGN / DENOTES POST

WETLAND SUMMARY

WETLAND FILL = 1738 SF

NOTE: WETLAND FILL TOTAL IS LESS THAN THE DEMINIMUS AMOUNT; NO WETLAND REPLACEMENT WILL BE REQUIRED

CALL BEFORE YOU DIG

811 Know what's below. Call before you dig.

The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

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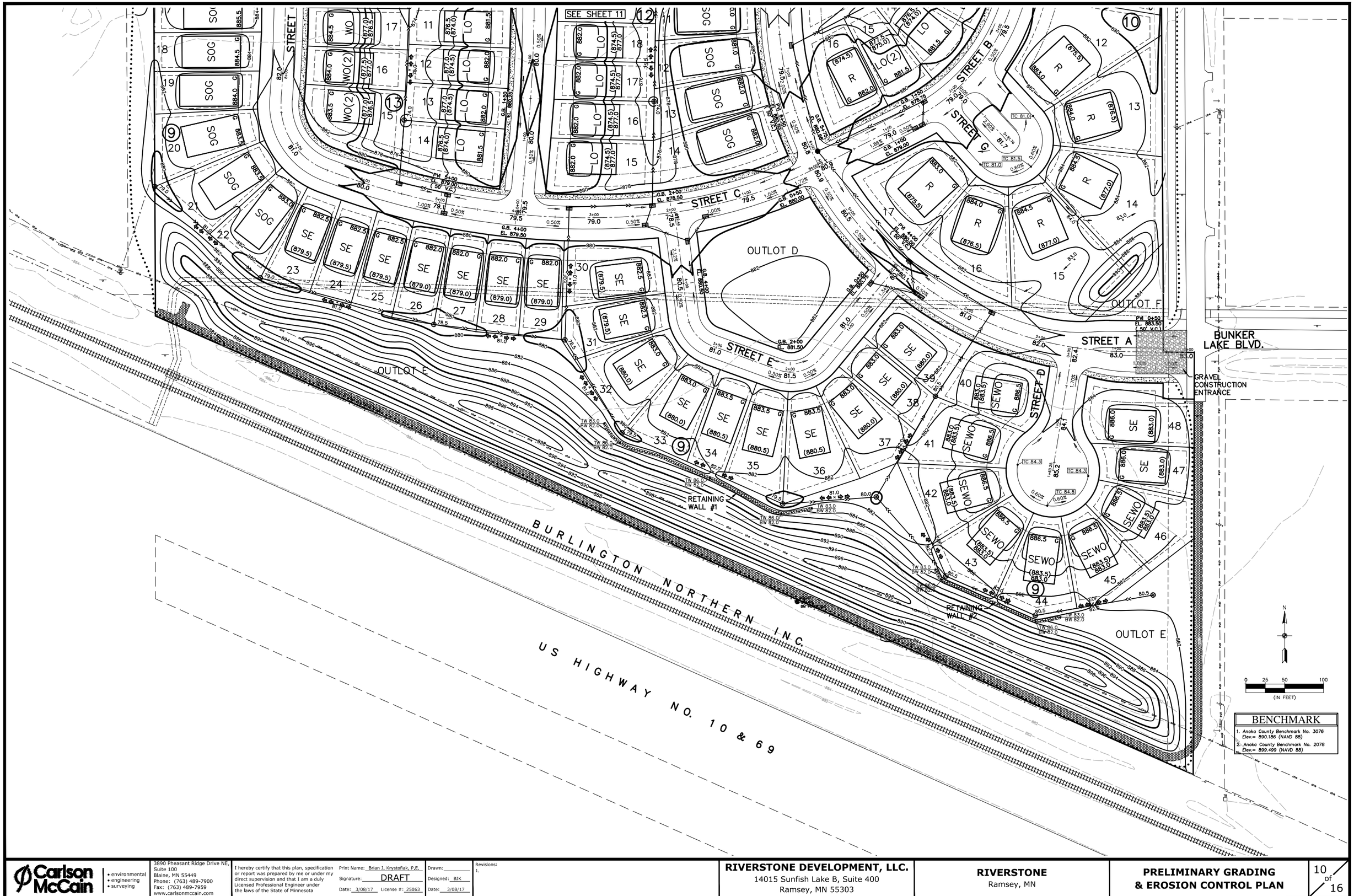
RIVERSTONE DEVELOPMENT, LLC.
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Ramsey, MN 55303

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Ramsey, MN

GRADING INDEX

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BENCHMARK

1. Anoka County Benchmark No. 3076
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PRELIMINARY GRADING & EROSION CONTROL PLAN

10 of 16

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NWL = 866.5
OUTLET = 867.0
100 YR HWL = 869.3 OUTLOT C

SEE SHEET 12

SEE SHEET 10

STREET A

STREET B

STREET C

STREET F

STREET G

10' BITUMINOUS TRAIL

1.0% SWALE

P U M A S T R E E T N. W.

BENCHMARK

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0 25 50 100
(IN FEET)

N

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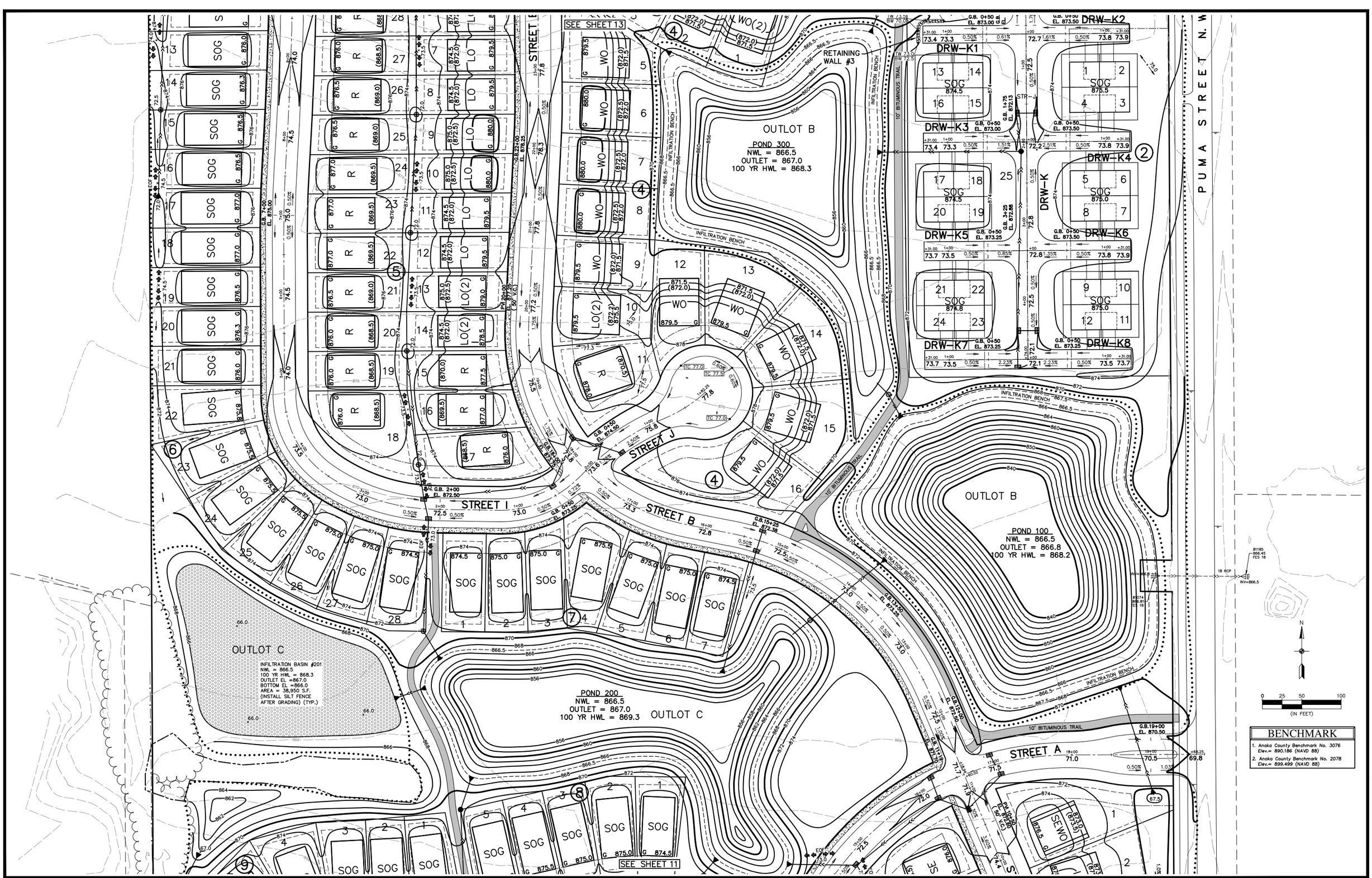
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Ramsey, MN

PRELIMINARY GRADING & EROSION CONTROL PLAN

11 of 16

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ALPINE DRIVE N.W.

ALPINE DRIVE N. W.

RETAINING WALL #5

RETAINING WALL #6

10' BITUMINOUS TRAIL

TOP OF BERM

POND 400
NWL = 868.5
100 YR HWL = 869.6

OUTLOT A

WETLAND 1
NWL = 867.5
100 YR HWL = 868.4

RETAINING WALL #4

WETLAND FILL
1738 SF

STREET I

STREET H

STREET B

STREET A

RETAINING WALL #3

OUTLOT B

POND 300
NWL = 866.5
OUTLET = 867.0
100 YR HWL = 868.3

INFILTRATION BENCH

INFILTRATION TRENCH

DRW-M2

DRW-M

DRW-N

DRW-M1

DRW-N1

DRW-L2

DRW-L

DRW-L1

DRW-K2

DRW-K1

DRW-K3

DRW-K4

DRW-K

DRW-K5

DRW-K6

DRW-K7

DRW-K8

PUMA STREET N. W.

SEE SHEET 12

N

0 25 50 100
(IN FEET)

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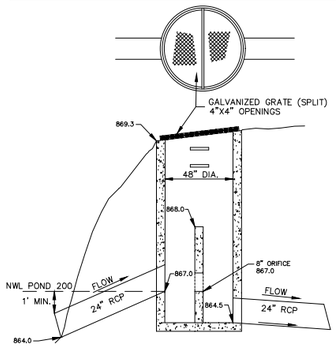
RIVERSTONE
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PRELIMINARY GRADING & EROSION CONTROL PLAN

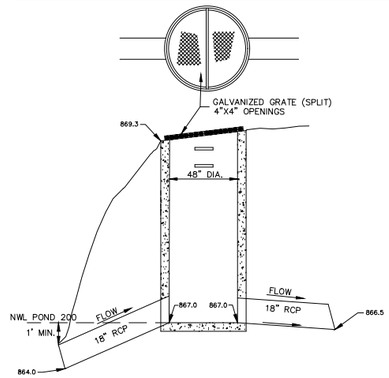
13 of 16

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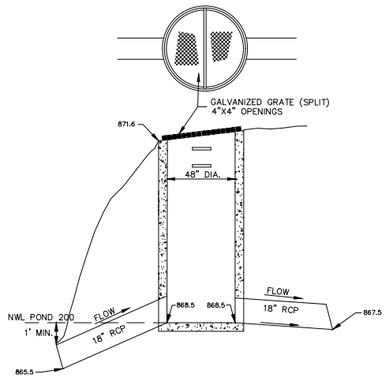
OUTLET CONTROL STRUCTURE POND 200



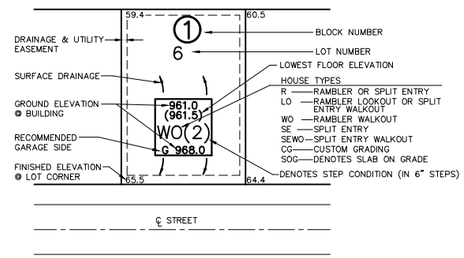
OUTLET CONTROL STRUCTURE POND 300



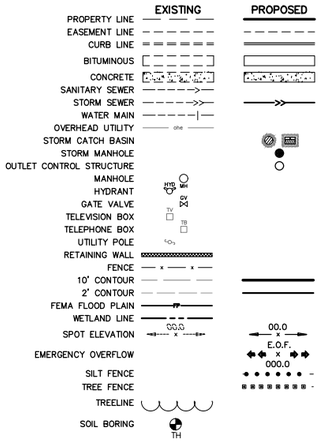
OUTLET CONTROL STRUCTURE POND 400



GRADING PLAN LOT KEY

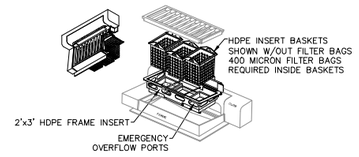


LEGEND



INFRASAFE – 2'x3' DEBRIS COLLECTION DEVICE

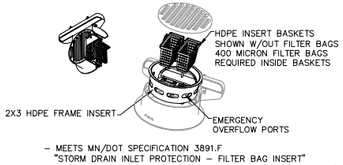
AS MANUFACTURED BY ROYAL ENVIRONMENTAL SYSTEMS



- MEETS MN/DOT SPECIFICATION 3891.F
"STORM DRAIN INLET PROTECTION – FILTER BAG INSERT"
- DESIGNED FOR NEENAH R–3067 OR R–3290 SERIES

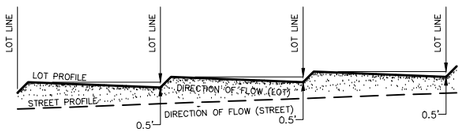
INFRASAFE – 27" DEBRIS COLLECTION DEVICE

AS MANUFACTURED BY ROYAL ENVIRONMENTAL SERVICES



- MEETS MN/DOT SPECIFICATION 3891.F
"STORM DRAIN INLET PROTECTION – FILTER BAG INSERT"
- DESIGNED FOR NEENAH R–3250–A OR R–3250–1 (MNDOT 801) FRAME CASTING

LOT BENCHING DETAIL



TURF ESTABLISHMENT

TURF ESTABLISHMENT SHALL APPLY TO ALL DISTURBED AREAS AND SHALL BE ACCORDING TO MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (2005) EXCEPT AS MODIFIED BELOW.

TURF ESTABLISHMENT SHALL OCCUR AS SOON AS POSSIBLE BUT IN NO CASE MORE THAN 14 DAYS.

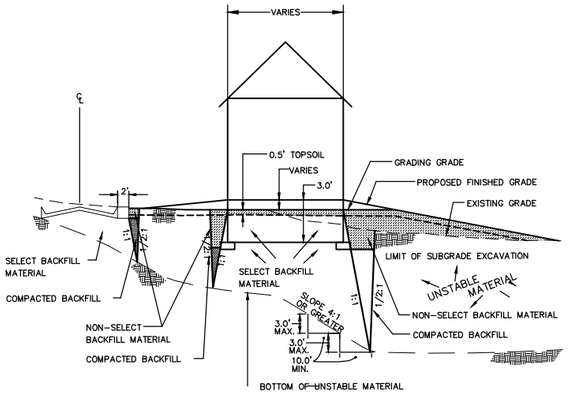
SEED: MnDOT MIXTURE 250 AT 70 POUNDS PER ACRE.

DORMANT SEED: SHALL BE APPLIED AT TWICE THE NORMAL RATE AFTER NOVEMBER 1ST.

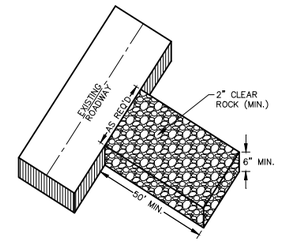
MULCH: TYPE 1 AT 2 TONS PER ACRE (DISK ANCHORED).

FERTILIZER: TYPE 24–12–24 AT 300 POUNDS PER ACRE.

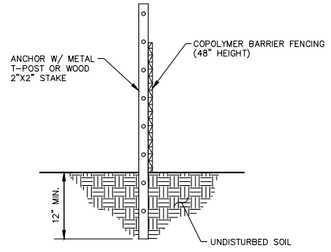
SUBGRADE CORRECTION



ROCK CONSTRUCTION ENTRANCE



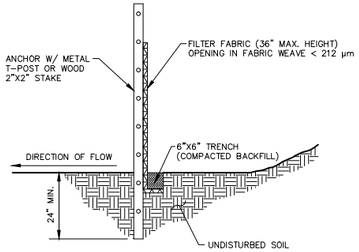
TREE FENCE



NOTES:

1. TREE FENCING SHALL BE PLACED A MINIMUM OF 1 FOOT PER CALIPER INCH OF TREE DIAMETER FROM TREE(S) THAT IS/ARE TO BE SAVED.
2. ANCHOR POST MAY BE SPACED UP TO 10 FEET APART.
3. SECURELY ATTACH TREE FENCE TO ANCHOR POSTS W/ MINIMUM OF TWO ATTACHMENTS PER POST.
4. SEE MNDOT SPECIFICATION 2572.

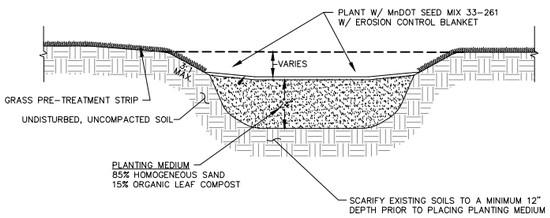
SILT FENCE



NOTES:

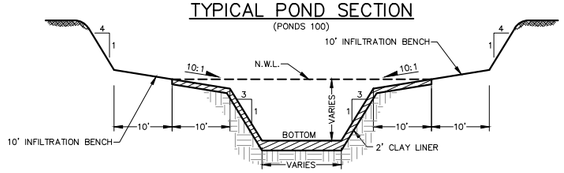
1. DIG A 6"X6" TRENCH ALONG THE INTENDED SILT FENCE LINE.
2. DRIVE ALL ANCHOR POSTS INTO THE GROUND AT THE DOWNHILL SIDE OF THE TRENCH.
3. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART.
4. LAY OUT SILT FENCE ALONG THE UPHILL SIDE OF THE ANCHOR POSTS AND BACK FILL 6"X6" TRENCH.
5. SECURELY ATTACH SILT FENCE TO ANCHOR POSTS W/ MINIMUM OF THREE ATTACHMENTS PER POST.
6. SEE MNDOT SPECIFICATIONS 2573 & 3886.

INFILTRATION BASIN



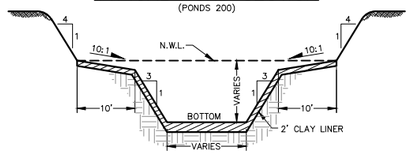
TYPICAL POND SECTION

(PONDS 100)



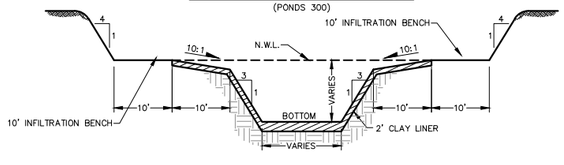
TYPICAL POND SECTION

(PONDS 200)



TYPICAL POND SECTION

(PONDS 300)



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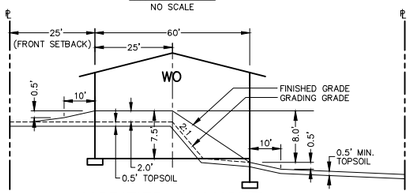
DETAILS

14 of 16

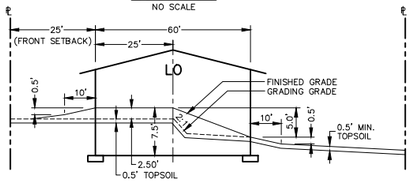
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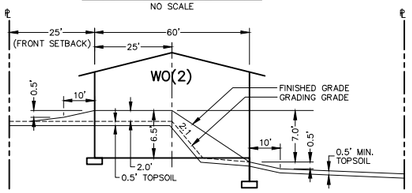
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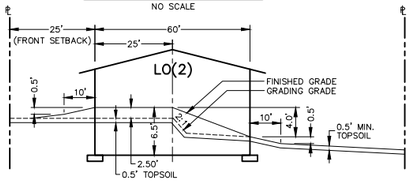
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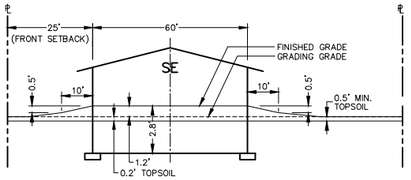


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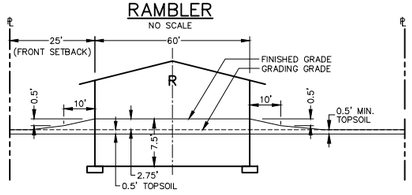


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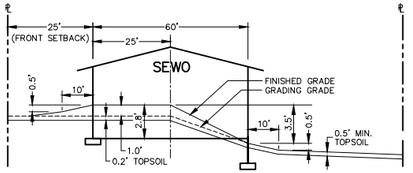


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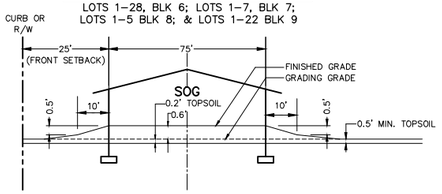
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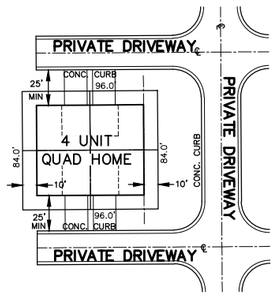


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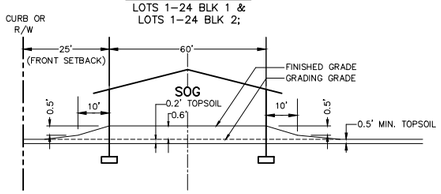


50' VILLAS
SINGLE FAMILY HOLDOWNS
LOTS 1–28, BLK 6; LOTS 1–7, BLK 7;
LOTS 1–5 BLK 8; & LOTS 1–22 BLK 9



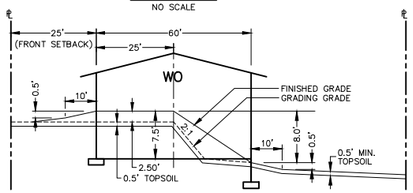


QUAD HOMES
LOTS 1–24 BLK 1 &
LOTS 1–24 BLK 2;

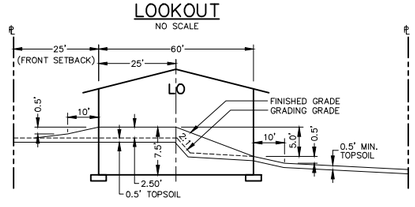


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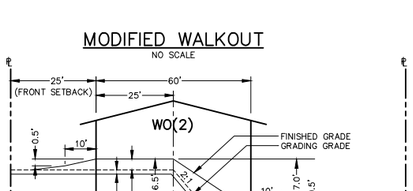
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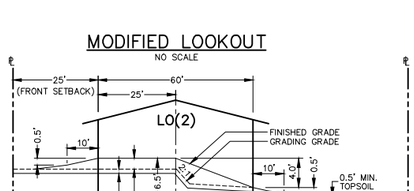
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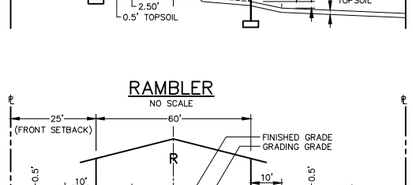
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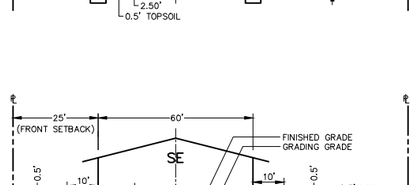
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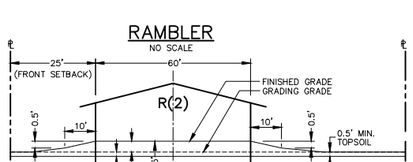
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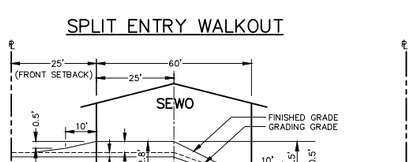
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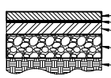
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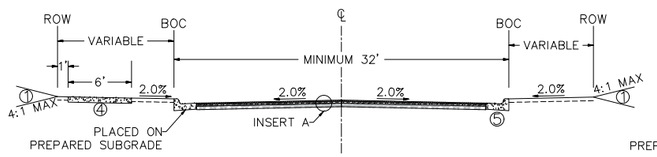
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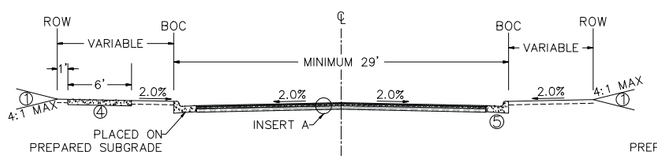
REFERENCE NOTES:

1. GRADE TO MATCH EXISTING SURFACE MINIMUM 4" COMMON TOPSOIL BORROW IN BOULEVARDS. SEE CITY PLATE No. ERO–6
2. CLASS 5 GRADATION IS MODIFIED PER CITY PLATE No. STR–26
3. CONTRACTOR SHALL SCARIFY AND COMPACT, ACCORDING TO THE SPECIFIED DENSITY METHOD, THE TOP 12 INCHES OF MATERIAL PRIOR TO PLACING ANY FILL MATERIALS OR CLASS 5 AGGREGATE BASE.
4. ALL SIDEWALKS SHALL BE 6" THICK, 6' WIDE, PLACED ON PREPARED SUBGRADE.
5. CONCRETE CURB AND GUTTER PER PLAN. SEE CITY PLATE No. STR–1.

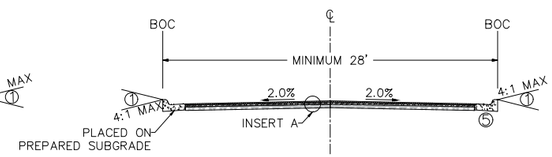
32' – URBAN STREET
NOTE: NOT TO SCALE



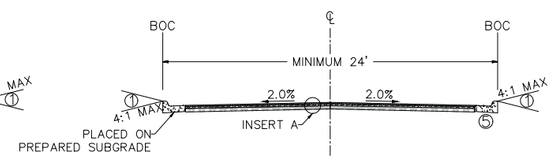
29' – URBAN STREET
NOTE: NOT TO SCALE



28' – PRIVATE STREET
NOTE: NOT TO SCALE



24' – PRIVATE STREET
NOTE: NOT TO SCALE



Carlson McCain
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• surveying

3890 Pheasant Ridge Drive NE, Suite 100
Blaine, MN 55449
Phone: (763) 489-7900
Fax: (763) 489-7959
www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature: DRAFT
Date: 3/08/17 License #: 25063

Drawn:
Designed: BJK
Date: 3/08/17

Revisions:
1.

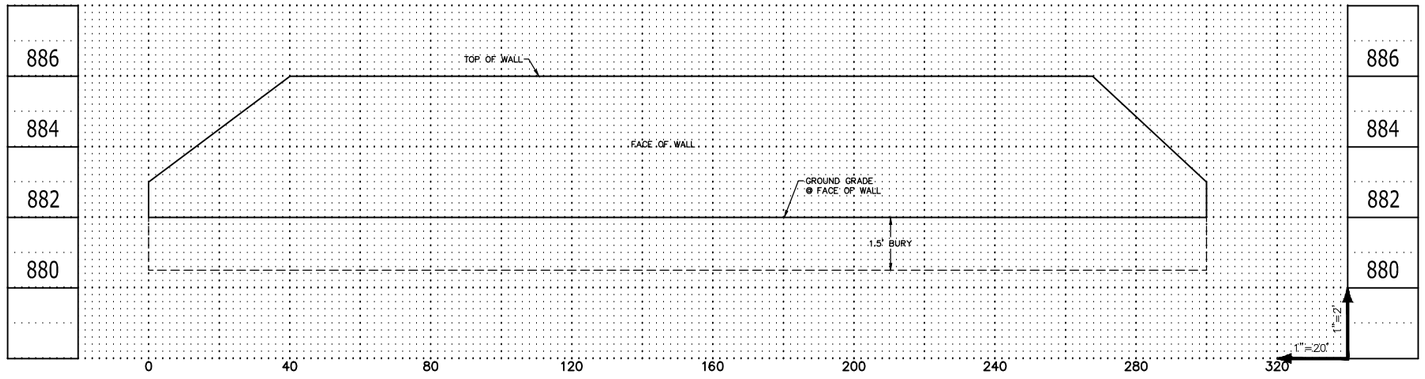
RIVERSTONE DEVELOPMENT, LLC.
14015 Sunfish Lake B, Suite 400
Ramsey, MN 55303

RIVERSTONE
Ramsey, MN

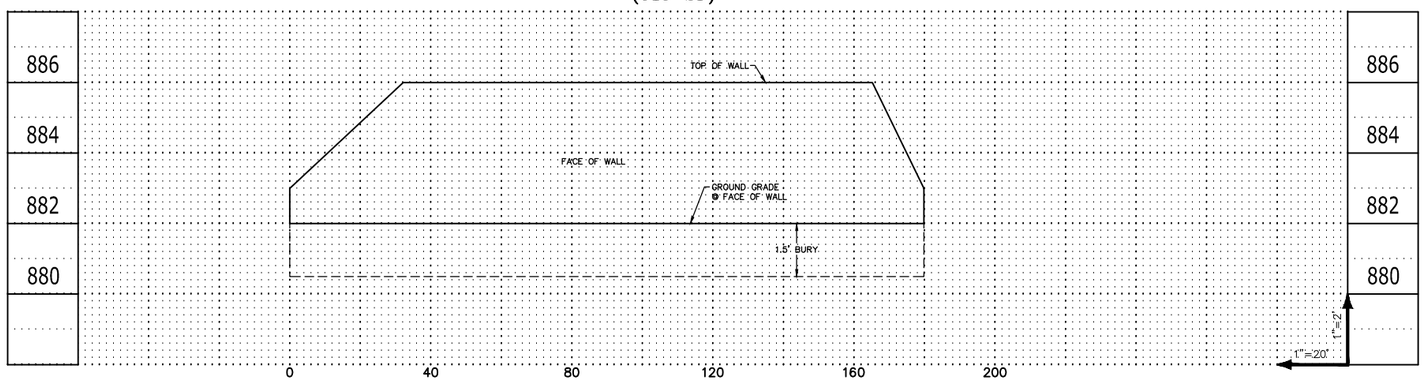
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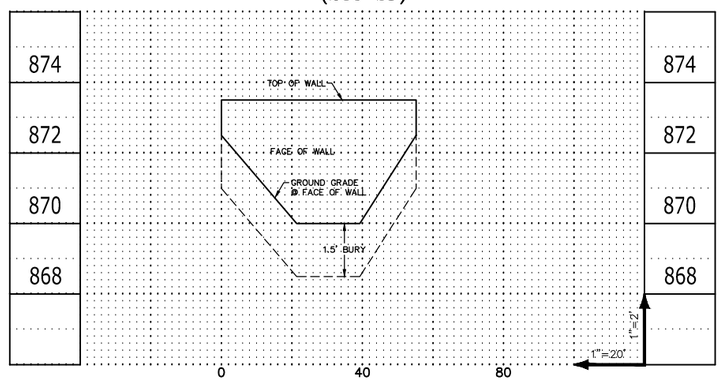
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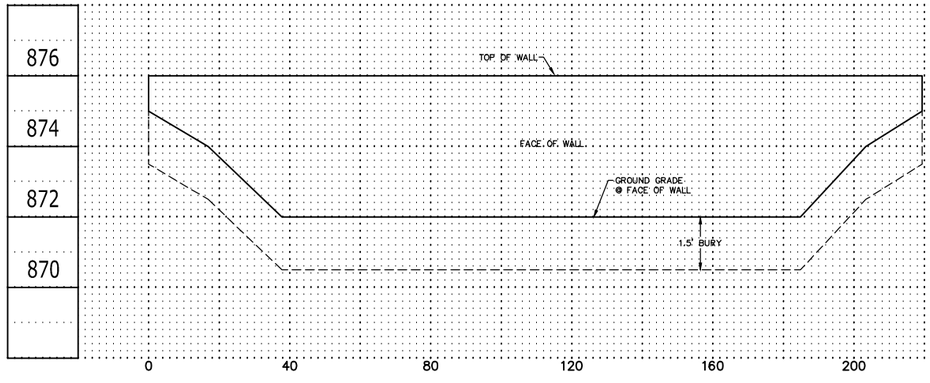
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(919 SF)



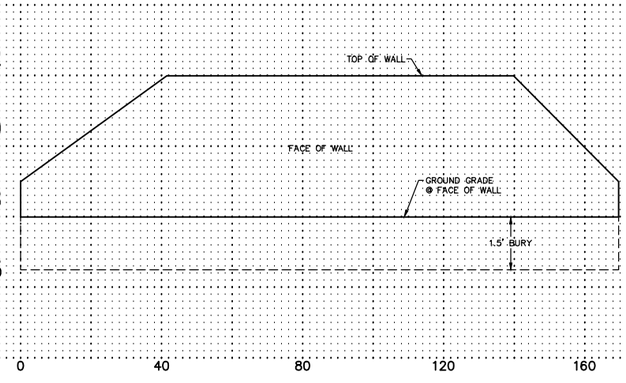
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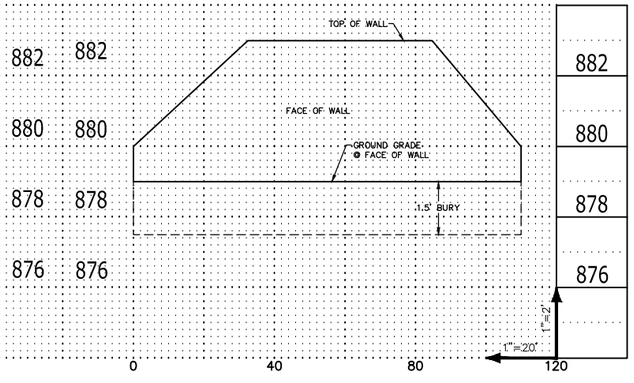
MODULAR RETAINING WALL #4
(1085 SF)



MODULAR RETAINING WALL #5
(830 SF)



MODULAR RETAINING WALL #6
(525 SF)



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Blaine, MN 55449
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature: DRAFT
Date: 3/08/17 License #: 25063

Drawn: BJK
Designed: BJK
Date: 3/08/17

Revisions:
1.

RIVERSTONE DEVELOPMENT, LLC.
14015 Sunfish Lake B, Suite 400
Ramsey, MN 55303

RIVERSTONE
Ramsey, MN

RETAINING WALL PROFILES

16 of 16

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Pearson Farm Residential Development

Environmental Assessment Worksheet



Draft, March 10, 2017

Responsible Governmental Unit (RGU)

City of Ramsey
Community Development
7550 Sunwood Drive NW
Ramsey, Minnesota 55303
http://www.cityoframsey.com/

City of Ramsey
Community Development
7550 Sunwood Drive NW
Ramsey, Minnesota 55303
http://www.cityoframsey.com/

Memo

To: Minnesota Environmental Quality Board
Environmental Review Distribution List

From: Tim Gladhill, Community Development Director

Date: March X, 2017

Subject: Pearson Farm Residential Development EAW

As the Responsible Governmental Unit (RGU), the City of Lake Ramsey is issuing this Environmental Assessment Worksheet (EAW) for the Pearson Farm Residential Development. The public comment period on this EAW begins when the public notice is published in the Minnesota Environmental Quality Board (EQB) Monitor on March X, 2017. A press release or public notice has been submitted for publication in the Anoka County Union Herald. Public comments on this EAW will be accepted by the City of Ramsey until 4:30pm on _____, 2017.

Environmental Assessment Worksheet (EAW)

Pearson Farm Residential Development

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Environmental Assessment Worksheet (EAW)

Pearson Farm Residential Development

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at: http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. Project Title: **Pearson Farm Residential Development**

2. Proposer:	Eagle Cove Land Company	**RGU:**	City of Ramsey
Contact person:	Stephen Bona	Contact person:	Tim Gladhill
Title:	Development Manager	Title:	Community Development Dir.
Address:	14015 Sunfish Lake Blvd.	Address:	7550 Sunwood Drive NW
	Ramsey, MN 55303		Ramsey, MN 55303
Phone:	(763) 427-3090	Phone:	(763) 433-9826
Fax:	(763) 712-9060	Fax:	(763) 433-9848
Email	stephen@capstonehomes-mn.com	Email	tgladhill@cityoframsey.com

4. Reason for EAW Preparation

Required:
- ☐ EIS Scoping
- ☑ Mandatory EAW

Discretionary:
- ☐ Citizen petition
- ☐ RGU discretion
- ☐ Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):
Minnesota Rules Part 4410.4300, Subp. 19.c (Residential development)

5. Project Location

County: Anoka County, Minnesota
City/Township: City of Ramsey
PLS Location (¼, ¼, Section, Township, Range): part of SW ¼ of Section 20 and part of NW ¼ of NW ¼ of Section 29, T32N, R25W
Watershed (81 major watershed scale): Mississippi River Twin Cities (20)
GPS Coordinates: 45.244662, -93.488471
Tax Parcel Number(s): 20-32-25-32-0001, 20-32-25-33-0001, 29-32-25-22-0004, 20-32-25-31-0003

At a minimum attach each of the following to the EAW:

- *County map showing the general location of the project;*
- *U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and*
- *Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.*

6. Project Description

a. Provide the brief project summary to be published in the EQB Monitor, (approximately 50 words).

The Pearson Farm Residential Development is proposed on 89.44 acres of land in southwestern Anoka County. The project will include up to 246 detached single-family homes and 98 attached townhome units. Site development will include installation of municipal sewer and water, mass grading, and stormwater features.

b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

The Pearson Farm Residential Development is proposed on 89.44 acres of land in the southwestern part of the City of Ramsey, Anoka County, Minnesota (**Figure 1**). The project area is dominated by cropland and has a history of agricultural use. The project is located in Sections 20 and 29, T32N, R25W (**Figure 2**). The project area is bordered on the north by Alpine Drive NW; on the east by Puma Street NW; on the south by the Burlington Northern Railroad and U.S. Highway 10/169, and the west by the Links at Northfork Golf Course.

The project will include up to 246 single-family homes and 98 townhome units, installation of municipal sewer and water, mass grading, and stormwater features. The project will convert approximately 85.48 acres of annually-tilled cropland and small areas of trees to streets, homes, lawns, landscaping, and stormwater features (**Figures 3 and 4**). The project will include about 20.60 acres of open space and stormwater features. The project area includes 1.02 acres of wetland distributed among three small basins. The two largest wetlands will be preserved and protected by buffers. The smallest wetland, which covers only 0.04 acre (1,738 square feet), will be eliminated by site grading necessary to create an emergency overflow for the largest wetland on the site.

The site includes sandy soils, 18 feet of topographic relief, and mostly gradual slopes. Graded ditch slopes along the south side of Alpine Drive NW range up to 20% (5:1), but the steepest natural slopes on the site are 12% and they cover only about a third acre. The site will be mass graded to install utilities, streets, residential building pads, and stormwater features. The southern edge of the site will include a raised berm to buffer the townhomes from the Burlington Northern railroad.

Approximately 4.4 acres in the northwest part of the site is located within 1,000 feet of Lake Itasca, which is Minnesota DNR (MN DNR) pubic water 2-110P.

Single-family lots will generally range from 50- to 65-feet wide and from 120 to 230 feet deep. Public streets are expected to be 28 feet wide and located within 60-foot rights-of-ways, except in two locations, where the right-of-way is proposed to narrow to 50 to allow for more open space. Trails will connect to neighborhood open spaces and Puma Street NW. Sidewalks will be constructed on one side of municipal streets. The development will operate under a homeowners' association.

Development of the project area will involve installation of public and private infrastructure, including streets, trails, municipal water and sanitary sewer, stormwater systems, electrical lines, and telephone lines. The project area will be served by City of Ramsey fire and police services and by the Anoka-Hennepin School District.

It is anticipated that construction of the development will start in summer 2017 and be phased over 5 to 10 years, depending on market conditions. Construction will generally be phased from the southeast to the northwest based on the extension of municipal water and sewer, which will be extended from the intersection of Puma Street NW and Bunker Lake Blvd NW, at the southeastern edge of the site. The number of phases will be determined by market demand and absorption. Infrastructure will be installed at the initiation of each construction phase. In most cases, streets, water main, and sanitary sewer will only be installed to serve the upcoming phase of construction. It may be necessary to initiate stormwater system construction at the start of each construction phase to properly treat stormwater and minimize potential effects of stormwater runoff.

c. Project magnitude:

Table 1. Project Magnitude

Characteristic	Number of Units
Total Project Acreage	89.44
Linear project length	NA
Number and type of residential units	246 (single-family detached)
Number and type of residential units	98 (multi-family attached)
Commercial building area (square feet)	0
Industrial building area (square feet)	0
Institutional building area (square feet)	0
Other uses – specify (acres)	NA
Structure height(s) (feet)	20-35

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of the Pearson Farm Residential Development is to provide a residential development with a variety of housing types in proximity to transportation corridors and open spaces. The project will be carried out by a private entity.

e. Are future stages of this development including development on any other property planned or likely to happen? ☐ Yes ☑ No
If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

Future stages are not planned or likely.

f. Is this project a subsequent stage of an earlier project? ☐ Yes ☑ No
If yes, briefly describe the past development, timeline and any past environmental review.

The project is not a subsequent stage of an earlier project.

7. Cover Types

Estimate the acreage of the site with each of the following cover types before and after development:

Table 2. Cover Types

Land Cover	Before (acres)[1]	After (acres)[2]
Cropland	85.48	0.00
Tree rows	1.82	0.96
Grassland	0.81	0.94
Wetlands	1.02	0.98
Lawn and landscaping	0.00	62.52
Impervious surface (developed)	0.31	14.54
Stormwater features	0.00	9.50
Totals	89.44	89.44

[1] Existing impervious surface includes part of Puma Street NW.

[2] After development wetland acreage assumes about 0.04 acre (1,738 square feet) of onsite wetlands will be impacted and will not require replacement.

Existing cover types are shown on **Figure 5**. Delineated wetlands are shown on **Figure 6**.

8. Permits and Approvals Required

List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.

Table 3. Permits and Approvals Required

Unit of Government	Type of Application	Status
City of Ramsey	EAW Decision	To be applied for
City of Ramsey	Comprehensive Plan Amendment	To be applied for
City of Ramsey	Rezoning	To be applied for
City of Ramsey	Concept Plan Approval	Submitted
City of Ramsey	Plat Approval	To be applied for
City of Ramsey	PUD Approval	To be applied for
City of Ramsey	Grading Permit	To be applied for
City of Ramsey	Building Permit	To be applied for
City of Ramsey	Stormwater Management and Erosion Control Approval	To be applied for
City of Ramsey	Municipal Water Connection Permit	To be applied for
City of Ramsey	Sanitary Sewer Connection Permit	To be applied for
Lower Rum River WMO	WCA Wetland Boundary/Type Determination	Approved
Lower Rum River WMO	WCA De minimis Exemption	To be applied for
Lower Rum River WMO	Watershed Permit	To be applied for
Metropolitan Council	Comprehensive Plan Amendment	Submitted
Minnesota Department of Health	Water Main Extension Approval	To be applied for
Minnesota Department of Natural Resources	Water Appropriation Permit	To be applied for
Minnesota Pollution Control Agency	NPDES/SDS General Permit	To be applied for
Minnesota Pollution Control Agency	Sanitary Sewer Extension Approval	To be applied for
U. S. Army Corps of Engineers	Wetland Delineation Concurrence / Jurisdictional Determination	Submitted
U. S. Army Corps of Engineers	Confirmation of RGP-003-MN Coverage	To be applied for

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land Use

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The project area has been in agricultural use since at least the 1930s. Crops grown on the site during 2016 include corn, soybeans, wheat and sorghum. Itasca Park, which is owned by the City of Ramsey, is located north of the project area, covers about 61 acres, and adjoins the southeast shore of Lake Itasca. Other surrounding land uses include residential to the northeast, agricultural cropland and one isolated residence to the east; the Burlington Northern Railroad, U.S. Highway 10/169, cropland, and commercial development to the south; and the Links at Northfork golf course and open grassland to the west (**Figure 7**).

Farmland ratings for soils mapped in the project area are listed in **Table 4** under **Item 10b** of this EAW. Of the five soil map units present in the project area, none are considered prime farmland, prime farmland if drained, or farmland of statewide importance.

ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

The City of Ramsey 2030 Comprehensive Plan shows the planned land use of the site as Low Density Residential (LDR, average of 4 lots/net acre), Medium Density Residential (MDR, average of 7 units/acre), High Density Residential (HDR, average of 15 units/acre), and Commercial. The City of Ramsey Master Park and Trail Plan shows 2030 Park System Plan shows proposed trails running east-west through northern and southern parts of the site. Mapping prepared by the Minnesota DNR shows Metro Conservation Corridors and Regionally Significant Ecological Areas (RSEA) in the vicinity of the project. These general planning areas for conservation and ecological management area centered on Itasca Lake and the Mississippi River.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

Zoning Overview

The City of Ramsey Zoning Map mirrors the City of Ramsey 2030 Comprehensive Plan for the project area. It shows the project area zoned for R-1 (Low-Density Residential [MUSA]), R-2 (Medium-Density Residential), R-3 (High-Density Residential), and B-2 (Business District). The Mississippi River Corridor Critical Area, which is overseen by the Minnesota DNR, and the Mississippi National River & Recreation Area, which is overseen by the National Park Service, is located southwest of the project area, across U.S. Highway 10/169. The project area does not fall in or near a wild and scenic river or an agricultural preserve. Shoreland overlay districts and floodplains are discussed below.

Shorelands

The shoreland overlay district of Lake Itasca (DNR public water 2-110P) extends over approximately 193,605 square feet (4.4 acres) in the northwestern part of the site (**Figure 8**). Lake Itasca has a Natural Environment shoreland classification and is located 600 to 1,000 feet north of the site. Lake Itasca is a shallow lake that covers about 130 acres. It has an Ordinary High Water (OHW) level of 871.4 feet (NGVD 29 Datum).

Development in shorelands is regulated under the City of Ramsey Shoreland Management Overlay District Ordinance (Section 117-221 to 117-229) and Minnesota Rules Part 6120. The Minnesota state legislature has delegated authority for regulation of development in shorelands of public waters to local government units as a means to preserve and enhance the quality of surface waters, conserve the economic and natural environmental values of shorelands, and provide for the wise use of waters and related land resources.

Shoreland is defined as land located within 1,000 feet from the OHW of a lake. However, the definition in the City of Ramsey City code and at MN Rules 6120.2500, Subp. 15 states that the "limits of shorelands may be reduced whenever the waters involved are bounded by topographic divides which extend landward from the waters for lesser distances and when approved by the [DNR] commissioner."

The shoreland on the project area is eligible to be reduced because Alpine Drive NW functions as a drainage divide. The project area will not drain north or affect Lake Itasca. The project area drains east through a culvert under Puma Street NW. Although a culvert exists under Alpine Drive NW at the north end of the site, the control elevation in the culvert is 870.4 feet. This control elevation is higher than the elevation of nearby delineated wetland boundaries and 0.7 feet higher than the wetland's 1% frequency flood elevation, which is 869.7 feet. Given these elevations, the proposed development is not predicted to affect Lake Itasca.

Floodplains

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Map Number 27003C0280E, dated December 16, 2015, shows an unnumbered Zone A 1% frequency floodplain of Lake Itasca located north of site and north of Alpine Drive NW (**Figure 8**). Flood Zone A includes special flood hazard areas subject to inundation by the 1% annual chance of flood. The Lake Itasca floodplain is outside the project area. The floodplain of the Mississippi River is located about 1,350 feet southwest of the project area, and at an elevation about 15 feet lower than the project area.

An analysis of Lake Itasca water levels under existing and future land uses was conducted for a previous development. That analysis showed that Lake Itasca does not outlet during 100-year snowmelt and rainfall events, but modeled water levels came close to reaching the outlet on the south side of the lake, so the City of Ramsey proposed to install an outlet for the lake. The City assumed that any outlet elevation would be above the OHW of 871.4 feet and the approximate 100-year flood elevation of 871.0 feet.

The proposed project will not affect the floodplain of Lake Itasca or the floodplain of the Mississippi River. The project will avoid floodplain impacts and comply with Lower Rum River Watershed Management Organization (LRRWMO) Stormwater Standards that require lowest floor elevations to be at least 3 feet above the highest anticipated groundwater table and 2 feet above the 100-year flood elevation, or 1 foot above the emergency overflow, whichever is greater.

b. *Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.*

The project is compatible with surrounding land uses, which include parkland, grassland, golf course, cropland, and residential. The City of Ramsey 2030 Comprehensive Plan guides the project area for Low Density Residential (LDR, average of 4 lots/net acre), Medium Density Residential (MDR, average of 7 units/acre), High Density Residential (HDR, average of 15 units/acre), and Commercial. The project area is currently zoned R-1 (Low-Density Residential [MUSA]), R-2 (Medium-Density Residential), R-3 (High-Density Residential), and B-2 (Business District). Although the proposed residential development is only partially compatible with the existing Comprehensive Plan and zoning, the project is designed to be compatible with nearby land uses, as discussed under **Item 9c** below.

c. *Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.*

The project will require a Comprehensive Plan Amendment to guide the site for LDR-Low Density Residential, which is intended for an average density of 4 units/acre. The proposed project has a gross density of 3.27 to 3.85 units/acre and a net density of 3.31 to 3.89 units/acre. The project area will be rezoned from a mix of uses to PUD-Planned Unit Development. The proposed project is compatible with the proposed land use, zoning, and surrounding land uses. Land use conflicts are not anticipated.

10. Geology, Soils and Topography / Land Forms

a. *Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.*

The Geologic Atlas of Anoka County, Minnesota (University of Minnesota Geological Survey 2011 and Minnesota DNR 2016) indicates the surficial geology of the area is characterized by terrace sand and gravelly sand that is located above the floodplain. The bedrock geology of the site falls in the Tunnel City Group and is dominantly quartz sandstone.

The estimated depth to bedrock in the project area, based on the Geologic Atlas, generally ranges between 100 and 250 feet. As indicated under **Item 11.a.ii**, the depth to bedrock in three nearby domestic wells ranged between 107 and 116 feet, and the depth to static groundwater in five nearby wells ranged between 28 to 41 feet.

Sinkholes and karst lands are not known to occur in western Anoka County where the project is located. Minnesota Karst Lands and Sinkhole Mapping prepared by Calvin Alexander and others (2006) does not shows karst lands or sinkholes in or near the project area.

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

The Web Soil Survey indicates the project area includes five soil mapping units that consist of mostly loamy sands (**Table 4, Figure 9**).

Table 4. Soil Classifications

Symbol	Soil Name	% of Area	% Hydric	Hydric Category	Farmland Category
D20A	Isan-Isan, frequently ponded, complex, 0-2% slopes	8.1	95	Predominantly hydric	Not prime farmland
D67A	Hubbard loamy sand, Mississippi River Valley, 0-2% slopes	55.1	1	Predominantly non-hydric	Not prime farmland
D67B	Hubbard loamy sand, Mississippi River Valley, 2-6% slopes	5.7	3	Predominantly non-hydric	Not prime farmland
D67C	Hubbard loamy sand, Mississippi River Valley, 6-12% slopes	13.4	0	Non-hydric	Not prime farmland
Dp	Duelm loamy sand, 0-2% slopes	17.7	7	Predominantly non-hydric	Not prime farmland

These soils have varying levels of limitations for dwelling units and local streets due to factors such as depth to saturated zone, frost action, ponding, and slope. Depth to saturation limitations are often associated with wetlands, which are addressed under **Item 11.a.i** below. Soils in the project area are generally considered slightly to moderately susceptible to the sheet and rill erosion by water, as indicated by slopes and K factors that range between 0.0 and 0.50.

Grading operations for residential development construction are expected to affect about 87 acres and involve movement of about 475,000 cubic yards of soil to construct streets, residential building pads, and stormwater features. Grading is expected to avoid disturbance of wetlands and trees that will be preserved, which cover about two acres within the project area.

Elevations in the project area range from 887 feet above mean sea level at the highest point in the northeast part of the project to 868 feet at the lowest onsite wetland. Review of two-foot contour mapping indicates the site has less than an acre of slopes that equal or exceed 12% and the site does not include any bluffs. Soils mapping does not classify any parts of site as having slopes of 12% or more (**Table 4, Figure 9**).

Development of the project area will disturb more than one acre of land and therefore will require application for coverage under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Permit administered by the Minnesota Pollution Control Agency (MPCA) prior to initiation of earthwork. In compliance with the General NPDES Permit for construction activities, the project proponent and construction contractor will need to implement Best Management Practices (BMPs) to reduce erosion and sedimentation and stabilize exposed soils after construction. Erosion and sedimentation control BMPs related to stormwater runoff are discussed in greater detail within **Item 11.b.ii**.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils *and topography/land forms and potential effects described in EAW Item 10.*

11. Water Resources

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

The project area includes three wetlands that were delineated by Kjolhaug Environmental Services on October 6, 2016 (**Figure 6, Table 5)**. Of the three wetlands, only Wetland 1 corresponds to a wetland location shown on National Wetlands Inventory (NWI) mapping **(Figure 10**). All three wetlands correspond to locations of predominantly hydric Isan soils (**Figure 9, Table 4**). There are no listed or mapped trout streams/lakes, wildlife lakes, migratory waterfowl feeding/resting lakes, or outstanding resource value waters in or near the project area.

Delineated wetland boundaries have been approved by the Lower Rum River Watershed Management Organization (LRRWMO) and wetland boundary approval from the U.S. Army Corps of Engineers (USACE) is pending. The LRRWMO is the local government unit administering the Minnesota Wetland Conservation Action (WCA). **Appendix A** includes the LRRWMO notice of decision approving the wetland boundary and type determinations. The site does not include any MN DNR public waters, public waters wetlands, or public watercourses.

Table 5. Wetlands on the Pearson Farm Residential Development site

Map ID	Acres Onsite	Classification			Dominant Vegetation
		Circ. 39	Cowardin	Eggers and Reed	
1	0.34	1	PEMAf	Seasonally flooded basin	Soybeans, reed canary grass
2	0.64	1	PEMAf	Seasonally flooded basin	Stunted corn, green bulrush
3	0.04	1	PEMAf	Seasonally flooded basin	Stunted corn
Total	1.02				

Impaired waters listed by the Minnesota Pollution Control Agency (MPCA) and located within 1 mile of the site include the Mississippi River (07010206-567), which is impaired for mercury and PCBs in fish tissue between the Crow River and the northwestern limits of the City of Anoka.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Depth to groundwater varies across the project area. Depth to surficial groundwater may be as little as one foot in the wetlands on the site during the spring. Depth to static groundwater levels based on domestic water wells located near the project area ranges from 28 to 41 feet (**Table 6, Appendix B**). Geotechnical borings completed by Northern Technologies on December 30, 2016, indicate the depth to groundwater ranged from about 4.5 to 18.5 feet below existing grade. This correlates to an approximate elevation range of 858.5 to 874.5 feet. Groundwater was at elevations of 858.5 to 860.5 feet in most of the borings where groundwater was encountered. The project area does not fall within a MDH wellhead protection area. Although a number of groundwater wells are located near the site, review of the Minnesota County Well Index did not identify any wells located onsite.

Table 6. Domestic Water Wells located near the Pearson Farm site

Well No.	Surface Elevation (feet)	Depth (feet)	Cased Depth (feet)	Depth to		Location (Direction from Site)	Aquifer
				Static Water Level (feet)	Bedrock (feet)		
541778	883	66	63	28	--	Southwest	Tunnel City-Wonewoc
227345	883	75	71	30	--	Southwest	Tunnel City-Wonewoc
430232	883	338	294	30	116	East	Tunnel City-Wonewoc
783804	885	155	113	28	107	Northeast	Tunnel City-Wonewoc
227037	886	156	141	41	110	Northeast	Tunnel City-Wonewoc

The project will be served by the City of Ramsey municipal water supply. The City has eight water supply wells that are all located at least one mile east of the project area.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

The project is expected to produce normal domestic wastewater that is typical of residential developments. The project will not include industrial wastewater production or onsite wastewater treatment.

Sanitary wastewater production for the project was estimated using methods described in the Sewer Availability Charge (SAC) Procedure Manual (Metropolitan Council 2017). Metropolitan Council has established 274 gallons per day (GPD) as the average daily wastewater production from a typical residential unit. Based on this residential equivalent, the project is expected to generate a maximum of 94,256 gallons of wastewater per day. An 18-inch sanitary sewer line will be extended from Bunker Lake Boulevard and Puma Street to serve the development area. The project will require installation of a sanitary sewer lift station along Puma Street to serve roughly the northern two-thirds of the site. The southern third of the site will be served by a gravity sanitary sewer main that will drain to Puma Street.

Domestic wastewater from the project will be routed through the City of Ramsey sanitary sewer system and ultimately to the Metropolitan Wastewater Treatment Plant (MWWTP) located on the Mississippi River near Pig's Eye Lake in St. Paul. With the capacity to treat 251 million gallons of wastewater per day (MGD), this is the largest wastewater treatment facility in Minnesota. The MWWTP is owned and operated by Metropolitan Council. The Metropolitan Council's 2040 Water Resources Policy Plan includes a specific plan to serve the region's projected growth through 2040 and a general plan to serve the region's growth far beyond 2040. The City of Ramsey and Metropolitan Council have planned for increased capacity to convey and treat sanitary wastewater. The proposed project is not expected to require expansion of wastewater treatment infrastructure or raise wastewater treatment capacity concerns.

2) *If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.*

Wastewater will not be discharged to subsurface sewage treatment systems.

3) *If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.*

Wastewater will be treated in the MWWTP described above and then discharged to the Mississippi River. The MWWTP is an advanced secondary wastewater treatment plant located on the east bank of the Mississippi River, approximately three miles south of downtown St. Paul. The plant began treating wastewater and incinerating sewage sludges in 1938. Treatment capability is maintained during times of flood by a levee and floodwall that protect the plant treatment area.

The plant uses an activated sludge process to remove phosphorus and ammonia nitrogen from wastewater prior to discharge to the Mississippi River. Sludge is processed by thickening, centrifugal dewatering, and fluidbed incineration with energy recovery (steam and electricity). These processing facilities were completed in 2004 as part of a major rehabilitation and upgrade program at the plant. At that time, six outdated multiple hearth incinerators were replaced with three fluid bed sludge incinerators, state-of-the-art air pollution control systems and an alkaline stabilization system that produces biosolids for agricultural utilization. Ash from incineration is disposed of in a landfill.

ii. *Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major*

downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

Pre-Construction Site Runoff

Soils in the project area are quite sandy and most precipitation likely infiltrates into the soils, resulting in little surface runoff. Surface runoff from the project area under existing conditions likely contains some sediment pesticides, fertilizers, and other nutrients. Existing runoff drains overland from the project area to local wetlands. Nearly the entire project area drains east through a culvert under Puma Street NW. From the culvert, runoff drains through an intermittent drainageway and wetlands to a point about 1.4 miles downstream from the project area, where the drainageway ends. Runoff appears to infiltrate into the ground at that location. Although the region contains highly permeable soils, some surface runoff may reach the Mississippi River during extreme runoff events.

Post-Construction Site Runoff

Compliance with LRRWMO, City of Ramsey, and NPDES requirements will minimize and mitigate potential adverse effects on receiving waters. Project development will change the land use from agricultural to residential use. This land use change is expected to have mixed effects on runoff water volume and quality. Residential development may reduce concentrations of agricultural chemicals, but may increase the loading of suspended solids during construction. Other typical components of impervious surface runoff, such as hydrocarbons and heavy metals, may also increase. Post-development runoff water quality will be typical of suburban developments, and will likely be slightly degraded by pollutants carried in runoff from streets, roofs, and driveways.

Residential project construction will add about 14.5 acres of impervious surface, consisting of streets, homes, and driveways. The increased impervious surface area is expected to increase in urban runoff pollutants and the volume of runoff during significant storm events. However, it is anticipated that stormwater rate and volume controls that comply with City of Ramsey and LRRWMO requirements will limit increases in runoff volume and associated pollutant transport to large storm events that occur infrequently. The creation of stormwater ponds and infiltration basins is expected to mitigate potential adverse effects from the increase in impervious surface.

The project will include approximately 6.5 acres of stormwater ponds and infiltration areas in compliance City of Ramsey and LRRWMO requirements (**Figures 3, 4 and 8**). The proposed design also includes excavation of a deep 3-acre pond. The deep pond will connect to the storm sewer system and discharge to the east under Puma Street NW, but it will not be designed as a stormwater pond and is not required to meet stormwater treatment requirements. However, the deep pond will serve some infiltration functions.

Section 117-392 of the of Ramsey City Code requires permanent stormwater pollution controls, including: (1) infiltrating or retaining the first inch of precipitation over the impervious surface of the site; (2) retaining the post-construction runoff volume onsite for the 95th percentile storm; and (3) no increase in the post-construction rate, volume, and duration of runoff over existing conditions for the

one- and two-year storms. Section 117-394 of the City Code protects natural wetlands from the discharge of stormwater without appropriate treatment for water quality and runoff quantity control. The minimum treatment required for discharge to wetlands is to meet NURP Guidelines, which include a dead storage treatment pond volume at least equal to the runoff from a 2.5 inch storm over the entire contributing area assuming full development, an average pool depth of more than 3, and a maximum depth of 10 feet. LRRWMO Stormwater Standards require stormwater basins designed to store the volume of the 100-year storm; stormwater treatment to NURP standards prior to discharge to a lake, stream, wetland, or offsite; and infiltration of a runoff volume equal to 1 inch from all impervious surfaces onsite.

Potential adverse effects of runoff volume and quality will be mitigated by the construction of stormwater basins designed to manage peak runoff rates, runoff volume, and water quality. Impervious surface runoff from storm events will be retained in four stormwater ponds and one or two infiltration basins until it is discharged at or below existing peak runoff rates. Wetlands on the site provide potential for additional runoff storage and infiltration. Treated stormwater runoff from the site will be routed east under Puma Street NW into an existing intermittent drainageway, and eventually into the City's storm sewer system that ultimately reaches the Mississippi River. Proposed discharge flow rates will be equal to or less than the existing flow rates.

Stormwater ponds designed to NURP criteria are considered effective in removing sediment, pollutants, and nutrients, as discussed in Protecting Water Quality in Urban Areas: Best Management Practices for Dealing with Storm Water Runoff from Urban, Suburban and Developing Areas of Minnesota (MPCA 2000). The NURP research projects conducted by the U.S. EPA concluded that 90% removal of total suspended solids was an attainable goal, and that significant removal of other pollutants, such as phosphorus, was also achievable. Although nutrient removal efficiency varies with site conditions, well-designed wet ponds and constructed wetland treatment systems are effective in removing sediment and associated pollutants, such as trace metals, nutrients and hydrocarbons. Stormwater basins also remove or treat oxygen-demanding substances, bacteria and dissolved nutrients.

Other BMPs such as vegetative buffer strips are expected to filter sediment and nutrients from runoff before it reaches wetlands and surface waters, mitigating potential effects on water quality. LRRWMO Wetland Protection Standards require establishment of native vegetation within a 16.5-foot-wide buffer strip around wetland boundaries. Temporary sediment basins will be necessary to comply with the MPCA General Stormwater Permit for Construction Activity and to manage stormwater discharge during construction.

Stormwater and Erosion Control BMPs

Because project construction will involve disturbance of more than one acre of land, the project proponent will be required to apply to the MPCA for coverage under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Permit prior to initiating earthwork on the site. BMPs will be employed during construction to reduce erosion and sediment loading of stormwater runoff. Inspection of BMPs will be required after each rainfall exceeding 0.5 inches in 24 hours, and on a routine basis every 7 days. The NPDES permit will also

require perimeter sediment control maintenance and sediment removal. BMPs to be implemented during construction include:

1. Construction of temporary sediment basins in the locations proposed for stormwater ponding, and development of these basins for permanent use following construction.
2. Installation of silt fence and other perimeter erosion controls prior to initiation of earthwork and maintenance of these controls until viable turf or ground cover is established on exposed areas.
3. Periodic street cleaning and installation of a rock construction entrance to reduce tracking of dirt onto public streets.
4. Stabilization of exposed soils within the time limits specified in the General NPDES permit.
5. Energy dissipation, such as riprap, installed at storm sewer outfalls.
6. Use of cover crops, native seed mixes, sod, and landscaping to stabilize exposed surface soils after final grading.

Erosion control plans will be reviewed and accepted by the City of Ramsey and the LRRWMO prior to project construction. Potential adverse effects from construction-related sediment and erosion on water quality will be minimized by implementation of the above BMPs during and after construction.

iii. Water Appropriation. Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Surface/Groundwater Appropriations and Dewatering

Project construction is expected to require dewatering and groundwater appropriation to facilitate installation of sanitary sewer and excavation of a deep 3-acre pond, but the project will not involve installation of new water wells. Project development will require a MN DNR water appropriation permit if dewatering required for installation of utilities exceeds 10,000 gallons/day or 1 million gallons/year. If construction dewatering does not exceed 50 million gallons in total and a duration of one year from the start of pumping, the project proponent will be eligible for coverage under the amended MN DNR General Permit 1997-0005 for temporary water appropriations. Although the extent and duration of construction dewatering that may be necessary is currently unknown, construction dewatering is expected to be unnecessary or temporary. Groundwater appropriated for construction dewatering will be discharged to temporary sediment basins within the project area. It is not anticipated that construction dewatering will be extensive or continue long enough to affect nearby domestic water wells.

Well Abandonment

The project area does not include any existing wells, as indicated from review of the site, the project survey, and the Minnesota County Well Index. The project is not expected to involve well abandonment.

Connection to a Public Water Supply

The project will be connected to the City of Ramsey municipal water supply. The City of Ramsey draws its public water supply from the Tunnel City-Wonewoc aquifer. The City currently maintains eight municipal wells that are all located at least one mile east of the project area (**Table 7**). These existing wells have a combined permitted capacity to pump 6,800 million gallons of water per year (MGY).

Table 7. City of Ramsey Municipal Water Appropriation Permits

Permit No.	Well No.	Permitted Volume (MGY)	Max Use 2010-2015 (MGY)
1985-6005	161441	850	141.611
1985-6005	416183	850	5.462
1985-6005	580303	850	164.864
1985-6005	580313	850	194.032
1985-6005	593672	850	79.897
1985-6005	706840	850	138.082
1985-6005	743832	850	118.526
1985-6005	743833	850	117.421
Total		6,800	959.895

During 2010-2015, these wells used a maximum of 960 million gallons per year. Based on past use and permitted capacity, the existing municipal wells have sufficient surplus capacity to serve the proposed project. A 16-inch trunk water main will be extended from Bunker Lake Boulevard and Puma Street to serve the development area. Water flow, pressure, and storage will be adequate to serve the development area. As indicated under **Item 11.a.ii**, the project is not located in or near a wellhead protection area.

iv. Surface Waters

a) Wetlands. Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

Background

Wetlands in and near the project area are generally regulated by the Lower Rum River Watershed Management Organization (LRRWMO), which administers the Minnesota Wetland Conservation Act (WCA) in the project area; the U.S. Army Corps of Engineers (USACE), which administers Section 404 of the Federal Clean Water Act (CWA). The project area includes three delineated wetlands that are identified on **Figure 6**.

Physical Effects and Alterations

Construction of an emergency overflow from Wetland 2 is expected to result in physical effects that will eliminate the existing wetland hydrology of Wetland 3. Wetland 3 is a 1,738-square-foot Type 1 seasonally-flooded, farmed wetland that was dominated by stunted corn at the time of the wetland delineation. The proposed 1,738 square feet of wetland impact falls below the 2,500-square-foot de minimis exemption threshold, which applies to wetlands in a 50 to 80 percent area (e.g., Anoka County) under the Minnesota Wetland Conservation Act "except for type 3, 4, 5, or 8 wetland or white cedar and tamarack wetland, outside of the shoreland wetland protection zone and inside the 11-county metropolitan area." (MN Rules 8420.0420, Subp. 8(2)(b). The proposed wetland impact also falls below the 5,000-square-foot wetland sequencing/compensatory mitigation threshold administered by the U.S. Army Corps of Engineers under RGP-003-MN, General Condition 1.

The other wetlands on the site will be avoided. LRRWMO Wetland Protection Standards will require establishment of native vegetation within a 16.5-foot-wide buffer strip around these wetlands.

b) Other Surface Waters. Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

The proposed project is not expected to affect other surface water features such as lakes, streams, ponds, intermittent channels, or county/judicial ditches. The Mississippi River is located approximately 1,400 feet southwest of the project and will not be affected by the project. The site does not include other surface waters and the proposed project will not affect any MN DNR pubic waters. Although the National Hydrography Dataset shows a flowline running southeast through Wetlands 2 and 3, across the northeastern part of the site, this flowline was not observed in the field during the wetland delineation. Field investigation of this area found that it was dominated by corn with areas of green bulrush and intermittent inundation. The area did not include a drainage channel.

12. Contamination / Hazardous Materials / Wastes

a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed

landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

The project area has been used as cropland since at least the 1930s. The site is not known to include environmental hazards and the agricultural land use history suggests a low potential for environmental contamination. The project area is not known to include previous building sites, disposal areas, storage tanks, pipelines, or utility corridors. Carlson McCain completed a Phase I Environmental Site Assessment for the property in November, 2016, and did not identify recognized environmental conditions their assessment.

A review of the MPCA's "What's in My Neighborhood" (WIMN) database identified one Leak Site in close proximity to the proposed project. Leak Site 6487 is located about 400 feet southwest of the project, across the Burlington Northern Railroad and Highway 10/169. The leak involved the release of an unknown quantity of diesel fuel on the David Nathe Farm. The leak was discovered on June 28, 1993, reported to the MPCA on June 30, 1993. The leak site closed by the MPCA on April 24, 1996. Available information suggests the site was properly investigated and that the site does not affect the project area.

b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

Project construction activities will generate wastes typical of residential development operations. Most solid waste is expected to include organics, paper, other waste, and plastic (**Table 8**).

Table 8. Estimated Solid Waste Composition

Waste Type	Estimated %
Organic	31.0
Paper	24.5
Other	18.3
Plastic	17.9
Hazardous	0.4
Metal	4.5
Glass	2.2
Electronics	1.2
Total	100.0

Source: 2013 Statewide Waste Characterization (Burns & McDonnell for MPCA 2013).

Neither the construction process nor the proposed residential development is expected to generate substantial solid or hazardous wastes, solid animal manure, sludge, or ash. The construction

contractor will be required to dispose of wastes generated at the site during construction using approved methods and facilities. The contractor will minimize and mitigate adverse effects from solid waste generation and storage by recycling construction waste to the degree practicable. Brush and tree waste generated by construction will likely be chipped or otherwise recycled rather than burned on site.

Residents and in the new development will contract individually with waste haulers for solid waste collection and recycling services under the City's open trash and recycling collection system, which uses eight licensed waste haulers. Curbside recycling, including paper, plastics, glass, and metals is available to City of Ramsey residents through their solid waste collector. Participation in the recycling program by future residents of the project area is expected to reduce the volume of solid waste generated by the project.

Solid waste generated in the City of Ramsey that is not recycled or hazardous is delivered to the Elk River Resource Recovery Station. The Elk River Energy Recovery Station convert refuse derived fuel (RDF) from mixed municipal waste into energy. Using waste to generate electricity provides an efficient disposal method for garbage and prevents garbage from going to landfills.

c. *Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.*

Development of the project area is not expected to generate or require storage of substantial amounts of hazardous wastes or materials. Future residential development is expected to result in the storage or generation of small amounts of typical household cleaners, paints, lubricants, and small engine fuels over time. Petroleum storage tanks and commercial petroleum-based businesses are not proposed in the project area.

d. *Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.*

Normal construction and household hazardous wastes are anticipated. Toxic or hazardous materials such as fuel for construction equipment and materials used in the construction of homes (paint, adhesives, stains, contaminated rags, acids, bases, herbicides, and pesticides) will likely be used during site preparation and home construction. Spills of these materials is not likely to occur, but a substantial spill could notification of the Minnesota Duty Officer. Contractors and builders will be responsible for proper management and disposal of wastes generated during construction. Homeowners will be responsible for management and disposal of hazardous waste thereafter. Homeowners will be able to dispose of household hazardous waste at the Anoka County Household Hazardous Waste Facility.

13. Fish, Wildlife, Plant Communities and Sensitive Ecological Resources (Rare Features)

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

Fish and wildlife resources on and near the site are related to the composition, quality, size, and connectivity of plant communities such as cultivated cropland, wetlands, woodlands, and grasslands. Vegetative cover types on the project area were mapped based on aerial photography, the wetland delineation, and field reviews (**Figure 5**). The project area is roughly 96% cropland, 2% tree rows, 1% wetland, and 1% grassland. Habitats in the project area are likely used by wildlife adapted to agricultural and suburban environments, such as white-tailed deer, songbirds, small mammals, and amphibians.

The project area falls in the Anoka Sandplain Ecological Subsection of the MN DNR Ecological Classification System and the Anoka Sand Plain and Mississippi Valley Outwash of the Level IV Ecoregion of the U.S. EPA. This area consists of a flat, sandy lake plain and terraces along the Mississippi River. The area includes row crops, small grains, suburban development, wetlands, woodlands.

Most of the project area has limited wildlife habitat value because it is occupied by annually tilled agricultural crops. Cropland consisted of corn, soybeans, and wheat during 2016. Wetlands in the project area were dominated by stunted crops, reed canary grass, and green bulrush (**see Table 5**). Tree rows included elm, aspen, boxelder, pines, and red cedar. Grassy field edges were dominated by smooth brome, and Kentucky bluegrass.

*b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (**LA-732**) and/or correspondence number (**ERDB 2017____**) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.*

The MN DNR queried the Natural Heritage Inventory System (NHIS) to assess whether known locations of rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the project area (**Appendix C**). Kjolhaug Environmental Services also queried a licensed copy of the NHIS database. The NHIS review identified six records of rare species and sensitive natural communities.

Observations of Blanding's turtles (*Emydoidea blandingii*), a state threatened reptile, were recorded in 1989 and 1995 at locations north and east of the project area. One observation occurred on or near the Itasca Park and the other occurred in an area that currently includes a mix of cropland, suburban development, and wetland.

Blanding's turtles prefer calm shallow water, rich aquatic vegetation, and select open grassy uplands with sandy soils for nesting. The project area includes potential Blanding's turtle habitat consisting of wetlands and sandy soils, but does not include much grassland. The best Blanding's turtle habitat

includes wetland complexes larger than 10 acres that are surrounded by open sandy uplands. Blanding's turtles do not typically lay eggs under forest cover.

Other rare feature records included three observations of the black sandshell mussel (*Ligumia recta*), and one record of a silver maple floodplain forest. These features were found along the Mississippi River. The black sandshell is a state-listed special concern species. None of the NHIS records represent federally threatened and endangered species.

Online information on rare species information maintained by the U.S. Fish and Wildlife Service (USFWS) was also reviewed for the project area. The project area falls within the occupied range of the federally threatened northern long-eared bat (*Myotis septentrionalis*). The northern long-eared bat (NLEB) roosts and forages in forests during spring and summer and hibernates in caves and mines during winter., sometimes swarming in wooded areas near caves in autumn. The USFWS listed the NLEB as threatened under the Federal Endangered Species Act (ESA) on April 2, 2015. Although the project area includes about 1.8 acres of woodland and is located in the white-nose syndrome zone defined under the Final 4(d) Rule, there are no known incidental, breeding, or hibernacula records of NLEBs occurring within one mile of the project area.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

Project development is expected to convert about 85.5 acres of cropland and 0.9 acres of trees to residential land uses, including roads, homes, lawns, landscaping, and stormwater ponding. The project may affect the number and type of wildlife species in the area, but changes in wildlife abundance are not expected to be regionally significant. The existing croplands provide wildlife food, but have limited value as wildlife cover. Wildlife species that depend on agricultural cropland will be displaced by the project. The project will likely have short-term negative effects and long-term positive effects on species adapted to suburban habitats. Non-migratory species with small home ranges such as small mammals may experience more adverse effects, including mortality during project construction.

Development of the project area is not expected to have substantial effects on rare species and sensitive natural communities. Four of the six rare occurrences identified during the MN DNR NHIS review were associated with the Mississippi River, which is south of the project area and will not be physically affected by the project. These include three occurrences of black sandshell and one record of a silver maple floodplain forest.

The project may have effects on Blanding's turtles that may occur in the area. To minimize potential adverse effects on turtles and their mobility, the project will avoid most wetlands, implement stringent sediment and erosion controls, consider the use of surmountable curbs on roadways, and consider using erosion control materials constructed of organic fibers rather than plastic.

The project is not considered likely to affect the northern long-eared bat (NLEB) because the project area includes mostly cropland, few trees, which is not considered characteristically suitable NLEB

habitat. The white nose syndrome buffer zone map and the Minnesota NLEB bat occurrence maps available from the USFWS and the MN DNR indicate there are no NLEB maternity roost colonies or hibernacula known to occur within 1 mile of the project area.

Although project construction could be expected to slightly increase the potential for the spread of invasive and weedy species, the project area has been disturbed by agricultural use for decades. BMPs may include the cleaning of construction equipment before transport, which might reduce the potential spread of invasive species.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Measures to minimize and mitigate adverse effects on wildlife include the preservation of about 1 acre of wetlands, about 1 acre of trees, establishment of native grassland buffers along wetland edges, and creation of approximately 9.5 acres of stormwater features.

14. Historic Properties

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

A search of the historical property information database was requested from the Minnesota State Historic Preservation Office (SHPO) for the project area to assess whether known historic structures or archaeological sites exist in the project vicinity. The SHPO queried the Minnesota Archaeological Inventory and Historic Structures Inventory, and did not identify any archaeological sites or historic structures known to exist in the project vicinity. Correspondence from the SHPO is included in **Appendix D**.

The project site has relatively flat topography and a history of agricultural tillage, which suggests the site has relatively low potential for undiscovered intact archaeological material. Although the potential for project effects on historic and archaeological resources has not been investigated in detail, the initial cultural resource screening did not identify potential for effects on known historic resources.

15. Visual

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

There are no scenic views or vistas located on or adjacent to the project area. Substantial effects on visual resources are not anticipated in conjunction with project development. Project development is expected to result in routine effects on visual resources. The project will not involve installation of intense lights that would cause glare, nor will it include industries that would emit vapor plumes.

16. Air

a. Stationary source emissions. Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

The proposed project does not include heavy industrial facilities or stationary source air emissions.

b. Vehicle emissions. Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

The proposed project will generate increased traffic, which will generate a relatively small corresponding increase in carbon monoxide, carbon dioxide and other vehicle-related air emissions. Project development is expected to have a negligible effect on air quality. The project does not include air quality monitoring, modeling, or measures to mitigate effects on air quality.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

The project is not expected to generate dust or odors at levels considered unusual for suburban development construction practices. Odors, noise, or dust produced during construction is expected to be consistent with applicable regulations of the MPCA and local governments. Dust, odors, and noise levels are expected to be slightly higher during project construction than project operations.

The construction process is expected to generate some fugitive dust, but dust is not expected to be generated in objectionable quantities. The dust receptors nearest to the project area include the residential areas northeast and east of the site. Odors routinely generated during construction will be typical of those associated with construction activity, such as exhaust from diesel and gasoline powered construction equipment.

Consideration will be given to suppression of airborne dust by application of water if fugitive dust generation during site grading exceeds levels typically expected during normal construction practices.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise

levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

It is anticipated that local noise levels will temporarily increase during project construction, but noise levels are expected to be at or near existing levels after construction is complete. Noise levels on and adjacent to the project area will vary considerably during construction, depending on the amount of construction that occurs simultaneously, the time of operation, and the distance between construction equipment and receptors. The noise receptors nearest to the project area include the residential areas northeast and east of the site. Noise generated by construction equipment and residential building construction will be limited primarily to daylight hours when noise levels are commonly higher than at night.

18. Transportation

a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

Spack Consulting completed a Traffic Impact Study to estimate the trips generated by the proposed residential development and evaluate the potential need for transportation or roadway improvements. The complete Traffic Impact Analysis is included in **Appendix E**.

Existing and Proposed Parking Spaces

The project area does not include any parking stalls under existing conditions. The proposed 246 single-family lots and 98 multi-family homes will include off-street parking and garages to accommodate parking for the residential units.

Estimated Traffic Generation

Trip generation was estimated using the methodology outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition (2012). Future trip generation estimates were based on traffic generated by 246 single-family and 98 multi-family residential units. The residential development is expected to generate a total of 2,912 average daily trips, including 1,456 vehicles entering the site and 1,456 vehicles exiting the site (**Table 9**).

Table 9. Project Trip Generation Estimates

Land Use	ITE Code	No. of Units	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
Single-family detached housing	210	246	2,342	46	138	184	155	91	246
Multi-family attached housing	230	98	570	7	36	43	34	17	51
Total		344	2,912	53	174	227	189	108	297

Spack Consulting has completed trip generation studies in the Twin Cities Metropolitan Area and found local trip generation rates for residential uses to be lower than the comparable ITE rates. For the purposes of this study, ITE trip generation rates were used to provide a conservatively high estimate.

The peak hour traffic in the study area occurs between 4:45 and 5:45PM. Based on recent traffic counts, it is expected that traffic from the project will also peak during this time. Within this peak hour, the residential project is expected to generate 297 trips, consisting of 189 entering vehicles and 108 exiting vehicles. The Traffic Impact Study included in **Appendix E** provides a full description and analysis of the peak hour traffic and traffic recommendations.

Availability of Transit and Alternative Transportation

The Ramsey Metro Transit Station is located about 1.5 miles southeast of the project area along the railroad and Highway 10/169. The station includes a park and ride lot and access to the Northstar Commuter Rail Line. The Northstar Line offers service between Big Lake and downtown Minneapolis, stopping at stations in Elk River, Ramsey, Anoka, Coon Rapids and Fridley.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: http://www.dot.state.mn.us/accessmanagement/resources.html) or a similar local guidance.

Effects on Traffic and Roadways

The Traffic Impact Study concluded that the proposed project will have minimal effects on adjacent public roads and that nearby intersections will continue to operate at an overall Level of Service (LOS) A (**Appendix E**). The principle findings of the Traffic Impact Study are:

1. All Study intersections are all well within their capacity range and the proposed development traffic is not predicted to cause significant delays or congestion on the local roadway system.
2. Study area intersections, as described in the Traffic Impact Study, are expected to continue to operate at an overall LOS A during the AM and PM peak hours.
3. The proposed site access points are sufficient to service the expected site generated traffic.

The Traffic Impact Study analyzed the extended traffic forecast to the year 2040. The extended forecast included traffic generated by the proposed project and background traffic growth. Under this forecast, all intersections continue to operate at an acceptable LOS during peak hours of operation causing minimal effects on adjacent public roadways and intersections.

The traffic that will be generated by the proposed project does not raise capacity or safety concerns. Traffic generated by the project will have little effect on the regional transportation system. Intersections surrounding the site will continue to operate at acceptable levels of service with the addition of traffic generated by the proposed project.

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

The Traffic Impact Study concluded that the study area intersections and roadways have sufficient capacity to accommodate the expected daily and peak hour trips. The study predicted that the existing road network surrounding the project area will safely and efficiently accommodate the traffic generated by the proposed development without safety or capacity improvements.

The Traffic Impact Study included a review of the MnDOT Access Management Manual and related turn treatment warrants. Due to the speed limits along Puma Street and Alpine Drive being lower than 45 MPH, turn lane treatments are not warranted. If the speed limits along Puma Street or Alpine Drive is increased to 45 MPH or higher the Turn-Lane Warrants should be re-evaluated. The City of Ramsey and the project proponent will coordinate the necessary details to address street improvements at these locations. The full turn lane analysis is provided near the back of **Appendix E.**

The project will include internal sidewalks to help facilitate safe pedestrian, bicycle, and traffic mobility within the residential project and the adjoining sidewalk/trail network. An addition of a sidewalk/trail along the southern side Alpine Drive should be considered stretching from the site access to the Puma Street and Alpine Drive intersection. An additional crosswalk should also be considered, connecting pedestrians north to the existing sidewalk/trail along the northern side of Alpine Drive. The addition of internal sidewalk/trail connections will help improve safety and stimulate use of alternative modes of transportation, lowering the overall number of vehicle trips expected at the site. The detailed Traffic Impact Study includes a full description of the existing and future traffic, with recommendations for the proposed project (**Appendix E**).

19. Cumulative Potential Effects

Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items.

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

It is anticipated that the project area will develop over the next 5 to 10 years, but the actual timing of development could vary depending on the demand for housing and market conditions. Other projects are expected to develop in the City of Ramsey during this time period. These projects and their geographic locations are described under **Item 19.b** below.

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

The City of Ramsey is reviewing and has recently approved several other development projects that are located 0.15 to 4.4 miles from the Pearson Farm development site (**Table 10**). These projects range from a trailer sales display lot to a 141-lot residential subdivision.

Table 10. Other Projects in the City of Ramsey

Name	Description	Status	Distance/Direction from Pearson Farm
Northfork Alpine Addition	4 rural single-family residential lots	Approved	0.15 mile west/northwest
Pearson Bowers Drive	13 rural single-family residential lots	Under review	0.6 mile south
Brookview Addition	11 rural single-family residential lots	Under review	4.4 miles northeast
Rum River on the Green	2 rural single-family residential lots	Approved	4.1 miles northeast
Sunwood Village	47 unit apartment building	Approved	1.0 mile east-southeast
McDonald's	Restaurant	Approved	0.9 mile east-southeast
COR Three North Commons	13 sewered single-family residential lots	Approved	1 mile east
Woodlands	85 sewered single-family residential lots	Partially approved	1.7 miles northeast
Harvest Estates	44 sewered single-family residential lots	Approved	3.6 miles east
Brookfield Subdivision	141 sewered single-family residential lots	Partially approved	2.9 miles northeast
Vistas North Commons	12 sewered single-family residential lots	Under review	0.9 mile east-southeast
Stonebrook Academy	Early childhood learning	Under review	1.1 mile east-southeast
Aeon Housing	40-60 unit apartment building	Under review	1.4 miles east-southeast
Regency Commons	Self-storage facility	Under review	1.8 miles east
Station	77 townhome units	Approved	1.7 miles east-southeast
Parkview East	121 unit apartment building	Approved	1.7 miles east-southeast
M & G Trailers	Display lot	Approved	1.5 miles east-southeast

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Reasonably foreseeable future projects may combine with the proposed project to result in cumulative effects on municipal infrastructure and natural resources. The potential for cumulative effects varies with the type of resource affected and the geographic area of impact.

Potential cumulative effects on public infrastructure relate to municipal water supply systems, sanitary sewer conveyance and treatment systems, stormwater management systems, and traffic and transportation systems. The City of Ramsey has planned for continued growth and expanded infrastructure system capacity to address these effects and serve anticipated future projects. The City of Ramsey will consider the timing and staging of other development proposals within the context of

the Comprehensive Plan and related growth management tools at the time that such proposals are brought forward. Over time, much of Ramsey may develop into a combination of residential, commercial, and public uses. Consequently, cumulative effects on public infrastructure are not expected to be significant.

Potential cumulative effects of anticipated future projects on natural resources depend largely on the type, density, and location of future developments. Potential effects on natural resources such as wetlands and wildlife habitat typically vary with project location and the extent of habitat diversity. Effects of the project on wetlands, vegetation communities, and wildlife resources may combine with effects of nearby or nearly concurrent projects in a manner that results in local and subtle cumulative effects. Cumulative effects of suburban development on natural resources can include the loss of agricultural land and the loss and fragmentation of wildlife habitat. Surface water runoff from the project area will infiltrate into the soil and some treated runoff may discharge to the Mississippi River. However, the highly-regulated nature of stormwater runoff and the ubiquitous implementation of BMPs to control erosion and sedimentation is expected to minimize cumulative effects of post-development runoff on downstream waters. The policies and regulations set forth by the City of Ramsey, the Lower Rum River Watershed Management Organization, and other government agencies provide the impetus for certain mitigation measures discussed in this EAW. These mitigation measures will help ensure the minimization of cumulative effects on the environment and the capacity for municipal services.

20. Other Potential Environmental Effects

If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No other additional environmental effects are anticipated as a result of development of the project area. Potential environmental effects have been addressed in **Items 1** through **19**.

RGU CERTIFICATION.

(The Environmental Quality Board will only accept SIGNED Environmental Assessment Worksheets for public notice in the EQB Monitor.)

I hereby certify that:

- *The information contained in this document is accurate and complete to the best of my knowledge.*
- *The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.*
- *Copies of this EAW are being sent to the entire EQB distribution list.*

Signature _____ Date _____

Title _____

Figures 1 – 10

Pearson Farm Residential Development EAW

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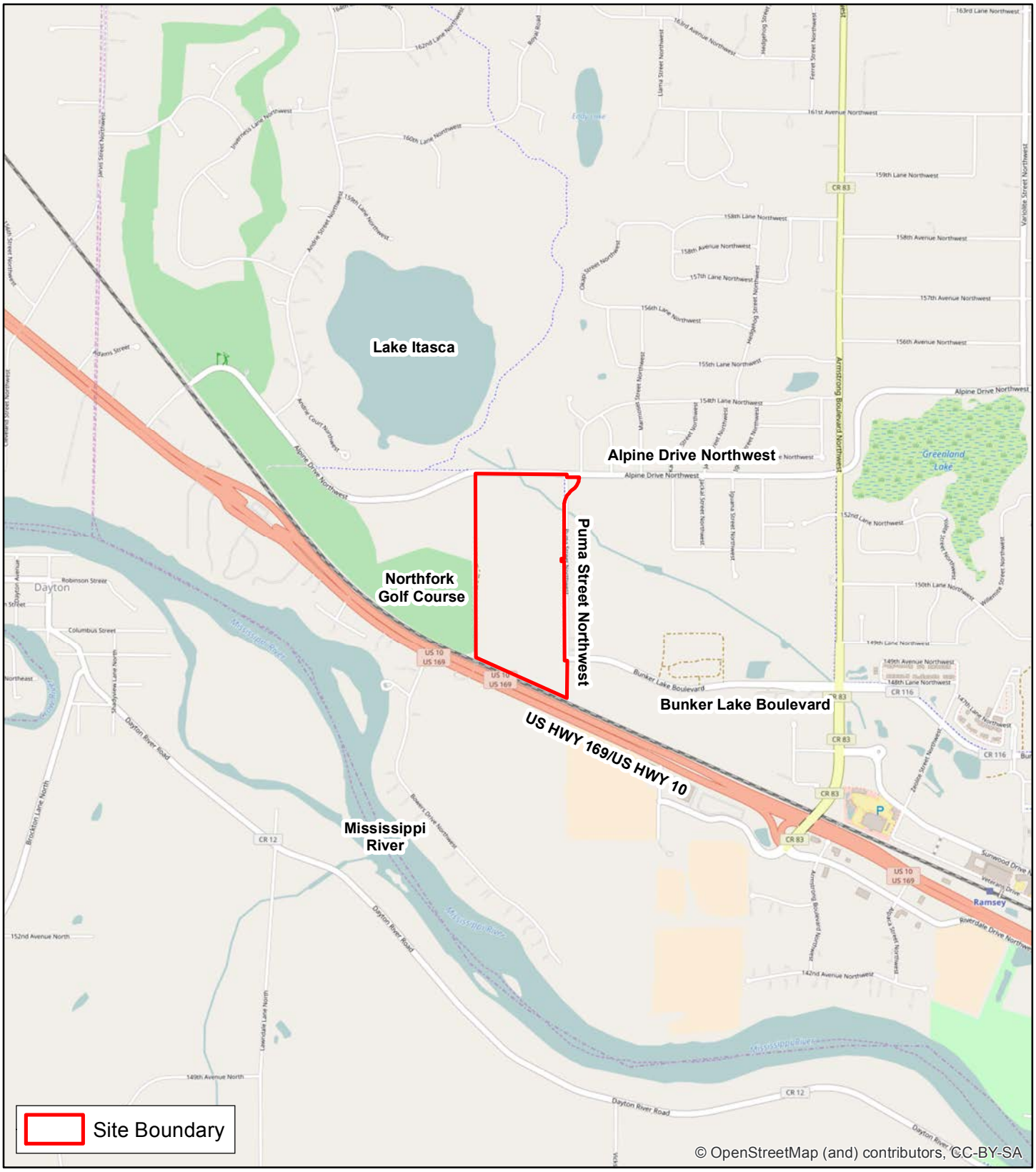


Figure 1 - Site Location

N

0 2,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

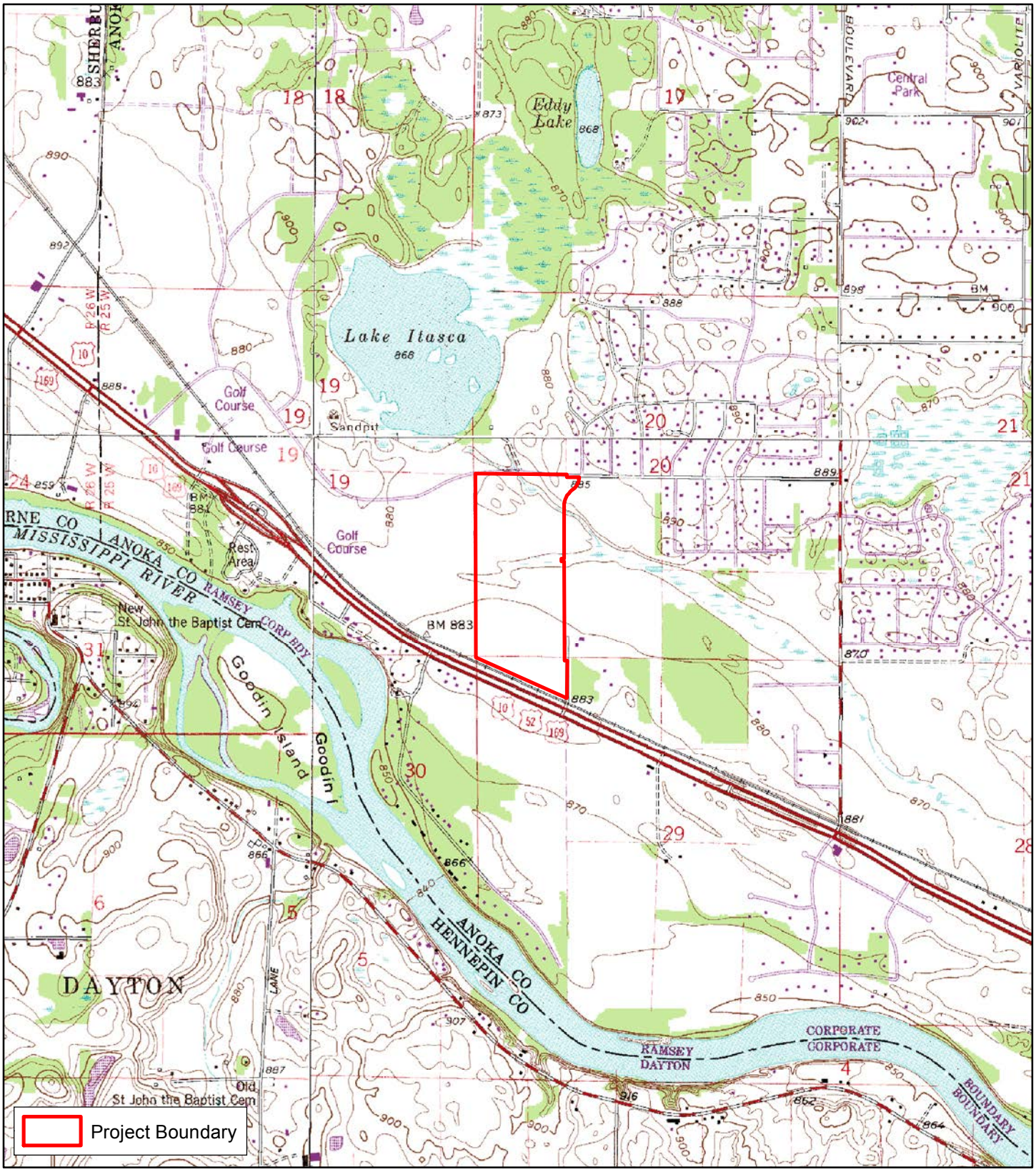


Figure 2 - USGS Topography

N

0 2,000 Feet

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MnGeo, ESRI Imagery Basemap

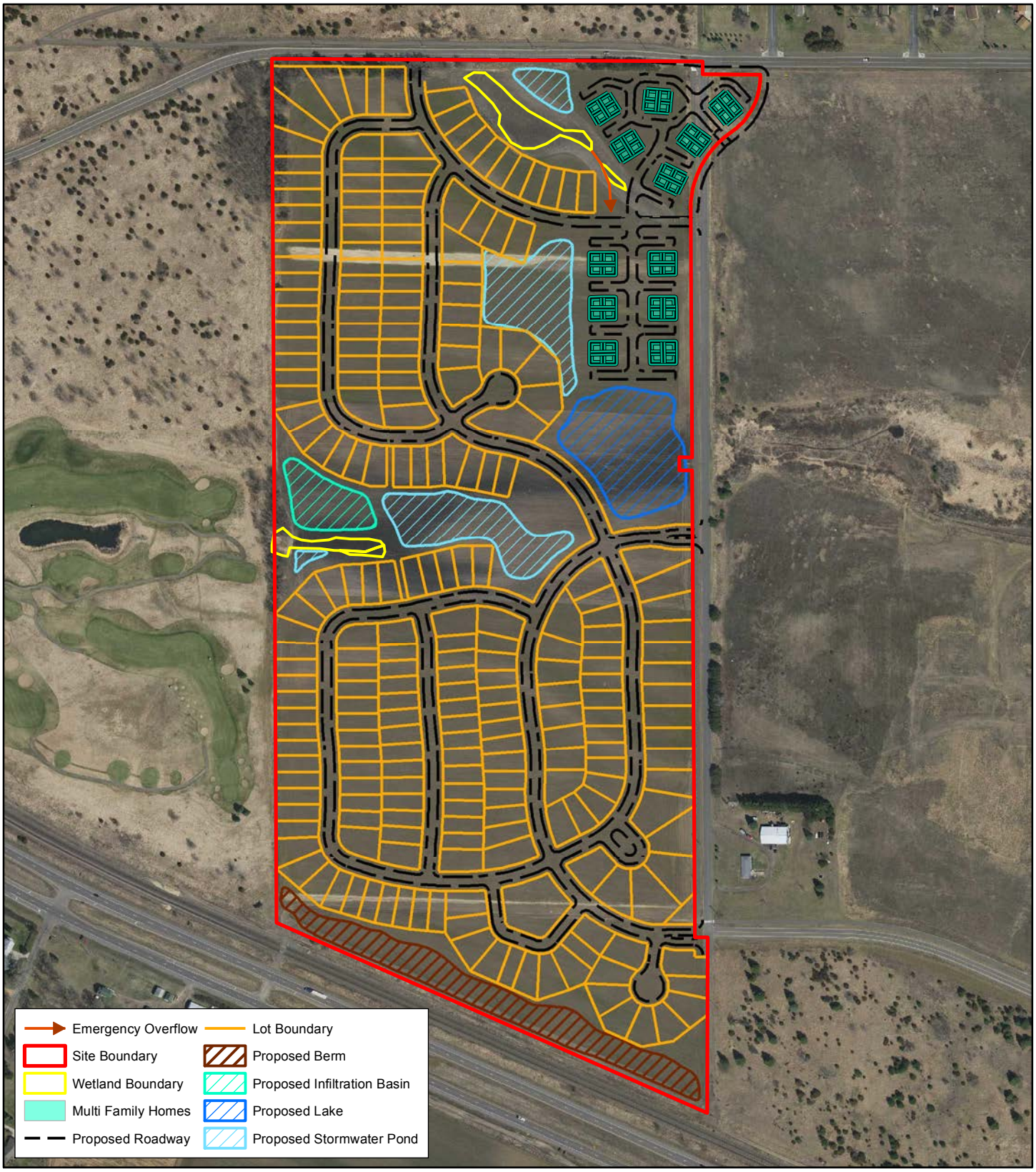


Figure 3 - Proposed Site Plan

N

0 425 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Minnesota DNR (2013), USFWS

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

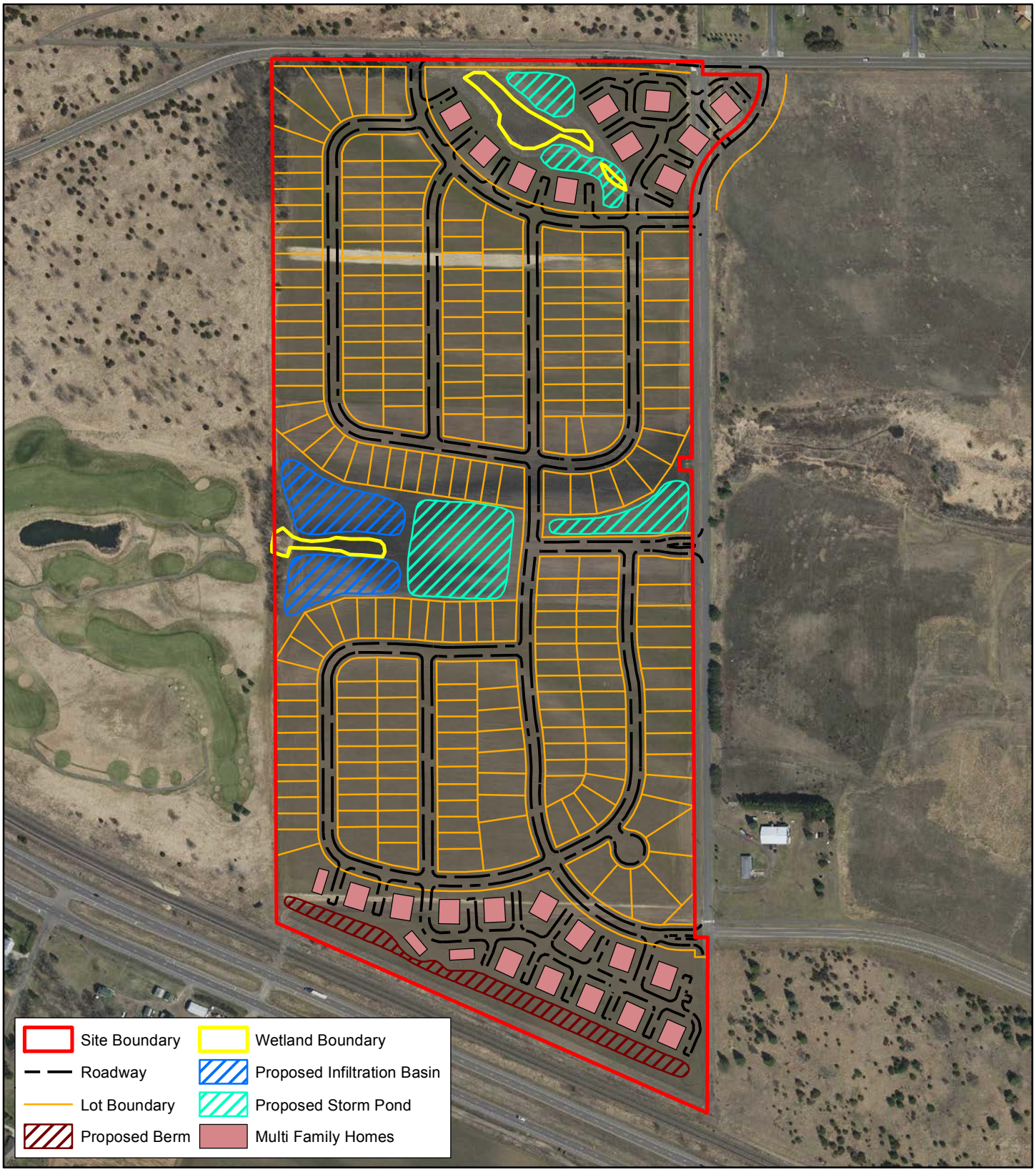


Figure 4 - Maximum Density Site Plan

N

0 425 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Minnesota DNR (2013), USFWS

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

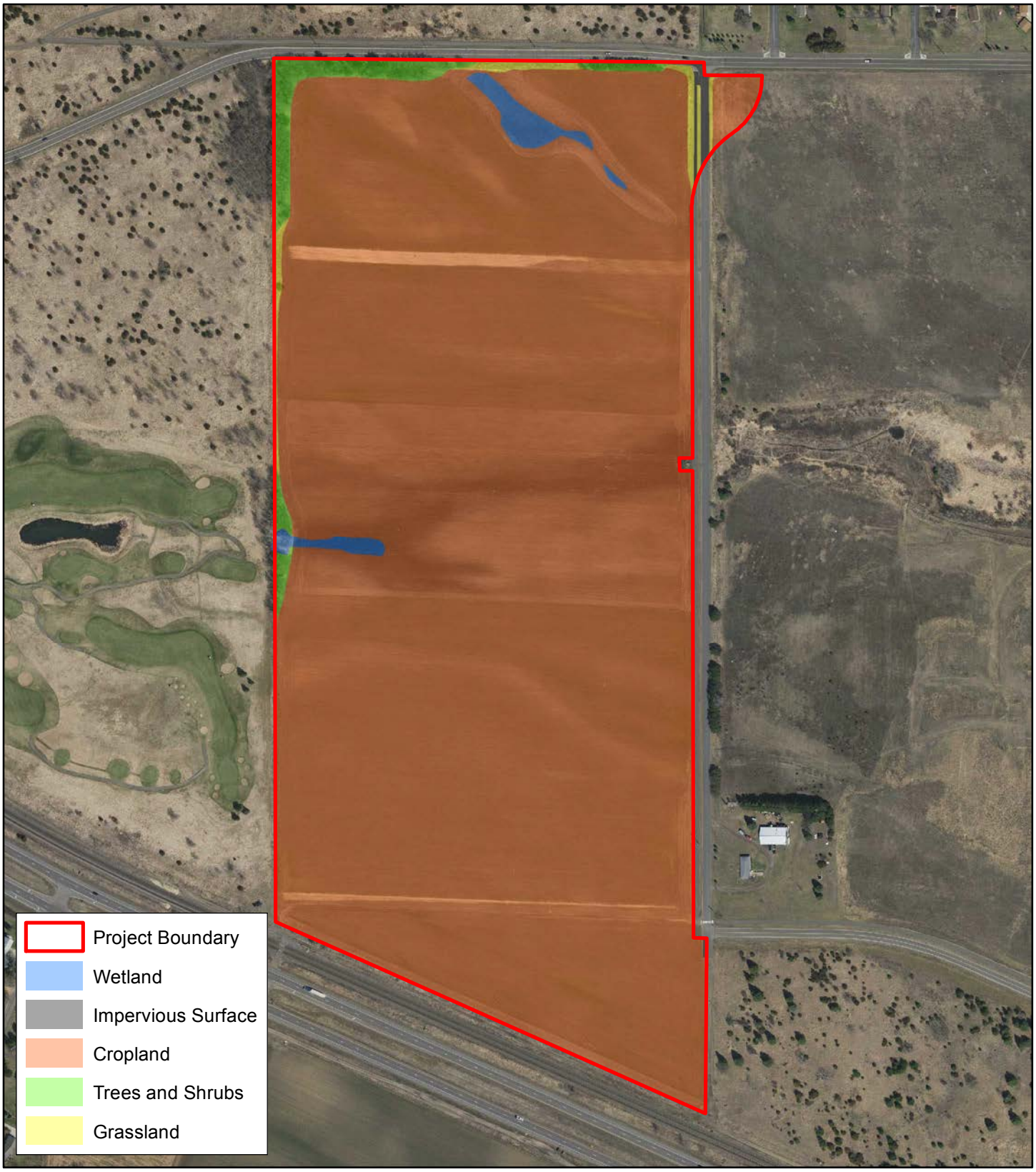


Figure 5 - Existing Cover Types

N

0 425 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: USDA, NRCS

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 6 - Delineated Wetlands and Waters

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Minnesota DNR

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 7 - Existing Land Use

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: USGS

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

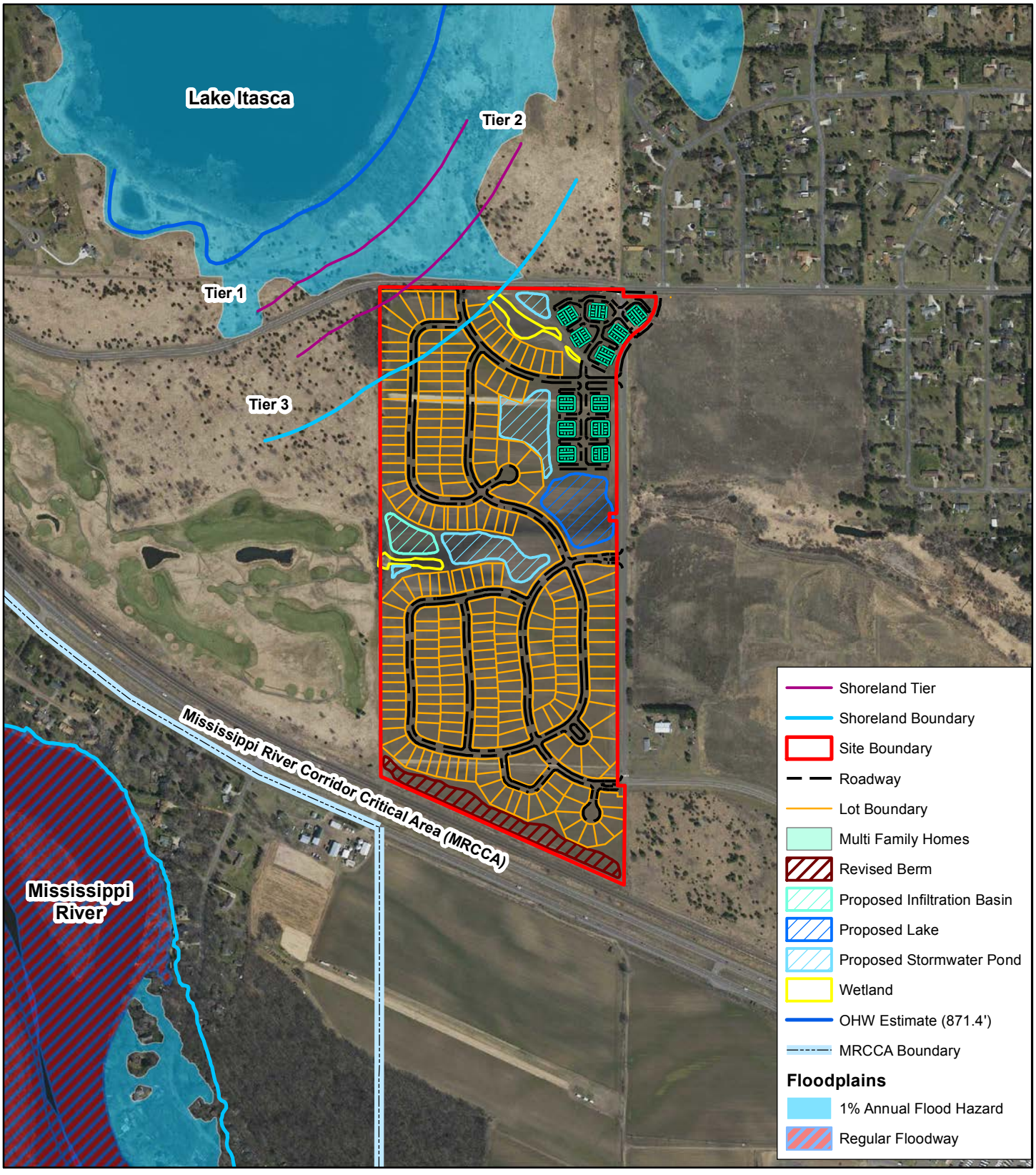


Figure 8 - Shorelands and Floodplains

N

0 750 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MnGeo, ESRI Imagery Basemap

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

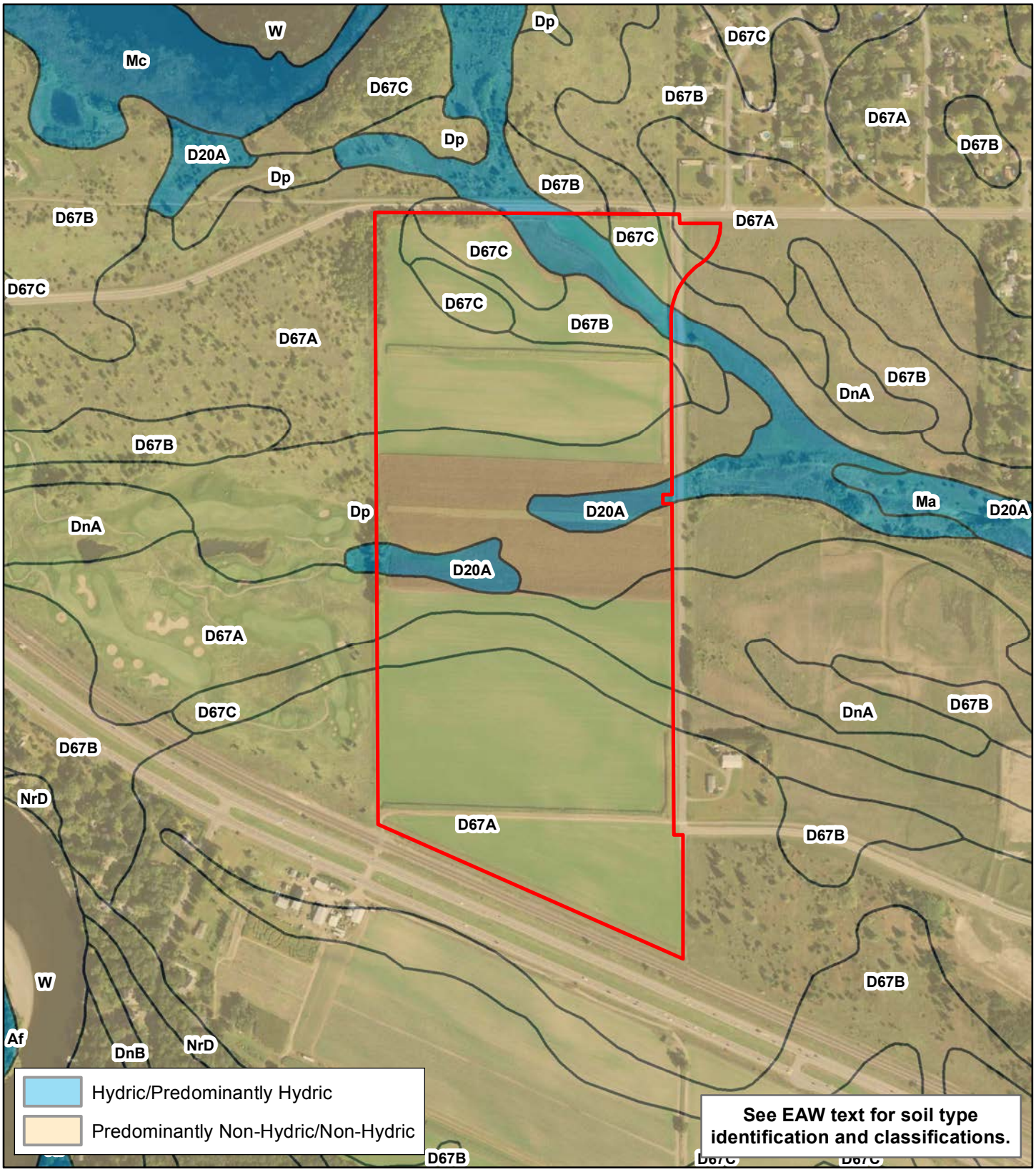


Figure 9 - Soil Types

N

0 600 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MnGeo, ESRI Imagery Basemap

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

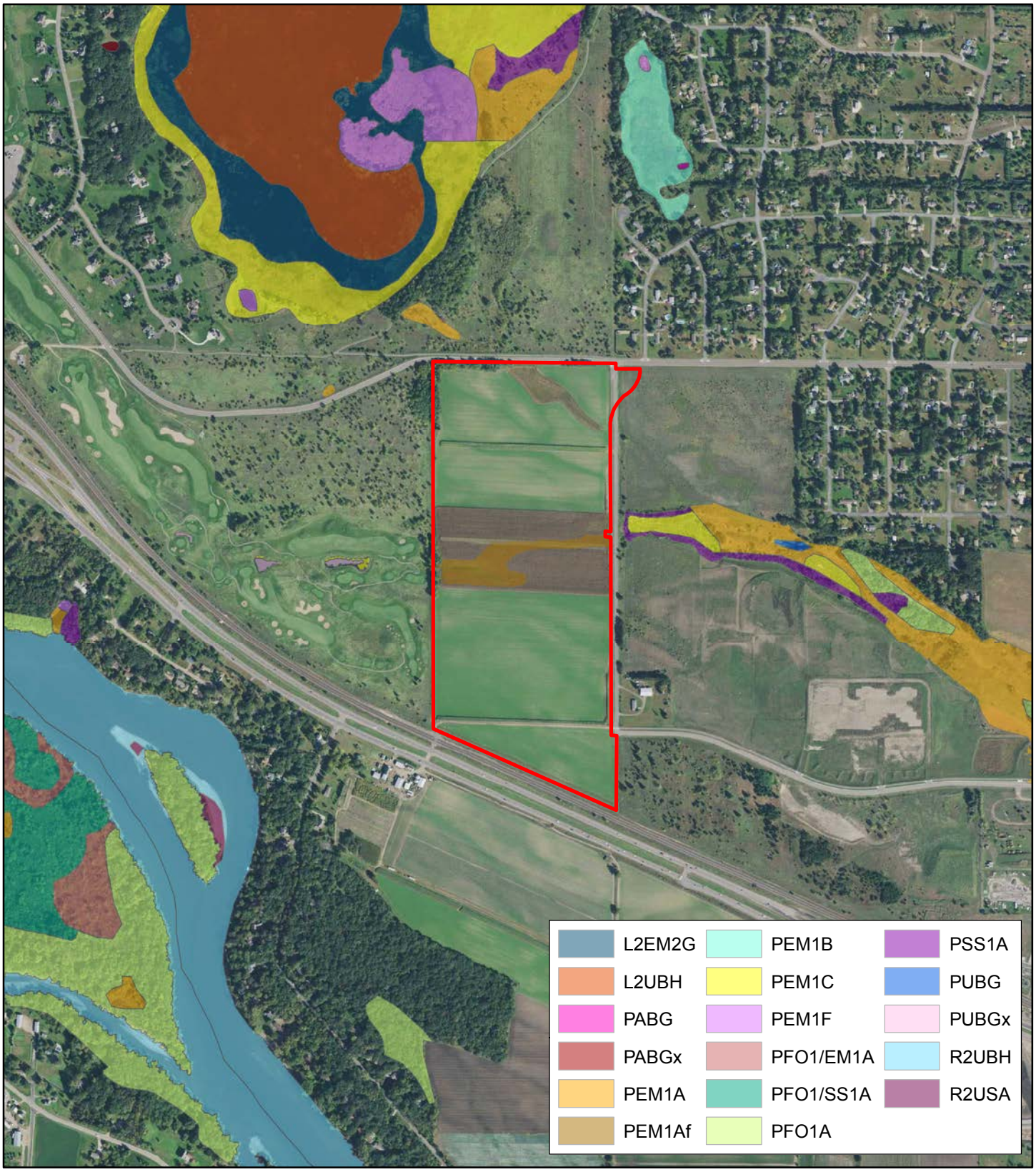


Figure 10 - National Wetlands Inventory

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MnGeo, ESRI Imagery Basemap

Pearson Farm Residential Development (KES 2017-004)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

Appendix A
Wetland Delineation Approval

Pearson Farm Residential Development EAW

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LOWER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION
ANDOVER - ANOKA - RAMSEY
2015 First Avenue • Anoka, MN 55303

November 21, 2016

Mr. Stephen Bona
Capstone Homes
14015 Sunfish Lake Blvd. NW
Ramsey, MN 55303

Subject: LRRWMO Permit #2016-19 ~ Pearson Property - **Wetland Boundary & Type** ~ Ramsey

Dear Mr. Bona,

The LRRWMO, at its November 17, 2016 meeting, addressed the permit indicated above.

The Board has taken action to approve the wetland boundary and type as indicated on the attached Notice of Decision.

If you have any questions regarding this process, please contact Ms. Karen Wold of Barr Engineering. Good luck with your project.

Sincerely,



Todd Haas
Chair

Enclosure: Notice of Decision
Approved Permit Application #2016-19

cc: Melissa Barrett, Kjolhaug Env. Serv.
Bruce Westby, City of Ramsey Engineer
Chris Lord, Anoka Conservation District
Karen Wold, Barr Engineering
LRRWMO
TEP Agencies
Becky Wozney, Anoka Conservation District
Becky Horton, MnDNR Div. of Ecological & Water Resources
Kate Drewry, MnDNR Water
Ben Meyer, MN Board of Water & Soil Resources
Andrew Beaudet, U.S. Army Corps of Engineers
Marissa Vine, U.S. Army Corps of Engineers

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit (LGU)	Address
Lower Rum River WMO (LRRWMO)	**2015 First Avenue** **Anoka, MN 55303**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Stephen Bona, Capstone Homes Inc.	**Pearson Property**	**10/17/16**	**2016-19**

☒ Attach site locator map.

Type of Decision:

☒ Wetland Boundary or Type ☐ No-Loss ☐ Exemption ☐ Sequencing
☐ Replacement Plan ☐ Banking Plan

Technical Evaluation Panel (TEP) Findings and Recommendation (if any):

☐ Approve ☐ Approve with conditions ☐ Deny

Summary (or attach): **no TEP Findings Report, see below for TEP communication**

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: **11/17/16**

☒ Approved ☐ Approved with conditions (include below) ☐ Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

On behalf of Capstone Homes, Kjolhaug Environmental submitted a wetland delineation report and a joint application request for wetland boundary and type concurrence for the Pearson property in Section 20 & 29, Township 32N, Range 25W in the City of Ramsey, within Anoka County.

Two wetlands were delineated within the evaluation area both of which were identified as Type 1 (PEMBf/PEMA) farmed seasonally flooded basins.

The wetland delineation report and a Notice of Application were provided to the TEP on 10/26/16 with a 15-business day comment period.

A site review was conducted on 10/21/16 with Ben Carlson (Kjolhaug) and Karen Wold (Barr Engineering for the LRRWMO) and wetland boundaries were revised on both wetlands. A revised wetland delineation figure was submitted on 10/25/16 which was provided to the TEP with the Notice of Application on 10/26/16.

The revised wetland boundaries and types were found to be accurate, based on the requirements of the 1987 USACE Wetland Delineation Manual, the 2010 Midwest Regional Supplement, and the 2015 Guidance for Submittal of Delineation Reports to the USACE and WCA LGU in Minnesota, Version 2.0.

The comment period ended on 11/16/16 and no additional comments were received.

The wetland boundaries and types are approved.

For Replacement Plans using credits from the State Wetland Bank:

Bank Account #	Bank Service Area	County	Credits Approved for Withdrawal (sq. ft. or nearest .01 acre)

Replacement Plan Approval Conditions. In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

☐ **Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).

☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland" forms have been filed with the county recorder's office in which the replacement wetland is located.

☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

Wetlands may not be impacted until all applicable conditions have been met!

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.

Name **Todd Haas**	Title **Chairman**	
Signature 	Date **11/17/16**	Phone Number and E-mail **763/755-5100** **thaas@andovermn.gov**

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for five years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

☐ Appeal of an LGU staff decision. Send petition and $_____ fee (if applicable) to:	☒ Appeal of LGU governing body decision. Send petition and $500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155

4. LIST OF ADDRESSEES

☒ SWCD TEP member: **Becky Wozney**
☒ BWSR TEP member: **Dennis Rodacker and Ben Meyer**
☒ DNR TEP member: **Becky Horton, Kate Drewry**
☒ WD or WMO (if applicable): **Todd Haas (LRRWMO), Carla Wirth (Timesaver), Bob Obermeyer and Deb Burt (Barr Engineering Co.)**
☒ City Contact for LRRWMO permitting **Bruce Westby (City of Ramsey)**
☒ Applicant and Landowner (if different) **Stephen Bona (Capstone Homes Inc.), Ben Carlson and Melissa Barrett (Kjolhaug Environmental)**
☒ Corps of Engineers Project Manager**Andrew Beaudet and Marissa Vine**
☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

5. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

NW Region:	NE Region:	Central Region:	Southern Region:
Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073

For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

➢For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687 or send to:

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

➢For Wetland Bank Plan applications, also send a copy of the application to:

Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:
☒ **wetland delineation map**
☐

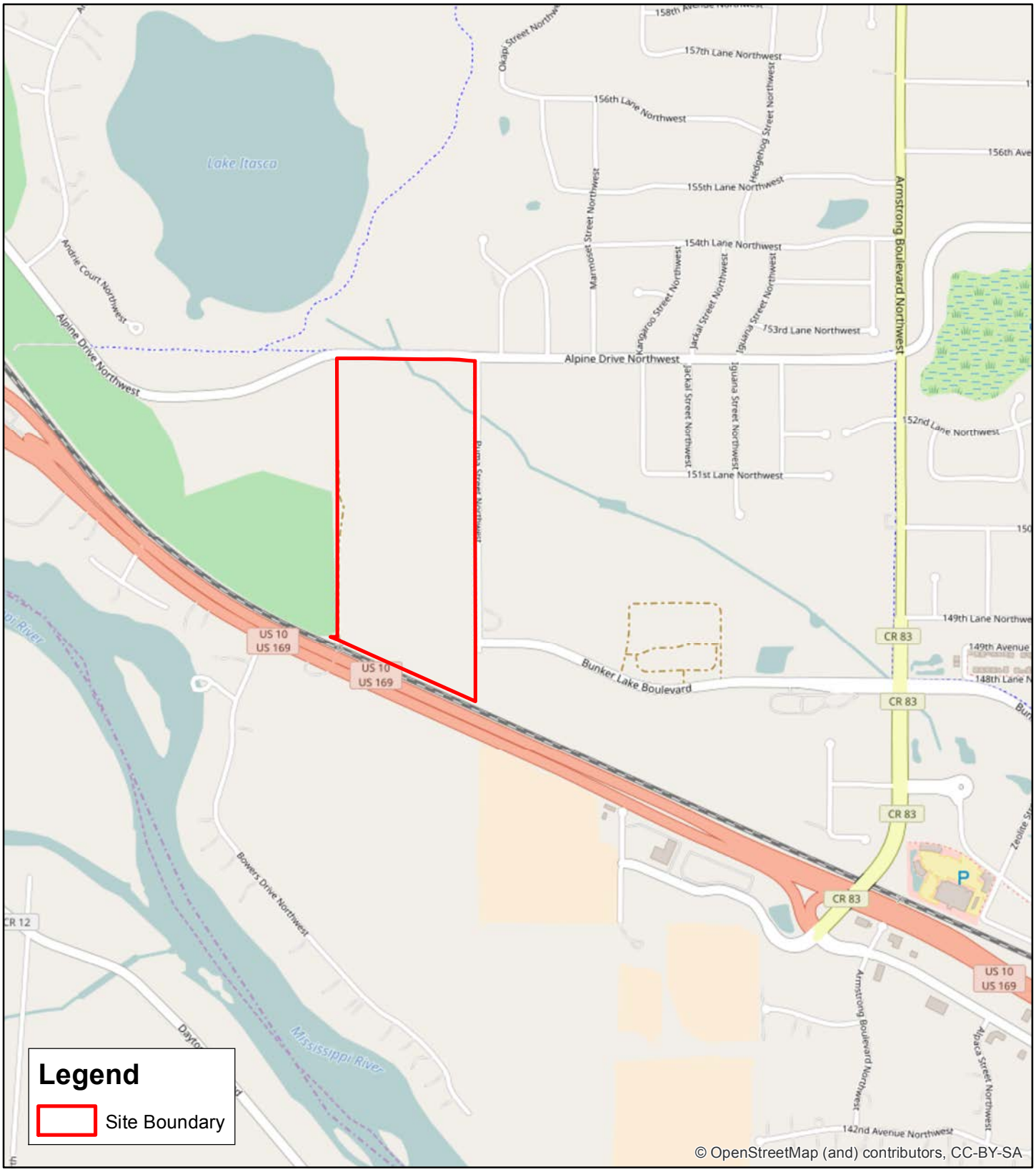


Figure 1 - Site Location

N

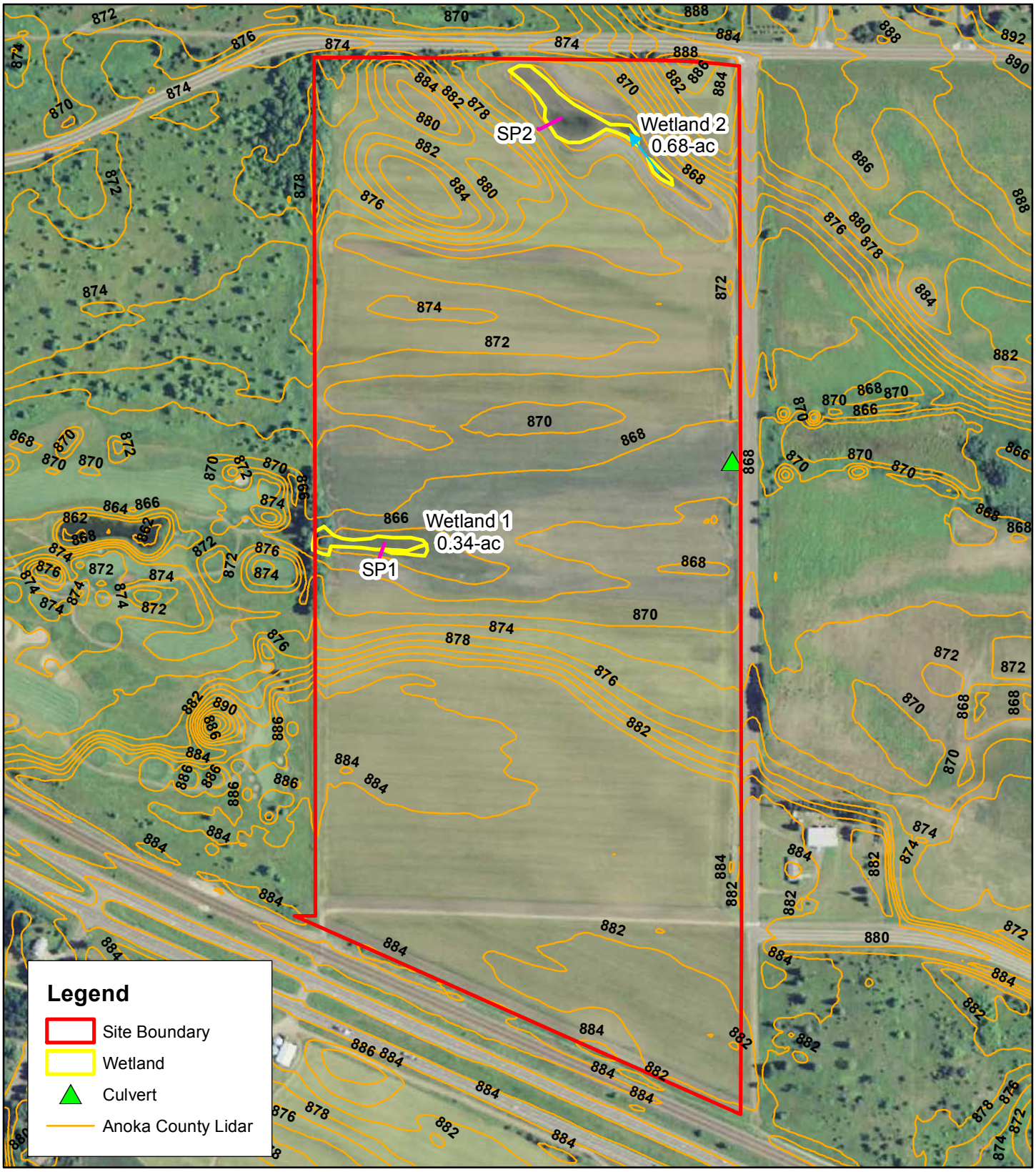
0 2,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Pearson Property (KES 2016-167)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Revised Figure 2 - Existing Conditions (2013 FSA Photo) per 10/21/2016 TEP Review

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Minnesota DNR (2013), USFWS

Pearson Property (KES 2016-167)
Ramsey, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

City Authorization: Ramsey Date Received: 10-17-16 Permit No: 16-19

Lower Rum River Watershed Management Organization ("LRRWMO")

Andover—Anoka—Coon Rapids—Ramsey

2015 First Avenue • Anoka, MN 55303

PERMIT APPLICATION

The $100.00 application fee and the $700.00 escrow deposit must accompany this permit application. Applications for projects involving wetlands and/or involving a Wetland Replacement Plans must include an additional $75 application fee plus an escrow deposit as determined in accordance with Attachment D.

Permits are to be processed at the same time as the site plan, preliminary plat or other city land use or building application submitted to the city in which the work or project is located.

Project Name: Pearson Property

Address/Location: S9 T32N R25W Ramsey, MN

Project Description/Purpose: Wetland Delineation Review

Stephen Bona	Melissa Barrett — Kjolhaug Env. Serv.
Name of Applicant (Site Owner or Property Owner)	**Applicant's Contact — Organization Name**
14015 Sunfish Lake Blvd NW	26105 Wild Rose Lane
Address	**Address**
Ramsey, MN 55303	Shorewood, MN, 55331
City, State, Zip	**City, State, Zip**
(651) 271-4951	(952) 401-8757
Phone — Fax	**Phone — Fax**
Stephen.bona@gmail.com	Melissa@kjolhaugenv.com
Email	**Email**

Submittal Requirements

Complete applications are to be submitted as per attachments A (Permit Requirements), B (Office Procedure), C (LRRWMO Permit Standards). Projects involving wetlands and/or involving a Wetland Replacement Plan have special notice requirements and require submittal of four copies (4) and an electronic copy of all wetland-related submittal materials.

PROJECT SUBMITTALS (check all that apply):

- ☐ **GRADING PLAN:** Including existing and proposed contours and boundaries of all wetlands and surface waters.
- ☐ **STORM SEWER/ DRAINAGE PLAN:** Including all permanent drainage features and all permanent water quality features.
- ☐ **STORM DRAINAGE CALCULATIONS:** Design computations as required by the LRRWMO (see attachment C).
- ☐ **EROSION CONTROL PLAN:** Including all temporary measures proposed to retain all sediment on site.
- ☑ **MITIGATION PLAN*/WETLAND DETERMINATION:** Quality level of mitigated wetland(s) shall be determined by the LRRWMO.
- ☐ **REQUEST FOR EXEMPTION UNDER THE WETLAND CONSERVATION ACT (WCA)**
- ☐ **OTHER**

****NOTE: Four copies of permit submittals are required for projects involving wetland replacement plans.***

City Authorization: _____ Date Received: _____ Permit No: 16-19

Lower Rum River Watershed Management Organization ("LRRWMO")

Andover—Anoka—Coon Rapids—Ramsey

2015 First Avenue • Anoka, MN 55303

START OF PROJECT: _____	EST. COMPLETION DATE: _____	APPROVAL DATE: 11/17/16

By signing this Permit Application, the undersigned consents and agrees on behalf of the Applicant that:

1. The permit application fee is non-refundable. Escrow deposits will be held by the LRRWMO until the project has been completed and all conditions of issuance of the permit are satisfied. The Applicant is responsible for all expenses incurred by the LRRWMO in the processing, administration and enforcement of the permit application and permit. The escrow deposit will be used to reimburse the LRRWMO for all expenses incurred by the LRRWMO in processing, administering and enforcing the permit application and permit, including engineering, legal and other consultant costs. If such expenses exceed the escrow deposit, the LRRWMO will bill the Applicant or Permittee for such excess amount and payment will be due within twenty (20) days of mailing the invoice. Timely payment of such invoices is a condition of all permits and work may be stopped on the project for failure to make payments when due.

2. The undersigned, its agents, principal, assigns and/or representatives (hereinafter "Permittee") shall abide by all the standard conditions and special terms and conditions of the LRRWMO.

3. Any work that violates the terms of the permit may result in the LRRWMO or the City in which the work is being done immediately causing the work on the project relating to the permit to cease and desist. All work on the project shall cease until the permit conditions are met and approved by the LRRWMO and/or the City in which the work is being done.

4. The Permittee agrees to be bound by the terms of the LRRWMO permit requirements, final permit, standard conditions and special conditions required by the LRRWMO for approval of the permit. The undersigned has the authority to bind the permit holder, the owner of the property and/or any entity performing work on the property pursuant to the terms of LRRWMO permit, and shall be responsible for complying with terms of the LRRWMO permit.

"I certify that I have thoroughly read and understand the above information."

Alan R Pearson — Signature of property owner or designated Agent (no agent without a letter of authority)

10/17/16 — Date

Stephen A. Bova — Signature of applicant if different from property owner

10/17/16 — Date

Alan Pearson — Print Signer's name

Stephen A. Bova — Print Signer's name

SIGNATURE OF LRRWMO CHAIRMAN: ** _____

NOTE: Subject to conditions recommended by Bob Obermeyer, Barr Engineering (see attached)

PERMIT IS NOT VALID IF PROJECT HAS NOT STARTED WITHIN ONE YEAR FROM DATE OF APPROVAL

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

10/24/2016

REPLY TO
ATTENTION OF
Operations
Regulatory (MVP-2016-03719-MLV)

THIS IS NOT A PERMIT

Melissa Barrett
Kjolhaug Environmental
26105 Wild Rose Lane
Shorewood, MN 55331

Dear Ms. Barrett:

We have received your submittal described below. You may contact the Project Manager with questions regarding the evaluation process. The Project Manager may request additional information necessary to evaluate your submittal.

File Number: MVP-2016-03719-MLV

Applicant: Capstone Homes - Steve Bona

Project Name: Pearson Property

Received Date: 10/17/2016

Project Manager: Marissa Vine
651-290-5362

Additional information about the St. Paul District Regulatory Program, including the new Clean Water Rule, can be found on our web site at http://www.mvp.usace.army.mil/missions/regulatory.

Please note that initiating work in waters of the United States prior to receiving Department of the Army authorization could constitute a violation of Federal law. If you have any questions, please contact the Project Manager.

Thank you.

U.S. Army Corps of Engineers
St. Paul District
Regulatory Branch

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Appendix B

Well Logs

Pearson Farm Residential Development EAW

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Minnesota Unique Well Number

541778

County Anoka
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/05/1997
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
PEARSON,	32	25	W	30	AABACD

Elevation 883 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 8846 10 SH W RAMSEY MN 55303

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	23	BROWN	SOFT
CLAY & ROCKS	23	43	BROWN	SOFT
SAND	43	66	GRAY	SOFT
CLAY FIRM	66	66	GRAY	

Remarks

Well Depth 66 ft. **Depth Completed** 66 ft. **Date Well Completed** 08/24/1994

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

Use domestic **Status** Active

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

Casing Type Single casing **Joint** Threaded

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

Casing Diameter	Weight	Hole Diameter
4 in. To 63 ft.	10.7 lbs./ft.	8.7 in. To 30 ft.
		6.2 in. To 66 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON 304

Diameter	Slot/Gauze	Length	Set	
4.5 in.	18	4 ft.	62 ft.	66 ft.

Static Water Level

28 ft. land surface Measure 08/24/1994

Pumping Level (below land surface)

48 ft. 3 hrs. Pumping at 40 g.p.m.

Wellhead Completion

Pitless adapter manufacturer BAKER Model SNAPPY

☒ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

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

Material	Amount	From	To
bentonite	0.8 Cubic yards	ft.	60 ft.

Nearest Known Source of Contamination

50 feet South Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 01/10/1994

Manufacturer's name RED JACKET

Model Number 100CNS1- HP 1 Volt 230

Length of drop pipe 42 ft Capacity 18 g.p. Typ Submersible

Abandoned

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

Variance

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

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat clay-gray Depth to Bedrock ft

Located by Minnesota Geological Survey

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

System UTM - Mad83, Zone 15, Meters X 461347 Y 5009793

Unique Number Verification Address verification Inpute Date 07/03/2008

Angled Drill Hole

Well Contractor

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

Minnesota Unique Well Number

227345

County Anoka
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
PEARSON,	32	25	W	30	AAABCA

Elevation 883 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 8846 10 HY NW RAMSEY MN 55303

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	10	BROWN	
GRAVEL & SAND	10	15	YELLOW	
CLAY & GRAVEL	15	60	BROWN	
GRAVEL	60	75	BROWN	

Remarks

WELL LOCATION: SOUTH SIDE OF HIGHWAY 10 & EAST OF PUMA

Well Depth 75 ft. **Depth Completed** 75 ft. **Date Well Completed** 12/13/1972

Drill Method **Drill Fluid**

Use domestic **Status** Active

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

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

Casing Diameter		Weight	
4	in. To 71 ft.		lbs./ft.

Open Hole From ft. To ft.

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

Diameter	Slot/Gauze	Length	Set	
4 in.	20	4 ft.	ft.	ft.

Static Water Level

30 ft. land surface Measure 12/13/1972

Pumping Level (below land surface)

40 ft. hrs. Pumping at 17 g.p.m.

Wellhead Completion

Pitless adapter manufacturer BAKER Model

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

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

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/00/1972

Manufacturer's name AERMOTOR

Model Number HP 0.75 Volt

Length of drop pipe 50 ft Capacity 12 g.p. Typ Submersible

Abandoned

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

Variance

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

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat gravel (+larger)-brown Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - Mad83, Zone 15, Meters X 461304 Y 5009799

Unique Number Verification Address verification Inpute Date 01/01/1990

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Renner E.H. & Sons	27015	LEDBETTER, B.

Minnesota Unique Well Number

430232

County Anoka
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 08/18/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MCINNIS, DAN	32	25	W	20	CDCCCA

Elevation 883 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 14915 PUMA ST NW RAMSEY MN 55303

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	27	BROWN	SOFT
CLAY	27	30	BROWN	SOFT
SAND & GRAVEL	30	51	BROWN	SOFT
CLAY & GRAVEL	51	93	BROWN	HARD
CLAY	93	116	GRAY	MEDIUM
SANDROCK & SHALE	116	131	YEL/BRN	HARD
SHALE & SANDROCK	131	140	WHITE	SOFT
SANDROCK & SHALE	140	176	PNK/GRN	SOFT
SANDROCK & SHALE	176	276	GREEN	SOFT
SANDROCK & SHALE	276	338	BRN/GRN	HARD

Remarks

Well Depth	Depth Completed	Date Well Completed
338 ft.	338 ft.	03/17/1988

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

Use domestic **Status** Active

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

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

Casing Diameter	Weight	Hole Diameter
4 in. To 294 ft.	11 lbs./ft.	6.2 in. To 294 ft.
		4 in. To 338 ft.

Open Hole From 294 ft. To 338 ft.

Screen? ☐ **Type** **Make**

Static Water Level
30 ft. land surface Measure 03/17/1988

Pumping Level (below land surface)
100 ft. 3 hrs. Pumping at 50 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model 8PL41UCI
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

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

Material	Amount	From	To
cuttings		0 ft.	194 ft.

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

Pump ☐ Not Installed Date Installed 03/21/1988
Manufacturer's name MEYERS
Model Number B352BM- HP 0.5 Volt 230
Length of drop pipe 60 ft Capacity 10 g.p. Typ Submersible

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

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

Miscellaneous
First Bedrock St.Lawrence-Tunnel City Aquifer Wonewoc
Last Strat Wonewoc Sandstone Depth to Bedrock 116 ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - Mad83, Zone 15, Meters X 461892 Y 5009911
Unique Number Verification Address verification Inpute Date 01/01/1990

Angled Drill Hole

Well Contractor
Mork Well Co. 02133 LAWRENCE, R.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

783804

County Anoka
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 09/30/2011
Update Date 08/18/2014
Received Date 12/05/2011

Well Name	Township	Range	Dir	Section	Subsection
WIEHLE, SCOTT	32	25	W	20	BDCCAC

Elevation 885 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 15310 OKAPI ST NW RAMSEY MN 553037004

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	54	BROWN	SOFT
CLAY	54	62	BROWN	SOFT
GRAVEL	62	65	BROWN	SOFT
CLAY	65	107	BROWN	SOFT
SHALE	107	155	VARIED	SOFT

Remarks

OLD WELL ON PROPERTY GAMMA LOGGED 9-30-2011. UNIQUE NO. 272037.

NEAREST CONTAMINATION: TYPE= FLOOR DRAIN.

Well Depth 155 ft. **Depth Completed** 155 ft. **Date Well Completed** 08/26/2011

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

Use domestic **Status** Active

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

Casing Type Single casing **Joint** Glued

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

Casing Diameter	Weight	Hole Diameter
4 in. To 113 ft.	lbs./ft.	7.7 in. To 113 ft.
		6.5 in. To 155 ft.

Open Hole From 113 ft. To 155 ft.

Screen? ☐ **Type** **Make**

Static Water Level

28 ft. land surface Measure null

Pumping Level (below land surface)

60 ft. 1 hrs. Pumping at 60 g.p.m.

Wellhead Completion

Pitless adapter manufacturer AQUASEAL Model T-SERIES

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

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

Material	Amount	From	To
neat cement	3 Sacks	103 ft.	113 ft.
bentonite	6 Sacks	ft.	103 ft.

Nearest Known Source of Contamination

52 feet East Direction Other Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed

Manufacturer's name GOULDS

Model Number 18GS10 HP 1 Volt 230

Length of drop pipe 60 ft Capacity g.p. Typ Submersible

Abandoned

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

Variance

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

Miscellaneous

First Bedrock Tunnel City Group Aquifer Tunnel City

Last Strat Tunnel City Group Depth to Bedrock 107 ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:12,000)

System UTM - Mad83, Zone 15, Meters X 461928 Y 5010727

Unique Number Verification Information from Inpute Date 09/30/2011

Angled Drill Hole

Well Contractor

Mork Well Co., Inc. 1877 RICKE, G.

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

Minnesota Unique Well Number

272037

County Anoka
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 09/30/2011
Update Date 08/18/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
WIEHELE, DEB	32	25	W	20	BDCCAC

Elevation 886 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 15310 OKAPI ST NW RAMSEY MN 553037004

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	60		
GRAVEL & CLAY	60	110		
GRAVEL & CLAY	110	126		
SANDROCK	126	156		

Remarks

GAMMA LOGGED 9-20-2011. LOGGED FOR ANOKA CO. ATLAS AND MDH.

Well Depth 156 ft. **Depth Completed** 156 ft. **Date Well Completed** 07/30/1974

Drill Method **Drill Fluid**

Use domestic **Status** Inactive

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

Casing Type Single casing **Joint**

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

Casing Diameter	Weight	Hole Diameter
4 in. To 141 ft.	lbs./ft.	4 in. To 156 ft.

Open Hole From 141 ft. To 156 ft.

Screen? ☐ **Type** **Make**

Static Water Level

41 ft. land surface Measure 09/30/2011

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

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

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

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

Variance

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

Miscellaneous

First Bedrock Tunnel City Group Aquifer Tunnel City

Last Strat Tunnel City Group Depth to Bedrock 110 ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:12,000)

System UTM - Mad83, Zone 15, Meters X 461922 Y 5010728

Unique Number Verification Information from Inpute Date 09/30/2011

Angled Drill Hole

Well Contractor

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

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Appendix C

Minnesota DNR Natural Heritage Information System Report

Pearson Farm Residential Development EAW

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The DNR NHIS Report is expected to be available by March 17

Appendix D

State Historic Preservation Office Response

Pearson Farm Residential Development EAW

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From: Thomas Cinadr [mailto:thomas.cinadr@mnhs.org]
Sent: Thursday, February 02, 2017 8:46 AM
To: Andrew Krinke <Andrew@kjolhaugenv.com>
Subject: Re: SHPO Request

THIS EMAIL IS NOT A PROJECT CLEARANCE.

This message simply reports the results of the cultural resources database search you requested. The database search produced results for only previously known archaeological sites and historic properties. Please read the note below carefully.

No archaeological sites or historic structures were identified in a search of the Minnesota Archaeological Inventory and Historic Structures Inventory for the search area requested.

The result of this database search provides a listing of recorded archaeological sites and historic architectural properties that are included in the current SHPO databases. Because the majority of archaeological sites in the state and many historic architectural properties have not been recorded, important sites or structures may exist within the search area and may be affected by development projects within that area. Additional research, including field survey, may be necessary to adequately assess the area's potential to contain historic properties.

If you require a comprehensive assessment of a project's potential to impact archaeological sites or historic architectural properties, you may need to hire a qualified archaeologist and/or historian. If you need assistance with a project review, please contact Kelly Gragg-Johnson in Review and Compliance @ 651-259-3455 or by email at kelly.graggjohnson@mnhs.org.

The Minnesota SHPO Survey Manuals and Database Metadata and Contractor Lists can be found at **http://www.mnhs.org/shpo/survey/inventories.htm**

Tom Cinadr
Survey and Information Management Coordinator
Minnesota Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. West
St. Paul, MN 55102

651-259-3453

On Wed, Feb 1, 2017 at 1:12 PM, Andrew Krinke <Andrew@kjolhaugenv.com> wrote:

Hi Tom,

We are requesting a historical property information/database search for a 88.4-acre site located in the southwest quarter of Section 20, T32N, R25W, Ramsey, Anoka County, Minnesota. The site corresponds to Anoka County PIN 203225320001, 203225330001, and 293225220004 and the Lat/Long coordinates of the site are 45.243891, -93.488493.

We are requesting this search because the Pearson Farm Residential Development is proposed on this property. The Pearson Farm Residential Development project will include 246 single-family lots and 98 townhomes. Site development will include mass grading and the site will be served by municipal sewer and water. . The project area is dominated by annually tilled cropland, but includes three farmed wetlands and some field edges with trees and grassland.

Attached please find a USGS topography site location map and a shapefile to support this request. I would appreciate your prompt attention to this review.

Thank you,

Andrew Krinke
Kjolhaug Environmental Services Company
26105 Wild Rose Lane
Shorewood, MN 55331
Office: 952-401-8757
Cell: 612-704-6743
Andrew@kjolhaugenv.com

Appendix E
Traffic Impact Study

Pearson Farm Residential Development EAW

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Spack CONSULTING
ENGINEERING TRAFFIC FORWARD

Traffic Impact Study

Pearson Farm Residential Development
Ramsey, Minnesota

I hereby certify this report was prepared by me or under my direct supervision, and I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

By: _____
Vern Swing, P.E.
License No. 41417

Date: March 10, 2017_____

Executive Summary

Background: The Pearson Farms Development is proposed for construction on the vacant land bounded by Puma Street, Alpine Drive, Trunk Highway (TH) 10, and Links at Northfork Golf Course in Ramsey, Minnesota. This development will include 344 total residential units (98 townhomes and 246 single family homes). The purpose of this study is to determine the traffic impacts associated with the build out of the proposed development on the study intersections.

Results: The principal findings of this traffic study are:

- The proposed expansion is expected to generate approximately 2,912 new trips during an average weekday (1,456 entering and 1,456 exiting), approximately 227 new trips during the a.m. peak hour (53 entering and 174 exiting) and approximately 297 new trips during the p.m. peak hour (189 entering and 108 exiting).
- The existing study intersections operate with acceptable delays and vehicle queues today.
- The study intersections are expected to operate acceptably during the 2040 no-build and build scenarios.
- Left turn lanes are not warranted based on the expected 2040 build year volumes and mainline speeds.
- Right turn lane warrants are not fulfilled due to the mainline speeds remaining below 45 MPH, which is consistent for neighborhood streets, however, the right turn lane volume thresholds were reached by the estimated 2040 Build volumes.

Recommendations: The following items are recommended based on the analyses contained in this study:

- No additional intersection mitigation is required to help improve capacity.
- If the speed limits along Puma Street or Alpine Drive are increased to 45 MPH or higher, re-evaluate the Turn-Lane Warrants.
- Construct a new sidewalk/trail along the southern edge of Alpine Drive connecting the proposed access to the existing Alpine Drive/Puma Street intersection. The addition of a north/south crosswalk should also be considered at this intersection to help promote safe crossing to the existing northern sidewalk/trail.
- Ensure the proposed internal sidewalks connect to the external sidewalk/trail system.
- Work with Metro Transit or their affiliates to improve transit options within the project area as the closest existing transit is located roughly 1.5 miles away at Ramsey Station and Platform.

This study is based upon a concept plan from January 6, 2017. Assuming the general characteristics of the proposed development remain approximately the same as documented, minor changes in the final design are not expected to alter the results or recommendations of this study.

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1. Introduction

a. Proposed Development

The Pearson Farm Development is proposing to construct a new residential development located on the vacant land bounded by Puma Street, Alpine Drive, Trunk Highway (TH) 10, and Links at Northfork Golf Course in Ramsey, Minnesota. The development is currently proposed to include 98 townhomes and 246 single family homes for a total of 344 units.

For the purposes of this study, the development is expected to be fully built and occupied by the 2040 forecast year.

b. Purpose of Study

The purpose of this study is to:

i. Examine the existing operations of the surrounding study intersections.
ii. Forecast the amount of traffic expected to be generated by the proposed development.
iii. Determine the traffic impacts associated with the build out of the proposed development.

The traffic impacts are studied on the roads and intersections where significant impact is anticipated and improvements are recommended where mitigation is needed. For those not familiar with the general concepts and terms associated with traffic engineering, *The Language of Traffic Engineering* guide is included in the Appendix.

c. Study Objectives

The objectives of this study are:

i. Document how the study intersections and roadways currently operate.
ii. Forecast the amount of traffic expected to be generated by the proposed development.
iii. Determine how the study intersections and roadways will operate in the future AM and PM peak hours with the proposed development.
iv. Recommend appropriate mitigation and operation measures to improve operations if deficiencies are identified within the development or on the study intersections.

The study intersections closest to the proposed development were chosen for review as these will experience the greatest impact from traffic associated with the development. The study intersections include:

i. Alpine Drive/Puma Street
ii. Bunker Lake Boulevard/Puma Street
iii. Alpine Drive/Site Access
iv. Puma Street/Site Access

2. Existing Conditions

a. Corridor Characteristics

As mentioned, the proposed site is located to the west of Puma Street, south of Alpine Drive, and north of Trunk Highway (TH) 10 in Ramsey, Minnesota. Table 1 shows the characteristics of the key roadway corridors around this site and within the study area.

Table 1 – Study Corridor Characteristics

Name[1]	Designation	Speed Limit	Lanes	Transit[2]	Peds/ Bicycles
Bunker Lake Boulevard (MSAS 12)	Minor Collector	30 mph	2 undivided	None	Sidewalk on north side
Puma Street (MSAS 109)	Local Street	30 mph	2 undivided	None	Sidewalk on west side
Alpine Drive (MSAS 112)	Minor Collector	40 mph	2 undivided	None	Sidewalk on north side

[1] MSAS = Municipal State Aid Street

[2] Transit routes are available roughly 1.5 miles away at Ramsey Station & Platform

b. Traffic Volumes

48-hour intersection videos were collected at the existing study intersections under normal weekday conditions in February 2017. Using these videos, 24-hour turning movement counts were created by averaging the two days to smooth out any single day anomalies and create a typical day.

Based on these averages, the AM and PM peaks were determined to be 7:00 AM to 8:00AM and 4:45PM to 5:45 PM. The averaged turning movement counts from these two peak hours were used at the study intersections for analysis. The turning movement count data from the counts are contained in fifteen minute intervals in the Appendix.

Based on the Weekday turning movement volumes, the current daily traffic volumes on each study corridor are:

i. 38 vehicles per day on Bunker Lake Boulevard.
ii. 100 vehicles per day on Puma Street.
iii. 1,100 vehicles per day on Alpine Drive.

3. Forecasted Traffic

a. Site Traffic Forecasting

The *Institute of Transportation Engineers (ITE)* provides the *Trip Generation Manual, 9th Edition*, the standard document for determining expected traffic for proposed land uses. Using this ITE information, trip generation forecasts can be made for the development site.

The ITE manual compiles studies from across the country to provide a national average traffic for various land uses. For the proposed residential development, the designation of Single Family Homes and Townhomes were used. Based on information supplied in the site plan, the development is currently proposed to include 98 townhomes and 246 single family homes for a total of 344 units. With this information, the expected trip generation was completed based on the full build out of the development.

The resultant new trips generated by the proposed development are shown in Table 2. A detailed trip generation table showing the exact breakdowns is provided in the Appendix.

Table 2 – New Trip Generation

Land Use Code – Source	Description & Size	Daily		AM Peak Hour		PM Peak Hour	
		Total In	Total Out	Total In	Total Out	Total In	Total Out
210	Single Family Home	1,171	1,171	46	138	155	91
230	Townhomes	285	285	7	36	34	17
TOTAL		**1,456**	**1,456**	**53**	**174**	**189**	**108**

A trip distribution pattern was developed for the site generated traffic going to and from the proposed development. This pattern is based on the existing traffic volumes, access locations, location of major roadways leading to and from the site, and prior studies within the project area. The general trip distribution pattern for this study is:

i. 22 percent of the site generated traffic to/from the west on Alpine Drive.
ii. 78 percent of the site generated traffic to/from the east on Alpine Drive and Bunker Lake Boulevard.

Traffic generated by the development of the site was assigned to the area roadways per this distribution pattern.

b. Non-site Traffic Forecasting

To forecast future traffic volumes for the year 2040 in the study area outside of the proposed development's traffic, additional trip generations were considered based on proposed developments within the project area. These trip generations were based on a prior study completed by Bolton & Menk analyzing the Future

Business Park, which included a preliminary look at the Pearson Farm Development. Using this study the total acreage of the new proposed land uses were determined and their corresponding trip generations were completed. The proposed developments and trip generations can be found in the Appendix.

Applying the background growth rate and surrounding development trip generations to the existing traffic volumes established the 2040 No-Build forecasts.

c. Total Traffic

Traffic forecasts were developed for the 2040 Build scenarios by adding the traffic generated by the proposed development to the non-site forecast volumes. Peak hour forecasts are shown in the Appendix.

4. Analyses

a. *Intersection Vehicular Analysis*

The scenarios analyzed in this study for both the a.m. and p.m. peak hours were the existing, 2040 No-Build, and 2040 Build scenarios. Capacity analyses are performed for the study intersections to determine if they need improvements such as turn lanes or an upgrade in traffic control. It should be noted that for the No-Build and Build scenarios it is assumed Puma Street will be realigned on the north end to line up with Okapai Street as shown in the site plan in the Appendix.

The existing and forecasted turning movement volumes along with the existing intersection configurations and traffic control were used to develop the average delay per intersection in each study scenario. The delay calculations were done in accordance with the *Highway Capacity Manual 6th Edition* using the Vistro software package. The full calculations for each study scenario, including Level of Service (LOS) grades and queue lengths, are included in the Appendix. Also, included in the Appendix is a guide explaining the Level of Service grade concept.

Chart 1 (a.m. peak hour) and Chart 2 (p.m. peak hour) show the 95th percentile queue lengths on the busiest stop sign controlled approach at intersections with side street stop sign control. Average delays are not calculated for intersections with side street stop sign control because the vast majority of vehicles going through the intersection are on the main roadway and have zero delay, which leads to low overall average delays. At side street stop sign controlled approaches to busy roadways, the average delay for all the vehicles on the approach often exceeds 60 seconds. This can be the case for a few vehicles waiting at the stop sign where improvements would not be justified for the low traffic volume. In general, vehicle queuing of five cars or more is considered unreasonable and could warrant mitigation.

Chart 1 – A.M. Peak Hour Queues: Side-Street Stop-Controlled Intersections

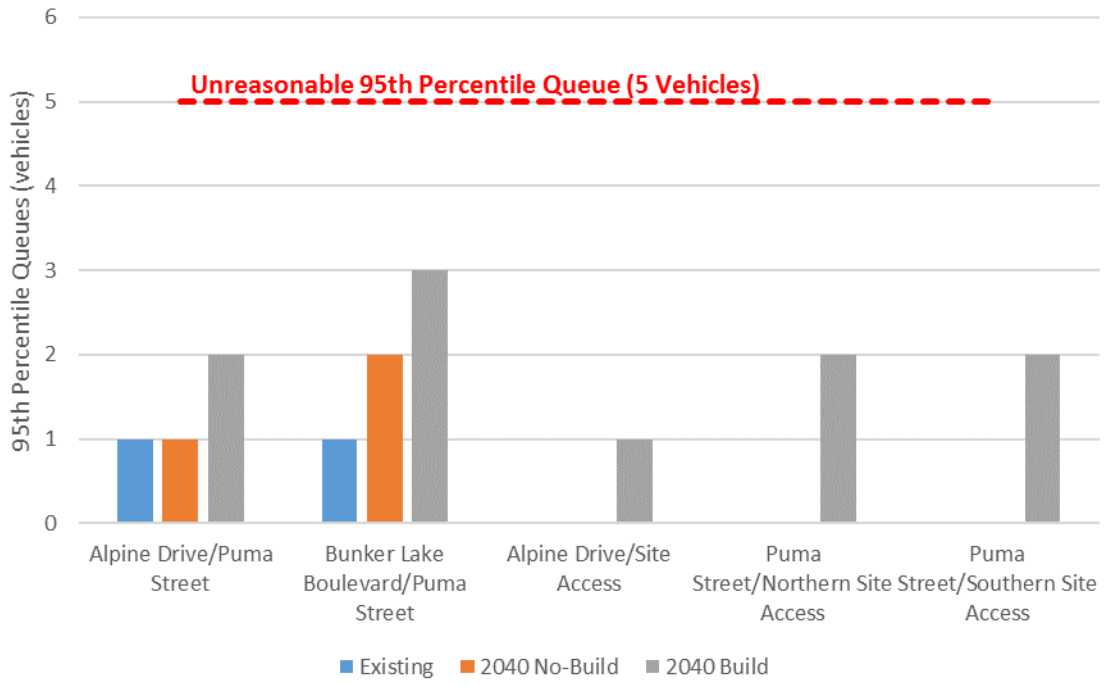
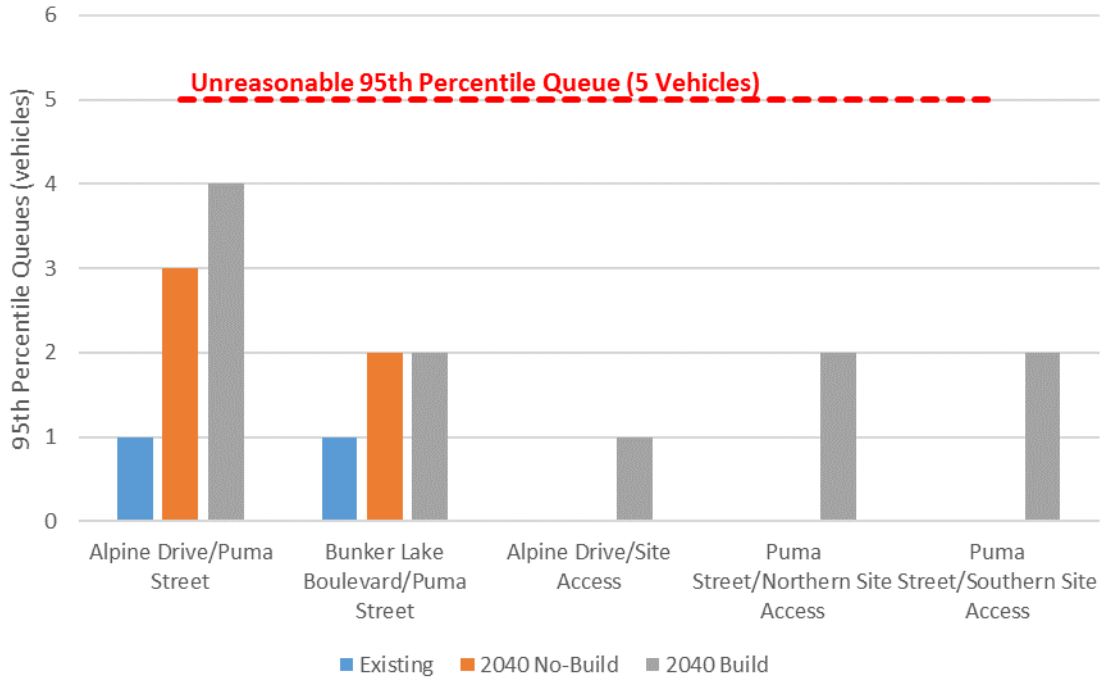


Chart 2 – P.M. Peak Hour Queues: Side-Street Stop-Controlled Intersections



b. Vehicular Mitigation Analysis

The above analyses indicate all study intersections are forecast to operate acceptably under all scenarios, including with the addition of traffic generated by the proposed addition of the Pearson Farm Development. As Charts 1 and Chart 2 show, the existing, no-build, and build queues stay consistent and well below the standard thresholds. All 95th percentile queues remain at or below four vehicles per approach at all study intersections. These results suggest that the addition of the Pearson Farm Development will not adversely impact the traffic operations at the study intersections. No mitigation is required at these intersections to help improve capacity.

With the existing low speed along Alpine Drive and Puma Street, the Turn-Lane Warrants published by MnDOT will not be fulfilled, as a 45 MPH minimum speed limit is not present on either roadway. The 30 MPH speed limit is consistent for a neighborhood street. A preliminary Turn-Lane Warrant analysis was completed based on volumes alone and ignoring the 45 MPH minimum speed requirement.

The daily total traffic entering and exiting the site accesses based on the collected turning movement counts, surrounding development trip generations, and the site trip generation were estimated as follows:

i. Southern site access at Bunker Lake Boulevard – 970 Vehicles per day
ii. Center site access onto Puma Street – 920 Vehicles per day
iii. Northern site access onto Puma Street – 680 Vehicles per day
iv. Site access onto Alpine Drive – 350 Vehicles per day

Main Line ADTs are roughly:

i. Puma Street – 4,400 Vehicles per day
ii. Alpine Drive – 2,700 Vehicles per day

Based on these estimated volumes and the criteria published in Warrant 9 (Vehicular Volume Warrant) from the *MnDOT Access Management Manual's Turn-Lane Warrants for Undivided Highways*, Table 3, below, was created. This table shows the estimated mainline and access volumes and the corresponding MnDOT Warrant thresholds.

Table 3 – New Trip Generation

Intersection	Left Turn Lane		Right Turn Lane	
	Street ADT	Access ADT	Street ADT	Access ADT
Southern site access at Bunker Lake Boulevard	4,400	970	4,400	970
Center site access onto Puma Street	4,400	920	4,400	920
Northern site access onto Puma Street	4,400	680	4,400	680
Site access onto Alpine Drive	2,700	350	2,700	350
Criteria	**4,000 – 4,999 -or- 1,500 – 2,999**	**> 1,000 -or- > 1,500**	**> 1,500**	**> 100**

As Table 3 shows, left-turn lanes are not warranted based on the estimated 2040 Build volumes while the right-turn lane warrant is satisfied. Again, these values are based upon a 45 MPH speed limit, which is not present on either Alpine Drive or Puma Street. If the speed along these streets are raised to 45 MPH or higher the Turn-Lane Warrants should be re-assessed.

It should be noted that this analysis did not consider modification to Armstrong Boulevard & Bunker Lake Boulevard as the prior Future Business Park Traffic Memorandum completed by Bolton & Menk already defined necessary upgrades for the intersection that would be required for proper traffic flow through the intersection.

c. Concept Site Plan & Multi-Modal Review

The concept site plan contained in the Appendix was reviewed to determine what changes are recommended, if any, to the proposed Pearson Farm Development. Following are key transportation elements of the concept site plan that should be implemented:

i. **Car Circulation**: The proposed site plan provides sufficient vehicle circulation with four accesses spaced evenly throughout the development. These accesses allow vehicles multiple options for entering and exiting the development which will help spread traffic more evenly throughout the site

ii. **Bicycle and pedestrian infrastructure:** An additional sidewalk/trail should be considered along the southern side of Alpine Drive from the proposed site access to the intersection of Alpine Drive and Puma Street. At this intersection, an additional crosswalk should be considered, connecting pedestrians north to the existing sidewalk/trail along the northern side of Alpine Drive. This new sidewalk/trail connection will provide a safe crossing and clear route for pedestrians and bicyclist to connect to the existing infrastructure. The existing trail along the western side of Puma Street will be lengthened to the southern edge of the development and an additional leg will be brought into the development at the Center Site Access location on Puma Street. This segment will stretch to the internal park to the north. Additional internal sidewalks will also be provided on one side of each street within the development and

should connect to the existing sidewalk/trail along Puma Street, as well as the proposed additional sidewalk/trail along the southern side of Alpine Drive.

iii. **Adjacent Transit:** The addition of transit near the Pearson Farm Development should be considered. Having access to other modes of travel is often seen as an amenity and a general benefit to a site, while helping to reduce the overall number of vehicles throughout the study area.

5. Conclusions and Recommendations

The traffic impacts and operation of the proposed Pearson Farm Development were thoroughly studied and the principal findings are:

- The proposed expansion is expected to generate approximately 2,912 new trips during an average weekday (1,456 entering and 1,456 exiting), approximately 227 new trips during the a.m. peak hour (53 entering and 174 exiting) and approximately 297 new trips during the p.m. peak hour (189 entering and 108 exiting).
- The existing study intersections operate with acceptable delays and vehicle queues today.
- The study intersections are expected to operate acceptably during the 2040 no-build and build scenarios.
- Left turn lanes are not warranted based on the expected 2040 build year volumes and mainline speeds.
- Right turn lane warrants are not fulfilled due to the mainline speeds remaining below 45 MPH, which is consistent for neighborhood streets, however, the right turn lane volume thresholds were reached by the estimated 2040 Build volumes.

The following recommendations are made based on the above findings:

- No additional intersection mitigation is required to help improve capacity.
- If the speed limits along Puma Street or Alpine Drive are increased to 45 MPH or higher, re-evaluate the Turn-Lane warrants.
- Construct a new sidewalk/trail along the southern edge of Alpine Drive connecting the proposed access to the existing Alpine Drive/Puma Street intersection. The addition of a north/south crosswalk should also be considered at this intersection to help promote safe crossing to the existing northern sidewalk/trail.
- Ensure the proposed internal sidewalks connect to the external sidewalk/trail system.
- Work with Metro Transit or their affiliates to improve transit options within the project area as the closest existing transit is located roughly 1.5 miles away at Ramsey Station and Platform.

6. Appendix

A. Site Plan

B. The Language of Traffic Engineering

C. Traffic Counts

D. Trip Generation Tables

E. Peak Hour Volumes

F. Level of Service (LOS)

G. Capacity Analysis Backup

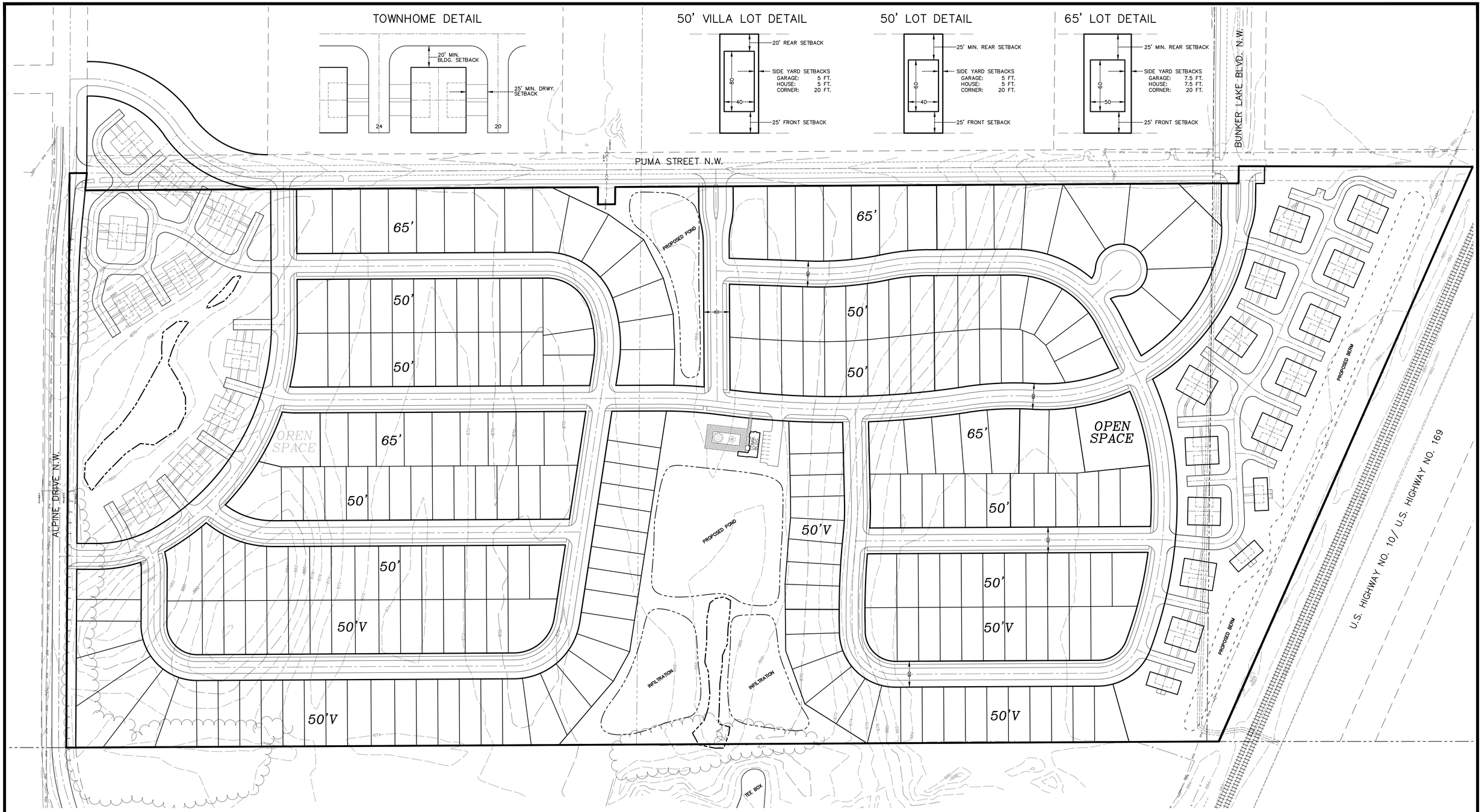
- AM Existing
- PM Existing
- AM 2040 No-Build
- PM 2040 No-Build
- AM 2040 Build
- PM 2040 Build

TOWNHOME DETAIL

50' VILLA LOT DETAIL

50' LOT DETAIL

65' LOT DETAIL



SITE DATA

TOTAL AREA	±88.44 AC.	SETBACK DATA:	
TOTAL NUMBER OF LOTS	344	50' S.F. – SIDE	5 FT.
50' S.F.	111	65' S.F. – SIDE	7.5 FT.
65' S.F.	48	50' VILLAS – SIDE	5 FT.
50' VILLAS	87	FRONT (ALL)	25 FT.
TOWNHOMES	98	REAR	20 FT. MIN.

SOUTH HALF DATA

TOTAL NUMBER OF LOTS	172	SETBACK DATA:	
50' S.F.	55	50' S.F. – SIDE	5 FT.
65' S.F.	24	65' S.F. – SIDE	7.5 FT.
50' VILLAS	35	50' VILLAS – SIDE	5 FT.
TOWNHOMES	58	FRONT (ALL)	25 FT.
		REAR	20 FT. MIN.

N

0 50 100 200

(IN FEET)

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Revisions:

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14015 Sunfish Lake Blvd. - Suite 400
Ramsey, MN 55303

PEARSON FARM
Ramsey, Minnesota

CONCEPT PLAN

1 of 1

Save Date: 01/06/17 | F:\jobs\6421 - 6440\6435 - ramsey site\cad c3d\survey\6435_layout 4.dwg

The Language of Traffic Engineering

Traffic Engineering, and Traffic Engineers, often use technical terms or jargon that may be confusing or tough to understand even within the context of a sentence. Key terms and acronyms that can generally be found in all types of traffic studies are defined in this document.

Types of Studies

Access Management – The practice of government agencies limiting the amount of intersections (both public roadway crossings and private driveways) along a roadway corridor based on the function of the roadway to improve safety and mobility while streamlining access.

Corridor Study – A transportation review and analysis of the existing and future traffic operations of a roadway segment. Varies in length from a couple blocks to a few miles and typically covers all modes of travel.

Intersection Control Evaluation (ICE) Report – A document that examines and determines the most appropriate type of control (stop sign, signal, roundabout, or other) at one or more intersections.

Safety Study – An examination of crash records to identify potential trends, issues, and problem intersections/ corridors. Usually includes potential mitigation options expected to decrease crash rates in the future.

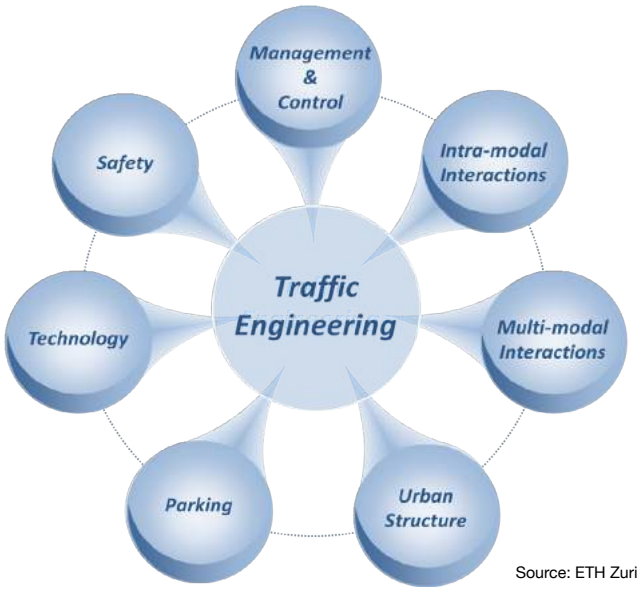
Speed Study – A review of existing travel speeds and the corridor characteristics to determine if speeding is an issue, the appropriate speed to post as the limit, and/or areas to provide reduced speed warnings.

Traffic Impact Study (TIS) – A document that addresses the expected traffic impacts of a development and, if necessary, mitigation options that will reduce or eliminate negative impacts. Also referred to as a Traffic Impact Analysis.

Transportation Plan – A document developed by a government agency to take inventory of their transportation network, identify concerns or issues and lay out the path for improvement of the system.

Travel Demand Management Plan (TDMP) – A plan that documents the existing infrastructure around a site, including transit and non-motorized vehicle options, and develops measures to be implemented to encourage those alternative modes of travel.

Warrant Evaluation – Review of traffic volumes and other characteristics at an intersection against thresholds to determine if a traffic signal or other traffic control option is needed/warranted.



Source: ETH Zurich

Traffic Engineering is a branch of civil engineering that focuses on the safe and efficient movement of people and vehicles. It is part science and part art, requiring not only technical skills for analysis but an understanding of motivations in choosing travel routes.

Key Organizations

AASHTO – American Association of State Highway and Transportation Officials. A nonprofit, nonpartisan association representing transportation departments with a primary goal of fostering the development, operation, and maintenance of an integrated national transportation system.

DOT – Department of Transportation. Government organizations within federal and state agencies dedicated to serving the transportation needs of the community and typically responsible for study, design, operation, and maintenance of all facets of transportation.

FHWA – Federal Highway Administration. An agency within the US Department of Transportation that supports State and local governments in the design, construction, and maintenance of the highway system.

ITE – Institute of Transportation Engineers. An international educational and scientific association of transportation professionals who are responsible for meeting mobility and safety needs.

Results

85th Percentile Speed – Speed at which 85 percent of drivers are traveling at or below. Speed limits are typically set at the 85th percentile speed.

95th Percentile Queue – The distance, generally measured in feet or number of vehicles, which will be exceeded in a lane, typically at an intersection, only five percent of the time. Usually used to help determine intersection turn lane lengths.

Control Delay – The total amount of time a motorist takes to get through a road segment or intersection minus the time it would take without stopping due to traffic controls (like stop signs or traffic signals). Control delay includes decelerating and accelerating back to full driving speed.

Functional Classification – the grouping of streets and highways into categories according to their characteristics and emphasis on mobility or access. Generally, categories include arterials (emphasizing mobility and fast travel), local roads (emphasizing access to adjoining properties), and collector roads (emphasizing a balance between the two and usually connecting arterials to local roads).

Intersection Delay – The average amount of time, usually expressed in seconds, experienced by any vehicle traveling through an intersection.

Level of Service (LOS) – Qualitative measure of traffic operations related to the amount of average delay experienced. Expressed in letter grades with LOS A representing the best operations with little to no delay and LOS F representing the worst operations with excessive delays and congestion.

Measures of Effectiveness – Performance measures that define how well traffic is moving along a corridor or thru an intersection. The common MOEs are travel time, corridor speed, delay, and queues.

Mitigation – Measures intended to reduce the impact of a development or improve an identified traffic issue by either improving capacity (like adding lanes) or reducing demand (like encouraging carpooling).

Queue – Length of line of cars waiting at an intersection or at a bottleneck in a corridor, typically measured for each individual lane of traffic in feet or number of vehicles.

Volume to Capacity (v/c) ratio – the number of vehicles through an intersection or roadway segment in a specific amount of time divided by the expected capacity of the road. Less than 1.0 indicates available capacity and above 1.0 indicates more vehicles than can be accommodated. Typically, a v/c ratio above 0.85 suggests operational issues.

Trip Generation – The amount of vehicle traffic generated by a land use. One trip is equal to one vehicle traveling from an origin to a destination (traveling to and from work equals two trips).

Warrants – Criteria based on volumes and other Measures of Effectiveness for determining when all way stop signs, roundabouts, traffic signals, or other type of control should be installed.

Important Manuals/Guides

HCM – Highway Capacity Manual (released by the Transportation Research Board, or TRB). The guide for engineers and planners to assess traffic and environmental effects of highway projects. This manual presents the foundation of traffic analysis procedures in the US.

MUTCD – Manual of Uniform Traffic Control Devices. A document that sets minimum standards and provides guidance to ensure uniformity of traffic control devices (such as messages, location, size, shapes, and colors) across the nation. All roads are subject to its jurisdiction.

HSM – Highway Safety Manual (released by AASHTO). A guide that presents a variety of methods for quantitatively estimating crash frequency or severity.

Resources

MUTCD, 2009 Edition, published by FHWA

Highway Capacity Manual, HCM2010

Highway Safety Manual, HSM

About This Brief

Spack Consulting prepared this brief as part of our company's vision to significantly improve the practice of traffic engineering and transportation planning. Transportation professionals from around the world have assisted us in developing this document. We are providing this brief under the Creative Commons Attribution License. Feel free to use-modify-share this guide, but please give us some credit in your document. To request our whole series of Design Briefs and to be included on our distribution list for new materials, please email mspack@spackconsulting.com. And please reach out if you have any comments or questions related to this Design Brief.

Traffic Data Inc

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Saint Paul, MN

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12:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	4
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	4
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01:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0	1	0	0	1	3
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
02:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
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03:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:30 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0	3	4
Total	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	2	1	0	3	11
05:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
05:15 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5
05:30 AM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
05:45 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	4
Total	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	3	0	0	3	19
06:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	4	0	0	4	10
06:15 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	11	1	0	12	16
06:30 AM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	6	0	0	6	14
06:45 AM	0	0	0	0	0	0	0	0	12	0	0	12	0	1	0	0	0	1	0	0	8	2	0	10	23
Total	0	0	0	0	0	0	0	0	30	0	0	30	0	1	0	0	0	1	0	0	29	3	0	32	63

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07:30 AM	0	0	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	0	0	10	2	0	12	25
07:45 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	12	2	0	14	24
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08:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	1	0	1	0	0	11	0	0	11	18
08:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	7	1	0	8	13
08:30 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	15	1	0	16	22
08:45 AM	0	0	0	0	0	0	0	0	9	0	0	9	0	1	0	1	0	2	0	0	11	0	0	11	22
Total	0	0	0	0	0	0	0	0	26	0	0	26	0	1	0	2	0	3	0	0	44	2	0	46	75
09:00 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	8	18
09:15 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	14
09:30 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	1	0	3	6
09:45 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	4	0	0	4	8
Total	0	0	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	0	0	21	1	0	22	46
10:00 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5
10:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	6	0	0	6	11
10:30 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	1	0	0	0	1	0	0	3	0	0	3	10
10:45 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	1	0	0	0	1	0	0	7	1	0	8	14
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11:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5	1	0	6	11
11:30 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	9	0	0	9	15
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12:00 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	1	0	0	0	1	0	0	4	0	0	4	10
12:15 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	1	0	0	0	1	0	0	8	0	0	8	14
12:30 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	0	2	0	0	9	1	0	10	15
12:45 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	1	0	0	0	1	0	0	8	0	0	8	16
Total	0	0	0	0	0	0	0	0	20	0	0	20	0	5	0	0	0	5	0	0	29	1	0	30	55
01:00 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	1	0	0	0	1	0	0	8	0	0	8	17
01:15 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	1	0	0	0	1	0	0	7	0	0	7	16
01:30 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	2	0	0	0	2	0	0	5	1	0	6	14
01:45 PM	0	0	0	0	0	0	0	1	6	0	0	7	0	1	0	1	0	2	0	0	6	0	0	6	15
Total	0	0	0	0	0	0	0	1	28	0	0	29	0	5	0	1	0	6	0	0	26	1	0	27	62

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02:15 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	2	0	1	0	3	0	0	3	0	0	3	14
02:30 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	1	0	1	0	0	7	0	0	7	15
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Total	0	0	0	0	0	0	0	0	33	0	0	33	0	2	0	3	0	5	0	0	28	1	0	29	67
03:00 PM	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	7	1	0	8	19
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03:30 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	8	1	0	9	16
03:45 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	1	0	0	0	1	0	0	16	0	0	16	25
Total	0	0	0	0	0	0	0	0	34	0	0	34	0	1	0	0	0	1	0	0	40	3	0	43	78
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04:15 PM	0	0	0	0	0	0	0	0	16	0	0	16	0	1	0	0	0	1	0	0	11	0	0	11	28
04:30 PM	0	0	0	0	0	0	0	0	16	0	0	16	0	1	0	0	0	1	0	0	10	1	0	11	28
04:45 PM	0	0	0	0	0	0	0	1	11	0	0	12	0	0	0	0	0	0	0	0	15	1	0	16	28
Total	0	0	0	0	0	0	0	2	46	0	0	48	0	2	0	0	0	2	0	0	49	2	0	51	101
05:00 PM	0	0	0	0	0	0	0	0	10	0	0	10	0	2	0	1	0	3	0	0	17	0	1	18	31
05:15 PM	0	0	0	0	0	0	0	1	13	0	0	14	0	0	0	0	0	0	0	0	18	0	0	18	32
05:30 PM	0	0	0	0	0	0	0	0	15	0	0	15	0	2	0	0	0	2	0	0	14	0	0	14	31
05:45 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	13	0	0	13	21
Total	0	0	0	0	0	0	0	1	46	0	0	47	0	4	0	1	0	5	0	0	62	0	1	63	115
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06:30 PM	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	7	0	0	7	19
06:45 PM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	7	0	0	7	17
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07:00 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	8	0	0	8	13
07:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	4	0	0	4	7
07:30 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5	0	0	5	10
07:45 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	3	0	0	3	10
Total	0	0	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	0	0	20	0	0	20	40
08:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	5	0	0	5	8
08:15 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	1	0	0	1	8
08:30 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	8	0	0	8	12
08:45 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	5	0	0	5	11
Total	0	0	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	0	0	19	0	0	19	39

Traffic Data Inc
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Oxford Street & Fairmount Avenue
Saint Paul, MN

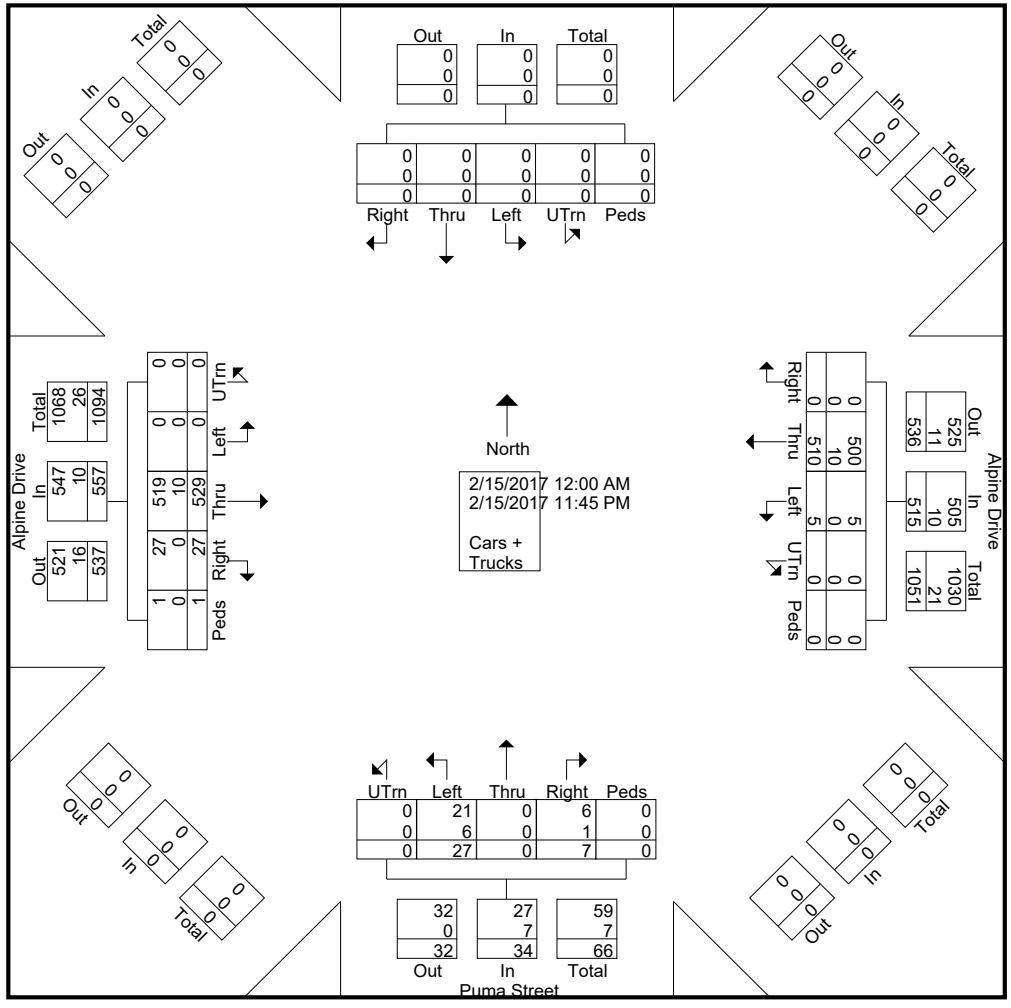
Groups Printed- Cars + - Trucks

	Southbound						Alpine Drive Westbound						Puma Street Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
09:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
09:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3	1	0	4	7
09:30 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5
09:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
Total	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	10	1	0	11	20
10:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
10:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
10:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	7	0	0	7	10
11:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
11:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	0	0	2	5
11:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5	0	0	5	10
Grand Total	0	0	0	0	0	0	0	5	510	0	0	515	0	27	0	7	0	34	0	0	529	27	1	557	1106
Apprch %	0	0	0	0	0		0	1	99	0	0		0	79.4	0	20.6	0		0	0	95	4.8	0.2		
Total %	0	0	0	0	0	0	0	0.5	46.1	0	0	46.6	0	2.4	0	0.6	0	3.1	0	0	47.8	2.4	0.1	50.4	
Cars +	0	0	0	0	0	0	0	5	500	0	0	505	0	21	0	6	0	27	0	0	519	27	1	547	1079
% Cars +	0	0	0	0	0	0	0	100	98	0	0	98.1	0	77.8	0	85.7	0	79.4	0	0	98.1	100	100	98.2	97.6
Trucks	0	0	0	0	0	0	0	0	10	0	0	10	0	6	0	1	0	7	0	0	10	0	0	10	27
% Trucks	0	0	0	0	0	0	0	0	2	0	0	1.9	0	22.2	0	14.3	0	20.6	0	0	1.9	0	0	1.8	2.4

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Oxford Street & Fairmount Avenue
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Oxford Street & Fairmount Avenue
Saint Paul, MN

	Southbound						Alpine Drive Westbound						Puma Street Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:15 AM																									
07:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	23	2	0	25	35
07:30 AM	0	0	0	0	0	0	0	0	**13**	0	0	**13**	0	0	0	0	0	0	0	0	10	2	0	12	25
07:45 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	12	2	0	14	24
08:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	**1**	0	**1**	0	0	11	0	0	11	18
Total Volume	0	0	0	0	0	0	0	0	39	0	0	39	0	0	0	1	0	1	0	0	56	6	0	62	102
% App. Total	0	0	0	0	0		0	0	100	0	0		0	0	0	100	0		0	0	90.3	9.7	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.750	.000	.000	.750	.000	.000	.000	.250	.000	.250	.000	.000	.609	.750	.000	.620	.729
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 12:30 PM																									
12:30 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	**2**	0	0	0	**2**	0	0	**9**	**1**	0	**10**	15
12:45 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	1	0	0	0	1	0	0	8	0	0	8	16
01:00 PM	0	0	0	0	0	0	0	0	**8**	0	0	**8**	0	1	0	0	0	1	0	0	8	0	0	8	**17**
01:15 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	1	0	0	0	1	0	0	7	0	0	7	16
Total Volume	0	0	0	0	0	0	0	0	26	0	0	26	0	5	0	0	0	5	0	0	32	1	0	33	64
% App. Total	0	0	0	0	0		0	0	100	0	0		0	100	0	0	0		0	0	97	3	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.813	.000	.000	.813	.000	.625	.000	.000	.000	.625	.000	.000	.889	.250	.000	.825	.941
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:45 PM																									
04:45 PM	0	0	0	0	0	0	0	**1**	11	0	0	12	0	0	0	0	0	0	0	0	15	**1**	0	16	28
05:00 PM	0	0	0	0	0	0	0	0	10	0	0	10	0	**2**	0	**1**	0	**3**	0	0	17	0	**1**	**18**	31
05:15 PM	0	0	0	0	0	0	0	1	13	0	0	14	0	0	0	0	0	0	0	0	**18**	0	0	18	**32**
05:30 PM	0	0	0	0	0	0	0	0	**15**	0	0	**15**	0	2	0	0	0	2	0	0	14	0	0	14	31
Total Volume	0	0	0	0	0	0	0	2	49	0	0	51	0	4	0	1	0	5	0	0	64	1	1	66	122
% App. Total	0	0	0	0	0		0	3.9	96.1	0	0		0	80	0	20	0		0	0	97	1.5	1.5		
PHF	.000	.000	.000	.000	.000	.000	.000	.500	.817	.000	.000	.850	.000	.500	.000	.250	.000	.417	.000	.000	.889	.250	.250	.917	.953

Traffic Data Inc
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Site Code : 1
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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Southbound						Alpine Drive Westbound						Puma Street Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
01:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
02:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
02:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
Total	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
03:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
03:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	2	0	0	2	7
04:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:15 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5
05:30 AM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
Total	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	6	0	0	6	18
06:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	5	0	0	5	11
06:15 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	1	1	0	2	9
06:30 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	8	18
06:45 AM	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	6	1	0	7	16
Total	0	0	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	0	0	0	20	2	0	22	54

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Site Code : 1
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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Southbound						Alpine Drive Westbound						Puma Street Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	12	0	0	12	0	1	0	0	0	1	0	0	11	0	0	11	24
07:15 AM	0	0	0	0	0	0	0	0	11	0	0	11	0	1	0	0	0	1	0	0	14	0	0	14	26
07:30 AM	0	0	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	0	0	17	1	0	18	31
07:45 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	13	4	0	17	24
Total	0	0	0	0	0	0	0	0	43	0	0	43	0	2	0	0	0	2	0	0	55	5	0	60	105
08:00 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	12	0	0	12	15
08:15 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	7	1	0	8	14
08:30 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	11	2	0	13	19
08:45 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	8	0	0	8	15
Total	0	0	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	0	0	38	3	0	41	63
09:00 AM	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	8	0	0	8	17
09:15 AM	0	0	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	0	0	5	0	0	5	12
09:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	1	0	4	8
09:45 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	1	0	1	0	0	5	0	0	5	9
Total	0	0	0	0	0	0	0	1	22	0	0	23	0	0	0	1	0	1	0	0	21	1	0	22	46
10:00 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	1	0	0	0	1	0	0	8	1	0	9	15
10:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	8	0	0	8	13
10:30 AM	0	0	0	0	0	0	0	1	4	0	0	5	0	1	0	0	0	1	0	0	2	0	0	2	8
10:45 AM	0	0	0	0	0	0	1	0	3	0	0	4	0	1	0	0	0	1	0	0	9	0	0	9	14
Total	0	0	0	0	0	0	1	1	17	0	0	19	0	3	0	0	0	3	0	0	27	1	0	28	50
11:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6	1	0	7	13
11:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	1	1	0	0	5	0	0	5	11
11:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5
11:45 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	1	0	0	0	1	0	0	6	0	0	6	13
Total	0	0	0	0	0	0	0	0	21	0	0	21	0	1	0	0	1	2	0	0	18	1	0	19	42
12:00 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	8	1	0	9	11
12:15 PM	0	0	0	0	0	0	0	0	5	0	1	6	0	1	0	0	1	2	0	0	2	0	0	2	10
12:30 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	7	0	0	7	13
12:45 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	4	0	0	4	7
Total	0	0	0	0	0	0	0	0	16	0	1	17	0	1	0	0	1	2	0	0	21	1	0	22	41
01:00 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	2	0	0	0	2	0	0	10	0	0	10	18
01:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	0	1	0	0	8	1	0	9	13
01:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	0	1	0	0	6	0	0	6	9
01:45 PM	0	0	0	0	0	0	0	1	5	0	0	6	0	1	0	1	0	2	0	0	9	0	0	9	17
Total	0	0	0	0	0	0	0	1	16	0	0	17	0	5	0	1	0	6	0	0	33	1	0	34	57

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St. Louis Park, MN 55416

File Name : 1 - Alpine Dr & Puma St, 2-16-17
Site Code : 1
Start Date : 2/16/2017
Page No : 3

Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Southbound						Alpine Drive Westbound						Puma Street Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	0	10	0	0	10	0	2	0	0	0	2	0	0	6	0	0	6	18
02:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0	7	1	0	8	10
02:30 PM	0	0	0	0	0	0	0	1	8	0	0	9	0	1	0	1	0	2	0	0	6	0	0	6	17
02:45 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	1	0	1	0	2	0	0	9	2	0	11	20
Total	0	0	0	0	0	0	0	1	26	0	0	27	0	5	0	2	0	7	0	0	28	3	0	31	65
03:00 PM	0	0	0	0	0	0	0	0	11	0	0	11	0	1	0	0	0	1	0	0	6	2	0	8	20
03:15 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	2	0	0	0	2	0	0	10	1	0	11	20
03:30 PM	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	15	0	0	15	26
03:45 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	1	0	0	0	1	0	0	10	0	0	10	19
Total	0	0	0	0	0	0	0	0	37	0	0	37	0	4	0	0	0	4	0	0	41	3	0	44	85
04:00 PM	0	0	0	0	0	0	0	1	18	0	0	19	0	2	0	0	0	2	0	0	14	1	0	15	36
04:15 PM	0	0	0	0	0	0	0	0	13	0	0	13	0	3	0	0	0	3	0	0	13	0	0	13	29
04:30 PM	0	0	0	0	0	0	0	0	21	0	0	21	0	1	0	0	0	1	0	0	8	0	0	8	30
04:45 PM	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	14	2	0	16	28
Total	0	0	0	0	0	0	0	1	64	0	0	65	0	6	0	0	0	6	0	0	49	3	0	52	123
05:00 PM	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	2	2	0	0	15	1	0	16	27
05:15 PM	0	0	0	0	0	0	0	0	12	0	0	12	0	1	0	0	0	1	0	0	13	1	0	14	27
05:30 PM	0	0	0	0	0	0	0	0	18	0	0	18	0	2	0	0	0	2	0	0	14	1	0	15	35
05:45 PM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	20	1	0	21	31
Total	0	0	0	0	0	0	0	0	49	0	0	49	0	3	0	0	2	5	0	0	62	4	0	66	120
06:00 PM	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	16	1	0	17	26
06:15 PM	0	0	0	0	0	0	1	0	7	0	0	8	0	0	0	0	0	0	0	0	11	0	0	11	19
06:30 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	3	0	0	0	3	0	0	6	1	0	7	16
06:45 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	1	0	0	0	1	0	0	6	0	0	6	12
Total	0	0	0	0	0	0	1	0	27	0	0	28	0	4	0	0	0	4	0	0	39	2	0	41	73
07:00 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
07:15 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	8	0	0	8	16
07:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	6	0	0	6	8
07:45 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	7	0	0	7	10
Total	0	0	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	0	0	24	0	0	24	41
08:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3	0	0	3	6
08:15 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6	0	0	6	12
08:30 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
08:45 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	12	0	0	12	31

Traffic Data Inc
PO Box 16269
St. Louis Park, MN 55416

File Name : 1 - Alpine Dr & Puma St, 2-16-17
Site Code : 1
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Oxford Street & Fairmount Avenue
Saint Paul, MN

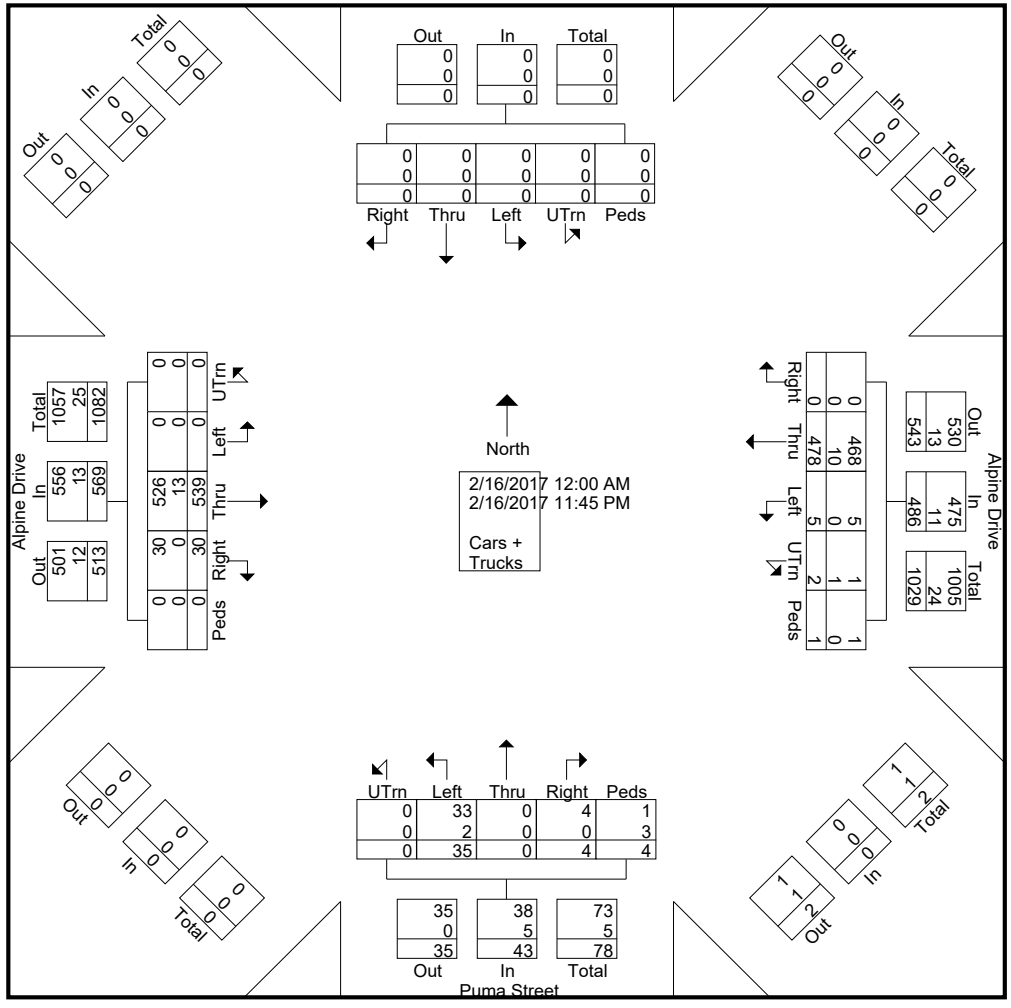
Groups Printed- Cars + - Trucks

	Southbound						Alpine Drive Westbound						Puma Street Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
09:00 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	5	0	0	5	9
09:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	0	1	0	0	5	0	0	5	8
09:30 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	5	0	0	5	11
09:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4	0	0	4	6
Total	0	0	0	0	0	0	0	0	14	0	0	14	0	1	0	0	0	1	0	0	19	0	0	19	34
10:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	4
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
10:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
10:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	0	0	5	6
Total	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	11	0	0	11	16
11:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
11:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	7	0	0	7	9
Grand Total	0	0	0	0	0	0	2	5	478	0	1	486	0	35	0	4	4	43	0	0	539	30	0	569	1098
Apprch %	0	0	0	0	0		0.4	1	98.4	0	0.2		0	81.4	0	9.3	9.3		0	0	94.7	5.3	0		
Total %	0	0	0	0	0	0	0.2	0.5	43.5	0	0.1	44.3	0	3.2	0	0.4	0.4	3.9	0	0	49.1	2.7	0	51.8	
Cars +	0	0	0	0	0	0	1	5	468	0	1	475	0	33	0	4	1	38	0	0	526	30	0	556	1069
% Cars +	0	0	0	0	0	0	50	100	97.9	0	100	97.7	0	94.3	0	100	25	88.4	0	0	97.6	100	0	97.7	97.4
Trucks	0	0	0	0	0	0	1	0	10	0	0	11	0	2	0	0	3	5	0	0	13	0	0	13	29
% Trucks	0	0	0	0	0	0	50	0	2.1	0	0	2.3	0	5.7	0	0	75	11.6	0	0	2.4	0	0	2.3	2.6

Traffic Data Inc
PO Box 16269
St. Louis Park, MN 55416

File Name : 1 - Alpine Dr & Puma St, 2-16-17
Site Code : 1
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Oxford Street & Fairmount Avenue
Saint Paul, MN



Traffic Data Inc
PO Box 16269
St. Louis Park, MN 55416

File Name : 1 - Alpine Dr & Puma St, 2-16-17
Site Code : 1
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Oxford Street & Fairmount Avenue
Saint Paul, MN

	Southbound						Alpine Drive Westbound						Puma Street Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**12**	**0**	1	0	0	0	1	0	0	11	0	0	11	24
07:15 AM	0	0	0	0	0	0	0	0	11	0	0	11	0	1	0	0	0	1	0	0	14	0	0	14	26
07:30 AM	0	0	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	0	0	**17**	1	0	**18**	**31**
07:45 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	13	**4**	0	17	24
Total Volume	0	0	0	0	0	0	0	0	43	0	0	43	0	2	0	0	0	2	0	0	55	5	0	60	105
% App. Total	0	0	0	0	0		0	0	100	0	0		0	100	0	0	0		0	0	91.7	8.3	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.827	.000	.000	.827	.000	.500	.000	.000	.000	.500	.000	.000	.809	.313	.000	.833	.847
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 01:00 PM																									
01:00 PM	0	0	0	0	0	0	0	0	**6**	0	0	**6**	0	**2**	0	0	0	**2**	0	0	**10**	0	0	**10**	**18**
01:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	0	1	0	0	8	**1**	0	9	13
01:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	0	1	0	0	6	0	0	6	9
01:45 PM	0	0	0	0	0	0	0	**1**	5	0	0	6	0	1	0	**1**	0	2	0	0	9	0	0	9	17
Total Volume	0	0	0	0	0	0	0	1	16	0	0	17	0	5	0	1	0	6	0	0	33	1	0	34	57
% App. Total	0	0	0	0	0		0	5.9	94.1	0	0		0	83.3	0	16.7	0		0	0	97.1	2.9	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.667	.000	.000	.708	.000	.625	.000	.250	.000	.750	.000	.000	.825	.250	.000	.850	.792
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:00 PM																									
04:00 PM	0	0	0	0	0	0	0	**1**	18	0	0	19	0	2	0	0	0	2	0	0	**14**	1	0	15	**36**
04:15 PM	0	0	0	0	0	0	0	0	13	0	0	13	0	**3**	0	0	0	**3**	0	0	13	0	0	13	29
04:30 PM	0	0	0	0	0	0	0	0	**21**	0	0	**21**	0	1	0	0	0	1	0	0	8	0	0	8	30
04:45 PM	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	14	**2**	0	**16**	28
Total Volume	0	0	0	0	0	0	0	1	64	0	0	65	0	6	0	0	0	6	0	0	49	3	0	52	123
% App. Total	0	0	0	0	0		0	1.5	98.5	0	0		0	100	0	0	0		0	0	94.2	5.8	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.762	.000	.000	.774	.000	.500	.000	.000	.000	.500	.000	.000	.875	.375	.000	.813	.854

Traffic Data Inc
PO Box 16269
St. Louis Park, MN 55416

File Name : 2 - Bunker Lake Blvd & Puma St, 2-15-17
Site Code : 1
Start Date : 2/15/2017
Page No : 1

Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	2	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	3	0	0	0	3	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4

Traffic Data Inc
PO Box 16269
St. Louis Park, MN 55416

File Name : 2 - Bunker Lake Blvd & Puma St, 2-15-17
Site Code : 1
Start Date : 2/15/2017
Page No : 2

Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	7	0	0	0	7	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	8
08:00 AM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	3	0	0	0	3	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	6
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	0	2	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	4	0	0	0	4	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	1	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	7
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Oxford Street & Fairmount Avenue
Saint Paul, MN

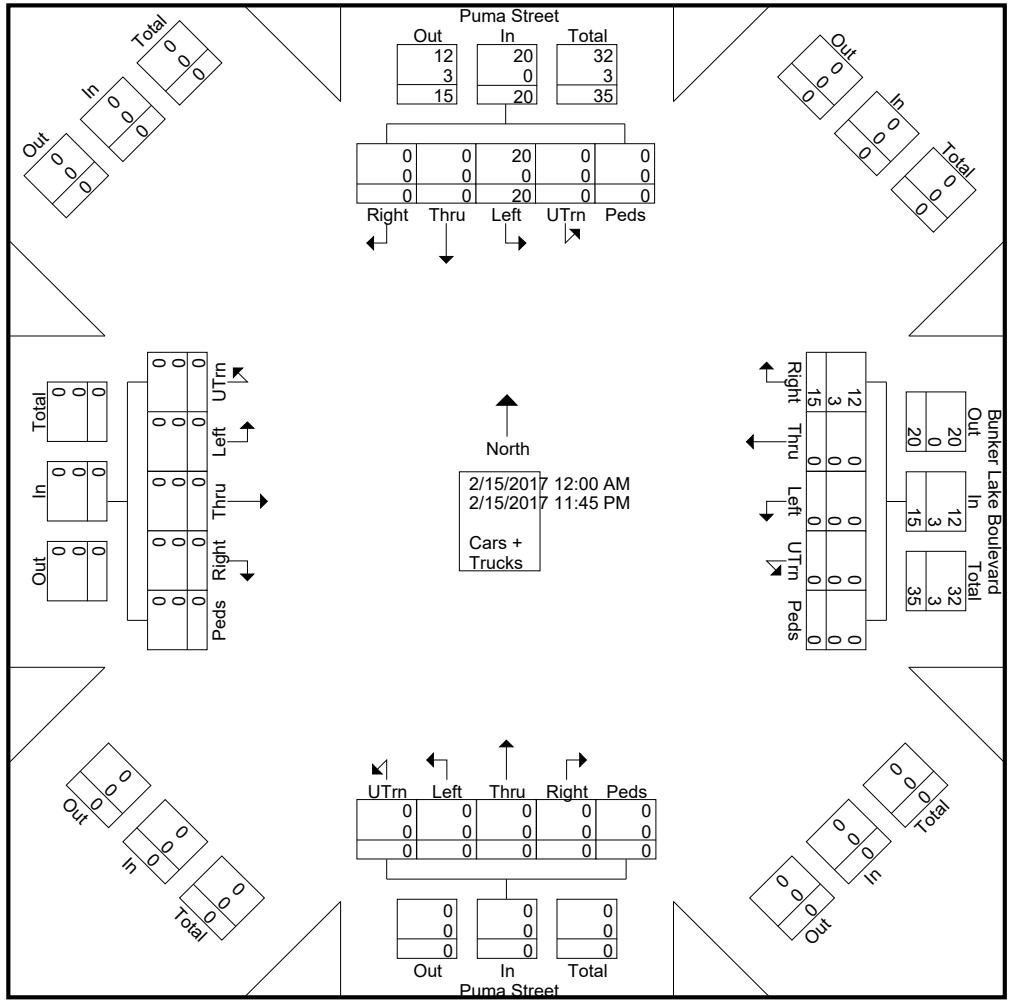
Groups Printed- Cars + - Trucks

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	20	0	0	0	20	0	0	0	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	35
Apprch %	0	100	0	0	0		0	0	0	100	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	57.1	0	0	0	57.1	0	0	0	42.9	0	42.9	0	0	0	0	0	0	0	0	0	0	0	0	
Cars +	0	20	0	0	0	20	0	0	0	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	32
% Cars +	0	100	0	0	0	100	0	0	0	80	0	80	0	0	0	0	0	0	0	0	0	0	0	0	91.4
Trucks	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
% Trucks	0	0	0	0	0	0	0	0	0	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	8.6

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Oxford Street & Fairmount Avenue
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Oxford Street & Fairmount Avenue
Saint Paul, MN

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 06:45 AM																									
06:45 AM	**0**	₂	0	0	0	₂	0	0	0	₁	0	₁	0	0	0	0	0	0	0	0	0	0	0	0	**3**
07:00 AM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	6	0	0	0	6	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	8
% App. Total	0	100	0	0	0		0	0	0	100	0		0	0	0	0	0		0	0	0	0	0		
PHF	.000	.750	.000	.000	.000	.750	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.667
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 10:00 AM																									
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:45 PM																									
04:45 PM	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	0	0	0	0	0	0	0	**3**
05:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	3	0	0	0	3	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	9
% App. Total	0	100	0	0	0		0	0	0	100	0		0	0	0	0	0		0	0	0	0	0		
PHF	.000	.375	.000	.000	.000	.375	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Traffic Data Inc
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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	5	0	0	0	5	1	0	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	8
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
03:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	0	2	0	0	0	0	0	0	3
03:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	2	0	0	0	2	0	1	0	3	0	4	0	0	1	1	0	2	0	0	0	0	0	0	8
04:00 PM	0	2	0	0	0	2	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4
04:15 PM	0	1	0	0	0	1	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	5	0	0	0	5	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	11
05:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	2	0	0	0	2	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	5
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	0	0	4	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	8
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Oxford Street & Fairmount Avenue
Saint Paul, MN

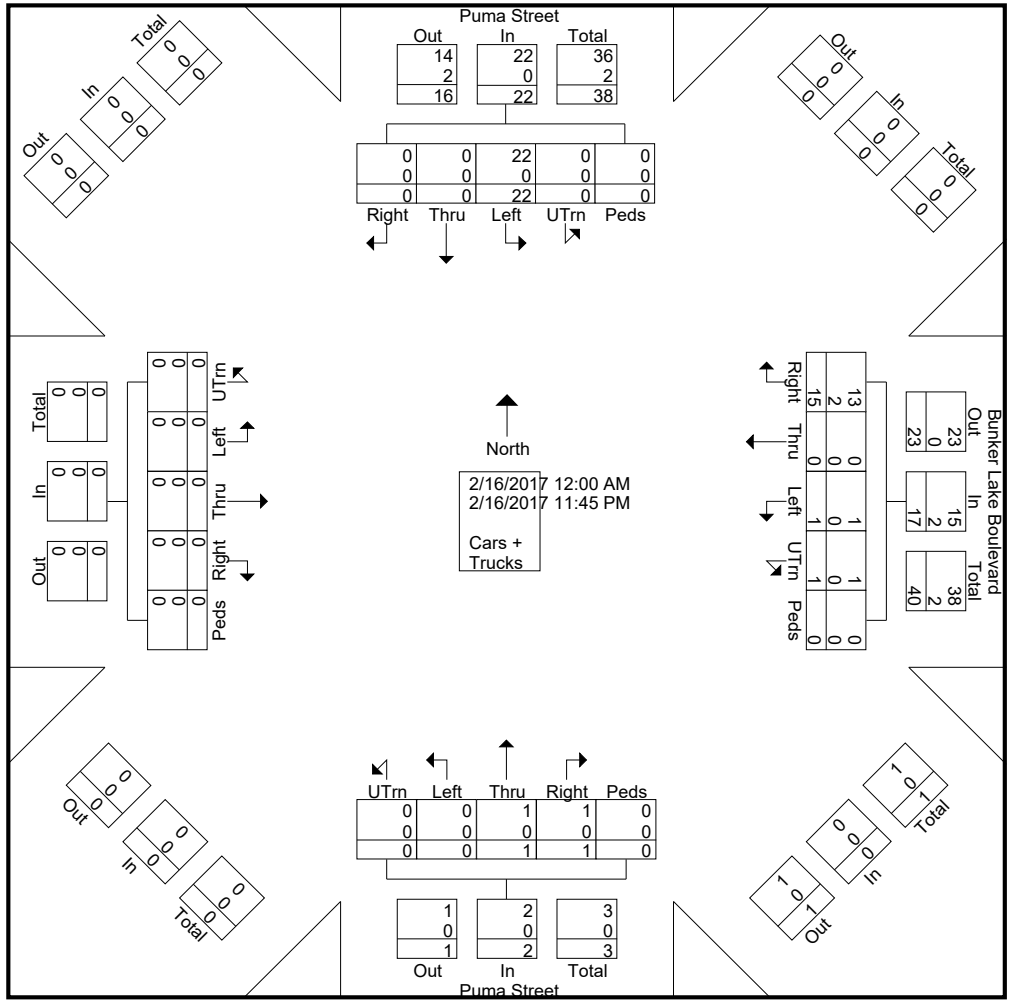
Groups Printed- Cars + - Trucks

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	22	0	0	0	22	1	1	0	15	0	17	0	0	1	1	0	2	0	0	0	0	0	0	41
Apprch %	0	100	0	0	0		5.9	5.9	0	88.2	0		0	0	50	50	0		0	0	0	0	0		
Total %	0	53.7	0	0	0	53.7	2.4	2.4	0	36.6	0	41.5	0	0	2.4	2.4	0	4.9	0	0	0	0	0	0	
Cars +	0	22	0	0	0	22	1	1	0	13	0	15	0	0	1	1	0	2	0	0	0	0	0	0	39
% Cars +	0	100	0	0	0	100	100	100	0	86.7	0	88.2	0	0	100	100	0	100	0	0	0	0	0	0	95.1
Trucks	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% Trucks	0	0	0	0	0	0	0	0	0	13.3	0	11.8	0	0	0	0	0	0	0	0	0	0	0	0	4.9

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Oxford Street & Fairmount Avenue
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Traffic Data Inc
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Oxford Street & Fairmount Avenue
Saint Paul, MN

	Puma Street Southbound						Bunker Lake Boulevard Westbound						Puma Street Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	5	0	0	0	**5**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Total Volume	0	5	0	0	0	5	1	0	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	8
% App. Total	0	100	0	0	0		33.3	0	0	66.7	0		0	0	0	0	0		0	0	0	0	0		
PHF	.000	.250	.000	.000	.000	.250	.250	.000	.000	.500	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.400
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 10:00 AM																									
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 03:30 PM																									
03:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	**1**	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00 PM	0	**2**	0	0	0	**2**	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	**4**
04:15 PM	0	1	0	0	0	1	0	0	0	**3**	0	**3**	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	4	0	0	0	4	0	1	0	6	0	7	0	0	0	0	0	0	0	0	0	0	0	0	11
% App. Total	0	100	0	0	0		0	14.3	0	85.7	0		0	0	0	0	0		0	0	0	0	0		
PHF	.000	.500	.000	.000	.000	.500	.000	.250	.000	.500	.000	.583	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.688

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
02:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	4	5
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	0	1	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	4
04:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
04:15 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:30 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	2	0	0	2	10
05:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:30 AM	0	1	0	0	0	1	0	0	8	0	0	8	0	0	0	0	0	0	0	0	1	0	0	1	10
05:45 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	4
Total	0	1	0	0	0	1	0	0	16	0	0	16	0	0	0	0	0	0	0	0	2	0	0	2	19
06:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	4	0	0	4	10
06:15 AM	0	3	0	0	0	3	0	0	4	0	0	4	0	0	0	0	0	0	0	0	8	0	0	8	15
06:30 AM	0	1	0	0	1	2	0	0	8	0	0	8	0	0	0	0	0	0	0	0	9	0	0	9	19
06:45 AM	0	2	0	0	0	2	0	0	10	0	0	10	0	0	0	0	0	0	0	0	10	0	0	10	22
Total	0	6	0	0	1	7	0	0	28	0	0	28	0	0	0	0	0	0	0	0	31	0	0	31	66

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	5	0	0	5	14
07:15 AM	0	0	0	2	0	2	0	0	8	0	0	8	0	0	0	0	0	0	0	0	21	0	0	21	31
07:30 AM	0	2	0	0	0	2	0	0	13	1	0	14	0	0	0	0	0	0	0	0	12	0	0	12	28
07:45 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	12	0	0	12	22
Total	0	2	0	2	0	4	0	0	40	1	0	41	0	0	0	0	0	0	0	0	50	0	0	50	95
08:00 AM	0	1	0	0	0	1	0	0	5	0	0	5	0	0	0	0	0	0	0	0	11	0	0	11	17
08:15 AM	0	2	0	0	0	2	0	0	6	0	0	6	0	0	0	0	0	0	0	0	7	0	0	7	15
08:30 AM	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	0	0	15	0	0	15	22
08:45 AM	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	12	0	0	12	21
Total	0	3	0	0	0	3	0	0	26	1	0	27	0	0	0	0	0	0	0	0	45	0	0	45	75
09:00 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	8	18
09:15 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	7	0	0	7	13
09:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	6
09:45 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
Total	0	0	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	0	0	20	0	0	20	44
10:00 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	0	0	2	5
10:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	3	0	0	3	8
10:30 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	6	0	0	6	11
10:45 AM	0	1	0	0	0	1	0	0	6	0	0	6	0	0	0	0	0	0	0	1	7	0	0	8	15
Total	0	1	0	0	0	1	0	0	19	0	0	19	0	0	0	0	0	0	0	1	18	0	0	19	39
11:00 AM	0	1	0	0	1	2	0	0	4	0	0	4	0	0	0	0	0	0	0	0	4	0	0	4	10
11:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	6	0	0	6	11
11:30 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	8	0	0	8	14
11:45 AM	0	0	0	1	0	1	0	0	13	0	0	13	0	0	0	0	0	0	0	1	8	0	0	9	23
Total	0	1	0	1	1	3	0	0	28	0	0	28	0	0	0	0	0	0	0	1	26	0	0	27	58
12:00 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	4	0	0	4	8
12:15 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	8	0	0	8	15
12:30 PM	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	9	0	0	9	12
12:45 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	8	0	0	8	14
Total	0	0	0	0	0	0	0	0	19	1	0	20	0	0	0	0	0	0	0	0	29	0	0	29	49
01:00 PM	0	3	0	0	0	3	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	8	21
01:15 PM	0	0	0	0	1	1	0	0	7	0	0	7	0	0	0	0	0	0	0	0	6	0	0	6	14
01:30 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	4	0	0	4	11
01:45 PM	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	0	1	9	0	0	10	16
Total	0	3	0	0	1	4	0	0	29	1	0	30	0	0	0	0	0	0	0	1	27	0	0	28	62

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	6	0	0	6	10
02:15 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	5	0	0	5	12
02:30 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	8	0	0	8	16
02:45 PM	0	0	0	1	0	1	0	0	13	1	0	14	0	0	0	0	0	0	0	0	12	0	0	12	27
Total	0	0	0	1	0	1	0	0	32	1	0	33	0	0	0	0	0	0	0	0	31	0	0	31	65
03:00 PM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	7	0	0	7	17
03:15 PM	0	1	0	0	0	1	0	0	9	1	0	10	0	0	0	0	0	0	0	0	9	0	0	9	20
03:30 PM	0	0	0	0	0	0	0	0	6	2	0	8	0	0	0	0	0	0	0	0	9	0	0	9	17
03:45 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	15	0	0	15	23
Total	0	1	0	0	0	1	0	0	33	3	0	36	0	0	0	0	0	0	0	0	40	0	0	40	77
04:00 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	13	0	0	13	18
04:15 PM	0	1	0	1	0	2	0	0	15	0	0	15	0	0	0	0	0	0	0	0	12	0	0	12	29
04:30 PM	0	0	0	0	0	0	0	0	15	2	0	17	0	0	0	0	0	0	0	0	10	0	0	10	27
04:45 PM	0	0	0	1	0	1	0	0	11	0	0	11	0	0	0	0	0	0	0	0	13	0	0	13	25
Total	0	1	0	2	0	3	0	0	46	2	0	48	0	0	0	0	0	0	0	0	48	0	0	48	99
05:00 PM	0	0	0	1	0	1	0	0	10	1	0	11	0	0	0	0	0	0	0	1	18	0	0	19	31
05:15 PM	0	0	0	0	0	0	0	0	13	2	0	15	0	0	0	0	0	0	0	1	18	0	0	19	34
05:30 PM	0	0	0	1	1	2	0	0	15	0	0	15	0	0	0	0	0	0	0	0	14	0	0	14	31
05:45 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	13	0	0	13	21
Total	0	0	0	2	1	3	0	0	46	3	0	49	0	0	0	0	0	0	0	2	63	0	0	65	117
06:00 PM	0	0	0	1	0	1	0	0	8	0	0	8	0	0	0	0	0	0	0	1	8	0	0	9	18
06:15 PM	0	0	0	0	0	0	0	0	14	1	0	15	0	0	0	0	0	0	0	0	14	0	0	14	29
06:30 PM	0	0	0	1	0	1	0	0	9	1	0	10	0	0	0	0	0	0	0	0	7	0	0	7	18
06:45 PM	0	0	0	1	0	1	0	0	10	0	0	10	0	0	0	0	0	0	0	0	7	0	0	7	18
Total	0	0	0	3	0	3	0	0	41	2	0	43	0	0	0	0	0	0	0	1	36	0	0	37	83
07:00 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	7	0	0	7	9
07:15 PM	0	1	0	0	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	0	4	0	0	4	8
07:30 PM	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	0	0	5	0	0	5	11
07:45 PM	0	0	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	0	0	3	0	0	3	11
Total	0	1	0	0	0	1	0	0	17	2	0	19	0	0	0	0	0	0	0	0	19	0	0	19	39
08:00 PM	0	1	0	0	0	1	0	0	3	2	0	5	0	0	0	0	0	0	0	0	5	0	0	5	11
08:15 PM	0	1	0	0	0	1	0	0	7	0	0	7	0	0	0	0	0	0	0	0	1	0	0	1	9
08:30 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	7	0	0	7	11
08:45 PM	0	1	0	0	0	1	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6	0	0	6	13
Total	0	3	0	0	0	3	0	0	20	2	0	22	0	0	0	0	0	0	0	0	19	0	0	19	44

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Oxford Street & Fairmount Avenue
Saint Paul, MN

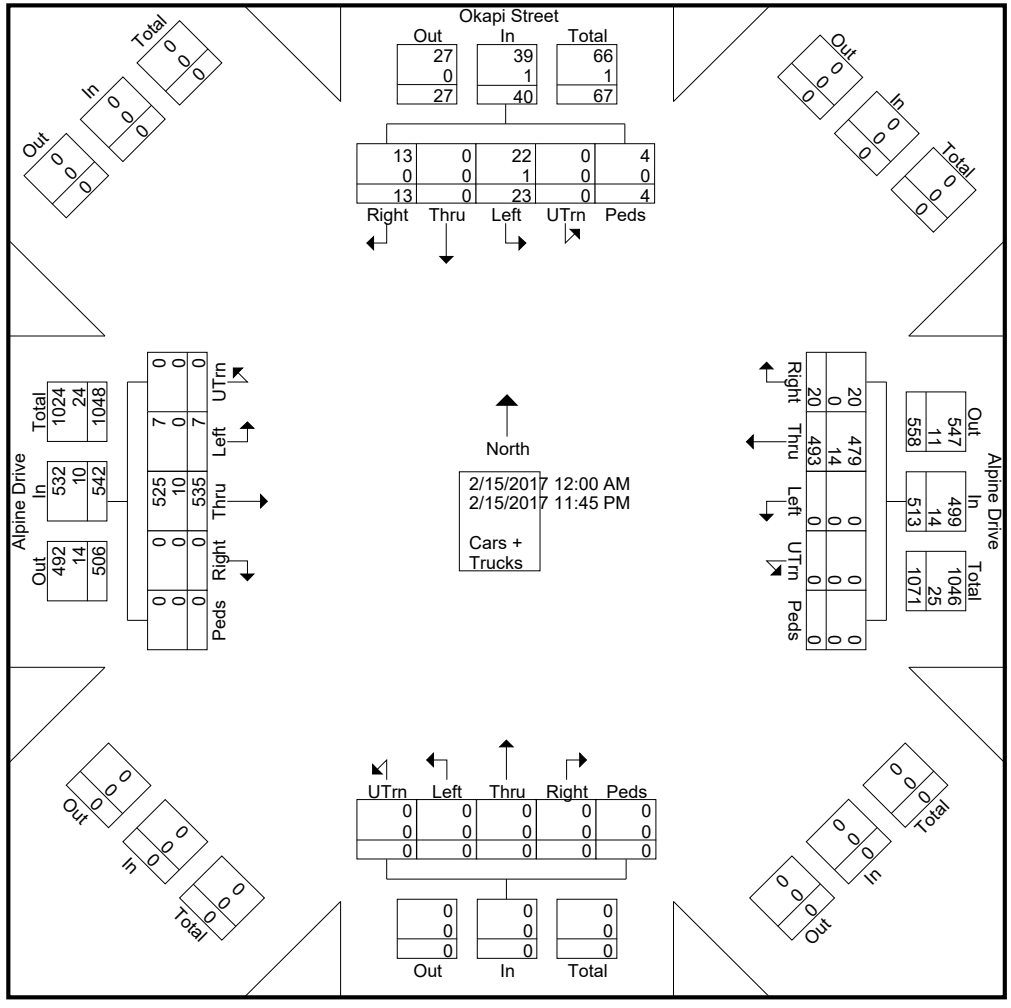
Groups Printed- Cars + - Trucks

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
09:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
09:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	1	5	0	0	6	9
09:30 PM	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	1	0	0	1	6
09:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
Total	0	0	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	0	0	1	12	0	0	13	23
10:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
10:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
10:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	7	0	0	7	10
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	0	0	2	5
11:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	5	0	0	5	9
Grand Total	0	23	0	13	4	40	0	0	493	20	0	513	0	0	0	0	0	0	0	7	535	0	0	542	1095
Apprch %	0	57.5	0	32.5	10		0	0	96.1	3.9	0		0	0	0	0	0		0	1.3	98.7	0	0		
Total %	0	2.1	0	1.2	0.4	3.7	0	0	45	1.8	0	46.8	0	0	0	0	0	0	0	0.6	48.9	0	0	49.5	
Cars +	0	22	0	13	4	39	0	0	479	20	0	499	0	0	0	0	0	0	0	7	525	0	0	532	1070
% Cars +	0	95.7	0	100	100	97.5	0	0	97.2	100	0	97.3	0	0	0	0	0	0	0	100	98.1	0	0	98.2	97.7
Trucks	0	1	0	0	0	1	0	0	14	0	0	14	0	0	0	0	0	0	0	0	10	0	0	10	25
% Trucks	0	4.3	0	0	0	2.5	0	0	2.8	0	0	2.7	0	0	0	0	0	0	0	0	1.9	0	0	1.8	2.3

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Oxford Street & Fairmount Avenue
Saint Paul, MN

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:15 AM																									
07:15 AM	**0**	**0**	**0**	2	0	2	0	0	8	0	0	8	0	0	0	0	0	0	0	0	21	0	0	21	**31**
07:30 AM	0	**2**	0	0	0	2	0	0	**13**	**1**	0	**14**	0	0	0	0	0	0	0	0	12	0	0	12	28
07:45 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	12	0	0	12	22
08:00 AM	0	1	0	0	0	1	0	0	5	0	0	5	0	0	0	0	0	0	0	0	11	0	0	11	17
Total Volume	0	3	0	2	0	5	0	0	36	1	0	37	0	0	0	0	0	0	0	0	56	0	0	56	98
% App. Total	0	60	0	40	0		0	0	97.3	2.7	0		0	0	0	0	0		0	0	100	0	0		
PHF	.000	.375	.000	.250	.000	.625	.000	.000	.692	.250	.000	.661	.000	.000	.000	.000	.000	.000	.000	.000	.667	.000	.000	.667	.790
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 12:15 PM																									
12:15 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	8	0	0	8	15
12:30 PM	0	0	0	0	0	0	0	0	2	**1**	0	3	0	0	0	0	0	0	0	0	**9**	0	0	**9**	12
12:45 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	8	0	0	8	14
01:00 PM	0	**3**	0	0	0	**3**	0	0	**10**	0	0	**10**	0	0	0	0	0	0	0	0	8	0	0	8	**21**
Total Volume	0	3	0	0	0	3	0	0	25	1	0	26	0	0	0	0	0	0	0	0	33	0	0	33	62
% App. Total	0	100	0	0	0		0	0	96.2	3.8	0		0	0	0	0	0		0	0	100	0	0		
PHF	.000	.250	.000	.000	.000	.250	.000	.000	.625	.250	.000	.650	.000	.000	.000	.000	.000	.000	.000	.000	.917	.000	.000	.917	.738
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:45 PM																									
04:45 PM	0	0	0	**1**	0	1	0	0	11	0	0	11	0	0	0	0	0	0	0	0	13	0	0	13	25
05:00 PM	0	0	0	1	0	1	0	0	10	1	0	11	0	0	0	0	0	0	0	**1**	**18**	0	0	**19**	31
05:15 PM	0	0	0	0	0	0	0	0	13	**2**	0	**15**	0	0	0	0	0	0	0	1	18	0	0	19	**34**
05:30 PM	0	0	0	1	**1**	**2**	0	0	**15**	0	0	15	0	0	0	0	0	0	0	0	14	0	0	14	31
Total Volume	0	0	0	3	1	4	0	0	49	3	0	52	0	0	0	0	0	0	0	2	63	0	0	65	121
% App. Total	0	0	0	75	25		0	0	94.2	5.8	0		0	0	0	0	0		0	3.1	96.9	0	0		
PHF	.000	.000	.000	.750	.250	.500	.000	.000	.817	.375	.000	.867	.000	.000	.000	.000	.000	.000	.000	.500	.875	.000	.000	.855	.890

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
01:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
02:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
02:30 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
Total	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	3	0	0	3	8
03:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
03:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45 AM	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	1	0	1	0	0	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	7
04:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:15 AM	0	1	0	0	0	1	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	6
05:30 AM	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
05:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	4	5
Total	0	1	0	0	0	1	0	0	14	0	0	14	0	0	0	0	0	0	0	0	6	0	0	6	21
06:00 AM	0	1	0	0	0	1	0	0	6	0	0	6	0	0	0	0	0	0	0	0	5	0	0	5	12
06:15 AM	0	2	0	0	0	2	0	0	6	0	0	6	0	0	0	0	0	0	0	0	9	0	0	9	17
06:30 AM	0	2	0	0	0	2	0	0	10	0	0	10	0	0	0	0	0	0	0	0	10	0	0	10	22
06:45 AM	0	1	0	0	0	1	0	0	10	0	0	10	0	0	0	0	0	0	0	0	5	0	0	5	16
Total	0	6	0	0	0	6	0	0	32	0	0	32	0	0	0	0	0	0	0	0	29	0	0	29	67

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	12	0	0	12	24
07:15 AM	0	1	0	1	0	2	0	0	10	0	0	10	0	0	0	0	0	0	0	0	15	0	0	15	27
07:30 AM	0	2	0	0	0	2	0	0	13	1	0	14	0	0	0	0	0	0	0	0	14	0	0	14	30
07:45 AM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	14	0	0	14	22
Total	0	3	0	1	0	4	0	0	43	1	0	44	0	0	0	0	0	0	0	0	55	0	0	55	103
08:00 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	12	0	0	12	15
08:15 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	7	0	0	7	13
08:30 AM	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	0	0	11	0	0	11	18
08:45 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	8	0	0	8	15
Total	0	0	0	0	0	0	0	0	22	1	0	23	0	0	0	0	0	0	0	0	38	0	0	38	61
09:00 AM	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	8	0	0	8	17
09:15 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	5	0	0	5	12
09:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
09:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	6	0	0	6	8
Total	0	0	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	0	0	22	0	0	22	44
10:00 AM	0	0	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	0	0	7	0	0	7	15
10:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	8	0	0	8	13
10:30 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	1	0	0	1	6
10:45 AM	0	0	0	0	1	1	0	0	5	0	0	5	0	0	0	0	0	0	0	0	7	0	0	7	13
Total	0	0	0	0	1	1	0	0	22	1	0	23	0	0	0	0	0	0	0	0	23	0	0	23	47
11:00 AM	0	1	0	0	0	1	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6	0	0	6	13
11:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5	0	0	5	10
11:30 AM	0	0	0	0	1	1	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	6
11:45 AM	0	0	0	1	0	1	0	0	6	2	0	8	0	0	0	0	0	0	0	0	5	0	0	5	14
Total	0	1	0	1	1	3	0	0	21	2	0	23	0	0	0	0	0	0	0	0	17	0	0	17	43
12:00 PM	0	0	0	0	1	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	8	0	0	8	11
12:15 PM	0	0	0	0	1	1	0	0	5	0	0	5	0	0	0	0	0	0	0	0	2	0	0	2	8
12:30 PM	0	0	0	0	1	1	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6	0	0	6	13
12:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	5	0	0	5	7
Total	0	0	0	0	3	3	0	0	15	0	0	15	0	0	0	0	0	0	0	0	21	0	0	21	39
01:00 PM	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	5	0	0	5	16
01:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	7	0	0	7	10
01:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	6	0	0	7	9
01:45 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	1	9	0	0	10	15
Total	0	0	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	0	2	27	0	0	29	50

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Oxford Street & Fairmount Avenue
Saint Paul, MN

Groups Printed- Cars + - Trucks

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	5	0	0	5	16
02:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	7	0	0	7	8
02:30 PM	0	1	0	0	0	1	0	0	9	0	0	9	0	0	0	0	0	0	0	0	6	0	0	6	16
02:45 PM	0	0	0	0	1	1	0	0	6	0	0	6	0	0	0	0	0	0	0	0	11	0	0	11	18
Total	0	1	0	0	1	2	0	0	27	0	0	27	0	0	0	0	0	0	0	0	29	0	0	29	58
03:00 PM	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	1	6	0	0	7	18
03:15 PM	0	1	0	1	0	2	0	0	6	0	0	6	0	0	0	0	0	0	0	0	10	0	0	10	18
03:30 PM	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	12	0	0	12	24
03:45 PM	0	1	0	0	0	1	0	0	8	1	0	9	0	0	0	0	0	0	0	0	12	0	0	12	22
Total	0	2	0	1	0	3	0	0	37	1	0	38	0	0	0	0	0	0	0	1	40	0	0	41	82
04:00 PM	0	1	0	0	0	1	0	0	19	0	0	19	0	0	0	0	0	0	0	1	13	0	0	14	34
04:15 PM	0	1	0	0	0	1	0	0	14	1	0	15	0	0	0	0	0	0	0	0	13	0	0	13	29
04:30 PM	0	0	0	0	0	0	0	0	19	1	0	20	0	0	0	0	0	0	0	0	7	0	0	7	27
04:45 PM	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	1	14	0	0	15	27
Total	0	2	0	0	0	2	0	0	64	2	0	66	0	0	0	0	0	0	0	2	47	0	0	49	117
05:00 PM	0	0	0	0	0	0	0	0	10	3	0	13	0	0	0	0	2	2	0	0	9	0	0	9	24
05:15 PM	0	0	0	2	0	2	0	0	11	1	0	12	0	0	0	0	0	0	0	0	16	0	0	16	30
05:30 PM	0	0	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	0	0	14	0	0	14	32
05:45 PM	0	0	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	0	0	0	19	0	0	19	30
Total	0	0	0	2	0	2	0	0	49	5	0	54	0	0	0	0	2	2	0	0	58	0	0	58	116
06:00 PM	0	0	0	0	0	0	0	0	9	3	0	12	0	0	0	0	0	0	0	0	16	0	0	16	28
06:15 PM	0	1	0	1	0	2	0	0	9	0	0	9	0	0	0	0	0	0	0	1	12	0	0	13	24
06:30 PM	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	0	0	6	0	0	6	13
06:45 PM	0	1	0	0	0	1	0	0	5	0	0	5	0	0	0	0	0	0	0	0	6	0	0	6	12
Total	0	2	0	1	0	3	0	0	29	4	0	33	0	0	0	0	0	0	0	1	40	0	0	41	77
07:00 PM	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	3	0	0	3	8
07:15 PM	0	0	0	0	0	0	0	0	8	2	0	10	0	0	0	0	0	0	0	0	8	0	0	8	18
07:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	6	0	0	6	8
07:45 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	7	0	0	7	11
Total	0	0	0	0	0	0	0	0	18	3	0	21	0	0	0	0	0	0	0	0	24	0	0	24	45
08:00 PM	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
08:15 PM	0	0	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	0	0	6	0	0	6	14
08:30 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	4	0	0	4	9
08:45 PM	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	0	21	3	0	24	0	0	0	0	0	0	0	0	13	0	0	13	37

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Oxford Street & Fairmount Avenue
Saint Paul, MN

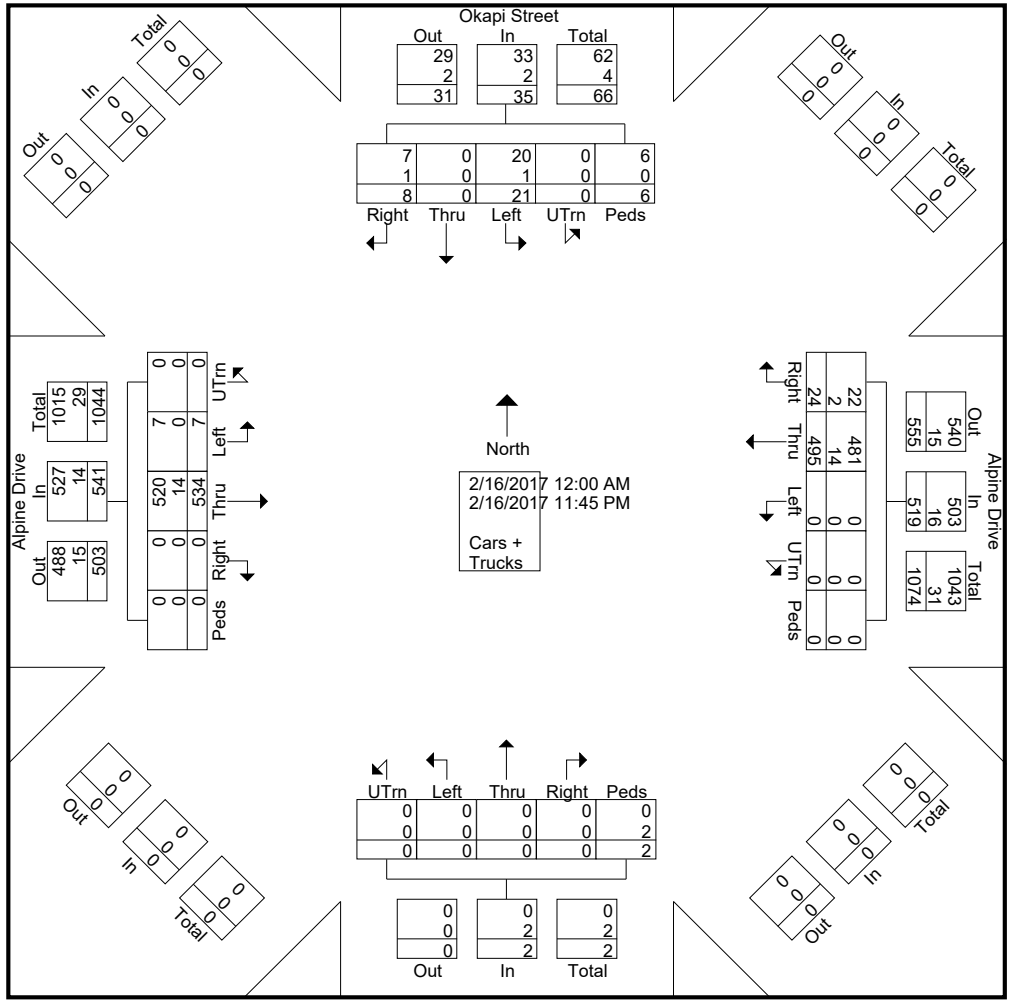
Groups Printed- Cars + - Trucks

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
09:00 PM	0	0	0	1	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	1	3	0	0	4	8
09:15 PM	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	7	0	0	7	9
09:30 PM	0	0	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	0	0	3	0	0	3	11
09:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	5	0	0	5	7
Total	0	1	0	1	0	2	0	0	13	1	0	14	0	0	0	0	0	0	0	1	18	0	0	19	35
10:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	4
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
10:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
10:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	4	5
Total	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	10	0	0	10	16
11:00 PM	0	2	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	5
11:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	9	0	0	9	13
Grand Total	0	21	0	8	6	35	0	0	495	24	0	519	0	0	0	0	2	2	0	7	534	0	0	541	1097
Apprch %	0	60	0	22.9	17.1		0	0	95.4	4.6	0		0	0	0	0	100		0	1.3	98.7	0	0		
Total %	0	1.9	0	0.7	0.5	3.2	0	0	45.1	2.2	0	47.3	0	0	0	0	0.2	0.2	0	0.6	48.7	0	0	49.3	
Cars +	0	20	0	7	6	33	0	0	481	22	0	503	0	0	0	0	0	0	0	7	520	0	0	527	1063
% Cars +	0	95.2	0	87.5	100	94.3	0	0	97.2	91.7	0	96.9	0	0	0	0	0	0	0	100	97.4	0	0	97.4	96.9
Trucks	0	1	0	1	0	2	0	0	14	2	0	16	0	0	0	0	2	2	0	0	14	0	0	14	34
% Trucks	0	4.8	0	12.5	0	5.7	0	0	2.8	8.3	0	3.1	0	0	0	0	100	100	0	0	2.6	0	0	2.6	3.1

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Oxford Street & Fairmount Avenue
Saint Paul, MN

	Okapi Street Southbound						Alpine Drive Westbound						Northbound						Alpine Drive Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**12**	**24**
07:15 AM	**0**	**1**	**0**	1	0	2	0	0	10	0	0	10	0	0	0	0	0	0	0	0	15	0	0	15	27
07:30 AM	0	**2**	0	0	0	2	0	0	**13**	**1**	0	**14**	0	0	0	0	0	0	0	0	14	0	0	14	**30**
07:45 AM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	14	0	0	14	22
Total Volume	0	3	0	1	0	4	0	0	43	1	0	44	0	0	0	0	0	0	0	0	55	0	0	55	103
% App. Total	0	75	0	25	0		0	0	97.7	2.3	0		0	0	0	0	0		0	0	100	0	0		
PHF	.000	.375	.000	.250	.000	.500	.000	.000	.827	.250	.000	.786	.000	.000	.000	.000	.000	.000	.000	.000	.917	.000	.000	.917	.858
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 01:00 PM																									
01:00 PM	0	0	0	0	0	0	0	0	**11**	0	0	**11**	0	0	0	0	0	0	0	0	5	0	0	5	**16**
01:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	7	0	0	7	10
01:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	**1**	6	0	0	7	9
01:45 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	1	**9**	0	0	**10**	15
Total Volume	0	0	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	0	2	27	0	0	29	50
% App. Total	0	0	0	0	0		0	0	100	0	0		0	0	0	0	0		0	6.9	93.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.477	.000	.000	.477	.000	.000	.000	.000	.000	.000	.000	.500	.750	.000	.000	.725	.781
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 05:15 PM																									
05:15 PM	0	0	0	**2**	0	**2**	0	0	11	1	0	12	0	0	0	0	0	0	0	0	16	0	0	16	30
05:30 PM	0	0	0	0	0	0	0	0	**18**	0	0	**18**	0	0	0	0	0	0	0	0	14	0	0	14	**32**
05:45 PM	0	0	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	0	0	0	**19**	0	0	**19**	30
06:00 PM	0	0	0	0	0	0	0	0	9	**3**	0	12	0	0	0	0	0	0	0	0	16	0	0	16	28
Total Volume	0	0	0	2	0	2	0	0	48	5	0	53	0	0	0	0	0	0	0	0	65	0	0	65	120
% App. Total	0	0	0	100	0		0	0	90.6	9.4	0		0	0	0	0	0		0	0	100	0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.667	.417	.000	.736	.000	.000	.000	.000	.000	.000	.000	.000	.855	.000	.000	.855	.938

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Table D1
Forecasted Trip Generation

Weekday Daily Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	DAILY RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS	
							ENTER	EXIT
Single Family Home	210	Units	246.0	9.52	50%	50%	1,171	1,171
Townhomes	230	Units	98.0	5.81	50%	50%	285	285
Total							**1,456**	**1,456**

AM Peak Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	PEAK RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS	
							ENTER	EXIT
Single Family Home	210	Units	246.0	0.75	25%	75%	46	138
Townhomes	230	Units	98.0	0.44	17%	83%	7	36
Total							**53**	**174**

PM Peak Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	PEAK RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS	
							ENTER	EXIT
Single Family Home	210	Units	246.0	1.00	63%	37%	155	91
Townhomes	230	Units	98.0	0.52	67%	33%	34	17
Total							**189**	**108**

NOTES:

1. **All trip generation rates based on "Trip Generation", Institute of Transportation Engineers, 9th Edition unless otherwise noted.**
2. **A.M. Trip Generation is for the peak hour of adjacent street traffic (one hour between 7 and 9 a.m.).**
3. **P.M. Trip Generation is for the peak hour of adjacent street traffic (one hour between 4 and 6 p.m.).**

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Table D2
Forecasted Trip Generation
South of Bunker

Weekday Daily Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	DAILY RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	45.1	61.17	50%	50%	1,380	1,380
Total								

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	PEAK RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	45.1	8.20	83%	17%	307	63
Total							**307**	**63**

PM Peak Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	PEAK RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	45.1	8.53	21%	79%	81	304
Total							**81**	**304**

NOTES:

1. **All trip generation rates based on "Trip Generation", Institute of Transportation Engineers, 9th Edition unless otherwise noted.**
2. **AM Peak Trip Generation is for the AM Peak Hour.**
3. **PM Peak Trip Generation is for the Peak Hour of Generator**

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Table D3
Forecasted Trip Generation
North of Bunker

Weekday Daily Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	DAILY RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	37.2	61.17	50%	50%	1,137	1,137
Total							**1,137**	**1,137**

AM Peak Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	PEAK RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	37.2	8.20	83%	17%	253	52
Total							**253**	**52**

PM Peak Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	PEAK RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	37.2	8.53	21%	79%	67	250
Total							**67**	**250**

NOTES:

1. **All trip generation rates based on "Trip Generation", Institute of Transportation Engineers, 9th Edition unless otherwise noted.**
2. **AM Peak Trip Generation is for the AM Peak Hour.**
3. **PM Peak Trip Generation is for the Peak Hour of Generator**

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Table D4
Forecasted Trip Generation
East of Puma

Weekday Daily Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	DAILY RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	32.0	61.17	50%	50%	979	979
Single Family Detached Housing	210	Acres	34.6	26.04	50%	50%	451	451
Total								

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	PEAK RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	32.0	8.20	83%	17%	218	45
Single Family Detached Housing	210	Acres	34.6	2.06	31%	69%	22	49
Total							**240**	**94**

PM Peak Volumes

LAND USE	ITE CODE #	DEVELOPMENT UNITS	QUANTITY	PEAK RATE	ENTER PERCENT	EXIT PERCENT	NEW TRIPS ENTER	NEW TRIPS EXIT
Industrial Park	130	Acres	32.0	8.53	21%	79%	57	216
Single Family Detached Housing	210	Acres	34.6	2.74	66%	34%	63	32
Total							**120**	**248**

1. **All trip generation rates based on "Trip Generation", Institute of Transportation Engineers, 9th Edition unless otherwise noted.**
2. **AM Peak Trip Generation is for the AM Peak Hour.**
3. **PM Peak Trip Generation is for the Peak Hour of Generator**

AM Peak Volumes

Figure 1: Existing Peak Volumes

- **AM Peak Hour on top, PM Peak Hour on bottom**



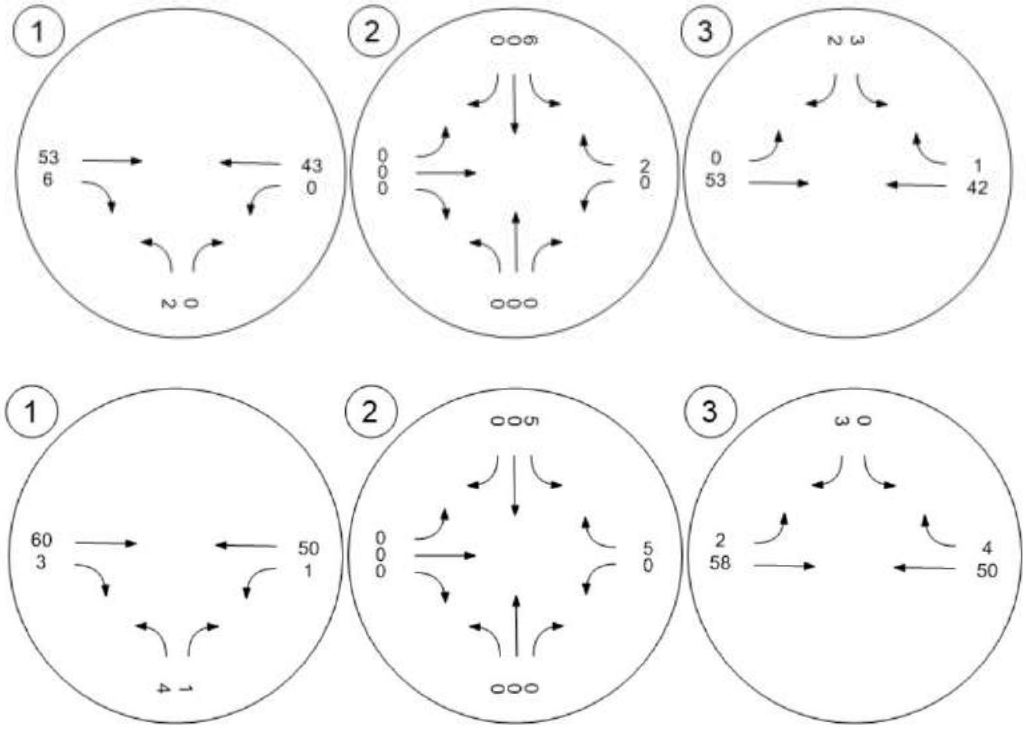


Figure 2: 2018 No-Build Peak Volumes

- **AM Peak Hour on top, PM Peak Hour on bottom**



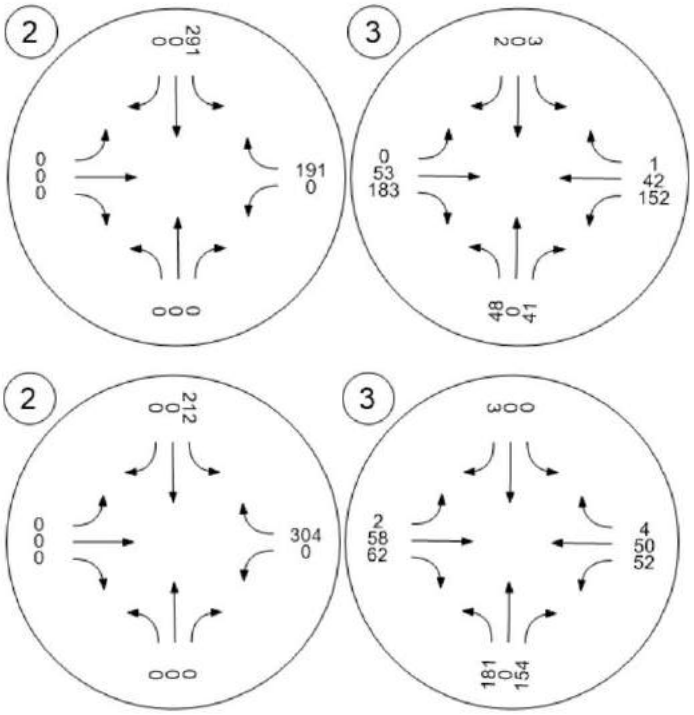


Figure 3: 2018 Build Peak Volumes

- **AM Peak Hour on top, PM Peak Hour on bottom**



Level of Service (LOS)

Level of Service (LOS) is a qualitative description, similar to typical school grades, that traffic engineers use to communicate how good or bad traffic operations are on a corridor, intersection, or interchange.

Common Factors

Traffic can be a hard thing to quantify as everyone has a different tolerance for congestion. What seems excessively long to one person may seem good enough for another. These differences are readily apparent when comparing small towns or rural areas, where five cars an hour can be the norm, to big cities or downtowns, where less than hundred cars an hour, even in the middle of night, is rare.

To combat this issue and provide a consistent measuring tool for traffic studies, a "Level of Service" rating was developed. Level of Service ratings are based on the roadway or intersection characteristics and the amount of traffic. Just like grade school, LOS A represents the best traffic operations, where traffic flows freely. LOS F, on the other hand, represents failing operations, where the road or intersection is congested and running beyond maximum capacity. LOS E is typically considered "at capacity" which means the amount of traffic is right at the level the roadway or intersection can adequately accommodate. Using Level of Service letter grades provides an easy way to convey road operations to the general public and has been adopted across the United States.

Common Factors Impacting Level of Service

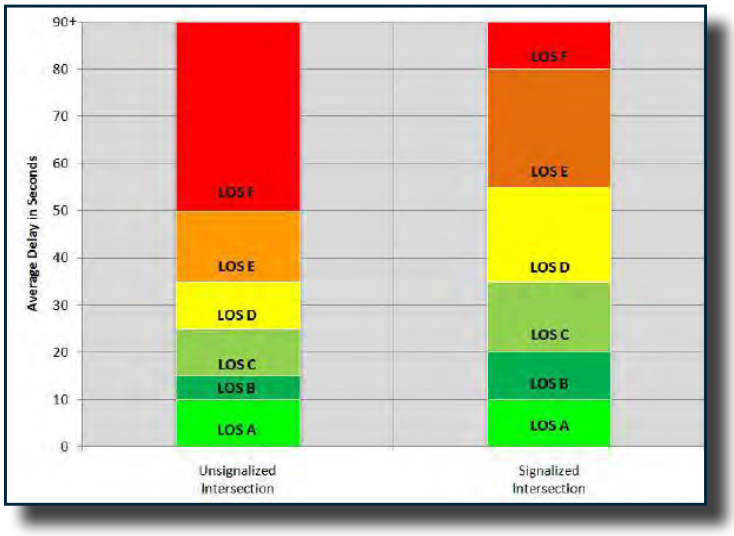
- **Number of Lanes.**
- **Traffic Volumes.**
- **Intersection Control (stop sign, signal, roundabout, interchange.)**
- **Amount of access on a corridor.**
- **Percentage of turning traffic.**
- **Traffic signal cycle length (green time devoted to each approach) and phasing (one green for all approach movements or separate green arrows.)**
- **Percentage of heavy trucks.**
- **Roadway Grades.**
- **Distribution of traffic within a peak hour as well as over the course of a day.**
- **Pedestrian activity.**
- **Bicycle activity.**

Level of Service criteria have been developed for multiple types of traffic operations including:

- Intersections
- Urban Corridors
- Freeways
- Transit Service
- Bicycle Operations
- Pedestrian Operations

The most common LOS criteria used is for car operations at intersections; both signalized and unsignalized. For an intersection Level of Service analysis, average delay for cars travelling through the intersection is used to determine the appropriate grade. A high delay results in a poor LOS rating and equates to poor operations. Similarly, low delay results in a good LOS rating and equates to good or great operations.

LOS can be determined for the intersection as a whole, or for individual movements. It is common during peak periods in major population areas for an intersection to have an acceptable overall LOS rating, but fail to achieve a good grade for individual movements.





LOS A



LOS C



LOS D = Acceptable



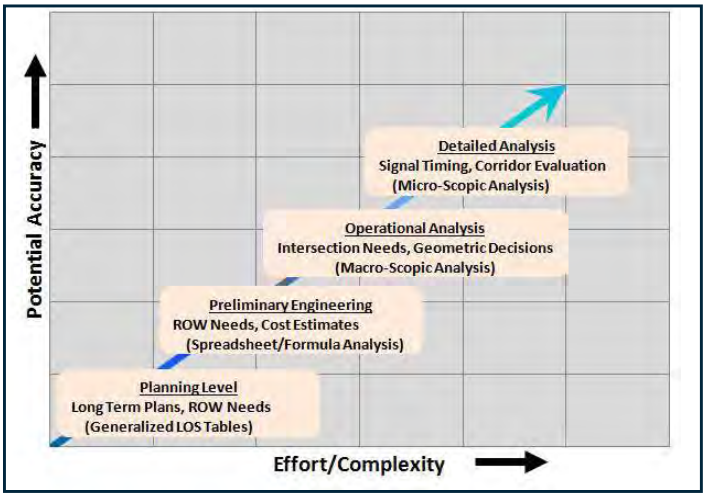
LOS F = Unacceptable

Source: City of San Jose, CA.

Although a Level of Service rating of A represents the best traffic operations, it is not always the most desirable. Providing LOS A for all corridors and all operations at all times would require a significant amount of land to be devoted to the road infrastructure, which makes it extremely costly to build and maintain. During non-peak times, like overnight, much of that infrastructure would sit unused.

On the opposite side of the spectrum, a Level of Service rating of E and F represent traffic operations close to breaking down, or that already have. These ratings mean high delays, long queues, and slow speeds, not to mention driver frustration. Instead of trying to achieve one or the other, government agencies try to strike a balance between providing acceptable operations, neither falling nor flowing too freely. Because of this, LOS D is typically considered the lowest LOS acceptable by government agencies and is reflective of a balanced approach between cost and benefit.

There are many tools and guidelines used to determine a roads Level of Service rating. Simple tools like generalized roadway capacities allow for planning-level efforts. While inexpensive and quick to complete, they are not as accurate as other options. More complicated tools, such as micro-simulations, provide more accurate results, but cost more and take more time. It is important to understand the trade-offs between the analysis types as well as the purpose of the study.



Source: Florida Deptarment of Transportation

Resources

- Highway Capacity Manual, fifth edition
- Nation Cooperative Highway Research Program Report 616; Multimodal Level of Service Analysis for Urban Streets
- http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_616.pdf
- Florida Department of Transportation Quality/Level of Service Handbook
- http://www.dot.state.fl.us/planning/systems/programs/sm/los/pdfs/2009FDOTQLOS_Handbook.pdf

About This Brief

Spack Consulting prepared this brief as part of our company's vision to significantly improve the practice of traffic engineering and transportation planning. Transportation professionals from around the world have assisted us in developing this document. We are providing this brief under the Creative Commons Attribution License. Feel free to use-modify-share this guide, but please give us some credit in your document. To request our whole series of Design Briefs and to be included on our distribution list for new materials, please email mspack@spackconsulting.com. And please reach out if you have any comments or questions related to this Design Brief.

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Vistro File: C:\...\Pearson Farm Model.vistro
Report File: C:\Users\Jonah\Desktop\AM EXIST.pdf

Scenario 1 Existing AM Peak
3/7/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Alpine Drive & Puma Street	Two-way stop	HCM 2010	NB Left	0.002	9.0	A
2	Puma Street & Bunker Lake Boulevard	Two-way stop	HCM 2010	SB Thru	0.000	9.0	A
3	Alpine Drive & Okapi Street	Two-way stop	HCM 2010	SB Left	0.005	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Alpine Drive & Puma Street

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2	0	53	6	0	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	53	6	0	43
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	13	2	0	11
Total Analysis Volume [veh/h]	2	0	53	6	0	43
Pedestrian Volume [ped/h]	0		0		0	

Appendix G: Capacity Analysis Backup

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Spack CONSULTING

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.01	8.57	0.00	0.00	7.33	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.17	0.17	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.01		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 2: Puma Street & Bunker Lake Boulevard

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name											
Base Volume Input [veh/h]	0	0	0	6	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	6	0	0	0	0	0	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	2	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	0	0	6	0	0	0	0	0	0	2
Pedestrian Volume [ped/h]	0			0			0			0	

Appendix G: Capacity Analysis Backup

Generated with PTV VISTRO
Version 5.00-00

Spack CONSULTING

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.52	9.03	8.32	8.54	9.04	8.34	7.22	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A		A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.44	0.44	0.44	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.62			8.54			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.41											
Intersection LOS	A											

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Spack CONSULTING

Intersection Level Of Service Report
Intersection 3: Alpine Drive & Okapi Street

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	3	2	0	53	42	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	2	0	53	42	1
Peak Hour Factor	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	16	12	0
Total Analysis Volume [veh/h]	4	2	0	62	49	1
Pedestrian Volume [ped/h]	0		0		0	

Appendix G: Capacity Analysis Backup

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Version 5.00-00

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.09	8.56	7.31	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.49	0.49	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.91		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	A					

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Vistro File: C:\...\Pearson Farm Model.vistro
Report File: C:\Users\Jonah\Desktop\AM EXIST.pdf

Scenario 1 Existing AM Peak
3/7/2017

Turning Movement Volume: Summary

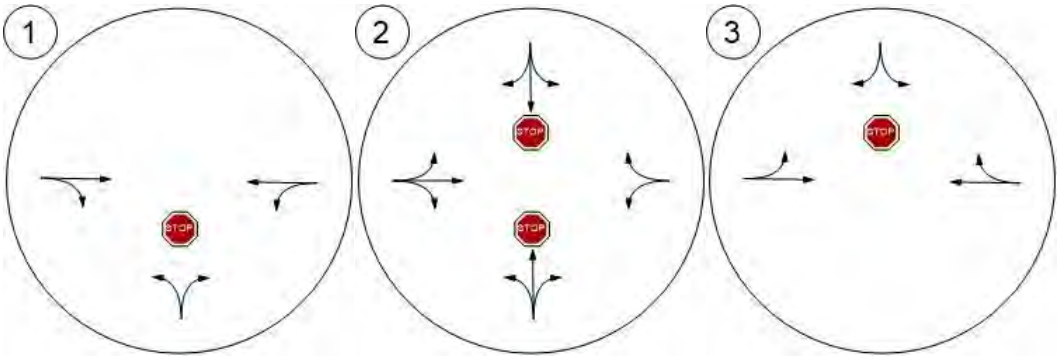
ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
1	Alpine Drive & Puma Street	2	0	53	6	0	43	104

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Right	
2	Puma Street & Bunker Lake Boulevard	0	0	0	6	0	0	0	0	0	0	2	8

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
3	Alpine Drive & Okapi Street	3	2	0	53	42	1	101

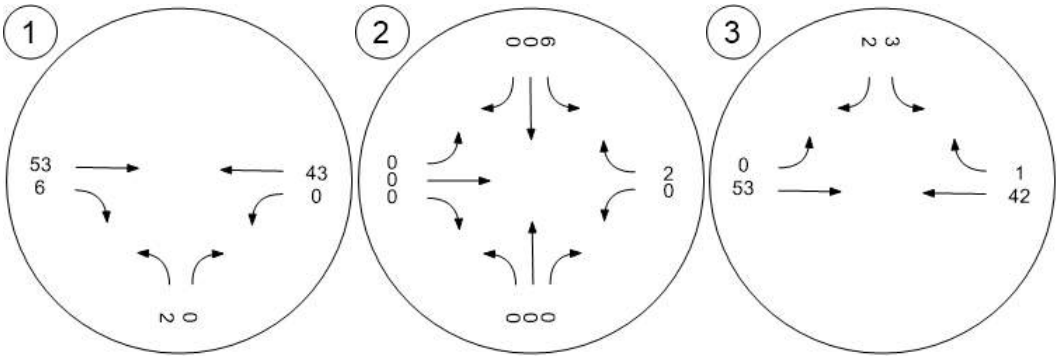
Lane Configuration and Traffic Control





Traffic Volume - Base Volume





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Version 5.00-00

Vistro File: C:\...\Pearson Farm Model.vistro
Report File: C:\Users\Jonah\Desktop\PM EXIST.pdf

Scenario 2 Existing PM Peak
3/7/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Alpine Drive & Puma Street	Two-way stop	HCM 2010	NB Left	0.005	9.1	A
2	Puma Street & Bunker Lake Boulevard	Two-way stop	HCM 2010	SB Thru	0.000	9.0	A
3	Alpine Drive & Okapi Street	Two-way stop	HCM 2010	SB Left	0.000	9.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

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Spack CONSULTING

Intersection Level Of Service Report
Intersection 1: Alpine Drive & Puma Street

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	4	1	60	3	1	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	60	3	1	50
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	15	1	0	13
Total Analysis Volume [veh/h]	4	1	60	3	1	50
Pedestrian Volume [ped/h]	0		0		0	

Appendix G: Capacity Analysis Backup

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Version 5.00-00

Spack CONSULTING

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.10	8.61	0.00	0.00	7.34	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft]	0.42	0.42	0.00	0.00	2.57	2.57
d_A, Approach Delay [s/veh]	9.00		0.00		0.14	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.44					
Intersection LOS	A					

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Spack CONSULTING

Intersection Level Of Service Report
Intersection 2: Puma Street & Bunker Lake Boulevard

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name											
Base Volume Input [veh/h]	0	0	0	5	0	0	0	0	0	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	5	0	0	0	0	0	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	0	0	5	0	0	0	0	0	0	5
Pedestrian Volume [ped/h]	0			0			0			0	

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Spack CONSULTING

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.53	9.04	8.32	8.55	9.05	8.35	7.23	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A		A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.37	0.37	0.37	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.63			8.55			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.27											
Intersection LOS	A											

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Intersection Level Of Service Report
Intersection 3: Alpine Drive & Okapi Street

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	3	2	58	50	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	2	58	50	4
Peak Hour Factor	0.9023	0.9023	0.9023	0.9023	0.9023	0.9023
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	16	14	1
Total Analysis Volume [veh/h]	0	3	2	64	55	4
Pedestrian Volume [ped/h]	0		0		0	

Appendix G: Capacity Analysis Backup

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Version 5.00-00

Spack CONSULTING

Intersection Settings

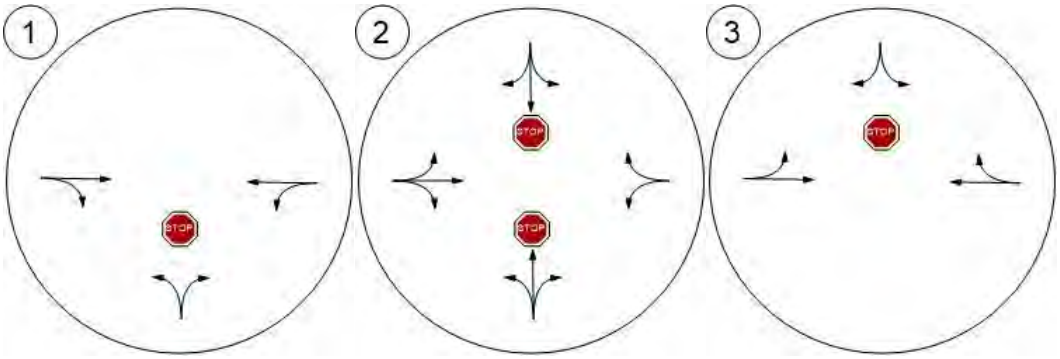
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.15	8.58	7.33	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.13	0.13	0.00	0.00
95th-Percentile Queue Length [ft]	0.22	0.22	3.34	3.34	0.00	0.00
d_A, Approach Delay [s/veh]	8.58		0.22		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	A					

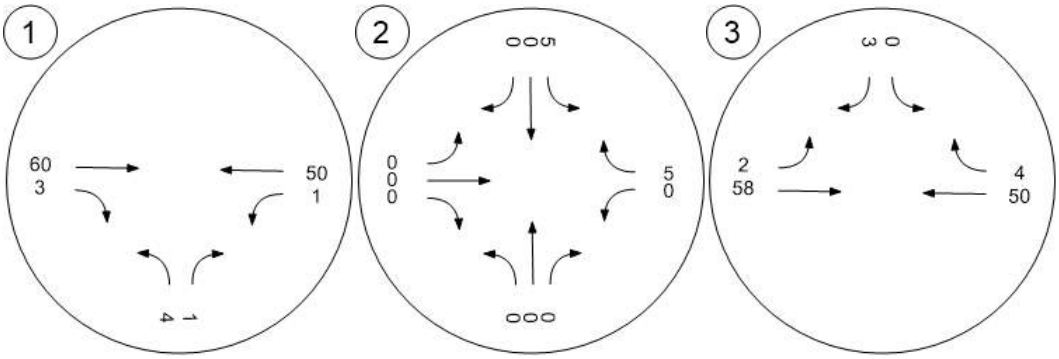
Lane Configuration and Traffic Control





Traffic Volume - Base Volume





Vistro File: C:\...\Pearson Farm Model.vistro
Report File: C:\...\2040_No-Build AM.pdf

Scenario 4 2040 No-Build_ AM Peak
3/7/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Puma Street & Bunker Lake Boulevard	Two-way stop	HCM 2010	SB Thru	0.000	11.5	B
3	Alpine Drive & Okapi/Puma Street	Two-way stop	HCM 2010	NB Thru	0.000	16.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 2: Puma Street & Bunker Lake Boulevard

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name											
Base Volume Input [veh/h]	0	0	0	6	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	285	0	0	0	0	0	0	189
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	291	0	0	0	0	0	0	191
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	73	0	0	0	0	0	0	48
Total Analysis Volume [veh/h]	0	0	0	291	0	0	0	0	0	0	191
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.06	10.11	8.32	11.02	11.50	10.71	7.60	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	B	A	B	B	B	A	A	A	A		A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	1.44	1.44	1.44	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	35.91	35.91	35.91	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.16			11.02			2.53			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.66											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 3: Alpine Drive & Okapi/Puma Street

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	0	1	3	0	2	0	53	6	0	42	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	46	0	40	0	0	0	0	0	177	152	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	0	41	3	0	2	0	53	183	152	42	1
Peak Hour Factor	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	0	12	1	0	1	0	16	54	45	12	0
Total Analysis Volume [veh/h]	56	0	48	4	0	2	0	62	214	178	49	1
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

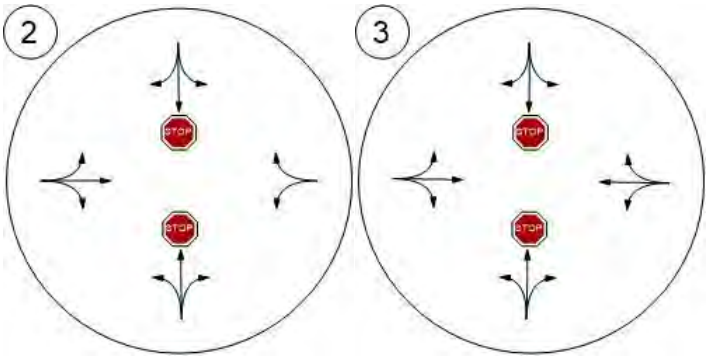
V/C, Movement V/C Ratio	0.15	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00
d_M, Delay for Movement [s/veh]	16.20	16.55	10.87	15.44	16.38	8.64	7.31	0.00	0.00	8.25	0.00	0.00
Movement LOS	C	C	B	C	C	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.75	0.75	0.75	0.04	0.04	0.04	0.00	0.00	0.00	0.64	0.64	0.64
95th-Percentile Queue Length [ft]	18.69	18.69	18.69	1.02	1.02	1.02	0.00	0.00	0.00	16.07	16.07	16.07
d_A, Approach Delay [s/veh]	13.74			13.18			0.00			6.44		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	4.85											
Intersection LOS	C											

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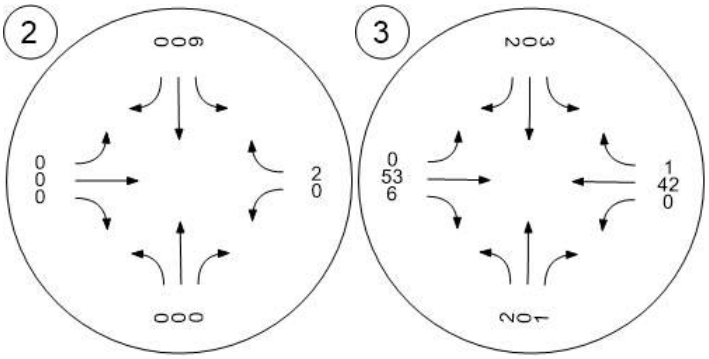
Lane Configuration and Traffic Control





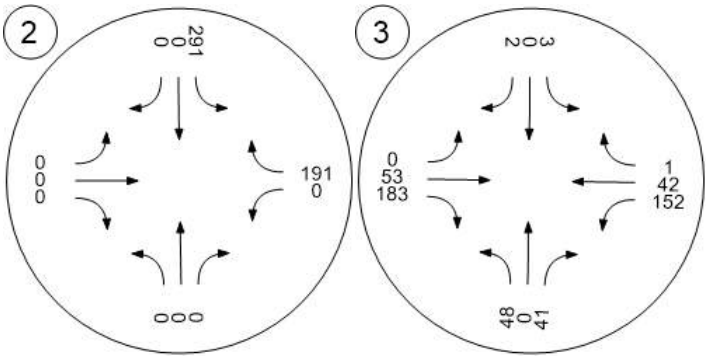
Traffic Volume - Base Volume





Traffic Volume - Future Total Volume





Vistro File: C:\...\Pearson Farm Model.vistro
Report File: C:\...\2040_No-Build PM.pdf

Scenario 5 2040 No-Build_ PM Peak
3/7/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Puma Street & Bunker Lake Boulevard	Two-way stop	HCM 2010	SB Thru	0.000	11.4	B
3	Alpine Drive & Okapi/Puma Street	Two-way stop	HCM 2010	NB Thru	0.000	14.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 2: Puma Street & Bunker Lake Boulevard

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name											
Base Volume Input [veh/h]	0	0	0	5	0	0	0	0	0	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	207	0	0	0	0	0	0	299
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	212	0	0	0	0	0	0	304
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	53	0	0	0	0	0	0	76
Total Analysis Volume [veh/h]	0	0	0	212	0	0	0	0	0	0	304
Pedestrian Volume [ped/h]	0			0			0			0	

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.42	10.91	8.32	10.96	11.41	10.57	7.86	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	B	A	B	B	B	A	A	A	A		A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	1.04	1.04	1.04	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	26.00	26.00	26.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.55			10.96			2.62			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.50											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 3: Alpine Drive & Okapi/Puma Street

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	4	0	1	0	0	3	2	58	3	1	50	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	177	0	153	0	0	0	0	0	59	51	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	181	0	154	0	0	3	2	58	62	52	50	4
Peak Hour Factor	1.0000	1.0000	1.0000	0.9023	1.0000	0.9023	0.9023	0.9023	1.0000	1.0000	0.9023	0.9023
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	0	39	0	0	1	1	16	16	13	14	1
Total Analysis Volume [veh/h]	181	0	154	0	0	3	2	64	62	52	55	4
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

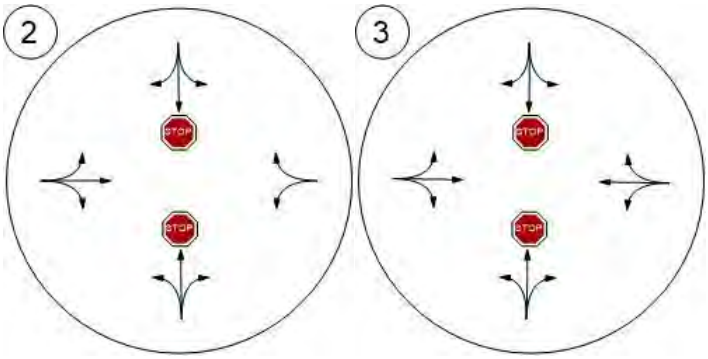
Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	13.83	14.27	12.20	12.17	11.05	8.58	7.33	0.00	0.00	7.56	0.00	0.00
Movement LOS	B	B	B	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	2.18	2.18	2.18	0.01	0.01	0.01	0.27	0.27	0.27	0.25	0.25	0.25
95th-Percentile Queue Length [ft]	54.57	54.57	54.57	0.22	0.22	0.22	6.77	6.77	6.77	6.16	6.16	6.16
d_A, Approach Delay [s/veh]	13.08			8.58			0.11			3.54		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	8.35											
Intersection LOS	B											

Lane Configuration and Traffic Control



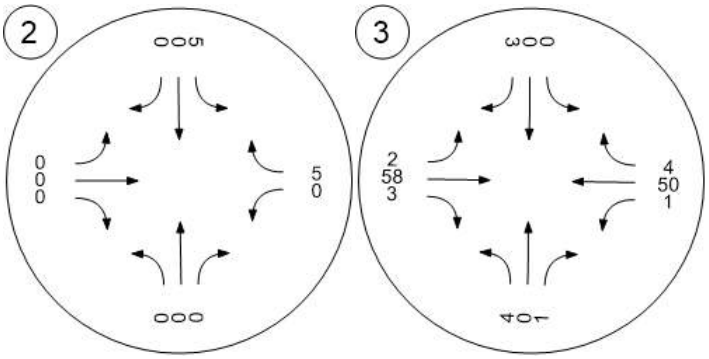


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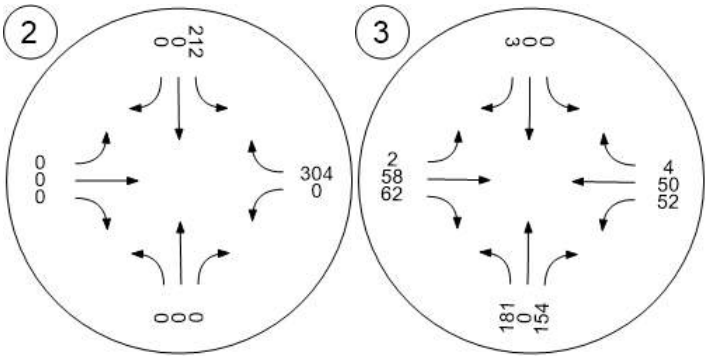
Traffic Volume - Base Volume





Traffic Volume - Future Total Volume





Vistro File: C:\...\Pearson Farm Model.vistro
Report File: C:\...\2040_Build AM.pdf

Scenario 6 2040 Build_ AM Peak
3/7/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Puma Street & Bunker Lake Boulevard	Two-way stop	HCM 2010	SB Thru	0.000	14.0	B
3	Alpine Drive & Okapi Street	Two-way stop	HCM 2010	NB Thru	0.000	18.9	C
4	Puma Street & Northern Site Access	Two-way stop	HCM 2010	WB Left	0.071	14.9	B
5	Puma Street & Southern Site Access	Two-way stop	HCM 2010	WB Left	0.075	15.5	C
6	Alpine Drive & Site Access	Two-way stop	HCM 2010	NB Left	0.021	11.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 2: Puma Street & Bunker Lake Boulevard

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	6	0	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	357	0	4	11	31	0	0	19	201
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	363	0	4	11	31	0	0	19	203
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	91	0	1	3	8	0	0	5	51
Total Analysis Volume [veh/h]	0	0	0	363	0	4	11	31	0	0	19	203
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.46	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.62	10.74	8.45	13.54	13.99	12.82	7.69	0.00	0.00	7.28	0.00	0.00
Movement LOS	A	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	2.51	2.51	2.51	0.10	0.10	0.10	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	62.73	62.73	62.73	2.41	2.41	2.41	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.61			13.53			2.02			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	8.01											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 3: Alpine Drive & Okapi Street

Control Type:	Two-way stop	Delay (sec / veh):	18.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	0	1	3	0	2	0	53	6	0	42	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	71	0	65	0	0	0	0	8	185	160	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	0	66	3	0	2	0	61	191	160	45	1
Peak Hour Factor	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534	0.8534
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	0	19	1	0	1	0	18	56	47	13	0
Total Analysis Volume [veh/h]	86	0	77	4	0	2	0	71	224	187	53	1
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.00	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00
d_M, Delay for Movement [s/veh]	18.62	18.94	12.74	16.83	17.18	8.69	7.32	0.00	0.00	8.33	0.00	0.00
Movement LOS	C	C	B	C	C	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	1.43	1.43	1.43	0.05	0.05	0.05	0.00	0.00	0.00	0.70	0.70	0.70
95th-Percentile Queue Length [ft]	35.73	35.73	35.73	1.14	1.14	1.14	0.00	0.00	0.00	17.53	17.53	17.53
d_A, Approach Delay [s/veh]	15.84			14.12			0.00			6.47		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	5.99											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 4: Puma Street & Northern Site Access

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	2	0	6	4	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	102	71	50	291	5	14	0	31	28	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	104	71	56	295	5	14	0	31	28	0	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	26	18	14	74	1	4	0	8	7	0	5
Total Analysis Volume [veh/h]	6	104	71	56	295	5	14	0	31	28	0	20
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.03	0.00	0.04	0.07	0.00	0.02
d_M, Delay for Movement [s/veh]	7.87	0.00	0.00	7.68	0.00	0.00	14.39	14.63	10.36	14.87	14.46	9.68
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh]	0.50	0.50	0.50	1.01	1.01	1.01	0.25	0.25	0.25	0.31	0.31	0.31
95th-Percentile Queue Length [ft]	12.52	12.52	12.52	25.34	25.34	25.34	6.18	6.18	6.18	7.67	7.67	7.67
d_A, Approach Delay [s/veh]	0.26			1.21			11.61			12.70		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.55											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 5: Puma Street & Southern Site Access

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.075

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	2	0	0	6	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	135	71	50	292	7	25	0	41	28	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	137	71	50	298	7	25	0	41	28	0	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	34	18	13	75	2	6	0	10	7	0	5
Total Analysis Volume [veh/h]	6	137	71	50	298	7	25	0	41	28	0	20
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.06	0.00	0.06	0.08	0.00	0.02
d_M, Delay for Movement [s/veh]	7.88	0.00	0.00	7.74	0.00	0.00	15.10	15.28	10.76	15.49	14.81	9.94
Movement LOS	A	A	A	A	A	A	C	C	B	C	B	A
95th-Percentile Queue Length [veh]	0.61	0.61	0.61	1.05	1.05	1.05	0.40	0.40	0.40	0.33	0.33	0.33
95th-Percentile Queue Length [ft]	15.33	15.33	15.33	26.20	26.20	26.20	10.12	10.12	10.12	8.13	8.13	8.13
d_A, Approach Delay [s/veh]	0.22			1.09			12.41			13.18		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.76											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 6: Alpine Drive & Site Access

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	61	0	0	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	8	185	4	3	71
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	8	246	4	3	125
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	62	1	1	31
Total Analysis Volume [veh/h]	13	8	246	4	3	125
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

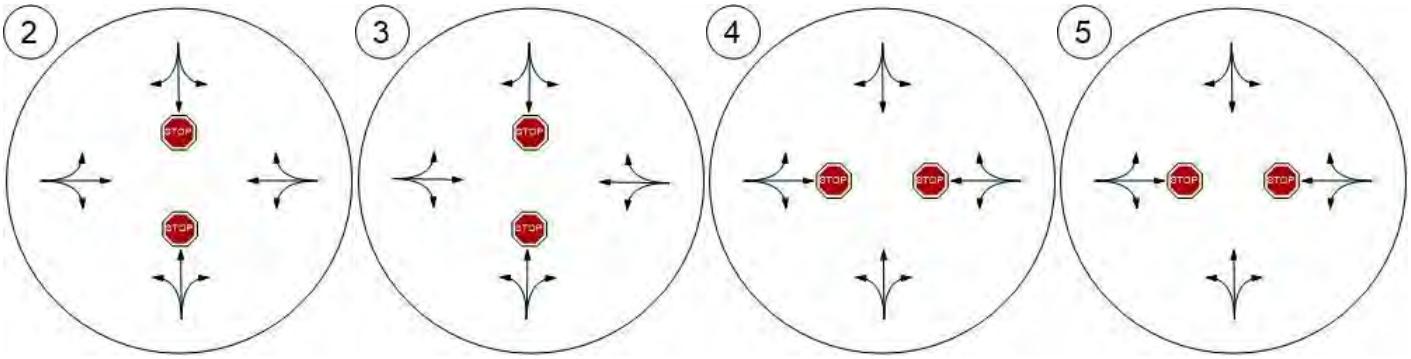
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

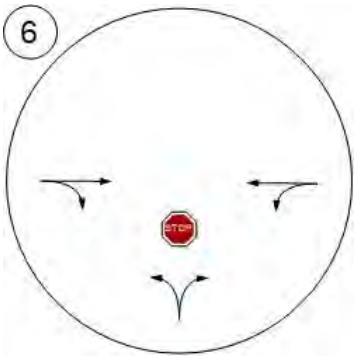
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.96	9.72	0.00	0.00	7.74	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.00	0.00	0.32	0.32
95th-Percentile Queue Length [ft]	2.40	2.40	0.00	0.00	8.07	8.07
d_A, Approach Delay [s/veh]	10.49		0.00		0.18	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	B					

Lane Configuration and Traffic Control

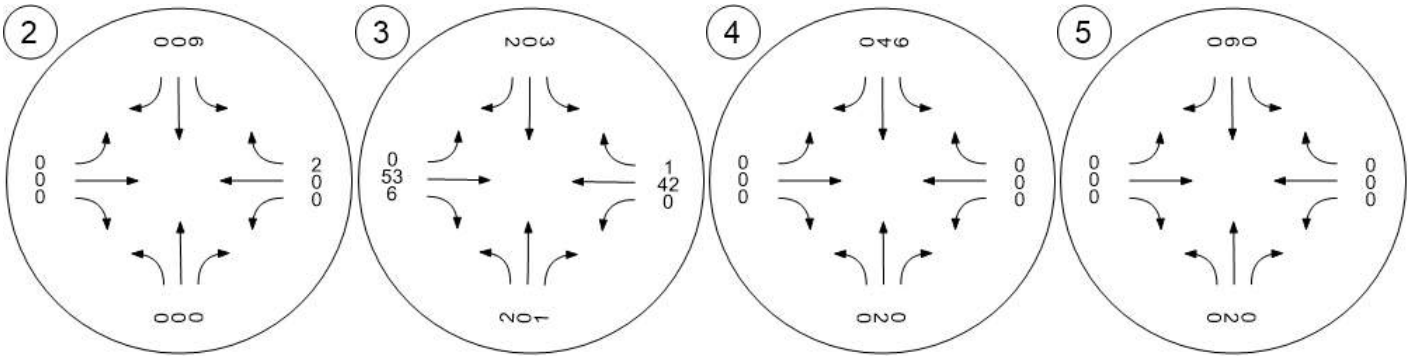


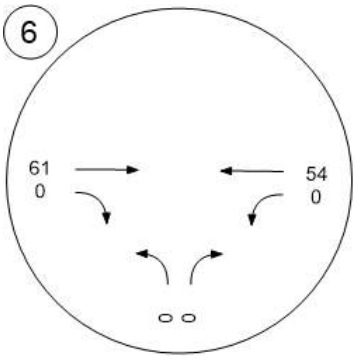




Traffic Volume - Base Volume

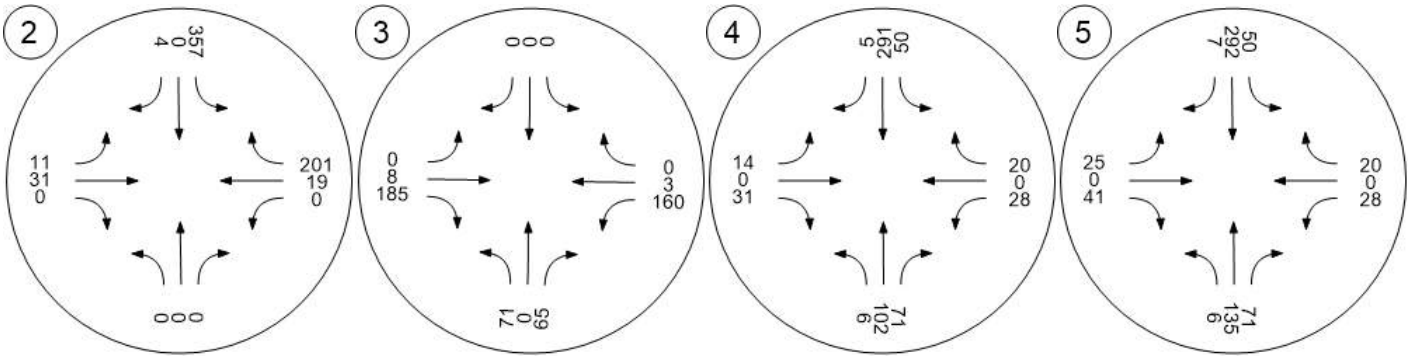


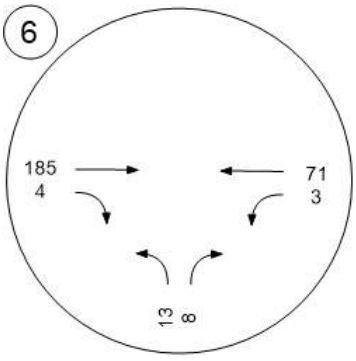




Traffic Volume - Net New Site Trips

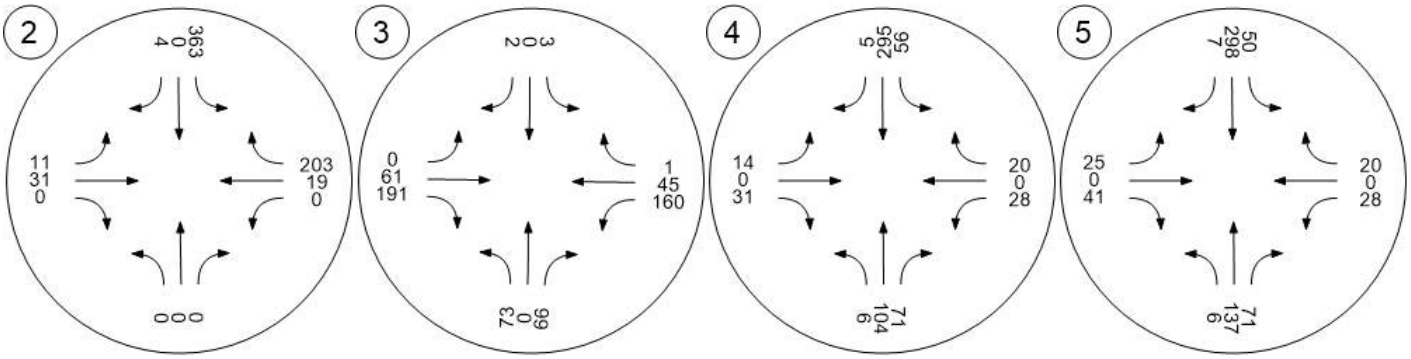


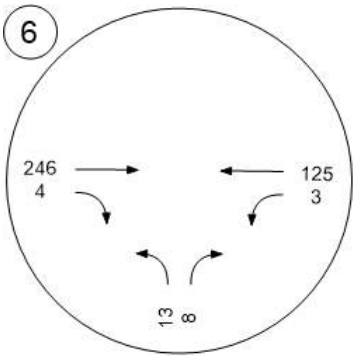




Traffic Volume - Future Total Volume







Vistro File: C:\...\Pearson Farm Model.vistro
Report File: C:\...\2040_Build PM.pdf

Scenario 7 2040 Build_ PM Peak
3/7/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Puma Street & Bunker Lake Boulevard	Two-way stop	HCM 2010	SB Thru	0.000	14.2	B
3	Alpine Drive & Okapi Street	Two-way stop	HCM 2010	NB Thru	0.000	17.1	C
4	Puma Street & Northern Site Access	Two-way stop	HCM 2010	WB Left	0.177	16.1	C
5	Puma Street & Southern Site Access	Two-way stop	HCM 2010	WB Left	0.190	17.0	C
6	Alpine Drive & Site Access	Two-way stop	HCM 2010	NB Left	0.014	11.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 2: Puma Street & Bunker Lake Boulevard

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	5	0	0	0	0	0	0	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	251	0	14	7	19	0	0	67	344
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	256	0	14	7	19	0	0	67	349
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	64	0	4	2	5	0	0	17	87
Total Analysis Volume [veh/h]	0	0	0	256	0	14	7	19	0	0	67	349
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.38	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.49	12.17	8.40	13.78	14.17	12.96	8.17	0.00	0.00	7.25	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	1.90	1.90	1.90	0.07	0.07	0.07	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	47.61	47.61	47.61	1.74	1.74	1.74	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.35			13.73			2.20			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	5.29											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 3: Alpine Drive & Okapi Street

Control Type:	Two-way stop	Delay (sec / veh):	17.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	4	0	1	0	0	3	2	58	3	1	50	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	193	0	169	0	0	0	0	5	88	78	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	197	0	170	0	0	3	2	63	91	79	59	4
Peak Hour Factor	1.0000	1.0000	1.0000	0.9023	1.0000	0.9023	0.9023	0.9023	1.0000	1.0000	0.9023	0.9023
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	0	43	0	0	1	1	17	23	20	16	1
Total Analysis Volume [veh/h]	197	0	170	0	0	3	2	70	91	79	65	4
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.34	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00
d_M, Delay for Movement [s/veh]	16.66	17.08	14.29	13.61	12.03	8.62	7.35	0.00	0.00	7.69	0.00	0.00
Movement LOS	C	C	B	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	3.05	3.05	3.05	0.01	0.01	0.01	0.36	0.36	0.36	0.35	0.35	0.35
95th-Percentile Queue Length [ft]	76.27	76.27	76.27	0.23	0.23	0.23	8.91	8.91	8.91	8.72	8.72	8.72
d_A, Approach Delay [s/veh]	15.56			8.62			0.09			4.10		
Approach LOS	C			A			A			A		
d_I, Intersection Delay [s/veh]	9.34											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 4: Puma Street & Northern Site Access

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.177

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	5	0	0	4	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	302	36	25	125	17	9	0	19	73	0	51
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	307	36	25	129	17	9	0	19	73	0	51
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	77	9	6	32	4	2	0	5	18	0	13
Total Analysis Volume [veh/h]	22	307	36	25	129	17	9	0	19	73	0	51
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.02	0.18	0.00	0.07
d_M, Delay for Movement [s/veh]	7.55	0.00	0.00	8.02	0.00	0.00	14.69	14.02	9.22	16.09	16.01	12.39
Movement LOS	A	A	A	A	A	A	B	B	A	C	C	B
95th-Percentile Queue Length [veh]	1.01	1.01	1.01	0.49	0.49	0.49	0.14	0.14	0.14	0.97	0.97	0.97
95th-Percentile Queue Length [ft]	25.37	25.37	25.37	12.23	12.23	12.23	3.48	3.48	3.48	24.26	24.26	24.26
d_A, Approach Delay [s/veh]	0.45			1.17			10.98			14.57		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.61											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 5: Puma Street & Southern Site Access

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	5	0	0	4	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	293	36	25	166	26	16	0	25	73	0	51
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	298	36	25	170	26	16	0	25	73	0	51
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	75	9	6	43	7	4	0	6	18	0	13
Total Analysis Volume [veh/h]	22	298	36	25	170	26	16	0	25	73	0	51
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.02	0.00	0.00	0.04	0.00	0.03	0.19	0.00	0.07
d_M, Delay for Movement [s/veh]	7.66	0.00	0.00	8.00	0.00	0.00	15.48	14.71	9.70	17.00	16.77	12.61
Movement LOS	A	A	A	A	A	A	C	B	A	C	C	B
95th-Percentile Queue Length [veh]	1.04	1.04	1.04	0.66	0.66	0.66	0.24	0.24	0.24	1.03	1.03	1.03
95th-Percentile Queue Length [ft]	25.94	25.94	25.94	16.42	16.42	16.42	5.92	5.92	5.92	25.78	25.78	25.78
d_A, Approach Delay [s/veh]	0.47			0.90			11.96			15.19		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	3.70											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 6: Alpine Drive & Site Access

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	61	0	0	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	5	88	13	9	193
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	5	149	13	9	247
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	37	3	2	62
Total Analysis Volume [veh/h]	8	5	149	13	9	247
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

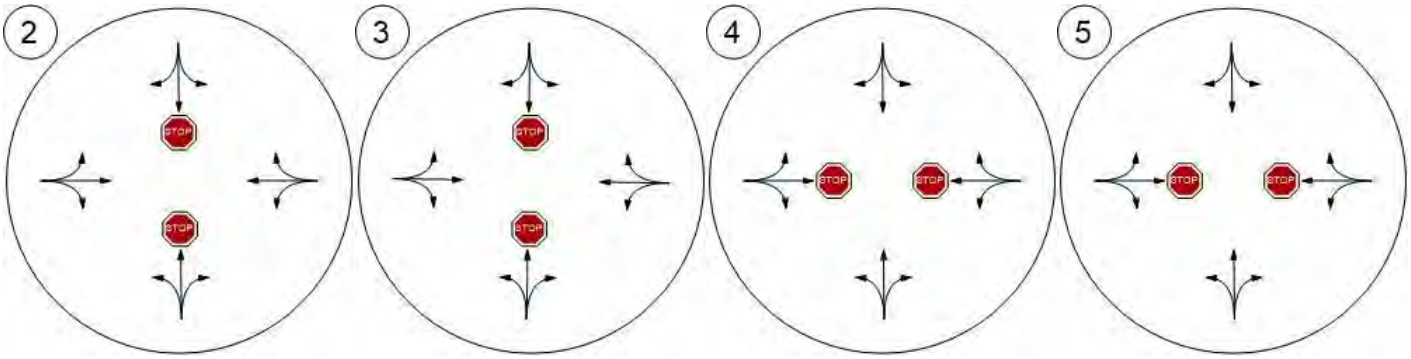
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

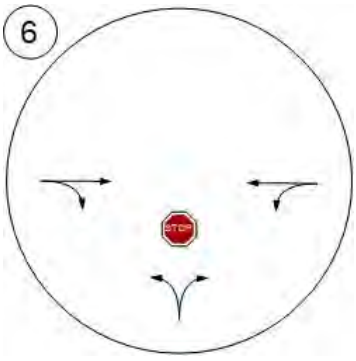
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.26	9.15	0.00	0.00	7.56	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.06	0.00	0.00	0.66	0.66
95th-Percentile Queue Length [ft]	1.47	1.47	0.00	0.00	16.47	16.47
d_A, Approach Delay [s/veh]	10.45		0.00		0.27	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	B					

Lane Configuration and Traffic Control

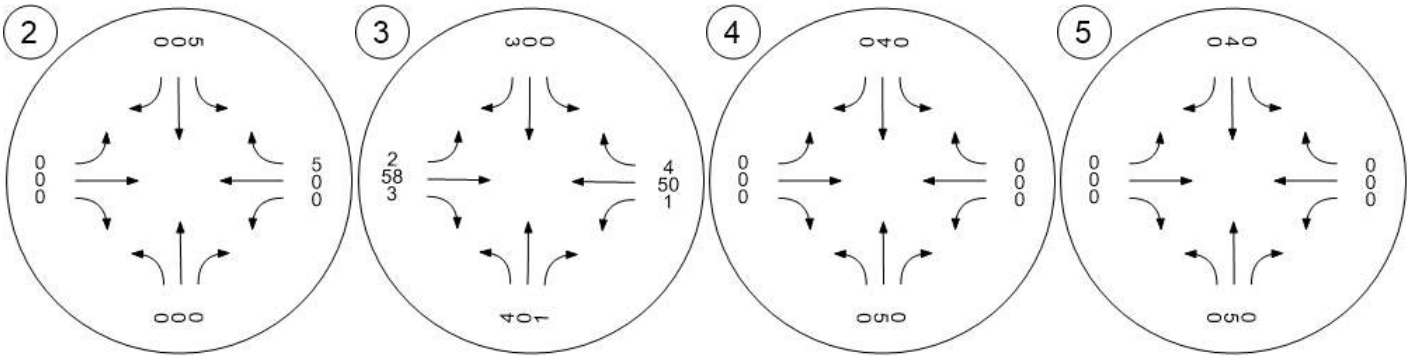


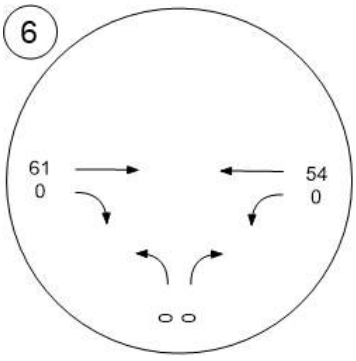




Traffic Volume - Base Volume

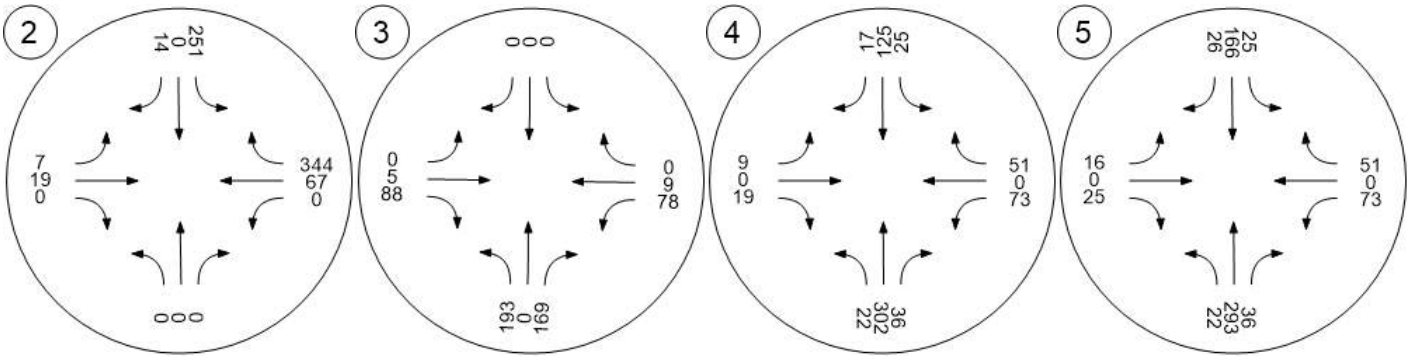


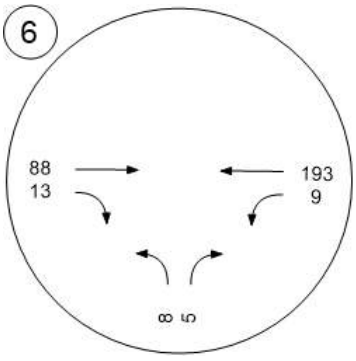




Traffic Volume - Net New Site Trips

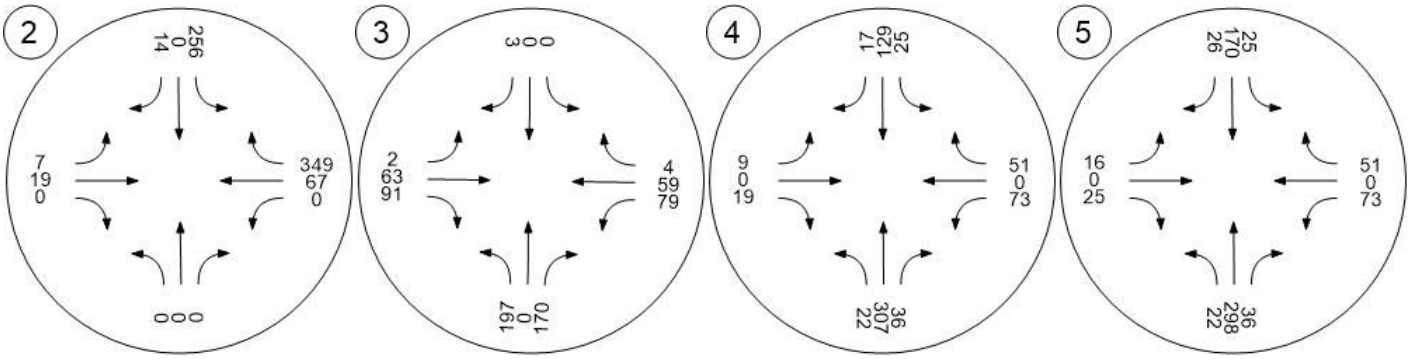


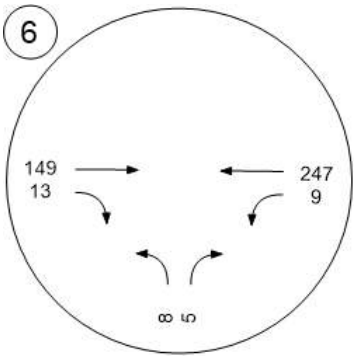




Traffic Volume - Future Total Volume







CITY OF RAMSEY LAND USE APPLICATION
TECHNICAL REVIEW FILE

DATE	3/31/17	**PROJECT ADDRESS**	14800 BLOCK PUMA ST NW
PROJECT. TITLE	RIVERSTONE ADDITION (SKETCH PLAN)		
PROJECT #	17-106		
DEPARTMENT:	Community Development – Planning Division		
TECHNICAL REVIEWER:	Name: Tim Gladhill, Community Development Director Phone: 763-433-9826 Email: tgladhill@cityoframsey.com		

We offer the following comments regarding your land use application. Staff is supportive of the proposed subdivision, subject to corrections to plans identified within this report and final review for compliance with future steps (Preliminary Plat and Final Plat). This sketch plan phase is a conceptual review that focuses on layout and general development standards, but not detailed grading, stormwater, and utility review.

Comprehensive Plan

Action Item: *Comprehensive Plan Amendment required to change areas of High Density Residential and Commercial.*

The City Council already authorized a Comprehensive Plan Amendment for the 'Armstrong West' area. The amendment will now enter Metropolitan Council review. Upon approval of the Comprehensive Plan Amendment, the entire site will be guided as Medium Density Residential. Please note that approximately 90% of the project site is already guided in this manner. The Comprehensive Plan Amendment adjusts two (2) minor areas based off of previous land use planning. In 2013, the City embarked on a minor Small Area Plan commonly referred to as Armstrong West. The proposed project is consistent with policy direction from that planning effort. Results of that process are attached under separate cover.

The Comprehensive Plan defines Medium Density Residential as areas that are within the MUSA and intended to receive medium density housing including lower density multi-family housing and higher density single-family housing. Average density will be 6 units per acre [Zoning Code allows for range of 3 – 6 units per acre].

The fact that the project requires an amendment to the Comprehensive Plan and Planned Unit Development affords the City certain discretion in approving/not approving the project.

Permitted Uses

Action Item: *Zoning Amendment required to be consistent with Comprehensive Plan Amendment noted above. Staff recommends utilizing a Planned Unit Development (PUD) due to the overall master plan for the project to be discussed below.*

The project is being generally reviewed under the standards of the R-2 Residential District (this district implements the Medium Density Residential (MDR) designation of the Comprehensive Plan. The intent of the R-2 Residential District is to accommodate multiple dwellings at a density of three to seven dwelling units per acre and multiple-dwelling complexes within the 2002 MUSA. All lots created by subdivision located within the 2020 MUSA shall be serviced by sanitary sewer and municipal water. However, there are multiple residential types within the proposed project that make it difficult to apply one single zoning district to the project. Please note that one of the City's goal is to provide a variety of housing options for people at all life stages and income levels to encourage existing and future residents to stay in Ramsey throughout their lives and to achieve a balanced housing supply. One strategy identified in the Comprehensive Plan to achieve this is to continue to develop more affordable single family housing such as small-lot single family homes. The four (4) different types of housing proposed within the project include:

1. 65-foot-wide traditional single-family lot
2. 50-foot-wide traditional single-family lot
3. 50-foot-wide 'villa' lot (association maintained lawn care and snow removal)
4. 4-unit townhome building



Traditional Single-Family/Small-Lot Single Family Lots (65 foot width, 50 foot width)

Detached single-family lots are traditionally guided by the R-1 Residential District. However, the minimum lot width is 80 feet. The City has on multiple occasions allowed this style of development through the PUD process. Most recently, this was utilized for the Villages of Sunfish Lake Development (mid-2000s). These units do not meet the specific definition of detached townhomes in the R-2 Residential District, thus necessitating the need for a PUD, an appropriate tool.

Villa Lots

These would be classified as detached townhomes. The use is consistent with the R-2 Residential District. Please note that the definition of detached townhome within Zoning Code is slightly different than that of Building Code. Staff raises this point not to suggest any conflicts with the proposal, yet clarify for future steps (Building Permit Review).

Townhome Lots (Quad Units)

The use is consistent with the R-2 Residential District.

Layout

The following design standards are required for the various housing types proposed within the development. Please note that due to the variety of housing types, it is difficult to apply a single-set of layout standards to the project. Any perceived deviation to City Code appears to be reasonable with the utilization of a Planned Unit Development. A significant portion of the project area is being preserved for open space, a key component of a PUD Approval.

Continued on Next Page

Traditional Single-Family/Small Lot Single-Family and Villa Lots

Miscellaneous Standards	Attached and Detached Townhomes
Lot size	None
Minimum density (net)	3.0
Maximum density (net)	7.0
Lot width	None
Building setback from public street right-of-way	25 feet
Building setback from private street measured from back of curb	25 feet
Building setback from exterior development boundary line	30 feet 25 feet (detached)
Minimum separation between buildings, including any appurtenances thereto (i.e., patios, decks)	20 feet 15 feet (detached)
Parking node setback from exterior development boundary line	30 feet
Parking node setback from structure	15 feet
Maximum lot coverage	35%
Maximum building height (measured from mean ground level to mean gable)	35 feet
Accessory structure setback (measured from the development boundary line)	30 feet
Maximum number of units per structure	81 (detached)
Open space required	40% general open space 10% of which must be identifiable community space

The only deficiency in the above table would be the minimum separation between buildings. The Planning Commission and City Council have already seen this project in concept, and appeared generally supportive of the overall approach. The PUD appears to be an appropriate tool in this instance.

Continued on next page.

Townhome/Quad Units

Miscellaneous Standards	Twinhome or Quad
Lot size	7,000 square feet per dwelling unit
Minimum density (net)	3.0
Maximum density (net)	7.0
Lot width	50 feet
Front yard setback	30 feet
Side yard setback	10 feet
Side yard setback corner lot	30 feet
Side yard interior wall setback	0
Rear yard setback	30 feet
Maximum lot coverage for all principal and accessory buildings (excludes impervious or prepared surface)	35%
Maximum building height (measured from mean ground level to mean ground gable)	35 feet
Accessory structure setbacks:	
Front	30 feet or same as principal structure, which ever is greater
Rear	5 feet
Side	6 feet
Side corner	30 feet
Maximum number of units per structure	4

The only apparent deficiency to the above table is lot width, which is measured at approximately 45 feet. There appears to be sufficient space in the common area to widen the individual lots without impacting the proposed buildings themselves.

Action Item: Adjust the lot widths of the quad units to 50 feet.

Continued on next page.

Architectural Standards

The R-2 Residential District has increased architectural design standards when compared to the R-1 Residential District. The current submittal does not include architectural renderings. The PUD approval process does require this step.

Action Item: *Submit architectural renderings for all unit types. Master Plans for model types must be approved by the Planning Commission and City Council. Please note this requirement for future building permit submittals. We encourage you to submit all desired model types in advance to avoid delays in building permit review. Please note, individual permits meeting the requirements of the Building Code Master Plan process can be reviewed. Each individual permit does not need to be reviewed by the Planning Commission and City Council. Minor adjustments to master plan floor plans is acceptable.*

Street Widths and Design

The proposed street widths are deficient of minimum width standards for the City (32 foot wide streets). Staff continues to debate the pros and cons of this approach. This approach was utilized in the Village of Sunfish Lake Addition. The City's Public Safety and Public Works Maintenance Teams have expressed concern with this design due to maneuverability. On the other hand, Staff also sees other benefits.

The intersection of Street H and Alpine Drive is deficient in pedestrian safety. The current recommended strategy is a roundabout in this location and would include a cost share. The proposed intersection has been identified as a concern due to sight lines, geometry, and pedestrian safety. The intersection will also serve as an entrance to future Lake Itasca Park.

The project also requires execution of the Armstrong West Arterial/Collector Infrastructure Project. This topic was discussed at the March 28 City Council Work Session. This topic will be discussed as part of Preliminary Plat.

Action Item: *Either 1) amend the proposal to 32 foot street widths or 2) provide a narrative outlining the benefits of 29 foot street widths. This is for public streets only. Private streets must meet the minimum design requirements of the R-2 Residential District.*

Action Item: *Amend the plan set to include a roundabout at the intersection of Street H and Alpine Drive –OR- propose an equivalent approach the improves sight line and pedestrian safety.*

Stormwater Pond

Based on projects with similar stormwater pond size and depth, Staff anticipates some concerns regarding safety to be raised by Planning Commission. Plans should be updated to better reflect the fact that these are intended to be lined ponds that hold water as an amenity. We also encourage you to be prepared to discuss stormwater safety, especially along public trails and compliance with stormwater regulations. Since this is not Preliminary Plat review, Staff has not finalized our recommendations on this matter.

Development Fees

Standard Development Fees are due on the plat. You have indicated a desire to obtain certain Park Dedication and Trail Development Fee Credit for the open space and trail areas. Staff's recommendation is that trail easement and trail construction for the Lake Itasca Greenway internal to the site is eligible for Park Dedication Credit. Staff does not recommend credit for the private (not City owned) open space areas (Outlot C and Outlot D). However, the City Council has noted that they would be open to additional options for parks.

This topic will be discussed further in May during Preliminary Plat Review.

Environmental Review

An Environmental Assessment Worksheet (EAW) is mandatory by the State of Minnesota for this project. A draft has been completed and is available for review. The City Council will consider authorizing distribution for official comment period later in April or early May. Staff has completed an initial review, and has determined this EAW to be incomplete. Minor updates and revisions are required before distribution. The draft EAW is included in the Planning Commission packet.

Policy Document

During concept plan phase (unofficial review), the City prepared a Policy Document to guide discussions between Staff and Developer. This document is included as reference.

CITY OF RAMSEY LAND USE APPLICATION
TECHNICAL REVIEW FILE

DATE	MARCH 29, 2017	**PROJECT ADDRESS**	WEST OF PUMA STREET, SOUTH OF ALPINE DRIVE
PROJECT. TITLE	RIVERSTONE		
ESCROW #	115626		
DEPARTMENT:	Engineering		
TECHNICAL REVIEWER:	Name: Leonard Linton Phone: 763 433-9834 Email: llinton@ci.ramsey.mn.us		

The Engineering Department offers the following comments regarding the Sketch Plan Exhibits for Riverstone. The submittal consists of 16 sheets prepared by Carlson McCain dated March 8, 2017. The submittal included a document with the stormwater summary and geotechnical report. This review also covers the draft EAW submitted for this project.

General comments:

1. **A legend must be shown on all sheets. All symbols used on that sheet must be added to the legend for the sheet. A scale must be shown on all sheets.**
2. All sidewalks in public right-of-way must be shown as 6 feet wide and 6 inches thick.
3. Class 5 shall meet the Ramsey modified gradation. This gradation must be included in the details.
4. Plan readability – Proposed sanitary sewer lines and symbols, and watermain lines and symbols must be the most prominent items on the sewer and water sheets. Proposed storm sewer lines and symbols must be the most prominent on the storm sewer sheets. Proposed curb lines, sidewalks and pedestrian ramps must be the most prominent lines on the street sheets. All other lines on the sheet must be screened so the lines and symbols for proposed features standout. This includes the symbols in the legends which must match the plan view in size, pattern, weight, and color.
5. **Underlying lines must be broken where they are under text boxes to enhance readability. Underlying text must be moved so there is not text on text.**
6. Move the typical street section to one of the Street/ Storm Sheets.
7. Add match lines and continuation notes to all sheets where part of the street is shown on a different page. Station numbers must be darker in plan view. Lines must be broken under the match lines.
8. Each pedestrian ramp requires a specific detail with walk/ trail width, ramp slope, landing pad slope, spot elevations and number of truncated domes.

9. Final plat documents must have plan and profiles for streets, sanitary sewer, storm sewer and watermain. Plan view must be shown for all pipes extending outside of the right-of-way.

Sheet Specific Comments:

Sheet 4:

1. A drainage and utility easement must be dedicated along Puma Street for the future Lift Station. See additional comments on utility plan.

Sheet 8:

1. The future lift station must be placed in a drainage and utility easement outside of the public right-of-way. The lift station must have a driveway access from Puma Street.
2. Water valves must be added mid-block near Lot 14, Block 9, Lot 8, Block 13, Lot 7, Blcok 12, Lot 14, Block 6, Lot 10, Block 5 and Lot 8, Block 11.
3. The manhole information for the structure near Lot 43, Block 9 is not correct. The rim and invert elevations are reversed. The invert elevation is lower than the downstream invert.
4. Rim and invert elevations are required on the proposed sanitary sewer in Puma Street. The responsibility for construction of this line and the lift station has not been determined; however, design information must be shown on this plan to ensure that the proposed line will function properly.
5. Watermain must be placed on the north side or east side of the road. The location must be changed adjacent to Block 6.
6. Sanitary sewer north of the lift station can be 8", not 18" diameter pipe.

Sheets 10-13:

1. The grading plan must be revised to achieve the following separation distances per the Lower Rum River Watershed Management Organization rules (LRRWMO).

   The lowest floor elevation of all development, including basements, must be at least 3 feet above the highest anticipated ground water table, 2 feet above the designated or designed 100-year flood elevation, or 1 foot above the emergency overflow, whichever is higher.

   This requirement may be waived if evidence that a lesser separation can be achieved is:
   - submitted and certified by a geotechnical engineer
   - reviewed and approved by the city engineer or other party designated by the city engineer, and
   - approved by the LRRWMO.

If this process is pursued, the developer should consult with the LRRWMO Engineer before beginning the study to discuss acceptable methodologies.

Stormwater Management Plan:

1. The proposed conditions section states 27.3 acres of new impervious will be created. The next paragraph states 35 acres of new impervious will be created. The locations of these areas must be identified in plan view.
2. The proposed infiltration areas do not meet the LRRWMO criteria for infiltration as outlined below:
    a. The volume to be infiltrated must be retained in the basin prior to any discharge leaving the basin. The large infiltration basin does not retain any water prior to discharge leaving the pond.
    b. The bottom of the basin must be at least 3 feet above the ground water level, The infiltration benches do not meet this separation requirement.
3. If water will be discharged directly to the infiltration area then allowed to overflow to the pond, then a sump manhole or water quality treatment structure must be installed up stream of the infiltration basin to capture sediment and debris.
4. Soil borings are required in the area of the infiltration practices to verify the soils are suitable for infiltration.
5. Water cannot be directly discharged to the wetland. It must be treated as noted above.
6. Detailed procedures for constructing the infiltration basins and bringing them online will be required in the final plans.
7. The narrative indicates 0.04 acres of wetlands will be lost. Wetland sequencing must be provided to document this loss. If this area is larger than the de-minimus then mitigation must be provided.
8. The table on page 4 lists Highway 10 as a discharge point. Drainage from this area does not reach Highway 10. The railroad tracks block flow to the south.
9. The title of the HydroCAD models must be revised to include the project name and designate Existing or Proposed conditions.
10. The rainfall used in the model must indicate Ramsey, not Andover.
11. The normal water level of the ponds is 866, the soils report indicates the groundwater level was 858 – 860. This is 6 – 8 feet below the normal water level and could result in dry dusty ponds. This possibility must be evaluated during development of the final plans.
12. The ponds must be less than 10 feet deep to comply with the recommended guidelines in the Minnesota Stormwater Manual.
13. A Minimal Impact Design (MIDS) model or P8 model must be submitted showing the water quality improvements provided by the stormwater system.
14. Staff downloaded the De Minimus calculation form and worked through it. This part of Ramsey is in the 2,500 sq. ft. exemption area. The proposed impact is 1,742 sq. ft. This is under the threshold; however, this wetland was described as seasonally flooded type. Staff looked at the several aerial photos from different years in GIS and measured the apparent area of the north east wetland for 1997. There were over 1.2 acres that appear to be wet. The delineation lists the area of this wetland as 0.68 acres.

The De Minimus form states that the historic impacts + the proposed impacts exceed the de minimus then the exemption cannot be claimed. Staff feels the request for exemption needs further investigation before we accept it. The request must also be reviewed by the wetland specialists at the LRRWMO as part of the approval process for the exception.

Geotechnical Report:

1. The logs indicate loose to very loose sands at depth in each boring. The report must be revised to indicate how these loose to very loose sands should be addressed under the future pavements. The City must maintain the roads and requires that the subgrade be as uniform as possible to prevent differential settlement of the pavements.

Draft EAW:

The following comments were generated after reviewing the draft EAW.

Page 7 - Utility phasing needs to be clarified. The southernmost streets can be served with sewer from Bunker Lake Boulevard. The remainder of the development will send sewage to a lift station. The responsibility for construction of the lift station must be identified.

Page 8 - The tabulation lists a loss of 0.4 acres of wetland. Commentary needs to be added justifying this loss, ie. De Minimus exemption. See comments above regarding supporting the exemption.

Page 31 - The list of permits must be updated. McDonalds has withdrawn their permit application.

Page 74 - The traffic study states turn lanes are not required on the existing roadways. Historically projects of this size in Ramsey have needed some traffic modifications. The traffic study commentary should be expanded to show the justification for not adding turn lanes.

Page 85 - Remove the transit comment. Ramsey does not have transit in any part of the City due to low population density.

Page 90 - The traffic data count sheets need to be updated. The file name lists Ramsey streets while the page header lists a St. Paul intersection.

Page 128 - The diagrams do not accurately reflect the inplace roadways at the modeled intersections. The southern leg of diagram 2 does not exist and should not be shown.

Page 130 - The picture does not show the location of all of the diagrams listed on the page. The comments on the diagrams generally apply to all of the pages in the report.

Page 167 - Diagram 3 lists minimal traffic from the existing neighborhood to the north. It shows the trips heading west. It also shows 181 vehicles making the north to west movement. This is not intuitive. The Alpine Drive –TH10 intersection is to the west and is not a good connection for going east on TH10. There are no plans for future employment or businesses along Alpine Drive west of the project site, so there are not apparent destinations in this direction.

701 Xenia Avenue South | Suite 300 | Minneapolis, MN 55416 | (763) 541-4800

Memorandum

To: ***Tim Gladhill, City of Ramsey***

From: ***Breanne Rothstein, WSB & Associates, Inc.***
Alison Harwood, WSB & Associates, Inc.

Date: ***March 30, 2017***

Re: ***Capstone Homes (Riverstone Addition) EAW Review***

WSB Project No. 01973-350

On behalf of the City of Ramsey, WSB & Associates, Inc. has reviewed the Pearson Farm Residential Development EAW for compliance with requirements. The following comments were noted during our review:

1) Project Title
   - Page 1 – Include the location in the project title.

5) Project Location
   - Page 2 – For residential development, it is recommended that grading, drainage, or other plans be attached if available.

6) Project Description
   - Page 2 – Figures 3 and 4 show the proposed site plan and a maximum density site plan, but both are referenced for the proposed site plan. Consideration should be made to distinguish between the two in the project description

11) Water Resources
   - Page 11 – for the Table 6, Appendix B reference, the formatting makes it seem like Table 6 is located in Appendix B. Consider reformatting by possibly using semicolon or ampersand symbol.
   - Page 11 – Include a table that shows the location of the wellhead protection area or other sensitive water management areas.
   - Page 16 – in the Surface Waters section, include measures taken to avoid or minimize impacts to wetlands, such as an alternatives analysis.

12) Contamination / Hazardous Materials / Waters
   - Page 18 – Include a figure for the WIMN database listings.

17) Noise
   - **Page 23 – With the project adjacent to TH 10 a noise analysis should be considered to document the need for future noise walls. Although this is not a requirement, in the future if issues arise MnDOT will not participate in funding of needed walls. It will be the local responsibility.**

18) Transportation
   - Page 24 – This section should be updated based on the Traffic Study comments.

Figures
   - On the site plan the access at Bunker Lake Blvd shows a center median. In order to provide lane continuity Bunker Lake Blvd will need to be widened.

Appendix E

1. Introduction:
   - **Page 1 – the study only include analysis at the intersections closest to the development. Consideration should be given to also evaluating for regional impacts:**
     - **Bunker Lake Blvd at Armstrong Blvd**
     - **Alpine Dr at Armstrong Blvd**

- **Alpine Dr at TH 10**

3. Forecasted Traffic:

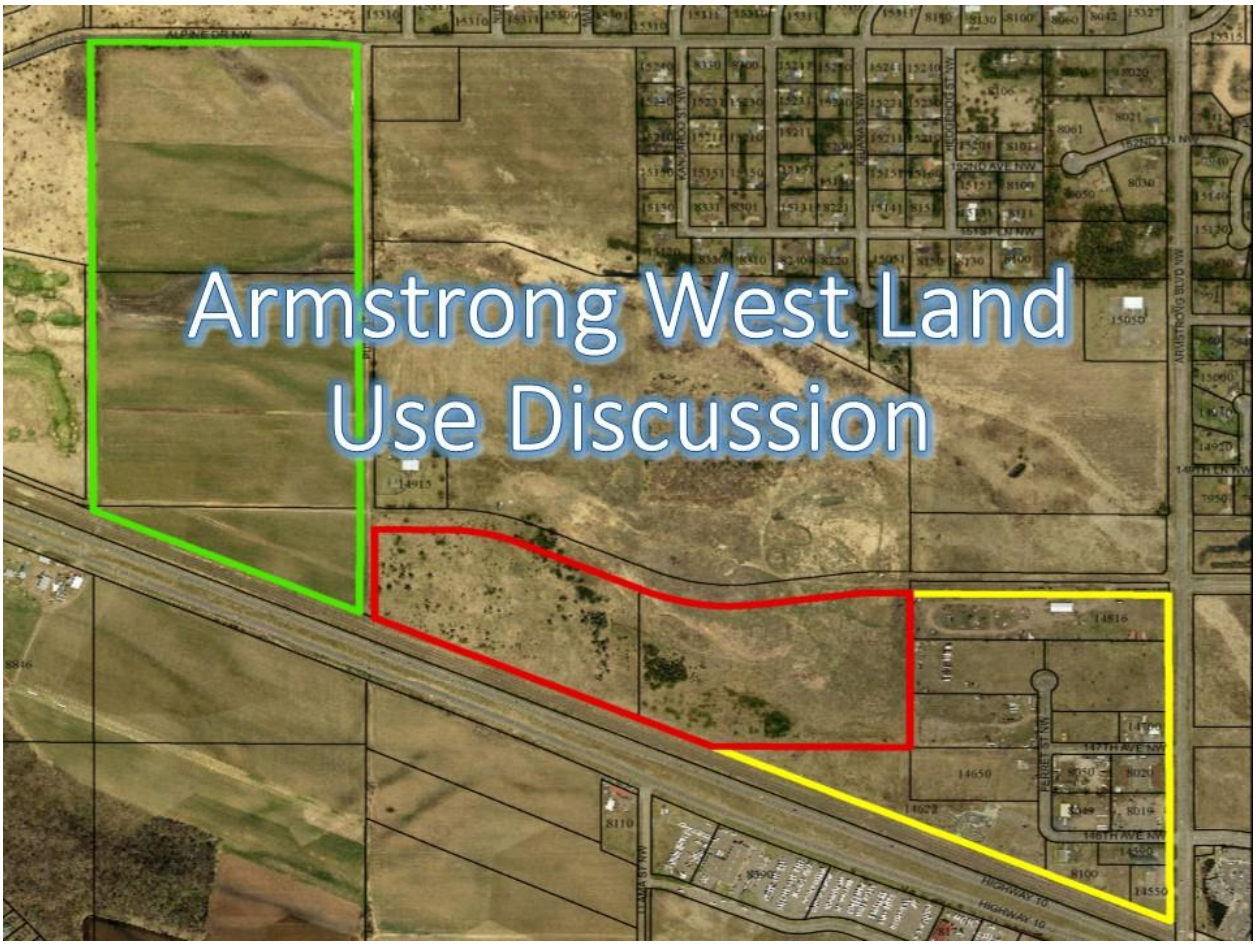
- Page 3 – in the Site Traffic Forecasting section, the traffic distribution indicates 78% to/from east on Alpine Dr and Bunker Lake Blvd. Please provide the break down between the two roadways.
- Page 3/4 – in the Non-site Traffic Forecasting section:
  - **More detail on what was assumed in the previous studies should be provided.**
  - **The text indicates that the previous studies were for a Business Park however, the trip generation tables in the Appendix show Industrial Park uses. This should be clarified.**
  - **Was other approved or anticipated development in the area included with the analysis? The EAW in Table 10 shows other projects in the City. The projects in the area of the proposed development should be included as background traffic.**
  - **The text indicates that a background traffic growth was applied. Provide a discussion on how this was calculated and applied.**
- Page E2 and E3 - Figure 2 and Figure 3 indicate 2018 volumes however all reference and analysis is for 2040. This should be clarified.

4. Analysis

- Page 5 – the text indicates that the capacity and LOS analysis is included in the appendix. A summary should be included in the body of the report for each analysis scenario.
- Page 5 - the capacity analysis did not show the results for the left and right turning traffic from mainline (Alpine Dr and Puma St). This should be provided to show if delays and queues are an issue turning into the site.
- Page 5 – the text indicates that “vehicle queuing of five cars or more is considered unreasonable”. How was this determined?
- **Page 7 – in the Vehicle Mitigation section it was concluded that with the existing posted speed limit of 40 mph no turn lanes would be required for capacity. However, safety at the intersections should also be considered. Additional analysis of the sight lines should be provided at each of the driveway accesses.**
- Page 8 – in the Vehicle Mitigation section it indicates that future improvements at Armstrong Blvd and Bunker Lake Blvd were not considered. Additional information should be provided. The current study does not include this intersection in the analysis, although it is recommended to include it.

Riverstone Addition Schedule												
	2017											
	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	January	February	March	April	May	June	July	August	September	October	November	December
Task 1: Environmental Assessment Worksheet												
Order EAW												
Complete Draft												
City Council Approval for Distribution												
Comment Period												
Public Comment Meeting												
Planning Commission Review												
Environmental Policy Board Review												
City Council EIS Needs Decision/Final Draft												
Distribute Final Document												
Task 2: Assessment/Petition and Waiver Agreement (Trunk Infrastructure Agreement)												
City Council Approves Memorandum of Understanding												
Design												
Accept Plans and Specifications and Advertise for Bids												
Accept Bids and Award Contract												
PLACEHOLDER: OVERALL PROCESS												
Task 3: Comprehensive Plan Amendment												
Adjacent Review												
Metropolitan Council Review												
Task 3: Sketch Plan Review												
~~Environmental Policy Board~~												
Planning Commission												
~~Parks and Recreation Commission~~												
Task 4: Preliminary Plat Review												
Environmental Policy Board												
Planning Commission												
Parks and Recreation Commission												
City Council												
Task 5: Final Plat Approval												
City Council												
Task 6: Construction												
Plan Revisions												
Pre-Construction Meeting												
Field Staff On Site Pre-Construction Meeting												
					Desired Preliminary Plat Approval	Desired Final Plat Approval		Desired Construction Start Date = August 1				

Working Draft
Not for Formal Use

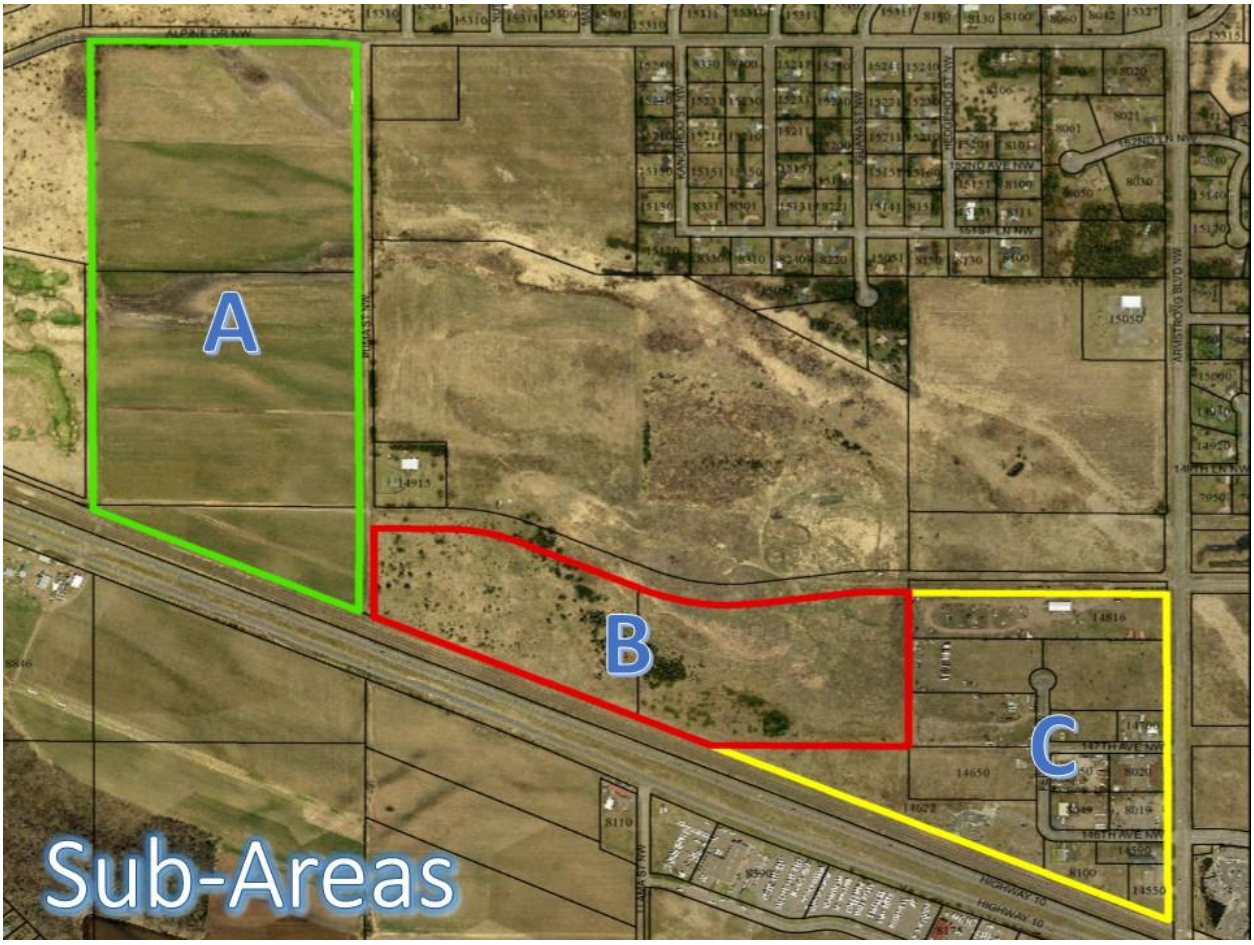


Public Discussion – December 12, 2013

The following represents comments submitted by participants.

Goals (as defined by participants)

- Add commercial and industrial land in order to add to the tax base
- Discuss necessary infrastructure
    - Water & sewer
    - Streets & access



Definitions

- Business Parks – uses could include warehousing, office, light manufacturing. May or may not include outside storage.
- Retail – places to shop.
- Low Density Residential – average three (3) homes per acre. May or may not include attached units.
- Medium Density Residential – three (3) to seven (7) homes per acre. Traditionally includes attached units, but may include detached units as well (twin-homes, detached townhomes, small-lot single-family).
- High Density Residential – seven (7) to fifteen (15) homes per acre.

Sub-Area 'A' – Pearson Properties [NOTE: discussion also added areas of Northfork, Inc. to the west and to the north]

- Portion of area as business park
  - Light manufacturing
  - Limited or no outside storage
  - High architectural standards
- Portion of area as residential
  - Low to medium density
    - Small lot single-family or twin-homes
  - High quality design standards
  - Fit well with adjacent golf course [The Links at Northfork]
  - Low traffic
  - PUD-Planned Unit Development
    - Cluster development with permanently protected green/open space to serve as buffer/transition
    - Conservation style subdivision without creating a new district/subdivision process (utilize existing PUD process)
      - NOTE: would NOT be the same, previous ordinance known as the Cluster Subdivision Ordinance (circa 2005).
      - Proposed PUD would permanently protect open space, not preserve areas for future development.
  - Focus on transition from residential to business park and compatibility with golf course
- *Written Comments:*
  - Keep in consideration golf course area for higher end residential & possibly private road (compared to industrial access)
  - Homes along golf course
  - Industrial park north of tracks
  - Residential North end
- *Northfork, Inc. Area*
  - Currently guided as larger acreage lots without sewer
  - Screening may be important depending on adjacent land use type
  - Interested in other land use options
    - Site has private, restrictive covenants
    - Could consider a higher density (low density to medium density) to match development pattern of what happens on Pearson site
  - Interested in working with Pearson Properties

Sub-Area 'B' – Hageman Holdings [NOTE: discussion also added other Hageman Holdings properties to the north]

- Open to a project in the short/near-term
- Focus = business park
- Open to the concept of retail
- Future school will provide its own buffer for compatibility
- *Written Comments:*
  - Industrial/business
  - Retail option
  - Not the school area or land on Alpine = residential
  - Residential north half
  - Industrial park south half

Hageman Residential Portion (36 Acres along Alpine Drive)

- High quality architecture
- Single-family feel
- Allow for some clustering with permanent buffer
- See Saint Michael example
  - Hans Hagen development adjacent to J & B Group
  - Medium density with screening/buffer
    - Twin-homes; small-lot single-family

Future School Site (North of Bunker and Sub-Area 'B')

- Current vision remains a school (user to be determined) or other youth-focused philanthropic endeavor
- If unable to develop as a school:
  - Potential for retail development (first choice)
  - Also potential for a business park

Sub-Area 'C' – West (COR) Retail

- Existing standards may be too restrictive
  - Continue quality standards on the façade
  - Default to traditional bulk standards (setbacks, parking, etc.)
- Potential/need for frontage roads
- Potential for railroad crossings and/or railroad spurs
- Hageman Holdings OK with concept of adjacent retail (Sub-Area 'B')
- Market should drive scale of retail
  - Large-scale (big-box) or small/medium-scale (convenience, food, etc.).
  - Not quite at the stage to fully determine where exact locations or large, medium, or small scale should be – let the market drive
- Reduced visibility due to Armstrong Interchange
- Need taller signs
- *Written Comments:*
  - Retail as best fit for the new interchange, etc.
  - Industrial park to the west

Pearson Farm City Policy Statements

Contents

Land Use and Zoning 1

Medium Density Residential Character 1

Planned Unit Development 1

Environmental Review 1

Environmental Assessment Worksheet (EAW) 2

Environmental Impact Statement (EIS) 2

Alternative Urban Areawide Review (AUAR) 2

Park Dedication 2

Regional Infrastructure 3

Land Use and Zoning

1. The project site is guided as a mix of Medium Density Residential (majority of site) and High Density Residential (small portion of site).
2. The proposed project is a mix of unattached Medium Density Residential (majority of site) and attached medium density residential (two small quadrants).
3. The City supports the utilization of a Planned Unit Development given the variety of unique housing types and styles and to allow flexibility in the application of land use standards.

Medium Density Residential Character

These areas are within the MUSA and intended to receive medium density housing including lower density multi-family housing and higher density single-family housing. Average density will be 6 units per acre.

Planned Unit Development

The intent of the Planned Unit Development District is to provide a district that will encourage flexibility in land development in order to 1) make better use of new techniques in building design and construction and land development, 2) housing affordable to all income groups, 3) more efficient use of public infrastructure, 4) energy conservation through the use of more efficient building designs and through the clustering of buildings and land uses, 5) preservation of desirable land characteristics and open space and protection of sensitive environmental features such as steep slopes, poor soils and trees and 6) more effective and efficient use of land, open space and public facilities through the mixing of land uses and assembly and development of land in larger lots.

Environmental Review

1. An Environmental Assessment Worksheet (EAW) is mandatory.
2. An Alternative Urbanwide Area Review (AUAR) is another option in lieu of an EAW, but not recommended in this instance.

DRAFT

3. The City of Ramsey is the Responsible Governmental Unit (RGU) for the EAW, and therefore owns the document and has final decision power on the content of the document.

Environmental Assessment Worksheet (EAW)

An Environmental Assessment Worksheet (EAW) is mandatory for this project due to the number of proposed lots. An EAW is a baseline environmental review that studies traffic, congestion, air quality, ecological resources, historical resources, etc. It is a simple planning tool that helps entities that approve projects that will alter the physical development of a property better understand the potential impacts. An EAW requires a specific project to be under review. An EIS is a much more in depth environmental review for significantly large project or project with the potential for significant environmental impacts.

Environmental Impact Statement (EIS)

An Environmental Impact Statement (EIS) may be necessary based on the findings of the Environmental Assessment Worksheet (EAW). An EIS is not automatically required based on the mandatory thresholds, but could be triggered by the findings of the EAW.

Alternative Urban Areawide Review (AUAR)

An Alternative Urban Areawide Review (AUAR) is an option in lieu of an EAW. An AUAR is a tool that allows communities to look more comprehensively and proactively and potential environmental impacts. It does not require a specific project to be under review. The project is part of a broader small area planning effort. Other future uses adjacent to the project include a 1) future business park, 2) redevelopment of an existing industrial park to retail, and 3) a future high density residential area. If timing were not a concern with a specific project desiring to commence this year, the City would recommend this approach. However, as there is a specific project with a specific timeline, the City supports forgoing this option in lieu of the traditional AUAR.

Park Dedication

1. It is the policy of the City to favor larger, accessible neighborhood and community public parks with quality amenities and improvements over smaller, pocket parks with few to no 'destination' improvements.
2. The Master Park and Trail Plan for the project area is to be serviced by improvements (existing and proposed) within Lake Itasca Park, the Lake Itasca Trail, and The COR. The area is further served by greenway trail connections between these two significant recreation opportunities (Lake Itasca Park and The COR).
3. The City supports smaller recreational areas and open space within individual developments when properly maintained by homeowners.
4. The City supports pursuing the following in negotiations for cost-share/Park Dedication and Trail Fee credit:
    a. Mass grading of Lake Itasca Park predicated upon an approved concept plan, which may include export of fill from the park for the proposed subdivision.
    b. Specific stand-alone improvements to Lake Itasca Park. For example, future parking parking areas and boardwalk/pier to Lake Itasca, canoe/kayak station, or establishment of native landscapes (following grading).
    c. Alpine Drive Roundabout (Staff recommended exploration only).

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i. The Developer shall be responsible for the design and construction consistent with the phasing of the project.
ii. The proposed roundabout shall include enhanced pedestrian safety measures above and beyond standard/minimum improvements.
iii. Park Dedication credit may be applied to the 'leg' of the roundabout which would serve as the Lake Itasca Park entrance

d. Greenway Trail Connection
i. Construct 10' trail adjacent to the wetland in the north edge of the plat, and exchange land for Hageman parcel (4 acres of earlier Park Dedication to the city)
ii. Explore creation of area of linear open water (visual amenity for townhomes), along trail.
iii. Consider plaza adjacent to greenway trail and the Mississippi River Trail (Puma Street) for bench, drinking fountain, enhanced landscape, etc.

e. Advance park improvements in The COR
i. Identify within the Development Agreement, specified improvement E.g. Schematic Design for the water-centric park, plans and specifications for the proposed splash pad etc.

5. The City supports continued discussion on all options for parks and recreation within this development given the number of proposed housing units.

Regional Infrastructure

The section will be populated at future steps.

- Regional Infrastructure for the project area is defined as Bunker Lake Boulevard and Puma Street.
  - Roadway
  - Water Trunk (paid for by normal Trunk Fees)
  - Sanitary Trunk (paid for by normal Trunk Fees)
- An additional suggested improvement is the Alpine Drive Roundabout (Staff recommended exploration only).
- The City supports some degree of cost share for these improvements. The specifics shall be negotiated with future steps.
- The Developer shall be responsible for the final design and construction for portions adjacent to the project.

For specific detail on this policy topic, please review the Infrastructure Study completed by Bolton and Menk. This section will be completed upon completion of the Revised Infrastructure Study by Bolton and Menk and subsequent policy direction from the City Council.

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Park and Recreation Commission **5. 6.**

Meeting Date: 04/13/2017

Submitted For: Mark Riverblood, Engineering/Public Works

By: MaryJo Warner, Engineering/Public Works

Information

Title:

Consider Park and Recreation Commission Outdoor Meeting Schedule

Purpose/Background:

For many years, the Park and Recreation Commission has held regular meetings outdoors in the months of May through September (weather permitting). This provided the Commission an opportunity to inspect and comment on parks and projects as a group, and it afforded residents' access to the Commission on a neighborhood level. On the occasions of inclement weather, the Commission would hold the regular meetings at 6:30 p.m. at City Hall. The purpose of this case is to confirm the Commission's desire for outdoor meetings in 2017 and, if so, approve the locations proposed below.

Additionally, the proposed locations represent a geographic distribution around the city. It is likely these meeting are also opportunities to interact with the associated neighborhoods relative to the Comprehensive Plan and Parks Master Plan, both of which will be fully underway during this same timeline.

The following is the proposed schedule—if the Commission agrees to continue meeting in parks for the summer.

May: MnDOT's Wayside Rest, 9220 Highway 10 NW –near the City of Ramsey and Elk River border, along the new Mississippi River Trail

June: Elmcrest Park, 16303 Quicksilver Street NW – ½ mile south of 167th Avenue NW at Quicksilver Street parkway and 164th Lane NW

July: Central Park, 7925 161st Avenue NW – east of Armstrong Boulevard NW

August: Lake Itasca Trailhead, 15700 Okapi Street NW

September: Emerald Pond Park, 6000 142nd Avenue NW

Upon approval of the locations above, their locations will be published in the Ramsey Resident newsletter and on the web.

Notification:

Observations/Alternatives:

Funding Source:

None required

Recommendation:

Determine whether outdoor meetings are desired for 2017—and if so the locations.

Action:
Motion to approve the outdoor meeting locations, based upon discussion.

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
Mark Riverblood	Mark Riverblood	04/06/2017 10:01 AM
Grant Riemer	Grant Riemer	04/06/2017 11:26 AM
Form Started By: MaryJo Warner		Started On: 04/05/2017 03:17 PM
Final Approval Date: 04/06/2017		

Park and Recreation Commission **6. 1.**

Meeting Date: 04/13/2017

By: Mark Riverblood, Engineering/Public Works

Information

Title:

Commission/Staff Input

Purpose/Background:

~ Update/Summary of April 10 Comprehensive Plan Update Workshop (Transportation Plan; Parks and Recreation Plan)
~ Update—Mississippi River Trail Construction
~ Update—Central Park Parking Lot Construction
~ Update—2016-17 Alpine Park Ballfield Improvements
~ Student Liaison to the Commission

Notification:

Observations/Alternatives:

Funding Source:

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Recommendation:

Action:

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
Grant Riemer	Grant Riemer	04/06/2017 01:05 PM
Form Started By: Mark Riverblood		Started On: 04/06/2017 12:32 PM
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