

Greeley City Council Agenda

Regular Meeting
Tuesday, December 5, 2023 at 6:00 PM

City Council Chambers at City Center South, 1001 11th Avenue, Greeley, CO 80631
via Zoom at: <https://greeleygov.zoom.us/j/86218464323>

NOTICE:

City Council Meetings are held on the 1st and 3rd Tuesdays of each month in the City Council Chambers. Meetings are conducted in a hybrid format, with a Zoom webinar in addition to the in person meeting in Council Chambers.

City Council members may participate in this meeting via electronic means pursuant to their adopted policies and protocol.

Members of the public are also invited to choose how to participate in Council meetings in the manner that works best for them.

Watch Meetings:



Meetings are open to the public and can be attended in person by anyone.



Meetings are televised live on GTV8 on cable television.



Meetings are livestreamed on the City's website, Greeleygov.com as well as YouTube at [Youtube.com/CityofGreeley](https://www.youtube.com/CityofGreeley)

For more information about this meeting or to request reasonable accommodations, contact the City Clerk's Office at 970-350-9740 or by email at cityclerk@greeleygov.com.

Meeting agendas, minutes, and archived videos are available on the City's meeting portal at <https://greeleyco.portal.civicclerk.com/>

Comment in real time:

During the public input portion of the meeting and public hearings:



In person attendees can address the Council in the Chambers.



The public can join the Zoom Webinar and comment from the remote meeting.

Submit written comments:



Email comments about any item on the agenda before Noon on the day of the meeting to cityclerk@greeleygov.com



Written comments can be mailed or Dropped off at the City Clerk's office at City Hall, at 1000 10th St. Greeley, CO 80631



Mayor

John Gates

Councilmembers

Tommy Butler - Ward I

Deb DeBoutez - Ward II

Johnny Olson - Ward III

Dale Hall - Ward IV

Brett Payton - At-Large

Melissa McDonald - At-Large



City Council Regular Meeting Agenda

December 5, 2023 at 6:00 PM

City Council Chambers at City Center South, 1001 11th Avenue, Greeley, CO 80631

via Zoom at: <https://greeleygov.zoom.us/j/86218464323>

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Approval of the Agenda
5. Recognitions and Proclamations
6. Citizen Input
7. Reports from Mayor and Councilmembers
8. Initiatives from Mayor and Councilmembers

Consent Agenda

The Consent Agenda is a meeting management tool to allow the City Council to handle several routine items with one action.

Council Members may request an item be pulled off the Consent Agenda and considered separately under the next agenda item in the order they were listed.

9. A motion to approve the City Council proceedings for the following meetings: November 28, 2023 Special Meeting and November 28, 2023 Work Session
10. A resolution of the Greeley City Council authorizing the City Attorney to initiate appropriate legal action seeking damages against Duran Excavating, Inc.
11. A resolution establishing the 2023 Downtown Development Authority Tax Levy and directing the certification of the same to the Board of County Commissioners
12. A resolution approving the 2024 Budget for the Greeley Downtown Development Authority and appropriating funds for that budget

13. A resolution ratifying the appointment of Cole Gerstner to the Clearview Library Board of Trustees for a three-year term
14. A resolution of the Greeley City Council ratifying the appointment of Michael Wailes and Deana Lemos-Garcia to the Board of Trustees of the High Plains Library District
15. Introduction and first reading of an ordinance changing the official zoning map of the City of Greeley, Colorado from R-L (Residential Low Density) to PUD (Planned Unit Development) and changing the underlying land use designations for approximately 11.083 acres located at 1318 47th Avenue
16. Introduction and first reading of an ordinance changing the official zoning map of the City of Greeley, Colorado from R-L (Residential Low Intensity) to PUD (Planned Unit Development) and changing the underlying land use designations for approximately 72.5 acres of land (Triple Creek PUD)
17. Introduction and first reading of an ordinance reauthorizing the Human Relations Commission, Judicial Review Board, the Museum Board and the Parks and Recreation Advisory Board for a period of three years

End of Consent Agenda

18. Pulled Consent Agenda Items
19. Public hearing and second reading of an ordinance changing the official zoning map of the City of Greeley, Colorado from HA - Holding Agriculture to RE - Residential Estate zoning changing the underlying land use designations for approximately 11.2 acres of property located on the parcel located east of North 47th Avenue and north of O Street, addressed 2118 North 47th Avenue
20. Appointments to Boards & Commissions
21. Scheduling of Meetings, Other Events
22. A motion authorizing the City Attorney to prepare any required resolutions, agreements, and ordinances to reflect action taken by the City Council at this meeting and any previous meetings, and authorizing the Mayor and City Clerk to sign all such resolutions, agreements, and ordinances
23. Adjournment



Council Agenda Summary

Title

Recognitions and Proclamations

Summary

Mayor Gates will present a proclamation for 16 Days of Activism Against Gender Violence and Law Enforcement Records Personnel Week.

Mayor Pro Tem Hall will present the *What's Great about Greeley* Report

Attachments

16 Days of Activism Against Gender Violence Proclamation

Law Enforcement Records Personnel Week Proclamation

What's Great about Greeley Report



16 DAYS OF ACTIVISM AGAINST GENDER VIOLENCE

WHEREAS, we, as citizens of this community, recognize the worldwide problem of violence against women occurs even here in Greeley, Colorado; and

WHEREAS, gender violence is traumatic to the body, mind, and spirit and can prevent people from being fully active participants at home and in the world; and

WHEREAS, we support efforts of individuals and organizations, such as the Zonta Club of Greeley, to raise awareness, stimulate discussion, and advocate for local solutions that will curb gender violence; and

WHEREAS, the Zonta Club of Greeley is part of Zonta International, founded in 1919, that has empowered women and girls through service and advocacy for over 100 years, and

WHEREAS, Zonta International, a non-governmental organization, has general consultative status with the Economic and Social Council of the United Nations, which promotes the human rights of all women and girls and seeks to reduce violence against them, and

WHEREAS, the Zonta Club of Greeley joins over 1000 Zonta clubs in 63 countries in the international **Zonta says No to Violence against Women** campaign to assert that the right to be free of violence is a fundamental human right for all persons.

NOW THEREFORE, I, John Gates, Mayor of the City of Greeley, Colorado, do hereby proclaim the 16 days between November 25th, International Day to Eliminate Violence Against Women, and December 10th, International Human Rights Day, as the **16 Days of Activism Against Gender Violence**. All citizens are urged to work to end gender violence and to eliminate the detrimental consequences gender violence has on the well-being of our citizens.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the official seal of the City of Greeley, this 5th day of December 2023.

John Gates, Mayor



Law Enforcement Records Personnel Week

WHEREAS, dedicated Law Enforcement Records personnel serve the citizens of Greeley to provide them with vital services; and

WHEREAS, Law Enforcement Records personnel are crucial to assisting law enforcement agencies identify, pursue, capture, and process suspects; and

WHEREAS, these professionals continually use their expertise and experience in the maintaining of criminal justice statistics and improving apprehension strategies; and

WHEREAS, the efficiency of the qualified and dedicated personnel who staff Law Enforcement Records is materially influenced by the people's attitude and understanding of the importance of the work they perform; and

WHEREAS, Law Enforcement Records personnel serving the City of Greeley have exhibited professionalism, efficiency, and compassion during the performance of their essential duties in the past year; and

WHEREAS, the City of Greeley wishes to acknowledge its Law Enforcement Records personnel and designed the 2nd week in November 2023 to make this recognition.

NOW, THEREFORE, I, John Gates, by virtue of the authority vested in me as Mayor of the City of Greeley, do hereby proclaim that LAW ENFORCEMENT RECORDS PERSONNEL WEEK was recognized during the time between November 6, 2023, and November 10, 2023

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the official seal of the City of Greeley, Colorado, this 5th day of December 2023.

Mayor



City Council Meeting
December 5, 2023

A Story Best Lived In.

An aerial photograph of a city, likely Denver, with a large white banner overlaid in the center. The banner has a torn, paper-like edge. The background shows a vast cityscape with green trees, some buildings, and a wide river or valley. In the far distance, a range of mountains with snow-capped peaks is visible under a clear blue sky with some light clouds. The text on the banner is in a bold, italicized, dark blue font.

***In all ways, we will transmit
this City not only, not less, but
greater and more beautiful than
it was transmitted to us.***

- Athenian Oath

Greeley Awarded Colorado Open Space Alliance 'Blue Grama' Award

- Awarded Outstanding Achievement in Community Partnership and Collaboration
- Recognized Delta Park and Shurview Natural Area projects for City of Greeley, Trust of Public Land, and community collaboration.



BizWest's 40 Under Forty Recognizes Emerging Business Leaders Making a Mark in Northern Colorado

- Jenny Shoop – University of Northern Colorado
- Zaya Thompson – Millennium Financial



American Public Works Association Awards Paige Millen With 'Outstanding Public Works Employee' Award

- Award given to individual who performs responsibilities at an exceptionally efficient and courteous manner.



Greeley Central Gifted Teacher Wins Lifetime Achievement Award

- Award given by the Colorado Association for Gifted and Talented
- Dr. Amy Graefe has more than 22 years in public education.
- Researched programming options for gifted children and meeting needs of underserved gifted learners.



Aims Community College Recognized for Marketing and Communication Excellence at MarCom Awards

- MarCom Awards is an international creative competition.
- Aims MarCom team earned platinum for their ‘All in’ marketing campaign and video spot; and gold for a promotional t-shirt.



A Story Best Lived In.

Ben VomBaur of Greeley Wins Gold at 2023 Veterans World Championships

- Wrestled men's freestyle 62 kg Division B

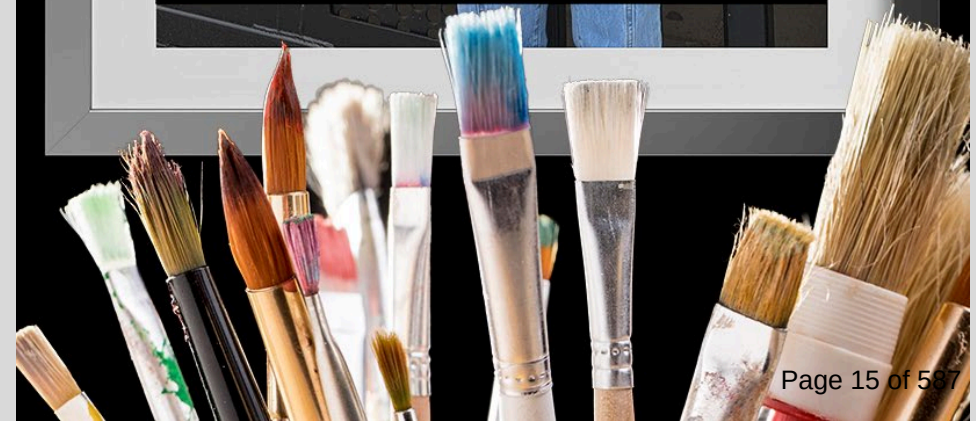


June Mattox Awarded First Place at Colorado Association for Gifted and Talented Student Art Contest

- Freshman at Greeley Central High School
- Won first place in high school division with artwork "Awe"



June Mattox
Greeley Central High School
1st Place High School Division



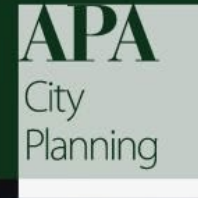
City of Greeley Planner Paulina Somosa Avalos Featured in APA City Planning newsletter

- Article entitled "Building An Equitable City: Empowering BIPOC Women Through Urban Planning"
- Emphasizes need for urban planners to allocate resources for diverse communities, specifically, for BIPOC women.



American Planning Association
**City Planning and
Management Division**

Creating Great Communities for All



CITY PLANNING & MANAGEMENT



Margaret Wallace Brown
Division Chair

Patrice Ruffin Dowdell
Vice Chair

Bridgett White
Administrative Chair

Josh Clements
Finance Chair

Greeley Water Receives \$250,000 Grant from the State's Colorado Water Quality Control Division

- Grant will help Greeley Water identify and inventory water service lines that contain lead.
- Inventory is required by October 2024 to meet federal and state regulations.

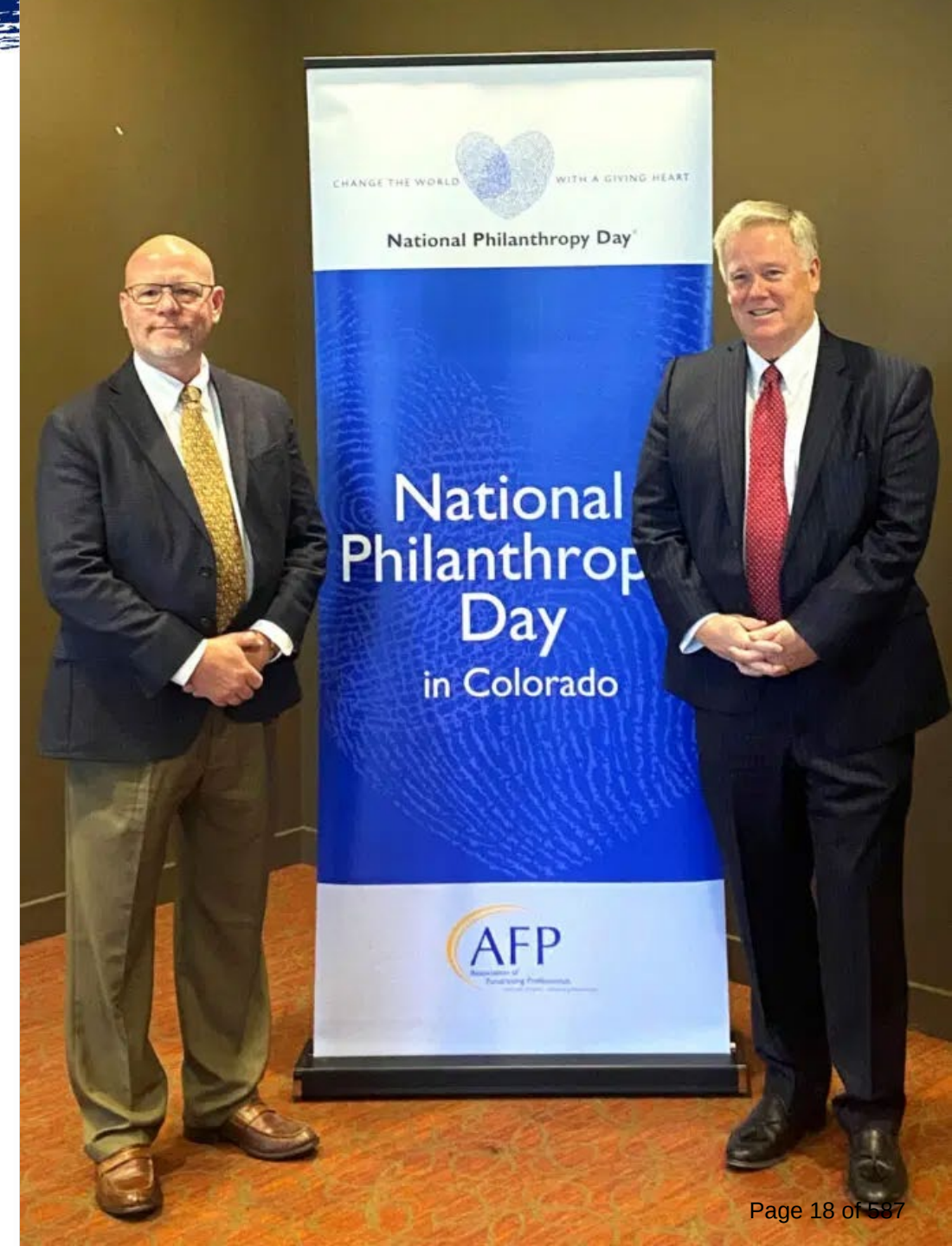


COLORADO
Department of Public
Health & Environment



The Weld Trust Named Colorado's 2023 Outstanding Foundation

- Award presented to grantmaking foundation that demonstrates outstanding commitment to take leadership roles in philanthropy and community involvement.





A Story Best Lived In.



Council Agenda Summary

Title

Citizen Input

Summary

During this 15-minute portion of the meeting, anyone may address the Council on any item of City Business appropriate for Council consideration that is not already listed as a public hearing on this evening's agenda.

As this meeting is being conducted in a hybrid format, citizen input will be accepted first from those in the City Council Chambers, and then from the virtual meeting audience via the meeting's webinar.

Written comments submitted for any item on the agenda will be placed in the public record and provided to the Council for their review and should include the name and city of residence of the person submitting the comments for the record.



Council Agenda Summary

Title

Reports from Mayor and Councilmembers

Summary

During this portion of the meeting any Councilmember may offer announcements or reports on recent events and happenings. These reports should be a summary of the Councilmember's attendance at assigned board/commission meetings and should include key highlights and points that may require additional decision and discussion by the full Council at a future time.

Attachments

Appointments of Councilmembers to Boards and Committees



Council Agenda Summary

Title:

Appointment of Councilmembers to various Boards and Committees.

Background:

Pursuant to the election of new councilmembers on November 7, 2023, the Council wishes to assign liaisons to the various Boards and Committees. Councilmembers are asked to attend these Boards and Committee meetings and report back to the Council with a summary of the Councilmember's attendance at assigned board/committee meetings. The summary should include key highlights and points that may require additional decision and discussion by the full Council at this or a future meeting or Work Session.

Board/Committee	Meeting Day/Time	Assignment
--Team of 2-- Board/Commission Interviews	Monthly as Needed	Council Rotation
Water & Sewer Board	3 rd Wed, 2:00 pm	Gates
Youth Commission Liaison	4 th Mon, 6:00 pm	McDonald
Historic Preservation Loan Committee	As Needed	DeBoutez
Police Pension Board	Quarterly	McDonald
Employee Health Board	As Needed	DeBoutez
Airport Authority	3 rd Thur, 3:30 pm	Payton/Gates
Visit Greeley	3 rd Wed, 7:30 am	Butler
Upstate Colorado Economic Development	Last Wed, 7:00 am	Hall
Greeley Chamber of Commerce	4 th Mon, 11:30 am	Gates
Island Grove Advisory Board	1 st Thur, 3:30 pm	Butler
Weld Project Connect Committee (United Way)	As Needed	Olson
Downtown Development Authority	3 rd Thur, 7:30 am	Butler/DeBoutez
Transportation/Air Quality MPO	1 st Thur, 6:00 pm	Olson
Poudre River Trail	1 st Thur, 7:00 am	Hall
Interstate 25 Coalition	As Needed	Olson
Highway 85 Coalition	As Needed	Gates
Highway 34 Coalition	As Needed	Olson
National League of Cities Transportation and Infrastructure Services Committee	As Needed	Olson
CML Policy Committee (Council or Staff)	As Needed	Hall/Lee; Gates alternate
CML Executive Board opportunity	As Needed	Hall
CML - Other opportunities	As Available/Desired	
Regional Opioid Council	As Needed	Gates



Council Agenda Summary

Title

Initiatives from Mayor and Councilmembers

Summary

During this portion of the meeting any Councilmember may bring before the Council any business that the member feels should be deliberated upon by the Council. These matters need not be specifically listed on the agenda, but formal action on such matters shall be deferred until a subsequent Council meeting.

Initiatives will generally fall into three categories:

- 1) A policy item for Council deliberation and direction for a future Worksession, Committee meeting, or regular/special Council meeting;
- 2) A request to the City Manager for information or research;
- 3) A request involving administrative processes or procedures.

At the close of this portion of the meeting, the Mayor will confirm Council's consensus that the individual requests be pursued.

Attachments

Status Report of Council Initiatives and Related Information

Greeley City Council

Status Report of Council Initiatives

Initiative No.	Council Member Initiating	Council Request	Council Meeting or Work Session Date Requested	Next Steps & Schedule	Anticipated Deliverable & Date (Report, Council Presentation, etc.)	Assigned to:
15-2021	Olson	Formation of a committee for implementation of a funding strategy for the 35th and 47th interchanges.	December 7, 2021 Council	•Next grant application expected May 2023	Pending outcome of federal grant application submitted	Paul Trombino
03-2023	Butler	Campaign Contribution Limits	February 7, 2023 Council Meeting	•CCO/CAO to come back to Council at a work session regarding the process •CCO/CAO report to Council in May •Waiting on CAO to provide final report to send out	November 28 Work Session	Doug Marek/ Heidi Leatherwood
04-2023	Hall	Pumpkin Ridge - Bridge	March 7, 2023 Council Meeting	•PW report provided to Council on March 24, 2023. Neighborhood meeting planned on June 29, 2023. •Included Raymond's 9/1/2023 Council Update	Bridge over creek along the Sheep Draw Trail in Pumpkin Ridge area – The information below is up-to-date. Public Works staff are working on alternatives to connect the Pumpkin Ridge Neighborhood to the Sheep Draw Trail and we are having a neighborhood public meeting on December 13th, 2023. As a result, this item is still ongoing and not complete.	PW
08-2023	DeBoutez	Public Nuisance Ordinance	May 9, 2023 Council Work Session	•Updated in mid-July with research and draft ordinance at Council Work Session	•December 12, 2023, Work Session	Doug Marek Brian McBroom
11-2023	Clark/Butler	Artificial turf and landscape standards	August 1, 2023 Council Meeting	•Come back to Council with a draft ordinance	Council consensus: Staff to bring back minor updates to the front yard landscaping regulations for consideration Late first quarter	Brian McBroom

1-2020	Hall	Follow-up on the Poudre River Trail-Narrows Project	August 1, 2023 Council Meeting	•The grant application, which will be submitted in October, will complete baseline river modeling in addition to an alternative alignment analysis which will also look at the existing alignment, with high level cost estimates for each alternative. The scope will also include a 30% design of the preferred alignment. Working with existing consultants, we've established an estimated cost for the design process to get to a 30% of roughly \$150,000. •Unless a new alignment comes out of the design process, utilizing the existing alignment or an alternative on the north side of the river identified by past studies will likely exceed \$2 million to completed	•NAT is pursuing a State Trails Planning grant to complete a 30% design for the Narrows section of the trail. If funded by the grant, which will be awarded in late 2023 or early 2024, design work could begin in early-to-mid 2024.	Paul Trombino/Diana Frick
12-2023	Butler	Funding Options Regarding the Greeley-Evans Transit	October 3 Council	Staff to bring back information for funding and ridership of the Greeley Evans Transit	•Create a report	Paul Trombino



Council Agenda Summary

December 5, 2023

Key Staff Contact: Heidi Leatherwood, City Clerk

Title:

A motion to approve the City Council proceedings for the following meetings: November 28, 2023 Special Meeting and November 28, 2023 Work Session

Summary:

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	NA
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Legal Issues:

Legislative

Other issues and Considerations:

Strategic Focus Area:



High-Performance Government

Decision Options:

- 1) Approve the motion; or
- 2) Amend the motion and approve as amended; or
- 3) Deny the motion; or
- 4) Continue consideration of the motion to a future date.

Council's Recommended Action:

Approve the motion.

Attachments:

1. Special City Council Meeting November 28 2023_Draft
2. Council Work Session Minutes November 28, 2023 - draft

City of Greeley, Colorado
CITY COUNCIL PROCEEDINGS
Special Meeting
November 28, 2023

1. Call to Order

Mayor Gates called the meeting to order at 6:00 p.m. in the City Council Chambers at 1001 11th Ave, Greeley, Colorado, with hybrid participation available via the City's Zoom platform.

2. Pledge of Allegiance

Mayor Gates led the Pledge of Allegiance.

3. Roll Call

Heidi Leatherwood, City Clerk called the roll.

Present:

Mayor John Gates

Councilmember Tommy Butler

Councilmember Deb DeBoutez

Councilmember Dale Hall

Mayor Pro Tem Brett Payton

Mayor Gates honored the life of Councilmember Ed Clark and asked for a moment of silence.

The City Clerk continued roll call.

Councilmember Johnny Olson was present.

The Clerk read the Consent Agenda items into the record.

Consent Agenda

4. Consideration of a motion to approve the proceedings from the following City Council Meetings: October 3, 2023, October 17, 2023, and October 24, 2023, Special Meeting

5. Consideration of a motion to approve the proceedings of the following City Council Work Sessions: October 10, 2023, October 24, 2023, and November 14, 2023

End of Consent Agenda

Mayor Pro Tem Payton moved to approve the Consent Agenda Items 4 and 5. Councilmember Hall seconded the motion. The motion passed 6-0 at 6:02 p.m. with Councilmember Clark absent.

6. Pulled Consent Agenda Items

None.

7. Tribute to Councilmember Ed Clark

Mayor Gates read a tribute to Councilmember Ed Clark, celebrating and acknowledging his many achievements and public service to the City of Greeley. Before his political career, Councilmember Clark served as a Greeley Police Department Officer in many roles from 1997 to 2007. Councilmember Clark served as Mayor from November 2007 to November 2009 and later as an At Large Councilmember from December 2019 until his passing. During his tenure as Councilmember At Large, his dedication resulted in pivotal milestones for the City of Greeley.

8. A motion to adjourn sine die

Mayor Gates moved to adjourn sine die with a voice vote 6-0 at 6:08 p.m. with Councilmember Clark absent.

Transition of Councilmember

9. Swearing in of Mayor and Councilmembers

Judge Mark Gonzales performed the Oath of Office for the following elected Mayor and Councilmembers at 6:09 p.m.

Mayor John Gates
Councilmember Tommy Butler, Ward 1
Councilmember Dale Hall, Ward 4
Councilmember Melissa McDonald, At-Large

10. Call to Order

Mayor Gates called the meeting to order at 6:15 p.m. in the City Council Chambers at 1001 11th Ave, Greeley, Colorado, with hybrid participation available via the City's Zoom platform.

11. Roll Call of New Council

Heidi Leatherwood, City Clerk called the roll.

Present:

Mayor John Gates
Councilmember Tommy Butler
Councilmember Deb DeBoutez
Councilmember Dale Hall

Mayor Pro Tem Brett Payton
Councilmember Johnny Olson
Councilmember Melissa McDonald

12. Remarks from Mayor and Council

Mayor Gates expressed appreciation for being reelected, thanked his wife and family for their support, congratulated Councilmembers on their reelection and welcomed new Councilmember Melissa McDonald.

Councilmember Hall thanked the residents of Greeley for his reelection, his wife for her continued support, congratulated the Mayor and Councilmembers and welcomed Councilmember McDonald.

Councilmember Butler thanked his wife for support and the residents of Greeley for his reelection, congratulated the Mayor and Councilmembers and welcomed Councilmember McDonald.

Councilmember McDonald thanked friends, family, her husband, and residents for their support during her campaign. Councilmember McDonald congratulated Mayor and Councilmembers on their reelection.

13. Mayor Pro Tem Selection Process

Councilmember Butler noted that he wished to nominate Deb DeBoutez for the office of Mayor Pro Tem, but she declined.

Councilmember Olson nominated Brett Payton for the office of Mayor Pro Tem and the nomination was accepted.

Councilmember DeBoutez nominated Dale Hall for the office of Mayor Pro Tem.

The City Clerk's Office handed out blank ballots to the Council. Mayor Gates instructed the Council to write both names of the nominees and mark their choice. Clerk staff collected the ballots, and the City Clerk tallied the votes. The City Clerk announced to the Mayor that the vote was in favor of Dale Hall as Mayor Pro Tem, at 6:24 p.m.

14. Order to Council Succession

Mayor Gates read the Emergency Order of Succession at 6:27 p.m.

The order is: Mayor John Gates, Mayor Pro Tem Dale Hall, Councilmember Brett Payton, Councilmember Tommy Butler, Councilmember Johnny Olson, Councilmember Deb DeBoutez and Councilmember Melissa McDonald.

15. Discussion of Council Assignments to Boards and Commissions and Standing Committees

Mayor Gates read the draft of the Council assignments to Boards and Commissions and Committees and noted that the final assignments would be addressed at the December 5, 2023, City Council meeting.

Consent Agenda

- 16. Consideration of a motion to approve the 2024 Council Meeting/Work Session schedule**
- 17. Consideration of a resolution to approve the Gray & Black-Market Marijuana Enforcement Grant Program**

End of Consent Agenda

Councilmember Olson moved to approve the Consent Agenda Items 16 and 17. Mayor Pro Tem Hall seconded the motion. The motion passed 7-0 at 6:31 p.m.

- 18. Pulled Consent Agenda Items**
None.
- 19. Consideration of a motion authorizing the City Attorney to prepare any required resolutions, agreements, and ordinances to reflect action taken by the City Council at this meeting and any previous meetings, and authorizing the Mayor and City Clerk to sign all such resolutions, agreements, and ordinances**

Councilmember Payton moved to approve the motion. Councilmember Butler seconded the motion. The motion passed by voice vote, 7-0 at 6:31 p.m.

- 20. Adjournment**
Mayor Gates adjourned the meeting at 6:31 p.m.

Approved:

John D. Gates, Mayor

Attest:

Heidi Leatherwood, City Clerk

City of Greeley, Colorado
CITY COUNCIL WORK SESSION REPORT
November 28, 2023

1. Call to Order

Mayor John Gates called the meeting to order at 6:39 p.m. in the City Council Chambers at 1001 11th Ave, Greeley, Colorado, with hybrid participation available via the City's Zoom platform, following the Special Meeting, which began at 6 p.m.

2. Roll Call

City Clerk Heidi Leatherwood called the roll.

The following members of Council were present:

Councilmember Tommy Butler

Councilmember Deb DeBoutez

Mayor Pro Tem Dale Hall

Councilmember Brett Payton

Councilmember Johnny Olson

Councilmember Melissa McDonald

Mayor John Gates

3. Reports from Mayor and Council Members

None

4. 2023 Triennial Review for Human Relations Board, Judicial Review Board, Museum Advisory Board, and the Parks and Recreational Advisory Board

City Clerk Heidi Leatherwood presented this item at 6:40 p.m. Deputy City Clerk Sarah Jacobsen was available for questions.

Ms. Leatherwood provided a summary of the data compiled on the boards' activities including attendance, vacancies, recruitment applications received, and frequency of meetings. Staff liaisons and board chairs were asked to attend the work session to answer any specific questions related to their Board.

2023 Triennial Boards Reviewed:

- Human Relations Commission with Chair Krissy Bhanji present.
- Judicial Review Board with Vice Chair Rasheed Garza present.
- Museum Board with Chair Mike Weiland present.
- Parks and Recreation Advisory Board with Chair Vicente Vega present.

Mayor Gates thanked the members of the Boards for attending and asked them to provide their candid opinions on whether their Boards are a productive use of time and beneficial overall to the city. Each of the board members expressed the importance of the work that

they do for the community and shared the positive impact their boards have on the people of this community.

Councilmember DeBoutez inquired if the City has budgeted for communication and engagement and event costs. City Manager Raymond Lee replied that currently, there isn't a budget allocated for Boards and Commissions costs but could be explored.

Councilmembers Butler and Olson thanked the chairs and boards for their service to the community.

After discussion, the Council consensus was to reauthorize these boards and draft an ordinance for the upcoming Council meetings in December.

5. Initiative 03-2023 Campaign Finance Contributions

City Attorney Douglas Marek presented this item at 6:56 p.m. City Clerk Heidi Leatherwood was available for questions.

Mr. Marek provided a response to the initiative requested at the February 7, 2023, City Council meeting where staff was directed to research information from other municipalities about campaign contribution limits and provide an update on the process for setting limits for individual campaign contributions.

Currently, neither the Greeley Municipal Code nor Colorado Revised Statutes set limits on campaign contributions for municipal elections. New state legislation will be effective in 2024 to impose limits on campaign contributions for local municipalities that have not set their own requirements.

Mr. Marek recommended that the City Council provide guidance to the City Clerk and City Attorney for drafting an ordinance that establishes campaign contribution limits and provides an administrative process for addressing disclosure requirements, complaints, and enforcement issues.

Councilmember Payton asked if the City could have zero campaign finance limits or set higher finance limits. Mr. Marek discussed home-rule authority and explained that if the City adopts any portion of the campaign finance reform, it is a home-rule municipality process. It is possible to leave no limits and develop a process for handling reporting and complaints. It could be drawn up in sections for no limits, reporting, complaints, and enforcement.

Mayor Pro Tem Hall asked for clarification on small donor committees. Mr. Marek discussed the differences between an independent issue committee relative to sponsors, and fundraising events relative to State limits.

Councilmember Butler said that this is an issue of trust and not setting limits may impact the community's trust in Council. He added that if large contributions are received, it could affect the outcome of an election.

Councilmember DeBoutez for details on the small donor group and what must be disclosed. Mr. Marek replied that he would need to investigate. Councilmember DeBoutez expressed a concern that the limitations may intimidate viable candidates.

Councilmember McDonald expressed the importance of keeping inflation in mind, particularly with marketing costs.

After discussion, the Council consensus was to proceed accordingly on an initial contribution limit similar to the City of Broomfield with \$1750 for Councilmembers and \$2500 for Mayoral candidates with a process for filing and enforcing noncompliance.

6. Chief Human Capital Officer Overview

Chief Human Capital Officer Kimberly Southern-Weber presented this item at 7:34 p.m.

Ms. Southern-Weber provided an overview of the work in 2023 that the Office of Human Capital accomplished and plans for 2024.

Councilmember DeBoutez thanked Ms. Southern-Weber and emphasized the importance of being trusted stewards.

Mayor Gates thanked Ms. Southern-Weber and commented on the city staff taking the survey feedback seriously.

7. Scheduling of Meetings, Other Events

None.

9. Adjournment

Mayor Gates adjourned the meeting at 7:42 p.m.

Approved:

John D. Gates, Mayor

Attest:

Heidi Leatherwood, City Clerk



Council Agenda Summary

December 5, 2023

Key Staff Contact: Stacey Aurzada, Deputy City Attorney

Title:

A resolution of the Greeley City Council authorizing the City Attorney to initiate appropriate legal action seeking damages against Duran Excavating, Inc.

Summary:

The City and Duran Excavating, Inc. ("DEI") entered into a contract on March 25, 2019 for the construction of improvements to 10th Street. This project was funded through a combination of Colorado Department of Transportation (CDOT) grant funding and City matching funds. As part of the grant funding the City received from CDOT, the City entered into an Intergovernmental Agreement with CDOT. The terms of the CDOT grant require compliance with state and federal construction standards. If these standards are not met, CDOT has the right to demand the return of the grant funds. These standards were incorporated into the contract with DEI. DEI was required to maintain appropriate documentation to meet federal "Buy America" requirements as part of these standards. After CDOT staff reviewed the documentation provided by DEI, they determined that DEI's documentation did not comply with the "Buy America" requirements. CDOT subsequently withdrew the City's grant funding. On October 28, 2022, CDOT issued notice to the City of grant funding withdrawal in the amount of \$2,178,420.53.

The City issued a Notice of Default to DEI on January 13, 2023. No resolution of this matter has been reached at this time. The City Attorney believes that it is necessary to instigate court action in order to resolve this dispute. Pursuant to Section 6-3 of the Charter, the City Council must authorize the City Attorney to file a lawsuit against DEI.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	Yes. Litigation will be handled by the City Attorney's Office with costs to be borne by the Public Works Department.
Is there grant funding for this item?	NA

Legal Issues:

Section 6-3 of the Charter requires that Council authorize the City Attorney to initiate legal action.

Other issues and Considerations:

None

Strategic Focus Area:



High-Performance Government

Decision Options:

- 1) Adopt the resolution as presented; or
- 2) Amend the resolution and adopt as amended; or
- 3) Deny the resolution; or
- 4) Continue consideration of the resolution to a date certain.

Council's Recommended Action:

A motion to adopt the resolution

Attachments:

1. Res 45, 2023

CITY OF GREELEY, COLORADO
RESOLUTION NO. 45, 2023

A RESOLUTION OF THE GREELEY CITY COUNCIL AUTHORIZING THE CITY ATTORNEY TO INITIATE APPROPRIATE LEGAL ACTION SEEKING DAMAGES AGAINST DURAN EXCAVATING, INC.

WHEREAS, Section 6-3 of the City of Greeley Charter authorizes the City Attorney to institute any suit, action or proceeding on behalf of the municipal government, or agency thereof, when directed by City Council; and

WHEREAS, on March 25, 2019, the City of Greeley (“City”) engaged Duran Excavating, Inc. (“DEI”) for work to be performed on the 10th Street project. This project was partially funded with a grant from Colorado Department of Transportation (“CDOT”); and

WHEREAS, DEI is an experienced contractor that is familiar with federally funded projects; and

WHEREAS, DEI reached Substantial Completion of the project on August 28, 2020; and

WHEREAS, DEI was informed that in order to reach final completion and close the project, DEI must comply with all federal grant requirements identified in the contract documents; and

WHEREAS, DEI has failed or refused to comply with all federal grant requirements; and

WHEREAS, on October 28, 2022, the City received a Notice of Project Grant Funding Withdrawal from CDOT due to project documentation deficiencies caused by DEI; and

WHEREAS, the grant funding withdrawal caused the City a loss of \$2,178,420.53 in grant funds; and

WHEREAS, on January 13, 2023 the City sent a Notice of Default to DEI; and

WHEREAS, the City and DEI held a meeting on April 13, 2023 in an effort to amicably resolve this matter, but no resolution was reached; and

WHEREAS, the City has been forced to incur costs as a direct result of the deficient performance by DEI; and

WHEREAS, it is in the best interest of the citizens of the City of Greeley for Council to direct the City Attorney to initiate appropriate legal action including, but not limited to, instituting court action against Duran Excavating, Inc., as well as any subcontractor, subsidiary or affiliate that may be liable to the City, for recovery of damages.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF GREELEY, COLORADO:

Section 1. That the City Attorney is hereby authorized to initiate appropriate legal action regarding Duran Excavating, Inc., as well as any subcontractor, subsidiary, or affiliate for breach of contract, negligence, and any other applicable cause of action or claim.

Section 2. That this Resolution shall become effective immediately upon its passage.

PASSED AND ADOPTED, SIGNED AND APPROVED ON THIS ____ DAY OF _____, 2023.

ATTEST

THE CITY OF GREELEY, COLORADO

By: _____
City Clerk

By: _____
Mayor



Council Agenda Summary

December 5, 2023

Key Staff Contact: Robert Miller, Treasurer , Rodney Rhoades, Interim Chief Financial Officer

Title:

A resolution establishing the 2023 Downtown Development Authority Tax Levy and directing the certification of the same to the Board of County Commissioners

Summary:

This resolution establishes the 2023 tax levy for taxes to be collected in 2024 and authorizes the City Clerk to certify to the Board of County Commissioners that the tax levy has been established for 2023. The electors of the Downtown Development Authority (DDA) approved a 5 mill ad valorem real and personal property tax on property of the DDA on November 4, 2008. This resolution imposes that 5 mill increase.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	NA

Legal Issues:

The City Charter requires the City Council to establish the tax levy and authorize the City Clerk to certify to the Board of County Commissioners that the tax levy for 2023 has been established.

Other issues and Considerations:

None

Strategic Focus Area:



Business Growth



Community Vitality



Infrastructure and Mobility



Quality of Life

Decision Options:

- 1) Adopt the resolution as presented; or
- 2) Amend the resolution and adopt as amended; or
- 3) Deny the resolution; or
- 4) Continue consideration of the resolution to a date certain.

Council's Recommended Action:

A motion to adopt the resolution.

Attachments:

1. Res 41, 2023
2. Certification of Tax Levy
3. Notice of Tax Levy for 2023
4. Certification of Valuation

**CITY OF GREELEY, COLORADO
RESOLUTION NO. 41, 2023**

**RESOLUTION ESTABLISHING THE 2023 DOWNTOWN DEVELOPMENT AUTHORITY
TAX LEVY AND DIRECTING THE CERTIFICATION OF THE SAME TO THE BOARD OF
COUNTY COMMISSIONERS.**

WHEREAS, the Downtown Development Authority (the “DDA”) in the City of Greeley, Colorado, was created under the provisions of Part 8 of Article 25 of Title 31, C.R.S.; and

WHEREAS, by special election held November 4, 2008, the qualified electors of the DDA approved a five mill ad valorem tax on real and personal properties within the District; and

WHEREAS, pursuant to said election approval and the provisions of Section 31-25-817 C.R.S., the City Council of the City of Greeley is authorized, in addition to the regular ad valorem tax and special assessments for improvements, to impose and levy an ad valorem tax on all real and personal property within the boundaries of the DDA not exceeding five mills on the valuation for assessment of such property; and

WHEREAS, the Board of Directors of the DDA in the City of Greeley, Colorado, considered a proposed budget on November 16, 2023 and recommended to the Greeley City Council that it impose and levy five mills on all real and personal property within the boundaries of the DDA; and

WHEREAS, the City Council considered the proposed DDA budget, and has considered the certificate from the Weld County Assessor showing that the total assessed valuation of property attributable to the five mill ad valorem property tax by the Downtown Development Authority District in the City of Greeley for the year of 2023 is \$41,113,584; and,

WHEREAS, based upon consideration of the data referred to above, the City Council has determined that the additional rate of taxation necessary to produce the required tax revenues for the 2024 DDA budget is 5.000 mills.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF
GREELEY, COLORADO:**

Section 1. The tax levy to be applied to the valuation for assessment of property subject to taxation by the City of Greeley, Colorado as certified by the County Assessor for the current year, for the properties located within the DDA boundaries is hereby established at 5.000 mills, in addition to all regular ad valorem tax and special assessments.

Section 2. The Mayor is hereby authorized and directed to sign a statement certifying to the Board of County Commissioners that the tax levy for 2023 for the DDA has been established at 5.000 mills, in addition to all other regular ad valorem taxes and special assessments.

PASSED AND ADOPTED, SIGNED AND APPROVED THIS ____ DAY OF _____, 2023.

ATTEST

THE CITY OF GREELEY, COLORADO

By: _____
City Clerk

By: _____
Mayor

**CITY OF GREELEY
FOR THE
DOWNTOWN DEVELOPMENT AUTHORITY DISTRICT**

CERTIFICATION OF TAX LEVY

FOR 2023

STATE OF COLORADO)
COUNTY OF WELD)
CITY OF GREELEY)

The undersigned Mayor of the City of Greeley, Colorado hereby certifies that the City Council of the City of Greeley, on December 5, 2023, established by resolution that the 2023 tax levy for property in the Downtown Development Authority in the City of Greeley will be 5.000 mills in addition to all regular ad valorem taxes and special assessments. All steps and hearings required to be conducted and completed prior to the establishment of the tax levy were in fact taken and concluded, in accordance with law. A true copy of the resolution establishing said levy is attached hereto.

Dated this 5th day of December, 2023.

ATTEST

THE CITY OF GREELEY, COLORADO

By: City Clerk

By: Mayor

NOTICE OF TAX LEVY FOR 2023
(Downtown Development Authority Property in the City of Greeley, Colorado)

STATE OF COLORADO)
COUNTY OF WELD)
CITY OF GREELEY)

Whereas, at the regular meeting of the Council of the City of Greeley held at 1001 11th Avenue, in the City of Greeley, on the 5th day of December, 2023, the following resolution was unanimously adopted:

"Be it Resolved and Ordered by the City Council, that upon valuation of assessable property within the boundaries of the Downtown Development Authority in the City of Greeley as certified by the County Assessor for the current year, in addition to all regular and ad valorem taxes and special assessments, there be and is hereby levied for:

Purposes authorized by 31-25-817, C.R.S.	5.000 mills
Interest	mills
Payment of Bonds	mills
Outstanding Warrants	mills
Special Improvements	mills
Parks	mills
Library	mills
Streets and Alleys	mills
Contingent	mills
TOTALS	5.000 mills

Passed by the City Council of Greeley, Colorado and approved this 5th day of December, 2023.

ATTEST

THE CITY OF GREELEY, COLORADO

By: City Clerk

By: Mayor

(Seal) Note: The Clerk or Secretary will immediately upon passage of this resolution deliver or cause to be delivered to the County Commissioners of the County and State aforesaid, a certified copy of said resolution with the seal thereto attached; also signed by the Mayor or President and Clerk or Secretary of Board.

CERTIFICATION OF VALUATION BY WELD COUNTY ASSESSOR

Name of Jurisdiction: 0802 - DOWNTOWN DEVELOPMENT AUTHORITY

IN WELD COUNTY ON 8/18/2023

New Entity: No

USE FOR STATUTORY PROPERTY TAX REVENUE LIMIT CALCULATIONS (5.5% LIMIT) ONLY

IN ACCORDANCE WITH 39-5-121(2)(a) AND 39-5-128(1), C.R.S. AND NO LATER THAN AUGUST 25, THE ASSESSOR CERTIFIES THE TOTAL VALUATION FOR ASSESSMENT FOR THE TAXABLE YEAR 2023 IN WELD COUNTY, COLORADO

1. PREVIOUS YEAR'S NET TOTAL TAXABLE ASSESSED VALUATION:	\$32,752,024
2. CURRENT YEAR'S GROSS TOTAL TAXABLE ASSESSED VALUATION: *	\$57,821,200
3. LESS TIF DISTRICT INCREMENT, IF ANY:	\$16,707,616
4. CURRENT YEAR'S NET TOTAL TAXABLE ASSESSED VALUATION:	\$41,113,584
5. NEW CONSTRUCTION: **	\$1,629,420
6. INCREASED PRODUCTION OF PRODUCING MINES: #	\$0
7. ANNEXATIONS/INCLUSIONS:	\$0
8. PREVIOUSLY EXEMPT FEDERAL PROPERTY: #	\$0
9. NEW PRIMARY OIL OR GAS PRODUCTION FROM ANY PRODUCING OIL AND GAS LEASEHOLD OR LAND (29-1-301(1)(b) C.R.S.): ##	\$0
10. TAXES COLLECTED LAST YEAR ON OMITTED PROPERTY AS OF AUG. 1 (29-1-301(1))(a) C.R.S.):	\$1,828.40
11. TAXES ABATED AND REFUNDED AS OF AUG. 1 (29-1-301(1)(a) C.R.S.) and (39-10-114(1)(a)(I)(B) C.R.S.):	\$0.00

* This value reflects personal property exemptions IF enacted by the jurisdiction as authorized by Art. X, Sec.20(8)(b), Colo.

** New construction is defined as: Taxable real property structures and the personal property connected with the structure.

Jurisdiction must submit respective certifications (Forms DLG 52 AND 52A) to the Division of Local Government in order for the values to be treated as growth in the limit calculation.

Jurisdiction must apply (Forms DLG 52B) to the Division of Local Government before the value can be treated as growth in the limit calculation.

USE FOR 'TABOR' LOCAL GROWTH CALCULATIONS ONLY

IN ACCORDANCE WITH THE PROVISION OF ARTICLE X, SECTION 20, COLO CONST, AND 39-5-121(2)(b), C.R.S. THE ASSESSOR CERTIFIES THE TOTAL ACTUAL VALUATION FOR THE TAXABLE YEAR 2023 IN WELD COUNTY, COLORADO ON AUGUST 25, 2023

1. CURRENT YEAR'S TOTAL ACTUAL VALUE OF ALL REAL PROPERTY: @	\$331,195,809
ADDITIONS TO TAXABLE REAL PROPERTY:	
2. CONSTRUCTION OF TAXABLE REAL PROPERTY IMPROVEMENTS: !	\$18,654,300
3. ANNEXATIONS/INCLUSIONS:	\$0
4. INCREASED MINING PRODUCTION: %	\$0
5. PREVIOUSLY EXEMPT PROPERTY:	\$250,343
6. OIL OR GAS PRODUCTION FROM A NEW WELL:	\$0
7. TAXABLE REAL PROPERTY OMITTED FROM THE PREVIOUS YEAR'S TAX WARRANT:	\$0

(If land and/or a structure is picked up as omitted property for multiple years, only the most current year's actual value can be reported as omitted property.)

DELETIONS FROM TAXABLE REAL PROPERTY:

8. DESTRUCTION OF TAXABLE REAL PROPERTY IMPROVEMENTS:	\$0
9. DISCONNECTIONS/EXCLUSION:	\$0
10. PREVIOUSLY TAXABLE PROPERTY:	\$1,479,410

@ This includes the actual value of all taxable real property plus the actual value of religious, private schools, and charitable real property.

! Construction is defined as newly constructed taxable real property structures.

% Includes production from new mines and increases in production of existing producing mines.

IN ACCORDANCE WITH 39-5-128(1), C.R.S. AND NO LATER THAN AUGUST 25, THE ASSESSOR CERTIFIES TO SCHOOL DISTRICTS: 1. TOTAL ACTUAL VALUE OF ALL TAXABLE PROPERTY:----->

\$0

NOTE: All levies must be Certified to the Board of County Commissioners NO LATER THAN DECEMBER 15, 2023

IN ACCORDANCE WITH 39-5-128(1.5) C.R.S. THE ASSESSOR PROVIDES:

HB21-1312 ASSESSED VALUE OF EXEMPT BUSINESS PERSONAL PROPERTY (ESTIMATED): **

\$388,719

** The tax revenue lost due to this exempted value will be reimbursed to the tax entity by the County Treasurer in accordance with 39-3-119 f(3). C.R.S.



Council Agenda Summary

December 5, 2023

Key Staff Contact: Robert Miller, Treasurer , Rodney Rhoades, Interim Chief Financial Officer

Title:

A resolution approving the 2024 Budget for the Greeley Downtown Development Authority and appropriating funds for that budget

Summary:

This resolution approves the Greeley Downtown Development Authority (DDA) budget and authorizes the appropriations for the fiscal year 2024 (January 1, 2024 through December 31, 2024).

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	NA
Additional Comments:	The total appropriations for the Greeley Downtown Development Authority in the resolution are \$504,750 for Normal Operations expenditures.

Legal Issues:

Per C.R.S. 31-25-816(1), “(1) The authority shall adopt a budget for each fiscal year, shall maintain accounts, and shall cause an annual audit to be made pertaining to the fiscal affairs of the authority. Administrative review of the proposed budget shall be in accordance with the policies of each municipality, prior to submission of the proposed budget to the governing body for approval.”

Other issues and Considerations:

None

Strategic Focus Area:



Business Growth



Community Vitality



Infrastructure and Mobility



Quality of Life

Decision Options:

- 1) Adopt the resolution as presented; or
- 2) Amend the resolution and adopt as amended; or
- 3) Deny the resolution; or
- 4) Continue consideration of the resolution to a date certain.

Council's Recommended Action:

A motion to adopt the resolution.

Attachments:

1. Res 42, 2023
2. Exhibit A
3. Greeley Downtown Development Authority Board of Directors Meeting 11/16/2023 Minutes

CITY OF GREELEY, COLORADO
RESOLUTION NO. 42, 2023

**A RESOLUTION APPROVING THE 2024 BUDGET OF THE GREELEY DOWNTOWN
DEVELOPMENT AUTHORITY AND APPROPRIATING FUNDS FOR THAT BUDGET**

WHEREAS, the Downtown Development Authority (the “DDA”) in the City of Greeley, Colorado was created under the provisions of Part 8 of Article 25 of Title 31, C.R.S.; and

WHEREAS, the Board of Directors of the DDA in the City of Greeley, Colorado, has reviewed and considered a proposed budget on November 16, 2023.

**NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF GREELEY,
COLORADO:**

Section 1. That pursuant to 31-25-816(1), C.R.S., the City of Greeley hereby approves for fiscal 2024 (January 1, 2024 to December 31, 2024) the annual budget for the DDA in the City of Greeley, Colorado; which consists of a document designated as such, including proceeds of a tax levy of 5.000 mills upon real and personal property within the DDA.

Section 2. That the annual budget of the DDA for the year 2024, as adopted by the DDA and approved by the City, shall be on file in the City Clerk's office for public inspection during office hours of such office for the entire year of 2024; that budget attached hereto and incorporated herein as Exhibit “A”.

Section 3. This Resolution shall take effect immediately upon its passage.

<u>Fund Description</u>	<u>Amount</u>
Normal Operations	\$ 504,750
Total	\$ 504,750

**PASSED AND ADOPTED, SIGNED AND APPROVED ON THIS ____ DAY OF _____,
20__.**

ATTEST

THE CITY OF GREELEY, COLORADO

By: _____
City Clerk

By: _____
Mayor

Exhibit A

2024 DDA Operational Budget

INCOME	2023 Amended	2024 Proposed
4110- City Sales Tax Allocation	\$ 42,250	\$ 50,000
4111- Specific Ownership	\$ 10,100	\$ 10,000
4112- Mill Levy	\$ 229,000	\$ 285,000
4115- Interest Income- ColoTrust	\$ 70,000	\$ 100,000
4120- Contributions	\$ 68,065	\$ 20,000
4140- Parking Lease	\$ 2,400	\$ 2,400
4142- Oil & Gas Income	\$ 850	\$ 1,000
4143- Miscellaneous Income	\$ 35	\$ 100
4149- WinterFest & HOH Income	\$ 3,400	\$ 8,000
4150- Oktobrewfest Income	\$ 142,700	\$ 115,000
4300- Event Sponsors	\$ 2,600	\$ 2,500
Total Income	\$ 571,400	\$ 594,000
EXPENSES		
5050- Accounting Services	\$ 11,000	\$ 13,000
5101- Salaries	\$ 255,000	\$ 275,000
5102-5108- Benefits & Payroll Taxes	\$ 35,020	\$ 58,400
5109- EZ Fund 1.5% Admin Fee	\$ 345	\$ 400
5110- Advertising & Marketing	\$ 15,000	\$ 12,000
5112- Bank Charges	\$ 500	\$ 1,000
5113- Interest Expense TIF	\$ 1,000	\$ 1,000
5121- Miscellaneous Expense	\$ 1,200	\$ 1,000
5132- Office Supplies	\$ 4,500	\$ 4,000
5134- Professional Development	\$ 6,000	\$ 8,000
5135- Subscriptions & Memberships	\$ 3,100	\$ 3,500
5153- Office Cleaning & Trash	\$ 2,000	\$ 2,200
5154- Printing & Publication	\$ 120	\$ 250
5155- Parking Lot Expense & Tax	\$ 400	\$ 400
5159- WinterFest & HOH	\$ 4,000	\$ 5,000
5165- Meals & Entertainment	\$ 600	\$ 800
5185- Rent/Utilities/Parking Permits	\$ 36,000	\$ 38,000
5190- Board	\$ 3,500	\$ 3,500
5195- Office Equipment & Maintenance	\$ 4,200	\$ 3,000
5200- Oktobrewfest	\$ 68,210	\$ 65,000
5500- Special Events- Other Events	\$ 4,500	\$ 5,000
5704- Treasurers Fee- Mill	\$ 3,500	\$ 4,300
Total Expenses	\$ 459,695	\$ 504,750
Net Income	\$ 111,705	\$ 89,250

**Greeley Downtown Development Authority
Minutes – Board of Directors Meeting – Chase Building 3rd Floor Conference Room
November 16, 2023**

Board Members in Attendance: Andy Feinstein (Chair), University of Northern Colorado; Brian Seifried (Vice Chair), Luna's Tacos & Tequila, Sexy Sammies & Centennial Public House; Tommy Butler, Greeley City Council; Deb Deboutez, Greeley City Council; Linda Winter, Accessories with a Flair!...and Hair; Matt Estrin, 477 Distilling & Greeley Hatchet House; Matt Hortt, High Plains Library District; Justin Ghofrani, The Kress Cinema and Lounge & Margie's Java Joint; Kimberly Ponce, Kimberly's Event Center Lounge

Additional Attendees: John Hall, City of Greeley; Doug May, City of Greeley; Brian McBroom, City of Greeley; Dob Threewitt, City of Greeley; Scott James, Weld County Commissioners; Andrew Wronkoski, Greeley Police Department; Phil White, Phil's Pro Auto

DDA Staff in Attendance: Bianca Fisher, Executive Director; Karen Baumgartner, Office & Event Manager; Daniela Hernandez, Marketing & Event Coordinator

Meeting Called to Order:

- Andy Feinstein called the meeting to order at 7:31am

Meeting Minutes:

- Andy Feinstein referenced the October DDA Minutes and called for a vote of approval. Tommy Butler moved to approve, Matt Estrin seconded, motion carried.

Safety Report from the Greeley Police Department:

- Met with the Downtown Business Group and discussed the letters of trespass authorization with them and have received a few letters back
- Cold Weather Shelter is open – 60 beds available – working with the homeless to get them the resources they need
- Working on getting a good contact for Crossroads Church to discuss the issues happening there
- Don't leave items in your car where they are visible, keep items out of site and lock your doors

Action Items: Bianca Fisher presented the following 4 budgets

2023 Approved & Amended DDA Operational Budget

INCOME	2023 Approved	2023 Amended
4110- Grant Income City of Greeley	\$ 42,250	\$ 42,250
4111- Specific Ownership	\$ 12,000	\$ 10,100
4112- Mill Levy	\$ 225,000	\$ 229,000
4114- Interest Income	\$ 1,000	\$ -
4115- Interest Income- ColoTrust	\$ -	\$ 70,000
4120- Contributions	\$ 23,000	\$ 68,065
4140- Parking Lease	\$ 2,400	\$ 2,400
4142- Oil & Gas Income	\$ 1,800	\$ 850
4143- Miscellaneous Income	\$ 100	\$ 35
4149- WinterFest & HOH Income	\$ -	\$ 3,400
4150- Oktobrewfest Income	\$ 100,000	\$ 142,700
4300- Event Sponsors	\$ 3,000	\$ 2,600
Total Income	\$ 410,550	\$ 571,400

EXPENSES		
5050- Accounting Services	\$ 16,000	\$ 11,000
5101- Salaries	\$ 268,000	\$ 255,000
5102- Simple IRA Match	\$ 7,700	\$ 6,100
5105- Worker's Compensation Insurance	\$ 1,200	\$ 905
5106- Health & Wellness	\$ 1,000	\$ 765
5108- Payroll Taxes	\$ 23,000	\$ 21,000
5108a- Group Medical Insurance	\$ -	\$ 6,000
5108b- Short Term Disability Insurance	\$ -	\$ 250
5109- EZ Fund 1.5% Admin Fee	\$ 400	\$ 345
5110- Advertising & Marketing	\$ 10,000	\$ 15,000
5112- Bank Charges	\$ 1,000	\$ 500
5113- Interest Expense TIF	\$ 400	\$ 1,000
5121- Miscellaneous Expense	\$ 1,000	\$ 1,200
5132- Office Supplies	\$ 4,000	\$ 4,500
5134- Professional Development	\$ 5,000	\$ 6,000
5135- Subscriptions & Memberships	\$ 2,500	\$ 3,100
5153- Office Cleaning & Trash	\$ 2,300	\$ 2,000
5154- Printing & Publication	\$ 250	\$ 120
5155- Parking Lot Expense & Tax	\$ 350	\$ 400
5159- WinterFest & HOH	\$ -	\$ 4,000
5165- Meals & Entertainment	\$ -	\$ 600
5185- Rent/Utilities/Parking Permits	\$ 37,000	\$ 36,000
5190- Board	\$ 3,500	\$ 3,500
5195- Office Equipment & Maintenance	\$ 300	\$ 4,200
5200- Oktobrewfest	\$ 60,000	\$ 68,210
5500- Special Events- Other Events	\$ 6,000	\$ 4,500
5704- Treasurers Fee- Mill	\$ 4,000	\$ 3,500
Total Expenses	\$ 454,900	\$ 459,695
Net Income	\$ (44,350)	\$ 111,705

- No major changes but have moved interest from the ColoTrust TIF to the operational budget
- Just received a one-time contribution but don't see that it will be moving forward
- Oktobrewfest Income – budgeted low but came in higher
- Advertising Expenses– have taken on the printing of the brochure and underwent updates to website
- WinterFest is a new category
- Did not need to use retained earning funds this year and will in fact be carrying additional earnings into the retained earnings category
- Monster Day and Downtown Business Group are just pass through accounts

Brian Seifried moved to approve the 2023 Amended DDA Operational Budget, Matt Hortt seconded, motion carried.

2024 Proposed DDA Operational Budget

INCOME	2023 Amended	2024 Proposed
4110- City Sales Tax Allocation	\$ 42,250	\$ 50,000
4111- Specific Ownership	\$ 10,100	\$ 10,000
4112- Mill Levy	\$ 229,000	\$ 285,000
4115- Interest Income- ColoTrust	\$ 70,000	\$ 100,000
4120- Contributions	\$ 68,065	\$ 20,000

4140- Parking Lease	\$ 2,400	\$ 2,400
4142- Oil & Gas Income	\$ 850	\$ 1,000
4143- Miscellaneous Income	\$ 35	\$ 100
4149- WinterFest & HOH Income	\$ 3,400	\$ 8,000
4150- Oktobrewfest Income	\$ 142,700	\$ 115,000
4300- Event Sponsors	\$ 2,600	\$ 2,500
Total Income	\$ 571,400	\$ 594,000
EXPENSES		
5050- Accounting Services	\$ 11,000	\$ 13,000
5101- Salaries	\$ 255,000	\$ 275,000
5102-5108- Benefits & Payroll Taxes		\$ 58,400
5102- Simple IRA Match	\$ 6,100	combined above
5105- Worker's Compensation Insurance	\$ 905	combined above
5106- Health & Wellness	\$ 765	combined above
5108- Payroll Taxes	\$ 21,000	combined above
5108a- Group Medical Insurance	\$ 6,000	combined above
5108b- Short Term Disability Insurance	\$ 250	combined above
5109- EZ Fund 1.5% Admin Fee	\$ 345	\$ 400
5110- Advertising & Marketing	\$ 15,000	\$ 12,000
5112- Bank Charges	\$ 500	\$ 1,000
5113- Interest Expense TIF	\$ 1,000	\$ 1,000
5121- Miscellaneous Expense	\$ 1,200	\$ 1,000
5132- Office Supplies	\$ 4,500	\$ 4,000
5134- Professional Development	\$ 6,000	\$ 8,000
5135- Subscriptions & Memberships	\$ 3,100	\$ 3,500
5153- Office Cleaning & Trash	\$ 2,000	\$ 2,200
5154- Printing & Publication	\$ 120	\$ 250
5155- Parking Lot Expense & Tax	\$ 400	\$ 400
5159- WinterFest & HOH	\$ 4,000	\$ 5,000
5165- Meals & Entertainment	\$ 600	\$ 800
5185- Rent/Utilities/Parking Permits	\$ 36,000	\$ 38,000
5190- Board	\$ 3,500	\$ 3,500
5195- Office Equipment & Maintenance	\$ 4,200	\$ 3,000
5200- Oktobrewfest	\$ 68,210	\$ 65,000
5500- Special Events- Other Events	\$ 4,500	\$ 5,000
5704- Treasurers Fee- Mill	\$ 3,500	\$ 4,300
Total Expenses	\$ 459,695	\$ 504,750
Net Income \$ 111,705 \$ 89,250		

- Change from "Grant Income City of Greeley" to "City Sales Tax Allocation" due to new voluntary sales tax agreement to replace the former funding agreement; will be meeting with City Finance to see about restructuring how funds are calculated; minimum is \$50,000, maximum is \$250,000
- The parking lease money reflects the lease we have with the City for the parking lot adjacent to Warm Hugs that is DDA owned
- Moved donations back to \$20,000 and increased Oktobrewfest income up a bit
- Expense side includes a Business Engagement & Event Coordinator position; plan to post the position in December and bring on the new staff person in January

- Plan to join the International Downtown Association (IDA) which will fall under Professional Development
- We should have a healthy reserve
- Prop HH did not pass but there is a special session being called to address property taxes so we will continue to monitor any changes
- Can utilize some TIF funds to help cover some of the operational funds if needed

Brian Seifried moved to approve the 2024 Proposed DDA Operational Budget, Justin Ghofrani seconded, motion carried.

2023 Approved & Amended TIF Budgets

	2023 Approved	2023 Amended
INCOME		
Tax Increment Finances (TIF)	\$ 1,050,000	\$ 1,050,000
ARPA Grant (Light Up Lincoln)	\$ -	\$ 100,000
Total Income	\$ 1,050,000	\$ 1,150,000
EXPENSES		
Annual TIF Reimbursements	\$ 355,000	\$ 351,000
Advertising	\$ -	\$ 10,000
Special Events	\$ -	\$ 6,100
Building Improvement Grants	\$ 350,000	\$ 233,000
Redevelopment Project	\$ 5,000	\$ 800
Planters	\$ 25,000	\$ 22,000
Public Art	\$ 10,000	\$ 46,000
Façade Grants	\$ 25,000	\$ 18,000
Tree Lighting	\$ 100,000	\$ 200,000
Plaza & Alley Maintenance	\$ 5,000	\$ 4,500
Cameras	\$ 3,000	\$ 2,000
Streetscape	\$ 20,000	\$ 3,500
Holiday Mini Grants	\$ 3,000	\$ 4,500
Treasurer's Fees- TIF	\$ 20,000	\$ 33,000
Interest Expense & Bank Fees	\$ 1,000	\$ 1,000
Total Expenses	\$ 922,000	\$ 935,400
Net Income	\$ 128,000	\$ 214,600

- Came in right on par with what was budgeted
 - ARPA Grant was for Light Up Lincoln
 - Plaza Lighting project that was approved this year will roll into next year
 - Annual TIF Reimbursements are what we have agreements on at this time and those came out as projected as well
 - \$10,000 advertising was for BizWest Day in the Life
 - Have a healthy TIF account which will let us look at some bigger projects
 - Will plan a TIF 101 refresher course in the next meeting or so - what it is and what it's used for
- Justin Ghofrani moved to approve the 2023 Amended TIF Budget, Matt Estrin seconded, motion carried.

2024 Proposed DDA TIF Budget

	2023 Amended	2024 Proposed
INCOME		
Tax Increment Finances (TIF)	\$ 1,050,000	\$ 1,400,000
ARPA Grant (Light Up Lincoln)	\$ 100,000	\$ -
Total Income	\$ 1,150,000	\$ 1,400,000
EXPENSES		
Annual TIF Reimbursements	\$ 351,000	\$ 730,000
Advertising	\$ 10,000	\$ -
Special Events	\$ 6,100	\$ -
Building Improvement Grants	\$ 233,000	\$ 250,000
Redevelopment Project	\$ 800	\$ 5,000
Planters	\$ 22,000	\$ -
Public Art	\$ 46,000	\$ 60,000
Façade Grants	\$ 18,000	\$ 30,000
Tree Lighting	\$ 200,000	\$ 200,000
Plaza & Alley Maintenance	\$ 4,500	\$ -
Cameras	\$ 2,000	\$ 70,000
Streetscape	\$ 3,500	\$ 5,000
Holiday Mini Grants	\$ 4,500	\$ 3,000
Treasurer's Fees- TIF	\$ 33,000	\$ 22,000
Interest Expense & Bank Fees	\$ 1,000	\$ 1,200
Total Expenses	\$ 935,400	\$ 1,376,200
Net Income	\$ 214,600	\$ 23,800

- Climbing Collective project is underway and Building Improvement Grant has been approved
- Public Art – Courage Mural update has been included
- Lighting amount is for the Plaza Lighting updates
- Cameras – Budgeted but will bring formal proposal to the board for discussion and approval
- There is nothing budgeted for planters and alley cleaning since those areas are being taken over by City Public Works

Tommy Butler moved to approve the 2024 Proposed DDA TIF Budget, Matt Horrt seconded, motion carried.

Greeley Overlay District Overview/Concept from Doug May:

- Are exploring the possibility of creating an Overlay District in response to the Downtown Strategic Plan which stated a desire to create new design standards and guidelines for Downtown Greeley
- An Overlay District is a layer of regulation that goes on top of a zoning district; currently there are the following districts in the City: Floodplain, Airport, Redevelopment District, General Improvement District, Mercado District are all in place at this time
- Downtown has lots of different character areas and an Overlay District can help fine-tune the zoning because it is not specific to Downtown and is more of a suburban style

- We have heard a desire for more urban style development, preservation of historic single-family neighborhoods, public art-mural standards, design standards, surface parking update, adding uses, landscaping standards, maintenance issues
- The goal is to preserve unique character, foster new development, streamline procedures
- Outreach so far includes the Downtown Implementation meeting and Overlay workshop
- Next Outreach will be the planning commission work session, city council work session, technical committee, etc.
- Bianca Fisher noted that there are a lot of inconsistencies and things that don't make sense for where we are at today
- It was agreed that it is hard to determine what the outcome should be because issues for something like Maddie Apartments are different than someone trying a new use for a Historic property
- Need to spend more time formalizing a plan and suggestions for stakeholders to react to

Experience Report from Karen Baumgartner and Daniela Hernandez:

Friday Fest –

- Had a wrap up meeting 11/2 with the association to vote on a new GDPA positions: Chair (Daniela Hernandez) Treasure (Ryan Gentry) & Secretary (Karen Baumgartner)
- Working on closing out the books and will be working through the re-certification process in December
- Brainstorming new ideas to bring to Friday Fest - Finding more tribute bands, mixed genres, creating themed nights (pride, Mardi gras, children's themed, local talent night), incorporating multiple sets in one night, enhanced lighting, behind stage projection, etc. We are also forming a small booking committee to choose bands for next year which will begin meeting in January. If you have any ideas for the upcoming Friday Fest season, please let us know.
- Planning a bigger "release" party with iHeart Radio & The Kress featuring a Friday Fest line-up release video again.

Trick or Treat Street –

- Huge success! Estimated attendance was 4-5,000.
- \$2,900 in sponsorships (biggest year yet) and \$1,340 in expenses.
- The candy lines were really long again this year and will be brainstorming ways to help with that log jam for next year

WinterFest – Spreading joy over 3 weekends!

- Holiday Open House (10am-5pm) & Light Up Lincoln (5:30pm) presented by the DDA on Saturday, November 25th – will be doing the bingo card promotion again during the Holiday Open House and will be giving away 3 gift baskets; for Light Up Lincoln there will be nearly 120 trees, the gazebo and two trellises glowing from over 32 miles of wire supporting 117,429 LED bulbs. When fully lit, this equates to nearly half a million lumens throughout the park
- Holiday Lane Downtown on Saturday, December 2nd from 5:30-8:30pm presented by the Downtown Business Group with support from the DDA and Chamber. The last count was 35 standing floats and holiday displays for people to admire, performances from local dance companies, carriage rides, and the community is encouraged to dress up in festive winter attire.
- Makers' Workshops presented by the Greeley Creative District on Saturday, December 9th from 10am-4pm – Makers' Workshops offered throughout the day all around Downtown. A special North Pole Mailbox is stationed at LINC where letters to Santa can be dropped off for special delivery by the Greeley Fire Department following their workshop on Santa Safety tips. You can also bring your holiday greeting cards to LINC between 2-4pm to be stamped by special helpers with a unique Greeley commemorative holiday image created by Johanna Mueller.
- Holiday Lane drive presented by The Chamber at Island Grove on Saturday, December 9th 5:30-8:30pm

Dazzle Downtown Window Decorating Contest – Encouraging businesses to decorate their windows for the Holidays.

- Offering mini grants to help participating businesses with decorations. Have five traveling plaques that are awarded to winners in each category.

Greeley Creative District –

- Dia de los Muertos event was held at the LINC Library Innovation Center and had a great turnout, placed the marker at LINC for the Greeley Creative District Time Capsule, and are working on a Do Tell! Speakers Workshop, Colorado Gives Day, Makers' Workshops for WinterFest, and continue to work on a potential building acquisition.

Executive Director Report from Bianca Fisher:

Board & Staff

- Conducted staff evaluations and am incredibly proud of the work of our small but mighty team!
- Alison's last day was yesterday—we surprised her with a wonderful keepsake painted by the talented Colette Pitcher as a token of our appreciation on behalf of the Board and staff; thanks to everyone who stopped by her celebration
- Included in the 2024 Operating Budget is a plan to bring on a new team member—a Business Engagement & Event Coordinator to support new and expanding events while staying in touch and in tune with the needs of our business community; plan is to post the position in December and bring someone on in January

Finance

- Review TIF Cash Flow
- Met with City Manager Raymond Lee to discuss the DDA's Voluntary Allocation of Sales Tax Revenue for 2024 and a possible change to streamline and simplify the process

Economic Development/Business Support

- Met with Milhaus developers and John Hall to discuss the redevelopment agreement for 1024 8th Avenue that was approved by the DDA Board on March 23 and then approved by City Council on April 4; the agreement has not been executed as project feasibility is still being determined; we anticipate clarity on project next steps in the coming months
- Attended multiple WinterFest meetings to expand upon annual festivities, increase business, and create new traditions during the holiday season; more details on the event/marketing report from Karen and Daniela

Public Realm

- Light up Lincoln—All Terrain Landscaping has been hard at work since our approval of the holiday lighting project in Lincoln Park; they will be lighting up almost 120 trees plus the gazebo and two trellises equating to a little over 32 miles of wire and 117,429 led bulbs; when fully lit, this will equate to almost half a million lumens throughout the park! Be sure to see the lights come on at 5:30 pm on Saturday, November 25th as a part of WinterFest
- Met with Hanna Johnson, Mobility Coordinator with Public Works, to discuss the mechanics of business license standards and a pilot program for shared-use micromobility; Hanna will be presenting to our Downtown Business Group on Friday to gather additional feedback; plan is to pilot a draft license from July 2024-July 2025
- Met key City staff to discuss hopes for Lincoln Park and next steps to take to activate Lincoln as a true events/experience destination

Community Leadership & Engagement

- Met with Tim Coons, newly appointed Executive Director of the Weld Community Foundation, to learn about the projects and initiatives they are working on and explore possible partnerships
- Attended Senator Bridges' community leadership roundtable discussion at Aims to discuss the challenges of housing affordability and innovative partnerships that exist in our community to help address these challenges, like the Career and Technical Education program at School District 6 and 3D homebuilder Alquist

- Provided downtown updates at the monthly BizWest Greeley Editorial Board meeting

Professional Growth & Development

- Met with Sean Hawkins, Loveland DDA Director, to learn about each other's current projects and events, discuss challenges around homelessness, and share ideas
- Went on a quick trip to Milwaukee with a group from the Mayor's Taskforce on Homelessness and met with their County, City and organizational leaders who effectively collaborate on housing and homelessness solutions

Commercial Property Updates

Recent Sales

- 909 16th Street (former Millennium Tattoo)- 2,020 SF; \$295,000

Under Contract

- 1014 12th Street (former Homeside Hair Design)- 982 SF; \$260,000

For Sale or Lease:

- 908 11th Avenue (former COC location)- 3,600 SF; \$699,000 or \$13/SF NNN
- 913 11th Avenue (Turning Point)- 3,142 SF; \$427,500
- 905 16th Street (Pinocchios)- 3,610 SF; \$775,000
- 922 8th Avenue (Macy Jones Collective)- 4,150 SF; \$995,000
- 1619 8th Avenue (former Cisneros)- 720 SF; \$209,900
- 1200 11th Avenue (former Atmos Energy office)- 14,072 SF; \$1.575M
- 909 16th Street (former Millennium II Tattoo)- 2,020 SF; \$365,000
- 1105 11th Avenue (Peerless Tires)- 2,144 SF; \$600,000
- 1215 8th Avenue (former Salvation Army)- 13,031 SF; \$2M SALE or \$7-\$57/SF NNN
- 1228 8th Avenue (David's Auto Sales)- 1,269 SF; \$500,000 SALE or \$23-\$44/SF NNN

For Lease Only:

- 719 7th Street- 1,550 SF; \$15/SF NNN
- 706, 710 & 716 12th Street (former Moffat Glass)- 3,000-13,000 SF; \$17/SF NNN
- 930 11th Avenue (former Independent Financial location)- 1,360 SF; \$24/SF
- 530 11th Street- 4,000 SF; \$3,500/mo
- 1120 6th Avenue (Greeley Ice House)- 4 units available, up to 5,900 SF; \$7/SF
- 800 8th Avenue- 1,200-5,493 SF; \$12-\$14/SF NNN
- 807 17th Street, Unit F & G- 1,348-2,093 SF; \$11.50-\$14/SF

City Update from John Hall:

- Hensel Phelps will be relocating outside of city; they named a new President in 2019 and were looking at sites at that time - don't know specific timing or how many employees might be going but are still working to deconstruct all the issues

County Update from Scott James:

- Facilities master plan update should be done mid-January – will eventually need 1 million square feet in office space; 72% of the Counties buildings are over 50 years old
- Colorado Special Session starts tomorrow to discuss where backfill dollars come from for property tax reduction measures; will have large impacts to the County and City
- The Weld County commissioners will ask the County Council on Monday for permission next year to retain excess revenue that exceeds a growth cap in the county charter, citing facility needs that weren't included in the original budget proposal

Tommy Butler moved to adjourn the meeting and move into Executive Session at 8:49am, Matt Horts seconded, motion carried.



Council Agenda Summary

December 5, 2023

Key Staff Contact: Heidi Leatherwood, City Clerk

Title:

A resolution ratifying the appointment of Cole Gerstner to the Clearview Library Board of Trustees for a three-year term

Summary:

The Clearview Library District Board of Trustees is composed of five trustee seats, and one seat is currently vacant. The Trustee Selection Committee met on October 21, 2023, to interview candidates, and is recommending the following individual for appointment to the Clearview Library Board of Trustees: Cole Gerstner. This trustee shall serve a three-year term from January 1, 2024, through December 31, 2026.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	No

Legal Issues:

The City Council is asked to ratify the appointment of each trustee recommended by the interview panel. Failure of the City Council to take action on the ratification of an appointment within 60 days of the recommendation of the Interview Committee is considered ratification of that appointment.

Other issues and Considerations:

None

Strategic Focus Area:



Business Growth



Community Vitality

Decision Options:

- 1) Adopt the resolution as presented; or
- 2) Amend the resolution and adopt as amended; or
- 3) Deny the resolution; or
- 4) Continue consideration of the resolution to a date certain.

Council's Recommended Action:

A motion to adopt the resolution.

Attachments:

1. RES 43, 2023

**CITY OF GREELEY, COLORADO
RESOLUTION 43, 2023**

**A RESOLUTION RATIFYING THE APPOINTMENT OF CERTAIN NOMINEES TO
THE BOARD OF TRUSTEES OF THE CLEARVIEW LIBRARY DISTRICT**

WHEREAS, the City Council of the City of Greeley, Colorado, pursuant to the City's home rule charter is vested with the authority of administering the affairs of the City of Greeley, Colorado; and

WHEREAS, the Clearview Library District has been created in accordance with C.R.S. § 24-90-108 by action of two "Establishing Bodies" namely, the Town of Windsor and the Weld RE-4 School District; and

WHEREAS the Clearview Library District Board of Trustees is comprised of five trustee seats, one of which is up for replacement: and

WHEREAS, pursuant to C.R.S. § 24-90-108(2)(c), recommendation of replacement library trustees must be made by a committee held for that purpose; and

WHEREAS, Section 4.2. of the Bylaws of the Clearview Library District provide that the Library Board, the Windsor Town Board, the Severance Town Board, the Weld RE-4 School District Board, the Greeley City Council and the Clearview Library District Friends & Foundation shall each appoint one person to serve on the Interview Committee filling a vacancy; and;

WHEREAS, on October 21, 2023, the Interview Committee voted by majority vote to recommend the following individual for appointment to the Clearview Library District Board of Trustees for a three-year term specified below:

Cole Gerstner; 2024 – 2026; and

WHEREAS, the above-named individual appears to be qualified to serve as a trustee on the Clearview Library District Board of Trustees and represent adequately the various interests within the Clearview Library District; and

WHEREAS C.R.S. § 24-90-108(2)(c) provides that the legislative bodies of the governmental units included within the library district have authority to ratify trustees recommended for appointment to the Library Board of Trustees.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF GREELEY, COLORADO:

Section 1: That the appointment of Cole Gerstner as Trustee on the Clearview Library District Board of Trustees for a three-year term, 2024-2026, is hereby ratified.

Section 2: This Resolution shall become effective immediately.

**PASSED AND ADOPTED, SIGNED AND APPROVED THIS _____ DAY OF
DECEMBER 2023.**

ATTEST:

**THE CITY OF GREELEY,
COLORADO**

By: _____
City Clerk

By: _____
Mayor



Council Agenda Summary

December 5, 2023

Key Staff Contact: Heidi Leatherwood, City Clerk

Title:

A resolution of the Greeley City Council ratifying the appointment of Michael Wailes and Deana Lemos-Garcia to the Board of Trustees of the High Plains Library District

Summary:

The High Plains Library District Board of Trustees comprises seven trustee seats, and two seats have vacancies. The Trustee Selection Committee met on October 20, 2023, to interview candidates, and is recommending the following individuals for appointment to the High Plains Library Board of Trustees:

Region 3: Michael Wailes, representing Berthoud, Johnstown, Mead, Milliken, and Platteville for a four-year term, 2024 – 2027;

At Large: Deana Lemos-Garcia, representing the entire District for a four-year term, 2024-2027.

The role of City Council is to ratify the appointments.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	No

Legal Issues:

Ratification of the appointment of each trustee requires a two-thirds vote of the Greeley City Council and of every other “establishing body” of the High Plains Library District. Failure of any “establishing body” to take action on the ratification of an appointment within 60 days of the recommendation of the Trustee Selection Committee is considered ratification of that appointment.

Other issues and Considerations:

None

Strategic Focus Area:



Business Growth



Community Vitality

Decision Options:

- 1) Adopt the resolution as presented; or
- 2) Amend the resolution and adopt it as amended; or
- 3) Deny the resolution; or
- 4) Continue consideration of the resolution to a certain date.

Council's Recommended Action:

A motion to adopt the resolution.

Attachments:

1. RES 44, 2023

**CITY OF GREELEY, COLORADO
RESOLUTION 44, 2023**

**A RESOLUTION RATIFYING THE APPOINTMENT OF CERTAIN
NOMINEES TO THE BOARD OF TRUSTEES OF THE
HIGH PLAINS LIBRARY DISTRICT**

WHEREAS, the City Council of the City of Greeley, Colorado, pursuant to the City's home rule charter is vested with the authority of administering the affairs of the City of Greeley, Colorado; and

WHEREAS, the High Plains Library District ("HPLD") has been created by action of eight "Establishing Bodies", namely, the Town of Ault, the Town of Eaton, the City of Evans, the City of Fort Lupton, the City of Greeley, the Town of Hudson, the RE-8 School District Board of Education and the Weld County Board of County Commissions, all of the State of Colorado; and

WHEREAS the High Plains Library District Board of Trustees is comprised of seven trustee seats, two of which are up for replacement; and

WHEREAS, pursuant to C.R.S. § 24-90-108(2)(c), recommendation of replacement library trustees must be made by a committee held for that purpose; and

WHEREAS C.R.S. § 24-90-108(2)(c) provides that the Establishing Bodies have authority to ratify trustees recommended for appointment to the High Plains Library Board of Trustees; and

WHEREAS, on October 20, 2023, the Committee voted by majority vote to recommend the following individuals for appointment to the High Plains Library District Board of Trustees for the term length specified below:

REGION 3: Michael Wailes, 4-year term, 2024-2027; representing Berthoud, Johnstown, Mead, Milliken, and Platteville

AT LARGE: Deana Lemos-Garcia, 4-year term, 2024-2027; representing the entire District; and

WHEREAS, the above-named individuals appear to be qualified to serve as trustees on the High Plains Library District Board of Trustees and represent adequately the various interests within the High Plains Library District.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF GREELEY, COLORADO:

Section 1: Ratification. That the appointment of Michael Wailes to serve as Region 3 Trustee for a four-year terms and Deana Lemos-Garcia to serve as At Large Trustee on the High Plains Library District Board of Trustees for a four-year term is hereby ratified.

Section 2: This Resolution shall become effective immediately.

PASSED AND ADOPTED, SIGNED AND APPROVED THIS 5th DAY OF DECEMBER 2023.

ATTEST:

**THE CITY OF GREELEY,
COLORADO**

By: _____
City Clerk

By: _____
Mayor



Council Agenda Summary

December 5, 2023

Key Staff Contact: Brian McBroom, Community Development Director, Jeff Woeber, Planner III

Title:

Introduction and first reading of an ordinance changing the official zoning map of the City of Greeley, Colorado from R-L (Residential Low Density) to PUD (Planned Unit Development) and changing the underlying land use designations for approximately 11.083 acres located at 1318 47th Avenue

Summary:

Applicant requests approval of an Ordinance by the Greeley City Council to rezone 11.083 acres from R-L (Residential Low Density) to PUD (Planned Unit Development) allowing Residential Care, Group Home, Assisted Living, Senior Independent Living, Memory General, Institutional and permitted uses in the R-H (Residential High Density) Zoning District including Single-Family, Two-Family, Row Houses, Multi-Family and Accessory Dwellings. The PUD has development standards specifying height and density limitations, with two-story structures allowed on the interior of the site, and structures adjacent to the existing residential area (Cambridge Glen) being limited to single-story structures with a maximum height of 21 feet. Density is limited to 20 dwelling units per acre. The PUD is proposed to be developed as one planning area.

The application has complied with the Greeley Development Code's public notice requirements. A notice was placed on the City of Greeley's website on August 28, 2023. A sign was posted on the property on August 23, 2023. A notice was mailed to 378 property owners or residents within 1000 feet of the site on August 28, 2023. Letters and emails have been received by Planning staff which raised various concerns and questions regarding the PUD project. There were also comments made at the Planning Commission hearing on September 12, 2023.

The Greeley Planning Commission opened a public hearing on September 12, 2023, which was then continued to September 26, 2023. At the September 26th hearing, the Planning Commission voted 5 - 0 to forward a recommendation of approval of the PUD application, with a condition that any Site Plan Review for the project will be taken to the Planning Commission and to City Council for approval. City staff recommends approval of the PUD as submitted, noting that based on comments from the Planning Commission, the PUD has been revised with a minor clarification regarding limitations to the gated south entrance access to the site.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	NA

Legal Issues:

Consideration of this matter is a quasi-judicial process which includes the following public hearing steps:

- 1) City staff presentation
- 2) Council questions of staff
- 3) Applicant presentation
- 4) Council questions of applicant
- 5) Public input (hearing opened, testimony - up to three minutes per person, hearing closed)
- 6) Rebuttal, if requested
- 7) Council discussion
- 8) Council decision

Other issues and Considerations:

None

Strategic Focus Area:



Community Vitality

Decision Options:

- 1) Introduce the ordinance as presented; or
- 2) Amend the ordinance and introduce as amended; or
- 3) Deny the ordinance; or
- 4) Continue consideration of the ordinance to a date certain.

Council's Recommended Action:

A motion to introduce the ordinance and schedule the public hearing and second reading for December 19, 2023.

Attachments:

1. Ordinance Number 54, 2023 with Exhibit A
2. Planning Commission Summary
3. PC Summary Attachment A
4. PC Summary Attachment B
5. PC Summary Attachment C
6. PC Summary Attachment D
7. PC Summary Attachment E
8. PC Summary Attachment F
9. Planning Commission Minutes (First Meeting)
10. Planning Commission Minutes (2nd Meeting)

**CITY OF GREELEY, COLORADO
ORDINANCE NO. 54, 2023
CASE NO. PUD2022-0007**

**AN ORDINANCE CHANGING THE OFFICIAL ZONING MAP OF THE CITY OF
GREELEY, COLORADO, TO ESTABLISH A PLANNED UNIT DEVELOPMENT
(PUD) FOR APPROXIMATELY 11.083 ACRES LOCATED AT 1318 47TH AVENUE**

BE IT ORDAINED BY THE CITY COUNCIL OF GREELEY, COLORADO:

Section 1. The following described property located in the City of Greeley is hereby established a PUD (PLANNED UNIT DEVELOPMENT) in the City of Greeley, County of Weld, State of Colorado:

Legal Description

See Appendix A, attached hereto, and incorporated herein.

Section 2. The boundaries of the pertinent zoning districts as shown on the official zoning map are hereby changed so as to accomplish the above-described zoning changes, and the Mayor and City Clerk are hereby authorized and directed to sign and attest an entry which shall be made on the official zoning map to reflect this change.

Section 3. This ordinance shall become effective five (5) days after its final publication as provided by the Greeley City Charter.

**PASSED AND ADOPTED, SIGNED AND APPROVED, THIS ____ DAY OF
_____, 2023.**

ATTEST:

THE CITY OF GREELEY, COLORADO

City Clerk

Mayor

APPENDIX A
**AN ORDINANCE CHANGING THE OFFICIAL ZONING MAP OF THE CITY OF
GREELEY, COLORADO, TO ESTABLISH A PLANNED UNIT DEVELOPMENT
(PUD) FOR APPROXIMATELY 11.083 ACRES LOCATED AT 1318 47TH AVENUE.**

LEGAL DESCRIPTION FOR REZONING AREA

A PARCEL OF LAND TO BE USED AS A PLANNED UNIT DEVELOPMENT BEING SITUATED IN THE WEST HALF (W1/2) OF THE NORTHWEST QUARTER (NW1/4) OF SECTION ELEVEN (11), TOWNSHIP FIVE NORTH (T5N), RANGE SIXTY-SIX WEST (R66W), OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.), CITY OF GREELEY, COUNTY OF WELD, AND THE STATE OF COLORADO MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF SECTION ELEVEN (11), TOWNSHIP FIVE NORTH (T5N), RANGE SIXTY-SIX WEST (R66W), OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.) AND ASSUMING THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 11 BEARS NORTH 00°29'18" WEST FOR A DISTANCE OF 2610.33 FEET, BEING MONUMENTED AT THE WEST QUARTER CORNER BY A #6 REBAR WITH A 3-1/4" ALUMINUM CAP STAMPED "LS 7242 – 1994" IN A RANGE BOX, AND AT THE NORTHWEST CORNER OF SAID SECTION 11 BY A #6 REBAR WITH A 3-1/4" ALUMINUM CAP STAMPED "LS 10855 – 1998" IN A RANGE BOX, AND WITH ALL BEARINGS HEREIN RELATIVE THERETO;

THENCE ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 11 NORTH 00°29'18" WEST FOR A DISTANCE OF 44.67 FEET TO THE **POINT OF BEGINNING**;

THENCE CONTINUING ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 11 NORTH 00°29'18" WEST FOR A DISTANCE OF 856.77 FEET; THENCE LEAVING THE SAID WEST LINE NORTH 89°30'42" EAST FOR A DISTANCE OF 50.00 FEET TO THE EAST RIGHT-OF-WAY OF 47TH AVENUE PER GRANT OF RIGHT-OF-WAY DOCUMENT RECORDED ON OCTOBER 15, 1991 AS RECEPTION NO. 2269430, SAID POINT ALSO BEING ON THE NORTH LINE OF A PARCEL DESCRIBED IN A DEED RECORDED ON JUNE 17, 1960 AS RECEPTION #1332327 OF THE WELD COUNTY RECORDS;

THENCE ON THE NORTH BOUNDARY LINE OF SAID DEED THE FOLLOWING SIX (6) COURSES;

1. THENCE NORTH 84°58'34" EAST FOR A DISTANCE OF 84.98 FEET;
2. THENCE SOUTH 35°10'14" EAST FOR A DISTANCE OF 80.96 FEET;
3. THENCE NORTH 76°42'08" EAST FOR A DISTANCE OF 161.92 FEET;
4. THENCE SOUTH 86°03'39" EAST FOR A DISTANCE OF 220.68 FEET;

5. THENCE SOUTH 88°10'49" EAST FOR A DISTANCE OF 382.28 FEET TO THE NORTHWESTERLY CORNER OF THE CAMBRIDGE GLEN SUBDIVISION RECORDED ON JULY 18, 1995 AS RECEPTION #2447056;

THENCE ON THE WESTERLY BOUNDARY LINE OF THE SAID CAMBRIDGE GLEN SUBDIVISION FOR THE FOLLOWING FIVE (5) COURSES;

1. THENCE SOUTH 38°23'42" WEST FOR A DISTANCE OF 409.53 FEET,
2. THENCE SOUTH 47°55'52" WEST FOR A DISTANCE OF 174.21 FEET;
3. THENCE SOUTH 50°33'26" WEST FOR A DISTANCE OF 262.17 FEET;
4. THENCE SOUTH 30°04'38" WEST FOR A DISTANCE OF 232.42 FEET;
5. THENCE SOUTH 89°11'19" WEST FOR A DISTANCE OF 181.22 FEET TO THE EAST RIGHT-OF-WAY OF 47TH AVENUE;

THENCE SOUTH 89°30'42" WEST FOR A DISTANCE OF 50.00 FEET TO THE **POINT OF BEGINNING.**

SAID DESCRIBED PARCEL OF LAND CONTAINS A TOTAL OF 482,783 SQ. FT. OR 11.083 ACRES, MORE OR LESS, AND IS SUBJECT TO ANY EXISTING EASEMENTS AND RIGHTS OF WAYS OF RECORD OR AS NOW EXISTING ON SAID DESCRIBED PARCEL OF LAND.

PLANNING COMMISSION SUMMARY

ITEM: Rezone from R-L (Residential Low Density) to PUD (Planned Unit Development)

FILE NUMBER: PUD2022-0007

PROJECT: 1318 47th Avenue PUD

LOCATION: 1318 47th Avenue

APPLICANT: 1318 Bridgeforth Acquisitions LLC

CASE PLANNER: Jeffrey Woeber | Planner III

PLANNING COMMISSION HEARING DATE: September 12, 2023 (Continued to September 26, 2023)

PLANNING COMMISSION FUNCTION:

The Planning Commission shall consider the staff report, along with testimony and comments made by the applicant and the public and shall then make a recommendation to the City Council regarding the application in the form of a finding based on the review criteria in Section 24-205(c) and 24-204(b) of the Development Code.

EXECUTIVE SUMMARY

The City of Greeley is considering a request to rezone approximately 11.083 acres located at 1318 47th Avenue from R-L (Residential Low Density) to PUD (Planned Unit Development).

A. REQUEST

The applicant proposes rezoning approximately 11.08 acres located at 1318 47th Avenue from R-L (Residential Low Density) to PUD (Planned Unit Development).

The developable area of the project is approximately 10.5 acres (this is less than the 11.08 acres being rezoned due to the inclusion of right-of-way area for 47th Avenue). No further subdivision or separate ownership of units is proposed, although a Minor Subdivision will be necessary to legally establish the property. If the PUD receives City Council approval, review and approval of a Minor Subdivision and a Site Plan Review application would be required to move forward with the project.

The uses allowed by the proposed PUD are Residential Care, Group Home, Assisted Living, Senior Independent Living, Memory General, Institutional, and permitted uses in the R-H (Residential High Density) Zoning District including Single-Family, Two-Family, Row Houses, Multi-Family and Accessory Dwellings. The applicant proposes development standards that

specify only single-story dwellings up to 21 feet in height are allowable along the perimeter of the property adjacent to the existing residential subdivision to the east and south of the subject property. A two-story structure is allowable in the interior portion of the property. The Development Standards for the PUD do not allow Commercial or Industrial uses. Other Development Standards are in a table on page 6 of the attached PUD plan set.

B. STAFF RECOMMENDATION

Approval

C. LOCATION

Abutting Zoning

North: R-L (Residential Low Density)

South: PUD (Planned Unit Development) and R-M (Residential Medium Density)

East: PUD (Planned Unit Development)

West: R-L (Residential Low Density)

Abutting Land Uses

North: Country Club/Golf Course

South: Single-Family Dwellings

East: Single-Family Dwellings

West: Country Club/Golf Course

Site Characteristics:

The site is fairly open with no waterbodies or steep slopes. Native (unirrigated) grasses cover the majority of the site, with mature trees on portions of the property. The property contains one single-family residence that would be demolished prior to moving forward with the proposed development. 47th Avenue is a busy arterial that borders the property to the west. Currently there is one residential driveway access to the residence from 47th Avenue.

D. BACKGROUND

The 10.5± acre property is a “metes and bounds” parcel and has not been through a subdivision review and approval process. There is a single-family residence on the property, established in 1961 according to Weld County Assessor’s records. The property to the north, as well as to the west (across 47th Avenue) is the Greeley Country Club property and golf course. The Greeley Country Club was established in 1920. The existing single-family residential areas to the east and south of the subject property are within the Cambridge Glen Subdivision and PUD. The residences in this subdivision were constructed mostly in the mid/late 1990s.

E. APPROVAL CRITERIA

Rezoning Review Criteria, Section 24-204(b):

1. The proposal is in accordance with the goals and objectives of the Comprehensive Plan and any other plan, policy or guidance adopted pursuant to that plan.

Staff Comment: The subject property is identified as “Suburban Neighborhood” on the Land Use Guidance Map in the Imagine Greeley Comprehensive Plan. The PUD would allow residential development, which is the primary land use envisioned for Suburban Neighborhoods. Additionally, the following comprehensive plan goals support the subject application:

Objective GC-1.2 Form of Growth Encourage a compact urban form over sprawl or leap-frog development.

The development allowed by the proposed PUD would allow development of property within the interior of the City and would not be sprawl or leap-frog development. The request complies with this criterion.

The “Introduction and Perspective” for the Housing (HO) Section of the Plan’s Goals & Objectives Chapter begins, “This element focuses on encouraging the development of a diversity of housing options that adequately serve the needs of all Greeley residents.”

The PUD would allow Senior Independent Living, Residential Care and Assisted Living, as well as options for other residential uses and is consistent with the perspective above.

Objective HO-2.2 Rental Housing Foster the development of attractive, safe, and well-maintained rental properties for those who do not qualify for or desire to own property.

The PUD would provide options to develop rental properties that conform to the recommendations in this Objective. The request complies with this criterion.

The request complies with this criterion.
The applicant has provided an additional detailed overview of the proposal’s compliance with the Imagine Greeley Comprehensive Plan, see attached Project Narrative.

2. The proposal can fulfill the intent of the zoning district considering the relationship to surrounding areas.

Staff Comment: The intent of the proposed Planned Unit Development is to establish various types of residential uses, which are consistent with the surrounding area. The applicant proposes limiting the height of structures that are near the existing single-family residential uses. This approach takes the surrounding area into consideration in site design.

The request complies with this criterion.

3. Whether the area changed or is it changing to such a degree that it is in the public interest to rezone the subject property to encourage development or redevelopment of the area.

Staff Comment: The 10.5± acre property and residence have existed for approximately 60 years. The residence was constructed in 1961 according to Weld County Assessor's records. The residential areas in the general vicinity of the subject property were developed mostly in the 1990s, which has been a major change to this area. It is in the public interest to rezone the property and encourage development.

The request complies with this criterion.

4. Whether the existing zoning has been in place for a substantial time without development, and if this indicates the existing zoning is inappropriate given development trends in the vicinity.

Staff Comment: The existing zoning has been in place for a substantial time without development (other than the one residence). The development in this general area has been residential, which is consistent with the proposed PUD.

The request complies with this criterion.

5. **The proposed zoning will enable development in character with existing or anticipated development in the area considering the design of streets, civic spaces, and other open space; the pattern, scale and format of buildings and sites; and the compatibility and transitions with other complimentary uses and development.**

Staff Comment: The PUD's proposed uses and development standards specify percentage of open space, scale of buildings, and compatibility with other complementary uses. The required Site Plan Review to develop the site as proposed will ensure that design of streets is in character with existing/adjacent development in this area of Greeley.

The request complies with this criterion.

6. **The City or other agencies have the ability to provide services or facilities that may be necessary for anticipated uses in the proposed district.**

Staff Comment: Existing services are present in the vicinity to support development of the site as proposed.

The request complies with this criterion.

7. **The change will serve a community need, provide an amenity, or accommodate development that is not possible under the current zoning or that was not anticipated at the time of the initial zoning of the property, making the proposed zoning more appropriate than the current zoning.**

Staff Comment: The applicant intends to establish Senior Independent Living, Assisted Living and possibly other residential uses allowable in the R-H (Residential High Density) Zoning District, while limiting certain R-H Development Standards. This includes allowing only single-story structures to the east and south of the site, as well as significantly limiting the density that may be allowable were the property zoned R-H with no PUD. This development is not allowed under the current zoning, and the PUD is more appropriate than the current zoning.

The request complies with this criterion.

8. **Any reasonably anticipated negative impacts on the area or adjacent property either are mitigated by sound planning, design and engineering practices or are outweighed by broader public benefits to the surrounding community.**

Staff Comment: The development of the subject property as proposed by the PUD would have impacts to the surrounding area, primarily increased traffic and visual impacts. As mentioned above, the PUD requires single story structures along the east and south of the property, as well as

limitations on density, which will significantly reduce any impacts. The required Site Plan Review will ensure the site is developed under Greeley Development Code standards that ensure sound design and engineering practices. This will minimize traffic and drainage impacts.

The request complies with this criterion.

9. The recommendations of professional staff or advisory review bodies.

Staff Comment: Planning staff and the Administrative Review Team recommend approval.

The request complies with this criterion.

Planned Unit Development Review Criteria, Section 24-205(c):

1. The plan reflects greater consistency with or more specificity in implementing the Comprehensive Plan than what could be accomplished under application of general zoning districts and development standards.

The proposed PUD allows specific R-H uses with Development Standards that allow specified uses and limited density. This provides for more specificity than applying a general zoning district such as R-H.

The request complies with this criterion.

2. The benefits from any flexibility in the proposed plan:

- (1) promote the general public health, safety and welfare of the community, and in particular, that of the areas immediately near or within the proposed project, and is not strictly to benefit the applicant or a single project;**
- (2) involves innovative concepts that were not anticipated by the development code; or**
- (3) apply to a unique or specific context in a manner that allows the project to better meet the intent or design objectives of the base zoning districts and standards.**

The proposal for allowing various senior and institutional related uses, as well as rental properties does promote the general health, safety and welfare of the community, filling an identified need in the City of Greeley overall. The limitation on height for structures near existing residences is innovative and is good planning practice. The proposal does apply to a specific context that can meet the intent of the R-H Zoning District, while providing for site specific design for this fairly unique property.

The request complies with this criterion.

3. The plan reflects generally accepted and sound planning and urban design principles with respect to applying the goals and objectives of the Comprehensive Plan to the area.

The request is generally consistent with planning and design principles and the Comprehensive Plan.

The request complies with this criterion.

4. The plan meets all of the review criteria for zoning map amendments in Section 24-204.

The request complies with Section 24-204, Review Criteria for Rezoning as detailed above.

The request complies with this criterion.

F. PHYSICAL SITE CHARACTERISTICS

1. SUBDIVISION HISTORY

The property is a “metes and bounds” property that has not been through a subdivision process. Review and approval of a Minor Subdivision will be required to move forward with the project.

2. HAZARDS

There are no natural hazards or ecologically sensitive areas according to resources and maps reviewed by staff.

3. WILDLIFE

The site does not provide significant wildlife habitat and is not identified as an ecologically sensitive area, according to resources and maps reviewed by staff.

4. FLOODPLAIN

The property is not located within the 100-year floodplain or floodway, according to the adopted Federal Emergency Management Administration (FEMA) flood data.

5. DRAINAGE AND EROSION

Site drainage has been considered by Engineering staff. A drainage study/drainage plan will be required to be reviewed and approved with Site Plan review.

6. TRANSPORTATION

The applicant’s Commitment Matrix, on page 6 of the PUD document, commits to building a median in 47th Avenue as part of the development. The development will be

required to meet all City of Greeley criteria concerning roadway levels of service at the time of Site Plan Review. A Traffic Impact Study is attached.

G. SERVICES

1. WATER

Existing water infrastructure is present and adequate to serve the site. The potable water system will connect to an existing 8-inch stub on the northwest corner of the property which will be looped through the property and back to the southwest corner of the site to an 8-inch main that runs parallel to 47th Avenue in this area. Non-potable water will be required to provide irrigation water to the site if there are 2.0 acres or greater of irrigated landscape area. If during final design there is less than 2.0 acres of irrigated landscaping, then domestic water shall be used and a separate irrigation tap will be required.

2. SANITATION

Existing sewer infrastructure is present and adequate to serve the site. The conceptual hydraulic report proposes to discharge sanitary sewer flows from the entire property to the existing sanitary sewer stub on the southeast corner of the property. Downstream impacts to the public system were evaluated with and without the proposed site flows. Note that any necessary improvements to the public system will be determined at the time of Site Plan Review; the applicant has acknowledged the requirement for a fair-share contribution to a future Capital Improvement Project on page 6 (Statement of Commitments) of the proposed PUD, once development occurs.

3. EMERGENCY SERVICES

Existing emergency services are adequate to serve the site. Greeley Fire Station #7 is located at 662310th Street, with Greeley Fire Station #5 at 4701 47th Avenue, approximately 1.3 miles south of the site.

4. PARKS AND OPEN SPACES

Existing parks and open spaces are present in the area. No parks are proposed or required through this PUD process.

5. SCHOOLS

The subject property is located within Greeley-Evans School District 6. The proposed senior facilities would not involve school-age children.

6. METROPOLITAN DISTRICT

No metropolitan district is intended for the site.

H. NEIGHBORHOOD IMPACTS

1. VISUAL

The development allowed by this PUD does have Development Standards requiring single story structures along the east and south of the property which will significantly

reduce any impacts. Access and drainage improvements will be required to be constructed through Site Plan review, if the PUD is approved and the project moves forward. Code standards for appropriate buffer yards, setbacks and parking standards will be applied with review of a Site Plan Review application. Applying these standards will significantly reduce impacts to adjacent properties.

2. NOISE

Significant noise impacts are not anticipated.

I. PUBLIC NOTICE AND COMMENT

Public notices were completed as follows:

- A neighborhood meeting was held on April 20, 2023, with general discussion of the project, possible uses allowed, R-H zoning concerns, and density and traffic concerns.
- Notice was placed on the City of Greeley's website on August 28, 2023.
- A sign was posted on the property on August 23, 2023.
- There were 295 notices mailed to property owners or current residents on August 28, 2023. These were properties within 1000 feet of the outer boundary of the subject property.
- There have been ten emailed public comments received at this writing, with the majority received shortly after the neighborhood meeting last April and two more recently. The general focus of these comments are concerns with R-H Zoning uses such as the assisted living facilities and multi-family residential, as well as increased traffic, privacy concerns, and affecting property values.

J. MINERAL ESTATE OWNER NOTIFICATION

The applicant and their legal counsel determined the statutory requirement for mineral notices does not apply if no additional lots are being created, which is the case with this PUD. Staff concurs with this determination.

K. PLANNING COMMISSION RECOMMENDED MOTIONS

Recommended (Approval)

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval.

Alternative (Denial)

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is not in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council denial.

ATTACHMENTS

Attachment A – Vicinity Map

Attachment B – Project Narrative

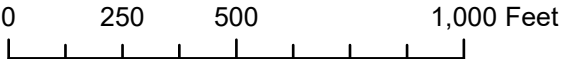
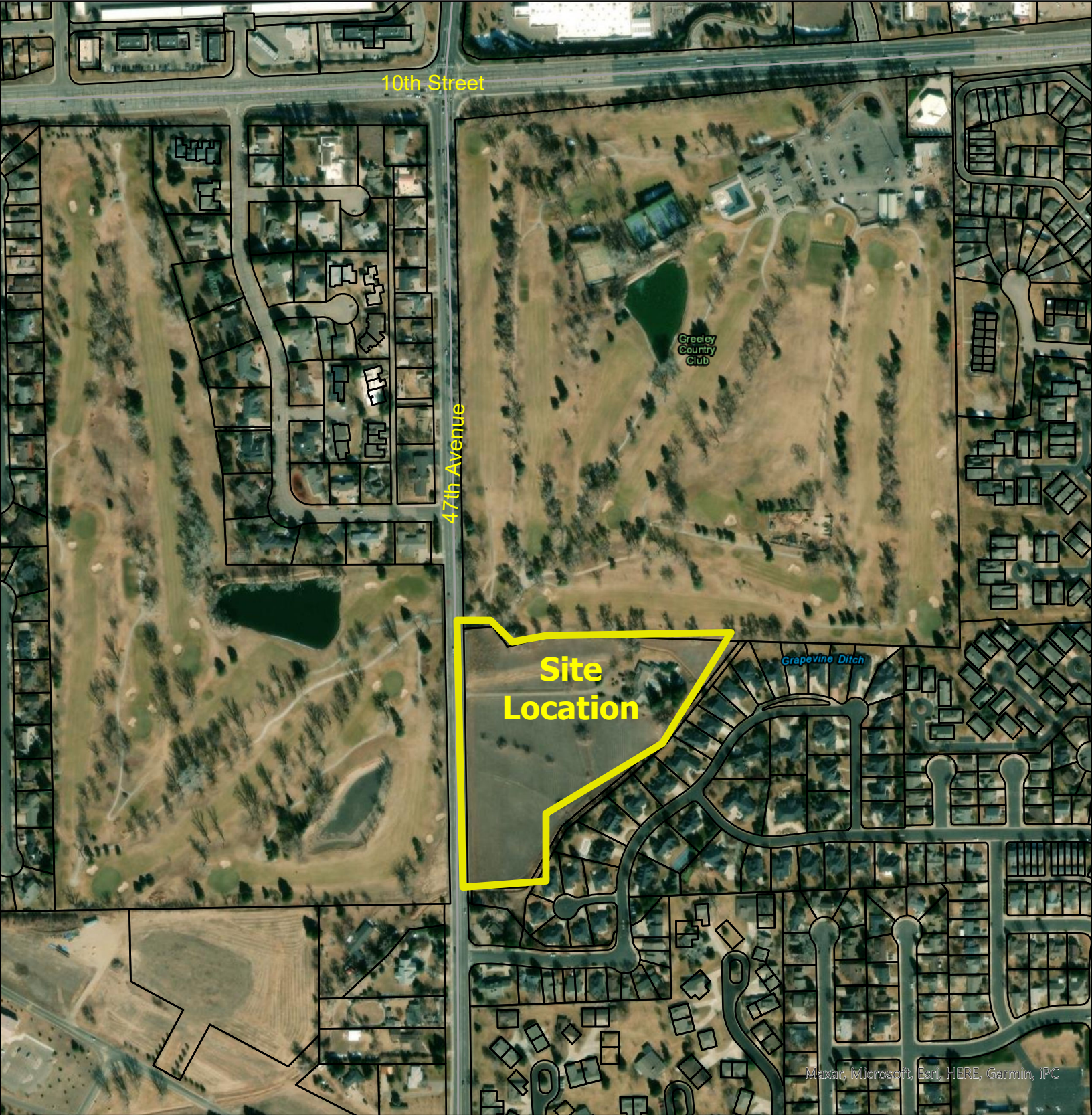
Attachment C – PUD Plan Set

Attachment D – Traffic Impact Study

Attachment E – Neighborhood Notification Boundary Map

Attachment F – Emailed Public Comments

Attachment G – Staff Slides



PROJECT INTENT NARRATIVE

INTRODUCTION

Size:

1318 47th Avenue project proposed at 1318 47th Avenue is intended to be approximately 200 residential units distributed over 10.5 acres, as proposed with the conceptual layout provided the building covers not less than 25% of the buildable area of the site. These residential units are supplemented by both indoor and outdoor amenities such as dining, lounges, activity spaces and fitness areas. Depending on the level of resident care, there are additional functions and offices throughout the plan.

Scale:

The buildings are intended to be one-and two-story massing, with stepping, undulation, and architectural interest. The one-story portions, seen in the Memory Care wing and the Duplex/Casitas are laid out along the Cambridge Glen subdivision adjacencies to mitigate visual impact and preserve sunlight and views for those neighbors.

Density:

The density of the project is intended to adhere to the City of Greeley Residential Development Code for R-H Zoning designation, and as amended.

Design:

The anticipated architectural character of the project uses residential-scale architectural details and familiar character to align with the residential and recreational character of adjacent buildings seen in the single-family homes and country club structures. The intent is to use materials and color palettes that center around wood, metal and shingles, with stone accents. Walking paths and sidewalks in soft surfaces are distributed around the site to encourage seniors to mingle and exercise. The landscaping design will be natural in character with a sensitivity to indigenous plant materials and methods.

Meeting the Intent or Design Objectives of review criteria found in section 24-204.b and 24-205.c of the Development Code:

Sec. 24-204.b Rezoning

b. Review Criteria

1. The proposal is in accordance with the goals and objectives of the Comprehensive Plan and any other plan, policy or guidance adopted pursuant to that plan.
2. The proposal can fulfill the intent of the zoning district considering the relationship to surrounding areas.

Response for b.1 and b.2: The proposed plan for the Residential project at 1318 47th Avenue meets the review criteria for zoning map amendments found in [Section 24-204. Rezoning in the City of Greeley Development Code](#). It provides for review of a zoning change to reflect a change in policies with respect to future development.

The PUD is in accordance with the Comprehensive Plan through the following points:

- *The proposed PUD fulfills the intent of the zoning district R-H, where we proposed a mixture of permitted uses, along with Independent, Assisted Living, and Memory Care on site.*

- *The proposed uses are complementary to the adjacent and surrounding existing uses.*
- *The proposed plan enables development similar in scale, format, and size with the neighboring areas which make it a complementary and compatible plan. The layout of the streetscape, character of the building, use of the outdoor areas, and circulation through the site is complementary to adjacent uses.*
- *The City of Greeley and other agencies will be able to provide all the services and facilities necessary for the anticipated uses in this PUD.*
- *The proposed use will provide an amenity to the neighborhood by fulfilling a much-needed service of senior housing that would not be possible to achieve under the current zoning.*

The project is an infill location, being a great neighbor to both adjacent single family condo neighborhood and country club, being a lower-profile structure that houses a quiet use. This 10+-acre site housed a single-story homestead built in the early 60s that has sat somewhat neglected for many years; the community design is conscious of its location, grouping the two-story portion against the golf course edge, and placing one and two-story massing along the subdivision edge and 47th Avenue.

The anticipated architectural character of the project is to use residential-scale architectural details and familiar character to align with the residential and recreational character of adjacent buildings seen in the single-family homes and country club structures. The intent is to use materials and color palettes that center around wood, metal, asphalt shingles and accented with stone. Walking paths in the form of sidewalks and soft surfaces are distributed around the site to encourage seniors to exercise. The landscaping design will be sensitive to indigenous plant materials and methods.

3. Whether the area changed or is it changing to such a degree that it is in the public interest to rezone the subject property to encourage development or redevelopment of the area.

This project will assist in filling services currently needed for the community's population and facilitate future economic growth potential. The development will create jobs for Greeley workers, service trades and other support teams needed to operate the facility at a high level of service. Residents of Greeley and Northern Colorado will receive all the continuing levels of care provided by this project, which will be a leader in emerging trends of physical and mental wellness, comfort, and security for housing.

4. Whether the existing zoning has been in place for a substantial time without development, and if this indicates the existing zoning is inappropriate given development trends in the vicinity.

For over 50 years, this 10+-acre site was home to a single-family home. It has fallen under neglect and is very outdated. It is not in keeping with the current massing, pattern and character of the adjacent neighborhood and its uses.

5. The proposed zoning will enable development in character with existing or anticipated development in the area considering the design of streets, civic spaces, and other open space; the pattern, scale and format of buildings and sites; and the compatibility and transitions with other complimentary uses and development.

The concept site plan is established to maintain one-story uses along the Cambridge Glen subdivision to be subtle in transition and to provide common, quieter uses adjacent to similar single-family homes with a smaller footprint. The building increases to two-stories along the Greeley Country Club, allowing for many residential units to view the country club and golf course. Landscaping to the site will provide an ample buffer to the

adjacent neighborhood and 47th Ave. by locating building massing well outside the setbacks. The frontage along 47th Avenue was brought back to offer a more pastoral frontage to frame the grand entry.

The site is designed with extensive walkable areas, pathways, and areas where residents can exercise, visit their friends, and enjoy nature. The site is developed to bring nature into the site and engage the buildings. The building interfaces with formal courtyards for dining, quieter courtyards for restive lounging, and areas for outdoor activity ranging from pickleball, bocce, and resident gardening.

6. The City or other agencies have the ability to provide services or facilities that may be necessary for anticipated uses in the proposed district.

This project is a much-needed asset in the Greeley community to provide various levels of care in residential, memory care, assisted living and independent living resident needs.

7. The change will serve a community need, provide an amenity, or accommodate development that is not possible under the current zoning or that was not anticipated at the time of the initial zoning of the property, making the proposed zoning more appropriate than the current zoning.

The City of Greeley has recognized that it needs additional living communities, including, but not limited to: residential, independent living, assisted living and memory care to meet its present and future needs for their residents. This project is positioned to provide residents the latest trends in dining, physical and mental wellness, comfort, and security for residents. By locating this project among established residential and recreational neighbors, it is designed to complement these adjacent uses while thinking forward to meet demands.

8. Any reasonably anticipated negative impacts on the area or adjacent property either are mitigated by sound planning, design and engineering practices or are outweighed by broader public benefits to the surrounding community.

As mentioned above, the location of the buildings, their respective heights and scale at just two stories has been handled in a sensitive way. As the R-H zoning allows for 60' in height, the proposed development will be close to half of that height in just a 2-story mass. The casitas, located along 47th Avenue and the Cambridge Glen border, are all one-story in height. The setbacks are generous, exceeding what is required, particularly along the Cambridge Glen residential area.

9. The recommendation of professional staff or advisory review bodies.

1318 Bridgeforth Acquisitions LLC, the developer of this community, upholds strong and steady financial principles and is seeking potential sites in areas where facilities are needed assets in the community. Residents expectations are for a high quality of life, and the benefits of living in a thriving, financially stable city like Greeley are clear to them and their families. Northern Colorado, particularly Greeley, is an area poised for the future. It will have sustained growth with its population and housing demands increasing thus providing jobs and service careers.

24-205.c Planned Unit Development

c. Review Criteria

1. Generally. Review, recommendations, and decisions for new PUDs shall be based on the following criteria:

(a) The plan reflects greater consistency with or more specificity in implementing the Comprehensive Plan than what could be accomplished under application of general zoning districts and development standards.

(b) The benefits from any flexibility in the proposed plan:

(1) Promote the general public health, safety and welfare of the community, and in particular, that of the areas immediately near or within the proposed project, and is not strictly to benefit the applicant or a single project;

(2) Involves innovative concepts that were not anticipated by the Development Code; or

(3) Apply to a unique or specific context in a manner that allows the project to better meet the intent or design objectives of the base zoning districts and standards.

Response to (b.1), (b.2), and (b.3): The site is adjacent to the Greeley Country Club, which is a great asset for a senior living campus. While not walkable for residents it does provide a pleasant open space with the buildings sited to take advantage of the views and setback for enough to be respectful of the golfers on the fairway and green and keep the building and residents from harm. The building provides setbacks and materials similar to a club house with great golf-course facing courtyards and outdoor areas so there is not a monotonous facade but a thoughtful transition from the site to the golf course. The existing irrigation ditch that ribbons through the southeastern border of the site and irrigates the golf course will be treated as an amenity, reminding residents of the site's farming history.

The residential campus includes a system paths and benches with low-height path lighting and directional signage. These site accessories are typical for such a campus, and will be designed and laid out in a way that establishes a well-proportioned streetscape against the one-and two-story buildings.

Because of the frail nature of the typical resident, the streetscape must meet accessible design standards and be maintained to mitigate any accidents by residents and visitors. Staff are on campus at all times, and residents can be monitored by staffmembers who are trained and know them by name, to make residents feel familiarized.

(c) The plan reflects generally accepted and sound planning and urban design principles with respect to applying the goals and objectives of the Comprehensive Plan in the area.

(d) The plan meets all the review criteria for zoning map amendments in section 24-204.

Response to (1)c and (1)d: Please refer to responses above in the section 24-204.b Review Criteria outline.

2. Minor Amendments to the PUD. Minor amendments to PUDs may be approved by the Director, providing it meets all the criteria for the initial approval of the PUD, and is limited to the following:

(a) Any change in the number of housing units, change in lot sizes or dimensions, or increase in the land of non-residential uses is less than five percent.

Acknowledged.

(b) There is no decrease in the amount of open space or other reduction of amenities from the approved plan.

This PUD complies with R-H Standards.

(c) Any change in a building location is no more than ten percent of the approved distance to adjacent property lines.

We acknowledge this standard.

(d) Any change in the height or square footage of buildings is no more than ten percent of the approved measurements.

Acknowledged.

(e) Any change in a design standard meets the criteria for alternative compliance in section 24-204.

Acknowledged.

(f) Changes to the boundaries of any planning areas do not change the boundaries of the PUD, do not later the mix of uses by more than ten percent in land area or square footage, and otherwise reflect a similar land use plan.

Acknowledged.

(g) The proposed change is consistent with concept plans in the previously approved planned unit development.

Acknowledged.

(h) the development meets all the review criteria for site plans in section 24-207.

Acknowledged.

3. Major Amendments to the PUDs. Changes to previously approved PUDs that exceed allowances for minor amendments may be proposed for a portion of the area under the following criteria:

(a) The proposed change does not create potential impacts on other property in the PUD that are greater than would typically occur in similar zoning districts or contexts; and

Acknowledged.

(b) The process and criteria for the initial approval of a PUD are met.

Acknowledged.

1318 47TH AVENUE PLANNED UNIT DEVELOPEMENT

SITUATED IN THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 11,
TOWNSHIP 5 NORTH, RANGE 66 WEST OF THE 6TH P.M.

CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
1318 47TH AVENUE, GRELEY, COLORADO

PROJECT NUMBER: PUD2022-0007 (11.083 ACRES)



LOCATION MAP

INTENT STATEMENT

THE INTENT OF THIS PUD IS TO ALLOW THE OPERATION OF A RESIDENTIAL SUBURBAN DESIGN SENIOR LIVING CONTINUUM OF CARE FACILITY ON LAND THAT HAS BEEN ESSENTIALLY VACANT FOR THE PAST 20 YEARS. THE DESIGN WILL RESPECT THE ADJACENT NEIGHBORS WITH LIMITED BUILDING HEIGHTS, PATHS AND QUALITY LANDSCAPING. THE PROJECT WILL HAVE VERY LOW TRAFFIC IMPACT ON TRAFFIC AND THE RESIDENTIAL USE IS QUIET AND SUBURBAN IN NATURE. IT WILL PROVIDE MUCH NEEDED INDEPENDENT LIVING SPACE, INCREASED TAX REVENUES, JOBS FOR PROFESSIONAL CARE GIVERS AND TRAINING OPPORTUNITIES FOR LOCAL UNIVERSITY AND COLLEGES AND OTHER STUDENTS. THE PUD IS INTENDED TO ALLOW FOR R-H ZONING USES IN ACCORDANCE WITH THE CITY OF GREELEY'S DEVELOPMENT CODE, SEE DEVELOPMENT STANDARDS TABLE ON SHEET 5 FOR ADDITIONAL REQUIREMENTS.

CONTACT LIST

OWNER/CLIENT	1318 BRIDGEFORTH ACQUISITION LLC. JEFFERY MARTIN 280 DETROIT STREET DENVER, CO 80206
CIVIL ENGINEER/SURVEYOR	LAMP RYNEARSON TROY SPRAKER 4715 INNOVATION DRIVE TROY SPRAKER, PE OFFICE: 970-226-0342
ARCHITECT	HORD COPLAN MACHT LIZ PETERSON 1800 WAZEE STREET, SUITE 450 DENVER, CO 80202 303.222.0217 WWW.HCM2.COM

PLANNED UNIT DEVELOPMENT STANDARD NOTES

- 1.APPROVAL OF SITE CONSTRUCTION PLANS BY THE CITY OF GREELEY SHALL BE REQUIRED (AS APPLICABLE) PRIOR TO ISSUANCE OF BUILDING PERMITS.
- 2.SIGNAGE SHOWN ON THIS PLAN IS FOR ILLUSTRATIVE PURPOSES ONLY. A SEPARATE SIGN PERMIT SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL.
- 3.ALL EXISTING AND PROPOSED UTILITIES SHALL BE INSTALLED UNDERGROUND.
- 4.NO BUILDING PERMIT SHALL BE ISSUED FOR THE CONSTRUCTION OF A NEW BUILDING OR STRUCTURE UNLESS THE PROPERTY HAS BEEN PLATTED IN ACCORDANCE WITH THE CITY'S SUBDIVISION REGULATIONS (CHAPTER 3).
- 5.ALL ELEVATIONS SHOWN ON THESE PLANS ARE TIED TO NAVD 88 DATUM.

PLANNED UNIT DEVELOPMENT CERTIFICATION BLOCK

THIS PLANNED UNIT DEVELOPMENT (PUD) HAS BEEN REVIEWED AND FOUND TO BE COMPLETE AND IN ACCORDANCE WITH THE CITY OF GREELEY DEVELOPMENT CODE REGULATIONS.

BRIDGEFORTH ACQUISITIONS LLC.

BY: _____
(SIGNATURE)

TITLE: _____

DATE: _____

CITY COUNCIL APPROVAL

APPROVED BY THE GREELEY CITY COUNCIL ON THIS _____ DAY OF _____, 20_____.

PLANNING COMMISSION RECOMMENDATION

RECOMMENDED / NOT RECOMMENDED BY THE CITY OF GREELEY PLANNING COMMISSION, THIS _____DAY OF _____, 20_____.

COMMUNITY DEVELOPMENT DIRECTOR

BY: _____
(SIGNATURE)

DIRECTOR OF COMMUNITY DEVELOPMENT

DATE: _____

**LAMP
RYNEARSON**

OMAHA, NEBRASKA
14710 W. DODGE RD. STE. 100 (402)496.2498

FORT COLLINS, COLORADO
4715 INNOVATION DR., STE. 100 (970)226.0342

KANSAS CITY, MISSOURI
9001 STATE LINE RD., STE. 200 (816)361.0440

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SHEET NUMBER	SHEET TITLE
1	COVER
2	EXISTING CONDITIONS MAP
3	MASTER DEVELOPEMENT PLAN AND GENERAL LAYOUT
4	DETAILED PLANS
5	DETAILS
6	STATEMENTS OF COMMITMENTS

LEGAL DESCRIPTION

REFERENCED FROM: FIDELITY NATIONAL TITLE INSURANCE COMPANY, A FLORIDA CORPORATION, FILE NUMBER 100-N0038557-020-JY, AMENDMENT NO. 2, DATED OCTOBER 31, 2022. THE DESCRIPTION IS SHOWN BELOW:

ALL THE LAND CONTAINED WITHIN TWO (2) DEEDS RECORDED ON OCTOBER 1, 1951 AS RECEPTION #1115211 AND JUNE 17, 1960 AS RECEPTION #1332327 SITUATED IN THE WEST HALF (W1/2) OF THE NORTHWEST QUARTER (NW1/4) OF SECTION ELEVEN (11), TOWNSHIP FIVE NORTH (T5N), RANGE SIXTY-SIX WEST (R66W), OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.), CITY OF GREELEY, COUNTY OF WELD, AND THE STATE OF COLORADO. THE BOUNDARY LINE AGREEMENT CONTAINED IN A DOCUMENT RECORDED ON FEBRUARY 9, 1990 AS RECEPTION #2205006 CLARIFIES THE NORTH BOUNDARY LINE OF SAID PARCEL.

EXCEPTING THEREFROM A PARCEL OF LAND CONVEYED IN WARRANTY DEED RECORDED ON AUGUST 30, 1994 AS RECEPTION #2404645.

SAID PARCEL OF LAND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PARCEL OF LAND TO BE USED AS A PLANNED UNIT DEVELOPMENT BEING SITUATED IN THE WEST HALF (W1/2) OF THE NORTHWEST QUARTER (NW1/4) OF SECTION ELEVEN (11), TOWNSHIP FIVE NORTH (T5N), RANGE SIXTY-SIX WEST (R66W), OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.), CITY OF GREELEY, COUNTY OF WELD, AND THE STATE OF COLORADO MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF SECTION ELEVEN (11), TOWNSHIP FIVE NORTH (T5N), RANGE SIXTY-SIX WEST (R66W), OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.) AND ASSUMING THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 11 BEARS NORTH 00°29'18" WEST FOR A DISTANCE OF 2610.33 FEET, BEING MONUMENTED AT THE WEST QUARTER CORNER BY A #6 REBAR WITH A 3-1/4" ALUMINUM CAP STAMPED "LS 7242 - 1994" IN A RANGE BOX, AND AT THE NORTHWEST CORNER OF SAID SECTION 11 BY A #6 REBAR WITH A 3-1/4" ALUMINUM CAP STAMPED "LS 10855 - 1998" IN A RANGE BOX, AND WITH ALL BEARINGS HEREIN RELATIVE THERETO;

THENCE ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 11 NORTH 00°29'18" WEST FOR A DISTANCE OF 44.67 FEET TO THE POINT OF BEGINNING;

THENCE CONTINUING ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 11 NORTH 00°29'18" WEST FOR A DISTANCE OF 856.77 FEET;
THENCE LEAVING THE SAID WEST LINE NORTH 89°30'42" EAST FOR A DISTANCE OF 50.00 FEET TO THE EAST RIGHT-OF-WAY OF 47TH AVENUE PER GRANT OF RIGHT-OF-WAY DOCUMENT RECORDED ON OCTOBER 15, 1991 AS RECEPTION NO. 2269430, SAID POINT ALSO BEING ON THE NORTH LINE OF A PARCEL DESCRIBED IN A DEED RECORDED ON JUNE 17, 1960 AS RECEPTION #1332327 OF THE WELD COUNTY RECORDS;

THENCE ON THE NORTH BOUNDARY LINE OF SAID DEED THE FOLLOWING SIX (6) COURSES;

1. THENCE NORTH 84°58'34" EAST FOR A DISTANCE OF 84.98 FEET;
2. THENCE SOUTH 35°10'14" EAST FOR A DISTANCE OF 80.96 FEET;
3. THENCE NORTH 76°42'08" EAST FOR A DISTANCE OF 161.92 FEET;
4. THENCE SOUTH 86°03'39" EAST FOR A DISTANCE OF 220.68 FEET;
5. THENCE SOUTH 88°10'49" EAST FOR A DISTANCE OF 382.28 FEET TO THE NORTH-WESTERLY CORNER OF THE CAMBRIDGE GLEN SUBDIVISION RECORDED ON JULY 18, 1995 AS RECEPTION #2447056;

THENCE ON THE WESTERLY BOUNDARY LINE OF THE SAID CAMBRIDGE GLEN SUBDIVISION FOR THE FOLLOWING FIVE (5) COURSES;

1. THENCE SOUTH 38°23'42" WEST FOR A DISTANCE OF 409.53 FEET,
2. THENCE SOUTH 47°55'52" WEST FOR A DISTANCE OF 174.21 FEET;
3. THENCE SOUTH 50°33'26" WEST FOR A DISTANCE OF 262.17 FEET;
4. THENCE SOUTH 30°04'38" WEST FOR A DISTANCE OF 232.42 FEET;
5. THENCE SOUTH 89°11'19" WEST FOR A DISTANCE OF 181.22 FEET TO THE EAST RIGHT-OF-WAY OF 47TH AVENUE;

THENCE SOUTH 89°30'42" WEST FOR A DISTANCE OF 50.00 FEET TO THE POINT OF BEGINNING.

SAID DESCRIBED PARCEL OF LAND CONTAINS A TOTAL OF 482,783 SQ. FT. OR 11.083 ACRES, MORE OR LESS, AND IS SUBJECT TO ANY EXISTING EASEMENTS AND RIGHTS OF WAYS OF RECORD OR AS NOW EXISTING ON SAID DESCRIBED PARCEL OF LAND.

PROJECT CONTROL

CONTROL POINT #99: 5/8" X 24" REBAR WITH A 1 1/4" ORANGE PLASTIC CAP, STAMPED: "CONTROL POINT"
N: 460492.443 LAT: 40°24'57.504467"N
E: 575080.281 LONG: 104°45'22.096083"W
EL: 4848.796

HORIZONTAL DATUM
NORTH AMERICAN DATUM OF 1983 (2011);

THIS PROJECT IS IN A CUSTOM LOW-DISTORTION PROJECTION, THE PARAMETERS OF THE PROJECTION ARE SHOWN BELOW:

PROJECTION TYPE: TRANSVERSE MERCATOR
LATITUDE AT ORIGIN: 40°15'00"N
CENTRAL MERIDIAN: 104°40'00"W
FALSE NORTING: 400000.000 USF
FALSE EASTING: 600000.000 USF
GRID SCALE FACTOR: 1.00024000266

VERTICAL DATUM
NORTH AMERICAN VERTICAL DATUM OF 1988,
ELEVATIONS ARE ESTABLISHED THROUGH GNSS MEASUREMENTS USING GEOID MODEL 18, AND THE GREELEY VERTICAL CONTROL NETWORK.

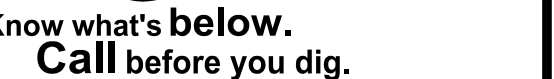
BENCHMARKS:
GREELEY BENCHMARK REFERENCE NO. 10, PUBLISHED EL=4796.89
GREELEY BENCHMARK REFERENCE NO. 22, PUBLISHED EL=4804.89



NOT RELEASED FOR CONSTRUCTION

EXISTING CONDITIONS MAP

1318 47TH AVENUE PUD
GREELEY, COLORADO



REVISIONS

DESIGNER / DRAFTER

PM

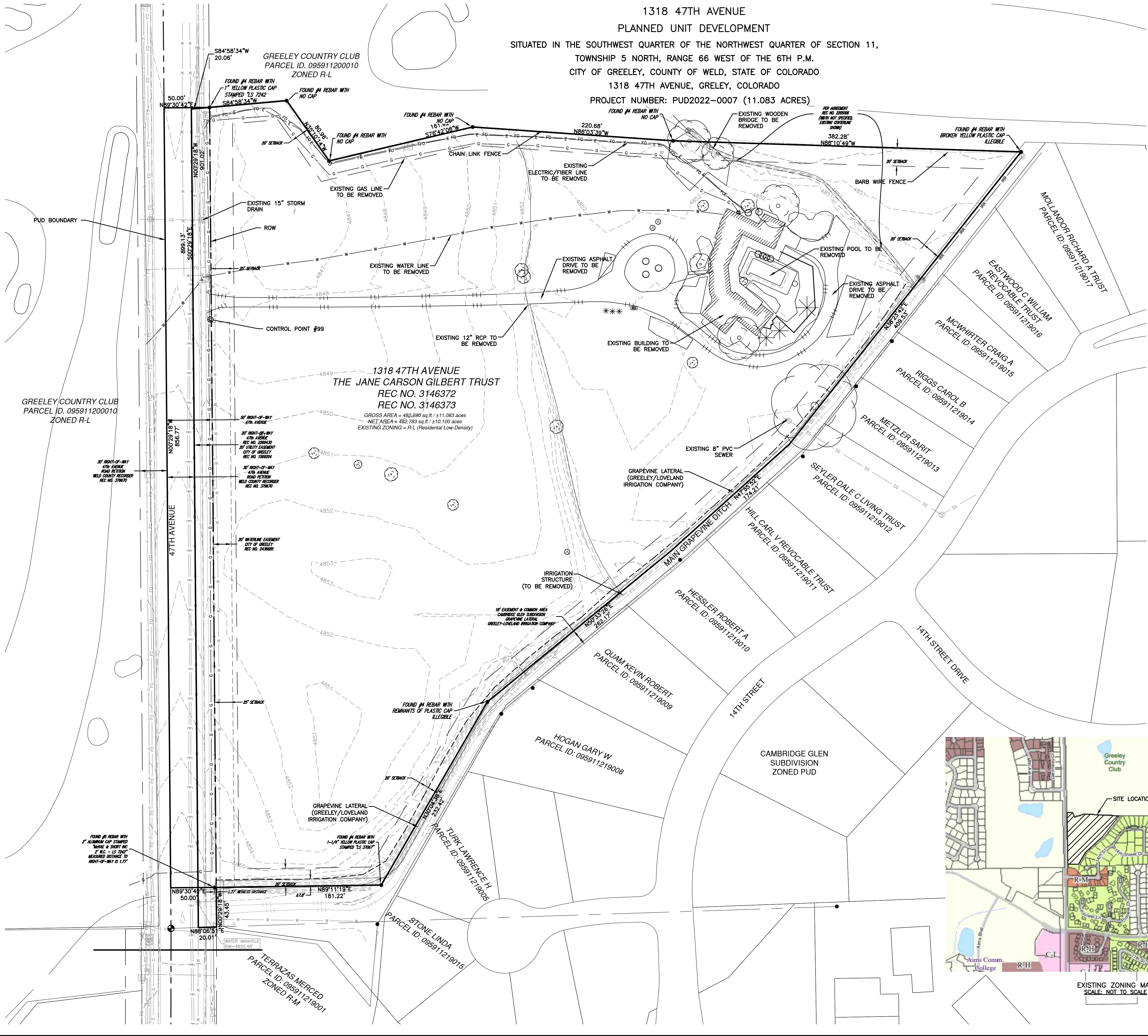
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SHEET

2 OF 6



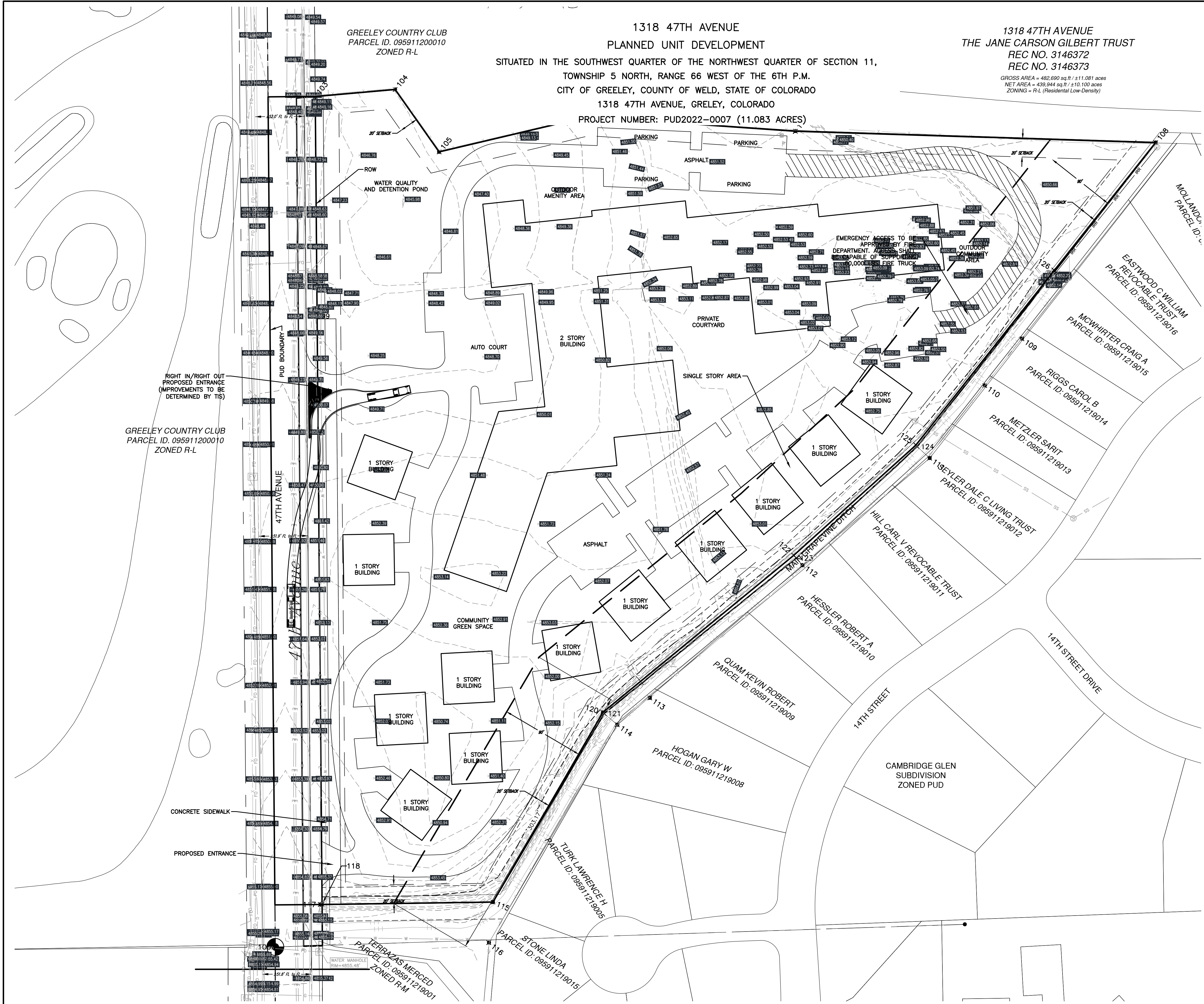
SITE LEGEND:

- | | |
|---|-------------------------------|
|  | EXISTING FIBER OPTIC LINE |
|  | EXISTING WATER LINE |
|  | EXISTING ELECTRICAL LINE |
|  | EXISTING GAS LINE |
|  | EXISTING OVERHEAD POWER LINES |
|  | EXISTING FENCE |
|  | EXISTING CONTOUR |
|  | RIGHT OF WAY |
|  | PUD BOUNDARY |

BASIS OF BEARING: AT THE WEST QUARTER CORNER OF SECTION ELEVEN (11), TOWNSHIP FIVE NORTH (T5N), RANGE SIXTY-SIX WEST (R66W), OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.) AND ASSUMING THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 11 BEARS NORTH 00°29'18" WEST FOR A DISTANCE OF 2610.33 FEET, BEING MONUMENTED BY AN ALUMINUM CAP STAMPED "LS 7242 - 1994" IN A RANGE BOX, AND AT THE NORTHWEST CORNER OF SAID SECTION 11 BY A #6 REBAR WITH A 3-3/4" ALUMINUM CAP STAMPED "LS 10855 - 1998" IN A RANGE BOX, AND WITH ALL BEARINGS HEREIN RELATIVE THERETO.



EXISTING ZONING MAP
SCALE: NOT TO SCALE



1318 47TH AVENUE
PLANNED UNIT DEVELOPMENT
SITUATED IN THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 11,
TOWNSHIP 5 NORTH, RANGE 66 WEST OF THE 6TH P.M.
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
1318 47TH AVENUE, GRELEY, COLORADO
PROJECT NUMBER: PUD2022-0007 (11.083 ACRES)

1318 47TH AVENUE
THE JANE CARSON GILBERT TRUST
REC NO. 3146372
REC NO. 3146373
GROSS AREA = 482,690 sq.ft. ± 11.081 acres
NET AREA = 438,944 sq.ft. ± 10.100 acres
ZONING = R-L (Residential Low-Density)

SITE LEGEND:

- FO EXISTING FIBER OPTIC LINE
- W EXISTING WATER LINE
- E EXISTING ELECTRICAL LINE
- G EXISTING GAS LINE
- OHP EXISTING OVERHEAD POWER LINES
- X EXISTING FENCE
- G PROPOSED GAS LINE (APPROXIMATE LOCATION)
- W PROPOSED WATER LINE
- SS PROPOSED SANITARY SEWER LINE
- E PROPOSED ELECTRIC LINE (APPROXIMATE LOCATION)

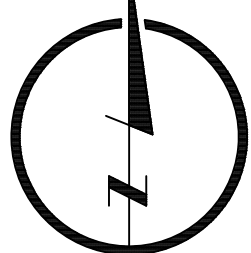
NOTES:

- LAYOUT SHOWN IS FOR CONCEPT ONLY
- INTERNAL ACCESS ROAD SHALL BE IN ACCORDANCE TO THE CITY OF GREELEY DETAIL S-1, (LOCAL LOW VOLUME)

LAMP
RYNEARSON

LAMPRYNEARSON.COM

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9001 STATE LINE RD., STE. 200 (816)351.0440



PRELIMINARY

NOT RELEASED FOR CONSTRUCTION

MASTER DEVELOPMENT PLAN AND GENERAL LAYOUT

1318 47TH AVENUE PUD
GREELEY, COLORADO



Know what's below.
Call before you dig.

REVISIONS

NO.	DESCRIPTION	DATE

DESIGNER / DRAFTER

JPM

DATE

11/18/2022

PROJECT NUMBER

0222029

BOOK AND PAGE

MISSOURI AUTHORIZATION NUMBER

LAMP RYNEARSON LS-2019043127

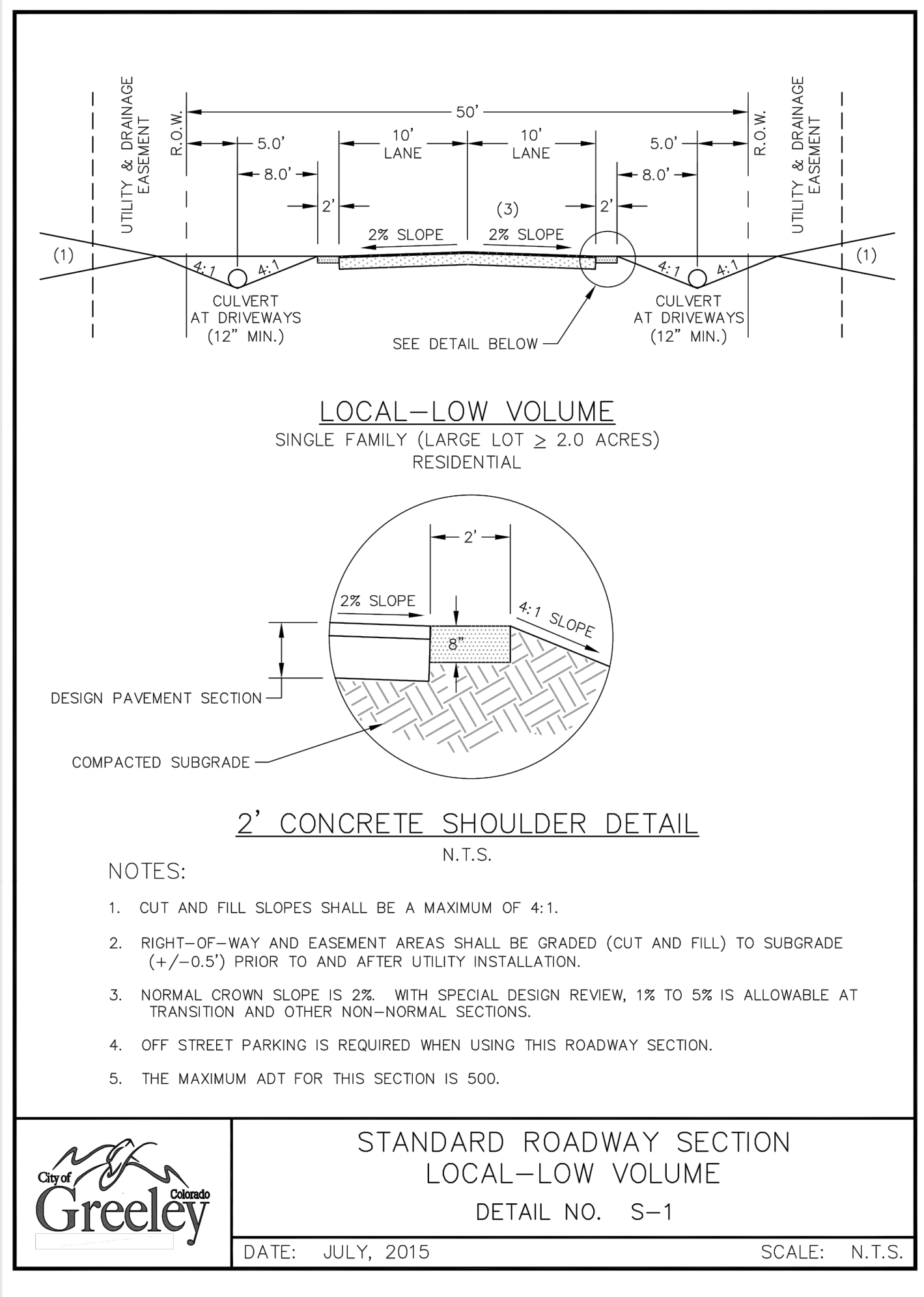
SHEET

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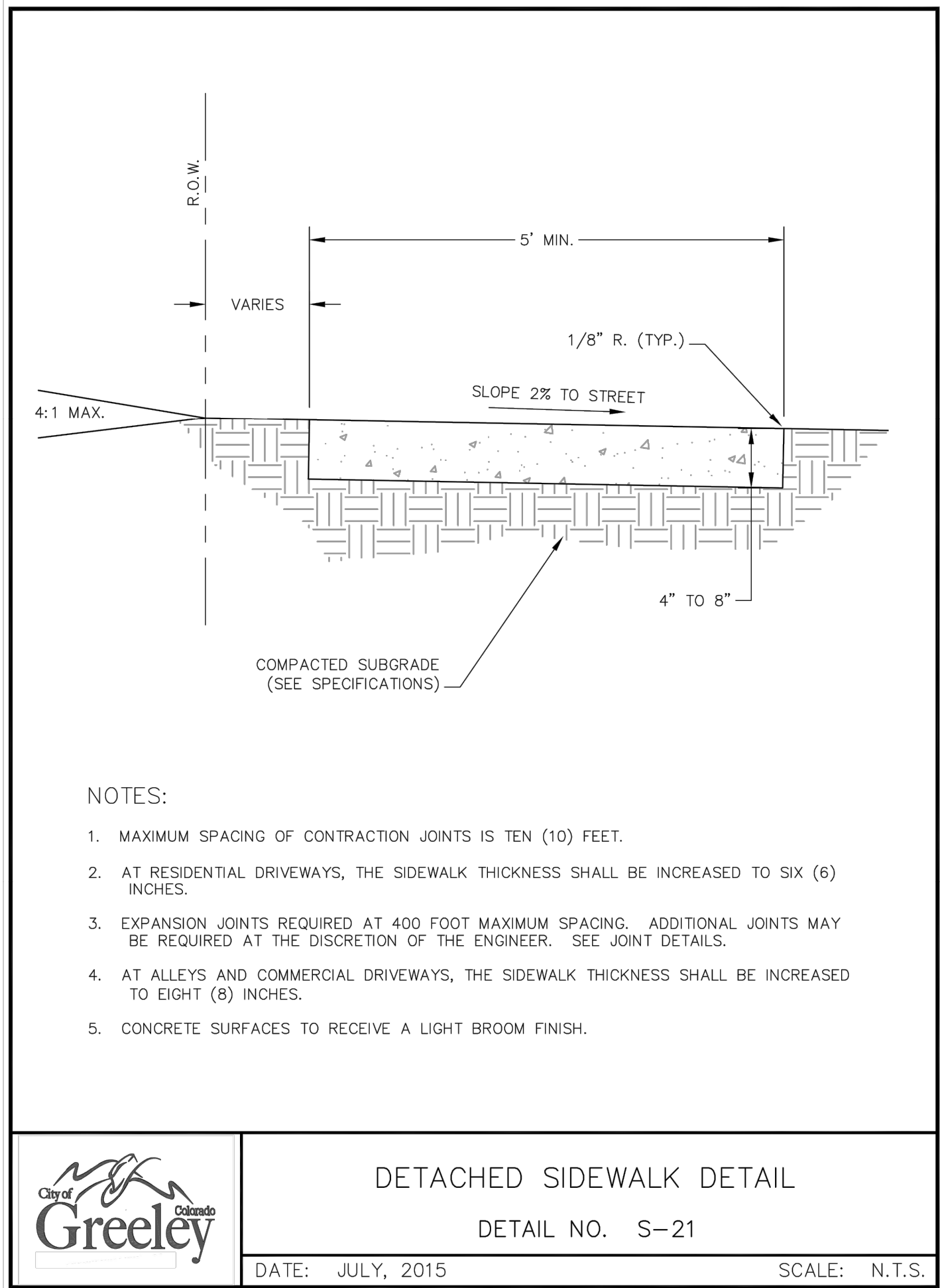
SITE SUMMARY

	USE	ACRES	DWELLING UNITS	DENSITY/FAR	% OF ACERAGE
PERMITTED USE	RESIDENTIAL HIGH (R-H) AND INDEPENDENT LIVING/ ASSISTED LIVING/ MEMORY CARE USES AND ALLOWANCES IN ACCORDANCE WITH THE CITY OF GREELEY'S DEVELOPMENT CODE, AND AS AMENDED	TOTAL ACRES 11.083	152 UNITS	0.31 DENISITY	100%

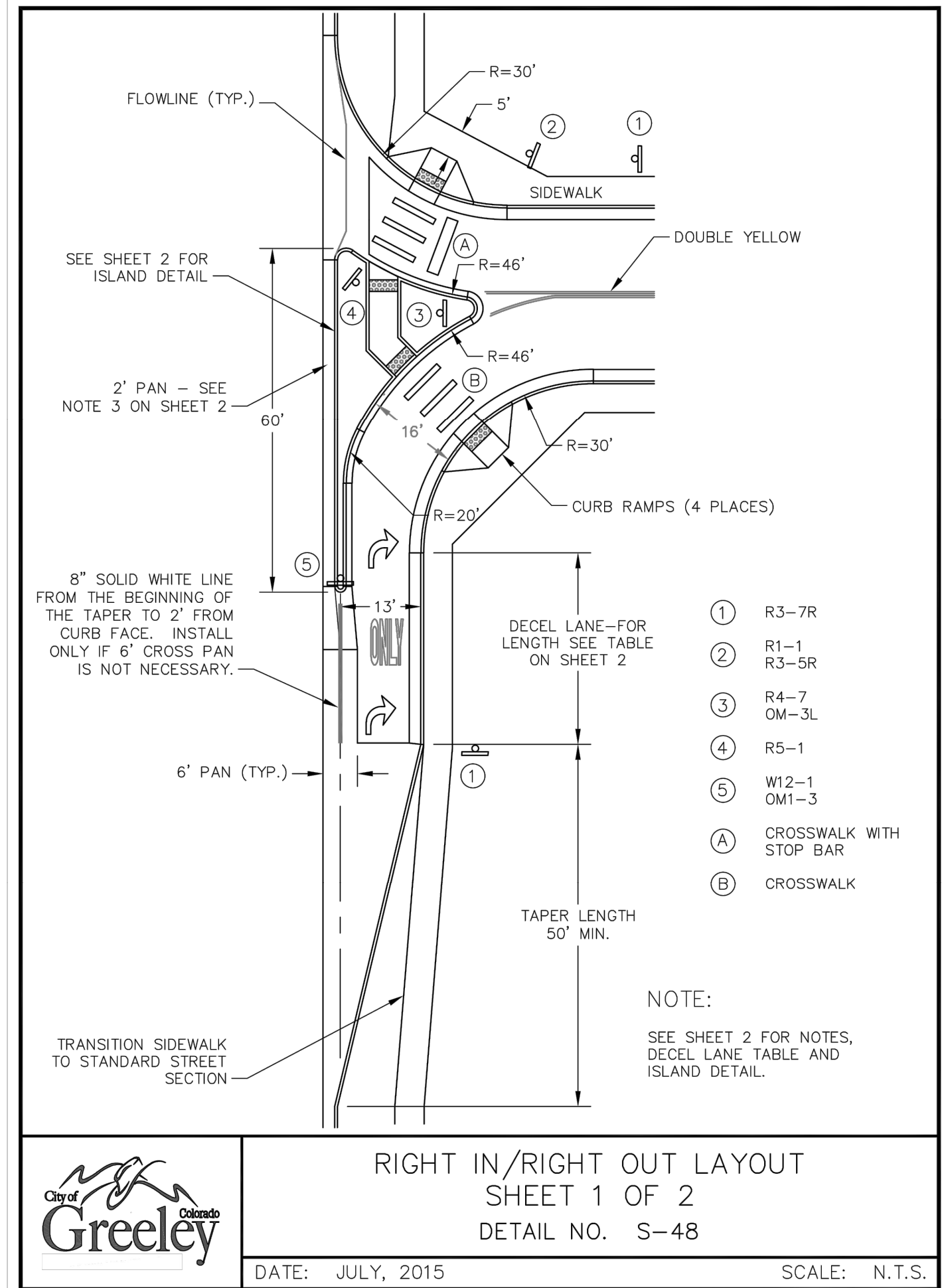
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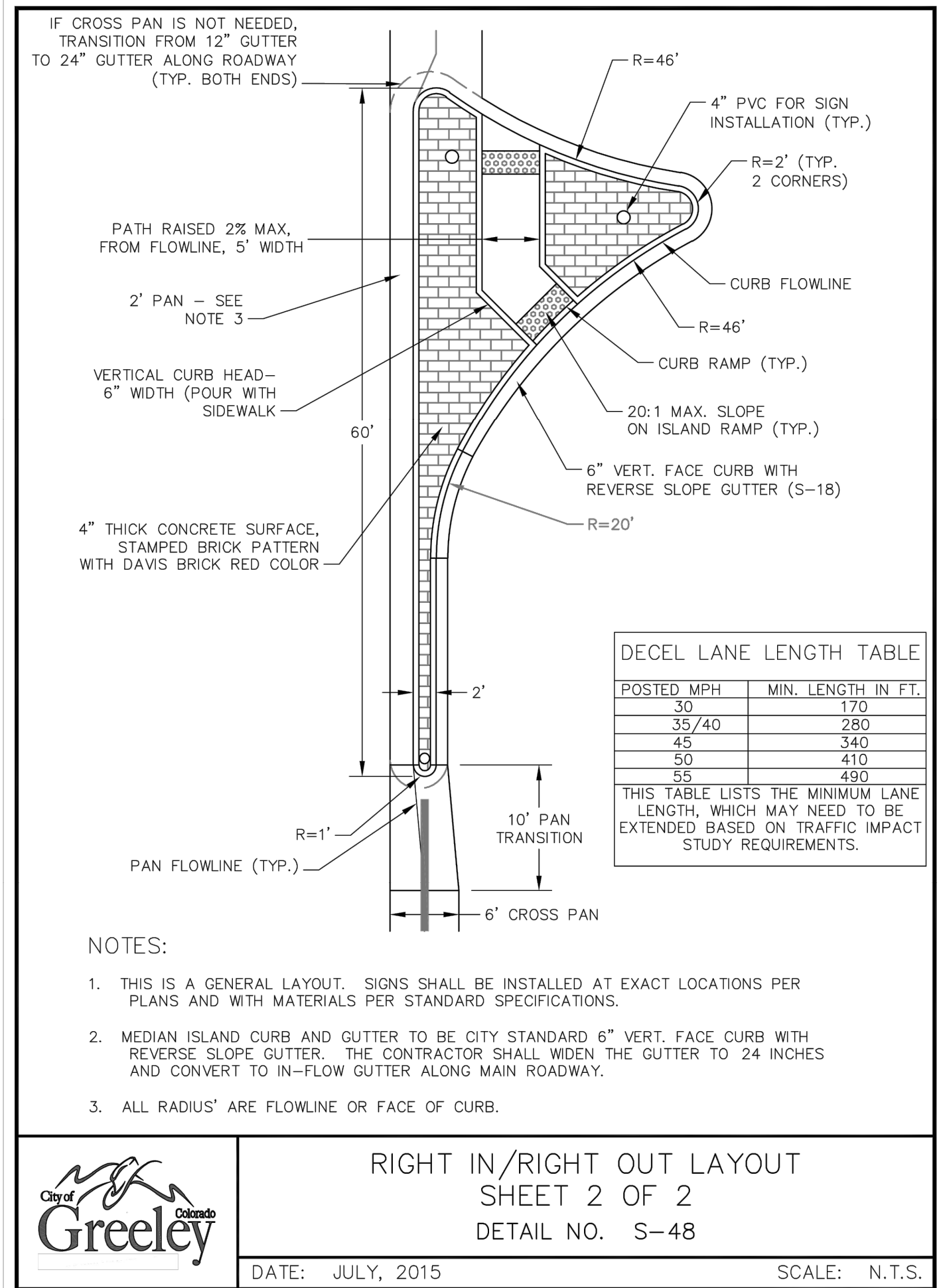
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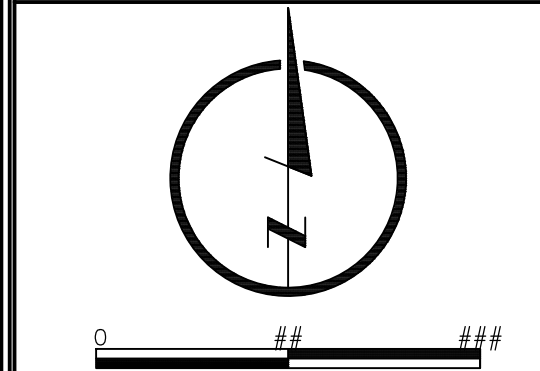
Page 196

1318 47TH AVENUE
PLANNED UNIT DEVELOPMENT
SITUATED IN THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 11,
TOWNSHIP 5 NORTH, RANGE 66 WEST OF THE 6TH P.M.
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
1318 47TH AVENUE, GRELEY, COLORADO
PROJECT NUMBER: PUD2022-0007 (11.083 ACRES)

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PRELIMINARY

NOT RELEASED FOR CONSTRUCTION

DETAILS

1318 47TH AVENUE PUD
GREELEY, COLORADO



Know what's below.
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REVISIONS

DESIGNER / DRAFTER
JPM
DATE
11/18/2022
PROJECT NUMBER
0222029
BOOK AND PAGE

SHEET

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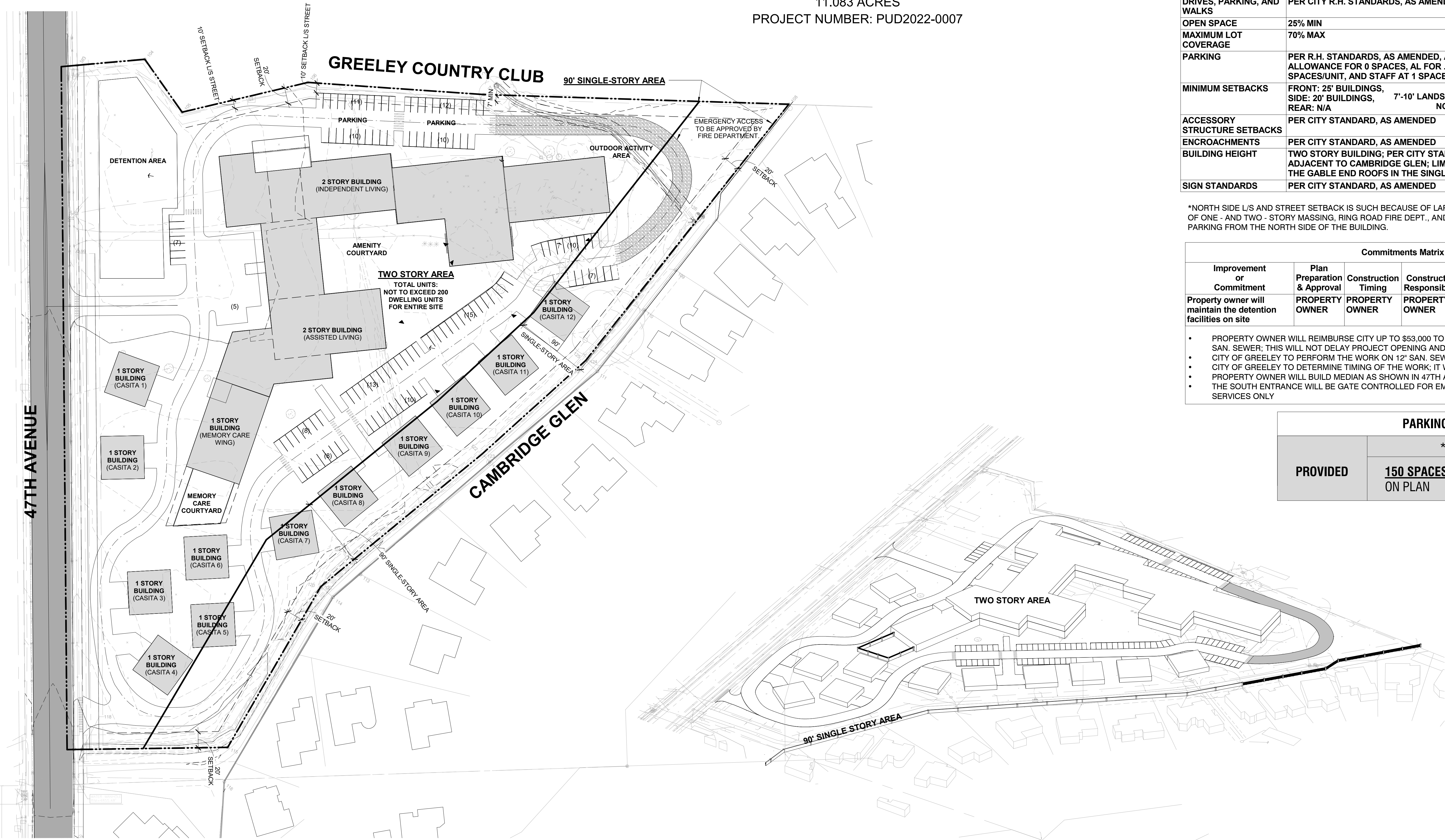
1318 47TH AVENUE
PLANNED UNIT DEVELOPMENT

SITUATED IN THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 11,
TOWNSHIP 5 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO

1318 47TH AVENUE, GREELEY, COLORADO

11.083 ACRES

PROJECT NUMBER: PUD2022-0007



CONCEPTUAL SITE PLAN FOR AREA REFERENCES

SCALE: 1" = 60'

3D AXONOMETRIC

*LAYOUT SHOWN IS FOR CONCEPT ONLY

Development Standards	
DESCRIPTION	PROPOSED
PLANNING AREA	11.083 ACRES
PERMITTED USES	PER CITY R.H. STANDARDS, AS AMENDED, RESIDENTIAL CARE - GROUP HOME, ASSISTED LIVING, SENIOR INDEPENDANT LIVING, MEMORY GENERAL, INSTITUTIONAL, AND PERMITTED USES IN THE R.H. (RESIDENTIAL HIGH-DENSITY) ZONING DISTRICT FOR SINGLE-FAMILY, TWO-FAMILY, ROW HOUSES, MULTI-FAMILY AND ACCESSORY DWELLINGS.
USES NOT ALLOWED	COMMERCIAL/ INDUSTRIAL
MINIMUM LOT AREA	PER CITY R.H. STANDARDS, AS AMENDED
DENSITY	MAXIMUM TWENTY (20) DWELLING UNITS/ACRE
BUILDING COVERAGE	PER CITY R.H. STANDARDS, AS AMENDED
DRIVES, PARKING, AND WALKS	PER CITY R.H. STANDARDS, AS AMENDED
OPEN SPACE	25% MIN
MAXIMUM LOT COVERAGE	70% MAX
PARKING	PER R.H. STANDARDS, AS AMENDED, AND WITH EXCEPTION OF MEMORY CARE ALLOWANCE FOR 0 SPACES, AL FOR .70/SPACES PER UNIT, IL FOR 1.15 SPACES/UNIT, AND STAFF AT 1 SPACE/10 UNITS
MINIMUM SETBACKS	FRONT: 25' BUILDINGS, 7'-10' LANDSCAPE AT DRIVES AND PARKING AT SIDE: 20' BUILDINGS, NORTH SIDE (SEE PLANS)* REAR: N/A
ACCESSORY STRUCTURE SETBACKS	PER CITY STANDARD, AS AMENDED
ENCROACHMENTS	PER CITY STANDARD, AS AMENDED
BUILDING HEIGHT	TWO STORY BUILDING; PER CITY STANDARD, AS AMENDED - SINGLE STORY ADJACENT TO CAMBRIDGE GLEN; LIMIT ROOF HEIGHTS TO THE MID-LINE OF THE GABLE END ROOFS IN THE SINGLE STORY TO 21'.
SIGN STANDARDS	PER CITY STANDARD, AS AMENDED

*NORTH SIDE L/S AND STREET SETBACK IS SUCH BECAUSE OF LARGE FOOTPRINT DUE TO CONSIDERATION OF ONE - AND TWO - STORY MASSING, RING ROAD FIRE DEPT., AND FOR EASE OF SENIORS' ACCESS TO PARKING FROM THE NORTH SIDE OF THE BUILDING.

Commitments Matrix					
Improvement or Commitment	Plan Preparation & Approval	Construction Timing	Construction Responsibility	Maintenance Responsibility	Property Ownership
Property owner will maintain the detention facilities on site	PROPERTY OWNER	PROPERTY OWNER	PROPERTY OWNER	PROPERTY OWNER	PER PROPERTY DEED
- PROPERTY OWNER WILL REIMBURSE CITY UP TO \$53,000 TO A LARGER CIP FUND FOR UPGRADING 12" SAN. SEWER; THIS WILL NOT DELAY PROJECT OPENING AND WILL BE PAID AT BLDG. PERMIT. - CITY OF GREELEY TO PERFORM THE WORK ON 12" SAN. SEWER MAIN. - CITY OF GREELEY TO DETERMINE TIMING OF THE WORK; IT WILL NOT DELAY THE PROJECT. - PROPERTY OWNER WILL BUILD MEDIAN AS SHOWN IN 47TH AVENUE PRIOR TO PROJECT OPENING. - THE SOUTH ENTRANCE WILL BE GATE CONTROLLED FOR EMERGENCY ACCESS AND TRUCK SERVICES ONLY					

PARKING COUNT	
PROVIDED	*SURFACE PARKING
	150 SPACES PER 152 UNITS AS SHOWN ON PLAN

hord | coplan | macht

1800 Wazee Street, Suite 450
Denver, CO 80202

P 303.607.0977
www.hcm2.com

STATEMENT OF COMMITMENTS

SHEET 6 OF 6

A1.06

PUD2022-0007

Memorandum

To: Brittany Hathaway, Development Review and Civil Inspection Manager

From: Jeff Vasquez
Matt Brown PE, PTOE

Date: November 4, 2022

Re: 1318 47th Ave, Greeley - Senior Living Facility
Traffic Impact Study

Stolfus & Associates has conducted a traffic analysis to determine the Level of Service that would result from adding a right in right out access point on 47th Avenue for the proposed Senior Living Facility located at 1318 47th Avenue. As currently envisioned, the facility will be a senior living community that provides assisted living, independent living, and memory care living as well as duplexes for separated independent living. Surface parking will be incorporated within the facility; 136 general spaces and an additional 24 spaces for the duplexes.

Traffic Generation

The Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition was used to estimate the number of vehicles that will result from the proposed senior living facility. ITE land uses 251 (Senior Adult Housing – Detached), 252 (Senior Adult Housing – Attached), and 254 (Assisted Living) were used to estimate trip generations.

In total, the development can be expected to generate 43 trips (19 inbound and 24 outbound) in the weekday a.m. peak hour, and 54 trips (27 inbound and 27 outbound) in the weekday p.m. peak hour. The total number of trips generated over the course of a typical weekday is estimated to be 628.

Land Use	ITE Code	Units	Beds	Trips Generated		
				Daily	AM Peak Hr (In / Out)	PM Peak Hr (In / Out)
Memory Care / Assisted Living	254	56	66*	172	8 / 5	6 / 11
Independent Living – Attached	252	80*	N/A	296	6 / 10	11 / 10
Independent Living - Detached	251	24*	N/A	160	5 / 9	10 / 6
Total		160		628	19 / 24	27 / 27

*Independent variable used to estimate trips generated

Given that access to the site is proposed as a right-in, right-out, the assignment of traffic volumes to the access was straightforward (for example, during the weekday a.m. peak hour, there would be 19 right turns into the site and 24 right turns out of the site).

Level of Service Analysis

Traffic operations using the vehicle counts and trip generations were evaluated using the Highway Capacity Manual, 6th Edition (HCM6) methods as applied in the Highway Capacity Software. The table below shows the traffic operation at the proposed stop-controlled intersection.

AM			PM		
Movement	LOS	V/C	Movement	LOS	V/C
WBR	A	0.03	WBR	B	0.05

The stop-controlled intersection at 47th Ave and the proposed Greeley Senior Living Facility is expected to operate at a LOS A in the AM peak and LOS B in the PM peak, indicating that the intersection will operate well with minimum delays.

Auxiliary Lane Analysis

The City of Greeley *Design Criteria and Construction Specifications* manual indicates that the need for deceleration lanes will be determined by a traffic impact study and the City Engineer.

Weld County provides auxiliary lane criteria in their *Weld County Engineering and Construction Criteria* manual that is based upon the Colorado Department of Transportation's *State Highway Access Code*. However, the County's criteria are for rural highways. The subject property is located within the City of Greeley in an urbanized environment.

For this reason, State Highway Access Code criteria for NR-B (non-rural arterial) highways was used to determine whether auxiliary lane warrants are met at the access. For NR-B highways, Section 311.4(b) of the Code states:

"A right turn lane with storage length plus taper is required for any access with a projected peak hour right ingress turning volume greater than 50 vph. If the posted speed is greater than 40 mph, a right turn deceleration lane and taper is required for any access with a projected peak hour right ingress turning volume greater than 25 vph."

As the posted speed limit along 47th Avenue is 40 mph, and the number of right-turning vehicles at the access is estimated to be less than 50 vph, a right-turn deceleration lane is not warranted.

Attachments

Attachments to this memorandum include existing traffic volume data and highway capacity worksheets.

Site Code: 1
Station ID: 1
47TH AVE N/O 16TH ST

Start Time	28-Sep-22 Wed	NB	SB	Total
12:00 AM		20	30	50
01:00		15	16	31
02:00		8	10	18
03:00		19	17	36
04:00		45	50	95
05:00		104	148	252
06:00		233	273	506
07:00		396	626	1022
08:00		379	570	949
09:00		350	494	844
10:00		438	599	1037
11:00		560	597	1157
12:00 PM		511	517	1028
01:00		468	517	985
02:00		556	561	1117
03:00		642	713	1355
04:00		626	595	1221
05:00		676	663	1339
06:00		454	488	942
07:00		411	309	720
08:00		299	213	512
09:00		185	135	320
10:00		89	70	159
11:00		50	31	81
Total		7534	8242	15776
Percent		47.8%	52.2%	
AM Peak	-	11:00	07:00	- - - - - 11:00
Vol.	-	560	626	- - - - - 1157
PM Peak	-	17:00	15:00	- - - - - 15:00
Vol.	-	676	713	- - - - - 1355
Grand Total		7534	8242	15776
Percent		47.8%	52.2%	
ADT		ADT 15,776	AADT 15,776	

HCS Two-Way Stop-Control Report

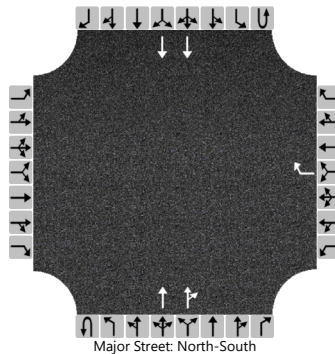
General Information

Analyst	
Agency/Co.	
Date Performed	10/18/2022
Analysis Year	2022
Time Analyzed	
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	47th Ave and Greeley Country Club
Jurisdiction	
East/West Street	Greeley Country Club
North/South Street	47th Ave
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	2	0	0	0	2	0
Configuration								R			T	TR			T	
Volume (veh/h)								24			411	19			684	
Percent Heavy Vehicles (%)								3								
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized					No											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)								6.9								
Critical Headway (sec)								6.96								
Base Follow-Up Headway (sec)								3.3								
Follow-Up Headway (sec)								3.33								

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								26								
Capacity, c (veh/h)								765								
v/c Ratio								0.03								
95% Queue Length, Q ₉₅ (veh)								0.1								
Control Delay (s/veh)								9.9								
Level of Service (LOS)								A								
Approach Delay (s/veh)					9.9											
Approach LOS					A											

HCS Two-Way Stop-Control Report

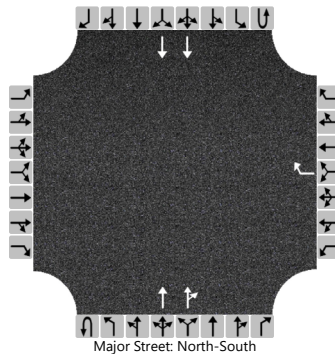
General Information

Analyst	
Agency/Co.	
Date Performed	10/18/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	47th Ave and Greeley Country Club
Jurisdiction	
East/West Street	Greeley Country Club
North/South Street	47th Ave
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	2	0	0	0	2	0
Configuration								R			T	TR			T	
Volume (veh/h)								27			699	27			685	
Percent Heavy Vehicles (%)								3								
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized					No											
Median Type Storage	Undivided															

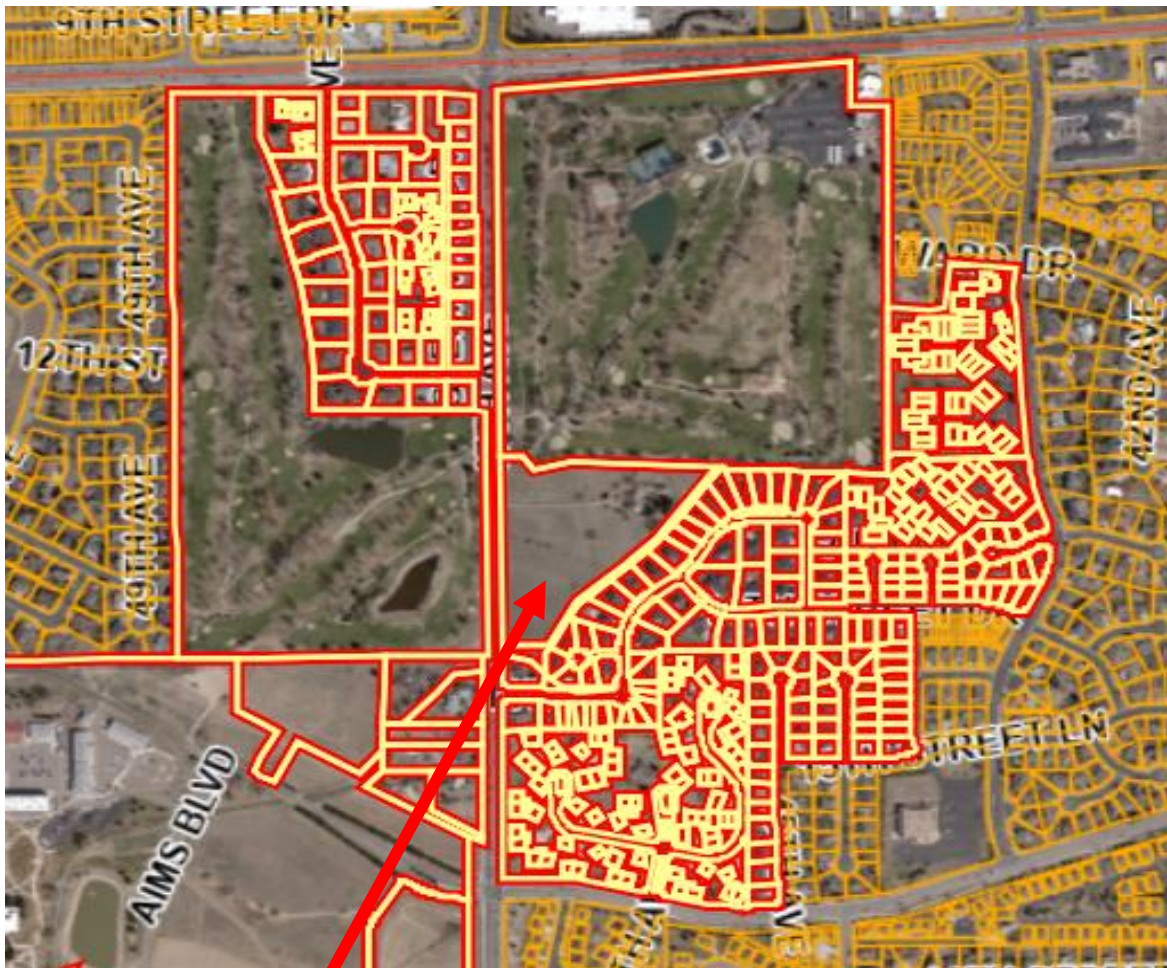
Critical and Follow-up Headways

Base Critical Headway (sec)								6.9								
Critical Headway (sec)								6.96								
Base Follow-Up Headway (sec)								3.3								
Follow-Up Headway (sec)								3.33								

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								29								
Capacity, c (veh/h)								602								
v/c Ratio								0.05								
95% Queue Length, Q ₉₅ (veh)								0.2								
Control Delay (s/veh)								11.3								
Level of Service (LOS)								B								
Approach Delay (s/veh)					11.3											
Approach LOS					B											

PUD2022-0007 1318 47th Avenue, Neighborhood Notification Boundary Map



PUD
Site Location

From: [Lucille M. Mantelli](#)
To: [Caleb Jackson](#)
Subject: [EXTERNAL] 1318 - 47th Avenue PUD
Date: Sunday, April 23, 2023 10:29:12 AM

Caleb, the following are my comments regarding the PUD and rezoning request for the above mentioned property.

I believe that the "right in/right out" turning proposal is very reasonable. With the current traffic on 47th Avenue, that would be one way to try to avoid additional accidents that occur on that street. If this area does end up being zoned RH, I would think a new traffic study would be required.

I personally do not have any objections to the proposed development of a Senior Living Facility, however I do object to the RH zoning request. I am confused after the meeting that was held at the Country Club because I was of the understanding (and I am probably wrong) that the PUD would enable the appropriate zoning for such a facility and that RH was not required.

If RH is required, would the City be willing to develop a special zoning designation for such a facility if they don't already have one? With the need in Greeley, this might come up again in the future.

We really didn't see any landscaping plans, but perhaps the landscaping requirements could hide any areas such as trash collection/removal, deliveries, and to blend in with the current Country Club golf course landscaping.

I would encourage a mandatory public hearing and review of the City Council and would appreciate some type of notice when these meetings are scheduled.

Thanks, Caleb for your time and consideration.

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From: [Ginny Hogan](#)
To: [Caleb Jackson](#); [Thomas Gilbert](#)
Cc: garyhoganremax@gmail.com
Subject: [EXTERNAL] 1318 47th Ave Project
Date: Friday, April 21, 2023 10:11:07 AM
Attachments: [Outlook-iwfngpss.png](#)
Importance: High

Good morning gents,

I wanted to thank you for taking the time last evening to speak with us all. I am sure these meetings are always very unusual!

My name is Ginny Hogan, my husband Gary is attached to this email as well. Gary and I live in Cambridge Glen. We are the house with the pool along the concrete fence. Recently, Gary and I have invested a large amount of money into our backyard and remodel of our home. We both are real estate agents, and both know the market and how "things" affect the value of a home.

My husband made mention that we are not opposed to this site plan AS IS but like all others in the room, we have a very strong feeling that an approval of an R-H zone will have an adverse effect not only on the ability to build up higher than 2 stories, but also because currently, it has been stated that any changes more than 30% will allow it to go back to "us" for a meeting, which we feel is way too high of a percentage and a lot can go under the radar without our knowledge. What does that 30% mean? If they decide to add a third story, will that be a 30% change because of that AND capacity changes? What are the criteria for that 30% change? Are there things that could change under the radar and then I have people in a high rise looking into my backyard should this deal fall through? When we purchased this place, we knew this would be our home until retirement. We are the youngest couple in our neighborhood and still have young children (youngest being 5 years old). As I am sure you have heard, building an apartment complex or anything over one story could lower our value. If it won't lower our value, I would like hard proof that it will not affect our property value.

We respectfully request that it stay in the R-L and PUD as well as ANY changes, even if that percentage is anything changing over 1%, be brought back to the community.

We also heard that all this will be taken into consideration when the design comes into play. What is sad is Gary and I enjoy a view of the mountains from our home. Which adds value and this will take that away. We enjoy seeing stars at night, this will take it away because of the lights that are required for such a build, we enjoy the privacy, this will take it away. Privacy will be an issue that I believe can be resolved with required landscape. If they are taking my view of the mountains away, the least they can do is put in privacy hedges so that we have blockage from noise and lights. You cannot say there won't be noise.

I respectfully request that you make considerations of all that is in this email. I know your task is not an easy one but WE are the ones living in the community mostly affected.

I thank you for your time and consideration.

Ginny Hogan
Partner-Broker

5H Properties & Grand K LLC
4533 W 14th Street
Greeley, CO 80634
(970) 978-6574



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From: [David Kejr](#)
To: [Caleb Jackson](#)
Subject: [EXTERNAL] 1318 47th Avenue Planned Unit Development
Date: Friday, April 21, 2023 10:03:42 AM

Caleb,

Thank you for sharing planning process at Neighborhood meeting last night.

I do have concerns about project. We live at 1218 48th Avenue. First is traffic on 47th Avenue. It is already at capacity and even if you only add 27 vehicles an hour during busy time, it will be much busier. On top of that, if project grows by 30% as was stated last night, now you're talking 36 vehicles into an already busy street. I think traffic impact is way underestimated if project goes through.

A bigger concern I have is longer term. I see around town nice neighborhoods that used to be very desirable but with growth and sprawl, streets become so busy that the neighborhood then becomes undesirable.

Why not leave it open space or a park? I know with rezoning you increase property taxes to city and county. Money seems to be driving this forward from all sides.

It looks like the PUD is one step in the process to change zoning into R-H.

I strongly suggest you do not do that.

Thanks,

David Kejr

--

David kejr

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From: [Robert Kuznik](#)
To: [Caleb Jackson](#)
Cc: [Cambridge Glen Owners Association](#)
Subject: [EXTERNAL] 1318 47th Avenue PUD (PUD2022-0007)
Date: Friday, April 21, 2023 2:29:12 PM

Caleb.....thank you for the opportunity to comment further on the matter of PUD2022-0007.

As residents of Cambridge Glen, Joyce and I received notice and attended the Neighborhood Meeting on April 20. Upon reflection we wish to provide the following comments and ask that they be added to the meeting notes.

1.) Traffic.

~ The Project was described as permitting only right-hand turn movements in and out of the site. We think that is a good approach.

~ The Conceptual Plan displayed two points of ingress/egress for the Project: (1) A 'main entrance' at the approximate center of the Project's 47th Avenue frontage; and, (2) A 'service entrance' at the southern end of the 47th Ave. frontage. We suggest the following two additional adjustments for mitigating traffic issues:

(1) That the two entrances be combined into a single ingress/egress point at the approximate center of the 47th Ave. boundary.

(Comment: The Applicant offered that the number of service vehicles to the Project would be minimal, therefore restricting service vehicles to a single main entrance should not have a material adverse impact on the Project.)

(2) That the Project provide a deceleration lane and an acceleration lane along the entire length of the 47th Ave. frontage.

(Comment: A project of this nature will host a disproportionate number of vehicle trips by senior drivers, by non-emergent medical transport vehicles, and by fire/ambulance emergency response vehicles [all disproportionately high compared to other residential uses] . Although the traffic volumes of the Project may not warrant additional safety lanes, the senior drivers, medical transport vehicles, emergency vehicles, and the general driving public will all derive long-term benefit from the added safety afforded by a deceleration/acceleration lane along a substantial portion of the 47th Ave. frontage. Such a feature would also undoubtedly be noticed and appreciated by prospective residents and their family members. As a concession to the developer, perhaps the land area of these safety lanes could be included in Project's open space/density calculations since they otherwise would not be required.)

~ With regard to the majority of the concerns expressed at the Neighborhood Meeting regarding traffic, those concerns were largely unrelated to the Project and instead are a reflection of the level of frustration and concern about increasing traffic along major corridors of a growing community. Perhaps those concerns should be addressed as part

of a larger community survey/traffic mitigation study and remediation program brought to the neighborhood level throughout the community by City Staff.

2.) Mitigation Measures.

Overall, the applicant did a good job anticipating and mitigating impacts on the Cambridge Glen neighborhood. The following mitigation measures should be part of the conditions of the City's approval:

~ Onsite Parking. All parking should be buffered from adjacent single family homes by a structure.

~ Lighting. All exterior lighting within the Project should be directed downward without any 'spill-over effect' impacting neighboring residences.

~ Trash. (1) Solid waste area to be fully enclosed and screened from view. (2) Trash enclosures to be located in the center of the project no closer than <insert appropriate number> feet of any residence adjacent to the project. (3) Weekly waste and recycling collections to be limited to one each per week and occurring on the same day of the week between the hours of 7 AM and 4 PM from a single collection point within the project.

(Comment. From a solid waste perspective, this is a mixed use proposal in which the assisted living and memory care portions of the project would typically receive 'commercial-type' waste services at a centralized collection point while the twelve duplex residences would typically receive 'residential-type' collections utilizing individual carts/cans. If left unrestricted, waste collection services to the project could potentially occur 4 or more days each week. The restriction of just one waste collection service day per week could mean that the project may need to use industry standard stationary compactors (either bin-type or roll-off-type). This restriction would limit the solid waste collections to two visits per week (one for waste and one for recycling) and would place responsibility on the Project operator to either collect waste and recycling from the duplex residences as a maintenance operation or require the residents of those duplex dwellings to bring their waste and recycling to the central waste collection point.)

~ Landscaping. With the Greeley Country Club as a neighbor, the Project's landscape plan should tie seamlessly into the golf course to give the appearance of resort-style continuity.

~ Access Road. The emergency vehicle access road located at the northeastern portion of the Project should feature a physical restriction allowing only the passage of emergency vehicles.

3.) Zoning.

Zoning appears to be the Project's achilles heel. There seemed to be a consensus among meeting attendees that the proposed use was a good one but there was an underlying fear and mistrust that rezoning to R-H with a P.U.D. may give way to the neighbors potentially battling the land owner or successor developer in attempts to amend the L-H P.U.D. to build high density multi-family structures incompatible with the adjoining R-L uses (should this original applicant/developer not proceed with the Project). This concern could give rise to opposition to the Project

We think that a possible solution to this concern might be for the City to amend the Development Code in one of two ways:

(1) New Zone District. Amend its Development Code to add a new zoning district 'R-S — Residential Senior', intended for mixed use development of detached housing, attached housing, and group housing for independent living, assisted living and advanced care living (memory care) and used as a buffer use when adjacent to R-E, R-L, and R-M Districts.

(2) New R-L Special Review Use. Amend the Development Code to permit the following Special Uses in the R-L District, individually or in combination, by way of a Planned Unit Development application requiring approval of the Planning Commission and the City Council: (1) Residential Care— Group Home (up to 50 occupancy; 2-story limit); (2) Residential Care — Assisted Living (up to 100 occupancy; 2-story limit); (3) Two-Family Dwellings (single story only). *(Counts are suggestions based on this PUD application.)*

Although such an amendment might stretch the timeline somewhat, it also might enable the application to proceed more smoothly.

(Comment. It is generally acknowledged that there is currently a need for senior housing in Northern Colorado and that the need for senior housing will continue to grow far into the future. There may be a limited number of parcels in the community to which these alternative approaches are applicable, but higher sensitivities and standards may result from the City being the party initiating the solution rather than the motives of the developer being called into question. Creating a new Zone District or amending the Special Review Uses in the R-L Zone District may a better tool for protecting the integrity of neighborhoods than the R-H approach.)

4.) City Council Review.

We believe that this Project warrants a mandatory public hearing and review before the City Council.

Thank you for your consideration.

Respectfully submitted,

Bob Kuznik & Joyce Hirano-Kuznik

Bob Kuznik
303-434-4135 (cell)

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From: [Thomas Gilbert](#)
To: [Caleb Jackson](#)
Subject: FW: [EXTERNAL] RE: 1318 47th Ave PUD
Date: Monday, April 24, 2023 8:13:30 AM

FYI for the public record.

Thanks!

Thomas W. Gilbert, Jr., P.E.

Engineer III
Community Development|Engineering Development Review
1100 10th Street
Greeley, CO 80631
970-350-9278 | thomas.gilbert@greeleygov.com
www.greeleygov.com

From: Brian Bartels <brian@waltelcos.com>
Sent: Sunday, April 23, 2023 11:20 PM
To: Thomas Gilbert <Thomas.Gilbert@Greeleygov.com>
Subject: Re: [EXTERNAL] RE: 1318 47th Ave PUD

Thomas

Thanks for getting back to me. I am also going to check on the sewer stub from Cambridge Glen to the old Gilbert home. I built Cambridge Glen and my memory was that we only extended a 3/4 residential line to the house we did not extend the 8". I am going to get hold of Northern (previously KBN) and see if they can research the as builts.

I think the request for RH while talking about a PUD is causing a lot of confusion and from how I see the code they can develop their project under a PUD with out the need for the RH zoning. Also, I feel engineering wise a 30% cushion could cause real issues with water, sewer and storm.

Thanks,

Sent from my iPhone

On Apr 23, 2023, at 9:38 PM, Thomas Gilbert <Thomas.Gilbert@greeleygov.com> wrote:

Hi Brian,

I think that these items got discussed in the neighborhood meeting, but just to reiterate: I have asked the applicant many times and the potable water stub that the

th

applicant proposed to connect to is an 8" stub off of the 12" potable line in 47 avenue. It is located on the northwest corner of the site. As for reports, since this is a zoning case, the applicant brought in a conceptual hydraulic report. A final hydraulic report, based off of what is actually proposed, will be required at a future land use case and will need to meet all City of Greeley Criteria. I hope that this helps.

Have a great night!

Thomas W. Gilbert, Jr., P.E.

Engineer III

Community Development | Engineering Development Review

1100 10th Street

Greeley, CO 80631

970-350-9278 | thomas.gilbert@greeleygov.com

www.greeleygov.com

From: Brian Bartels <brian@waltelcos.com>

Sent: Thursday, April 20, 2023 8:47 AM

To: Thomas Gilbert <Thomas.Gilbert@Greeleygov.com>

Subject: RE: [EXTERNAL] RE: 1318 47th Ave PUD

Hey Tom one more question.

I developed Cambridge Glen many years ago and my recollection is that the line running to the old Gilbert home was only a 3/4 in residential stub. Has the applicant pot holed that line or verified the size. Also, in this application where what they are really asking for is RH zoning they would have to make the assumption at the highest density allowed for RH and I cannot imagine a 8" sewer main will handle that flow especially since the 8" in Cambridge Glen does not loop in connects to the Gilbert property and flows north around the north end of the subdivision, but does not connect back the main until it reaches the East gate.

Have they provided any engineering studies for utilities yet ?

Thanks,

Brian

From: Thomas Gilbert [mailto:Thomas.Gilbert@Greeleygov.com]

Sent: Wednesday, April 19, 2023 4:22 PM

To: Caleb Jackson; Brian Bartels

Subject: RE: [EXTERNAL] RE: 1318 47th Ave PUD

Hi Brian/Caleb,

This is Thomas Gilbert in Engineering Development Review. Here is the information

that I can offer:

1 – The City will require modeling and flow monitoring on the sanitary sewer system to ensure that infrastructure can support the proposed zoning. Here is the current comment that we have given the applicant:

Offsite sanitary sewer flows must be modeled prior to zoning approval. The 8" main must be surveyed up to its connection with a 12" interceptor. Flow monitoring data must be used to inform the sanitary sewer model. The minimum period for flow monitoring is 2 weeks and a storm event must be modeled on top of the existing peak flows. Include this with the next submittal.

2 – I haven't heard any proposals to pipe the ditch (since this is a Zoning(PUD) case that doesn't propose construction), but that might be a good question for the applicant at the Community meeting. As far as the detention pond, the drainage report is still conceptual but will be required to convey all stormwater runoff in accordance with City of Greeley Design Criteria and Construction Specifications.

I hope that this helps. Let me know if you have further questions.

Thanks!

Thomas W. Gilbert, Jr., P.E.

Engineer III

Community Development | Engineering Development Review

1100 10th Street

Greeley, CO 80631

970-350-9278 | thomas.gilbert@greeleygov.com

www.greeleygov.com

From: Caleb Jackson <Caleb.Jackson@Greeleygov.com>

Sent: Monday, April 17, 2023 10:43 AM

To: Brian Bartels <brian@waltetcos.com>; Thomas Gilbert <Thomas.Gilbert@Greeleygov.com>

Subject: RE: [EXTERNAL] RE: 1318 47th Ave PUD

Brian,

Thank you for this update. We look forward to collecting more feedback at the neighborhood meeting this week.

Thomas – Would you be able to respond to the first paragraph below regarding 1318 47th Ave PUD?

<image001.jpg>

Caleb Jackson, AICP

Planner III

Community Development Department | Planning and Zoning

1100 10th Street, 2nd Floor

970-350-9276 | caleb.jackson@greeleygov.com

Website: <https://greeleygov.com/>

From: Brian Bartels <brian@waltelcos.com>

Sent: Monday, April 17, 2023 9:45 AM

To: Caleb Jackson <Caleb.Jackson@Greeleygov.com>

Subject: [EXTERNAL] RE: 1318 47th Ave PUD

Good morning Caleb,

I have looked over the plans and I see they are planning on tying into the existing sewer in Cambridge Glen. When we extended the service to the Gilbert residence it was a residential service line only. Has this line been engineered to be able to handle another 150 residential units ? I don't recall being required to size the main line to accommodate any future uses. Also, are they wanting to put the ditch in pipe or leave it open ? I see the detention pond in the NW corner and am wondering where that flow is ultimately going. All of Cambridge Glens water flows out the east gate and ends up in the large channel along 16th street.

We had a Cambridge Glen board meeting yesterday and I think that for the most part, they like this layout and feel it is a good use for the property. When we got into the discussion of the actual request of the RH zoning, they are not in favor of a straight zoning to RH. They asked me why if this is the applicants intent to build this project, why the request is not just PUD. I explained that the RH would be a option if this project went away and they are clear they do not like the option of a straight RH zoning that gives them no input for a project here. They are very clear that the parcel will be developed but want to be part of the approval and I explained to them that would only happen in the PUD process.

Thanks,
Brian

From: Caleb Jackson [<mailto:Caleb.Jackson@Greeleygov.com>]

Sent: Thursday, April 13, 2023 1:17 PM

To: brian@waltelcos.com

Subject: 1318 47th Ave PUD

Brian,

Attached is the proposed PUD. They do provide a concept for a residential care facility, but as long as the development proposal follows the Development Standards on page 6, there would not be requirements for further public process. I hope that this helps!

<image002.jpg>

Caleb Jackson, AICP

Planner III

Community Development Department | Planning and Zoning

1100 10th Street, 2nd Floor

970-350-9276 | caleb.jackson@greeleygov.com

Website: <https://greeleygov.com/>

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I am a resident at 4519 14th Street, with my property directly adjacent to the proposed PUD at 1318 47th Ave. I have some thoughts and concerns I would like to share with you.

- I have lived in my home since 2004 and always anticipated the property to be developed. I believe a small scale senior housing project would be very appropriate. However I am very concerned about the R-H rezoning. If this particular project does not move forward what would stop a 5 story apartment complex being the next project?
- I do not understand the how an 8 inch sewer line will work for the additional use and still maintain its integrity for our homes?
- As demonstrated further down 47th Ave., at Lowes the right turn in/out only is not adhered to. Why would this idea work here? I do support the idea of the acceleration/deceleration lanes as proposed by a neighbor.
- I am concerned about the dumpster storage. I really do not want to sit on my patio and look at multiple dumpsters. Plus I do not understand how they will feed residents without delivery trucks accessing the project. And where will those deliveries be made?
- I am concerned about staff parking and shift changes. I would highly recommend that be placed next to the country club golf course on the northside of the property. An employee coming or going for an 11:00 pm shift with a loud truck or motorcycle would be difficult to sleep through for the homes along the property line.

I would like to be notified if this project moves forward and possible Planning Commission hearing on this project.

Thank you for your time and consideration of these items.

Carol Riggs

Caleb,

As residents of Cambridge Glen, we attended the neighborhood meeting April 20th, about the proposed development of the property located at 1318 47th Avenue (PUD2022-0007). We appreciate that you were there to share some insights as to the zoning process and city rules. After attending and having time to think about the plan that was shared, we have the following comments:

1. We are opposed to rezoning to R-H. We would request that this PUD be denied in its present form. We would prefer the applicant remove the request for R-H zoning and remove the language about a change of up to 30 percent without review. We would support a new PUD with these changes and the changes suggested below. If the current applicant should pull out of this proposed project, what would stop the current land-owner or another developer from building high density multi-family structures. These would be totally incompatible with the adjoining areas. Many are concerned with the impact on traffic on 47th Avenue with the current proposed project, we can't imagine what such a project would do.
2. The applicant is proposing two entrances with right in / right out only. We believe this is a good idea in theory but have concerns after watching other right in / right out areas in town. Unfortunately, many people do not obey these traffic rules. We also think some drivers that want to go South from the property would turn right, then immediately turn left into the Hilltop neighborhood, make a U-turn and turn South. We expect this would further frustrate the Hilltop residents. The applicant stated that the number of service vehicles to the project would be minimal, therefore one entrance should be sufficient. Perhaps having only one entrance near the center of the development with a deceleration lane and an acceleration lane along the length of the 47th Avenue frontage would be a better plan. Because this is a senior living project, maybe a city bus stop could be incorporated in these lanes to serve individuals that use public transportation, possibly including residents that do not drive.
3. Our home backs up to the project with open fencing so we are concerned about the noise and lights from the parking lot and property. We are also concerned about our views toward the property.
 - a. We would like all parking to be buffered from adjacent single-family homes by a single story structure.
 - b. All lighting should be directed downward to mitigate the effect on neighboring residences.
 - c. The solid waste area be located in the center of the project, enclosed and screened from view of any adjacent single-family homes with a limited number of trash pick-ups per week.
4. The emergency vehicle access road proposed would have a physical restriction so as to only allow its use by emergency vehicles. The developer made this statement twice at the neighborhood information meeting.
5. We are concerned about the capacity of and impact on our sewer system if a facility this large is connected to the sewer system serving our small residential neighborhood.

We are not opposed to development of the property or the prospect of a senior living facility next door to us. We do hope we will continue to have the opportunity to review plans, provide feedback and that our concerns and comments are considered.

Respectfully,

Denice and Craig McWhirter

4517 W 14th Street

Greeley CO 80634

970.356.3220

Denice315@gmail.com

From: criggs4935@aol.com
Sent: Friday, September 1, 2023 4:06 PM
To: Jeff Woeber
Subject: 1318 47th Ave.

You don't often get email from criggs4935@aol.com. Learn why this is important

Thank you for visiting with me on Thursday.

My written comments for the packet of materials is as follows:

The proposed site is to be used as a Senior Housing facility. The duplexes will be only 1 story built next to the existing homes in Cambridge Glen. In the interior portion of the property there will be a 2 story building. I can support this plan as long as the interior building is only 2 stories and not more.

If the PUD is approved no changes can be made, i.e. increase in the density.

I would like to have the employee parking be placed on the north side of the building. All of the Cambridge Glen homes bordering this proposal have bedrooms on the back side of their homes. Shift changes in the middle of the night would cause traffic starting and traveling outside bedroom windows. With this parking placement I can support this plan.

Thank you
Carol Riggs
4519 W. 14th Street
Greeley

From: David Kejr <dkejr53@gmail.com>
Sent: Monday, September 4, 2023 1:53 PM
To: Jeff Woeber
Subject: Project Name: 1318 47th Avenue PUD

You don't often get email from dkejr53@gmail.com. Learn why this is important

I live at 1218 48th Ave, Greeley, CO 80634. One of my concerns is increased traffic on 47th Avenue

when zoning is changed to PUD from the current RL zoning. 47th is at capacity now without the

increased traffic of a rezoning to PUD.

If property was left zoned RL and developed with a number of high end single family homes, property

tax base for city and county would be the same and would be a better fit for the neighborhoods around

property.

Rezoning to PUD so a commercial institution to be located in a residential neighborhood is of no benefit

to the neighborhood. Probably would even hurt home values near the institution and thus lower tax

base for city and county.

Everybody I know or talk to is against the rezoning and allowing a commercial institution into a residential neighborhood. Shouldn't the planning Commission and City Council be working more for the

neighborhood and people that live there and voted them into office instead of hoping to bring in a

commercial institution into a residential neighborhood.

Thank you, and I hope you make the right decision.

David Kejr

City of Greeley, Colorado
PLANNING COMMISSION PROCEEDINGS

September 12, 2023

Video Recording of the Meeting can be found at:

<https://www.youtube.com/watch?v=gEFXELDfCxM>

1. Call to Order

Chair Yeater called the meeting to order at 1:15 PM.

2. Roll Call

The hearing clerk called the roll.

PRESENT

Chair Justin Yeater
Commissioner Louisa Andersen
Commissioner Briscoe
Commissioner Brian Franzen
Commissioner Larry Modlin

ABSENT

Commissioner Jeff Carlson
Commissioner Christian Schulte

3. Approval of Agenda

Brian McBroom, Community Development Director stated that there are not any changes to the agenda but did want to announce that with only 5 Commissioners present for today's meeting it does still allow a quorum and it requires for the Commission to act on an item it will require 3 votes. He also shared that there is a time constraint for today's meeting, and it will need to adjourn by 4:00 p.m. to allow for the next scheduled meeting in the Chamber to start. With that, Chair Yeater will limit comments to 3 Minutes for the Public Hearings.

4. Approval of August 22, 2023, Minutes

Commissioner Andersen moved to approve the minutes dated August 22, 2023. Commissioner Franzen seconded the motion. Motion carried 5-0.

5. A public hearing to consider a request for a Planned Unit Development for commercial, multi-family, single-family, and parks on approximately 170.573 acres located at the northwest corner of 10th Street at 83rd Avenue (PUD2022-0006).

Chair Yeater introduced the item, asking if the commission or anyone in attendance wished to see a presentation, seeing none the Public Hearing opened at 1:20 p.m. and closed at 1:20 p.m. Chair Yeater asked if anyone had any further questions or comments. Commissioner Andersen asked when 83rd Avenue is proposed to be improved to improve traffic. Don Kirby, City Engineer came to the podium and responded that it would be dependent approval of the PUD, but also subdivision plans concurrent with the development the frontage improvements would have to be completed.

Commissioner Briscoe asked how far 4th street would be extended and Mr. Kirby replied that it would be extended to the western line of the development.

With no further comment Commissioner Andersen motioned, based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore, recommends City Council approval. Franzen seconded the motion.

Motion Carried 5-0.

6. A public hearing to consider a Planned Unit Development (PUD) request to rezone approximately 4.23 acres located directly north of 7025 8th Street from R-H (Residential High Density) to PUD (Planned Unit Development). (PUD2023-0001).

Chair Yeater introduced the item, asking if the commission or anyone in attendance wished to see a presentation, seeing none the Public Hearing opened 1:25 and closed at 1:25. Chair Yeater asked if anyone had any further questions or comments. Commissioner Andersen verified that this was the item that was continued from the previous meeting.

With no further comment, Commissioner Andersen motioned, based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning from R-H (Residential High Density) Zone District to PUD (Planned Unit Development) meets the Development Code criteria, Section 24-204, and Section 24-205 and therefore, recommends approval of the Rezone and Planned Unit Development to the City Council. Commissioner Franzen seconded the motion. Chair Yeater asked if there was any further discussion.

Commissioner Briscoe added that for the record he is concerned that these types of applications that begin work before approval have increased. He believes the application meets the intent of the code but would like to see it presented before construction starts. Chair Yeater asked staff if there is any consequence to work starting prior to approval. Brian McBroom responded that depending on the nature of the work there could be consequences. He shared that there is background on this case and rather than take time out of this meeting he would send some additional information out to the commission.

With no further discussion, Chair Yeater called for the vote.

Motion Carried 5-0

7. A public hearing to consider an application to rezone a property 11.083 ± acres in size from Residential Low Density (RL) to a Planned Unit Development (PUD). The PUD would allow various Residential and Institutional uses with specific zoning standards (PUD2022-0007).

Chair Yeater introduced the item. Jeff Woeber, Planner III, began his presentation. This is a proposed rezone from R-L (Residential Low Density) to PUD (Planned Unit Development). The parcel is just over 11 acres and currently has one residence that was built in 1961. The developable area is just over 10 acres. The property is located ¼ mile south of the southeast corner of 47th Avenue and 10th Street. Surrounding zoning and land uses to the parcel include;

- North: R-L (Residential-Low) and the land use is a Country Club/Golf Course
- East: PUD (Planned Unit Development) and the land use is Single-Family Residential
- South: PUD (Planned Unit Development), R-M (Residential-Medium) and the land use is

Single-Family Residential

- West: R-L and the land use is a Country Club/Golf Course

The proposed application would allow certain Residential High-Density zoning with limitations. The applicant intends to establish a facility for seniors living under one parcel under single ownership. No other lots are proposed currently. A subdivision process is required to bring the property into compliance with city subdivision regulations. Mr. Woeber shared the land use table that applies to this kind of use. The senior facility would include such uses as assisted living, independent living, memory care, group home and institutional which are all under the residential care category in the Greeley code. Within this, up to 210 units would be allowed. He shared per the land use table that height of the structures is limited to single story along the perimeter adjacent to the residential developments to the east and the south as shown on the proposed site plan. Two story structures would be allowed on the interior of the property. Mr. Woeber continued, sharing the differences in what other uses would be allowed in accordance with the land use code if this was proposed as R-H zoning opposed to the PUD zoning that is being proposed. R-H zoning would allow for much higher density and much higher structure height. The proposed PUD will limit the density and the use of the parcel.

Mr. Woeber shared that the application meets the criteria set forth in the code and proper notification was made including a neighborhood meeting, web notice posted, signs posted at the site and 295 mailed notices were sent to property owners within 1000 feet of the parcel. Staff received 10 emails with the primary concern being:

- R-H Zoning uses such as the assisted living facilities and multifamily residential density.
- Increased traffic
- Privacy concerns
- Affecting property values

Staff does find that the application complies with Sections 24-204(b) and 24-205(c) and staff recommends approval. Mr. Woeber indicated that is the conclusion of his presentation and the applicant has a presentation and each of them is available for questions.

Chair Yeater thanked Mr. Woeber for his presentation and asked if the commission had any questions for him. Commissioner Modlin asked if the current R-L zoning would allow patio homes, duplexes, and single-family residents. Mr. Woeber indicated that was true. Commissioner Briscoe asked if a turn lane would be installed in the right of way. Mr. Woeber replied that they are improving 47th avenue and installing a median and that was agreed to with the developer. For specific access questions he would need to defer to engineering staff, but he does know they are making access improvements. Chair Yeater asked Mr. Woeber to explain what a PUD is as there seemed to be some confusion about that with this case. Mr. Woeber responded that a PUD is a Planned Unit Development with custom tailored zoning with specific zoning standards built in. In this case they have the base of the R-H zoning the PUD would allow some flexibility with various zoning standards because they want to limit the height, density, and location of the structures. Those things are required in the text of PUD documents which is different than the R-H zoning. Chair Yeater asked for clarification that at this point the designs are conceptual because at this point all that is being approved is the zoning. Mr. Woeber indicated that is true and the site plan that is included in the documents is a concept plan, however the specifics that are in the zoning table would be official. Chair Yeater asked if the brick wall that is shown on the site plan would be required or if it was just conceptual, Mr. Woeber replied it is not specified in the PUD and it is conceptual.

Chair Yeater asked if engineering was able to answer the question regarding the roadway. Thomas Gilbert, Engineering Development Review came to the podium. Regarding the question on a

deceleration lane along 47th Avenue, an analysis was done, and it showed that a deceleration lane was not warranted for the number of trips proposed. He shared it is an arterial roadway, signage preventing illegal turns as well as the site access having right in and right out will be required.

With no further questions for staff, Chair Yeater invited the applicant to provide a presentation if they would like to.

The applicant, Ian Percy, 2130 62nd Avenue Court, Greeley, Colorado. He apologized to the commission and asked the commission for an extension because they would like to present it to the full commission. His team believes this project is important and this is a great location. His team would appreciate consideration for a continuance and apologized for any inconvenience this may cause.

Chair Yeater asked the commission if there would be any issues with tabling this item until a later date when a full commission is available. Seeing none, Commissioner Andersen moved that the agenda item be continued to a date in the future when all Commissioner's are present. Commissioner Franzen seconded the motion. Commissioner Andersen asked if there was a date in the future to set this item for. Brian McBroom, Community Development Director, stated that unless otherwise directed by the commission, it would be the next regular meeting. He also shared that there is a quorum however another action they could take would be to conduct the public hearing, take testimony from those present today and then continue the item to the next meeting.

Chair Yeater indicated that they would hold the Public Hearing to take testimony from those in attendance. He will then ask the commission to vote on the motion that was proposed.

The Public Hearing opened at 1:40 p.m. Don Threewitt, Interim Community Development Director, shared he would call those who signed up to speak in the order of the sign-up sheet.

Gaile Todd- no one came to the podium when called.

Nick Frances- no one came to the podium when called.

William Eastwood, 4515 West 14th Street, Greeley. Came to the podium and stated he had one question for Jeff, on the plan it shows that there is not a building on the east triangle of the plan, is it possible for them to build on this later? Chair Yeater responded, sharing that comments be kept to testimony and for questions to be asked to the commission and he can address them with staff at the conclusion of the Public Hearing. Chair Yeater confirmed what he understood to be the question. Mr. Eastwood thanked him and left the podium.

Carol Riggs, 4519 West 14th Street, Greeley. Shared she submitted some comments already but after studying the plans last night she had one additional comment. She is in the section just behind the proposed development and they have shallow back yards. She shared that there were 2 fence types proposed in the site plan, one being a brick wall and the other being rod iron. She hopes they would choose the rod iron option to keep the open feel and not the feeling of being locked behind a wall.

H. Michael Croissant, 4718 West 13th Street, Greeley. He lives right in the center of the whole operation. He shared that he and all his neighbors right their own all their homes, these are million-dollar homes and one hundred percent quiet residents. They are parachuting for a business right in the middle of that. His next comment is he disagrees with the City Engineer on traffic counts. He feels a third-party traffic engineer needs to come in and do a traffic count. Even with a feeder lane, there is a high-density feeder street right there going to 10th Street, which is a State Highway, so there is already a lot of traffic. He wants a traffic count of what is going on there now and of what his proposed business is as well and to make the applicant pay for the third-party count. That is what he

wants to propose. They have not put any cables out there; he lives there, and they have not. He thinks this is a safety issue, 10th Street already gets backed up to that property. He owns agricultural equipment, and he would not want his crews to drive in that, construction traffic is just going to be sitting there. He wants a third-party count and for residents to not have to pay for it, the applicant needs to pay for it. He wants to have a third-party showing how many cars will be going into this business.

Amye Croissant was called, next on the list, and indicated she did not want to testify.

Giselle Croissant was called, next on the list, and indicated she did not want to testify.

Don Threewitt indicated that that concluded those who signed up to speak for this item. Chair Yeater asked if there were any additional people in attendance who wished to speak on this item.

Gina Holzmeister, 1907 81st Avenue, Greeley. Started by saying she will be right across the street from this development. She liked what Mr. Croissant stated and she completely agrees, there are already many instances where she is waiting through 3 or 4 red lights just trying to get through on 83rd Avenue. Sometimes people even just pass through and run it because they have waited for so long. She does not see how this will benefit our area directly or even neighboring communities. There are many multi-family units like townhouses and duplexes, there are even some that are already on the agenda for future hearings. The sheep draw development is coming up and she assumes it will be for multi family units also. However the traffic system cannot hold all that and with this being in the middle of her residential area she does not agree with having temporary residents within her community because (a) she does not know them, they are coming in and out and it cannot be safe for her family and (2) they will be cutting thru her residential area to get to the other side of 20th because of all this traffic, there is no traffic slowing in her neighborhood and there is not any distinctive separation between that plot and their private homes. She has read the Comprehensive Plan thoroughly and she understood that the plan was to utilize abandoned buildings, buildings that are not being used anymore in eastern Greeley not west Greeley. When she bought her home, she was under the assumption that that plot was agricultural. She does not see how it is going to benefit them when it's causing so much emotion. She had no further comments.

Don Threewitt commented to the commission that he believed Ms. Holzmeister was speaking to the next case that they will be hearing and that her testimony did not apply to the case they just heard.

Chair Yeater asked if anyone else cared to speak at this time. He shared he was not closing the public hearing but if anyone wishes to speak when the case is heard again, they will have that opportunity. He turned the item back to the commission for discussion. He shared he did not have any concerns to vote on the item when a full commission is present. Commissioner Franzen saw no issues in tabling the item. Commissioner Modlin shared he would have liked to see the item removed from the agenda if they were going to continue it and saved time in this meeting and thinks they should vote.

With no further discussion, Chair Yeater called for the vote on the motion that was already provided earlier in the meeting.

Motion carried 5-0

8. A request from Crow Creek Construction, LLC, to rezone a 7.43-acre parcel from HA – Holding Agriculture to PUD – Planned Unit Development located North of W. 19th Street Road, east of 82nd Avenue (PUD2022-0008).

Doug May, Planner III began his presentation by providing background information on the site. The request is to Rezone 7.43 acres from H-A (Holding Agriculture) to PUD (Planned Unit Development).

The site was originally annexed and zoned in 1982. It was part of the Mountain Vista filing in 2002. It is located east of 82nd Avenue, north of 20th Street. The surrounding zoning and land uses include:

- North: C-L (Commercial Low Intensity), R-L, (Residential Low Density), Vacant land and stormwater detention are the land use.
- South: R-L (Residential Low Density) single-family residential is the land use.
- East: R-L (Residential Low Density), the land use is single-family residential.
- West: C-L (Commercial Low Intensity) the land use is a professional office.

The proposal is a multi-family development that consists of 14 buildings. 6 of the buildings are proposed to be 6-unit buildings and 8 are proposed to be 8-unit buildings. The proposal includes 2 planning areas, Planning Area 1 is on the eastern portion of the property, and it contains 6, 6-unit buildings. It consists of 3.610 acres and the density is 9.97 units per acre. Planning Area 2 is on the further west and north portions of the parcel, and it contains the 8, 8-unit buildings. It consists of 3.820 acres of the parcel with a density of 16.76 units per acre. The remaining 1.079 acres of the parcel will be utilized as Right-of-Way. Mr. May shared that to be considered for approval this application met the nine criteria used to evaluate rezoning applications, the four criteria used to evaluate PUD applications. Proper notification was made, and the mineral notice was completed. A 1000-foot buffer was used to send 350 notice letters, signs were posted on the property, a web notice was published, and a neighborhood meeting was held on June 12, 2023, and it had 50 people in attendance. Staff received comments from 5 neighbors as well as a petition with 299 signatures in opposition of the proposed application. Below is some of the outlined concerns the city heard from neighbors and the city's response to those concerns:

- Property Values
 - A city can't speculate on property values.
- Conformance with the Comprehensive Plan (i.e., missing middle housing)
 - Staff has found it meets the goals of the Comprehensive Plan
- Traffic
 - 3rd party traffic impact study completed with the proposal.
- Number of multi-family projects
 - Multi-family housing is a growing trend in Greeley.
- Spot Zoning
 - Staff finds that this is not what is considered spot zoning and it meets requirements for rezoning and PUD.
- Infrastructure/Services
 - The application has been reviewed by Water, Sewer, Fire Department, School District, Transportation and Stormwater.
- Open Space
 - The parcel is private property, it is vacant land currently and not open space.
- Maintenance
 - Code Compliance inspects within 2-5 days of a complaint.
- Renters
 - Staff finds that the proposal meets the safe and attractive rental housing goals of the comprehensive plan.

Community Development does recommend approval for this item. Mr. May indicated that was the end of his presentation and he was open to questions. Chair Yeater invited the commission to ask questions to staff. Commissioner Andersen asked how this meets middle housing because it does not include single-family housing (tiny homes, duplexes, etc.). Mr. May shared because it is lower density for apartments this does fill in the gaps for middle housing in this area. Commissioner Briscoe asked why the applicant did not choose R-H instead of PUD zoning for this property and Mr. May responded that he would allow

the applicant to address those concerns. With no further questions for staff, Chair Yeater invited the applicant to present if they wished.

The applicant, Larry Buckendorf 1751 West 17th Street, Greeley came to the podium. He began his remarks by introducing Joel Hemesath, the project manager on the project. He began his presentation sharing the location of the project near 18th Street and 83rd Avenue. He shared that there was an oil and gas site on the site over the last 20 years and it has always been the intent to develop the parcel once that well was capped. His firm has owned the parcel since Mountain Vista was initially developed. He shared the overall site plan including the existing detention pond was built with the capacity for this parcel to be developed in the future. He shared the following site statistics:

- 7.43-acre site
- 100 Units
- 14 Buildings: Six 6-Plexes; Eight 8-Plexes
- Office/Maintenance Building
- Provided additional setback of 50' vs 25' near existing homes.
 - 100% increase in setback requirement
- Enhanced Landscape buffers adjacent to existing homes
 - Adding 39 additional trees above minimum requirements
- Project will be built in within a 1-year period.
 - Minimum nuisance to surrounding neighborhood.

Regarding the Utility and Street Connections Mr. Buckendorf shared the following details:

- Potable Water – Connections in 82nd Avenue, 19th Street & 18th Street
- Non potable – Main to be constructed in 18th Street.
- Sanitary Sewer – Connection to existing sanitary sewer main on east side of property.
- Stormwater – Existing detention pond has adequate capacity.
- Streets – Public roads exist on the west and south sides.
 - Extension of 18th St (collector) along frontage of north side
 - Traffic Calming added to 19th St & 82nd Avenue.

Mr. Buckendorf continued, sharing that the total site density is 11.75 units per acre. Buildings with lower density have been positioned adjacent to existing homes and the area adjacent to existing neighborhood meets the Comprehensive Plan Suburban Neighborhood density criteria. They have added additional landscaping to help buffer the proposed development from the existing single-family units. Mr. Buckendorf shared examples of the product that they are proposing and showed how the facades meet the character of the neighborhood. He continued, showing the variety of site amenities that will be available. These include a playground, picnic area, dog park, fire pit and benches and seating thought the community. They have expanded the available parking spaces; the code requires 186 parking spaces, and they will provide 228 onsite parking spaces. Parking will not be allowed on the west side of 82nd Avenue, it will be allowed on the east side of 82nd Avenue. They will support traffic calming by adding bump outs on the 82nd avenue entrance and by adding a raised crosswalk on 19th Street & 81st Avenue Court.

To conclude, Mr. Buckendorf shared the proposed rezone is consistent with the Greeley Comprehensive Plan and the rezone follows the applicable city codes, regulations, and requirements. If approved, the rezone will meet the needs of the community by providing diverse multifamily housing and is consistent with practical and prudent transitional land use planning practices. The developer will work with city staff to receive approvals on all engineering and technical documents prior to proceeding to site plan approval. Mr. Buckendorf shared he feels they have addressed the concerns they heard in the neighborhood meeting. Additionally, he noted that there were 299 signatures in the petition of opposition submitted to the commission, of those 299 signatures there were 166 properties represented. Of those 166

properties, only 95 were in the notification buffer area and only 79 were in the residential area. He understands the concern but wants the commission to understand the data that belongs to the signatures obtained. He thinks this product and development would be a benefit to west Greeley. With that he offered to answer any questions of the commission.

Chair Yeater opened it up for the commission to answer any questions to the applicant. Commissioner Modlin asked if the 8-Unit buildings had any architectural differentiation like the 6-plex building he showed. Mr. Buckendorf indicated that they do have some of the same architectural differentiations as the 6-plex, not as many but they blend well. He included they generally have 2 paint color schemes, adding more than that becomes too much, and it starts to look a little brash. Commissioner Modlin encouraged the 8-plex units to look like the 6-plex units that the examples showed, they have a good appearance and are a good fit.

Chair Yeater opened the Public Hearing at 2:19 p.m. Don Threewitt, Interim Community Development Director, shared he would call those who signed up to speak in the order of the sign-up sheet.

Lynn Huos, 17304 West 18th Street Road, Greeley. She shared that she is close but not right next to the parcel. She thinks the developer has made a lot of changes since the neighborhood meeting in June of 2023, she is still concerned about the traffic pattern on 83rd Avenue between 20th Street and 10th Street, it is a very old road, and it needs to be widened and repaired. It serves both single family and multifamily both and have seen the bad effects from it. From consensus at the other meeting, they would prefer it not be renters in these units as they tend to provide less care for property compared to owners who tend to be more responsible. They wanted it to be more of an ownership area. They understand the need for housing and in this area, they are surrounded by multifamily housing already. They would like to see it have buffers to keep it from spilling into the residential neighborhood. They do not want a lot of traffic coming in and out. Many people bought it here because it was quiet and safe, they don't want a bunch of traffic speeding through.

Robert Maffei was on the sign-up sheet but did not wish to speak.

Kandy Wolf, 1929 South 79th Avenue, Greeley. She wants to know what kind of guarantee there is that the well on the site is capped. She also wanted to share that 83rd Avenue is going to be bogged down when they add 400 or 300 cars to the road. They are going to route to 79th Avenue and that's going to be bogged down.

Mona Maffei was called and did not want to speak.

Rick and Sherry Gerner were called and did not wish to speak.

Jim and Sylvia Peterson were called and declined speaking.

Pam Zimmerman, 1917 80th Avenue, Greeley. Donated 3 minutes to Brynne Gant.

Robert Maize, 1917 80th Avenue, Greeley. Donated his 3 minutes to Brynne Gant.

Cindy Leerssen, 81st Avenue, Greeley. She donates her time to Brynne Gant.

Shelly Remley, 1921 80th Avenue, Greeley. Donated her time to Brynne Gant.

With no further names on the sign-up sheet, Chair Yeater asked Brynne Gant to come to the podium to speak. Brynne Gant, 1816 80th Avenue, Greeley, she shared she also owns a law firm in the Moutian Vista Business Park. She is here as a concerned resident in the matter and does not represent any party in the

matter. She is the one who drafted the petition with 299 signatures. She started her presentation with:

- Should have started with fit; instead started with profit.
- Started as big as it could be, without regard for surrounding character.
- Started as request for R-H then “scaled back” to PUD (but is still effectively R-H)
- Final submission purported to scale back units, but number of units is unchanged.

She continued sharing that PUD and Rezoning standards. For section 24-205(c) PUD applications must reflect greater consistency with IGCP (Imagine Greeley Comprehensive Plan) than general zoning. Per section 24-205(a) PUD Applications are a type of rezoning and must follow the rezoning process. Section 24-204(b) for Rezoning several review criteria is not met. She shared the review criteria and what she finds to meet and not meet the criteria. She shared that the proposal is to place 100 units in the area, and it exceeds the code requirements of 10 units per acre. She shared a clip from the comments between the city and the applicant and indicated that the city addressed this with the applicant, and they responded by switching buildings around to manipulate the area and that they did not remove any units and how they split the project into 2 separate parcels, however if it were one parcel, it would fall under R-H zoning. Ms. Gant continued sharing the intent of a PUD is to address development that has a higher degree of planning, due to scale and complexity, improving relationship of the project to the context. It will then better meet the purpose, intent, and objectives of the code. It is not intended to zone deviations for single projects. Ms. Gant continued sharing her interpretation of “Spot Zoning” as when the rezoning process starts with a purpose of PROFIT over FIT. If it didn’t start from a place of enhancing the comprehensive plan and seeks to rezone a relatively small parcel, it’s spot-zoning. She provided legal examples of court cases that this has applied to (in other jurisdictions).

Ms. Gant moved forward with her presentation, sharing a table showing the criteria required to consider rezoning. She shared this project does not meet the goals of IGCP, it does not fulfill the intent of the zoning district considering the relationship between nearby areas. She continued with sharing a parcel map of the area. She shared that to the north, east and south the surrounding area is R-L zoning and to the west it C-L zoning, continuing she shared the buffering areas to be as follows:

- To the North R-L buffers to C-D
- To the East R-L buffers to C-L
- To the South R-L buffers to 20th Street
- To the West C-L buffers to 83rd Avenue

In other words, right now, the buffering makes sense, going from hot to warm to cold. This project would change it from hot to warm back to hot and then to cold. She continued to share, there are three overarching goals: to prevent over-concentration of affordable housing in specific areas, to encourage a range of creative housing options, and to maintain the quality of existing low-cost units. This proposal meets none of this. There is already an over-concentration in this area for these low-quality, high-density units, she feels there should be cottages, patio homes, rowhouses, and condominiums. This project also fails to enable development in character with the surrounding area, considering streets, pattern, scale, format of buildings and the like, and there are not truly appropriate services and facilities. Regarding the development in character with surrounding areas, the proposal is to tuck this away right in the middle of a developed residential area with upscale homes. These are homes in the \$600,000’s and above. The proposal does not match the price range of the neighborhood, has no covered parking, the bare minimum setbacks, bare minimum open spaces, and will use the same level of quality that is already falling into disrepair in the neighboring apartment complexes, created by the same developer.

Ms. Gant continued with sharing the proposal is lacking public services. It would not be suitable for development without new fire stations being built. She shared the developer knows this is not truly suitable for fire safety, which is why they were forced to include the “Emergency fire access,” you see in Plan 5. The proposal is for this fire entrance to be accessible but chained off. Regarding streets, the existing streets are not prepared for this development, the traffic impact studies provided have a narrow

scope. She shared that drainage is an additional issue, stating that the developer's notes that the offsite existing drainage pond will need to be improved to provide additional storage and water quality.

Ms. Gant shared that the developer would need to contact the HOA to obtain approval to drain to the previously discussed drainage pond and indicated he was working with Becky Stewart. Becky Stewart has not managed this property for multiple years. Lisa Daigle of One-way does. She has not been contacted by the developer with any request for drainage. Mr. Buckendorf did contact her to offer to aid in making the ponds complaint, but nothing further.

Ms. Gant continued with sharing concerns that there is not adequate police, school, or park availability to support this development. She feels that this parcel should be considered zoning for C-L or R-L to better fit the area. She indicated that Residents have a right to rely on existing zoning when they purchase. Here, many of our residents purchased from this very developer, who told them that this would be an open space or a park, and they knew when they purchased that it was zoned Holding-Ag. The development considerations should have started from there, but they didn't. She asked the commission to avoid doing what the Colorado Supreme Court has already ruled is illegal: you cannot rezone a relatively small parcel in the middle of an existing neighborhood to allow a developer to choose profit over fit. To conclude she asked the commission to deny the application or require modifications to create a better fit for the area.

Marty Neibauer, 1910 81st Avenue Court, Greeley. This is the cull-da-sac that is adjacent to the proposal. He is asking the commission to deny this application. It does not make sense to take an apartment building and center it in the middle of a reasonably high-end neighborhood. He stated that this proposal does not meet the missing middle of the development. This does not provide middle housing. He has concerns about setbacks, the developer stated he would provide 50-foot setbacks, but it only provides that on one side of the development. He asked the commission to look at how these fits into the plan for Greeley and shared examples of where new apartments are near colleges, the mall and near large intersections, not in the middle of established neighborhoods. He and his neighbors feel this is a money grab, this proposal does not make sense.

Clyde Andersen, 1906 81st Avenue Court. He has lived here for 18 years. Traffic is just getting worse and worse. 83rd Avenue needs to be re-built. He shared he was sitting at the light on 83rd Avenue the other day and traffic was backed up to 4th Avenue. He used to be a police officer in Minnesota, and they had a lot of apartment buildings scattered throughout the community and it was a problem, they were constantly running from one side of town to the other. He wanted to bring up that City Officials work for the people, and no one has it up. What the people who already live here want matters. Traffic is an issue and there is already many apartment and multifamily complexes near here. He asked them to deny the application and the developer to put single family homes in this area.

Mary Lynn Thomspson, 7413 18th Street, Greeley. She lives in filing number one. She has been to all the meetings and asked them to listen to the requests. She heard that changes had been made but what she saw today was just one building moving. She asked the commission to deny the proposal.

Ally Anderson, 1906 81st Avenue Court, Greeley. She thinks that everyone needs to remember that they bought their home because it was a good subdivision and good people. She is not saying that apartments will bring in bad people but more transient people who do not have a buy in to the area that they know it to be. Her street is going to look at the emergency access for the fire department with a chain hanging on it. She said that if they have been the owners for so long, they are not good custodians, they have not mowed, removed trash and it is a dumping spot. People have voted the commission in, and she wants them to take into consideration they live there, her grandkids play there, and they are not going to be safe. Traffic and parking is going to be an issue. People go to the park where they want to.

Barry Harding, 1819 80th Avenue. He has lived there for 18 years. He bought the property he is at because

he was told it was going to stay zoned as agricultural. He wants the commission to be accountable and consider how they would feel if it were them. He wants someone to challenge the applicant and stated there is a lot of inaccuracies in the submission. He served in the Navy and is bread on integrity and accountability and they are not doing that. It comes down to accountability, keeping your word and begs the council to consider what they would do if it were them.

Gina Holzmeister, 1907 81st Avenue, Greeley. She stated that she wanted to redact her statement from the previous public hearing and apply it to this case. Chair Yeater confirmed that she was stating she spoke on the incorrect case and her testimony that she shared previously applied to this case not the one she spoke on earlier in the meeting. She apologized to the commission for her mistake. She shared the builder stated that he went above and beyond to accommodate for this subdivision, and he is not. Ms. Holzmeister shared that she is a Substitute Teacher, she finds it hard to believe that the schools would approve this development because they are already overpopulated and short on teachers and substitute teachers. The ratio is already 32 students to 1 teacher and sometimes that increases if they do not have enough Substitute Teachers, they must combine classes, making it 40 or 50 students to one teacher and that is hard. She also wanted to state that around the area there are no bike lanes, and the sidewalks are inadequate, there is not a safe way for students to get around or anyone else.

Mark McIntire, 1906 80th Avenue, Greeley. He lives right down the street from this, and he was the second house built in this filing. The developer is a very good friend of his and he has been for many years. When he built this home almost 20 years ago Larry (the developer) told him this lot would be a park, he believes at the time he really did mean that. His concerns are that they have 101 custom homes in this neighborhood, and they are not track homes. He shared that when his wife and himself started out they needed the kind of housing proposed but they worked 40 years to have the house they do, if this development is approved, they lose all control. They have a very good HOA. Their neighborhood is under control. When he looks at this plan it disturbs him. When you go to 83rd Avenue and consider adding 200 cars, no one will be able to get out of the neighborhood. The city is not planned for additional traffic. The city needs to take into consideration how people and emergency services get in and out of the neighborhood. The developer owns this lot, and he has a right to build something on it, we also have the right as the City to plan properly to accommodate the neighborhood. Thank you for your time.

With no further public comment, Chair Yeater closed the Public Hearing at 2:59 p.m. and asked the applicant to step forward if he would like to have the opportunity to provide a rebuttal.

Larry Buckendorf came to the podium. He shared that there are many, many valid points made by the residents. Many of them do not fall to a specific development at a specific point in time such as schools, traffic on 83rd, police and parks. Those are the types of things that follow development and development pays impact fees for. It happens with every development and if it is taken as face value all development would stop. There are people who live in this community and have for years and years without a housing option. This is the way the system is set up. He is uncertain if it is the best system but is what they have. Impact fees and other obligations are made according to the rules set by the Council.

Moving forward, Mr. Buckendorf proceeded to address some of the specific issues.

- This is not Spot Zoning. The legal argument and case that this was compared to is dramatically different regarding facts and circumstances. It does not have any bearing on what is going on here in any way.
- This does support good land use and planning. It is transitional zoning from low density single family to medium/higher density than to commercial. The argument is that commercial density could go on this parcel. They did develop commercial lots just to the west and after 20 years there are still 2 vacant lots there. It is not viable to add more commercial lots in this area. There is a suggestion to make this parcel single family lots, he can assure them that a parcel of this size does

not make suitable single-family lots. There is not enough space to get any kind of density there to make it practical, regardless of profit or not. He would surmise that if they brought anything other than custom housing to the parcel they would vilify as well for bringing in lower income or entry level housing to a custom neighborhood. What they have proposed is a well thought out plan to address a housing need that is a good transition and works in the overall setting of this site. It creates a housing option that is not available in this area.

- The arguments on existing sanitary, storm, water and roads are not valid. They are already there and there is no additional impact that would come from those services.
- Regarding traffic, there will be 64 p.m. trips and 54 a.m. trips. This is in the traffic study, from the traffic engineers. This is not a number he made up or that the city made up. It was found by a third-party traffic engineer. It is objective not subjective. He acknowledged that it would add traffic on 83rd Avenue. However, to solve that problem is not the responsibility of this development. The impact fees will contribute to a solution to the traffic issues on 83rd Avenue but it is not the sole responsibility of this development.
- The representation that this lot would stay zoned as H-A zoning, or a park is just not accurate. He developed Mountain Vista. He does not believe that there has ever been a representation that this would be a park nor has there ever been any intent in it being a park. It has been a well head for almost 30 years. The intent has always been to cap the well and develop the lot.
- He takes issue with the comments regarding maintenance. He agrees that there has been a lot of dumping on this parcel, and he did not know where it came from, however when he is notified, they come in and clean it up.

He continued sharing he understands the emotion regarding the project, but it does meet every criterion of the Comprehensive Plan and that is demonstrated in the Staff Report. There is staff support and not even one criterion that is in question. The community must meet a set of rules, regulations and expectations set by the code and this application meets those.

With no further comment from Mr. Buckendorf, Chair Yeater asked the commission if they had any questions for the applicant.

Chair Yeater commented that one of the questions that was raised during the public hearing was about appropriate capping of the well, he asked Mr. Buckendorf if he has any involvement in that or if he can speak to what appropriate capping of a well would be. Mr. Buckendorf replied that they do not have any control over that, it is something that is run by the State, it was capped by the oil and gas operator. He has confirmed with the state that it was done per state regulation, and it meets all requirements that the state requires.

Chair Yeater continued, sharing that another concern was the emergency fire access would have a chain across the access and he wanted to know if Mr. Buckendorf would be amenable to an alternative option. Mr. Buckendorf said he would be open to it; the chain is a general standard that the Fire Department requests. It is a breakaway chain with a Knox box, because it keeps the public out of the area but is also something a fire truck can get through in the case of an emergency.

Chair Yeater inquired about it being mentioned that they would bring the pond into compliance, and what that means. Mr. Buckendorf shared that his understanding right now is that according to the City there are some issues with the pond complying that include some earthwork and they will do what is required to bring the pond up to compliance. Additionally, he shared that the HOA let him know that they will not discuss the pond access need until the application has been approved by the city. He continued to share that Becky is not the HOA contact, and he did learn that as well as who the correct contact is and has personally been in contact with her at least twice.

Continuing, Chair Yeater commented that the development showed an extra 45 parking spaces above

the minimum parking standard and Mr. Buckendorf replied that 186 parking space required by the code and the proposal includes 228 parking spaces which is over 25% over the minimum. The ratio is 2.28 parking spaces per unit.

Commissioner Anderson asked if the applicant felt that he had addressed the city's concerns about density. Mr. Buckendorf responded that he does feel that he has addressed the concern. He feels that it is a bit of a misrepresentation to say that they just moved around the 6 plex buildings. He considers this good planning, and they moved these buildings to the west side of the parcel because they are a good buffer and a more residential looking unit. It provides a good transition from the single-family homes, to the 6 plex units into the 8 plex units. When the concepts for this parcel first started, it was going to have 120 or 130 units, but they did listen to the comments and concerns of the neighborhood and addressed that it would be too many.

Without further questions for the applicant, Chair Yeater asked if someone from the city could come to the podium to answer questions about the process. Doug May returned to the podium. Commissioner Andersen asked what the plan is for 83rd Avenue between 10th Street and 20th Street. Mr. May deferred to city engineering to answer this question. Dylan Belanger, on behalf of David Harold with Engineering Development Review came to the podium to respond. He shared that 83rd Avenue is classified as a major arterial street and sometime in the future will be upgraded to meet the current major arterial standards. It will coincide with the timing of development along the corridor and the city is monitoring this constantly as they work on CIP (Capital Improvement Projects). Commissioner Andersen stated that the developer for this project said they were on a one-year timeline, and she wanted to know if the timeline for improvements on 83rd Avenue was planned for the next one to two years. Mr. Belanger replied that Public Works sets up a list of CIP projects, they rank them based on priority related to funds, severity, and volume in the area. This process is completed yearly. They take a growth approach and if growth happens unexpectedly or more rapidly than projected it would then be addressed.

Chair Yeater asked Mr. Belanger when his department reviews these cases if it considers potential volume from other proposed developments (not yet approved) in the same area to get an accurate picture. He replied that the study looks at several factors including what the volume of traffic is now, what it would be with this development in 2023 and what it would be if this is the only project that occurs. In this case it raised the level of service need from a C to D and a turning lane would be added.

Chair Yeater asked staff about the setbacks that have changed, stating that there was an original set back and the developer has now updated that. Mr. May responded sharing his understanding is that after the neighborhood meeting the setbacks were increased from 25 feet to 50 feet where the proposed development is adjacent to the single-family residential neighborhood. Chair Yeater wanted to know if approved today, would there be future public hearings on the architectural review or would that be part of an administrative review process moving forward. Mr. May responded that there is a site plan review process, and that it is an administrative review process.

Commissioner Modlin asked if it has been taken into consideration the number of 18-wheeler trucks that travel the 83rd Avenue corridor traveling to the industrial uses on O Street and the traffic issues that this causes when they are backed up on 83rd Avenue near 4th Street, he would like to know how that is accounted for in the traffic study. Mr. Belanger replied that this development would not look at traffic issues that far away from it but indicated that they could bring that to the attention of the Public Works department. Commissioner Modlin said that is part of the issue and he does not understand how the city is dealing with it and would like to understand how it contributes to the traffic and traffic study for 83rd Avenue. Chair Yeater commented that right now they are hearing the case for this PUD and what traffic further North on 83rd Avenue is a broader topic for another time.

Without further questions for staff Chair Yeater turned the item back to the commission for action.

Commissioner Andersen moved that based on the application received and the preceding analysis, the Planning Commission finds that the proposed Planned Unit Development follows Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval. Commissioner Franzen seconded the motion. Chair Yeater opened the item up for discussion by the commission.

Commissioner Andersen commented that she is not sure that this meets the missing middle concept, she feels bad for the developer because of all the approvals for multi-family development for so long and he is now being the last one standing in a cake walk when the music stops, and he doesn't have a chair. Her feeling is that this does not meet the missing middle because there is not anything that will be for sale in this development, and it will only provide rentals. She does not feel that this meets her criteria for multifamily development or for the missing middle. She would not approve of this.

Chair Yeater stated that he looks at this from the other perspective and they cannot hold the developer accountable for other mistakes that have been made. Traffic is already an issue, and the city needs to address it. He appreciates the concerns of the HOA and feels that some of them can be addressed by the city regarding the architectural components. He thinks the developer has done a good job with the smaller units and the setbacks. One of the things he thinks needs to be addressed is that the property is going to be developed in some way and the developer has the right to do that with both his intentions and the community's intentions in mind. With that he will support the project.

Commissioner Modlin confirmed that this project would only go through administrative review for the site plan review process. Brian McBroom confirmed that to be true and stated that should this PUD be approved, the next step would be the Site Plan review process. Commissioner Modlin stated that means that it would be up to the Planning Department and the developer to make any changes and approve the building landscaping and facades based on the requirements of the code. Mr. McBroom confirmed that to be true and stated that staff would also consider the comments heard today. Chair Yeater asked how they could encourage city staff to elevate those standards to meet the needs that the community is asking for. Mr. McBroom replied that he thinks that they have already done that, he does not think that there is anything against the Planning Commission making a specific motion to provide direction to staff. It would be advisory but any application for Site Plan would be required to meet the requirements of the code and any direction the Planning Commission provides would be considered regarding the Site Plan approval.

Chair Yeater asked if there is a specific time that a parcel can stay in the H-A zoning before it is required to be rezoned. Mr. McBroom stated he does not feel that there is any timeline that would expire for the H-A zoning.

Commissioner Franzen commented that if you look at the area around the proposed development, he has a hard time allowing high density in this location. He thinks that this is a very creative way to do this kind of project, but he does not believe that making application for a PUD rather than a higher density zoning is the way to do it and he thinks that it is extreme. He will not be in support of this.

Commissioner Modlin added that he hopes that because the developer is willing to change the concept of the development and he may have waited too long however the parcel needs to be developed. Part of the proposal he agrees with, the 6 Plex is very nice and buffers in well but the 8 plex buildings were not designed the same way and give more of a high rise look opposed to a residential look.

Chair Yeater called for the vote.

1-4 Motion is Denied.

A second motion was made by Commissioner Andersen, based on the application received and the preceding analysis, the Planning Commission finds that the proposed Planned Unit Development is not in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council denial. Commissioner Franzen seconded the motion.

Motion Carries 5-0

9. Staff Report

No Staff Report

10. Adjournment

With no further business before the Commission, Chair Yeater adjourned the meeting at 3:29 PM.

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Justin Yeater

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Don Threewitt

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Don Threewitt, Community Development Deputy Director

City of Greeley, Colorado
PLANNING COMMISSION PROCEEDINGS
September 26, 2023

Video Recording of the Meeting can be found at:

<https://www.youtube.com/live/DjW4lGGcDRU?si=ipGHW4qjAD5SdfYD>

1. Call to Order

Chair Yeater called the meeting to order at 1:15 PM.

2. Roll Call

The hearing clerk called the roll.

PRESENT

Chair Justin Yeater
Commissioner Louisa Andersen
Commissioner Briscoe
Commissioner Brian Franzen
Commissioner Larry Modlin
Commissioner Christian Schulte

ABSENT

Commissioner Jeff Carlson

3. Approval of Agenda

No additions or changes

4. Approval of September 12, 2023, Minutes

Commissioner Andersen moved to approve the minutes dated September 12, 2023. Commissioner Franzen seconded the motion. Motion carried 6-0.

5. A public hearing to consider a request to rezone approximately 11.2 acres located at 2118 N. 47th Avenue from Holding Agriculture (H-A) to Residential Estate (R-E). (ZON2022-0023).

Chair Yeater introduced the item, asking if the commission or anyone in attendance wished to see a presentation, seeing none the Public Hearing opened at 1:19 p.m.

Elmar Oestman, lives across from the location of this request. The applicant has eight percent of his irrigation well located in the parcel under consideration for this rezoning. He wants to know what the applicant plans to do on the parcel. Chair Yeater commented that the commission is present regarding the rezoning and that the information is in the packet and if the applicant wishes to speak, they can. He let Mr. Oestman know that he is welcome to share any opinion or feelings he has about the case. Mr. Oestman responded, sharing that he would be against approval of this right now.

Seeing no further requests for public comment, Chair Yeater stated if the applicant wished to speak in rebuttal they could at this time.

Owen Shanks with Uinta Surveying, 3313 35th Avenue Suite B, Evans, Colorado. Shared that the applicant was unable to attend the hearing due to being out of town, but he was present on his behalf. To address the concern, the applicant wanted to build a new house on the back portion of the property, he wanted to subdivide it into three separate lots and now is proposing two separate lots due to ongoing issues regarding water service with the city. He shared that is the purpose of the rezone and to build accordingly if approved. New versions of the plats reflecting this are being created now. The applicant does not have any plans to develop any additional units, that is not their intent.

With no further public comment or further questions for the applicant, Chair Yeater closed the Public Hearing at 1:21 p.m.

Chair Yeater turned the item to the commission for action. Commissioner Andersen motioned, based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezone from H-A (Holding Agriculture) zoning district to R-E (Residential Estate) zoning district meets the Development Code criteria, Sections 24-204 and therefore, recommends approval of the rezone to City Council. Commissioner Briscoe seconded the motion.

Chair Yeater asked the commission if there was any needed discussion on the matter. Commissioner Andersen asked what the minimum acreage for the R-E zone district was. Michael Franke, Planner II responded that the minimum lot size for the proposed zone district is 13,000 square feet.

With no further discussion, Chair Yeater called for the vote.

Motion Carried 6-0.

6. A Public Hearing to consider a Planned Unit Development (PUD) request to rezone approximately 42.64 acres of property located at 10494, 10800, and 10892 Hwy 257 Spur from R-L (Residential Low Density), PUD (Planned Unit Development), and C-H (Commercial High Intensity) to PUD (Planned Unit Development). (Project: PUD2023-0005)

Chair Yeater introduced the item, asking if the commission or anyone in attendance wished to see a presentation.

Commissioner Schulte stated he did not need to see the presentation but did have a question for staff. He wanted to know if one of the properties included in the proposed rezone had been the subject in a previous case that was presented to the commission before and commented he recalled that it was approved with a condition that the exterior wall be taller than originally submitted and he would like to know if that was still a factor.

Meg Oren, Planner III responded parcel Commissioner Schulte indicated, is what is essentially the “middle parcel” in this rezone, and it is remaining the same, it is not changing. The buffering standard or the wall itself is not changing at all. She included that the eastern parcel is going to match the buffering standard and landscape standards as well.

Chair Yeater commented that he recalled that the previous case mentioned, required an additional motion to make sure the wall met the expectation of the Planning Commission, he asked Ms. Oren what review procedure would be in place to make sure that it happens. Ms. Oren responded that any development that occurs in the PUD, the code standards, set back and landscape standards have already been determined by the proposed PUD and any development that comes in will have to meet

those standards. Chair Yeater shared that he recalled that entirety of the wall had to be constructed with stone material and he asked if the additional parcels would be required to have the same stone wall construction around the entirety of the property. Ms. Oren responded that they would not all necessarily be required to have the wall because the PUD itself does not require the wall, but it does require a larger setback than what would usually be required in similar zone districts.

With no further questions for staff, Chair Yeater asked if anyone in attendance would like to see a presentation or if the applicant was present and wished to speak. Seeing none, he opened the Public Hearing at 1:26. No requests to speak were made and Chair Yeater closed the Public Hearing at 1:26 p.m. and turned the request back to the commission for action.

Commissioner Andersen motioned, based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval. Commissioner Franzen seconded the motion.

Chair Yeater asked if the commission had any comments. Commissioner Schulte shared, he had the same concern that was expressed previously with the parcel including the wall and that the visual appeal of the area because it's kind of the gateway into Greeley from the highway and that the standards needed to be maintained.

Chair Yeater agreed with Commissioner Schulte and added that he appreciates the land use and need of the PUD however, he struggles with the lack of opportunity for the commission to review the Site Plan given the significance of the location being an entry point corridor. He will not support it in the current motion and does not want to take away from the applicants need to develop the parcel but he feels it needs to have a higher level of scrutiny as well as give the city the opportunity to vet the idea from a minimum to understand that the public is going to need to be able to take a look at it and have the chance to comment on it. He hopes the commission will consider amending the current motion to include some sort of review process for the site plan.

Commissioner Andersen asked if it was possible for the commission to ask for additional review after they have already made an approval and Brian McBroom, Community Development Director clarified the question to be, is it allowed for the commission to amend the motion to include that Planning Commission would get have to review and approve the site plan? Chair Yeater responded that was correct and it could be the Planning Commission or both Planning Commission and City Council. Mr. McBroom stated that this was perhaps more of a legal question, but he would suggest that if it is important to the commission that they should include it in their motion.

Chair Yeater spoke to the commissioners and stated he did not see it being very different than when they required the wall to be in place and that they are simply asking for an opportunity to review what is submitted for the Site Plan to ensure the intent for the original approval is upheld carries through the development of the remaining parcels in this PUD. Commissioner Andersen agreed that she felt it was a reasonable amendment to the motion.

Chair Yeater continued, reminding the commission that there was a motion that had already been proposed and it would be his wish that it is not approved but for a revised motion to be proposed that includes the discussed components.

Mr. McBroom stated that the commission could also have a subsequent motion to amend the motion.

Chair Yeater stated that he was content with having a motion to amend the current motion and

Commissioner Andersen agreed.

Commissioner Franzen moved that they move to amend the original motion to include adding Site Plan review and approval by Planning Commission and City Council. Commissioner Modlin seconded the amended motion. No further comment the commission voted. Motion carried 6-0.

Commissioner Andersen moved based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and with the amendment that Site Plan review would be remanded to both Planning Commission and City Council for approval prior to its passing and would therefore recommends City Council approval. Commissioner Schulte seconded the motion.

Motion Carried 6-0

7. A Public Hearing to consider a Use by Special Review (USR) request for a Parking Lot in the C-L (Commercial Light Intensity) Zone District West of 71st Avenue, North of 29th Street, South of Highway 34 (USR2023-0010).

Chair Yeater introduced the item and asked if the commission or anyone in attendance wished to see a presentation, or if the applicant wished to speak. seeing none the Public Hearing opened 1:32 p.m.

No one requested to speak and Chair Yeater closed the Public Hearing at 1:33 p.m. and turned the item back to the commission for action.

Commissioner Andersen moved, based on the application received and the preceding analysis, the Planning Commission finds that the proposed Use by Special Review for a Parking Lot in the C-L (Commercial Light Intensity) Zone District is consistent with the Development Code criteria of Section 24-206 (a-d), and therefore, approve the Use by Special Review as submitted. Commissioner Franzen seconded the motion.

Motion carried 6-0

8. A continuation of a public hearing (continued from September 12, 2023) to consider an application to rezone a property 11.08 acres in size from Residential Low Density (RL) to a Planned Unit Development (PUD). The PUD would allow various Residential and Institutional uses with specific zoning standards (PUD2022-0007).

Chair Yeater introduced the item. Re-opening the Public Hearing at 1:34 p.m. and asking the applicant if they wished to speak.

Ian Percey, 2130 62nd Avenue Court, Greeley. He began by sharing in the previous meeting they had asked for continuance. He would like to discuss the plans for this project and include that he does have a presentation for the project he hopes to share. The intent is to build a high-quality senior living facility with continual care, assisted living, memory care and 12 cottages that would be adjacent to Cambridge Glen.

Mr. Percey stated that his team has conducted a neighborhood meeting and heard concerns regarding both traffic and the density of the project. Since the neighborhood meeting after hearing the concerns, his team has updated the plans to limit the number of units that can be included as well as making the units adjacent to Cambridge Glen only single-story units and no more than two

story units on the remaining portions of the site. They have done a lot of work determining what the facility will look like and what it will bring to the community, including the traffic impacts. They have worked with the city on creating traffic calming and have determined that they will install a median to be constructed in the center line of 47th Avenue to calm traffic. This is a great use for this site, they will build with high quality. The proposed use is a good use for this infill location, and it will bring great benefits to the city and community. The proposed use meets the criteria for a PUD and the city staff has recommended its approval.

Mr. Percey addressed questions that had been raised from public comment on the project. One of the questions was related to the service and loading area for the facility. Using the Site Massing Study included in his presentation, he indicated that the loading and service area would be on the lower drive, in the area with the cottages and that between the 4th and 5th cottages there is an access road into the facility. Around this same area, there would be an enclosed section for trash.

Continuing, Mr. Percey addressed the concern related to the parking area near the end of the row of cottages. He stated that there are about 5 parking spaces closest to Cambridge Glen and that there are 6 on the other side. He shared they will be well landscaped and have a good buffering. All lighting will be cut off lighting on the site.

Another concern they heard was regarding the emergency access route that goes around the back of the building. It will be a different surface and not the regular asphalt surface. It will also include breakaway barriers and access will be limited to emergency services.

Mr. Percey added that there were questions and concerns regarding mitigation of dust during construction and shared that the contractor would be required to follow all city standards for dust mitigation. They will complete the dirt work as quickly as possible and get the asphalt installed as soon as they can to help alleviate this concern as well.

Mr. Percey thanked the commission for their time and let them know he is available for any questions. Chair Yeater commented that many of the concerns the commission heard revolved around traffic. He stated that the applicant mentioned meeting with the city and installing the median on 47th Avenue to calm traffic and asked if they had any other methods that were considered for calming traffic, more specifically, an acceleration/deceleration lane and inquired if this is something that was investigated. Mr. Percey replied that it was initially considered but after meeting with the city, the preferred approach is the median and that is what they have agreed to. He included it is about 300 feet of median.

Commissioner Schulte asked if the connection from the parcel to 47th Avenue is going to be in about the same place that the current driveway is now. Mr. Percey responded by indicating that it is very close, not the same place but still very close.

With no further questions for the applicant Chair Yeater continued, moving forward to public comment.

Randy Bussey, 4510 West 14th Street, Greeley. Stated that he discussed this with some civil engineers and regarding a flow analysis on an 8" stub, that comes from Cambridge Glen into the area for this development. They have not seen a flow analysis and do not know if it was for 150, 200, or 250 units and they do not know if a lift is going to be required to go towards the south into his area (only considering the sewer). He asked if someone present could speak to the flow analysis for the sewer.

Craig McWhirter, 4517 West 14th Street, Greeley. Shared that the questions that Mr. Percey was

commenting on were the ones he had and included that he was satisfied with his response.

Amy Croissant, 4718 West 13th Street, Greeley. She shared that she and her husband moved to Greeley two years ago, they had sought out a home in a low-density area and thought that where they moved was the perfect spot. They are not the only ones in their neighborhood that are concerned about the various residential and institutional uses related to how much traffic it will bring to the neighborhood. As well as how it will devalue their property. She shared that she feels the traffic is already horrendous during certain times of the day on 47th Avenue and there needs to be an independent study on this and how many vehicles are using this roadway already. She is not for high rise or a business in the neighborhood. It is not characteristic for their neighborhood or the Country Club or the type of people who have bought houses in here for the quietness of it. She is not in support of this, and it does not fit their neighborhood and she would like it to be kept residential, low-density and she would like an independent study done on the traffic at this present time.

Claudia Susman, 1100 48th Avenue, Greeley. She lives in Hilltop, just around the corner from the previous speaker. Several years ago, two lots were sold in Hilltop that should not have been made into lots. It closed off their access to 10th Street and now they have to make a right turn only, which means to access 10th Street they now have to go down to 13th Street and try to make a left hand turn on a blind hill and if this development is allowed it will increase the traffic coming north bound and make it even harder for those in Hilltop to access 10th Street. Her other question regarding if the city was going to gain revenue by changing the zoning, is there money in their pockets by changing the zoning?

Sue Mantell, 4503 West 14th Street, Greeley. She believed she heard that they were going to place a median on 47th Avenue. She would like to know how it will be placed because 47th Avenue is currently 4 lanes, and she does not understand where there would be room to place the median. She would like clarification on that.

With no further public comment, Chair Yeater closed the Public Hearing at 1:48 p.m. and asked a representative from the city, regarding traffic come to the podium.

Thomas Gilbert, Engineering Development Review came to the podium. Chair Yeater commented that there have been a lot of questions raised regarding traffic and asked Mr. Gilbert to provide clarification on what the city and the applicant have done to address the traffic concerns.

Mr. Gilbert responded, sharing that he looked at this project with CDOT (Colorado Department of Transportation) and Water & Sewer. When they were reviewing this project for the rezone it included conceptual ideas about traffic, water, and sewer. There will be subdivision and a site plan review that will have to meet city criteria before this project is completed. To address traffic concerns, the first thing to address is the deceleration lane, he indicated it was reviewed and it was not warranted so it was not added. He continued, there has been a lot of talk about the traffic in the area and that he was able to speak with the traffic engineer for the city. He shared with Mr. Gilbert that in 2018 traffic volumes on 47th Avenue in this area averaged 19,202 trips daily. These counts are like other major streets in this area such as 35th Avenue. It was within what is considered reasonable traffic. If you factor in a 2% growth rate for traffic, it means that currently the estimated traffic count is about 21,200 vehicles per day. In October of this year there is another traffic count scheduled for this corridor. The other questions that have come up regarding traffic are around the median that this development will install on 47th Avenue. He shared that this is not proposed to be a very wide landscaped median but a median that is the height of a curb and is about 4 feet wide. It will be in the middle of the roadway, and it will not impact the current width of 47th Avenue. Chair Yeater asked for clarification on the acceleration/deceleration lane and if it would require a higher level of traffic

for those kinds of structures to be in place. Mr. Gilbert commented that for a deceleration lane it has to do with how many right turns are being made and, in this case, it is just not warranted. Chair Yeater asked what in the city code would require a development to be required to install a deceleration lane. Mr. Gilbert was not familiar with what the number of right-hand turns would make it required but shared that there is a chart in the code that shows how many turns are triggers for different levels of traffic calming. He shared this will all be looked at closer during the subsequent applications for this development but for the required cursory look for this process it is not required. Discussion continued related to the upcoming traffic study that will take place in October and how the city determines intersections and roadways that need to improve to accommodate for growth. Commissioner Modlin asked if it made sense for the applicant to allocate room for those lanes for future accommodations. Mr. Gilbert responded, sharing that this case is for zoning, and they do not know the exact data for what will happen with the site and when the Subdivision application is submitted the city will make those determinations at that time. Discussion continued regarding the process of zoning, conceptual plans and how traffic counts are determined.

Chair Yeater asked for city Planning staff to come to the podium. Jeff Woeber, Planner III came to the podium. Commissioner Briscoe asked why the city suggested that this project be submitted as a PUD and not a specific rezoning. Mr. Woeber replied that in this case, the applicant was considering R-H (residential high-density) which would allow for higher density and higher maximum building heights. Staff did not feel that those factors would be appropriate for this site but by submitting this as a PUD, the number of units can be limited as well as the maximum building height. With no further questions for staff, Chair Yeater asked the applicant to step forward to speak.

Troy Sprigger, Civil Engineer, 4715 Innovation Drive, Ft. Collins, Colorado. He wanted to address the question regarding sanitary sewer. He included that they did go through intensive modeling, and it is limited to the maximum allowable density for this PUD. They have looked at the maximum capacity for the 8" line and it is at about 40% of the maximum capacity when you factor in the proposed units, and it will still be under the maximum threshold for this facility. All their studies and calculations have been submitted to the city and they are available for the public to see if they wish. With no further questions for Mr. Sprigger, Chair Yeater asked for the applicants' traffic representative to step forward.

Matt Brown, 5690 DTC Boulevard, Greenwood Village, Colorado. He is the traffic engineer for the project. He wanted to provide additional responses to the traffic questions that have been posed. Regarding the comments and concerns about the applicant obtaining an independent traffic analysis, he shared that he did prepare an independent traffic analysis for the project that was submitted and subsequently approved by the city. In response to the deceleration lane, the threshold for this type of project and roadway in the city of Greeley is 50 vehicles per hour. The study shows that there would be 32 vehicles per hour for this project. Chair Yeater asked what model is used to determine that there would be 32 vehicles per hour. Mr. Brown reported that it is based on 200 dwelling units with 120 living units attached, 24 independent living units detached and 66 memory care/assisted living units or beds. He shared that the numbers are based on number of dwelling units not the number of employees and based on imperial studies done across the country that determine how these rates are applied to the project and that it is all built into the calculations provided. In response to northbound traffic and access at Hilltop, providing perspective based on their counts there were 646 vehicles on the northbound in the afternoon peak hour and this development would add 29 vehicles to that count, it is a very small percentage increase. Neither the morning nor the afternoon traffic counts for this development trigger acceleration or deceleration lanes. Discussion continued relating to future growth and relation to this site. Chair Yeater asked what his experience indicates that the median in 47th Avenue will achieve. Mr. Brown shared that the median will absolutely limit the traffic at the driveway to right in and right out, there will not be an opportunity

to turn left out of the development and it may potentially reduce speeds along 47th avenue slightly. Chair Yeater asked if the acceleration/deceleration lane was the deciding factor for this application to be approved, would the applicant proceed, and Mr. Brown replied that it appeared they would be willing. Commissioner Schulte asked for clarification on the counts used to determine the number of vehicles related to the facility employees and if they were granular enough to capture the number of employee vehicles because of the nature of the facility and if the numbers equaled out because of the residents who would have vehicles versus the employees that would. Mr. Brown confirmed this to be accurate because each different unit type has vehicles count attached to it based on the empirical studies previously mentioned.

With no further questions, Chair Yeater turned the item back to the commission for action. Commissioner Andersen moved based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval. Commissioner Schulte seconded the motion.

Commissioner Briscoe stated that he struggles with the PUD portion of this application. He does not feel this is the appropriate application for this site. He can appreciate what the applicant is trying to achieve, he just does not feel that a site this small is relevant to the PUD application. Additionally, with the traffic issues and secondary entrance, he thinks that there are some issues with this, and he will probably not support this application for those reasons.

Commissioner Schulte commented that thinks that they have seen more PUD applications since the code was changed but in this case, he sees the advantage to utilizing it because if it were to be zoned as R-H, in the future would allow for much higher density than this PUD would allow for. He is willing to support it on that basis, he does have traffic concerns but those would be addressed in subsequent applications. Based on this application for PUD he would be in support of the motion.

Chair Yeater shared that he appreciates what the applicant is trying to do with this request. He supports it on its face value based on the PUD, limiting the height of the structures. He feels the applicant is doing everything they can to address the concerns of the property owners nearby and develop this piece of property. He sees the challenges with the PUD in that this is conceptual, and it does not give everyone an opportunity to see what will be built as well as the traffic concerns. He supports conceptually what this project is but would also like to see the city really look at the traffic issues. He would like to hear any suggestions on the best way to get this project approved but also address the concerns that have been raised.

Commissioner Andersen commented that she likes the idea of this project, and it is needed in the community. She is also highly concerned about rezoning with this intent in mind and if something were to happen and the project was not developed this parcel is going to be zoned with these specifications.

Commissioner Franzen agreed with Commissioner Andersen's comments. He thinks it is a great use for the property and it has been vacant for years but does feel that they need to take a deeper look at it.

Chair Yeater asked staff for any suggestions on how to amend this or the best path to proceed with. Brian McBroom replied that the commission is doing a good job identifying the key issues. He shared that the commission does have some ability, such as in the previous case to add conditions to their recommendations and in respect to concerns about the commission not having another opportunity to review the project as it progresses, on advantage to the PUD verses a R-H zoning is that there is a

certain amount of specificity that they would normally not have. Discussion continued to include what is required procedurally when an application is recommended for approval and when it is not recommended for approval as well as what components are covered under the City's Site Plan review.

Chair Yeater called for the motion currently proposed.

Motion Denied 1-5

Commissioner Andersen moved based on the application received and the preceding analysis, the Planning Commission that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval with the condition that the Site Plan and Traffic Plan are reviewed and approved by Planning Commission and City Council. Commissioner Schulte seconded the motion.

Second motion Andersen, Seconded: Schulte 6-0

9. Staff Report

Brian McBroom shared thanks to Commissioner's Briscoe and Modlin for the discussions they had this morning, and he looks forward to ones in the future.

He continued sharing the City is in the final stages of the budget process for 2024 and the City Manager's office is recommending additional funds in the budget for additional sub-area plans in 2024. West Greeley would be one of the areas included as well as parts of the North side of Greeley. Related to his discussions with Commissioners Modlin and Briscoe were joint work sessions with the City Council regarding sub area planning.

There have been several issues including traffic, PUD's and the 2024 work plan that would translate into great work session discussions. Chair Yeater and Commissioner Modlin agreed.

10. Adjournment

With no further business before the Commission, Chair Yeater adjourned the meeting at 2:36 PM.

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Justin Yeater

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DocuSigned by:

Don Threewitt

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Don Threewitt, Community Development Deputy Director



Council Agenda Summary

December 5, 2023

Key Staff Contact: Brian McBroom, Community Development Director, Michael Franke, Planning Technician

Title:

Introduction and first reading of an ordinance changing the official zoning map of the City of Greeley, Colorado from R-L (Residential Low Intensity) to PUD (Planned Unit Development) and changing the underlying land use designations for approximately 72.5 acres of land (Triple Creek PUD)

Summary:

The City Council is considering an ordinance changing the official zoning map of the City of Greeley, Colorado by rezoning 72.5 acres of land from R-L (Residential Low Intensity) to PUD (Planned Unit Development) allowing commercial, mixed use, multifamily, and single family development located west of 71st Avenue, 1/4 mile south of 10th Street, and 1/3 north of 20th Street.

The Triple Creek PUD is comprised of four (4) planning areas. In Planning Area 1, a maximum of 350,000 SF of commercial space and a maximum residential density of 29 dwelling units per acre are permitted. In Planning Areas 2 and 3, a maximum residential density of 15 dwelling units per acre is proposed. Planning Area 4 is reserved for a community park.

The project did meet all the public notice requirements. Using a 1,000' buffer, notice to 440 surrounding property owners and current residents were mailed on October 10, 2023. Two signs were posted on the site per the Development Code requirements on October 9, 2023. A web notice was posted to the City of Greeley website. (See Planning Commission Summary for further details.)

On October 24th, 2023, during a public hearing, the Planning Commission unanimously voted to recommend approval of the Triple Creek PUD case to the City Council.

The City Council is tasked with introducing the ordinance and scheduling the public hearing and second reading for December 19, 2023.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	NA

Legal Issues:

Consideration of this matter is a quasi-judicial process which includes the following public hearing steps:

- 1) City staff presentation
- 2) Council questions of staff
- 3) Applicant presentation

- 4) Council questions of applicant
- 5) Public input (hearing opened, testimony - up to three minutes per person, hearing closed)
- 6) Rebuttal, if requested
- 7) Council discussion
- 8) Council decision

Other issues and Considerations:

None

Strategic Focus Area:



Community Vitality

Decision Options:

- 1) Introduce the ordinance as presented; or
- 2) Amend the ordinance and introduce as amended; or
- 3) Deny the ordinance; or
- 4) Continue consideration of the ordinance to a date certain.

Council's Recommended Action:

A motion to introduce the ordinance and schedule the public hearing and second reading for December 19, 2023.

Attachments:

1. Ord 55, 2023 with Exhibit A
2. Planning Commission Summary
3. PC Summary Attachment A
4. PC Summary Attachment B
5. PC Summary Attachment C
6. PC Summary Attachment Plan Details
7. PC Summary Attachment D
8. PC Summary Attachment E
9. PC Summary Attachment F
10. PC Summary Attachment G
11. PC Summary Attachment H
12. PC Summary Attachment I
13. Planning Commission Minutes

**CITY OF GREELEY, COLORADO
ORDINANCE NO. 55, 2023
CASE NO. PUD2023-0002**

AN ORDINANCE CHANGING THE OFFICIAL ZONING MAP OF THE CITY OF GREELEY, COLORADO, TO ESTABLISH A PLANNED UNIT DEVELOPMENT (PUD) FOR APPROXIMATELY 72.5 ACRES LOCATED WEST OF 71ST AVENUE, 1/3 MILE SOUTH OF 10TH STREET AND 1/4TH MILE NORTH OF 20TH STREET.

BE IT ORDAINED BY THE CITY COUNCIL OF GREELEY, COLORADO:

Section 1. The following described property located in the City of Greeley is hereby established a PUD (PLANNED UNIT DEVELOPMENT) in the City of Greeley, County of Weld, State of Colorado:

Legal Description

See Appendix A, attached hereto, and incorporated herein.

Section 2. The boundaries of the pertinent zoning districts as shown on the official zoning map are hereby changed so as to accomplish the above-described zoning changes, and the Mayor and City Clerk are hereby authorized and directed to sign and attest an entry which shall be made on the official zoning map to reflect this change.

Section 3. This ordinance shall become effective five (5) days after its final publication as provided by the Greeley City Charter.

PASSED AND ADOPTED, SIGNED AND APPROVED, THIS ____ DAY OF _____, 2023.

ATTEST:

THE CITY OF GREELEY

City Clerk

Mayor

APPENDIX A
AN ORDINANCE CHANGING THE OFFICIAL ZONING MAP OF THE CITY OF GREELEY, COLORADO, TO ESTABLISH A PLANNED UNIT DEVELOPMENT (PUD) FOR APPROXIMATELY 72.5 ACRES LOCATED WEST OF 71ST AVENUE, 1/3 MILE SOUTH OF 10TH STREET AND 1/4TH MILE NORTH OF 20TH STREET.

LEGAL DESCRIPTION FOR REZONING AREA

PARCEL 1

That part of the East half of Section 8, Township 5 North, Range 66 West of the 6th P.M., County of Weld, State of Colorado, described as follows:

Commencing at the Southeast corner of the North half of the Southeast Quarter of said Section 8 monumented by a 5/8' rebar with a 2.5" aluminum cap stamped 2013, PLS 38199;

Thence South 89°27'14" West 30.00 feet on the South line of the North Half of the Southeast Quarter said Section 8 to a 5/8" rebar with a 1.25" yellow plastic cap stamped PLS 38199 and the True Point of Beginning;

Thence continuing South 89°27'14" West for 1751.11 feet on said South line to a 5/8" rebar with 2" aluminum cap stamped ALLES and ASSOCIATES, INC PLS 9644-2002;

Thence North 20°42'54" East for 217.24 feet to a 5/8' rebar with 2" aluminum cap stamped ALLES AND ASSOCIATES, INC PLS 9644-2002;

Thence along a curve to the right (having a radius of 330.07 feet and a long chord bearing North 35°08'20" West for 370.53 feet) for an arc length of 393.40 feet to a 5/8" rebar with 2" aluminum cap stamped ALLES AND ASSOCIATES, INC PLS 9644-2002;

Thence North 00°58'59" West for 252.67 feet to a 5/8" rebar with 2" aluminum cap stamped ALLES AND ASSOCIATES, INC PLS 9644-2002;

Thence along a curve to the left (having a radius of 1030.20 feet and a long chord bearing North 04°54'50" West for 140.23 feet) for an arc length of 140.33 feet to a 5/8" rebar with a 1.25" yellow plastic cap stamped PLS 38199;

Thence along a curve to the left (having a radius of 1030.20 feet and a long chord bearing North 13°48'29" West for 179.91 feet) for an arc length of 180.14 feet to a 5/8" rebar with 2" aluminum cap stamped ALLES AND ASSOCIATES, INC PLS 9644-2002;

Thence North 18°48'19" West 126.08 feet to a 5/8" rebar with 2" aluminum cap stamped ALLES AND ASSOCIATES, INC PLS 9644-2002;

Thence along a curve to the right (having a radius of 830.16 feet and a long chord bearing South 80°06'06" West for 257.21 feet) for an arc length of 258.25 feet to a 5/8" rebar with a 1.25" yellow plastic cap stamped PLS 38199;

Thence South 88°59'50" West for 167.98 feet to a 5/8" rebar with 2" aluminum cap stamped ALLES AND ASSOCIATES , INC PLS 9644-2002;

Thence North 00°34'29" West for 131.83 feet to a 5/8" rebar with a 2" aluminum cap stamped ALLES AND ASSOCIATES, INC PLS 9644-2002;

Thence North 30°20'25" East for 101.90 feet to a 5/8" rebar with a 2" aluminum cap stamped ALLES AND ASSOCIATES, INC PLS 9644-2002;

Thence North 77°04'21" East for 255.21 feet to a 1/2" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence North 67°39'24" East for 210.12 feet to a 1/2" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence North 62°27'31" East for 340.80 feet to a 1/2" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence North 50°31'40" East for 110.11 feet to a 1/2" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence North 35°13'30" East for 202.47 feet to a 1/2" rebar with 1" orange plastic cap stamped KSI LS 33642;

Thence North 35°29'31" East for 208.65 feet to a 1/2" rebar with 1" orange plastic cap stamped KSI LS 33642;

Thence North 74°19'37" East for 534.81 feet to a 1/2" rebar with 1" orange plastic cap stamped KSI LS 33642;

Thence South 75°29'47" East for 518.17 feet to a 1/2" rebar with 1" yellow plastic cap stamped FREESE LS 4392;

Thence North 85°50'12" East for 60.97 feet to a 1/2" rebar with 1" yellow plastic cap stamped FREESE LS 4392;

Thence South 00°24'11" East for 862.61 feet to a 1/2" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence North 54°44'24" East for 248.82 feet to the west right of way line of 71st Avenue monumented with a 1/2" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence South 00°28'00" East for 24.37 feet on said west right of way line to a 1/2" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence South 54°42'17" West for 506.56 feet to a 1/2" rebar with 1" yellow plastic cap (markings obliterated);

Thence South 54°43'22" West for 133.19 feet to a 1/2" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence South 62°27'13" West for 80.67 feet to a 1/2" rebar with 1.25" yellow plastic cap (markings obliterated);

Thence South 00°25'11" East for 898.08 feet to a 5/8" rebar with a 1.25" yellow plastic cap stamped PLS 38199;

Thence North 89°47'04" East for 596.53 feet to the West right of way line of 71st Avenue monumented with a 5/8" rebar with 1.25" yellow plastic cap stamped PLS 38199;

Thence South 00°24'35" East on said West right of way line for 21.55 feet to the Point of Beginning,

Basis of Bearing: Referenced from Warranty Deed recorded at Weld County, Clerk and Recorder's Office on December 27, 2006 at Reception No. 3443837. The South line of the North Half of the Southeast Quarter of Section 8, Township 5 North, Range 66 West of the 6th P.M., bears South 89°27'14" West between a 5/8" rebar with 2.5" aluminum cap stamped 2013, PLS 38199 and a 5/8" rebar with 2" aluminum cap stamped ALLES AND ASSOCIATES, INC PLS 9644-2002 with all other bearings relative thereto.

County of Weld, State of Colorado.

EXCEPT that portion conveyed to the City of Greeley in Warranty Deeds recorded February 23, 2018 at Reception No. 4377349 and a Reception No. 437735050,

Said parcel contains 3,038,803 Square Feet or 69.744 Acres more or less by this survey.

PARCEL 2

A parcel of land lying in the S 1/2 of the NE 1/4 and the N 1/2 of the SE 1/4 of Section 8, Township 5 North, Range 66 West of the 6th P.M., Weld County, Colorado, more particularly described as follows:

Commencing at the Northeast corner of said Section 8 and considering the East line of said Section 8 to bear due South and with all other bearings described herein relative thereto; thence South along the East line of said Section 8, 2,055.59 feet to the TRUE POINT OF BEGINNING;

Thence continuing South along the East line of said Section 8, 568.95 feet;

Thence West 30 feet to an iron pin set in the West right-of-way line of the county road;

Thence South 55°06'30" West 248.87 feet;

Thence North 711.31 feet;

Thence East 204.13 feet to an iron pin set in the West right-of-way line of the county road;

Thence continuing East 30 feet to the TRUE POINT OF BEGINNING,

EXCEPT that portion conveyed to the City of Greeley in Deed recorded December 12, 2018 at Reception No. 4452935.

Said parcel contains 116,000 Square Feet or 2.663 Acres more or less by this survey.

PLANNING COMMISSION SUMMARY

ITEM: Planned Unit Development request for commercial, mixed use, multi-family, single-family, and parks on approximately 72.5 acres of land located west of 71st Avenue, 1/3 mile south of 10th Street, and 1/4 mile north of 20th Street known as Triple Creek PUD

FILE NUMBER: PUD2023-0002

PROJECT: Triple Creek PUD

LOCATION: West of 71st Avenue, 1/3 mile south of 10th Street, and 1/4 mile north of 20th Street

APPLICANT: Triple Creek Development, LLC

CASE PLANNER: Michael Franke, Planner II

PLANNING COMMISSION HEARING DATE: October 24, 2023

PLANNING COMMISSION FUNCTION:

The Planning Commission shall consider the staff report, along with testimony and comments made by the applicant and the public and shall then make a recommendation to the City Council regarding the application in the form of a finding based on the review criteria in Section 24-205(c) and 24-204(b) of the Development Code.

EXECUTIVE SUMMARY

The City of Greeley is considering a Planned Unit Development request for commercial, mixed use, multi-family, single-family, and parks on approximately 72.5 acres of land located west of 71st Avenue, 1/3 mile south of 10th Street, and 1/4 mile north of 20th Street known as Triple Creek PUD.

A. REQUEST

The applicant proposes to establish Planned Unit Development (PUD) zoning, known as the Triple Creek PUD, on approximately 72.5 acres located west of 71st Avenue, 1/3 mile south of 10th Street, and 1/4 mile north of 20th Street. The proposed Triple Creek PUD includes four planning areas.

Planning Area 1, comprising approximately 27.1 acres at the northeast corner of the site, would allow single-family dwellings in detached/estate lot, small lot, small format housing types, row housing, mixed use dwellings, and parks/open spaces/common areas. The maximum density of residential dwelling units in Planning Area 1 is 29 du/ac and the maximum commercial space is 350,000 SF. Oil and gas uses are also permitted in Planning Area 1 to compromise for the existing oil and gas development on site. Once that oil and gas development is finished, no other oil and

gas is proposed on the Triple Creek PUD site. Planning Area 2, comprising approximately 23.7 acres in the southern part of the site, would also allow single-family dwellings in the same housing types as Planning Area 1. Row housing and mixed use dwelling units area also allowed in Planning Area 2. The maximum residential/mixed use density in Planning Area 2 is 15 du/ac. Other uses allowed in Planning Area 2 are parks, open space, and common areas, in addition to oil and gas due to the existing oil and gas development on site. Planning Area 3, comprising approximately 12.8 acres at the northwest corner of the site, would accommodate the same use types as Planning Area 1 and 2, with a maximum residential and mixed use density of 15 du/ac. Planning Area 4, comprising approximately 8.9 acres at the north-central portion of the site, would allow for parks, open space, & common areas, in addition to oil and gas to compromise for the existing oil and gas development on site. Planning Area 4 would serve as a large community park as the entire 8.9 acres will be for park and open space development only to serve the community recreationally, in addition to proposed pocket parks.

The proposed Planned Unit Development anticipates future dedication of right-of-way to extend 16th Street to the west and additional right-of-way for future improvements on 71st Avenue. Other thoroughfares identified on the PUD include 74th Avenue from south to north. Local streets would be planned with future preliminary subdivisions. Stormwater facilities are envisioned in Planning Areas 1 and 3. Construction of all necessary water lines (potable and nonpotable), sewer lines, stormwater lines, etc. throughout development processes to serve the future community. The applicant has provided conceptual plans for extension of non-potable, water, and sewer lines to serve the development.

The applicant proposes a network of trails and amenity spaces throughout the development. The applicant has also provided development standards that future development would be required to satisfy.

B. STAFF RECOMMENDATION

Approval

C. LOCATION

Abutting Zoning

North: C-D, R-L, and R-E (Conservation District, Residential Low Intensity, Residential Estate)

South: R-L and R-H (Residential Low Intensity and Residential High Intensity)

East: R-L and H-A (Residential Low Intensity and Holding Agriculture)

West: R-L (Residential Low Intensity)

Abutting Land Uses

North: Sheep Draw Trail, Single-family dwelling, and farmland

South: Single-family dwelling

East: Single-family dwellings and 71st Avenue

West: Farming, open space, and single-family dwelling

Site Characteristics:

The subject site is approximately 72.5 acres. The site is relatively flat. The site is currently used for an oil and gas development and farming. There is one single-family dwelling on the site abutting 71st Avenue that is not occupied and owned by the applicant and will be demolished upon development.

D. BACKGROUND

The subject area comprises approximately 72.5 acres west of 71st Avenue, 1/3 mile south of 10th Street, and 1/4 mile north of 20th Street. The site was annexed by City Council in 1998 as part of the Triple Creek Annexation (Case A 3:98) (Ord 39, 1998 2632176). The property was zoned R-L at time of annexation. The only development on the site is an existing oil and gas well pad with production facility. The applicant proposes Planned Unit Development (PUD) zoning for the site, known as Triple Creek PUD.

E. APPROVAL CRITERIA

Rezoning Review Criteria, Section 24-204(b):

- 1. The proposal is in accordance with the goals and objectives of the Comprehensive Plan and any other plan, policy or guidance adopted pursuant to that plan.**

Staff Comment: The subject area is identified as a Suburban Neighborhood on the Land Use Guidance Map in the Imagine Greeley Comprehensive Plan. A Neighborhood Center is identified for the intersection of 16th Street at 71st Avenue as you enter the development, and both of those thoroughfares are envisioned as multimodal corridors. The proposal supports the vision for a Suburban Neighborhood by providing a mixture of single-family, multi-family, and commercial development served by park land and trails within the neighborhood. The proposal supports the vision for a Neighborhood Center by providing an area for commercial uses at the intersection of 16th Street and 71st Avenue, supported by adjacent areas for mixed use and multi-family housing, along with commercial areas. The proposal supports the vision for Multi-Modal Corridors by providing areas for multi-family and commercial uses along these thoroughfares. Additionally, the following comprehensive plan goals support the subject application:

Goal ED-1 : Promote a healthy, progressive, and competitive local economy.

Triple Creek promotes a healthy economic climate through a diversity of land uses, including commercial, industrial, residential, and open space, in compliance with Objective ED-1.1. Triple Creek encourages a growing tax base that supports the well-being of the community and a high quality of life through a mix of land uses and a network of open

space and trails, in compliance with Objective ED-1.2. Triple Creek diversifies the City's employment base to assure stability in times of economic change by providing local commercial and industrial land uses that will employ Greeley and Triple Creek residents, in compliance with Objective ED-1.4.

Goal ED-2 : Promote desired economic sectors and a diverse local economy.

Triple Creek develops, maintains, and promotes community assets and amenities in an environment that attracts desired business and industry by providing commercial and industrial land uses for economic development, and a network of open space and trails for recreation, in compliance with Objective ED-2.2

Goal ED-3 : Attract and maintain employed, skilled, and adaptable workforce.

Triple Creek provides diverse economic opportunities, jobs, and housing and transportation options to ensure that Greeley is attractive to and inclusive of a diverse workforce through development of commercial and industrial land uses, in compliance with Objective ED-3.1.

Triple Creek provides safe, convenient, and reliable transportation options including bike lanes and sidewalks to employees so that they have a reliable means of commuting to work by providing commercial land uses along bike routes and connected by sidewalks throughout the community, in compliance with Objective ED-3.9.

Goal EH-2 : Integrate healthy living into community planning and development.

Triple Creek encourages residents to adopt active and healthy lifestyles to improve their general health and well-being, and Triple Creek promotes opportunities to participate in fitness and recreation activities, and provides amenities, such as trails and bike paths, that promote physical activity throughout the city by providing a diversity of open space amenities and trails throughout the community, in compliance with Objective EH-2.3.

Triple Creek promotes land use decisions that support walkability and improve access to basic needs, such as neighborhood markets, parks, and natural areas by providing a community network of sidewalks and trails among residential and commercial land uses and open space, in compliance with Objective EH-2.4.

Triple Creek plans and designs neighborhoods so that employment, shopping, parks, and other facilities are within a 10-minute safe walk of

housing wherever feasible by locating residential land uses in close proximity to commercial land uses and parks, in compliance with Objective EH 2.5.

Triple Creek encourages the construction of built environments that support health and active living, such as mixed-use centers, corridors, and neighborhoods that support walkability, providing safe options for active transportation, and considering the safety and comfort of all users when designing streets, parks, and other public spaces through its configuration of planning areas with a diversity of land uses, connected by open space corridors, sidewalks, trails, and parks whose priorities are healthy lifestyles, safety, and recreation opportunities, in compliance with Objective EH-2.6.

Goal GC-1 : Manage growth effectively.

Triple Creek manages growth to maintain or improve quality of life for Greeley’s residents, minimizes impacts on the natural environment, and protects or enhances natural features and other resources through planned development phasing, through support and implementation of best management practices for stormwater, and through development of open space buffers and corridors, in compliance with Objective GC-1.1.

Triple Creek encourages a compact urban form over sprawl or leap-frog development through its infill development strategy and through its multi-story mixed land use development standards, in compliance with Objective GC-1.2.

Triple Creek ensures that new development abutting land that is intended to remain undeveloped, such as parks, open lands, environmentally sensitive areas, and agricultural land with conservation easements, provides for transitions in uses and intensity that mitigate impacts on these adjacent areas through its siting of Park A and Detention as a buffer between the adjacent Sheep Draw open space to the north and Triple Creek’s commercial land uses elsewhere in Planning Area 1, in compliance with Objective GC-1.6.

Goal GC-2 : Promote a balanced mix and distribution of land uses.

Triple Creek supports zoning and development patterns that expand opportunities for people who live in Greeley to also work in Greeley (or vice versa) by providing commercial and industrial land uses where Triple Creek and Greeley residents may work, in compliance with Objective GC-2.2.

Triple Creek encourages a development pattern that encourages walking and bicycling whenever possible—by locating employment, shopping,

recreation, entertainment, and other services within a quarter-mile of residential areas through a mix of residential and commercial land uses within the community and connecting them with pedestrian-friendly sidewalks, bike paths, and trails, in compliance with Objective GC-2.3.

Triple Creek promotes horizontal and vertical mixed-use development that integrates a variety of housing, commercial, employment, and recreational uses particularly in centers and along corridors identified on the Land Use Guidance map through residential and non-residential development standards, recreational land uses, and park dedications, in compliance with Objective GC-2.4. Triple Creek promotes neighborhood centers—small-scale retail areas providing basic commercial goods and services—to locate within a walkable distance of residences, usually a quarter-mile or less by providing for commercial/mixed uses of Planning Area 1 within a quarter-mile of residences, in compliance with Objective GC-2.5.

Goal GC-3 : Promote new development, infrastructure investments, and public improvements that enhance the character of the community.

Triple Creek leads by example in meeting or exceeding the Development Code design standards in the construction of all public facilities, including parking lots, public buildings, landscaped areas and parks, buffer yards, and related projects through its plans for poolhouses and community amenities that are integrated in character and scale within the Triple Creek community, in compliance with Objective GC-3.3.

Triple Creek reinforces the community's image as a "Tree City" by promoting the establishment and maintenance of tree-lined travel corridors throughout the community, taking into consideration water use, conservation strategies, and the natural environment through street tree requirements along collector and local roads throughout the community, in compliance with Objective GC-3.4.

Goal GC-6: Maintain and enhance the character and interconnectivity of Greeley's neighborhoods.

Triple Creek contains a variety of attributes that contribute to a resident's day-to-day living (residential, commercial, employment, mixed uses) through its mix of land uses as shown in the Land Use Summary chart on Sheet L5.00, in compliance with Objective GC-6.1.

Triple Creek fosters the development of "Complete Neighborhoods" that fosters multi-modal connectivity (pedestrians, bicyclists, drivers) through its widespread and diverse network of roads with bike lanes,

sidewalks, paths, trails, and public transportation routes, in compliance with Objective GC-6.1.

Triple Creek integrates small-scale retail or services through its commercial/mixed uses in Planning Area 1 and accompanying residential and non-residential development standards, in compliance with Objective GC-6.1.

Triple Creek promotes design standards and practices that improve connectivity for all modes between neighborhoods and adjacent neighborhoods, centers, corridors, and areas through its network of roads with bike lanes, sidewalks, paths, and trails, in compliance with Objective GC-6.2.

Goal HO-1: Improve access to housing for all income levels, ages, and physical abilities.

Triple Creek develops and implements a comprehensive housing strategy with clear goals and implementation strategies that establishes priorities for the types of housing, tenure types, and populations to be targeted through its implementation of a range of residential unit types (multi-family, row house, single family detached – cottage, single family detached – small, single family detached – estate, and detached house – small format lots), in compliance with Objective HO-1.1.

Triple Creek develops and implements a comprehensive housing strategy with clear goals and implementation strategies that encourages a range of creative housing options, including small-sized housing units (in the range of 1,000 to 1,500 square feet in size), manufactured homes, zero-lot line housing, attached housing types, and housing located above ground floor commercial uses in mixed-use areas through its residential development standards, in compliance with Objective HO-1.1.

Goal HO-2 : Encourage a broad diversity of housing options.

Triple Creek encourages a variety of housing types, sizes, styles, and price-points of housing units within new residential projects or subdivisions through its diverse mix of housing types and locations throughout the community, in compliance with Objective HO-2.1.

Goal NR-3: Demonstrate stewardship of the environment.

Triple Creek encourages the thoughtful reclamation of land that has been mined through its plan to redevelop the existing oil & gas facilities to a future active neighborhood park, in compliance with Objective NR-3.7.

Goal NR-4 : Use resources efficiently and sustainably.

Triple Creek promotes the use of landscaping with species appropriate to the local climate conditions through its landscaping requirements as stated on Sheet L9.00, in compliance with Objective NR-4.3.

Goal PR-1 : Develop and maintain an inter-connected system of parks, trails, and recreational facilities.

Triple Creek develops a system of parks, trails, and recreational facilities which includes trail offerings that improves access to the overall system through its connection of local trails to the regional trail along Sheep Draw, in compliance with Objective PR-1.1.

Triple Creek develops a system of parks, trails, and recreational facilities which ensures residents have the opportunity to enjoy nature and that includes trail offerings that improve access to the overall system by dedicating multiple neighborhood parks and by providing a community-wide network of trails throughout the community that connect to the Sheep Draw regional trail, in compliance with Objective PR-1.1. Triple Creek designs streetscapes, linear parks, greenways, and other green spaces within the city as integral elements of the park system by providing design guidelines and implementation strategies to develop streets as multi-functional, beautiful, and integrated public spaces within the community, and by integrating a site-wide interconnected network of parks, recreational amenities, and open space, in compliance with Objective PR-1.8.

Goal PR-2 : Ensure the City's system of parks, trails, and recreational facilities align with and support other community goals.

Triple Creek ensures that new parks support best practices in water conservation and irrigation efficiency including reducing irrigated bluegrass areas unless needed for a specific activity by requiring high-efficiency automatic irrigation systems that incorporate water conservation measures and by encouraging alternative sources of irrigation for all landscaped areas, in compliance with Objective PR-2.1.

Triple Creek incorporates native vegetation, natural grasslands, and low water-use plants and landscaping approaches into the design of parks, trails, and recreational amenities by utilizing native plants and plants appropriate for the local climatic and soil conditions, in compliance with Objective PR-2.2.

Goal PS-3: Develop and maintain a safe, aesthetically pleasing, and livable community.

Triple Creek enhances public safety through the use of public improvements, urban design, street furniture, lighting, and other features of the built environment through the provision of guidelines and implementation policies that specify improvements such as lighting, furnishings, signage, trash receptacles, wifi, shelters, and traffic calming measures as shown on the Neighborhood Park, Streetscapes, Monuments and Signage, and Community Amenities design vignettes, in compliance with Objective PR-3.1.

Goal TM-1: Develop and maintain an accessible, integrated, safe, and efficient transportation system.

Triple Creek designs, constructs, and maintains a multi-modal transportation system that provides networks for pedestrians and bicyclists that are equal in priority, design and construction to the system provided to motorists through provision of sidewalks and a community-wide multi-use trail network, in compliance with Objective TM-1.1.

Triple Creek develops attractive, safe, accessible, and efficient public rights-of-way, including roadways and sidewalks through provision of design guidelines and implementation policies as shown on the Streetscape design vignette, in compliance with Objective TM-1.3.

Triple Creek supports the use of traffic calming methods that prevent accidents and improve safety for all users by providing traffic calming measures among its design guidelines as shown on the Streetscape design vignette, in compliance with Objective TM-1.4.

Triple Creek maintains a roadway system that encourages the use of arterial streets for cross-town and regional traffic, the use of collector streets to channel traffic from the neighborhoods to arterial streets, and discourages the use of local streets for through-traffic by providing connected collector streets through the community that serve each planning area and neighborhood as shown on the site plan and vehicular circulation plan and that connect to the off-site 71st Avenue arterial, in compliance with Objective TM-1.8.

The request complies with this criterion.

2. The proposal can fulfill the intent of the zoning district considering the relationship to surrounding areas.

Staff Comment: The intent of the Planned Unit Development is to provide a mixed use and suburban neighborhood that is compatible with the area. The proposal is consistent with other planned development in the vicinity.

The request complies with this criterion.

3. Whether the area changed or is it changing to such a degree that it is in the public interest to rezone the subject property to encourage development or redevelopment of the area.

Staff Comment: The area continues to see sites planned for mixed use neighborhoods. This area contains a mix of estate lots, standard single-family dwellings, and commercial uses. The area is a highly desirable area for current and new residents of Greeley and the land will better serve the community as a mixed use/suburban neighborhood. It is in the public interest to establish zoning on the subject site that is consistent with the trend of planning mixed use neighborhoods in this area.

The request complies with this criterion.

4. Whether the existing zoning has been in place for a substantial time without development, and if this indicates the existing zoning is inappropriate given development trends in the vicinity.

Staff Comment: The site has been zoned R-L since 1998 at the time of annexation. No development, other than an oil and gas well pad with production facility, has occurred on site. It is appropriate to change the zoning for development to serve the community by adding residential units and commercial spaces.

The request complies with this criterion.

5. The proposed zoning will enable development in character with existing or anticipated development in the area considering the design of streets, civic spaces, and other open space; the pattern, scale and format of buildings and sites; and the compatibility and transitions with other complimentary uses and development.

Staff Comment: The proposal allows a mix of uses and open spaces that are compatible with planned development in the area. The proposed primary streets and trails tie into plans for neighboring developments.

The request complies with this criterion.

6. The City or other agencies have the ability to provide services or facilities that may be necessary for anticipated uses in the proposed district.

Staff Comment: Existing services are present in the vicinity to support development of the site as proposed. The applicant will be responsible for extending services to their site upon development.

The request complies with this criterion.

- 7. The change will serve a community need, provide an amenity, or accommodate development that is not possible under the current zoning or that was not anticipated at the time of the initial zoning of the property, making the proposed zoning more appropriate than the current zoning.**

Staff Comment: Development of this site will provide more residential dwelling units to the current housing stock in Greeley and will increase the amount of commercial services in Greeley to serve the growing population. The proposed development is not possible under the current zoning, as R-L zoning does not permit commercial, mixed use, row housing, and multifamily dwelling unit types. The PUD zoning is more appropriate for serving the community than the current zoning.

The request complies with this criterion.

- 8. Any reasonably anticipated negative impacts on the area or adjacent property either are mitigated by sound planning, design and engineering practices or are outweighed by broader public benefits to the surrounding community.**

Staff Comment: Traffic impacts would be addressed with future improvements as outlined in the applicant's traffic impact study. No further negative impacts are anticipated.

The request complies with this criterion.

- 9. The recommendations of professional staff or advisory review bodies.**

Staff Comment: Planning staff and the Administrative Review Team recommend approval.

The request complies with this criterion.

Planned Unit Development Review Criteria, Section 24-205(c):

- 1. The plan reflects greater consistency with or more specificity in implementing the Comprehensive Plan than what could be accomplished under application of general zoning districts and development standards.**

The proposal allows a mix of uses to be incorporated into the area in a way that achieves greater consistency and more specificity than standard zones would allow.

The request complies with this criterion.

2. The benefits from any flexibility in the proposed plan:

- (1) promote the general public health, safety and welfare of the community, and in particular, that of the areas immediately near or within the proposed project, and is not strictly to benefit the applicant or a single project;**
- (2) involves innovative concepts that were not anticipated by the development code; or**
- (3) apply to a unique or specific context in a manner that allows the project to better meet the intent or design objectives of the base zoning districts and standards.**

The proposed PUD provides flexibility to support development that is in-demand in the community. Proposed standards of development provide innovative concepts in multiple uses and development format types that are more restrictive than development code or follow the development code criteria. The proposal carries on compatible development in relation to the surrounding area and adds different development type to better serve the residents of the area.

The request complies with this criterion.

3. The plan reflects generally accepted and sound planning and urban design principles with respect to applying the goals and objectives of the Comprehensive Plan to the area.

The request is consistent with planning and design principles and the Comprehensive Plan.

The request complies with this criterion.

4. The plan meets all of the review criteria for zoning map amendments in Section 24-204.

The request complies with Section 24-204, Review Criteria for Rezoning as detailed above.

The request complies with this criterion.

F. PHYSICAL SITE CHARACTERISTICS

1. SUBDIVISION HISTORY

The subject property has not been subdivided. Preliminary subdivisions will be submitted in the future for development of the site, which will be reviewed by the Planning Commission.

2. HAZARDS

The northern edge of the subject site in Planning Areas 1 and 4 falls within the 500-year and 100-year floodplain. Future development is not proposed in the floodplain area in the future and all required mitigation in the floodplain areas shall be mitigated by the applicant when development occurs. There is an existing oil and gas well pad with production facility equipment (Moiser Hill, TC Country Club West, and Hiland Knolls wells) in Planning Area 4. All required setback and mitigation requirements from the oil and gas pad site to future development set by the Energy and Carbon Management Commission (ECMC) and the City of Greeley Development Code shall be met. Upon site remediation, the oil and gas development will be repurposed into a community park. Other plugged and abandoned oil and gas wells (MOEN wells) are scattered throughout Planning Area 1 and 2. All requirements for development adjacent to plugged and abandoned wells shall be met. Staff will provide further review of compliance with regulations in future development processes (subdivision, site plan, etc.).

3. WILDLIFE

A small area on the northern edge of the site is identified on the City of Greeley's Areas of Ecological Significance map as an area that could be highly moderately impacted by development due to the Sheep Draw Trail and creek adjacent to the site. These areas technically fall outside of the subject site, but mitigation measures shall be made to avoid any disturbance of these ecological areas. Upon site examination, no significant natural features requiring preservation for ecological purposes were identified.

4. FLOODPLAIN

A small portion of the northern edge is within the 100-year and 500-year floodplain. See additional notes in the "Hazards" section above.

5. DRAINAGE AND EROSION

The existing drainage patterns are expected to continue to follow the existing lay of the land. Conceptual stormwater facilities are identified in the PUD and drainage patterns would be examined in greater detail through any future land use requests. Erosion and sediment control plans are required with development.

6. TRANSPORTATION

The subject site has frontage at the intersection of 16th Street and 71st Avenue. The PUD identifies 16th Street extending west across the central portion of the site. The applicant has provided a Traffic Impact Study, identifying potential improvements needed to accommodate development of the site.

G. SERVICES

1. WATER

Water mains are present in the vicinity and the applicant would be responsible to install necessary extensions to serve development on the site.

2. SANITATION

Sewer mains are present in the vicinity and the applicant would be responsible to install necessary extensions to serve development on the site.

3. EMERGENCY SERVICES

The site is served by the Greeley Fire and Police Department. Fire Station #7 being located approximately 0.6 miles east of the subject site.

4. PARKS AND OPEN SPACES

Park land dedication would be required with future residential development on the site in the subdivision process. An area of the PUD is identified for future park land.

5. SCHOOLS

The subject site is within the Greeley Evans School District 6 (D6). Land dedication or cash-in-lieu for schools would be required with future residential development on the site.

6. METROPOLITAN DISTRICT

A metropolitan district was set up to set up a service plan for future required improvements of the development site. The metropolitan district shall be reviewed by staff and the applicant throughout the subdivision development process for compliance with anticipated improvements required for the Triple Creek development. Any supplemental development agreements between the city and the applicant shall be created as necessary for construction of improvements for development.

H. NEIGHBORHOOD IMPACTS

1. VISUAL

No significant visual impacts are anticipated as a result of this application. Development of the site must comply with perimeter landscaping and architectural standards.

2. NOISE

No noise impacts are anticipated as a result of this application. Any noise created by future development is regulated by the Municipal Code.

I. PUBLIC NOTICE AND COMMENT

Using a 1000' buffer, notices to 440 surrounding property owners and current residents were mailed on October 10, 2023. Two signs were posted on the site per the Development Code noticing requirements. A notice was posted to the City of Greeley website per the Development Code noticing requirements. Staff has received four (4) emails from the public expressing objection of the application. Three of the concerns were regarding traffic impacts along 71st Avenue and the other was regarding concerns for multifamily development. Please see Attachment I for greater detail.

J. MINERIAL ESTATE OWNER NOTIFICATION

The applicant satisfied the mineral owner notification requirements. No feedback from mineral owners has been received.

K. PLANNING COMMISSION RECOMMENDED MOTIONS

Recommended (Approval)

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval.

Alternative (Denial)

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is not in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council denial.

ATTACHMENTS

Attachment A – Vicinity/Zoning Map

Attachment B – Project Narrative

Attachment C – PUD Plan Set

Attachment D – Perimeter Treatment Plan

Attachment E – Neighborhood Notification Boundary Map

Attachment F – Statement of Commitments

Attachment G – Architecture Details

Attachment H – Traffic Impact Study

Attachment I – Public Comment



Legend

- | | | |
|---------------------------|-----------------------------|----------------------------|
| Conservation District** | Industrial Medium Intensity | Residential Medium Density |
| Commercial Low Intensity | Industrial High Intensity | Residential High Density |
| Commercial High Intensity | Planned Unit Development | Residential Mobile Home |
| Holding Agriculture | Residential Estate | |
| Industrial Low Intensity | Residential Low Density | |





ATTACHMENT B - PROJECT NARRATIVE

September 1, 2023

City of Greeley
Planning & Zoning Department
1100 10th Street – 2nd floor
Greeley, CO 80631

Re: Triple Creek – PUD Rezone

To Whom it May Concern,

On behalf of Triple Creek Development LLC, we respectfully submit our Preliminary PUD. We have provided the following narrative outlining the nature of the project.

PUD

Triple Creek is approximately 72.5 acres in size and is located west of 71st Avenue from approximately 18th Street north to Sheep Draw Creek. Triple Creek Development will be a mix of high density Mixed-Use Commercial space, Multi-Family apartment dwellings and Row Houses, as well as low-density residential areas which include Estate and Small Residential lots. The diversity of housing types creates a market for homes at a variety of price points allowing schoolteachers, bankers, and everyone in-between to live within the same community.

The Triple Creek community will boost a wide variety of amenities including multiple parks, swimming pools, a fitness center, shopping, and more. Triple Creek has a neighborhood park providing both active and passive spaces. Additionally, the oil and gas facility will be converted to a future neighborhood park when the lease expires. Open space corridors with trails allow for easy pedestrian circulation to parks, neighborhoods and amenities within Triple Creek and will provide direct access to the existing Sheep Draw regional trails and the broader Greeley community.

Triple Creek will blend in with the surrounding land uses in the area, as it is predominantly low-density single family residential uses, with multi-family and high-density residential, parks, and existing oil & gas uses accounting for the balance. Land uses surrounding the site include high-density single family residential to the south; low-density residential, agriculture, and public/civic (a high school) to the east; open space to the north with low-density residential beyond; and agriculture to the west. Open space along the northern edge of the



ATTACHMENT B - PROJECT NARRATIVE

PUD is consistent with the open space adjacent to the northern edge. The southern portion of the Triple Creek PUD contains single family residential uses and parks, abutting an existing single family residential neighborhood.

Overall, this PUD is designed to create a high-quality, livable community by providing traditional urban living opportunities, designed commercial space, and economically diverse residential housing products while preserving and developing quality open space areas for the residents of Greeley.

Triple Creek

Overall Gross Acreage	72.5
Maximum Proposed Units	1047
Maximum Overall Density	14.4

Zoning Change

The Triple Creek property is currently zoned as Residential Low Density (R-L) and Holding Agriculture (H-A). We are proposing to rezone the property to Planned Unit Development (PUD). The primary reason behind the zone change to PUD is to allow for a variety of uses to occur within each proposed land use category. The PUD zone also provides the flexibility to quickly respond to market changes. Currently, Triple Creek made up of the following:

R-L Zone Area (Net Acreage)	69.84
H-A Zone Area (Net Acreage)	2.66
Gross Acreage	72.50

Consistency with Surrounding Land Uses

There are many consistencies between the Triple Creek PUD land uses and the surrounding uses. Land use of the Triple Creek PUD is predominantly low-density single family residential uses, with multi-family and high-density residential, parks, and existing oil & gas uses accounting for the balance. Land uses surrounding the site include high-density single family residential to the south; low-density residential, agriculture, and public/civic (a high school) to the east; open space to the north with low-density residential beyond; and agriculture to the west. Open space along the northern edge of the PUD is consistent with the open space adjacent to the northern edge. The southern portion of the Triple Creek PUD contains single family residential uses and parks, abutting an existing single family residential neighborhood. The existing oil & gas use may be inconsistent with surrounding uses but is buffered within Triple Creek and there is ample precedence for residential development near oil & gas operations within Weld County and the City of Greeley. The PUD does not propose agricultural uses, but nothing being proposed conflicts with existing agriculture in the area.



ATTACHMENT B - PROJECT NARRATIVE

Development Code Compliance

This PUD complies with the Review Criteria requirements of the City of Greeley Development Code Sections 24-205.c and 24-204.b as follows:

Section 24-205.c

1. *Review Criterion:* The plan reflects greater consistency with or more specificity in implementing the Comprehensive Plan than what could be accomplished under application of general zoning districts and development standards.

Compliance Statement: This PUD reflects greater specificity than could be accomplished under application of general zoning districts and development standards because the PUD enables tailoring of planning tools and development standards to achieve desired physical and policy objectives such as the combination of setbacks, minimum lot size and height for mixed use that supports a mixed use neighborhood, and because such tailoring enables the PUD to respond to market conditions and innovations in planning and design tools over time.

2. *Review Criterion:* The benefits from any flexibility in the proposed plan:
 - a. Promote the general public health, safety and welfare of the community, and in particular, that of the areas immediately near or within the proposed project, and is not strictly to benefit the applicant or a single project;
 - b. Involves innovative concepts that were not anticipated by the Development Code; or
 - c. Apply to a unique or specific context in a manner that allows the project to better meet the intent or design objectives of the base zoning districts and standards.

Compliance Statement: Benefits from flexibility in the plan involve innovative concepts that were not anticipated by the Development Code. The present development code does not allow for the inclusion of multi-use trails within its street sections as a way to accommodate off-street bicycle use, nor does the code provide a collector street with a median as a way to calm and shade traffic as proposed with the Triple Creek PUD. The code also does not allow the variety of dwelling types within a single zone as proposed in this PUD nor the ability to quickly respond to changing market conditions and build more suitable dwellings.

3. *Review Criterion:* The plan reflects generally accepted and sound planning and urban design principles with respect to applying the goals and objectives of the Comprehensive Plan to the area.

Compliance Statement: The Triple Creek PUD applies the following exemplary but not exhaustive planning and design principles to comply with the Comprehensive Plan:

ATTACHMENT B - PROJECT NARRATIVE

- a. The northern edge of Planning Area 1 is planned as a park (Park A) and serves as a buffer between the residential land use of Planning Area 1 and the open land of Sheep Draw to the north, to apply Objective GC-1.6 of the Comprehensive Plan.
 - b. Planning Area 1 has been planned with a mix of commercial and residential land uses to enable a balanced and diverse mix and distribution of land uses and development standards have been written to promote the development of the commercial land use in Planning Area 1 as a neighborhood center, to apply Goal GC-2 and Objective GC-2.5 of the Comprehensive Plan.
 - c. Trees have been planned on both sides and the median of the minor collector street and on both sides of the local streets, and trees are required in quantities in the PUD in excess of code requirements for Type I and Type II landscapes, to apply Objective GC-3.4 of the Comprehensive Plan.
 - d. The PUD has been planned and designed with a wide range of land uses and a diverse network of roads, bike lanes, sidewalks, paths, and trails that foster “Complete Neighborhoods,” to apply Objective Gc-6.1 of the Comprehensive Plan.
 - e. Development standards have been written and land uses have been assigned to the planning areas to encourage and allow for a range of lot configurations and housing types, sizes, styles, and price-points, to apply Objective HO-2.1 of the Comprehensive Plan.
4. *Review Criterion:* The plan meets all of the review criteria for zoning map amendments in [section 24-204](#).

Compliance Statement: See the Compliance Statements for Section 24-204.b below.

Section 24-204.b

1. *Review Criterion:* The proposal is in accordance with the goals and objectives of the Comprehensive Plan and any other plan, policy or guidance adopted pursuant to that plan.
Compliance Statement: The Triple Creek PUD is planned in accordance with the goals and objectives of the Comprehensive Plan. Refer to the following section of this narrative to see how this PUD complies with various goals withing the Comprehensive plan.
2. *Review Criterion:* The proposal can fulfill the intent of the zoning district considering the relationship to surrounding areas.
Compliance Statement: The surrounding areas are developed primarily as residential areas with some pockets of commercial mixed in. Triple Creek continues this mix of uses to fit cohesively into this area of Greeley.

ATTACHMENT B - PROJECT NARRATIVE

3. Whether the area changed, or is it changing to such a degree that it is in the public interest to rezone the subject property to encourage development or redevelopment of the area.

Compliance Statement: Greeley is a growing community that is in need of additional housing. The rezoning of the property from Residential Low Density to PUD will allow an increase in both the number of available homes, as well as homes in various price ranges to suit a wide range of residents.

4. *Review Criterion:* Whether the existing zoning been in place for a substantial time without development, and if this indicates the existing zoning is inappropriate given development trends in the vicinity.

Compliance Statement: The Residential Low Density zone is generally developed with larger homes on larger lots. While there is a market for this type of home, it is limited. Many current homebuyers are looking for more affordable smaller lots, with less maintenance and upkeep required.

5. *Review Criterion:* The proposed zoning will enable development in character with existing or anticipated development in the area considering the design of streets, civic spaces and other open space; the pattern, scale and format of buildings and sites; and the compatibility and transitions with other complimentary uses and development.

Compliance Statement: The design character of Triple Creek will be similar to surrounding areas and will include vehicular connections to the existing neighborhood to the south and provide a connection for future development of the property to the west.

6. *Review Criterion:* The City or other agencies have the ability to provide services or facilities that may be necessary for anticipated uses in the proposed district.

Compliance Statement: All city agencies will have the ability to provide services and facilities for the anticipated use.

7. *Review Criterion:* The change will serve a community need, provide an amenity or accommodate development that is not possible under the current zoning or that was not anticipated at the time of the initial zoning of the property, making the proposed zoning more appropriate than the current zoning.

Compliance Statement: The Triple Creek development will bring additional housing to a growing city as well as provide public amenities to the community in the form of neighborhood parks and access to the regional trail system already in place. The proposed PUD zone is necessary to accommodate the variety of uses within the community.

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8. *Review Criterion:* Any reasonably anticipated negative impacts on the area or adjacent property either are mitigated by sound planning, design and engineering practices or are outweighed by broader public benefits to the surrounding community.

Compliance Statement: All reasonably anticipated negative impacts have been discussed with city staff, and plans to mitigate their effects have been incorporated into the plans.

9. *Review Criterion:* The recommendations of professional staff or advisory review bodies.

Compliance Statement: The developer is working with city staff to address any issues of concern.

Deviations from Zone District Standards, Design Standards, & Street Standards

This PUD deviates from requirements of the City of Greeley Zone Standards, Design Standards, & Street Standards as follows:

1. **Setbacks:** Setbacks in the Triple Creek PUD have been defined to support the intent to develop a diverse community of mixed land uses in an infill setting which prioritizes the pedestrian experience of the front of the dwellings and buildings and the street as a public space. The Front Setback is defined both in terms of a “Minimum Front Setback” and a “Maximum Front Setback” to encourage buildings closer to the sidewalks. The Minimum Front Setback is set lower than standards for all Residential and Commercial uses. Side setbacks are lower than standards for Estate dwellings and corner commercial lots to encourage a denser community and economize on resources to build and serve the community. Rear setbacks are lower than standards across all residential and commercial uses also to facilitate a pedestrian-oriented community with maximum development flexibility. Commercial buildings that require a certificate of occupancy shall be 200’ from an oil/gas facility while commercial buildings, residential buildings, and recreational buildings (including bathrooms, shade shelters and playgrounds) shall maintain a 50’ setback from a plugged and abandoned well to maintain planning flexibility in the face of existing oil & gas facilities. Plugged and abandoned gas wells shall be allowed within public collector road and local street rights-of-way, only if they are inspected and confirmed to meet or exceed the COGCC standards for a well plug.
2. **Maximum Building Height:** Building heights for both residential and non-residential uses are defined higher than standards, with conditions on where heights are measured to reflect the fact that the site is sloped. Specifically, for Estate Lots Maximum Building Height is set to 45’ for flexibility to accommodate multiple floors between 9’ and 10’, two-foot ceiling structures per floor, and customary roof slopes of 6:12. For Small Lots, Small Format Lots, and Row Houses, Maximum Building Height is set to 45’ to accommodate multiple floors between 9’ and 10’, two-foot ceiling structures per floor, and customary roof slopes between 4:12 and 8:12. Maximum Building Height for Multi-Family/Mixed Use Dwelling and Commercial Use is set to 80’ to flexibly accommodate the mid-rise type of village-center structures envisioned for Planning Area A.

ATTACHMENT B - PROJECT NARRATIVE

3. Lot Size: Minimum lot sizes in this proposal run smaller than code standards for Detached House – Small Format (code: 1,500 sf; PUD: 1,000 sf) and Detached House – Small (code: 3,000 sf; PUD 2,700 sf) for flexibility in developing lots to meet demands and market trends and conditions.
4. Lot Open Space: For Residential Single Family Dwelling Small Lot and Small Format Lot as well as Row House Standard Lot, Minimum Open Space is defined lower than standard at 10% for each rather than 20% for Small Lot, 15% for Small Format, and 12% for Row House Standard Lot to take advantage of trends toward smaller yards.
5. Encroachments: The Triple Creek PUD allows encroachments up to 2' into the setbacks to activate the residential frontage and facilitate human-scale design of dwellings for porches, eaves, cantilevers, steps, walks, and counterforts/foundations whereas city code allows up to 10' but never closer than 5'.
6. Parking Spaces: Parking requirements for Multi-Family uses are set at 1 space per bedroom with studio/efficiency apartments counting as 1 bedroom, and guest parking is set at 1 additional space required per 20 required resident spaces to discourage vehicular use. Parking rates for Health/Fitness, General Recreation, and Large Scale Recreation are set at 1/1,000 sf as the community will be walkable and to encourage pedestrian modes of travel throughout the community.
7. Accessory Dwelling Units: Accessory dwelling units are prohibited in Commercial Uses, Mixed-Use Dwellings, Row Houses and Single Family Dwellings – Small Format while allowed in Single Family Dwellings – Estate Lot and Single Family Dwellings – Small Lot to facilitate the diversification of housing and make efficient and creative use of space and housing choices on lots with the best opportunities for accessory uses.
8. Sign Standards: Sheet L4.09 Monuments and Signage Vignette provides information on the intent and implementation of monumentation and signage. Assuming "Size" in Table 24-9-2, Sec 24-904, is interpreted as "Sign Face" as defined in City of Greeley Development Code, Sec. 24-908 October 1, 2021, as amended, and assuming a comparable right-by-use zone is C-H, the Community sign size of 36 SF (18 SF each side) exceeds the standard of 33 SF as allowed and the height of 20' exceeds the standard of 6' as allowed, with the justification that the sign and associated monumentation as illustrated will be the primary marker for the Triple Creek community along 71st Avenue since the development is set back from 71st Avenue and open space is anticipated to be the use for the properties adjacent to 71st Avenue.
9. Street Design: Triple Creek's Minor Collector Street utilizes an 86' right-of-way width in place of the city standard 90'. It also adds a 7' median, moves the bike lanes to an off-street 8' shared use trail, narrows each sidewalk from 6' standard to 5', reduces the travel lanes from 12' to 10' and narrows the 8' parking lanes to 7.5'. The intention with such deviations is to provide a more intimate street experience and improve the tree canopy within the neighborhoods, provide a safer bicycling experience, and accommodate more diverse pedestrian modes.
10. Street Design: Triple Creek also utilizes a 71' R.O.W. minor collector roundabout with a standard 12' one-way travel lane, standard 19' angle parking, 6' sidewalk, and generous 14' plaza area in anticipation of supporting the commercial and mixed-use residential neighborhood in Planning Area 1 with a generous pedestrian space. We envision this area to be a vibrant neighborhood with lively street



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activity and an active urban plaza, ground-floor businesses, and multi-family residential (condominium/apartment) uses in multi-story buildings; the one-way street with on-street angled parking supports our vision.

11. **Street Design:** Each of the 2 proposed local streets deviate from the local street standards with the intention that each serves different needs of a local nature within Triple Creek. The 66' R.O.W. local street serves the higher density neighborhoods with 10' travel lanes and 5' sidewalks that match standards, but with an off-street 8' multi-use trail that accommodates a wide variety of pedestrian modes. The proposed 47'-81' R.O.W. local street provides maximum flexibility to respond to local conditions and needs through a variable-width R.O.W. and options for angled, parallel, and no parking. Travel lanes are 10' wide, angled parking is 19', and parallel parking is 7'. Final determination of the R.O.W. width will occur at final plat.
12. **Architectural Standards:** Buildings at Triple Creek will generally follow the Architectural Standards found in the City of Greeley Development Code (Updated October 1, 2021) with a few exceptions. First, all residential homes shall submit a letter of approval from the Triple Creek Architectural Review Panel to ensure an enhanced design standard over and above the city's base code prior to obtaining building permits from the City of Greeley. Second, any improvements or additions to residential homes after initial construction shall require the approval of the Triple Creek Architectural Review Panel to ensure an enhanced design standard over and above the city's base code prior to obtaining building permits from the City of Greeley. Third, all requirements within Section 24-503 that have a minimum requirement and maximum requirement for architectural details (such as front porch depth 8'-12') shall not have a maximum to enhance the design quality of the community. Finally, wall plane, blank wall, and roof plane limits may be exceeded by up to double the city limit and approved by the Triple Creek Architectural Review Panel to enhance the design quality of the community.

Comprehensive Plan Compliance

Triple Creek PUD complies with applicable Comprehensive Plan policies as follows:

Goal ED-1

Triple Creek promotes a healthy economic climate through a diversity of land uses, including commercial, industrial, residential, and open space, in compliance with Objective ED-1.1.

Triple Creek encourages a growing tax base that supports the well-being of the community and a high quality of life through a mix of land uses and a network of open space and trails, in compliance with Objective ED-1.2.

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Triple Creek diversifies the City's employment base to assure stability in times of economic change by providing local commercial and industrial land uses that will employ Greeley and Triple Creek residents, in compliance with Objective ED-1.4.

Goal ED-2

Triple Creek develops, maintains, and promotes community assets and amenities in an environment that attracts desired business and industry by providing commercial and industrial land uses for economic development, and a network of open space and trails for recreation, in compliance with Objective ED-2.2.

Goal ED-3

Triple Creek provides diverse economic opportunities, jobs, and housing and transportation options to ensure that Greeley is attractive to and inclusive of a diverse workforce through development of commercial and industrial land uses, in compliance with Objective ED-3.1.

Triple Creek provides safe, convenient, and reliable transportation options including bike lanes and sidewalks to employees so that they have a reliable means of commuting to work by providing commercial land uses along bike routes and connected by sidewalks throughout the community, in compliance with Objective ED-3.9.

Goal EH-2

Triple Creek encourages residents to adopt active and healthy lifestyles to improve their general health and well-being, and Triple Creek promotes opportunities to participate in fitness and recreation activities, and provides amenities, such as trails and bike paths, that promote physical activity throughout the city by providing a diversity of open space amenities and trails throughout the community, in compliance with Objective EH-2.3.

Triple Creek promotes land use decisions that support walkability and improve access to basic needs, such as neighborhood markets, parks, and natural areas by providing a community network of sidewalks and trails among residential and commercial land uses and open space, in compliance with Objective EH-2.4.

Triple Creek plans and designs neighborhoods so that employment, shopping, parks, and other facilities are within a 10-minute safe walk of housing wherever feasible by locating residential land uses in close proximity to commercial land uses and parks, in compliance with Objective EH 2.5.

Triple Creek encourages the construction of built environments that support health and active living, such as mixed-use centers, corridors, and neighborhoods that support walkability, providing safe options for active transportation, and considering the safety and comfort of all users when designing streets, parks,

ATTACHMENT B - PROJECT NARRATIVE

and other public spaces through its configuration of planning areas with a diversity of land uses, connected by open space corridors, sidewalks, trails, and parks whose priorities are healthy lifestyles, safety, and recreation opportunities, in compliance with Objective EH-2.6.

Goal GC-1

Triple Creek manages growth to maintain or improve quality of life for Greeley's residents, minimizes impacts on the natural environment, and protects or enhances natural features and other resources through planned development phasing, through support and implementation of best management practices for stormwater, and through development of open space buffers and corridors, in compliance with Objective GC-1.1.

Triple Creek encourages a compact urban form over sprawl or leap-frog development through its infill development strategy and through its multi-story mixed land use development standards, in compliance with Objective GC-1.2.

Triple Creek ensures that new development abutting land that is intended to remain undeveloped, such as parks, open lands, environmentally sensitive areas, and agricultural land with conservation easements, provides for transitions in uses and intensity that mitigate impacts on these adjacent areas through its siting of Park A and Detention as a buffer between the adjacent Sheep Draw open space to the north and Triple Creek's commercial land uses elsewhere in Planning Area 1, in compliance with Objective GC-1.6.

Goal GC-2

Triple Creek supports zoning and development patterns that expand opportunities for people who live in Greeley to also work in Greeley (or vice versa) by providing commercial and industrial land uses where Triple Creek and Greeley residents may work, in compliance with Objective GC-2.2.

Triple Creek encourages a development pattern that encourages walking and bicycling whenever possible—by locating employment, shopping, recreation, entertainment, and other services within a quarter-mile of residential areas through a mix of residential and commercial land uses within the community and connecting them with pedestrian-friendly sidewalks, bike paths, and trails, in compliance with Objective GC-2.3.

Triple Creek promotes horizontal and vertical mixed-use development that integrates a variety of housing, commercial, employment, and recreational uses particularly in centers and along corridors identified on the Land Use Guidance map through residential and non-residential development standards, recreational land uses, and park dedications, in compliance with Objective GC-2.4.

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Triple Creek promotes neighborhood centers—small-scale retail areas providing basic commercial goods and services—to locate within a walkable distance of residences, usually a quarter-mile or less by providing for commercial/mixed uses of Planning Area 1 within a quarter-mile of residences, in compliance with Objective GC-2.5.

Goal GC-3

Triple Creek leads by example in meeting or exceeding the Development Code design standards in the construction of all public facilities, including parking lots, public buildings, landscaped areas and parks, buffer yards, and related projects through its plans for poolhouses and community amenities that are integrated in character and scale within the Triple Creek community, in compliance with Objective GC-3.3.

Triple Creek reinforces the community's image as a "Tree City" by promoting the establishment and maintenance of tree-lined travel corridors throughout the community, taking into consideration water use, conservation strategies, and the natural environment through street tree requirements along collector and local roads throughout the community, in compliance with Objective GC-3.4.

Goal GC-6

Triple Creek contains a variety of attributes that contribute to a resident's day-to-day living (residential, commercial, employment, mixed uses) through its mix of land uses as shown in the Land Use Summary chart on Sheet L5.00, in compliance with Objective GC-6.1.

Triple Creek fosters the development of "Complete Neighborhoods" that fosters multi-modal connectivity (pedestrians, bicyclists, drivers) through its widespread and diverse network of roads with bike lanes, sidewalks, paths, trails, and public transportation routes, in compliance with Objective GC-6.1.

Triple Creek integrates small-scale retail or services through its commercial/mixed uses in Planning Area 1 and accompanying residential and non-residential development standards, in compliance with Objective GC-6.1.

Triple Creek promotes design standards and practices that improve connectivity for all modes between neighborhoods and adjacent neighborhoods, centers, corridors, and areas through its network of roads with bike lanes, sidewalks, paths, and trails, in compliance with Objective GC-6.2.

Goal HO-1

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Triple Creek develops and implements a comprehensive housing strategy with clear goals and implementation strategies that establishes priorities for the types of housing, tenure types, and populations to be targeted through its implementation of a range of residential unit types (multi-family, row house, single family detached – cottage, single family detached – small, single family detached – estate, and detached house – small format lots, in compliance with Objective HO-1.1.

Triple Creek develops and implements a comprehensive housing strategy with clear goals and implementation strategies that encourages a range of creative housing options, including small-sized housing units (in the range of 1,000 to 1,500 square feet in size), manufactured homes, zero-lot line housing, attached housing types, and housing located above ground floor commercial uses in mixed-use areas through its residential development standards, in compliance with Objective HO-1.1.

Goal HO-2

Triple Creek encourages a variety of housing types, sizes, styles, and price-points of housing units within new residential projects or subdivisions through its diverse mix of housing types and locations throughout the community, in compliance with Objective HO-2.1.

Goal NR-3

Triple Creek encourages the thoughtful reclamation of land that has been mined through its plan to redevelop the existing oil & gas facilities to a future active neighborhood park, in compliance with Objective NR-3.7.

Goal NR-4

Triple Creek promotes the use of landscaping with species appropriate to the local climate conditions through its landscaping requirements as stated on Sheet L9.00, in compliance with Objective NR-4.3.

Goal PR-1

Triple Creek develops a system of parks, trails, and recreational facilities which includes trail offerings that improves access to the overall system through its connection of local trails to the regional trail along Sheep Draw, in compliance with Objective PR-1.1.

Goal PR-1

Triple Creek develops a system of parks, trails, and recreational facilities which ensures residents have the opportunity to enjoy nature and that includes trail offerings that improve access to the overall system by dedicating multiple neighborhood parks and by providing a community-wide network of trails throughout the community that connect to the Sheep Draw regional trail, in compliance with Objective PR-1.1.



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Triple Creek designs streetscapes, linear parks, greenways, and other green spaces within the city as integral elements of the park system by providing design guidelines and implementation strategies to develop streets as multi-functional, beautiful, and integrated public spaces within the community, and by integrating a site-wide interconnected network of parks, recreational amenities, and open space, in compliance with Objective PR-1.8.

Goal PR-2

Triple Creek ensures that new parks support best practices in water conservation and irrigation efficiency including reducing irrigated bluegrass areas unless needed for a specific activity by requiring high-efficiency automatic irrigation systems that incorporate water conservation measures and by encouraging alternative sources of irrigation for all landscaped areas, in compliance with Objective PR-2.1.

Triple Creek incorporates native vegetation, natural grasslands, and low water-use plants and landscaping approaches into the design of parks, trails, and recreational amenities by utilizing native plants and plants appropriate for the local climatic and soil conditions, in compliance with Objective PR-2.2.

Goal PS-3

Triple Creek enhances public safety through the use of public improvements, urban design, street furniture, lighting, and other features of the built environment through the provision of guidelines and implementation policies that specify improvements such as lighting, furnishings, signage, trash receptacles, wifi, shelters, and traffic calming measures as shown on the Neighborhood Park, Streetscapes, Monuments and Signage, and Community Amenities design vignettes, in compliance with Objective PR-3.1.

Goal TM-1

Triple Creek designs, constructs, and maintains a multi-modal transportation system that provides networks for pedestrians and bicyclists that are equal in priority, design and construction to the system provided to motorists through provision of sidewalks and a community-wide multi-use trail network, in compliance with Objective TM-1.1.

Triple Creek develops attractive, safe, accessible, and efficient public rights-of-way, including roadways and sidewalks through provision of design guidelines and implementation policies as shown on the Streetscape design vignette, in compliance with Objective TM-1.3.



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Triple Creek supports the use of traffic calming methods that prevent accidents and improve safety for all users by providing traffic calming measures among its design guidelines as shown on the Streetscape design vignette, in compliance with Objective TM-1.4.

Triple Creek maintains a roadway system that encourages the use of arterial streets for cross-town and regional traffic, the use of collector streets to channel traffic from the neighborhoods to arterial streets, and discourages the use of local streets for through-traffic by providing connected collector streets through the community that serve each planning area and neighborhood as shown on the site plan and vehicular circulation plan and that connect to the off-site 71st Avenue arterial, in compliance with Objective TM-1.8.

We appreciate the City's cooperation so far in working with us to kick-off the next phase of this quality project, and we look forward to working with the City to complete this process in order to continue the successful legacy of the Imagine Greeley Comprehensive Plan.

Sincerely,

Rick Haering
Principal, LAI Design Group

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

VICINITY MAP



SCALE: NTS

STANDARD NOTES

1. APPROVAL OF SITE CONSTRUCTION PLANS BY THE CITY OF GREELEY SHALL BE REQUIRED (AS APPLICABLE) PRIOR TO ISSUANCE OF BUILDING PERMITS.
2. ALL EXISTING AND PROPOSED UTILITIES SHALL BE INSTALLED UNDERGROUND WITHIN THE PROJECT BOUNDARY.
3. NO BUILDING PERMIT SHALL BE ISSUED FOR THE CONSTRUCTION OF NEW BUILDINGS OR STRUCTURE UNLESS THE PROPERTY HAS BEEN PLATTED IN ACCORDANCE WITH THE CITY'S SUBDIVISION REGULATIONS (CHAPTER 3).
4. ALL ELEVATIONS ON THIS PLAN ARE TIED TO NAVD 88 DATUM.
5. INFORMATION REGARDING OIL & GAS IS DERIVED FROM THE ENERGY & CARBON MANAGEMENT COMMISSION WEBSITE ([HTTPS://ECMC.STATE.CO.US/#/HOME](https://ecmc.state.co.us/#/home)) ACCESSED AUGUST 25, 2023.
6. OPEN SPACE AND PARK LAND DEDICATION WILL BE PROVIDED AT THE TIME OF SUBDIVISION.
7. DEDICATION FOR LAND FOR SCHOOLS OR CASH-IN-LIEU WILL BE REQUIRED AT THE TIME OF SUBDIVISION. CASH-IN-LIEU IS ACCEPTABLE.
8. SIGNAGE SHOWN ON THIS PLAN IS FOR ILLUSTRATIVE PURPOSES ONLY. A SEPARATE SIGN PERMIT SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL.

LEGAL DESCRIPTION

SEE L1.01 PROPERTY DESCRIPTION FOR THE LEGAL DESCRIPTION.

INTENT STATEMENT

TRIPLE CREEK IS CURRENTLY ZONED AS HOLDING AGRICULTURE (H-A) AND IS PROPOSED TO BE REZONED TO PLANNED UNIT DEVELOPMENT (PUD). THE PRIMARY REASON BEHIND THE ZONE CHANGE TO PUD IS TO ALLOW FOR A VARIETY OF USES TO OCCUR WITHIN EACH PROPOSED LAND USE CATEGORY. THE PUD ZONE ALSO PROVIDES THE FLEXIBILITY TO QUICKLY RESPOND TO MARKET CHANGES WHILE PROVIDING GOVERNING PRINCIPLES THAT REGULATE THE DEVELOPMENT OF THE PROPERTY.

COMMUNITY DESIGN

THE TRIPLE CREEK PUD IS DESIGNED AS A CONTEMPORARY, MIXED-USE, MASTER PLANNED COMMUNITY WITH AN EMPHASIS ON WALKABILITY, HUMAN-SCALED DESIGN, AND ACCESS TO PUBLIC SPACES. WHEN FULLY REALIZED, THE TRIPLE CREEK COMMUNITY WILL BE INTEGRATED SEAMLESSLY INTO THE EXISTING FABRIC OF GREELEY.

THE FLEXIBILITY OF THIS PUD ALLOWS FOR CREATIVE DESIGN SOLUTIONS TO ENHANCE THE OVERALL APPEARANCE AND FUNCTION OF THIS SITE. THE TRIPLE CREEK SITE IS APPROXIMATELY 72.5 ACRES, LOCATED AT THE INTERSECTION OF 71ST AVENUE AND WEST 16TH STREET. DEVELOPMENT IS PLANNED TO OCCUR IN 4 PHASES. AT FULL BUILD-OUT, THE FIRST 3 PHASES OF THE NEW DEVELOPMENT WILL ENCIRCLE AND SCREEN THE EXISTING OIL & GAS OPERATIONS IN THE APPROXIMATE CENTER OF THE SITE WHILE MAINTAINING PUBLIC VIEW CORRIDORS TO THE MOUNTAINS. THE FINAL PHASE WILL BEGIN WHEN THE OIL & GAS WELLS CEASE OPERATIONS. THE AREA WILL BE CONVERTED INTO A PUBLIC NEIGHBORHOOD PARK. PHASES ARE ENUMERATED FOR IDENTIFICATION PURPOSES ONLY. THE PLANNING AREAS MAY NOT SEQUENTIALLY DEVELOP IN THIS ORDER.

INTENT STATEMENT (CONT'D)

LOW-SPEED COLLECTOR ROADS FACILITATE RESIDENTS, VISITORS AND COMMERCIAL ACTIVITY, TRANSITIONING TO LOCAL RESIDENTIAL STREETS IN THE INTERIOR OF THE COMMUNITY. ON- AND OFF-STREET PARKING SUPPORT RESIDENTS AND VISITORS ALIKE. AN EXTENSIVE INTERNAL TRAIL SYSTEM PROVIDES EASY PEDESTRIAN ACCESS TO ALL PORTIONS OF THE COMMUNITY, AS WELL AS CONNECTIONS TO A REGIONAL TRAIL.

A VARIETY OF USES

NEIGHBORHOODS THRIVE ON DIVERSITY. TRIPLE CREEK WILL PROVIDE A VARIETY OF LAND USES INCLUDING RESIDENTIAL, COMMERCIAL, RECREATIONAL, AND OIL & GAS DEVELOPMENT. BOTH PUBLIC AND PRIVATE RECREATIONAL OPPORTUNITIES WILL PROVIDE OPTIONS FOR THE TRIPLE CREEK RESIDENTS AND ALSO INVITE THE GREATER GREELEY COMMUNITY TO THE AREA.

RESIDENTIAL UNIT TYPES WITHIN TRIPLE CREEK WILL INCLUDE MULTI-FAMILY ATTACHED UNITS LOCATED IN THE NORTHEAST PORTION OF THE DEVELOPMENT, ROW HOUSES IN THE NORTHEAST AND CENTRAL PORTIONS, AND SINGLE-FAMILY DETACHED UNITS AND CLUSTERED SINGLE-FAMILY DETACHED UNITS DISTRIBUTED THROUGHOUT THE SOUTHERN AND NORTHWEST PORTIONS OF TRIPLE CREEK. THE VARIETY OF HOUSING TYPES CREATES A MARKET FOR HOMES AT A VARIETY OF PRICE POINTS ALLOWING SCHOOL TEACHERS, BANK PRESIDENTS, AND EVERYONE IN-BETWEEN TO LIVE WITHIN THE SAME COMMUNITY.

ACCESS TO AMENITIES

COMMUNITY AMENITIES INCLUDE NEIGHBORHOOD PARKS, SWIMMING POOLS, A FITNESS CENTER AND MORE. ADDITIONALLY, DETACHED PEDESTRIAN SIDEWALKS, OFF-STREET PEDESTRIAN TRAILS, AND OPEN SPACE CORRIDORS FOR PEDESTRIAN CIRCULATION CONNECT PARKS, NEIGHBORHOODS, AND AMENITIES THROUGHOUT THE COMMUNITY.

AN EXTENSIVE INTERNAL TRAIL SYSTEM CONNECTS RESIDENTS TO COMMUNITY AMENITIES. THE EXISTING SHEEP DRAW REGIONAL TRAIL RUNS ALONG THE NORTHERN BOUNDARY OF TRIPLE CREEK EXTENDS AND CONNECTS TRIPLE CREEK TO THE GREATER GREELEY COMMUNITY. ACCESS TO THE OIL AND GAS FACILITIES IS LIMITED TO ROADS ALONG THE NORTH SIDE AND EDGE OF THE SITE. THE FACILITY IS BUFFERED FROM THE COMMUNITY BY BERMING, FENCING, AND TREES TO MINIMIZE DISTURBANCE TO THE COMMUNITY.

OVERALL, THE TRIPLE CREEK PUD IS DESIGNED TO CREATE A HIGH-QUALITY, LIVABLE COMMUNITY BY PROVIDING TRADITIONAL URBAN LIVING OPPORTUNITIES, DESIRED COMMERCIAL SPACE, AND ECONOMICALLY DIVERSE RESIDENTIAL HOUSING PRODUCTS WHILE PRESERVING AND DEVELOPING QUALITY OPEN SPACE AREAS FOR THE RESIDENTS OF GREELEY.

JUSTIFICATION FOR DEVIATIONS FROM CITY OF GREELEY ZONE DISTRICT STANDARDS, DESIGN STANDARDS, AND STREET STANDARDS

1. SETBACKS: SETBACKS IN THE TRIPLE CREEK PUD HAVE BEEN DEFINED TO SUPPORT THE INTENT TO DEVELOP A DIVERSE COMMUNITY OF MIXED LAND USES IN AN INFILL SETTING WHICH PRIORITIZES THE PEDESTRIAN EXPERIENCE OF THE FRONT OF THE DWELLINGS AND BUILDINGS AND THE STREET AS A PUBLIC SPACE. THE FRONT SETBACK IS DEFINED BOTH IN TERMS OF A "MINIMUM FRONT SETBACK" AND A "MAXIMUM FRONT SETBACK" TO ENCOURAGE BUILDINGS CLOSER TO THE SIDEWALKS. THE MINIMUM FRONT SETBACK IS SET LOWER THAN STANDARDS FOR ALL RESIDENTIAL AND COMMERCIAL USES. SIDE SETBACKS ARE LOWER THAN STANDARDS FOR ESTATE DWELLINGS AND CORNER COMMERCIAL LOTS TO ENCOURAGE A DENSER COMMUNITY AND ECONOMICIZE ON RESOURCES TO BUILD AND SERVE THE COMMUNITY. REAR SETBACKS ARE LOWER THAN STANDARDS ACROSS ALL RESIDENTIAL AND COMMERCIAL USES ALSO TO FACILITATE A PEDESTRIAN-ORIENTED COMMUNITY WITH MAXIMUM DEVELOPMENT FLEXIBILITY. COMMERCIAL BUILDINGS THAT REQUIRE A CERTIFICATE OF OCCUPANCY SHALL BE 200' FROM AN OIL/GAS FACILITY WHILE COMMERCIAL BUILDINGS, RESIDENTIAL BUILDINGS, AND RECREATIONAL BUILDINGS (INCLUDING BATHROOMS, SHADE SHELTERS AND PLAYGROUNDS) SHALL MAINTAIN A 50' SETBACK FROM A PLUGGED AND ABANDONED WELL TO MAINTAIN PLANNING FLEXIBILITY IN THE FACE OF EXISTING OIL & GAS FACILITIES. PLUGGED AND ABANDONED GAS WELLS SHALL BE ALLOWED WITHIN PUBLIC COLLECTOR ROAD AND LOCAL STREET RIGHTS-OF-WAY, ONLY IF THEY ARE INSPECTED AND CONFIRMED TO MEET OR EXCEED THE COGCC STANDARDS FOR A WELL PLUG.

2. MAXIMUM BUILDING HEIGHT: BUILDING HEIGHTS FOR BOTH RESIDENTIAL AND NON-RESIDENTIAL USES ARE DEFINED HIGHER THAN STANDARDS, WITH CONDITIONS ON WHERE HEIGHTS ARE MEASURED TO REFLECT THE FACT THAT THE SITE IS SLOPED.

JUSTIFICATION FOR DEVIATIONS (CONT'D)

2. Cont. SPECIFICALLY, FOR ESTATE LOTS MAXIMUM BUILDING HEIGHT IS SET TO 45' FOR FLEXIBILITY TO ACCOMMODATE MULTIPLE FLOORS BETWEEN 9' AND 10', TWO-FOOT CEILING STRUCTURES PER FLOOR, AND CUSTOMARY ROOF SLOPES OF 6:12. FOR SMALL LOTS, SMALL FORMAT LOTS, AND ROW HOUSES, MAXIMUM BUILDING HEIGHT IS SET TO 45' TO ACCOMMODATE MULTIPLE FLOORS BETWEEN 9' AND 10', TWO-FOOT CEILING STRUCTURES PER FLOOR, AND CUSTOMARY ROOF SLOPES BETWEEN 4:12 AND 8:12. MAXIMUM BUILDING HEIGHT FOR MULTI-FAMILY/MIXED USE DWELLING AND COMMERCIAL USE IS SET TO 80' TO FLEXIBLY ACCOMMODATE THE MID-RISE TYPE OF VILLAGE-CENTER STRUCTURES ENVISIONED FOR PLANNING AREA A.

3. LOT SIZE: MINIMUM LOT SIZES IN THIS PROPOSAL RUN SMALLER THAN CODE STANDARDS FOR DETACHED HOUSE - SMALL FORMAT (CODE: 1,500 SF; PUD: 1,000 SF) AND DETACHED HOUSE - SMALL (CODE: 3,000 SF; PUD 2,700 SF) FOR FLEXIBILITY IN DEVELOPING LOTS TO MEET DEMANDS AND MARKET TRENDS AND CONDITIONS.

4. LOT OPEN SPACE: FOR RESIDENTIAL SINGLE FAMILY DWELLING SMALL LOT AND SMALL FORMAT LOT AS WELL AS ROW HOUSE STANDARD LOT, MINIMUM OPEN SPACE IS DEFINED LOWER THAN STANDARD AT 10% FOR EACH RATHER THAN 20% FOR SMALL LOT, 15% FOR SMALL FORMAT, AND 12% FOR ROW HOUSE STANDARD LOT TO TAKE ADVANTAGE OF TRENDS TOWARD SMALLER YARDS.

5. ENCROACHMENTS: THE TRIPLE CREEK PUD ALLOWS ENCROACHMENTS UP TO 2' INTO THE SETBACKS TO ACTIVATE THE RESIDENTIAL FRONTAGE AND FACILITATE HUMAN-SCALE DESIGN OF DWELLINGS FOR PORCHES, EAVES, CANTILEVERS, STEPS, WALKS, AND COUNTERFORTS/FOUNDATIONS WHEREAS CITY CODE ALLOWS UP TO 10' BET NEVER CLOSER THAN 5'.

6. PARKING SPACES: PARKING REQUIREMENTS FOR MULTI-FAMILY USES ARE SET AT 1 SPACE PER BEDROOM WITH STUDIO/EFFICIENCY APARTMENTS COUNTING AS 1 BEDROOM, AND GUEST PARKING IS SET AT 1 ADDITIONAL SPACE REQUIRED PER 20 REQUIRED RESIDENT SPACES TO DISCOURAGE VEHICULAR USE. PARKING RATES FOR HEALTH/FITNESS, GENERAL RECREATION, AND LARGE SCALE RECREATION ARE SET AT 1/1,000 SF AS THE COMMUNITY WILL BE WALKABLE AND TO ENCOURAGE PEDESTRIAN MODES OF TRAVEL THROUGHOUT THE COMMUNITY.

7. ACCESSORY DWELLING UNITS: ACCESSORY DWELLING UNITS ARE PROHIBITED IN COMMERCIAL USES, MIXED-USE DWELLINGS, ROW HOUSES AND SINGLE FAMILY DWELLINGS - SMALL FORMAT WHILE ALLOWED IN SINGLE FAMILY DWELLINGS - ESTATE LOT AND SINGLE FAMILY DWELLINGS - SMALL LOT TO FACILITATE THE DIVERSIFICATION OF HOUSING AND MAKE EFFICIENT AND CREATIVE USE OF SPACE AND HOUSING CHOICES ON LOTS WITH THE BEST OPPORTUNITIES FOR ACCESSORY USES.

8. SIGN STANDARDS: SHEET L4.09 MONUMENTS AND SIGNAGE VIGNETTE PROVIDES INFORMATION ON THE INTENT AND IMPLEMENTATION OF MONUMENTATION AND SIGNAGE, ASSUMING "SIZE" IN TABLE 24-9-2, SEC 24-904, IS INTERPRETED AS "SIGN FACE" AS DEFINED IN CITY OF GREELEY DEVELOPMENT CODE, SEC. 24-908 OCTOBER 1, 2021, AS AMENDED, AND ASSUMING A COMPARABLE RIGHT-BY-USE ZONE IS C-H, THE COMMUNITY SIGN HEIGHT OF 20' EXCEEDS THE STANDARD OF 12' AS ALLOWED, WITH THE JUSTIFICATION THAT THE SIGN AND ASSOCIATED MONUMENTATION AS ILLUSTRATED WILL BE THE PRIMARY MARKER FOR THE TRIPLE CREEK COMMUNITY ALONG 71ST AVENUE SINCE THE DEVELOPMENT IS SET BACK FROM 71ST AVENUE AND OPEN SPACE IS ANTICIPATED TO BE THE USE FOR THE PROPERTIES ADJACENT TO 71ST AVENUE.

9. STREET DESIGN: TRIPLE CREEK'S MINOR COLLECTOR STREET UTILIZES AN 86' RIGHT-OF-WAY WIDTH IN PLACE OF THE CITY STANDARD 90'. IT ALSO ADDS A 7' MEDIAN, MOVES THE BIKE LANES TO AN OFF-STREET 8' SHARED USE TRAIL, NARROWS EACH SIDEWALK FROM 6' STANDARD TO 5', REDUCES THE TRAVEL LANES FROM 12' TO 10' AND NARROWS THE 8' PARKING LANES TO 7.5'. THE INTENTION WITH SUCH DEVIATIONS IS TO PROVIDE A MORE INTIMATE STREET EXPERIENCE AND IMPROVE THE TREE CANOPY WITHIN THE NEIGHBORHOODS, PROVIDE A SAFER BICYCLING EXPERIENCE, AND ACCOMMODATE MORE DIVERSE PEDESTRIAN MODES.

10. STREET DESIGN: TRIPLE CREEK ALSO UTILIZES A 71' R.O.W. MINOR COLLECTOR ROUNDABOUT WITH A STANDARD 12' ONE-WAY TRAVEL LANE, STANDARD 19' ANGLE PARKING, 6' SIDEWALK, AND GENEROUS 14' PLAZA AREA IN ANTICIPATION OF SUPPORTING THE COMMERCIAL AND MIXED-USE RESIDENTIAL NEIGHBORHOOD IN PLANNING AREA 1 WITH A GENEROUS PEDESTRIAN SPACE. WE ENVISION THIS AREA TO BE A VIBRANT NEIGHBORHOOD WITH LIVELY STREET ACTIVITY AND AN ACTIVE URBAN PLAZA, GROUND-FLOOR BUSINESSES, AND MULTI-FAMILY RESIDENTIAL (CONDOMINIUM/APARTMENT) USES IN MULTI-STORY BUILDINGS; THE ONE-WAY STREET WITH ON-STREET ANGLED PARKING SUPPORTS OUR VISION.

11. STREET DESIGN: EACH OF THE 2 PROPOSED LOCAL STREETS DEViate FROM THE LOCAL STREET STANDARDS WITH THE INTENTION THAT EACH SERVES DIFFERENT NEEDS OF A LOCAL NATURE WITHIN TRIPLE CREEK. THE 66' R.O.W. LOCAL STREET SERVES THE HIGHER DENSITY NEIGHBORHOODS WITH 10' TRAVEL LANES AND 5' SIDEWALKS THAT MATCH STANDARDS, BUT WITH AN OFF-STREET 8' MULTI-USE TRAIL THAT ACCOMMODATES A WIDE VARIETY OF PEDESTRIAN MODES. THE PROPOSED 47'-81' R.O.W. LOCAL STREET PROVIDES MAXIMUM FLEXIBILITY TO RESPOND TO LOCAL CONDITIONS AND NEEDS THROUGH A VARIABLE-WIDTH R.O.W. AND OPTIONS FOR ANGLED, PARALLEL, AND NO PARKING. TRAVEL LANES ARE 10' WIDE, ANGLED PARKING IS 19', AND PARALLEL PARKING IS 7'. FINAL DETERMINATION OF THE R.O.W. WIDTH WILL OCCUR AT FINAL PLAT.

12. ARCHITECTURAL STANDARDS: BUILDINGS AT TRIPLE CREEK WILL GENERALLY FOLLOW THE ARCHITECTURAL STANDARDS FOUND IN THE CITY OF GREELEY DEVELOPMENT CODE (UPDATED OCTOBER 1, 2021) WITH A FEW EXCEPTIONS. FIRST, ALL RESIDENTIAL HOMES SHALL SUBMIT A LETTER OF APPROVAL FROM THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENSURE AN ENHANCED DESIGN STANDARD OVER AND ABOVE THE CITY'S BASE CODE PRIOR TO OBTAINING BUILDING PERMITS FROM THE CITY OF GREELEY. SECOND, ANY IMPROVEMENTS OR ADDITIONS TO RESIDENTIAL HOMES AFTER INITIAL CONSTRUCTION SHALL REQUIRE THE APPROVAL OF THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENSURE AN ENHANCED DESIGN STANDARD OVER AND ABOVE THE CITY'S BASE CODE PRIOR TO OBTAINING BUILDING PERMITS FROM THE CITY OF GREELEY. THIRD, ALL REQUIREMENTS WITHIN SECTION 24-503 THAT HAVE A MINIMUM REQUIREMENT AND MAXIMUM REQUIREMENT FOR ARCHITECTURAL DETAILS (SUCH AS FRONT PORCH DEPTH 8'-12') SHALL NOT HAVE A MAXIMUM TO ENHANCE THE DESIGN QUALITY OF THE COMMUNITY. FINALLY, WALL PLANE, BLANK WALL, AND ROOF PLANE LIMITS MAY BE EXCEEDED BY UP TO DOUBLE THE CITY LIMIT AND APPROVED BY THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENHANCE THE DESIGN QUALITY OF THE COMMUNITY.

PLANNED UNIT DEVELOPMENT CERTIFICATION BLOCK

THIS PLANNED UNIT DEVELOPMENT (PUD) HAS BEEN REVIEWED AND FOUND TO BE COMPLETE AND IN ACCORDANCE WITH THE CITY OF GREELEY DEVELOPMENT CODE REGULATIONS.

TRIPLE CREEK DEVELOPMENT, LLC

SIGNATURE: _____

NAME & TITLE: _____

DATE: _____

CITY COUNCIL APPROVAL

APPROVED BY THE GREELEY CITY COUNCIL ON

THIS ____ DAY OF _____, 20__

PLANNING COMMISSION RECOMMENDATION

RECOMMENDED / NOT RECOMMENDED BY THE CITY OF GREELEY PLANNING COMMISSION, THIS ____ DAY OF _____, 20__

COMMUNITY DEVELOPMENT DIRECTOR

DIRECTOR OF COMMUNITY DEVELOPMENT

DATE

PROJECT TEAM

	DEVELOPER / OWNER: TRIPLE CREEK DEVELOPMENT L.L.C. 5200 20TH ST. GREELEY, CO 80634 970.352.9446
	PLANNER / ARCHITECT / LANDSCAPE ARCHITECT: LAI DESIGN GROUP 88 INVERNESS CIRCLE EAST BUILDING J, SUITE 101 ENGLEWOOD, CO 80112 303.734.1777
	CIVIL ENGINEER: WERNSMAN ENGINEERING & LAND DEVELOPMENT P.O. BOX 105 LA SALLE, CO 80645 970.539.2656
	TRAFFIC ENGINEER: KELLAR ENGINEERING 4741 CENTRAL ST. KANSAS CITY, MO 64112 970.219.1602

SHEET INDEX

SHEET NAME	SHEET NUMBER	SHEET
COVER SHEET	L1.00	1
EXISTING CONDITIONS MAP	L2.00	2
MASTER DEVELOPMENT PLAN AND GENERAL LAYOUT	L3.00	3
PROPERTY DESCRIPTION & BOUNDARY MAP	L3.01	4
DEVELOPMENT STANDARDS	L3.02 - L3.09	5-12
PRELIMINARY LANDSCAPE PLAN	L4.00	13
ZONING SUITABILITY MAP	L4.01	14
PEDESTRIAN CIRCULATION PLAN	L4.02	15
VEHICULAR CIRCULATION PLAN	L4.03	16
STREET SECTIONS	L4.04	17
SITE FURNISHINGS	L4.05	18
PARKS AND TRAILS VIGNETTE	L4.06	19
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GRADING PLANS	G1 - G3	30-32

PLANNER / ARCHITECT /
LANDSCAPE ARCHITECT
LAI DESIGN GROUP
88 INVERNESS CIR E, STE J-101
ENGLEWOOD, CO 80112
PHONE: 303.734.1777



CIVIL ENGINEER

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LASALLE, CO 80645

CLIENT

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DEVELOPMENT, LLC
5200 WEST 20TH STREET
GREELEY, CO 80634
PHONE: (970) 415-8432

TRIPLE CREEK P.U.D.
GREELEY, CO
COVER SHEET

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL _____ 03/08/23
2nd SUBMITTAL _____ 06/01/23
3rd SUBMITTAL _____ 07/24/23
4th SUBMITTAL _____ 09/01/23

SHEET NUMBER

L1.00
SHEET 1 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

PLANNER / ARCHITECT /
LANDSCAPE ARCHITECT
LAI DESIGN GROUP
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ENGLEWOOD, CO 80112
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DEVELOPMENT, LLC
5200 WEST 20TH STREET
GREELEY, CO 80634
PHONE: (970) 415-8432

2.00 EXISTING CONDITIONS

LEGEND

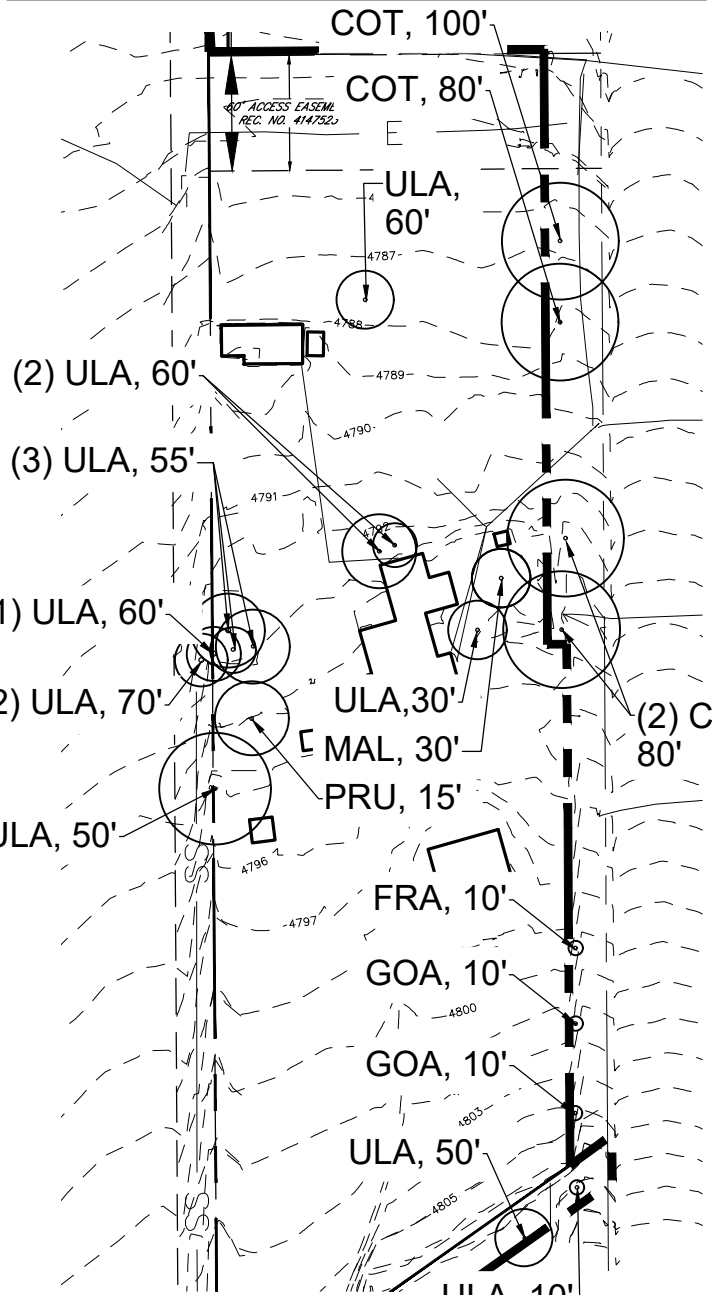
C-D	CONSERVATION DISTRICT		DRAINAGE
H-A	HOLDING AGRICULTURE		HIGH POINT
I-L	INDUSTRIAL - LOW INTENSITY		LOW POINT
R-E	RESIDENTIAL ESTATE		200' RADIUS SETBACK OIL & GAS WELL LOCATION
R-H	RESIDENTIAL - HIGH DENSITY		EXISTING CONTOURS
R-L	RESIDENTIAL - LOW DENSITY		PROPERTY BOUNDARY
PUD	PLANNED UNIT DEVELOPMENT		RIGHT-OF-WAY
	PRIMARY SITE ACCESS POINT		PLANNING AREA BOUNDARY
	SECONDARY SITE ACCESS POINT		EASEMENT
	ACTIVELY PRODUCING WELL TO REMAIN		SHEEP DRAW FLOWLINE
	FIRE HYDRANT		

Slopes Table			
Number	Minimum Slope	Maximum Slope	Color
1	0.00%	3.00%	
2	3.00%	5.00%	
3	5.00%	10.00%	
4	10.00%	15.00%	
5	15.00%	100.00%	

Planning Areas		
P.A.	S.F.	A.C.
1	1,180,476	27.1
2	1,032,372	23.7
3	557,568	12.8
4	387,684	8.9

Existing Easements	
EASEMENT TYPE	RECEPTION NUMBER
20' ACCESS EASEMENT	1479156
10' PIPELINE EASEMENT	3356210
20' EXCLUSIVE ACCESS EASEMENT	3978801
60' ACCESS EASEMENT	4147523
30' NON-EXCLUSIVE ACCESS EASEMENT	3878801
30' UTILITY EASEMENT	2559154
30' EXCLUSIVE WATER/SEWER EASEMENT	2586999
20' ACCESS EASEMENT	4493297
20' SANITARY EASEMENT	4493298
30' UTILITY EASEMENT	2587001
20' WATERLINE EASEMENT	4214809
20' PIPELINE ROW	4491046

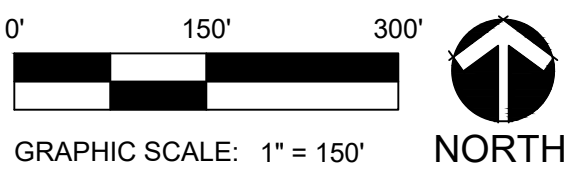
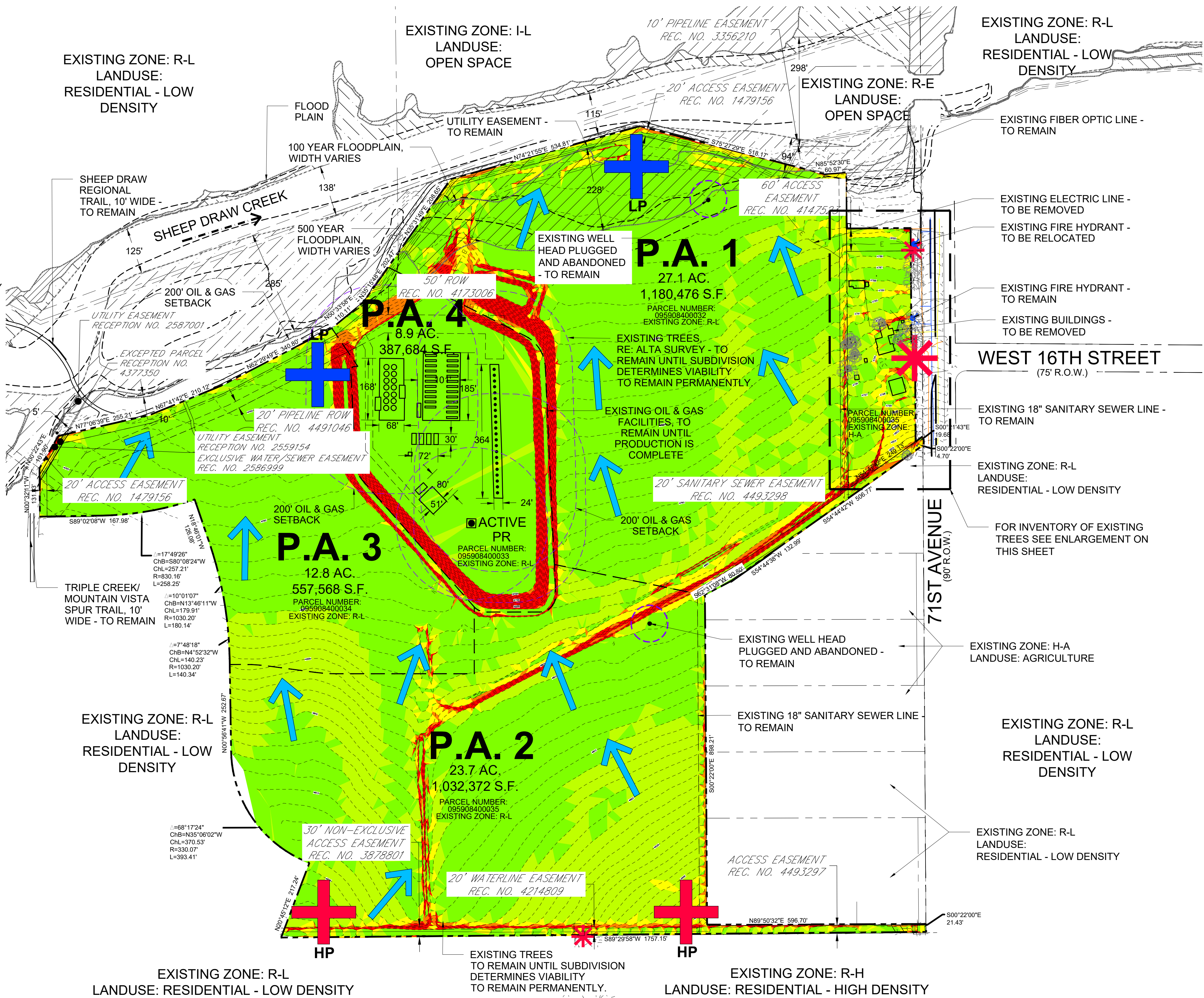
INVENTORY OF EXISTING TREES



20' EXCLUSIVE ACCESS EASEMENT	3978801
20' SANITARY EASEMENT	4493298

Existing Trees at 71st Street		
SYMBOL / ABBR.	COMMON NAME	QTY.
COT	COTTONWOOD	4
GOA	OAK	2
ULA	ELM	13
MAL	CRABAPPLE	1
PRU	PRUNUS SPECIES	1
FRA	ASH	1

NOTES:
1. FIGURES IN CALLOUTS ABOVE INDICATE APPROXIMATE HEIGHT FOR TREES.
2. UPON REMOVAL EXISTING TREES SHALL BE REPLACED.



TRIPLE CREEK P.U.D.
GREELEY, CO
EXISTING CONDITIONS MAP

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD	
1st SUBMITTAL	03/08/23
2nd SUBMITTAL	06/01/23
3rd SUBMITTAL	07/24/23
4th SUBMITTAL	09/01/23

SHEET NUMBER
L2.00
SHEET 2 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

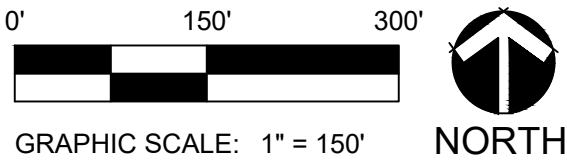
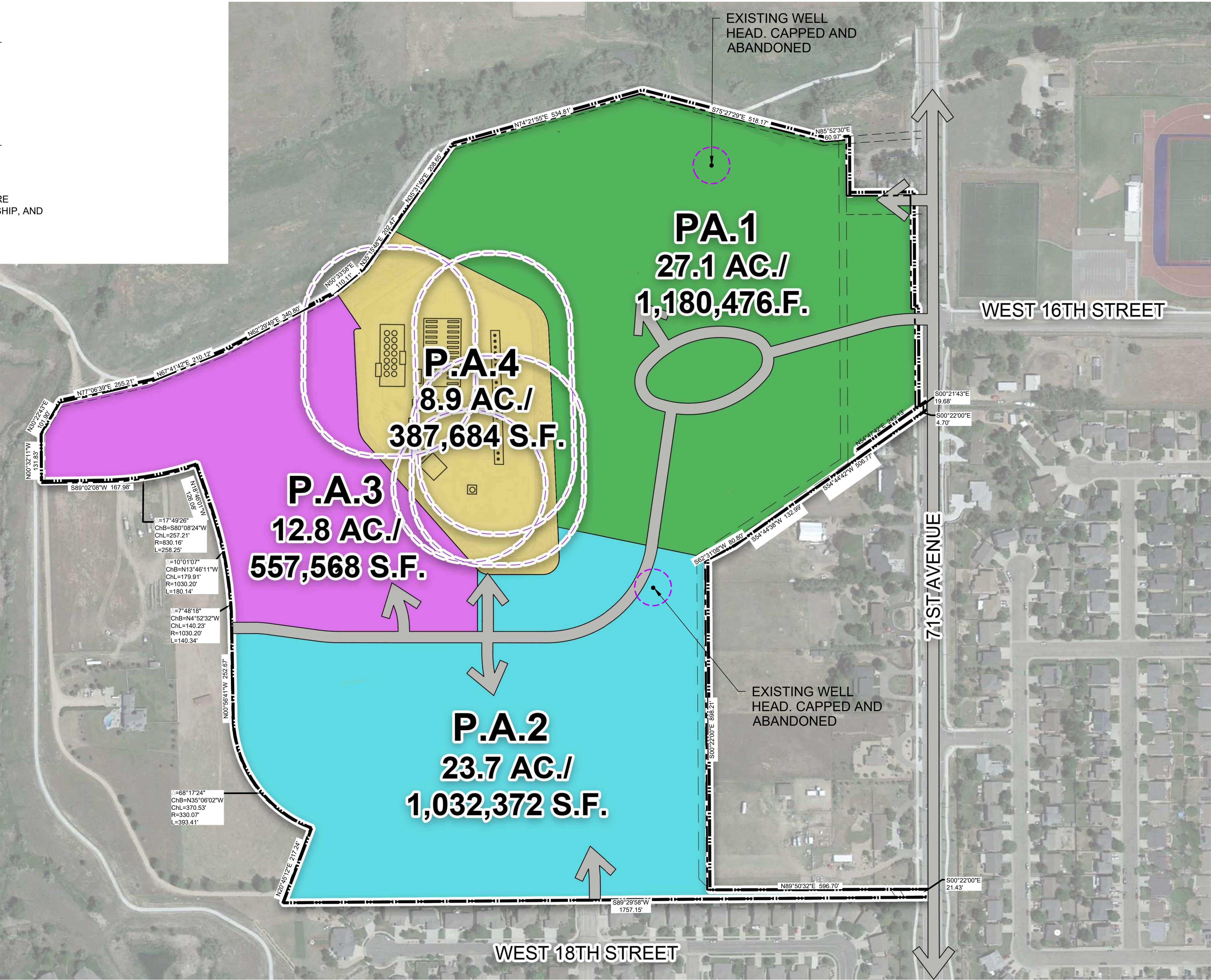
A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

3.00 MASTER DEVELOPMENT PLAN AND GENERAL LAYOUT

LEGEND		PLANNING AREA SUMMARY	
	PROPERTY BOUNDARY		27.1 ACRES P.A. 1
	EXISTING EASEMENT		23.7 ACRES P.A. 2
	200' RADIUS SETBACK		12.8 ACRES P.A. 3
	OIL & GAS EQUIPMENT		8.9 ACRES P.A. 4
		TOTAL	72.5 ACRES

NOTES:
1. SEE SHEET L5.00 FOR A TABLE OF COMMITMENTS INDICATING THE MAJOR INFRASTRUCTURE IMPROVEMENTS, WHO IS RESPONSIBLE FOR THEIR CONSTRUCTION, MAINTENANCE, OWNERSHIP, AND CONSTRUCTION TIMING.

SITE SUMMARY				
AREA	USE	ACRES	AMOUNT OF COMMERCIAL / INDUSTRIAL	PLANNING AREA MAX. DENSITY (D.U./AC.)
P.A. 1		27.1		
	COMMERCIAL		350,000 SF MAX.	N/A ⁵
	RESIDENTIAL, SFD ² , DETACHED HOUSE/ESTATE LOT		N/A	MAXIMUM OVERALL DENSITY 29.0 DU/AC
	RESIDENTIAL, SFD ² , SMALL LOT		N/A	
	RESIDENTIAL, SFD ² , SMALL FORMAT LOT		N/A	
	RESIDENTIAL, ROW HOUSE DWELLING		N/A	
	RESIDENTIAL, MIXED USE DWELLING		N/A	
	PARKS, OPEN SPACES & COMMON AREAS	TBD ³	N/A	N/A
	OIL & GAS	0.0 ⁴	N/A	N/A
P.A. 2		23.7		
	RESIDENTIAL, SFD ² , DETACHED HOUSE/ESTATE LOT		N/A	MAXIMUM OVERALL DENSITY 15.0 DU/AC
	RESIDENTIAL, SFD ² , SMALL LOT		N/A	
	RESIDENTIAL, SFD ² , SMALL FORMAT LOT		N/A	
	RESIDENTIAL, ROW HOUSE DWELLING		N/A	
	RESIDENTIAL, MIXED USE DWELLING		N/A	
	PARKS, OPEN SPACES & COMMON AREAS	TBD ³	N/A	N/A
	OIL & GAS	0.0 ⁴	N/A	N/A
P.A. 3		12.8		
	RESIDENTIAL, SFD ² , DETACHED HOUSE/ESTATE LOT		N/A	MAXIMUM OVERALL DENSITY 15.0 DU/AC
	RESIDENTIAL, SFD ² , SMALL LOT		N/A	
	RESIDENTIAL, SFD ² , SMALL FORMAT LOT		N/A	
	RESIDENTIAL, ROW HOUSE DWELLING		N/A	
	RESIDENTIAL, MIXED USE DWELLING		N/A	
	PARKS, OPEN SPACES & COMMON AREAS	TBD ³	N/A	N/A
	OIL & GAS	0.0 ⁴	N/A	N/A
P.A. 4		8.9		
	PARKS, OPEN SPACES & COMMON AREAS	0.0	N/A	N/A
	OIL & GAS	8.9 ⁴	N/A	N/A
	PROPERTY TOTAL	72.5		
² SFD = SINGLE-FAMILY DWELLING				
³ TO BE DETERMINED AT FINAL PLAT				
⁴ WHEN OIL & GAS OPERATIONS CEASE, PLANNING AREA 4 WILL BECOME A DEDICATED NEIGHBORHOOD PARK				
⁵ SEE NON-RESIDENTIAL PUD DEVELOPMENT STANDARDS CHART ON L3.02				



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CLIENT

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GREELEY, CO 80634
PHONE: (970) 415-8432

TRIPLE CREEK P.U.D.
GREELEY, CO
MASTER DEVELOPMENT PLAN
& GENERAL LAYOUT

PROJECT #:	221042
DRAWN BY:	AH, ML
CHECKED BY:	RH
ISSUE RECORD	
1st SUBMITTAL	03/08/23
2nd SUBMITTAL	06/01/23
3rd SUBMITTAL	07/24/23
4th SUBMITTAL	09/01/23
SHEET NUMBER	
L3.00	
SHEET 3 OF 32	

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH,
RANGE 66 WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD,
STATE OF COLORADO
PUD 2023-0002

PROPERTY DESCRIPTION-PARCEL 1

A parcel of land, situate in the East Half (E1/2) of Section Eight (8), Township Five North (T.5N.), Range Sixty-six West (R.66W.) of the Sixth Principal Meridian (6th P.M.), City of Greeley, County of Weld, State of Colorado and being more particularly described as follows:

COMMENCING at the East Quarter corner of said Section 8 and assuming the East line of the Southeast Quarter (SE1/4) as bearing South 00°22'00" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2658.41 feet, monumented by a #6 rebar with 3.25" aluminum cap stamped LS 38106 at the East Quarter corner and a #6 rebar with 3.25" aluminum cap stamped LS 36053 at the Southeast corner and with all other bearings contained herein relative thereto;
THENCE South 00°22'00" East along said East line a distance of 1329.29 feet to the South 1/16th corner of Section 8 and to the POINT OF BEGINNING;
THENCE South 89°29'58" West along the South line of the North Half of the Southeast Quarter said Section 8 a distance of 1787.15 feet;
THENCE North 20°45'12" East a distance of 217.24 feet to the beginning point of a curve non-tangent to the aforesaid line;
THENCE along the arc of a curve concave to the Northeast a distance of 393.41 feet, having a Radius of 330.07 feet, a Delta of 68°17'24" and is subtended by a Chord that bears North 35°06'02" West a distance of 370.53 feet to a Point of Tangency (PT);
THENCE North 00°56'41" West a distance of 252.67 feet to a Point of Curvature (PC);
THENCE along the arc of a curve concave to the West a distance of 140.34 feet, having a Radius of 1030.20 feet, a Delta of 07°48'18" and is subtended by a Chord that bears North 04°52'32" West a distance of 140.23 feet;
THENCE along the arc of a curve concave to the West a distance of 180.14 feet, having a Radius of 1030.20 feet, a Delta of 10°01'07" and is subtended by a Chord that bears North 13°46'11" West a distance of 179.91 feet to a PT;
THENCE North 18°46'01" West a distance of 126.08 feet to the beginning point of a curve non-tangent to aforesaid line;
THENCE along the arc of a curve concave to the North a distance of 258.25 feet, having a Radius of 830.16 feet, a Delta of 17°49'26" and is subtended by a Chord that bears South 80°08'24" West a distance of 257.21 feet to a PT;
THENCE South 89°02'08" West a distance of 167.98 feet;
THENCE North 00°32'11" West a distance of 83.17 feet;
THENCE North 30°22'43" East a distance of 167.18 feet;
THENCE North 77°06'39" East a distance of 220.88 feet;
THENCE North 67°41'42" East a distance of 210.12 feet;
THENCE North 62°29'49" East a distance of 340.80 feet;
THENCE North 50°33'58" East a distance of 110.11 feet;
THENCE North 35°15'48" East a distance of 202.47 feet;
THENCE North 35°31'49" East a distance of 208.65 feet;
THENCE North 74°21'55" East a distance of 534.81 feet;
THENCE South 75°27'29" East a distance of 518.17 feet;
THENCE North 85°52'30" East a distance of 60.97 feet;
THENCE South 00°21'43" East a distance of 862.53 feet;
THENCE North 54°47'42" East a distance of 212.58 feet;
THENCE South 00°22'00" East a distance of 24.42 feet;
THENCE South 54°44'42" West a distance of 470.20 feet;
THENCE South 54°44'38" West a distance of 132.99 feet;
THENCE South 00°21'43" East a distance of 862.53 feet;
THENCE North 54°47'42" East a distance of 212.58 feet;
THENCE South 00°22'00" East a distance of 24.42 feet;
THENCE South 54°44'42" West a distance of 470.20 feet;
THENCE South 54°44'38" West a distance of 132.99 feet;
THENCE South 00°21'43" East a distance of 862.53 feet;
THENCE North 54°47'42" East a distance of 212.58 feet;
THENCE South 00°22'00" East a distance of 24.42 feet;
THENCE South 54°44'42" West a distance of 470.20 feet;
THENCE South 54°44'38" West a distance of 132.99 feet;
THENCE South 00°21'43" East a distance of 862.53 feet;
THENCE North 54°47'42" East a distance of 212.58 feet;
THENCE South 00°22'00" East a distance of 24.42 feet;
THENCE South 54°44'42" West a distance of 470.20 feet;
THENCE South 54°44'38" West a distance of 132.99 feet;
THENCE South 00°21'43" East a distance of 862.53 feet;
THENCE North 54°47'42" East a distance of 212.58 feet;
THENCE South 00°22'00" East, along said East line, a distance of 21.25 feet to the POINT OF BEGINNING.

Said parcel contains 3,039,348 square feet or 69.774 acres, more or less.

PROPERTY DESCRIPTION-PARCEL 2

A parcel of land, situate in the East Half (E1/2) of Section Eight (8), Township Five North (T.5N.), Range Sixty-six West (R.66W.) of the Sixth Principal Meridian (6th P.M.), City of Greeley, County of Weld, State of Colorado and being more particularly described as follows:

BEGINNING at the East Quarter corner of said Section 8 and assuming the East line of the Southeast Quarter (SE1/4) as bearing South 00°22'00" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2658.41 feet, monumented by a #6 rebar with 3.25" aluminum cap stamped LS 38106 at the East Quarter corner and a #6 rebar with 3.25" aluminum cap stamped LS 36053 at the Southeast corner and with all other bearings contained herein relative thereto;
THENCE South 89°28'34" West along the South line of the North Half of Section 8 a distance of 30.00 feet;
THENCE South 00°22'00" East a distance of 4.70 feet;
THENCE South 54°44'42" West a distance of 36.57 feet;
THENCE North 00°22'00" West a distance of 24.42 feet;
THENCE South 54°47'42" West a distance of 212.58 feet;
THENCE North 00°21'43" West a distance of 709.76 feet;
THENCE North 89°35'04" East a distance of 234.47 feet to the East line of the Northeast Quarter (NE1/4) of Section 8;
THENCE South 00°21'43" East, along said East line, a distance of 587.24 feet to the POINT OF BEGINNING.

Said parcel contains 148,958 square feet or 3.420 acres, more or less.

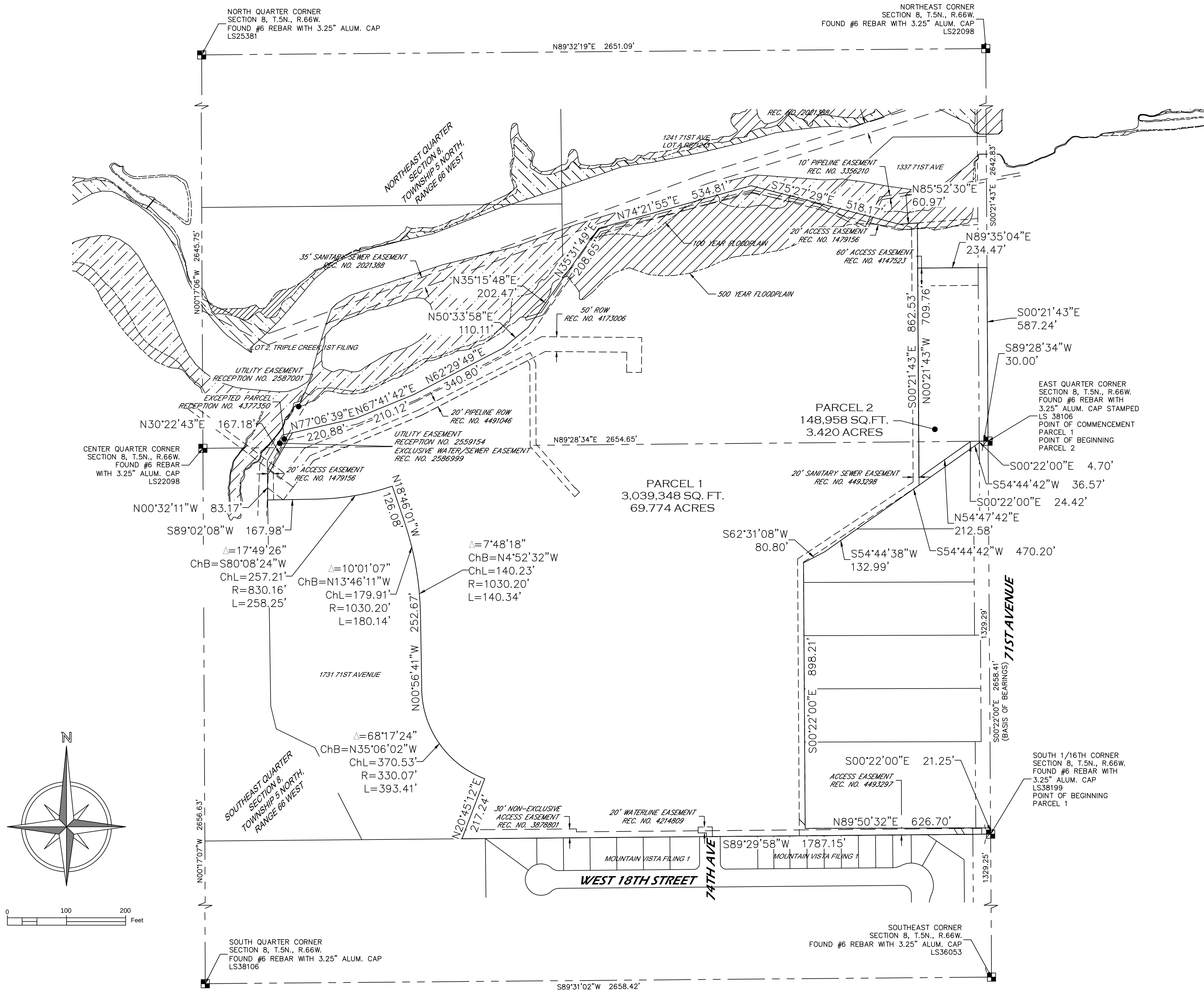
BASIS OF BEARINGS AND LINEAL UNIT DEFINITION

Assuming the East line of the Southeast Quarter of Section 8, Township, 5 North, Range 66 West of the 6th P.M., monumented as shown on this drawing, as bearing South 00°22'00" West, a distance of 2658.41 feet and with all other bearings contained herein relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot".

NOTICE

According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon. (13-80-105 C.R.S. 2012)



PLANNER / ARCHITECT /
LANDSCAPE ARCHITECT
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TRIPLE CREEK P.U.D.
GREELEY, CO
PROPERTY DESCRIPTION &
BOUNDARY MAP

PROJECT #:
DRAWN BY:
CHECKED BY:

ISSUE RECORD	
1st SUBMITTAL	03-08-2023
2nd SUBMITTAL	05-26-2023
3rd SUBMITTAL	07-24-2023
4th SUBMITTAL	09-01-2023

SHEET NUMBER
L3.01
SHEET 4 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

3.02 DEVELOPMENT STANDARDS

DEVELOPMENT STANDARDS								
PLANNING AREA 1								
DESCRIPTION	PROPOSED							
PERMITTED USES	RESIDENTIAL, SINGLE-FAMILY DWELLING, DETACHED HOUSE / ESTATE LOT (STREET LOADED)	RESIDENTIAL, SINGLE-FAMILY DWELLING, DETACHED HOUSE / ESTATE LOT (ALLEY LOADED)	RESIDENTIAL, SINGLE-FAMILY DWELLING, DETACHED HOUSE / SMALL LOT	RESIDENTIAL SINGLE-FAMILY DWELLING, DETACHED HOUSE / SMALL FORMAT	ROW HOUSE / STANDARD LOT	DWELLING, MULTI-FAMILY / MIXED USE	COMMERCIAL	PARKS, OPEN SPACES & COMMON AREAS
PROHIBITED USES	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03
MINIMUM LOT AREA	13,000 SF	13,000 SF	2,700 SF	1,000 SF	1,000 SF	1,000 SF	1,000 SF	N/A
DENSITY (DU/AC OR MAX SQ FT) ⁵	3.4	3.4	10	24	24	N/A	300,000 SF	N/A
MAXIMUM BUILDING COVERAGE	60%	60%	85%	85%	90%	95%	95%	N/A
MINIMUM OPEN SPACE ⁷	40%	40%	15%	15%	10%	5%	5%	N/A
REQUIRED PARKING SPACES ²	2	2	2	2	2	SEE NOTE 3 BELOW	SEE NOTE 3 BELOW	PER CITY CODE ⁸
MINIMUM SETBACKS ¹								
MINIMUM FRONT	10'	10'	5'	5'	5'	0	0	N/A
MAXIMUM FRONT	25'	25'	7'	7'	7'	N/A	N/A	N/A
MINIMUM FRONT SETBACK TO STREET FACING GARAGE	25'	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SIDE	5'	5'	5'	3'	5'	0	0	N/A
REAR	10' ⁴	5' ⁴	5'	5'	5'	N/A	N/A	N/A
CORNER	10'	10'	5' PORCH 10' BUILDING	10'	10'	0	0	N/A
ADJACENT TO OPEN SPACE	5'	5'	5'	3'	5'	0	0	N/A
DRIVEWAY	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	N/A
ACCESSORY USE SETBACKS	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	N/A
ENCROACHMENTS	SEE NOTE 1 BELOW	SEE NOTE 1 BELOW	SEE NOTE 1 BELOW	SEE NOTE 1 BELOW	SEE NOTE 1 BELOW	N/A	N/A	N/A
BUILDING HEIGHT	45'	45'	45'	45'	45'	80' ⁶	80' ⁶	45'
SIGN STANDARDS	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09

¹ FOR ROW HOUSES AND ALL SINGLE FAMILY DETACHED DWELLINGS, ENCROACHMENT INTO THE SETBACKS SHALL BE ALLOWED. PORCHES, EAVES, BAY WINDOWS, ARCHITECTURAL EXTENSIONS, MEDIA NICHES, FIREPLACES, CANTILEVERS, STEPS, WALKS, COUNTERFORTS / FOUNDATIONS,AND SIMILAR ARCHITECTURAL FEATURES CAN ENCROACH INTO THE ESTABLISHED FRONT, SIDE, OR REAR SETBACKS; ENCROACHMENTS CANNOT BE MORE THAN 2 FEET. DECKS, PATIOS AND SHADE ELEMENTS 18" OR MORE ABOVE GRADE AND GROUND-MOUNTED MECHANICAL EQUIPMENT (E.G. AC UNITS) SHALL NOT ENCROACH MORE THAN 2 FEET INTO ANY SIDE OR REAR YARD SETBACKS. WINDOW WELLS MAY ENCROACH MORE THAN 3' AS NECESSARY FOR FIRE EGRESS AS LONG AS THEY DON'T CONFLICT WITH PUBLIC UTILITIES. A SINGLE ENCROACHMENT MAY NOT EXCEED 40 S.F. OF FINISHED FLOOR AREA

² PARKING FOR SINGLE FAMILY RESIDENCES AND ROW HOUSES CAN BE SATISFIED WITH A GARAGE, DRIVEWAY SPACES, OR PARKING STALLS ON A PRIVATE ALLEY. REAR-LOAD (ALLEY) IS ALLOWED IN ALL RESIDENTIAL USES. FOR PARKING IN COMMERCIAL USES, SEE NON-RESIDENTIAL PUD DEVELOPMENT STANDARDS CHART ON SHEET L3.02.

³ PARKING REQUIREMENTS FOR MULTI-FAMILY DWELLINGS:
RESIDENT PARKING SHALL BE PROVIDED AT A RATE OF 1 SPACE PER BEDROOM. STUDIO/EFFICIENCY APARTMENTS SHALL COUNT AS 1 BEDROOM. ADDITIONAL GUEST PARKING SHALL BE PROVIDED AT A RATE OF 1 SPACE PER 20 REQUIRED RESIDENT SPACES.

⁴ REAR SETBACKS FOR ALL ESTATE LOTS THAT BACK TO OIL & GAS DEVELOPMENT SHALL BE INCREASED AS NEEDED TO ACCOMMODATE THE 200' OIL & GAS SETBACK.

⁵ DENSITY FOR COMMERCIAL LAND USES IS SHOWN AS A MAXIMUM SQUARE FOOTAGE PER THE NON-RESIDENTIAL STANDARDS CHART ON L3.02. PLANNING AREAS 2 & 3 SHALL BALANCE FOR THE STATED DENSITY.

⁶ BUILDING HEIGHT SHALL BE MEASURED AT THE PRIMARY ADDRESSED DOOR, MEASURED TO MOST COMMON ROOF DECK. HEIGHT EXCEPTIONS FOR FUNCTIONAL AND MECHANICAL EQUIPMENT AS WELL AS SCREENING SHALL BE PROVIDED TO FOLLOW CITY OF GREELEY CODE.

⁷ FOR RESIDENTIAL USES, OPEN SPACE INCLUDES LANDSCAPING, WALKS, PATIOS, DECKS, DRIVEWAYS, ETC.

⁸ CITY OF GREELEY DEVELOPMENT CODE DATED OCTOBER 1, 2021, AS AMENDED.

DEVELOPMENT STANDARDS		
PLANNING AREA 4		
DESCRIPTION	PROPOSED	
PERMITTED USES	OIL & GAS OPERATIONS	PARKS, OPEN SPACES & COMMON AREAS
PROHIBITED USES	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03
MINIMUM LOT AREA	N/A	N/A
DENSITY	N/A	N/A
BUILDING COVERAGE	N/A	N/A
DRIVE, PARKING, & WALKS	PER CITY CODE ⁸	PER CITY CODE ⁸
OPEN SPACE	N/A	N/A
MAXIMUM LOT COVERAGE	N/A	N/A
PARKING	N/A	PER CITY CODE ⁸
MINIMUM SETBACKS	SEE SECTION J, SHEET L3.03	N/A
ACCESSORY USE SETBACKS	PER CITY CODE ⁸	N/A
ENCROACHMENTS	N/A	N/A
BUILDING HEIGHT	N/A	45'
SIGN STANDARDS	SEE SHEET L4.09	SEE SHEET L4.09

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88 INVERNESS CIR E, STE J-101
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PHONE: (970) 415-8432

TRIPLE CREEK P.U.D.
GREELEY, CO
MASTER DEVELOPMENT PLAN
& GENERAL LAYOUT

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL 03/08/23
2nd SUBMITTAL 06/01/23
3rd SUBMITTAL 07/24/23
4th SUBMITTAL 09/01/23

SHEET NUMBER

L3.02
SHEET 5 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

3.03 DEVELOPMENT STANDARDS

DEVELOPMENT STANDARDS						
PLANNING AREA 2 & PLANNING AREA 3						
DESCRIPTION	PROPOSED					
PERMITTED USES	RESIDENTIAL, SINGLE-FAMILY DWELLING, DETACHED HOUSE / ESTATE LOT (STREET LOADED)	RESIDENTIAL, SINGLE-FAMILY DWELLING, DETACHED HOUSE / ESTATE LOT (ALLEY LOADED)	RESIDENTIAL, SINGLE-FAMILY DWELLING, DETACHED HOUSE / SMALL LOT	RESIDENTIAL SINGLE-FAMILY DWELLING, DETACHED HOUSE / SMALL FORMAT	ROW HOUSE / STANDARD LOT	PARKS, OPEN SPACES & COMMON AREAS
PROHIBITED USES	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03	DESCRIBED ON SHEET L3.03
MINIMUM LOT AREA	13,000 SF	13,000 SF	2,700 SF	1,000 SF	1,000 SF	N/A
DENSITY (DU/AC OR MAX SQ FT) ⁵	3.4	3.4	10	24	24	N/A
MAXIMUM BUILDING COVERAGE	60%	60%	85%	85%	90%	N/A
MINIMUM OPEN SPACE ⁷	40%	40%	15%	15%	10%	N/A
REQUIRED PARKING SPACES ²	2	2	2	2	2	PER CITY CODE ⁸
MINIMUM SETBACKS ¹						
MINIMUM FRONT	10'	10'	5'	5'	5'	N/A
MAXIMUM FRONT	25'	25'	7'	7'	7'	N/A
MINIMUM FRONT SETBACK TO STREET FACING GARAGE	25'	N/A	N/A	N/A	N/A	N/A
SIDE	5'	5'	5'	3'	5'	N/A
REAR	10' ⁴	5' ⁴	5'	5'	5'	N/A
CORNER	10'	10'	5' PORCH 10' BUILDING	10'	10'	N/A
ADJACENT TO OPEN SPACE	5'	5'	5'	3'	5'	N/A
DRIVEWAY	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	N/A
ACCESSORY USE SETBACKS	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	PER CITY CODE ⁸	N/A
ENCROACHMENTS	SEE NOTE 1 BELOW	SEE NOTE 1 BELOW	SEE NOTE 1 BELOW	SEE NOTE 1 BELOW	SEE NOTE 1 BELOW	N/A
BUILDING HEIGHT	45'	45'	45'	45'	45'	45'
SIGN STANDARDS	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09	SEE SHEET L4.09

¹ FOR ROW HOUSES AND ALL SINGLE FAMILY DETACHED DWELLINGS, ENCROACHMENT INTO THE SETBACKS SHALL BE ALLOWED. PORCHES, EAVES, BAY WINDOWS, ARCHITECTURAL EXTENSIONS, MEDIA NICHEs, FIREPLACES, CANTILEVERS, STEPS, WALKS, COUNTERFORTS / FOUNDATIONS, AND SIMILAR ARCHITECTURAL FEATURES CAN ENCROACH INTO THE ESTABLISHED FRONT, SIDE, OR REAR SETBACKS; ENCROACHMENTS CANNOT BE MORE THAN 2 FEET. DECKS, PATIOS AND SHADE ELEMENTS 18" OR MORE ABOVE GRADE AND GROUND-MOUNTED MECHANICAL EQUIPMENT (E.G. AC UNITS) SHALL NOT ENCROACH MORE THAN 2 FEET INTO ANY SIDE OR REAR YARD SETBACKS. WINDOW WELLS MAY ENCROACH MORE THAN 3" AS NECESSARY FOR FIRE EGRESS AS LONG AS THEY DON'T CONFLICT WITH PUBLIC UTILITIES. A SINGLE ENCROACHMENT MAY NOT EXCEED 40 S.F. OF FINISHED FLOOR AREA

² PARKING FOR SINGLE FAMILY RESIDENCES AND ROW HOUSES CAN BE SATISFIED WITH A GARAGE, DRIVEWAY SPACES, OR PARKING STALLS ON A PRIVATE ALLEY. REAR-LOAD (ALLEY) IS ALLOWED IN ALL RESIDENTIAL USES. FOR PARKING IN COMMERCIAL USES, SEE NON-RESIDENTIAL PUD DEVELOPMENT STANDARDS CHART ON SHEET L3.02.

³ PARKING REQUIREMENTS FOR MULTI-FAMILY DWELLINGS:
RESIDENT PARKING SHALL BE PROVIDED AT A RATE OF 1 SPACE PER BEDROOM. STUDIO/EFFICIENCY APARTMENTS SHALL COUNT AS 1 BEDROOM. ADDITIONAL GUEST PARKING SHALL BE PROVIDED AT A RATE OF 1 SPACE PER 20 REQUIRED RESIDENT SPACES.

⁴ REAR SETBACKS FOR ALL ESTATE LOTS THAT BACK TO OIL & GAS DEVELOPMENT SHALL BE INCREASED AS NEEDED TO ACCOMMODATE THE 200' OIL & GAS SETBACK.

⁵ DENSITY FOR COMMERCIAL LAND USES IS SHOWN AS A MAXIMUM SQUARE FOOTAGE PER THE NON-RESIDENTIAL STANDARDS CHART ON L3.02. PLANNING AREAS 2 & 3 SHALL BALANCE FOR THE STATED DENSITY.

⁶ BUILDING HEIGHT SHALL BE MEASURED AT THE PRIMARY ADDRESSED DOOR, MEASURED TO MOST COMMON ROOF DECK. HEIGHT EXCEPTIONS FOR FUNCTIONAL AND MECHANICAL EQUIPMENT AS WELL AS SCREENING SHALL BE PROVIDED TO FOLLOW CITY OF GREELEY CODE.

⁷ FOR RESIDENTIAL USES, OPEN SPACE INCLUDES LANDSCAPING, WALKS, PATIOS, DECKS, DRIVEWAYS, ETC.

⁸ CITY OF GREELEY DEVELOPMENT CODE DATED OCTOBER 1, 2021, AS AMENDED.

NON-RESIDENTIAL PUD DEVELOPMENT STANDARDS CHART

LAND USE	MAXIMUM FLOOR AREA RATIO	MINIMUM PARKING	MAXIMUM BLDG. HT.	MAXIMUM SQ. FT. ^B
GENERAL COMMERCIAL	N/A ^A	1/1,000 SF	80'	300,000 TOTAL SQ. FT.
HEALTH / FITNESS	N/A ^A	1/1,000 SF	80'	
GENERAL RECREATION	N/A ^A	1/1,000 SF	80'	
LARGE SCALE RECREATION	N/A ^A	1/1,000 SF	80'	
COMMUNITY POOLS	N/A	LIMITED TO THOSE REQUIRED PER ADA GUIDELINES	N/A	100,000

^A FLOOR AREA RATIO HAS BEEN OMITTED IN FAVOR OF A SITE-WIDE 300,000 SQUARE FOOT MAXIMUM OF COMMERCIAL, HEALTH/FITNESS, AND RECREATION LAND USES, EXCLUDING COMMUNITY POOLS.

^B ANY AND ALL PARKING STRUCTURES SHALL NOT CONTRIBUTE TO MAXIMUM SQUARE FOOTAGE CALCULATIONS.

^C MAX SQUARE FOOTAGE APPLIES TO POOL BUILDING, LOCKER ROOMS, ETC.

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TRIPLE CREEK P.U.D.
GREELEY, CO
MASTER DEVELOPMENT PLAN
& GENERAL LAYOUT

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL 03/08/23
2nd SUBMITTAL 06/01/23
3rd SUBMITTAL 07/24/23
4th SUBMITTAL 09/01/23

SHEET NUMBER

L3.03
SHEET 6 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

3.04 DEVELOPMENT STANDARDS

GENERAL PROVISIONS

- A. CONFORMANCE**
DEVELOPMENT OF THIS PLANNED COMMUNITY SHALL CONFORM TO ALL RESTRICTIONS, REGULATIONS AND PROCEDURES ADOPTED BY ORDINANCE BY THE CITY OF GREELEY AT THE TIME OF PLATTING AND BUILDING PERMIT APPLICATION, EXCEPT AS EXPRESSLY PROVIDED OTHERWISE IN THIS PLANNED UNIT DEVELOPMENT PLAN (PUD). THE PROVISIONS OF THIS PUD SHALL PREVAIL AND GOVERN THE DEVELOPMENT OF THIS PLANNED COMMUNITY, EXCEPT WHERE THE PROVISIONS OF THE PUD DO NOT CLEARLY ADDRESS A SPECIFIC SUBJECT. FOR SUBJECTS NOT ADDRESSED HEREIN, THE APPROPRIATE JURISDICTIONAL REGULATIONS AND CODES SHALL TAKE PRECEDENCE, AND THE MOST RESTRICTIVE STANDARDS, AND CODE STANDARDS AS AMENDED SHALL APPLY. CONCURRENT WITH THIS PUD WILL BE THE CREATION OF THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL. THIS PANEL WILL BE RESPONSIBLE FOR REVIEWING SITE AND ARCHITECTURAL PLANS FOR CONFORMANCE WITH THIS PUD, AS WELL AS ADDITIONAL DESIGN GUIDELINES TO BE IMPLEMENTED BY THE METROPOLITAN DISTRICT/HOA. THE TRIPLE CREEK METRO DISTRICT ARCHITECTURAL REVIEW PANEL SHALL PROVIDE A LETTER OF CONFORMANCE WITH THE PUD TO THE CITY FOR ALL SITE AND ARCHITECTURAL PROPOSALS WITHIN THE TRIPLE CREEK COMMUNITY AS A CONDITION OF BUILDING PERMIT.
- B. EFFECT OF THE CITY OF GREELEY ZONING ORDINANCE**
THE PROVISIONS OF THIS PUD SHALL PREVAIL AND GOVERN THE DEVELOPMENT OF TRIPLE CREEK PROVIDED; HOWEVER, WHERE THE PROVISIONS OF THE PUD DO NOT ADDRESS A SPECIFIC SUBJECT, THE PROVISIONS OF THE CITY OF GREELEY ZONING ORDINANCE OR ANY OTHER APPLICABLE ORDINANCES, RESOLUTIONS OR REGULATIONS OF THE CITY OF GREELEY DEVELOPMENT CODE STANDARDS, AND CODE STANDARDS AS AMENDED, SHALL PREVAIL.
- C. PLANNING AREA BOUNDARIES**
PLANNING AREA BOUNDARIES ARE SHOWN ON THE PUD, AND ARE GENERALLY DETERMINED BY THEIR RELATIONSHIP TO ROADS, OPEN SPACE, AND ADJACENT LAND USES. MODIFICATIONS IN PLANNING AREA BOUNDARIES AND STREETS ARE PERMITTED AND WILL OCCUR WITH PLANNING AND ENGINEERING REFINEMENT. FINAL PARCEL BOUNDARIES AND ROAD ALIGNMENTS SHALL BE DETERMINED AND SHOWN ON A SITE PLAN OR PLAT, WITHOUT ANY AMENDMENT TO THE PUD BEING REQUIRED; PROVIDED THE CHANGES IN THE PLANNING AREA DO NOT EXCEED 20 PERCENT OF THE DEFINED PARCEL.
- D. CONSTRUCTION STANDARDS**
CONSTRUCTION SHALL COMPLY WITH APPLICABLE PROVISIONS OF THE INTERNATIONAL BUILDING AND MECHANICAL CODE, THE NATIONAL ELECTRICAL CODE, THE COLORADO PLUMBING CODE, AND OTHER SUCH CODES AND THE SUCCESSORS THEREOF. SETTING FOR THE CONSTRUCTION STANDARDS AS PROMULGATED BY THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS OR OTHER STANDARDS-ESTABLISHING BODIES, AS ARE ADOPTED BY THE CITY OF GREELEY. ALL FUTURE BUILD OUT SHALL MEET ALL APPLICABLE CITY OF GREELEY CODES, ORDINANCES, RESOLUTIONS, DESIGN CRITERIA, AND RELATED. IT IS ALSO HEREBY UNDERSTOOD THAT ALL SITE DEVELOPMENT IS SUBJECT TO CITY OF GREELEY REVIEWS AND COMMENTS PRIOR TO FINAL APPROVAL AND/ OR ACCEPTANCE.
- E. UNDERGROUND UTILITY REQUIREMENTS**
ALL UTILITIES SHALL BE INSTALLED UNDERGROUND AND BE IN PLACE PRIOR TO ANY PROPOSED STREET OR ALLEY SURFACING. ABOVE-GROUND FACILITIES NECESSARILY APPURTENANT TO UNDERGROUND FACILITIES OR OTHER INSTALLATION OF PERIPHERAL OVERHEAD ELECTRICAL TRANSMISSION AND DISTRIBUTION FEEDER LINES OR OTHER INSTALLATION OF EITHER TEMPORARY OR PERIPHERAL OVERHEAD COMMUNICATIONS, DISTANCE, TRUNK OR FEEDER LINES MAY BE ABOVE GROUND.
- F. SOIL TESTS**
SOIL TESTS FOR BUILDING SITES SHALL BE PROVIDED AT THE TIME OF BUILDING PERMIT APPLICATION FOR THE PURPOSE OF ESTABLISHING ENGINEERING CRITERIA FOR BUILDING FOUNDATION DESIGN.
- G. HOMEOWNER ASSOCIATIONS**
HOMEOWNER ASSOCIATIONS (HOAS) COMPOSED OF PROPERTY OWNERS IN RESIDENTIAL AREAS MAY BE CREATED FOR THE FOLLOWING PURPOSES: A) TO PROVIDE FOR THE CONTINUED DEVELOPMENT, IMPROVEMENT AND MAINTENANCE OF PROPERTIES AND FACILITIES WHICH IT OWNS OR ADMINISTERS, AND B) TO PROTECT THE INVESTMENT, ENHANCE THE VALUE, AND CONTROL THE USE OF PROPERTY OWNED BY ITS MEMBERS IN PERPETUITY. HOMEOWNER ASSOCIATIONS SHALL BE CREATED IN RESIDENTIAL AND/OR COMMERCIAL AREAS WHERE COMMON LANDS OR FACILITIES ARE TO BE OWNED AND MAINTAINED BY THE HOMEOWNER ASSOCIATION(S).

- H. METROPOLITAN DISTRICTS (TITLE 32)**
A DISTRICT IS A QUASI-GOVERNMENTAL AGENCY, SEPARATE AND DISTINCT FROM THE CITY, AND, EXCEPT AS MAY OTHERWISE BE PROVIDED FOR BY STATE OR LOCAL LAW OR ITS CITY APPROVED SERVICE PLAN, ITS ACTIVITIES ARE SUBJECT TO REVIEW BY THE CITY ONLY INSOFAR AS THEY MAY DEViate IN A MATERIAL MATTER FROM THE REQUIREMENTS OF THE SERVICE PLAN, OR AN INTERGOVERNMENTAL AGREEMENT. IT IS INTENDED THAT THE DISTRICTS WILL PROVIDE A PART OR ALL OF THE PUBLIC IMPROVEMENTS FOR THE USE AND BENEFIT OF ALL ANTICIPATED INHABITANTS AND TAXPAYERS OF THE DISTRICT. THE PRIMARY PURPOSE OF THE DISTRICT WILL BE TO FINANCE THE CONSTRUCTION OF DISTRICT IMPROVEMENTS. THE DISTRICT HAS ALSO BEEN CREATED TO PROVIDE ONGOING OWNERSHIP OPERATIONS AND MAINTENANCE SERVICES AS SPECIFICALLY SET FORTH IN ITS SERVICE PLAN AND AS MAY BE STATED IN ANY APPLICABLE INTERGOVERNMENTAL AGREEMENT.
- I. ROADWAY DESIGN**
ALL STREETS SHALL COMPLY WITH STREET CROSS SECTIONS AS SHOWN ON SHEET L4.01.
- J. OIL & GAS WELLS**
PLUGGED AND ABANDONED GAS WELLS SHALL MAINTAIN A 50' SETBACK FROM ALL COMMERCIAL BUILDINGS, RESIDENTIAL BUILDINGS, AND RECREATIONAL BUILDINGS (INCLUDING BATHROOMS, SHADE SHELTERS AND PLAYGROUNDS).
- PLUGGED AND ABANDONED GAS WELL SHALL BE ALLOWED WITHIN PUBLIC COLLECTOR ROAD AND LOCAL STREET RIGHTS-OF-WAY, ONLY IF THEY ARE INSPECTED AND CONFIRMED TO MEET OR EXCEED THE ECMC STANDARDS FOR A WELL PLUG.

PUD DEVELOPMENT STANDARDS

- PERMITTED USES***
RESIDENTIAL USES
- SINGLE-FAMILY DWELLING
 - ROW HOUSE DWELLINGS
 - MULTI-FAMILY DWELLINGS
 - MIXED-USE DWELLING
 - RESIDENTIAL CARE - GROUP HOME
 - ESTABLISHED RESIDENTIAL (ALL TYPES)
 - ACCESSORY DWELLING UNIT (SEE ALSO CITY OF GREELEY DEVELOPMENT CODE SEC. 24-403.B, OCTOBER 1, 2021, AS AMENDED)
- PUBLIC & CIVIC USES
- PARKS, OPEN SPACES & COMMON AREAS
 - TRANSPORTATION - PUBLIC PARKING
- COMMERCIAL USES
- ANIMAL CARE - LIMITED (INDOOR, < 5K GLA, NO BOARDING)
 - CHILD CARE HOME (ACCESSORY / HOME OCCUPATION - SEE 24-403.C)
 - CHILD CARE CENTER / PRE-SCHOOL
 - ENTERTAINMENT / EVENT ESTABLISHMENTS
 - FOOD & BEVERAGE - BAR LIMITED (< 3K GLA; < 100 SEATS)
 - FOOD & BEVERAGE - BREWERY / WINERY; BAR GENERAL
 - FOOD & BEVERAGE - RESTAURANT LIMITED (< 5K GLA; < 100 SEATS
 - FOOD & BEVERAGE - RESTAURANT QUICK SERVE
 - FOOD & BEVERAGE - RESTAURANT GENERAL (5K+ GLA)
 - HOME OCCUPATION - ACCESSORY
 - LODGING - BED & BREAKFAST (UP TO 5 ROOMS)
 - LODGING - INN (6 TO 40 ROOMS)
 - LODGING - HOTEL/MOTEL SMALL (41+ ROOMS)
 - MEDICAL - LIMITED (< 5K GLA; NO EMERGENCY SERVICE)
 - MEDICAL - GENERAL (5K - 20K GLA; NO EMERGENCY SERVICE)
 - OFFICE - GENERAL (< 20K GLA)
 - OFFICE - LARGE (20K+ GLA)
 - PERSONAL SERVICE - LIMITED (< 5K GLA, < 1.0 ACRE)
 - PERSONAL SERVICE - GENERAL (5K+ GLA; 1.0+ ACRE)
 - RECREATION - INDOOR LIMITED (< 5K GLA; < 0.5 ACRE)
 - RECREATION - INDOOR GENERAL (5K - 20K GLA; 0.5 - 1.0 ACRE)
 - RECREATION - INDOOR LARGE (> 20K GLA; > 1.0 ACRE)
 - RECREATION - OUTDOOR LIMITED (NO LIGHTS; < 0.5 ACRE)
 - RECREATION - OUTDOOR GENERAL (NO LIGHTS; 0.5 - 1.0 ACRE)
 - RECREATION - OUTDOOR LARGE (LIGHTS OR > 1.0 ACRE)
 - RESIDENTIAL CARE (LIMITED TO HOME OCCUPATION PER SEC. 24-403.C OF THE DEVELOPMENT CODE, DATED OCTOBER 1, 2021 AS AMENDED, AND MODIFIED HEREIN TO ALLOW FOR UP TO 2 EMPLOYEES)
 - RETAIL - LIMITED (< 3K GLA)
 - RETAIL - GENERAL (3K - 20K GLA)
 - RETAIL - LARGE (20K - 100K GLA)
 - RETAIL - OUTDOOR LIMITED (> 25%; > 0.5 ACRE)
 - RETAIL - OUTDOOR GENERAL (25% - 50%; 0.5 - 1.0 ACRE)
 - RETAIL - OUTDOOR LARGE (> 50%; > 1.0 ACRE)
 - RETAIL - OUTDOOR NURSERIES AND GREENHOUSE
- INDUSTRIAL USES
- MANUFACTURING - LIMITED / ARTISAN (< 5K GLA)
 - MANUFACTURING - FOOD & BEVERAGE MINOR (UP TO 3 ACRES)
 - OIL & GAS OPERATIONS

- PROHIBITED USES***
RESIDENTIAL USES
- MOBILE / MANUFACTURED HOME & PARKS
 - BOARDING HOUSE & SINGLE ROOM OCCUPANCIES
 - RESIDENTIAL CARE - ASSISTED LIVING
 - RESIDENTIAL CARE - GENERAL
 - RESIDENTIAL CARE - INSTITUTIONAL
 - RESIDENTIAL CARE: COVERSION OF AN EXISTING RESIDENTIAL DWELLING TO RESIDENTIAL CARE USES

- PUBLIC & CIVIC USES
- CEMETERIES, COLUMBARIUM

- PROHIBITED USES* (CONT'D)**
- TRANSPORTATION - FREIGHT & MAINTENANCE YARD
 - TRANSPORTATION - AIRPORT, HELIPORT / HELIPAD
 - TRANSPORTATION - TOWING SERVICES
- COMMERCIAL USES
- ADULT BUSINESSES (SEE ALSO CITY OF GREELEY DEVELOPMENT CODE SEC. 24-1103, OCTOBER 1, 2021, AS AMENDED)
 - ANIMAL CARE - GENERAL (INDOOR, 5K-20K GLA OR BOARDING)
 - ANIMAL CARE - LARGE (OUTDOOR OR > 20K GLA
 - AUCTION HOUSES (EXCLUDES LIVESTOCK)
 - AUTOMOBILE - GAS STATION LIMITED (UP TO 8 PUMPS)
 - AUTOMOBILE - GAS STATION GENERAL (9 - 20 PUMPS)
 - AUTOMOBILE - GAS STATION LARGE (21+ PUMPS)
 - AUTOMOBILE - REPAIR/SERVICE LIMITED (UP TO 3 SERVICE BAYS; < 0.5 ACRE)
 - AUTOMOBILE - REPAIR/SERVICE GENERAL (4-6 SERVICE BAYS; 0.5 - 1.0 ACRE)
 - AUTOMOBILE - REPAIR / SERVICE LARGE (7+ SERVICE BAYS; > 1 ACRE)
 - AUTOMOBILE - REPAIR / SERVICE FOR HEAVY VEHICLE AND EQUIPMENT
 - AUTOMOBILE - SALES / RENTAL LIMITED (< 0.5 ACRE)
 - AUTOMOBILE - SALES / RENTAL GENERAL (0.5 - 1.0 ACRE)
 - AUTOMOBILE - SALES / RENTAL LARGE (> 1.0 ACRE)
 - LODGING - SHORT TERM RENTAL (30 DAYS OR LESS)
 - MEDICAL - LARGE (> 20K GLA; OR EMERGENCY SERVICE)
 - MEDICAL - HOSPITALS
 - MORTUARIES AND FUNERAL HOMES
 - PAWN SHOPS
 - RECREATION - RV AND TRAVEL TRAILER PARK
 - RECREATION - OUTDOOR RACETRACK
 - RETAIL - WAREHOUSE (> 100K GLA)
 - RETAIL - OUTDOOR FLEA MARKET OR SWAP SHOP

- INDUSTRIAL USES
- AUTO DISMANTLING, JUNK & SALVAGE YARDS
 - COMMERCIAL SERVICES - GENERAL (11 - 20 VEHICLE FLEET)
 - COMMERCIAL SERVICES - LARGE (21+ VEHICLE FLEET)
 - CONCRETE AND ASPHALT BATCH PLANTS
 - CREMATORIUMS
 - FOUNDRIES
 - GRAVEL & MINERAL EXTRACTION, BATCH PLANTS
 - GRAIN & FEED ELEVATORS & SUPPLY
 - LIVESTOCK AUCTIONS
 - MANUFACTURING - LARGE (> 100K GLA)
 - MANUFACTURING - FOOD & BEVERAGE MAJOR (3+ ACRES)
 - MANUFACTURING - CHEMICAL PLANT
 - MANUFACTURING - RENDERING, SLAUGHTER & PACKAGING
 - WAREHOUSING / STORAGE - INDOOR GENERAL (50K-200K GLA; 1.0 - 5.0 ACRE)
 - WAREHOUSING / STORAGE - INDOOR LARGE (> 200K GLA; > 5.0 ACRES)
 - WAREHOUSE / STORAGE- DISTRIBUTION CENTER
 - WAREHOUSE / STORAGE - OUTDOOR LIMITED (< 1.0 ACRE)
 - WAREHOUSE / STORAGE - OUTDOOR GENERAL (1.0 + ACRE)
 - WAREHOUSE / STORAGE - BULK STORAGE OF FLAMMABLE LIQUIDS AND GASES
 - WASTE MANAGEMENT - RECYCLING COLLECTION SMALL
 - WASTE MANAGEMENT - RECYCLING PROCESSING & COLLECTION
 - WASTE MANAGEMENT - REFUSE & TRANSFER STATION
 - WATER & WASTE WATER TREATMENT PLANTS
 - WELL DRILLING COMPANIES

* TERMS DEFINED AND DESCRIBED IN CITY OF GREELEY DEVELOPMENT CODE SEC. 24-402 OCTOBER 1, 2021, AS AMENDED

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TRIPLE CREEK P.U.D.
GREELEY, CO
MASTER DEVELOPMENT PLAN
& GENERAL LAYOUT

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD	
1st SUBMITTAL	03/08/23
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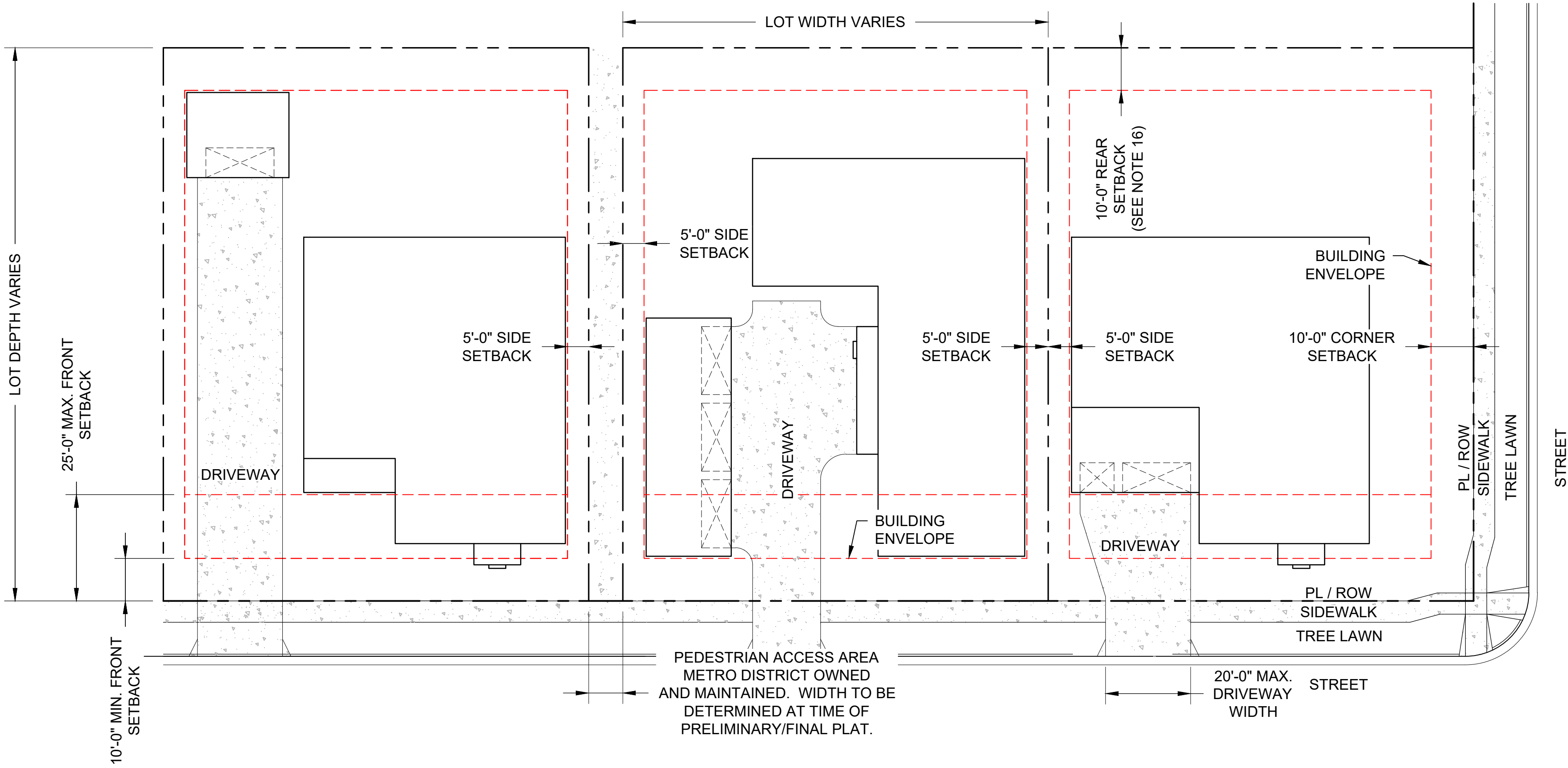
L3.04

SHEET 7 OF 32

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

3.05 DEVELOPMENT STANDARDS - ESTATE LOTS, STREET LOADED



LEGEND

PROPERTY LINE	---
BUILDING SETBACK	- - - - -
STREET ROW	---
PAVEMENT	▨

- NOTES
1. LOT TYPICAL DIAGRAMS ARE NOT TO SCALE.

2. BUILDINGS /FLOORPLANS SHOWN IN THESE EXHIBITS ARE **CONCEPTUAL** ONLY AND DO NOT REPRESENT ANY FUTURE OR POTENTIAL BUILDINGS FOR THIS P.U.D.

3. LAYOUTS SHOWN ARE NOT PROPOSED DESIGNS AND ONLY USED TO CLARIFY SITUATIONAL SETBACKS.

4. REFER TO SHEET L3.01 & L3.02 FOR SETBACKS.

5. ESTATE LOT WIDTHS AND DEPTHS VARY. MINIMUM LOT SIZE IS 13,000 SQ. FT.

6. END LOTS WITH A LANDSCAPE TRACT BETWEEN THE SIDE PROPERTY LINE AND RIGHT-OF-WAY SHALL BE CONSIDERED STANDARD LOTS. THEY SHALL ADHERE TO STANDARD LOT SETBACKS, NOT CORNER LOT SETBACKS. END LOTS DIRECTLY ADJACENT TO PUBLIC RIGHT-OF-WAY OR PRIVATE ALLEYS SHALL ADHERE TO CORNER LOT SETBACKS.

7. STREET FACING GARAGE DOORS SHALL BE LIMITED TO 3 BAYS (3 SINGLE-CAR DOORS OR 1 TWO-CAR AND 1

SINGLE-CAR DOOR). ADDITIONAL SIDE LOADED DOORS MAY BE ALLOWED AT THE DISCRETION OF THE TRIPLE CREEK ARCHITECTURAL REVIEW COMMITTEE.

8. DRIVEWAYS SHALL HAVE A MAXIMUM WIDTH OF 20' AT THE STREET RIGHT-OF-WAY.

9. ALL ESTATE LOTS FRONTING OR SIDING TO STREETS SHALL HAVE AT LEAST 1 TREE PER 25' OF LOT FRONTAGE IN THE TREE LAWN, WITH A MINIMUM OF 2 TREES PER LOT.

10. TREE LAWN LANDSCAPING WITHIN RIGHTS OF WAY TO BE MAINTAINED BY ADJACENT PROPERTY OWNER.

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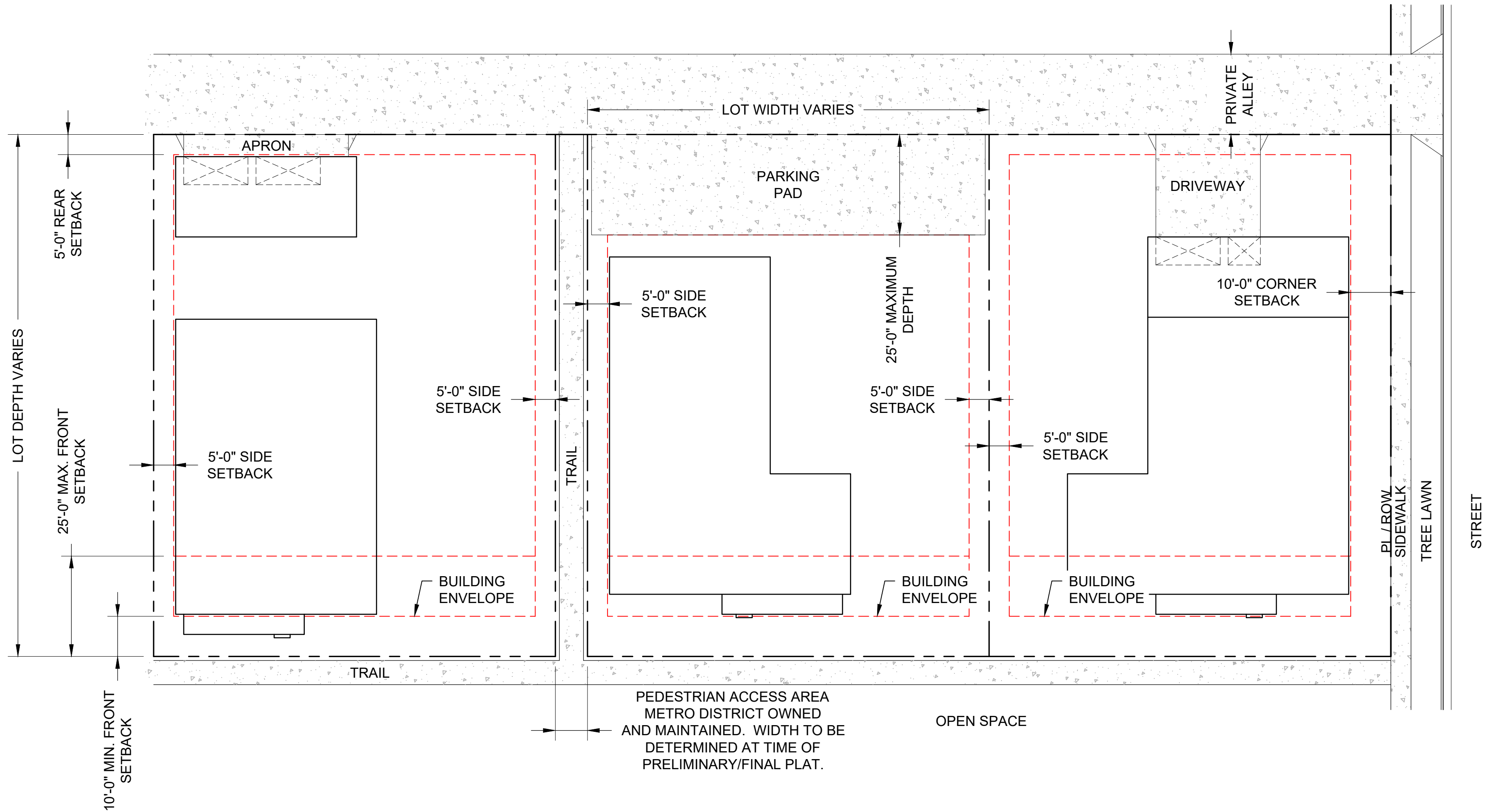
L3.05

SHEET 8 OF 32

TRIPLE CREEK P.U.D.

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WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

3.06 DEVELOPMENT STANDARDS - ESTATE LOTS, ALLEY LOADED



LEGEND

PROPERTY LINE	---
BUILDING SETBACK	---
STREET ROW	---
PAVEMENT	---

NOTES

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- BUILDINGS /FLOORPLANS SHOWN IN THESE EXHIBITS ARE **CONCEPTUAL** ONLY AND DO NOT REPRESENT ANY FUTURE OR POTENTIAL BUILDINGS FOR THIS P.U.D.
- LAYOUTS SHOWN ARE NOT PROPOSED DESIGNS AND ONLY USED TO CLARIFY SITUATIONAL SETBACKS.
- REFER TO SHEET L3.01 & L3.02 FOR SETBACKS.
- ESTATE LOT WIDTHS AND DEPTHS VARY. MINIMUM LOT SIZE IS 13,000 SQ. FT.
- ALL ESTATE LOTS THAT HAVE BOTH STREET AND ALLEY FRONTAGE, SHALL HAVE DRIVEWAYS THAT ACCESS THE ALLEY.
- END LOTS WITH A TRACT LANDSCAPE BETWEEN THE SIDE PROPERTY LINE AND RIGHT-OF-WAY SHALL BE CONSIDERED STANDARD LOTS. THEY SHALL ADHERE TO STANDARD LOT SETBACKS, NOT CORNER LOT SETBACKS. END LOTS DIRECTLY ADJACENT TO PUBLIC RIGHT-OF-WAY OR PRIVATE ALLEYS SHALL ADHERE TO CORNER LOT SETBACKS.
- GARAGE ON ALLEYS SHALL HAVE A MAXIMUM WIDTH OF 45' WITH THE OPTION OF ALTERNATIVE COMPLIANCE WITH APPROVAL FROM THE TRIPLE CREEK ARCHITECTURAL REVIEW COMMITTEE APPROVAL.
- PARKING PADS SHALL BE ALLOWED IN LIEU OF, OR IN TANDEM WITH, A GARAGE. PAD DEPTH SHALL BE A MAXIMUM OF 25'.
- DETACHED GARAGES SHALL BE LOCATED AT THE 5' BUILD-TO LINE ADJACENT TO THE ALLEY. ATTACHED GARAGES SHALL BE SET BACK AT LEAST 25' FROM THE ALLEY.
- ALL ESTATE LOTS FRONTING OR SIDING TO STREETS SHALL HAVE AT LEAST 1 TREE PER 25'.
- PEDESTRIAN ACCESS AREAS WITH TRAILS WILL BE LOCATED BETWEEN SOME ESTATE LOTS. ACCESS AREAS WILL BE OWNED AND MAINTAINED BY THE TRIPLE CREEK METRO DISTRICT.

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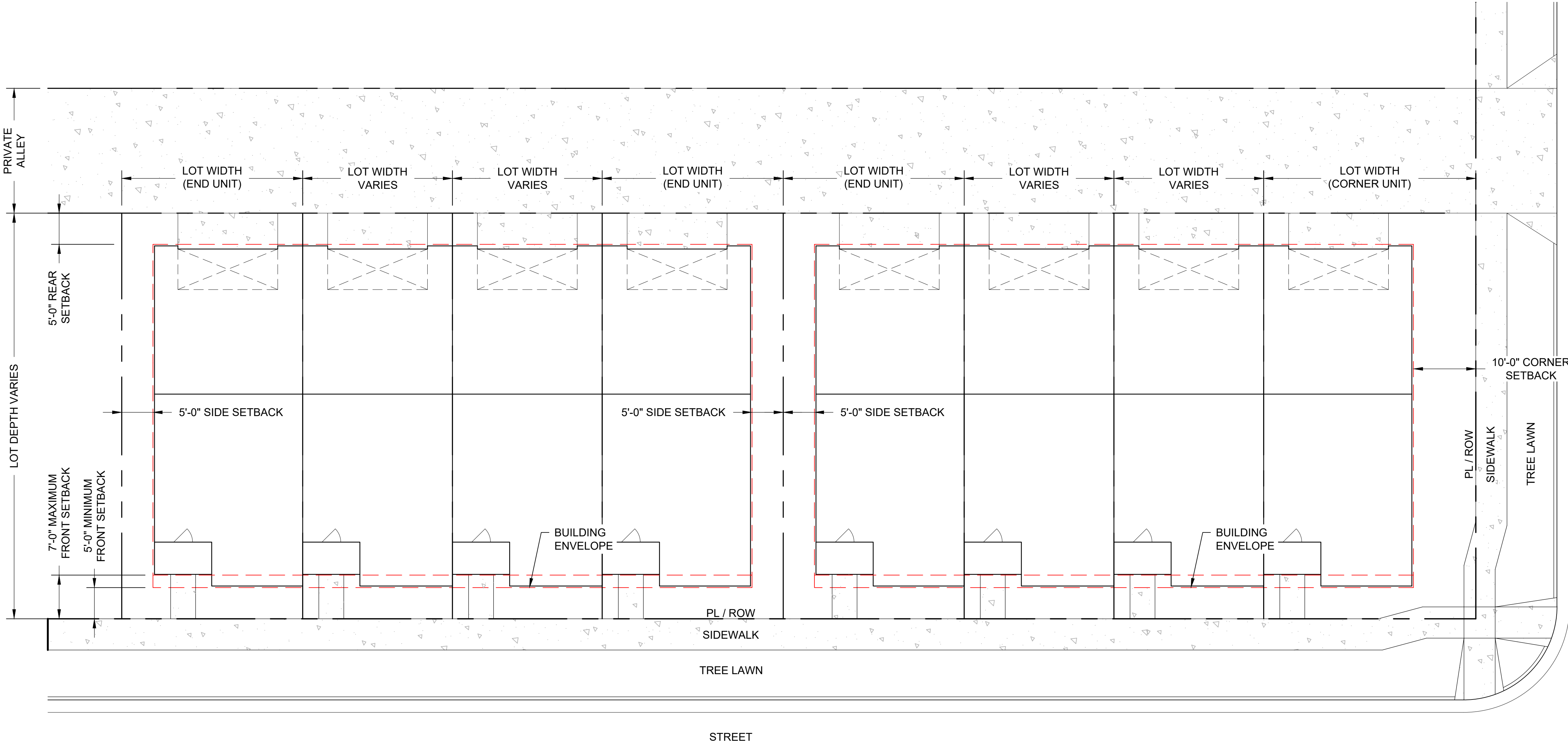
SHEET NUMBER

L3.06
SHEET 9 OF 32

TRIPLE CREEK P.U.D.

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72.5 ACRES
PUD2023-0002

3.08 DEVELOPMENT STANDARDS - ROW HOUSES



LEGEND

PROPERTY LINE	---
SETBACK	- - - - -
STREET ROW	---
PAVEMENT	▨

NOTES

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- BUILDINGS / FLOORPLANS SHOWN IN THESE EXHIBITS ARE **CONCEPTUAL** ONLY AND DO NOT REPRESENT ANY FUTURE OR POTENTIAL BUILDINGS FOR THIS P.U.D.
- LAYOUTS SHOWN ARE NOT PROPOSED DESIGNS AND ONLY USED TO CLARIFY SITUATIONAL SETBACKS.
- REFER TO SHEET L3.01 & L3.02 FOR SETBACKS.
- HOMES ON CORNER LOTS, ADJACENT TO OPEN SPACE, OR ADJACENT TO PEDESTRIAN ACCESS TRAILS SHALL BE REQUIRED TO HAVE ARCHITECTURAL ENHANCEMENTS ON THAT SIDE OF THE HOUSE. EACH HOME SHALL HAVE AN ARCHITECTURAL PROJECTION INTO THE SIDE SETBACK WITH A MAXIMUM ENCROACHMENT OF 4'. THE PROJECTION SHALL BE A MINIMUM OF 20 S.F. BUT NO MORE THAN 50% OF THE FACADE. ALTERNATIVE COMPLIANCE SHALL BE AVAILABLE WITH THE APPROVAL OF THE TRIPLE CREEK ARCHITECTURAL REVIEW COMMITTEE.
- END LOTS WITH A TRACT LANDSCAPE BETWEEN THE SIDE PROPERTY LINE AND RIGHT-OF-WAY SHALL BE CONSIDERED STANDARD LOTS. THEY SHALL ADHERE TO STANDARD LOT SETBACKS, NOT CORNER LOT SETBACKS. END LOTS WITH A LANDSCAPE TRACT BETWEEN THE SIDE PROPERTY LINE AND RIGHT-OF-WAY SHALL BE CONSIDERED STANDARD LOTS. THEY SHALL ADHERE TO STANDARD LOT SETBACKS, NOT CORNER LOT SETBACKS. END LOTS DIRECTLY ADJACENT TO PUBLIC RIGHT-OF-WAY OR PRIVATE ALLEYS SHALL ADHERE TO CORNER LOT SETBACKS.
- TOWNHOMES SHALL BE COMPRISED OF AT LEAST 3 UNITS, WITH NO MAXIMUM.
- ALL TOWNHOMES FRONTING OR SIDING TO STREETS SHALL HAVE AT LEAST 1 TREE PER 30' OF LOT FRONTAGE IN THE TREE LAWN. CORNER LOTS SHALL ALSO BE REQUIRED TO HAVE 1 TREE PER 30' OF STREET FRONTAGE ON THE SIDE TREE LAWN, WITH A MINIMUM OF 2 TREES PER LOT.

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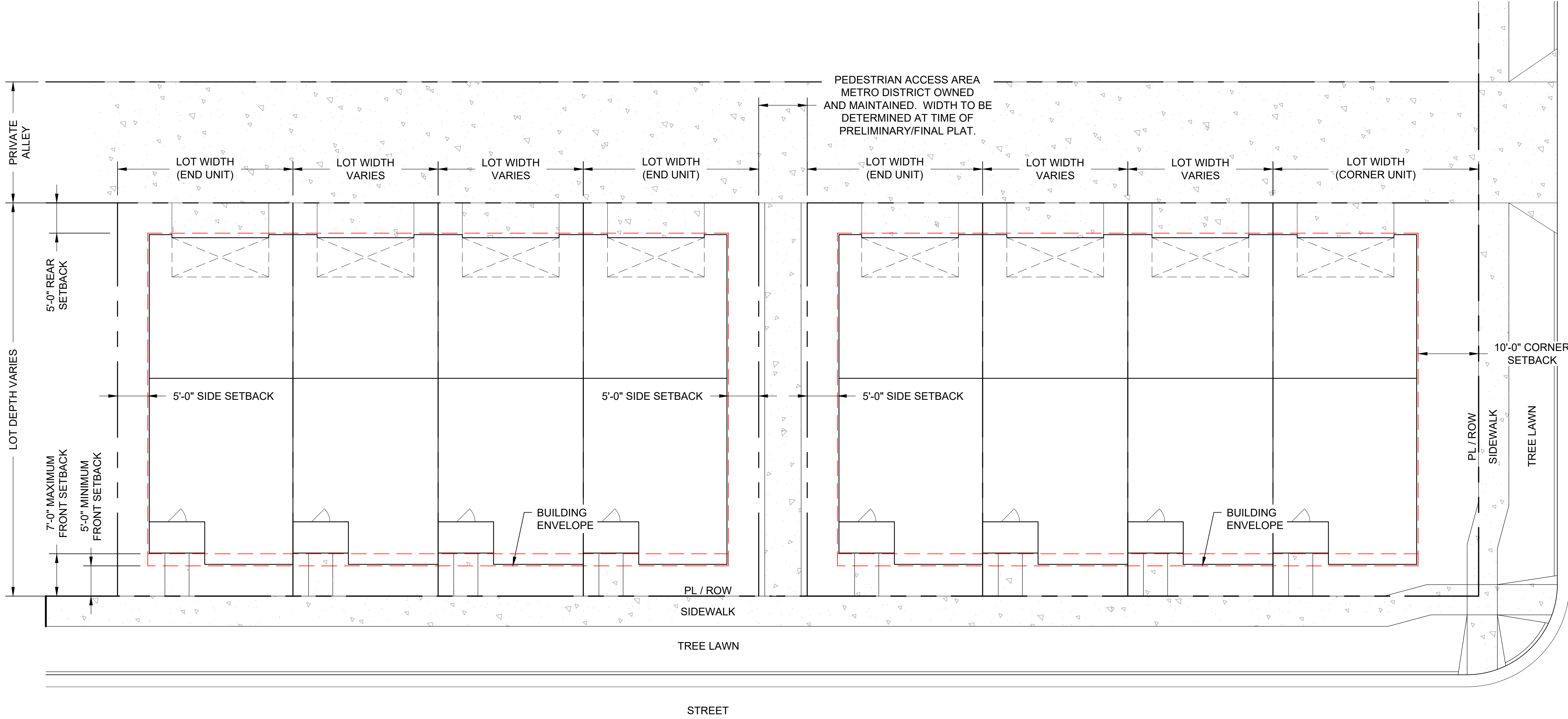
SHEET NUMBER

L3.08

SHEET 11 OF 32

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WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

3.09 DEVELOPMENT STANDARDS - ROW HOUSES WITH PEDESTRIAN ACCESS AREA



LEGEND

- PROPERTY LINE
- SETBACK
- STREET ROW
- PAVEMENT

NOTES - SEE NOTES ON SHEET L3.08

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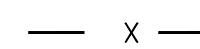
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SHEET NUMBER

L3.09
SHEET 12 OF 32

4.00 PRELIMINARY LANDSCAPE PLAN

LANDSCAPE TREATMENTS TABLE

SYMBOL	TREATMENT AREA ¹	LANDSCAPE REQUIREMENT
	RESIDENTIAL COLLECTOR STREETSCAPE ²	4 TREES/100 LF MINIMUM
	LANDSCAPE BUFFER AT COMMERCIAL USE & MULTI-FAMILY/MIXED USE DWELLING	4 TREES & 20 SHRUBS/100 LF. FOR CREDITS FOR EXISTING VEGETATION, DESIGN & LOCATION. SEE ALTERNATIVE. COMPLIANCE: CODE SECTION 24-803, DATED OCTOBER 1, 2021 AS AMENDED
	COLLECTOR STREETSCAPE AT COMMERCIAL USE & MULTI-FAMILY/MIXED USE DWELLING ²	2 TREES/100 LF MINIMUM
	71ST AVENUE FRONTAGE ³	EXISTING TREES TO REMAIN IF PRACTICAL. ADDITIONAL TREES AND SHRUBS TO BE PROVIDED TO MEET PERIMETER TYPE III REQUIREMENTS IN TABLE 24-8-2, SECTION 24-803 CITY OF GREELEY DEVELOPMENT CODE DATED OCTOBER 1, 2021 AS AMENDED
	LANDSCAPE BUFFER AT PERIMETER	2 TREES (LARGE, SHADE) AND 16 SHRUBS/100 LF MINIMUM. ALL LANDSCAPE REQUIREMENTS MAY BE REDUCED BY 25% IF USED IN COMBINATION WITH DECORATIVE WALLS AND FENCES MEETING APPLICABLE FENCE STANDARDS IN THE CITY OF GREELEY DEVELOPMENT CODE. DATED OCTOBER 1, 2021 AS AMENDED.
	CIVIC AND OPEN SPACE	PER CODE SECTION 24-803
	FRONTAGE & FOUNDATION	PER CODE SECTION 24-803
	WESTERN BOUNDARY AT BROWN PROPERTY	SOLID FENCE OR WALL CONSISTING OF VINYL, WOOD, STONE OR OTHER SIMILAR MATERIAL

¹DEFINITION PER CITY OF GREELEY CODE SECTION 24-802, DATED OCTOBER 1, 2021 AS AMENDED.

²COLLECTOR STREETS REQUIREMENTS APPLY TO EACH SIDE OF THE STREET.

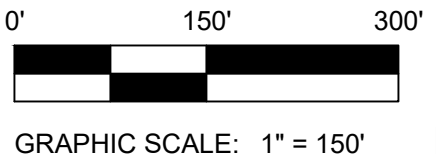
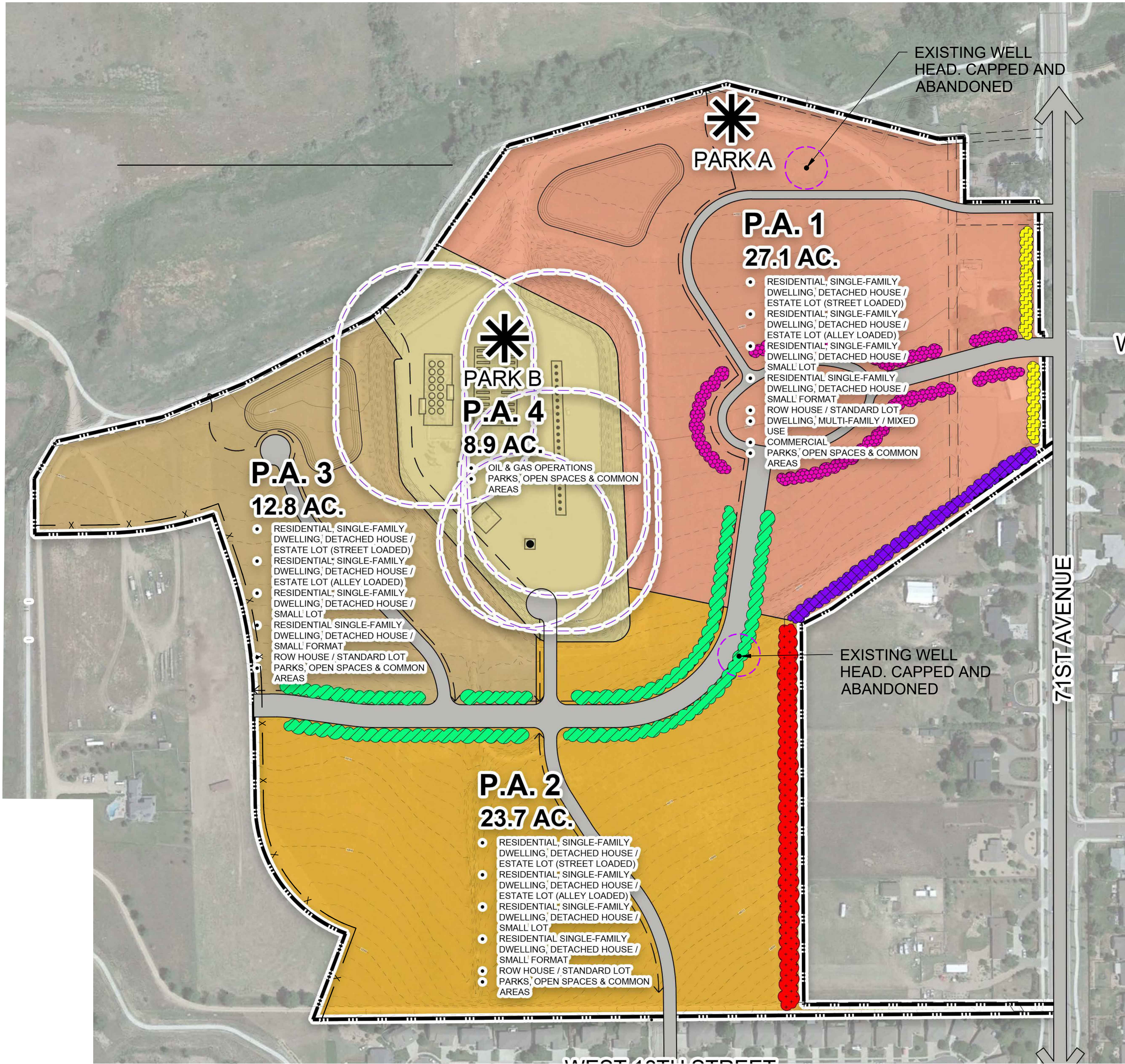
³71ST AVENUE STREET REQUIREMENTS APPLY TO WEST SIDE OF 71ST AVENUE.

✱ PARK DEDICATIONS

PARK	PARK TYPE	MIN. AREA (ACRES)
PARK A	NEIGHBORHOOD PARK	4.2
PARK B	FUTURE NEIGHBORHOOD PARK	8.8
TOTAL		13

LANDSCAPING REQUIREMENTS

- PROPOSED LANDSCAPING FOR SITE ELEMENTS (STREETSCAPE, FRONTAGE & FOUNDATION, PARKING, PERIMETER TREATMENT, CIVIL & OPEN SPACE) SHALL COMPLY WITH THE APPROVED DEVELOPMENT CODE DATED OCTOBER 1ST, 2021 AS AMENDED THAT IS IN PLACE AT TIME OF DEVELOPMENT, EXCEPT AS WRITTEN BELOW.
- LANDSCAPE DEVELOPMENT THAT REFLECTS THE PREVAILING SEMIARID CONDITIONS REINFORCES THE REGIONAL CHARACTER, CLIMATE, AND HABITAT OF THE CITY OF GREELEY AND ITS LOCAL ENVIRONMENT.
- LANDSCAPING SHALL INCORPORATE WATER CONSERVATION PRACTICES IN DESIGN, INSTALLATION, AND MANAGEMENT TO REDUCE WATER DEMAND, REDUCE WATER LOSS, LIMIT EROSION, LIMIT HIGH-IRRIGATION TURF AND PLANTINGS, AND UTILIZE NATIVE PLANTS AND PLANTS APPROPRIATE FOR THE LOCAL CLIMATIC AND SOIL CONDITIONS. PLANTS SHALL BE SELECTED FROM THE CITY OF GREELEY LANDSCAPE MANUAL; ALTERNATIVES MAY BE PROPOSED PROVIDED THEY FOLLOW THE CITY OF GREELEY CODE FOR APPROVAL. NON-IRRIGATED LANDSCAPE TREATMENTS ARE ENCOURAGED.
- IRRIGATION PRACTICES SHALL UTILIZE HIGH-EFFICIENCY AUTOMATIC IRRIGATION SYSTEMS THAT INCORPORATE WATER CONSERVATION MEASURES. ALTERNATIVE SOURCES OF IRRIGATION FOR ALL LANDSCAPE AREAS IS ENCOURAGED. NON-POTABLE IRRIGATION WILL SERVE OPEN SPACE AND PARKS WITHIN ALL PLANNING AREAS OF THE SITE.
- STORMWATER TREATMENTS FOR AREAS THAT ARE PART OF THE STORMWATER SYSTEM SHALL ADHERE TO THE CITY OF GREELEY STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS AND THE URBAN DRAINAGE CRITERIA MANUAL PUBLISHED BY THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT.
- PERIMETER TREATMENT AREAS SHALL CONTAIN THE PLANT QUANTITIES INDICATED SHALL BE INCLUDED FOR EVERY 100 LINEAR FEET.
- EXISTING TREES, ALONG 71ST AVENUE THAT ARE REMOVED SHALL BE REPLACED WITH 3" CALIPER TREES TO MEET THE REQUIRED LANDSCAPE FRONTAGE IN THIS AREA.



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L4.00

SHEET 13 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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72.5 ACRES
PUD2023-0002

4.01 ZONING SUITABILITY

LEGEND

OPEN SPACE/PARK AREAS; SIZE, SHAPE, AND LOCATION SUBJECT TO FINAL PLAT

PROPERTY BOUNDARY

RIGHT-OF-WAY

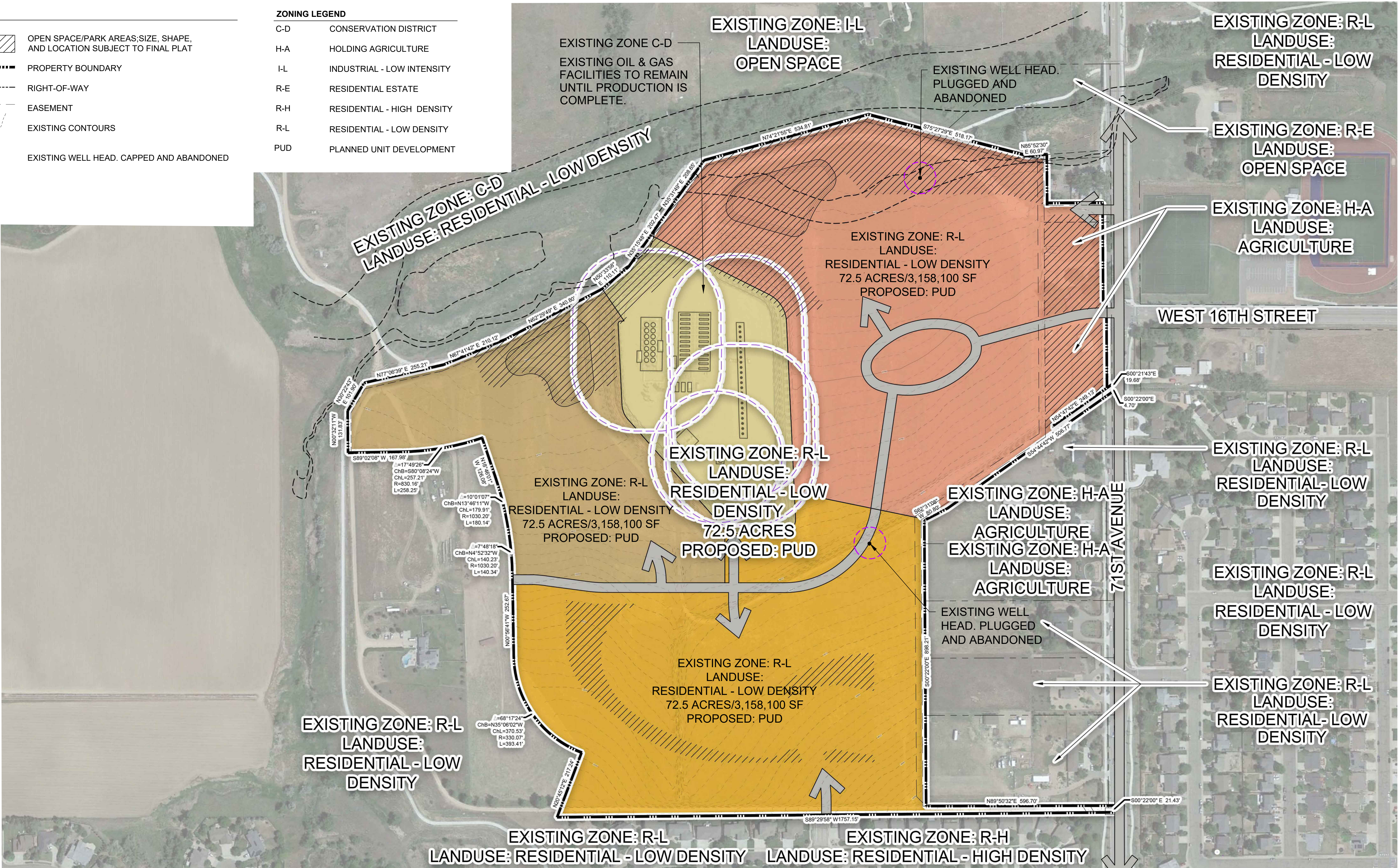
EASEMENT

EXISTING CONTOURS

EXISTING WELL HEAD, CAPPED AND ABANDONED

ZONING LEGEND

C-D	CONSERVATION DISTRICT
H-A	HOLDING AGRICULTURE
I-L	INDUSTRIAL - LOW INTENSITY
R-E	RESIDENTIAL ESTATE
R-H	RESIDENTIAL - HIGH DENSITY
R-L	RESIDENTIAL - LOW DENSITY
PUD	PLANNED UNIT DEVELOPMENT



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L4.01
SHEET 14 OF 32

TRIPLE CREEK P.U.D.

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4.02 PEDESTRIAN CIRCULATION

PEDESTRIAN CIRCULATION SYSTEM

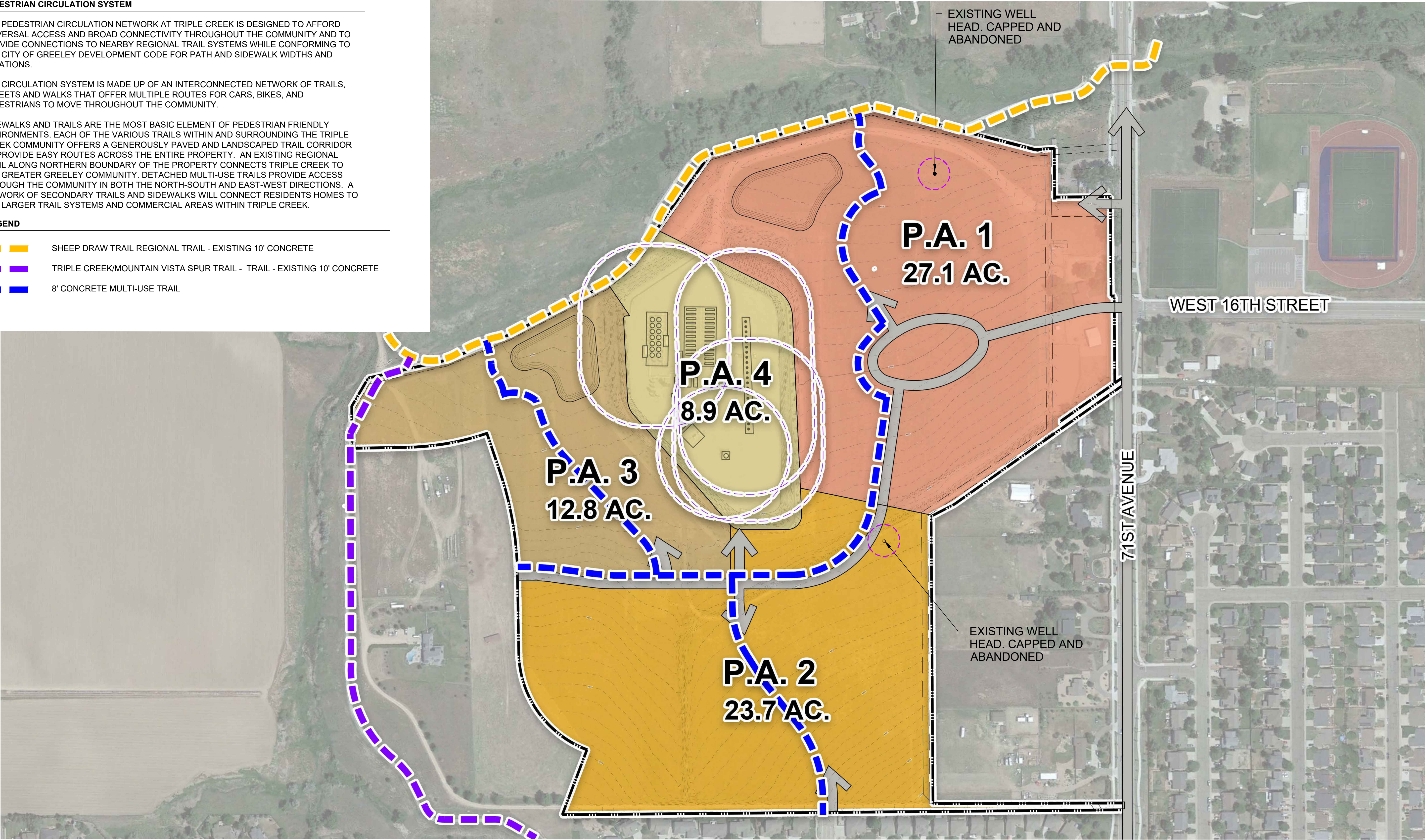
THE PEDESTRIAN CIRCULATION NETWORK AT TRIPLE CREEK IS DESIGNED TO AFFORD UNIVERSAL ACCESS AND BROAD CONNECTIVITY THROUGHOUT THE COMMUNITY AND TO PROVIDE CONNECTIONS TO NEARBY REGIONAL TRAIL SYSTEMS WHILE CONFORMING TO THE CITY OF GREELEY DEVELOPMENT CODE FOR PATH AND SIDEWALK WIDTHS AND LOCATIONS.

THE CIRCULATION SYSTEM IS MADE UP OF AN INTERCONNECTED NETWORK OF TRAILS, STREETS AND WALKS THAT OFFER MULTIPLE ROUTES FOR CARS, BIKES, AND PEDESTRIANS TO MOVE THROUGHOUT THE COMMUNITY.

SIDEWALKS AND TRAILS ARE THE MOST BASIC ELEMENT OF PEDESTRIAN FRIENDLY ENVIRONMENTS. EACH OF THE VARIOUS TRAILS WITHIN AND SURROUNDING THE TRIPLE CREEK COMMUNITY OFFERS A GENEROUSLY PAVED AND LANDSCAPED TRAIL CORRIDOR TO PROVIDE EASY ROUTES ACROSS THE ENTIRE PROPERTY. AN EXISTING REGIONAL TRAIL ALONG NORTHERN BOUNDARY OF THE PROPERTY CONNECTS TRIPLE CREEK TO THE GREATER GREELEY COMMUNITY. DETACHED MULTI-USE TRAILS PROVIDE ACCESS THROUGH THE COMMUNITY IN BOTH THE NORTH-SOUTH AND EAST-WEST DIRECTIONS. A NETWORK OF SECONDARY TRAILS AND SIDEWALKS WILL CONNECT RESIDENTS HOMES TO THE LARGER TRAIL SYSTEMS AND COMMERCIAL AREAS WITHIN TRIPLE CREEK.

LEGEND

-  SHEEP DRAW TRAIL REGIONAL TRAIL - EXISTING 10' CONCRETE
-  TRIPLE CREEK/MOUNTAIN VISTA SPUR TRAIL - TRAIL - EXISTING 10' CONCRETE
-  8' CONCRETE MULTI-USE TRAIL



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LAI DESIGN GROUP
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WERNSMAN
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LAND
DEVELOPMENT
P.O. BOX 105
LASALLE, CO 80645

CLIENT
TRIPLE CREEK
DEVELOPMENT, LLC
5200 WEST 20TH STREET
GREELEY, CO 80634
PHONE: (970) 415-8432

TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

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4th SUBMITTAL	09/01/23

SHEET NUMBER

L4.02
SHEET 15 OF 32

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

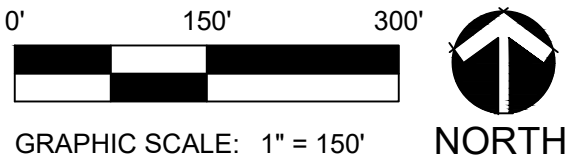
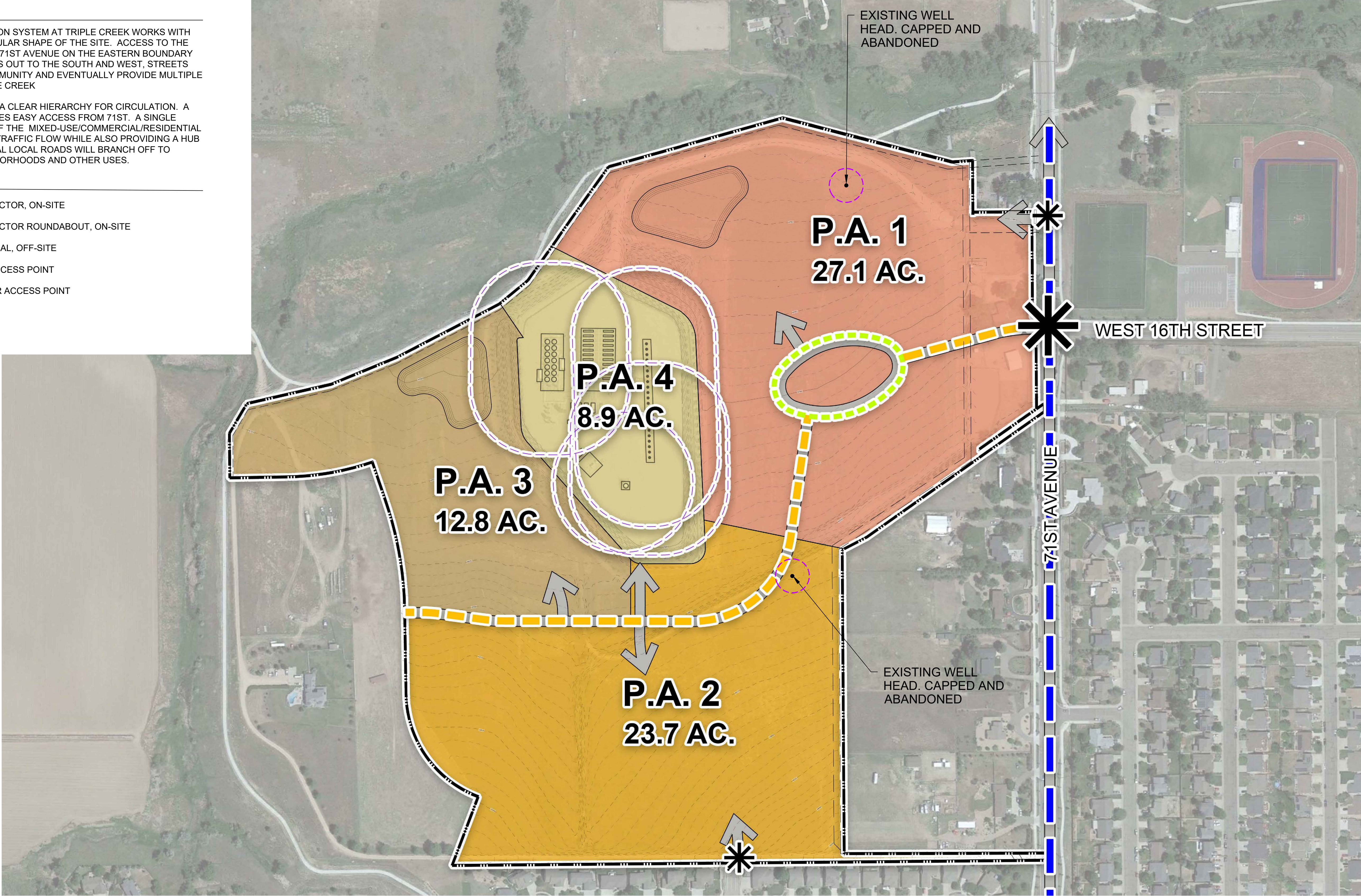
4.03 VEHICULAR CIRCULATION

VEHICULAR CIRCULATION SYSTEM

THE STREET AND VEHICULAR CIRCULATION SYSTEM AT TRIPLE CREEK WORKS WITH THE NATURAL TOPOGRAPHY AND IRREGULAR SHAPE OF THE SITE. ACCESS TO THE SITE WILL INITIALLY BE AVAILABLE FROM 71ST AVENUE ON THE EASTERN BOUNDARY OF THE SITE. AS THIS COMMUNITY BUILDS OUT TO THE SOUTH AND WEST, STREETS CONNECT HOMES TO THE GREELEY COMMUNITY AND EVENTUALLY PROVIDE MULTIPLE POINTS OF ACCESS TO AND FROM TRIPLE CREEK

WITHIN THE COMMUNITY THERE WILL BE A CLEAR HIERARCHY FOR CIRCULATION. A MAJOR COLLECTOR SPINE ROAD PROVIDES EASY ACCESS FROM 71ST. A SINGLE ROUNDABOUT LOCATED IN THE HEART OF THE MIXED-USE/COMMERCIAL/RESIDENTIAL CENTER ALLOWS FOR UNINTERRUPTED TRAFFIC FLOW WHILE ALSO PROVIDING A HUB FOR COMMUNITY GATHERING. ADDITIONAL LOCAL ROADS WILL BRANCH OFF TO PROVIDE ACCESS TO INDIVIDUAL NEIGHBORHOODS AND OTHER USES.

LEGEND	CLASSIFICATION
	86' R.O.W. MINOR COLLECTOR, ON-SITE
	71' R.O.W. MINOR COLLECTOR ROUNDABOUT, ON-SITE
	EXISTING MINOR ARTERIAL, OFF-SITE
	PRIMARY VEHICULAR ACCESS POINT
	SECONDARY VEHICULAR ACCESS POINT



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L4.03	
SHEET 16 OF 32	

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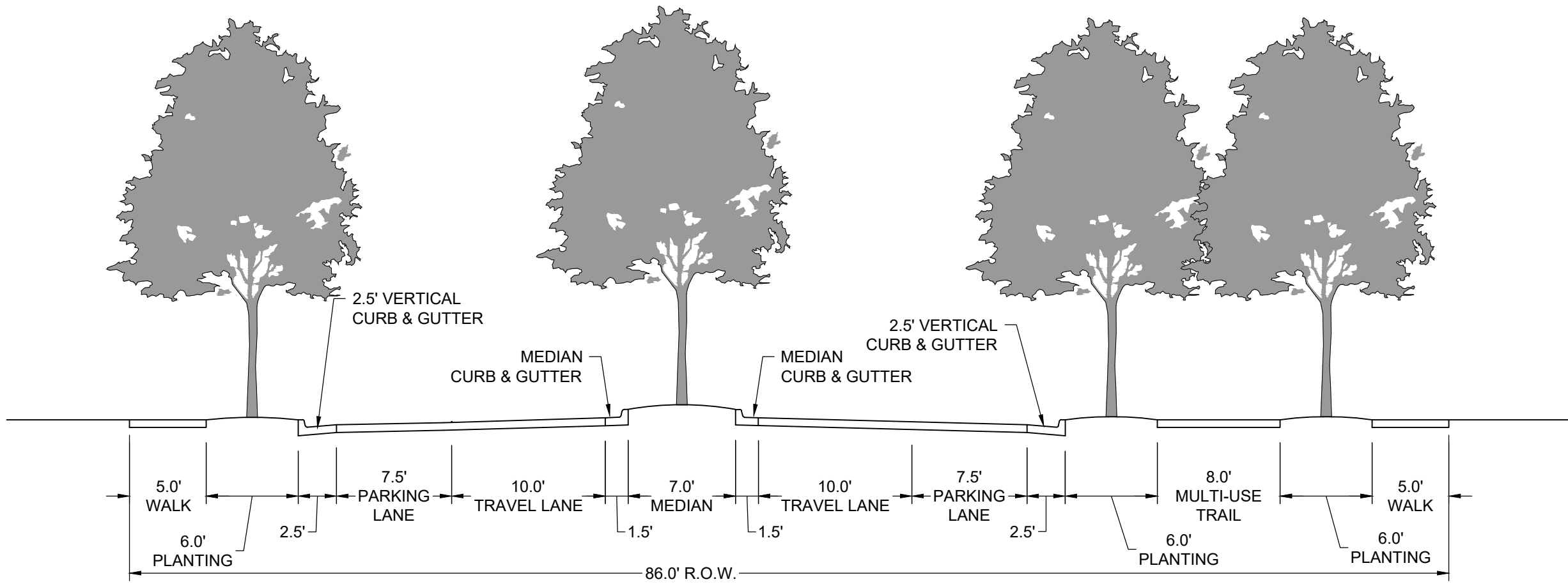
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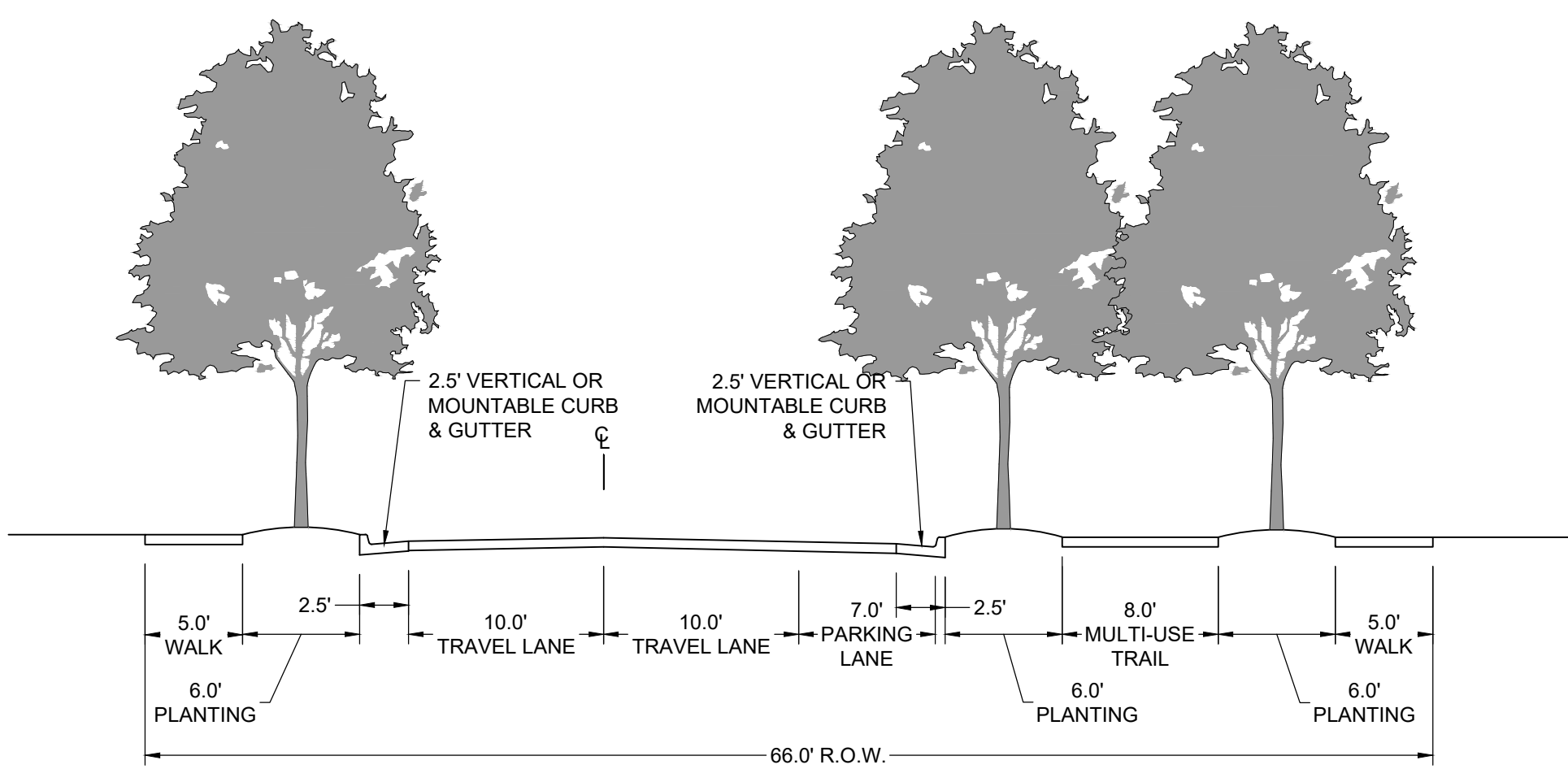
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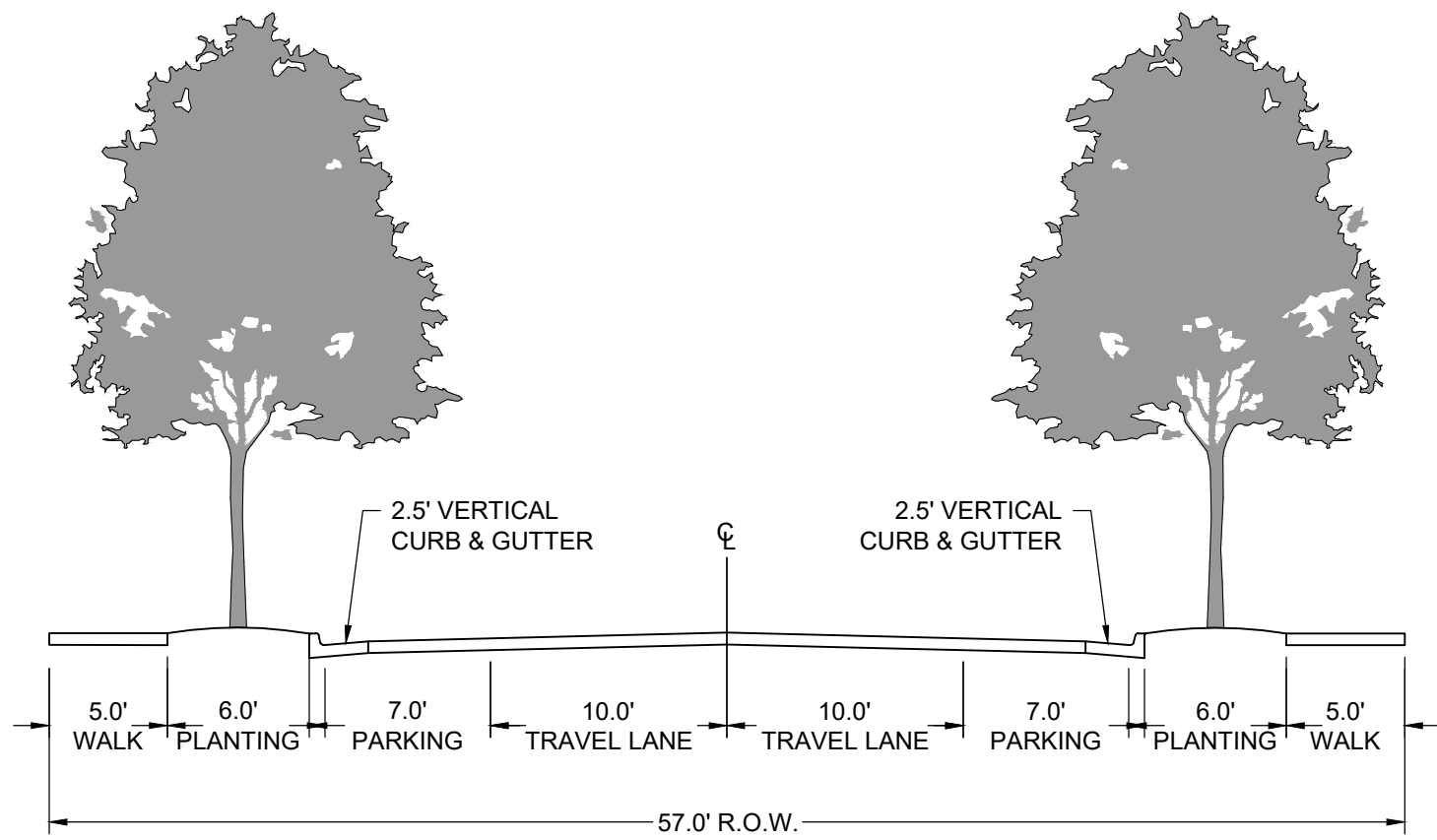
4.04 STREET SECTIONS



86' R.O.W. MINOR COLLECTOR STREET WITH MULTI-USE TRAIL

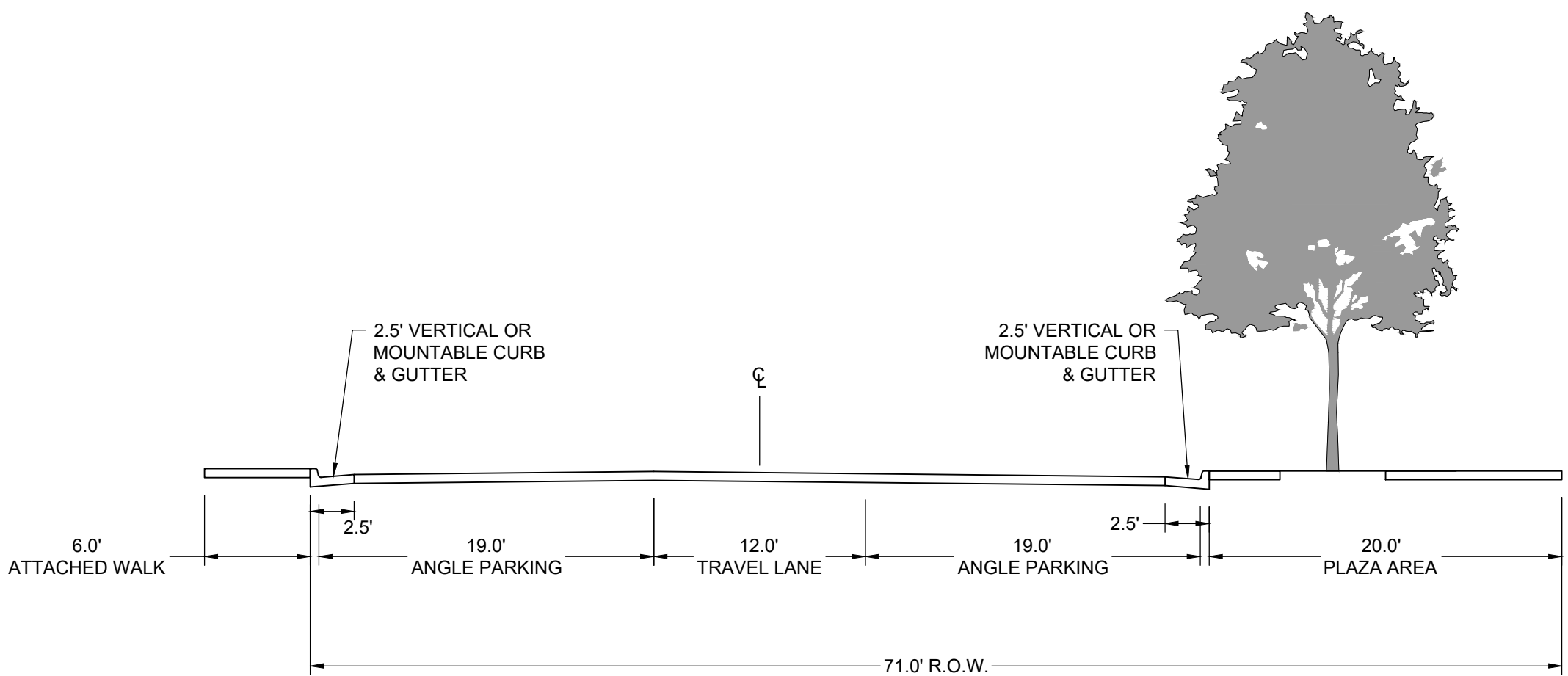


66' R.O.W. LOCAL STREET WITH MULTI-USE TRAIL

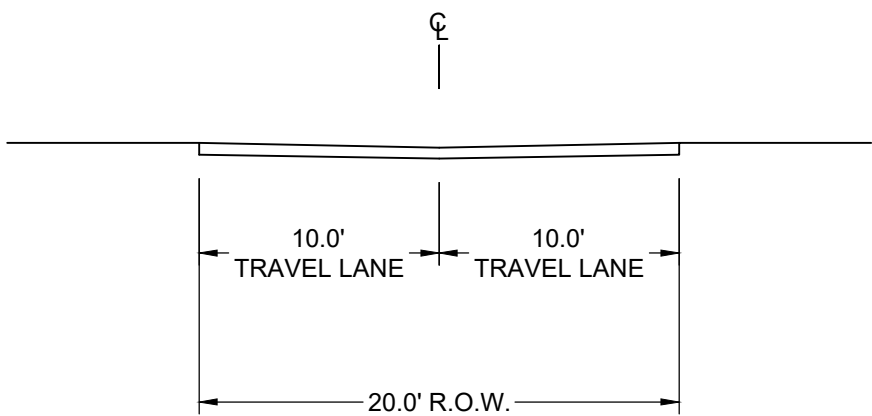


47'-81' R.O.W. LOCAL STREET
NOTES

1. ON-STREET PARKING SHALL BE OPTIONAL. DIFFERENT CONFIGURATIONS MAY BE USED FOR DIFFERENT LOCATIONS WITHIN THE DEVELOPMENT.
2. LOCAL STREETS MAY HAVE PARALLEL PARKING (7' WIDE), ANGLED PARKING (19' WIDE), OR NO PARKING.
3. R.O.W. WIDTH WILL VARY DEPENDING ON PARKING CONFIGURATION.



71' R.O.W. MINOR COLLECTOR ROUNDABOUT
VIEW LOOKING WITH ONE-WAY TRAFFIC



20' R.O.W. PRIVATE ALLEY

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SHEET NUMBER

L4.04

SHEET 17 OF 32

PUD DEVELOPMENT STANDARDS

4.05 SITE FURNISHINGS

BENCH
MANUFACTURER: SITE SCAPES
MODEL: ARLINGTON



**STREET / PEDESTRIAN
LIGHTING**
TRADITIONAL



TRASH RECEPTACLE
MANUFACTURER: SITE SCAPES
MODEL: HALO



TABLES
MANUFACTURER: KENNETH LYNCH & SONS
MODEL: 1939 WORLDS FAIR PICNIC BENCH



BIKE RACKS
MANUFACTURER: MADRAX
MODEL: U-BIKE RACK



- GENERAL NOTES:**
- SIMILAR ITEMS MAY BE SUBMITTED FOR APPROVAL AT PRELIMINARY PLAT/FINAL PLAT
 - ALL SITE FURNISHING IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR CHARACTER REFERENCE PURPOSES. SPECIFIC MANUFACTURERS AND MODELS WILL BE DESIGNATED AT TIME OF FINAL PLAT.



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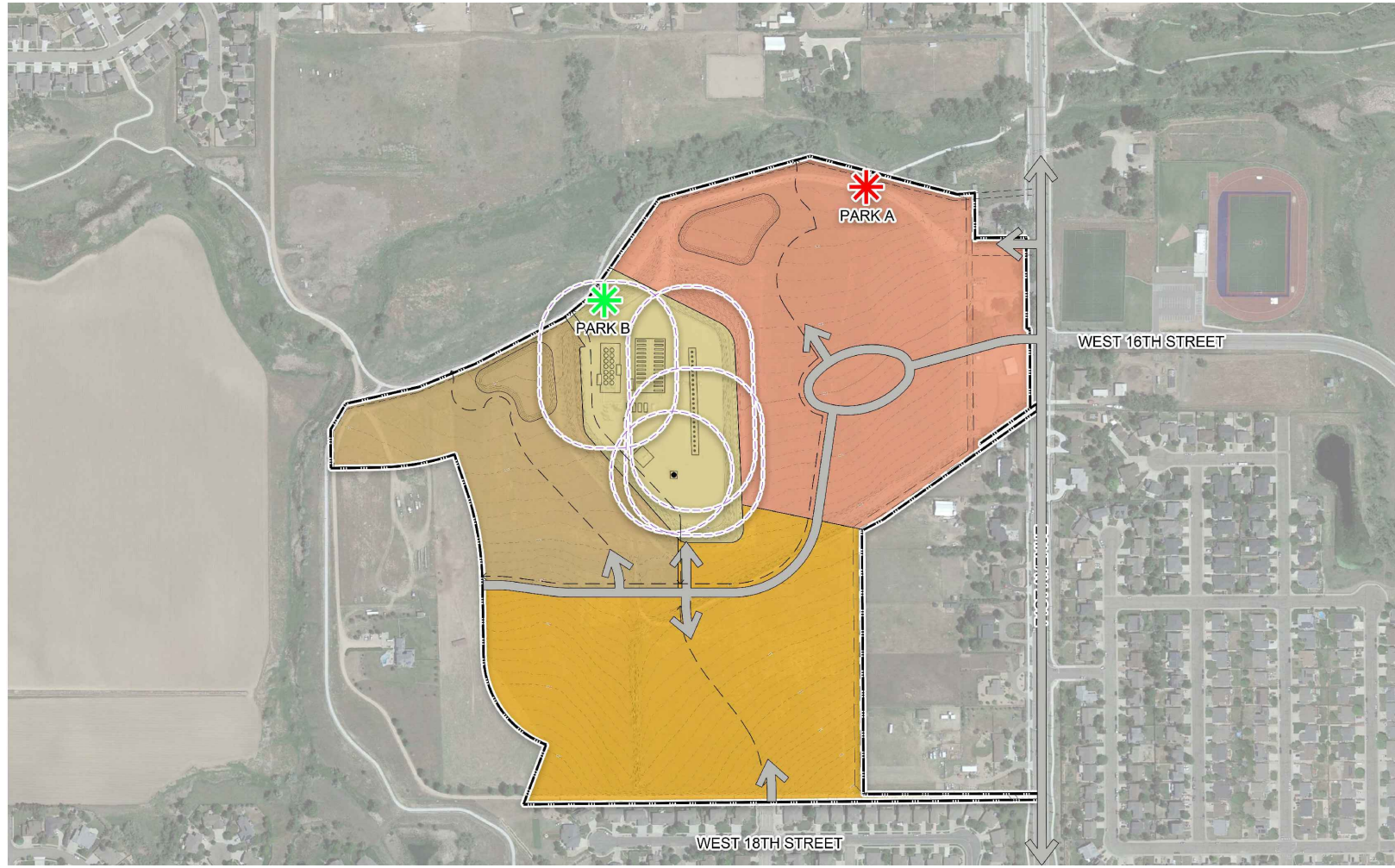
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SHEET NUMBER

L4.06

SHEET 19 OF 32

4.06 PARKS & TRAILS VIGNETTE



LEGEND

- NEIGHBORHOOD PARK
- FUTURE NEIGHBORHOOD PARK
- PEDESTRIAN TRAILS

NEIGHBORHOOD PARK IMPLEMENTATION

- NEIGHBORHOOD PARK SHALL BE SIZED TO MEET THE CITY OF GREELEY'S GOAL LEVEL OF SERVICE FOR A NEIGHBORHOOD PARK, OR BE A MINIMUM OF 10 ACRES, WHICHEVER IS GREATER.
- THE PARK MUST INCLUDE ALL THE REQUIRED ELEMENTS LISTED.
- THE PARK MUST INCLUDE AT LEAST 3 OF THE OPTIONAL ELEMENTS LISTED.
- ADDITIONAL PARK ELEMENTS NOT LISTED SHALL BE ALLOWED IN THE DESIGN OF THE PARK AND MAY BE SUBSTITUTED FOR OPTIONAL ELEMENTS WITH CITY OF GREELEY PLANNING APPROVAL.
- FURNISHINGS FOR PARKS SHALL FOLLOW CITY CODE.

NEIGHBORHOOD PARK DESIGN ELEMENTS

1. REQUIRED ELEMENTS

- BENCHES: 2 PER FIRST $\frac{1}{2}$ ACRE AND 1 PER ADDITIONAL ACRE
- BIKE RACKS: MINIMUM 4 PLUS 1 PER ACRE OVER 5 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD
- DOG WASTE STATIONS: MINIMUM 1 PER 2 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD
- LIGHTING PER CITY CODE
- LINKS TO NEIGHBORHOOD TRAILS
- MEANDERING TRAILS/PATHS - STABILIZED GRAY OR BUFF CRUSHER FINES, PER CITY SPECIFICATION SECTION 02730
- PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES
- PLAYGROUND - 5-12 YEARS OLD: ONE FACILITY
- PLAYGROUND - TOT LOT (2-5 YEARS OLD): ONE FACILITY
- TRASH RECEPTACLES: MINIMUM 4 PLUS 1 PER 2 ACRES OVER 4 ACRES
- TURF AREA: WELL GRADED $\frac{1}{2}$ ACRE OF TURF GRASS LAWN WITH 5-10 LARGE PARK TREES PER ACRE
- SHADE SHELTER FOR PICNIC TABLES

2. OPTIONAL ELEMENTS

- AMPHITHEATER
- COMMUNITY CENTER
- COMMUNITY GARDEN
- DISC GOLF
- FARMER'S MARKET FACILITY
- FITNESS LOOP: 1 PER $\frac{1}{4}$ MILE INCLUDES A COMBINATION OF PHYSICAL/ACTIVE STATIONS AND ACTIVITY SIGNS
- GROUP PICNIC FACILITIES: MINIMUM 4 TABLES, 6 BARBEQUES, HARD SURFACING
- INTERPRETIVE SIGNAGE
- NATURE TRAILS
- OBSTACLE COURSE
- PARKING: PER CODE
- RESTROOM: PER CODE
- SPORTS COURTS: TENNIS / PICKLEBALL OR BASKETBALL
- SPORTS FIELDS: 1 MULTI-SPORT
- WIFI
- ADDITIONAL OR EXPANDED REQUIRED ELEMENTS

NEIGHBORHOOD PARK IMPLEMENTATION

- TRAILS SHALL HAVE ALL REQUIRED ELEMENTS AND (1) OPTIONAL ELEMENT.

TRAIL DESIGN ELEMENTS

1. REQUIRED ELEMENTS

- BENCHES: 1 PER $\frac{1}{4}$ MILE OF PAVED OR GRAVEL TRAIL
- BIKE / HIKE TRAILS: MINIMUM 5' WIDE, CRUSHER FINES, CONCRETE, OR ASPHALT
- CRUSHER FINES, CONCRETE, OR ASPHALT TRAILS
- DOG WASTE STATIONS: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
- TRASH RECEPTACLES: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)

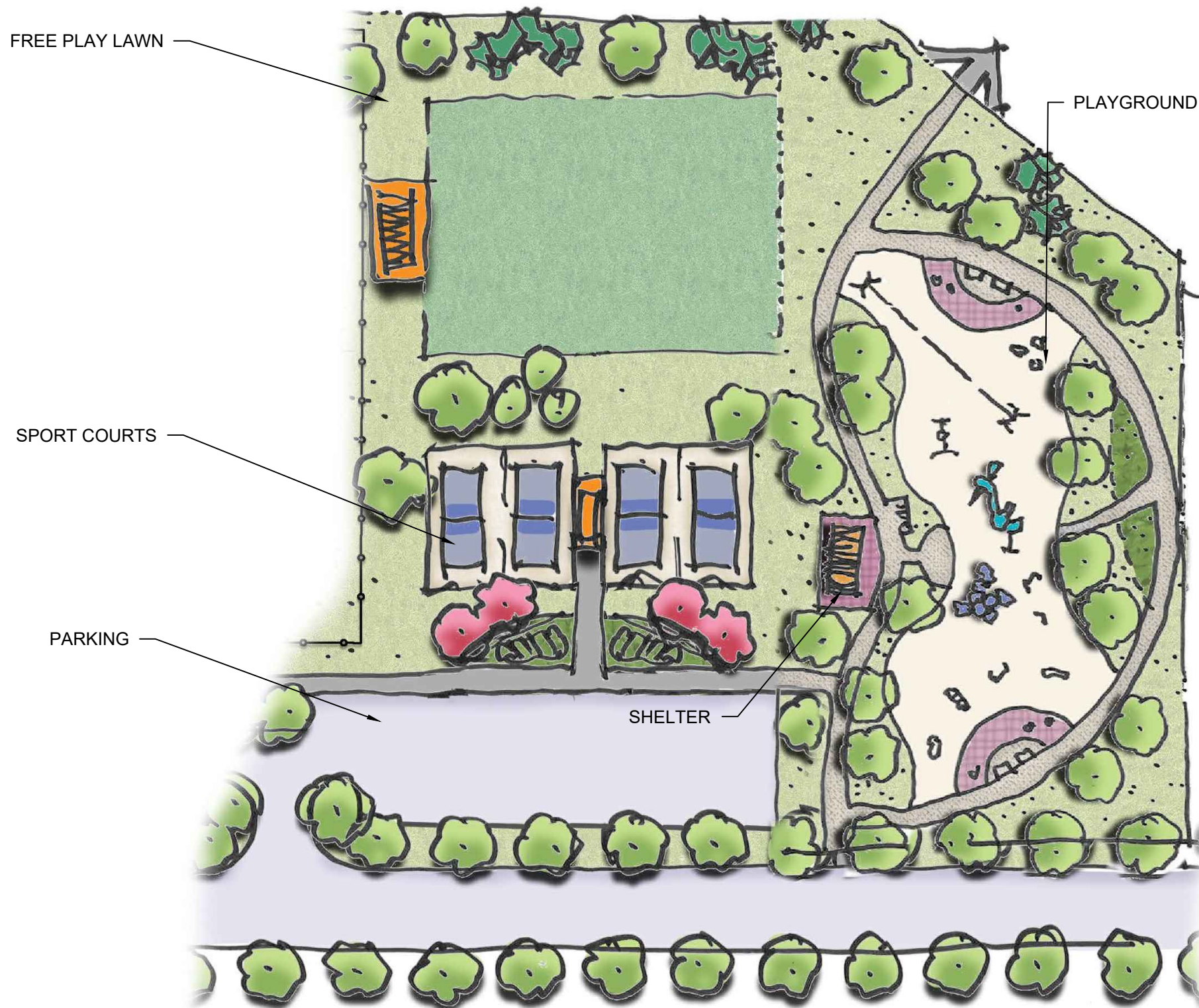
2. OPTIONAL ELEMENTS

- BIKE RACKS: MINIMUM 4 PLUS 1 PER ACRE OVER 5 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
- BOULDER SEATING
- EXERCISE STATIONS: MINIMUM 1 PER MILE INCLUDES A COMBINATION OF PHYSICAL / ACTIVE STATIONS AND ACTIVITY SIGNS
- FENCING (OPEN RAIL)
- INTERPRETIVE SIGNAGE (DEFINED ON L4.09)
- LIGHTING: PER CODE
- PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
- RESPIRE GARDENS
- SHELTERS: MINIMUM 1 PER 3 MILES OF TRAIL
- WATER STATIONS: MINIMUM 1. MINIMUM 1 FOR EQUESTRIAN ACCESS



NEIGHBORHOOD PARK

IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY
AND SOLELY FOR REFERENCE PURPOSES.



CONCEPTUAL DESIGNS ILLUSTRATED HEREIN EXPRESS INTENT FOR PARK AND OPEN SPACE IMPROVEMENTS WITHIN THIS PUD. ACTUAL SITE DEVELOPMENT PLANS AND SPECIFIC IMPROVEMENTS SHALL COMPLY WITH THEME, DESIGN ELEMENTS AND IMPLEMENTATION REQUIREMENTS OF THE PUD. ALL IMPROVEMENTS WITHIN PLANNING AREAS SHALL BE CARRIED OUT OVER MULTIPLE PHASES AND FINAL PLATS AS DEVELOPMENT OCCURS.

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

PLANNER / ARCHITECT /
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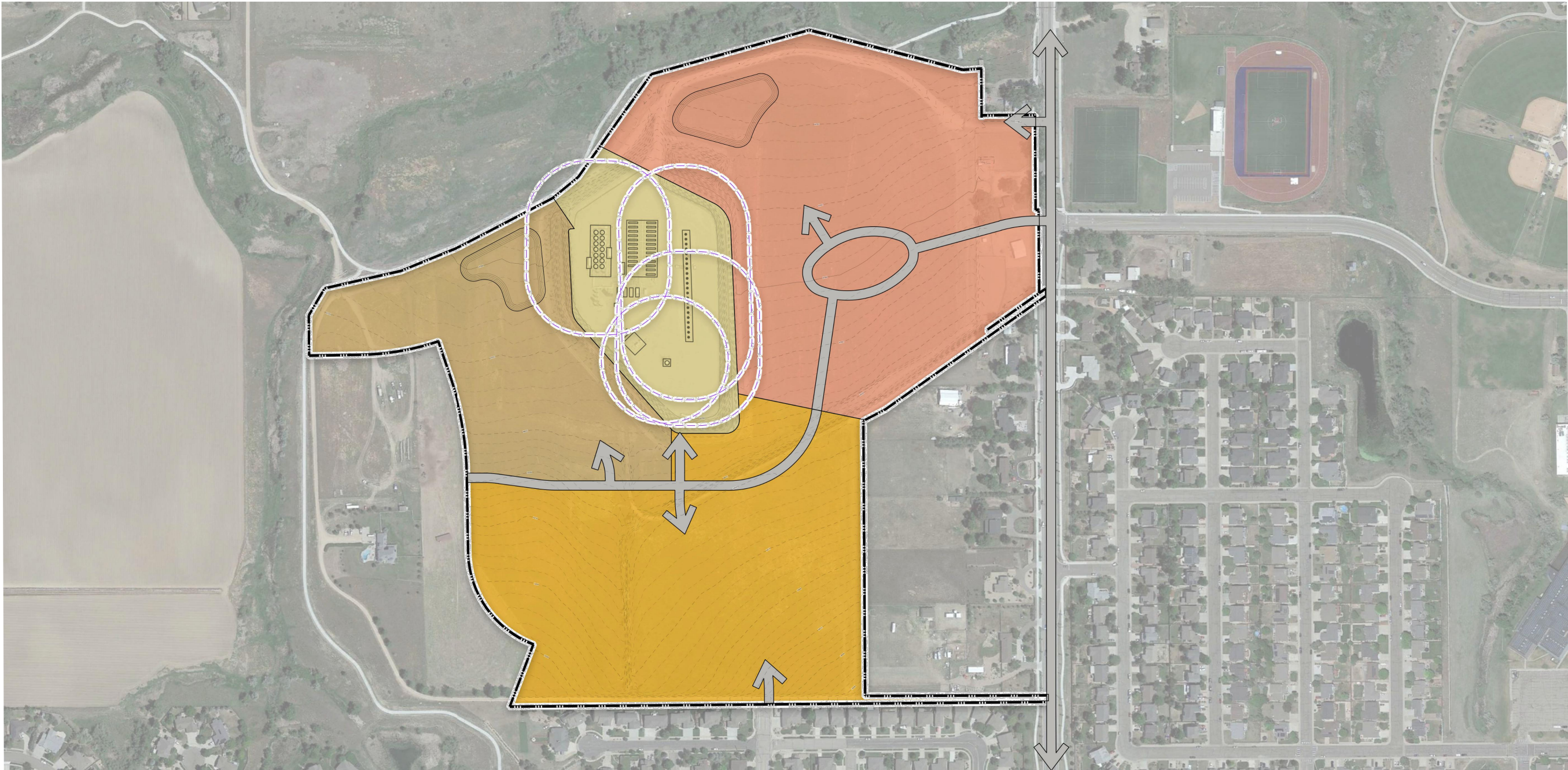
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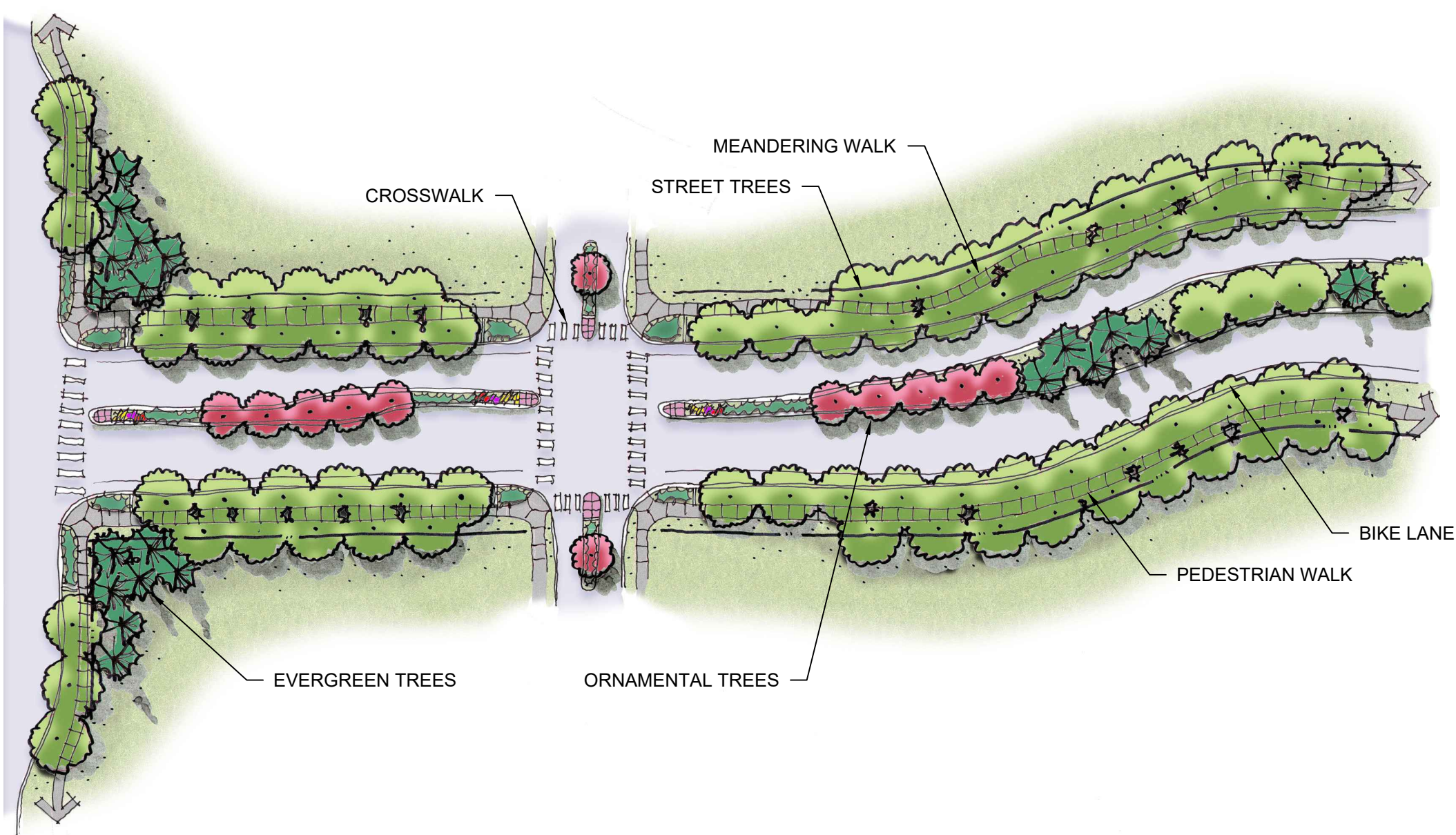
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4.07 STREETSCAPES VIGNETTE



BOULEVARD & PARKWAY (COLLECTOR RIGHT-OF-WAY)
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STREETSCAPE THEME

TRIPLE CREEK'S VISION FOR STREETSCAPES IS TO MAKE SURE THAT THE STREETS DO NOT HINDER BUT WELCOME THE COMMUNITY TO INTERACT AND FEEL A SENSE OF 'HOME.' THE DESIGN OF THE STREETS PLAYS A SIGNIFICANT ROLE IN THE COMMUNITY, AND IT IS IMPORTANT FOR TRIPLE CREEK TO MAKE THIS EXPERIENCE GREAT FOR RESIDENTS AND VISITORS. TRIPLE CREEK'S STREETS PROVIDE A BUFFER TO HOMES AND CONNECT NEIGHBORHOODS IN A SHARED PUBLIC SPACE AND CREATE A STRONG SENSE OF COMMUNITY.

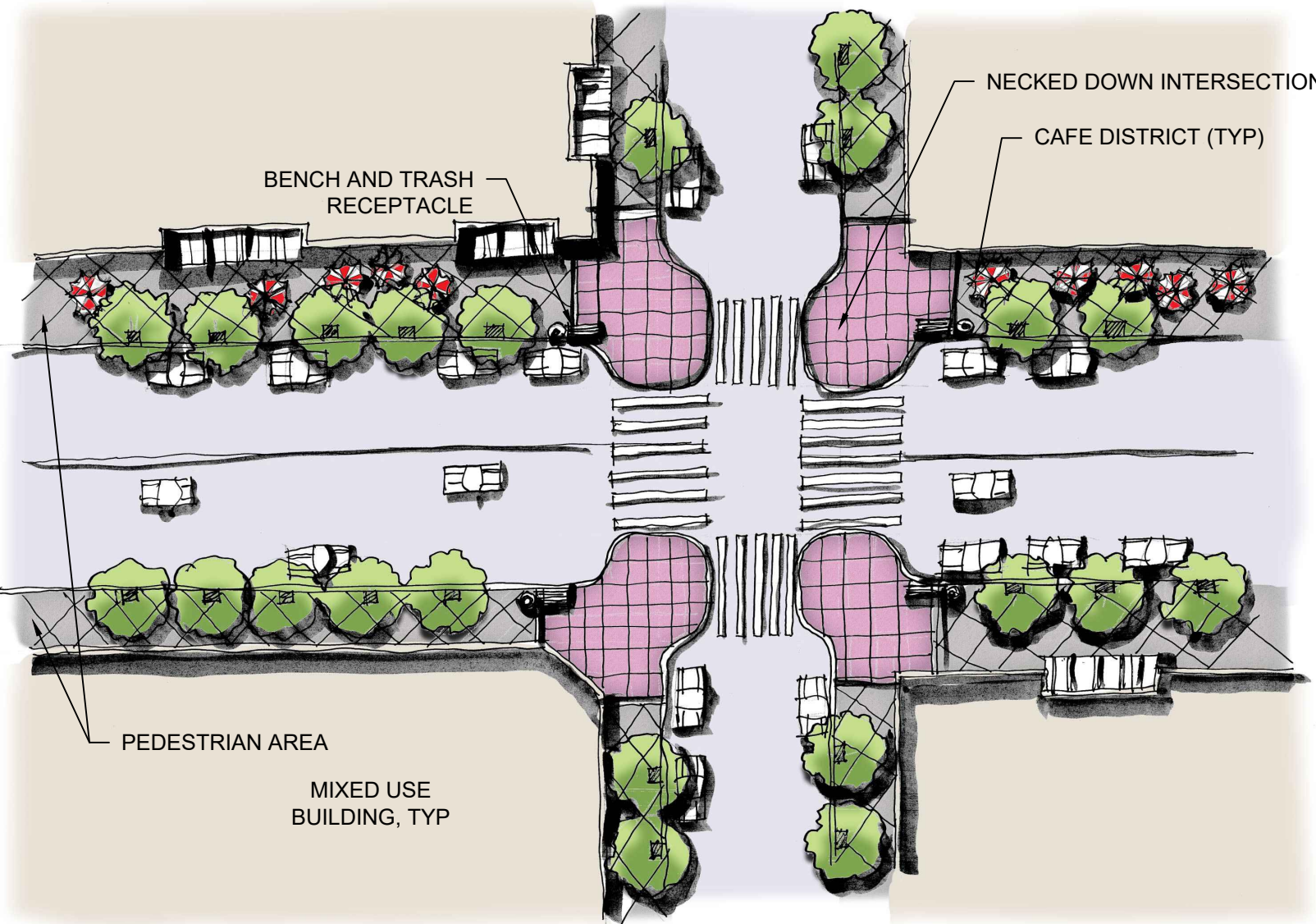
WITHIN TRIPLE CREEK, COLLECTOR STREETS SHALL SHARE COMMON DESIGN ELEMENTS THAT LINK NEIGHBORHOODS WITHIN THE COMMUNITY, CONTRIBUTING TO AN OVERALL PEDESTRIAN-ORIENTED, ATTRACTIVE AND COHESIVE IMAGE FOR THE COMMUNITY. THE STREETS WILL PROVIDE NEIGHBORHOOD SCALE AND CHARACTER AS WELL AS EXPRESS IDENTITY AND HIERARCHY THROUGH DISTINCTIVE DESIGN.

DESIGN ELEMENTS WILL PROVIDE COMFORT AND WALKABILITY, SECURE SAFETY FOR PEDESTRIANS, FOSTER SOCIAL ACTIVITY, ENCOURAGE HEALTHY LIFESTYLE CHOICES, AND ENHANCE AESTHETIC APPEAL. THE VISION IS TO TREAT STREETS AS ECOSYSTEMS THAT BLEND NATURAL AND HUMAN PROCESSES, PROVIDE SHADE, AND ENABLE DRIVERS TO SEE PEDESTRIANS. ELEMENTS THAT MAY BE INCLUDED ARE STREET LIGHTING AND PEDESTRIAN LIGHTING, LANDSCAPING, SITE FURNISHINGS, STORMWATER BEST MANAGEMENT PRACTICES, SIGNAGE, PUBLIC TRANSPORTATION SHELTERS, PEDESTRIAN CROSSWALKS, AND TRAFFIC CALMING MEASURES.

COMMERCIAL STREETS WILL PROVIDE AMENITIES FOR SHOPPERS SUCH AS PEDESTRIAN LIGHTING, SEATING, TRASH RECEPTACLES, BICYCLE PARKING, EASY-TO-READ SIGNS, ART, AND DISTINCTIVE ZONES FOR PLANTS AND PEDESTRIAN ACCOMMODATION. DESIGN ELEMENTS OF RESIDENTIAL STREETS WILL BE FOCUSED ON ENHANCING THE WALKABILITY AND BEAUTY OF NEIGHBORHOODS AND WILL INCLUDE DETACHED SIDEWALKS AND MULTI-USE TRAILS WITH PLANTING BEDS AND STREET TREES.

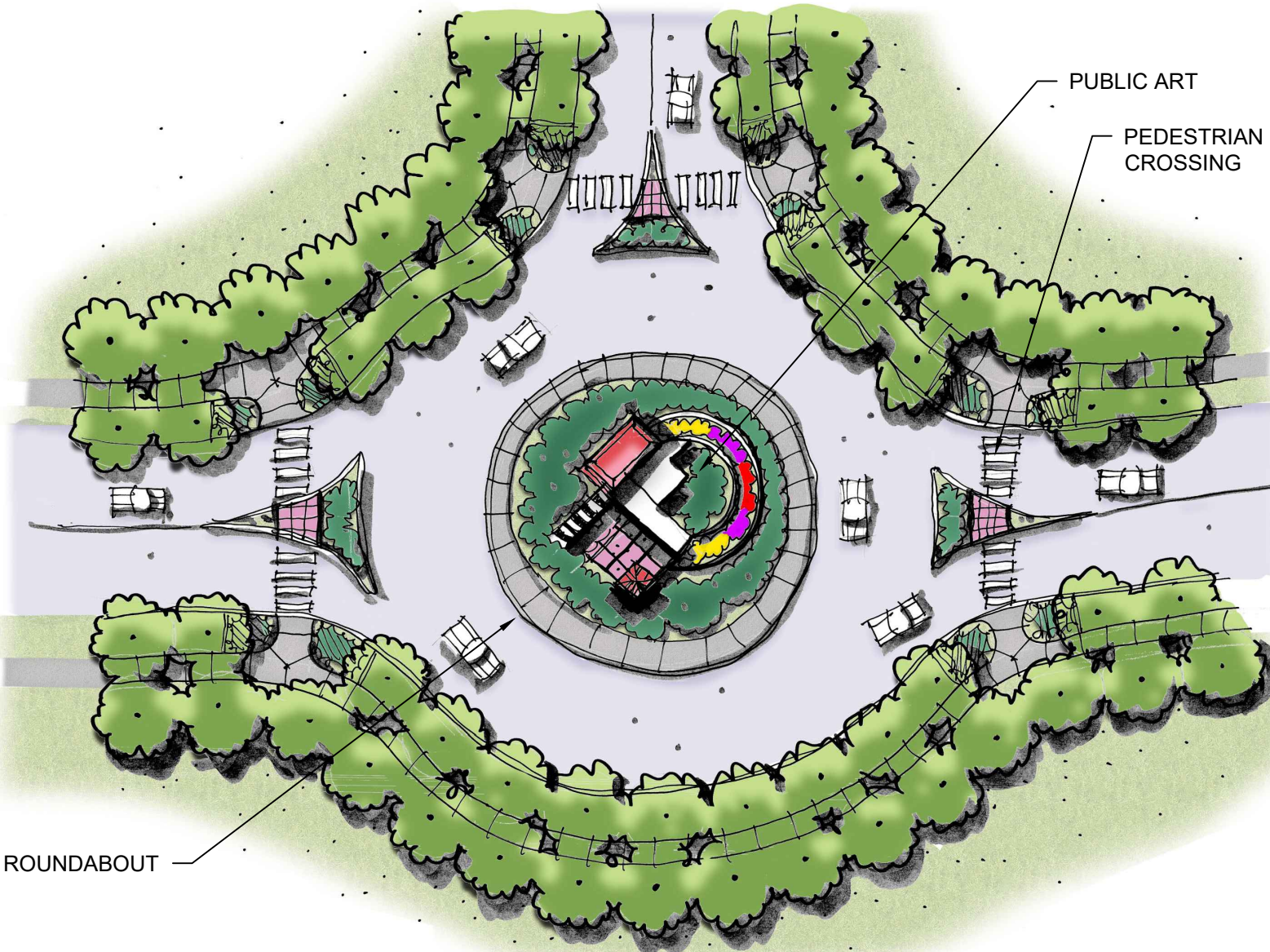
TRAFFIC CALMING

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ROUNDAABOUT

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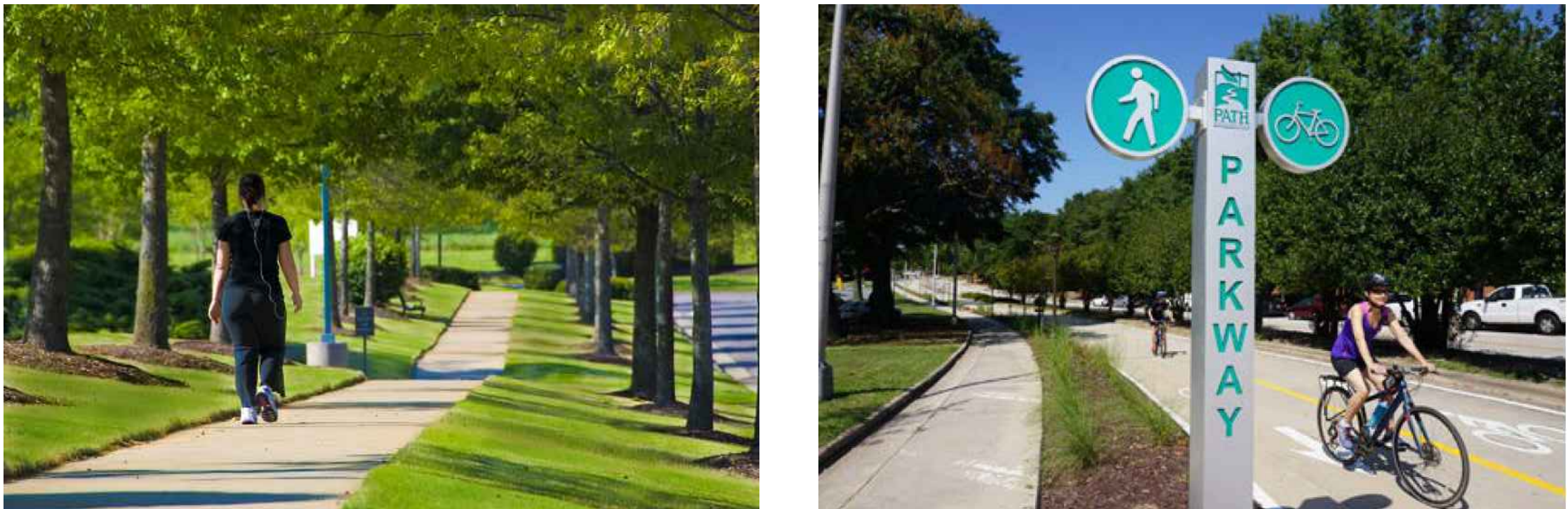
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SHEET 20 OF 32



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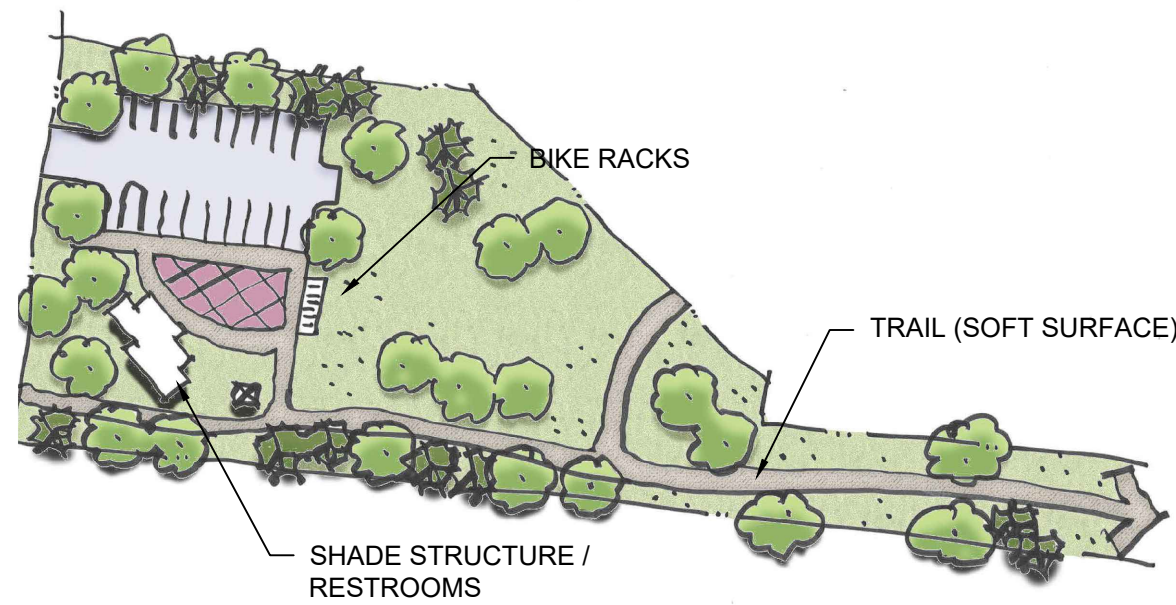
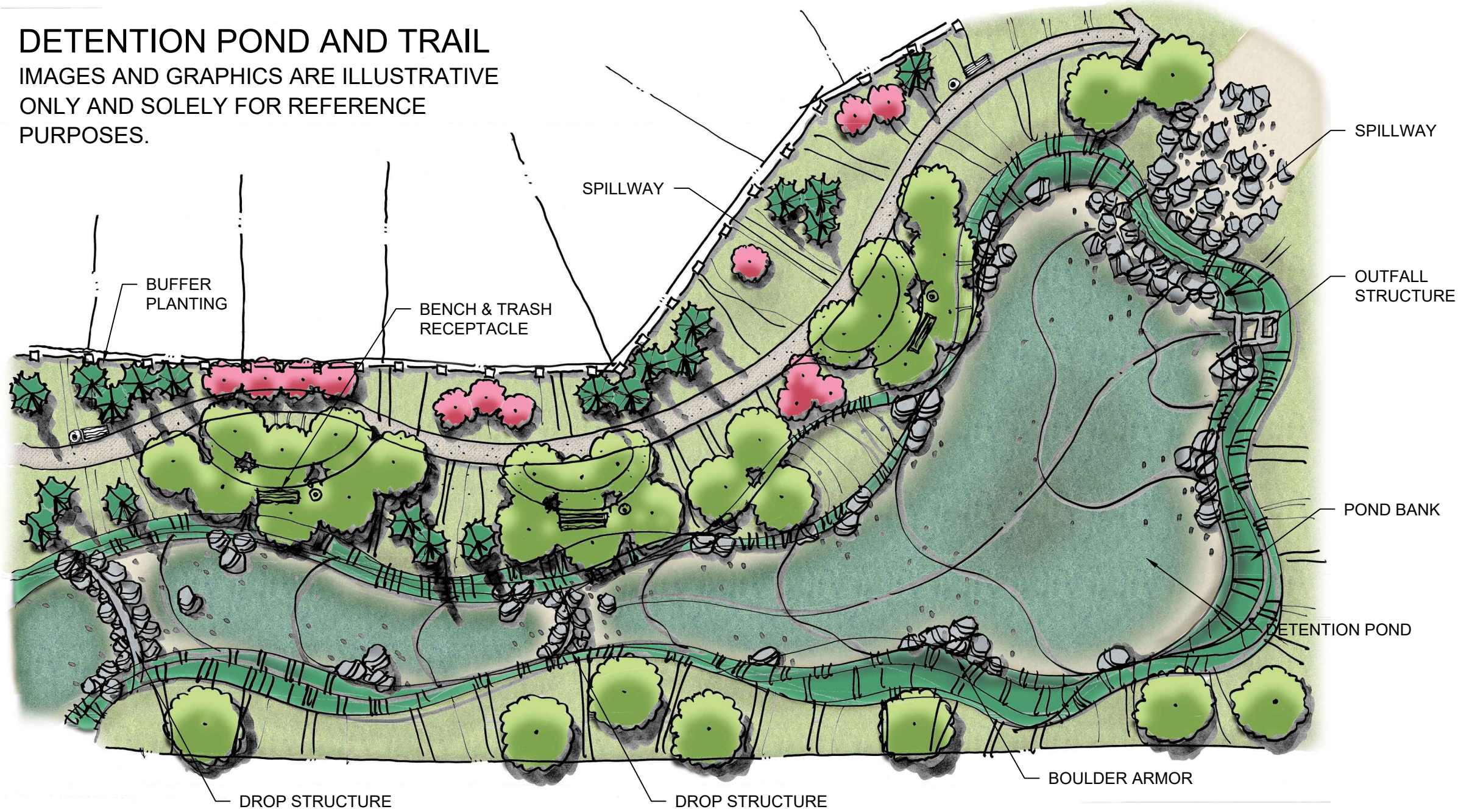
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4.08 DRAINAGE & DETENTION VIGNETTE



DETENTION POND AND TRAIL
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ONLY AND SOLELY FOR REFERENCE
PURPOSES.



TRAILHEAD
IMAGES AND GRAPHICS ARE ILLUSTRATIVE
ONLY AND SOLELY FOR REFERENCE
PURPOSES.

DRAINAGE & DETENTION THEME

TRAILS, DRAINAGE, AND DETENTION ARE ENVISIONED TO BE AESTHETIC ENHANCEMENTS WHICH ARE INTEGRATED INTO MULTI-FUNCTIONAL OPEN SPACE CORRIDORS, PEDESTRIAN CONNECTIVITY OPPORTUNITIES, AND STORMWATER AND WATER QUALITY FACILITIES. TRAILS ARE SITED NOT ONLY WITHIN RIGHTS-OF-WAY BUT ALSO WITHIN UTILITY EASEMENTS, DRAINAGE CORRIDORS, AND LANDSCAPE BUFFERS AND OFFER OPPORTUNITIES FOR RESIDENTS TO ENJOY NATURE AND TRAVEL THROUGH TRIPLE CREEK OUTSIDE OF THE ROAD NETWORK. THE DRAINAGE NETWORK AND DETENTION FACILITIES PROVIDE NECESSARY DRAINAGE AND STORMWATER MANAGEMENT FUNCTIONS, BUT ALSO REDUCE POLLUTION IN THE LOCAL WATERSHED, INCREASE GROUNDWATER RECHARGE, REDUCE FLOODING DURING SEVERE STORMS, AND REDUCE COST OF ENGINEERED INFRASTRUCTURE.

REQUIRED DESIGN ELEMENTS SUCH AS SEATING AND WASTE RECEPTACLES PROVIDE ACCOMMODATION FOR THE SAFETY AND COMFORT OF USERS. OPTIONAL DESIGN ELEMENTS ELEVATE USERS' EXPERIENCES AND PROVIDE ENHANCED OPPORTUNITIES FOR GATHERING AND RECREATION THROUGH SHELTER, VEHICULAR AND BICYCLE PARKING, LIGHTING, PICNIC TABLES, EXERCISE STATIONS, AND GARDENS.

DRAINAGE & DETENTION IMPLEMENTATION

- TRAILS, DRAINAGE & DETENTION ARE SIZED TO ACCOMMODATE THE NEED OF THE USE.
- IMPLEMENTATION MUST INCLUDE ALL THE REQUIRED ELEMENTS AS LISTED FOR EACH USE.
- IMPLEMENTATION MUST INCLUDE AT LEAST 3 OF THE OPTIONAL ELEMENTS LISTED.
- ADDITIONAL ELEMENTS NOT LISTED SHALL BE ALLOWED IN THE DESIGN OF TRAILS, DRAINAGE & DETENTION AND MAY BE SUBSTITUTED FOR THE OPTIONAL ELEMENTS WITH CITY OF GREELEY PLANNING APPROVAL.

DRAINAGE, & DETENTION DESIGN ELEMENTS

1. REQUIRED ELEMENTS
- 1.1 BENCHES: 1 PER ¼ MILE OF PAVED OR GRAVEL TRAIL
- 1.2 BIKE / HIKE TRAILS: MINIMUM 5' WIDE, CRUSHER FINES, CONCRETE, OR ASPHALT
- 1.3 CRUSHER FINES, CONCRETE, OR ASPHALT TRAILS
- 1.4 DOG WASTE STATIONS: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
- 1.5 TRASH RECEPTACLES: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
2. OPTIONAL ELEMENTS
- 2.1 BIKE RACKS: MINIMUM 4 PLUS 1 PER ACRE OVER 5 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
- 2.2 BOULDER SEATING
- 2.3 EXERCISE STATIONS: MINIMUM 1 PER MILE INCLUDES A COMBINATION OF PHYSICAL / ACTIVE STATIONS AND ACTIVITY SIGNS
- 2.4 FENCING (OPEN RAIL)
- 2.5 INTERPRETIVE SIGNAGE (DEFINED ON V4.00)
- 2.6 LIGHTING: PER CODE
- 2.7 PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
- 2.8 RESPITE GARDENS
- 2.9 SHELTERS: MINIMUM 1 PER 3 MILES OF TRAIL
- 2.10. WATER STATIONS: MINIMUM 1. MINIMUM 1 FOR EQUESTRIAN ACCESS



TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

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4.09 MONUMENTS AND SIGNAGE VIGNETTE



LEGEND

- POTENTIAL COMMUNITY MONUMENT LOCATION
- POTENTIAL NEIGHBORHOOD MONUMENT LOCATION

MONUMENTS AND SIGNAGE THEME

WITHIN TRIPLE CREEK, MONUMENTS AND SIGNAGE FUNCTION TO PROVIDE INFORMATION FOR NAVIGATION, LOCATION, IDENTIFICATION, EDUCATION, AND SAFETY TO RESIDENTS AND VISITORS OF TRIPLE CREEK; AND TO HELP UNIFY NEIGHBORHOODS INTO A COHESIVE COMMUNITY THROUGH CONSISTENT USE OF MATERIALS AND COLORS.

COMMUNITY MONUMENTS AND SIGNAGE IDENTIFY THE TRIPLE CREEK COMMUNITY TO REGIONAL DRIVERS AND PEDESTRIANS BY VIRTUE OF ITS PROMINENT SIZE, LOCATION, AND DESIGN ALONG 71ST AVENUE. COMMUNITY, COMMERCIAL, AND NEIGHBORHOOD SIGNAGE ECHO THE CHARACTER, MATERIALS, AND THEME OF THE COMMUNITY MONUMENT AT SCALED-DOWN SIZES. SIGNAGE FOR TRAILS AND PARKS WILL IDENTIFY AND PROVIDE IMPORTANT INFORMATION ABOUT COMMUNITY OPEN SPACE. INTERPRETIVE SIGNS WILL COMMUNICATE INFORMATION OF SCIENTIFIC, HISTORIC, CULTURAL, OR GEOGRAPHIC INTEREST. RULES AND POSTING SIGNS CONVEY INFORMATION ABOUT LOCAL RULES AND REGULATIONS TO ENSURE THE HEALTH, SAFETY, AND WELFARE FOR EVERYONE WITHIN THE TRIPLE CREEK COMMUNITY.

MONUMENTS AND SIGNAGE IMPLEMENTATION

- DESIGNS FOR SIGNAGE AND MONUMENTATION SHALL BE INTEGRATED IN CHARACTER AND SCALE WITHIN THE TRIPLE CREEK COMMUNITY.
- THE TRIPLE CREEK COMMUNITY SHALL BE MARKED BY AS MANY AS 3 COMMUNITY MONUMENT SIGNS AT ENTRANCES TO THE COMMUNITY.
- A NEIGHBORHOOD MONUMENT SIGN MAY BE LOCATED AT EACH OF THE NEIGHBORHOOD ENTRIES FROM COLLECTOR ROADS.
- COMMERCIAL/TENANT, DIRECTIONAL, NEIGHBORHOOD, TRAILS/PARKS, INTERPRETIVE, AND RULES & POSTING SIGNAGE SHALL BE LOCATED AS NECESSARY IN SUFFICIENT QUANTITIES, HEIGHTS, AND SIZES TO PROVIDE ADEQUATE NAVIGATION, INFORMATION, IDENTIFICATION, AND SAFETY TO RESIDENTS AND VISITORS.
- SETBACKS FOR SIGNAGE AND MONUMENTATION SHALL FOLLOW EXISTING CODE.
- ADDITIONAL ELEMENTS NOT LISTED SHALL BE ALLOWED WITH CITY OF GREELEY PLANNING APPROVAL.
- ALL SIGNS THROUGHOUT THE PUD SHALL REQUIRE A SIGN PERMIT FROM THE CITY OF GREELEY PRIOR TO INSTALLATION
- COMMERCIAL, TENANT, AND OTHER BUSINESS SIGNAGE SHALL COMPLY WITH REQUIREMENTS FOR SIGNAGE PER CITY CODE DATED OCTOBER 1, 2021 AS AMENDED

COMMUNITY MONUMENT DESIGN



CONCEPTUAL DESIGNS ILLUSTRATED HEREIN EXPRESS INTENT FOR PARK AND OPEN SPACE IMPROVEMENTS WITHIN THIS PUD. ACTUAL SITE DEVELOPMENT PLANS AND SPECIFIC IMPROVEMENTS SHALL COMPLY WITH THEME, DESIGN ELEMENTS AND IMPLEMENTATION REQUIREMENTS OF THE PUD. ALL IMPROVEMENTS WITHIN PLANNING AREAS SHALL BE CARRIED OUT OVER MULTIPLE PHASES AND FINAL PLATS AS DEVELOPMENT OCCURS.

MONUMENTS AND SIGNAGE DESIGN INTENT

REQUIRED ELEMENTS	LOCATION	MAX HEIGHT	SIZE ¹	QUANTITY
COMMUNITY	LOCATED AT COMMUNITY ENTRANCE AT 71ST AVE. AND WEST 16TH STREET	20' HT	18 SF SIGN FACE EACH SIDE, 120 SF OVERALL SIGN AREA EACH SIDE, DOUBLE SIDED	2 MONUMENTS AT 3 LOCATIONS FOR A TOTAL OF 6 MONUMENTS
NEIGHBORHOOD	LOCATED ALONG COLLECTOR ROADS AT NEIGHBORHOOD ENTRANCES	12' HT	14 SF SIGN FACE EACH SIDE, 52 SF OVERALL SIGN AREA EACH SIDE, DOUBLE SIDED	MAXIMUM 4 MONUMENT SIGNS
TRAILS/PARKS	DETERMINED BY DEVELOPER AND SUBJECT TO APPROVAL BY CITY AT THE TIME OF FINAL PLAT AND SITE PLAN.	10' HT	PER EXISTING CITY CODE	MAXIMUM 12 MONUMENT SIGNS

¹ TERMS PER CITY OF GREELEY SIGN CODE DEFINITIONS

NOTE: IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR REFERENCE PURPOSES.

TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL 03/08/23
2nd SUBMITTAL 06/01/23
3rd SUBMITTAL 07/24/23
4th SUBMITTAL 09/01/23

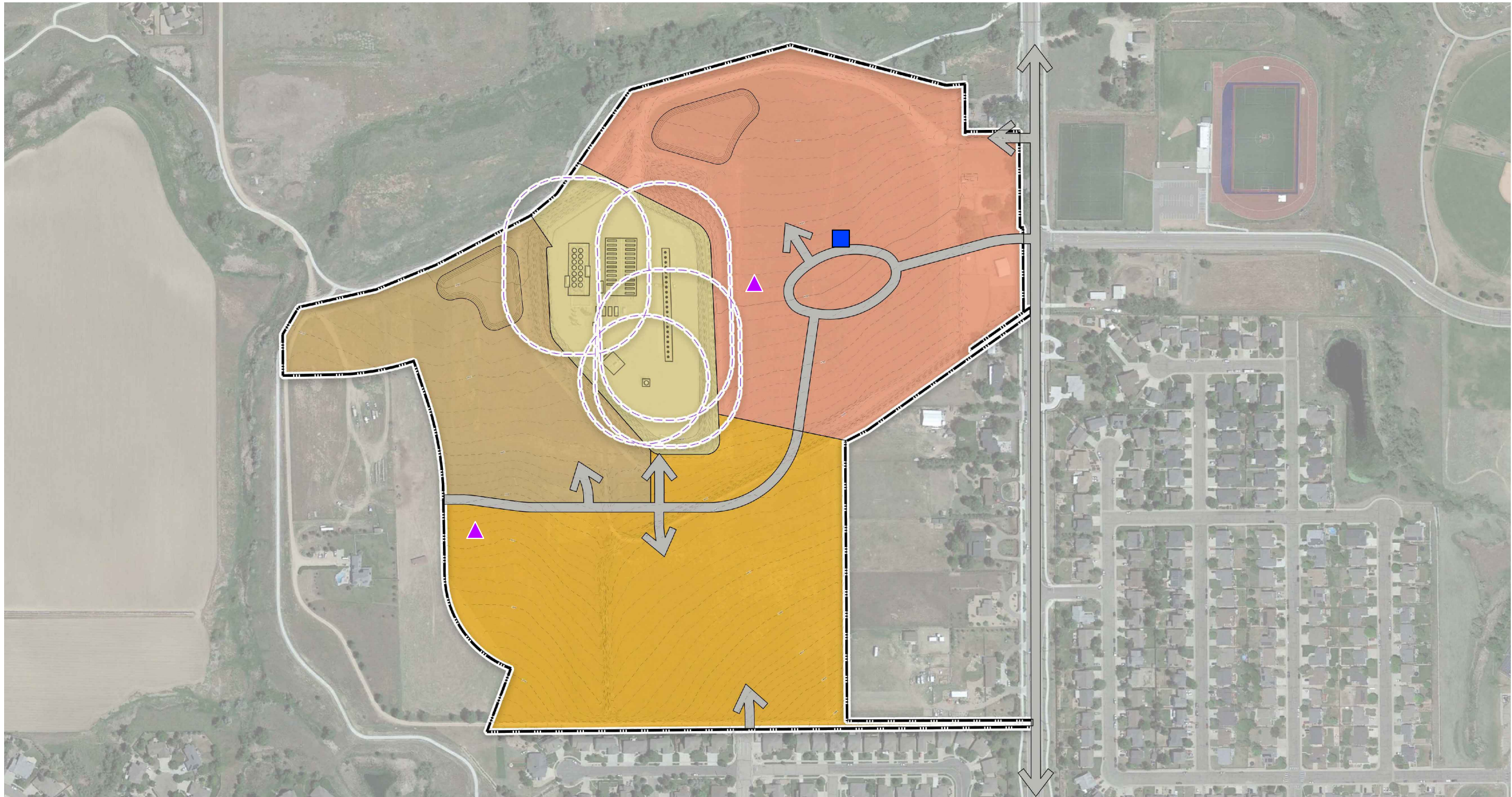
SHEET NUMBER

L4.09

SHEET 22 OF 32

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

4.10 COMMUNITY AMENITIES VIGNETTE



LEGEND

- POTENTIAL POOL HOUSE LOCATION
- COMMUNITY AMENITIES LOCATION

COMMUNITY AMENITIES

COMMUNITY AMENITIES FOR TRIPLE CREEK RESIDENTS WILL BE LOCATED WITHIN THE MULTIFAMILY BUILDINGS IN PLANNING AREA 1. THESE AMENITIES FUNCTION TO PROVIDE RECREATION FOR COMMUNITY MEMBERS AND GUESTS AND A VITAL SPACE FOR SOCIAL ACTIVITIES. TYPES OF AMENITIES COULD INCLUDE MULTI-PURPOSE SPACES SUCH AS CRAFT SPACES, GAME ROOM, FITNESS & YOGA ROOM, CONFERENCE ROOMS, LOUNGE & BILLIARD ROOM.

TYPE AND SIZE OF COMMUNITY AMENITIES WILL BE DETERMINED BY THE DEVELOPER AT TIME OF FINAL PLAT.

THE TRIPLE CREEK METRO DISTRICT ARCHITECTURAL REVIEW PANEL SHALL PROVIDE A LETTER OF CONFORMANCE WITH THE PUD TO THE CITY FOR ALL SITE AND ARCHITECTURAL PROPOSALS WITHIN THE TRIPLE CREEK COMMUNITY AS A CONDITION OF BUILDING PERMIT.

CONCEPTUAL DESIGNS ILLUSTRATED HEREIN EXPRESS INTENT FOR PARK AND OPEN SPACE IMPROVEMENTS WITHIN THIS PUD. ACTUAL SITE DEVELOPMENT PLANS AND SPECIFIC IMPROVEMENTS SHALL COMPLY WITH THEME, DESIGN ELEMENTS AND IMPLEMENTATION REQUIREMENTS OF THE PUD. ALL IMPROVEMENTS WITHIN PLANNING AREAS SHALL BE CARRIED OUT OVER MULTIPLE PHASES AND FINAL PLATS AS DEVELOPMENT OCCURS.

COMMUNITY POOLHOUSES

TWO POTENTIAL POOL LOCATIONS HAVE BEEN IDENTIFIED. THE POOLHOUSES WILL BE LIMITED TO BATHROOMS/CHANGING ROOMS OR A LOCKER ROOM AND A MECHANICAL ROOM. ONE LOCATION WILL BE DESIGNED WITH FAMILIES AND CHILDREN AS THE PRIMARY USERS. THE SECOND LOCATION WILL BE DESIGNED FOR ADULTS WITH HOT TUBS, SAUNAS, LOCKER ROOMS, ETC.

POOLHOUSE IMPLEMENTATION

- DESIGNS FOR POOLS AND POOLHOUSES SHALL BE INTEGRATED IN CHARACTER AND SCALE WITHIN THE COMMUNITY.
- FINAL DESIGN AND SITE PLAN FOR THE POOLHOUSES SHALL DETERMINED AT THE TIME OF PRELIMINARY PLAT.
- DEVELOPMENT STANDARDS AND SETBACKS FOR POOLHOUSES SHALL FOLLOW THE MIXED-USE STANDARDS ON SHEET L6.1, TABLE 1.3 OF THIS PUD.
- PARKING AT THE POOLHOUSES WILL BE LIMITED TO REQUIRED ADA PARKING. AS THIS IS A WALKABLE COMMUNITY, ALL RESIDENTS WILL LIVE WITHIN A SHORT WALK OF THE AMENITIES.



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SHEET 23 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
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PUD DEVELOPMENT STANDARDS

5.0 STATEMENT OF COMMITMENTS

CONCEPTUAL PHASING		DEVELOPMENT COMMITMENTS			
PHASE 1 - ROUGH GRADING, UNDERGROUND UTILITIES, ROADS, SOME PARKS PHASE 2 - BUILD OUT OF NORTH MULTIFAMILY BUILDING, PARKING GARAGE, FAMILY POOL, SOME PARKS PHASE 3 - BUILD OUT OF ROW HOMES, SINGLE FAMILY DETACHED & ESTATE LOTS, SOME PARKS PHASE 4 - BUILD OUT OF SOUTH MULTIFAMILY BUILDING, FINAL PARK					
IMPROVEMENT OR COMMITMENT	PLAN PREPARATION AND APPROVAL	CONSTRUCTION TIMING	CONSTRUCTION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	OWNERSHIP
FAMILY POOL	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	BUILT WITH MULTIFAMILY PORTION (PHASE 2)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
ADULTS ONLY POOL	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	ONCE LOTS TURNED OVER TO BUILDERS (PHASE 3)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PARKING GARAGES	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	BUILT WITH MULTIFAMILY PORTION (PHASE 2)	METRO DISTRICT & APARTMENT OWNER	METRO DISTRICT & APARTMENT OWNER	METRO DISTRICT & APARTMENT OWNER
INTERNAL COMMUNITY TRAILS	EXTENT AND ROUTING TO BE DETERMINED BY FINAL LANDSCAPE PLANS FOR CONFORMANCE WITH THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PERIMETER TREATMENT & LANDSCAPING TRACTS	AREAS TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER CITY OF GREELEY DEVELOPMENT CODE AND THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PARK A (ADJ TO REGIONAL TRAIL ON NORTH SIDE)	AREA TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT ¹	CITY OF GREELEY	CITY OF GREELEY
PARK B (@ WELLS)	AREA TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER THE PUD	FOLLOWING DECOMMISSIONING OF THE WELLS (PHASE 4)	METRO DISTRICT ¹	CITY OF GREELEY	CITY OF GREELEY
DETENTION PONDS AND RELATED FACILITIES	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
STORM SEWER FACILITIES & CULVERTS	STORM SEWER FACILITIES & CULVERTS SHALL BE DESIGN PER CITY OF GREELEY STANDARDS AND SHALL BE DETERMINED AT FINAL PLAT	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT	METRO DISTRICT	CITY OF GREELEY ²	CITY OF GREELEY
WET UTILITIES (INCLUDING NON-POT, SANITARY SEWER, WATER MAIN LINES, FIRE HYDRANTS AND SERVICE LINES TO EACH LOT)	UTILITIES SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS.. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
DRY UTILITIES	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS AND GUIDELINES FROM THE UTILITY PROVIDOR. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT PRIOR TO ANY POSTPONED STREET OR ALLEY SURFACING. NO CURB, GUTTER, OR SIDEWALK SHALL BE INSTALLED UNTIL ALL PLATTED UTILITIES ARE PROVIDED	METRO DISTRICT	UTILITY PROVIDER	UTILITY PROVIDER
STREETS, ALLEYS, AND SIDEWALKS	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA, AND WHERE SUBDIVISION ABUTS ADJACENT EXISTING STREET RIGHT-OF-WAY, SHALL INCLUDE AT LEAST THE ADJACENT HALF OF THE STREET	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT, INCLUDING CURB & GUTTER AND ALLEYS	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
OIL & GAS ACCESS ROAD	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
MODIFICATIONS TO SIGNAL AT INTERSECTION OF W 16TH STREET AND 71ST AVENUE	INTERSECTIONS SHALL BE DESIGNED PER CITY AND CDOT STANDARDS AND SHALL BE DETERMINED PER APPROVED TRANSPORTATION IMPACT ANALYSIS AND/OR AS IDENTIFIED BY CDOT AND THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
SURVEY MONUMENTS	SURVEY MONUMENTS TO BE SHOWN ON EACH FINAL PLAT	FOLLOWING RECORDATION OF EACH APPROVED PLAT	PROFESSIONAL LAND SURVEYOR	N/A ³	N/A ³
DUST ABATEMENT AND EROSION CONTROL PLAN	AREA TO BE DETERMINED BY FINAL CIVL CONSTRUCTION DOCUMENTS	IMPLEMENTED AT COMMENCEMENT OF CONSTRUCTION OF EACH APPROVED PLAT	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
STREET LIGHTS	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY

¹ THE DEVELOPER WILL NEGOTIATE A SEPARATE AGREEMENT WITH THE CITY FOR THE METRO DISTRICT TO BUILD.
² WITHIN PUBLIC RIGHTS-OF-WAY OR PUBLIC DRAINAGE EASEMENTS.
³ PROPERTY OWNERS ARE RESPONSIBLE FOR REPAIRING DAMAGES TO SURVEY MONUMENTS ON THEIR PROPERTY.

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TRIPLE CREEK P.U.D.
GREELEY, CO

STATEMENT OF COMMITMENTS

PROJECT #: 221042
DRAWN BY: AH, ML
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SHEET 24 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

ARCHITECTURAL STANDARDS

1. ALL COMMERCIAL BUILDINGS AND MULTI-FAMILY/MIXED USE DWELLINGS SHALL FOLLOW THE CITY OF GREELEY ARCHITECTURAL STANDARDS IN SECTION 24-603 OF THE GREELEY DEVELOPMENT CODE (UPDATED OCTOBER 1, 2021).
2. ALL RESIDENTIAL SINGLE-FAMILY DWELLINGS AND ROW HOUSES SHALL FOLLOW THE CITY OF GREELEY ARCHITECTURAL STANDARDS IN SECTION 24-503 OF THE GREELEY DEVELOPMENT CODE (UPDATED OCTOBER 1, 2021) WITH THE FOLLOWING EXCEPTIONS:

2.1. ALL RESIDENTIAL HOMES SHALL SUBMIT A LETTER OF APPROVAL FROM THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENSURE AN ENHANCED DESIGN STANDARD OVER AND ABOVE THE CITY'S BASE CODE PRIOR TO OBTAINING BUILDING PERMITS FROM THE CITY OF GREELEY.

2.2. ANY IMPROVEMENTS OR ADDITIONS TO RESIDENTIAL HOMES AFTER INITIAL CONSTRUCTION SHALL REQUIRE THE APPROVAL OF THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENSURE AN ENHANCED DESIGN STANDARD OVER AND ABOVE THE CITY'S BASE CODE PRIOR TO OBTAINING BUILDING PERMITS FROM THE CITY OF GREELEY.
3. ALL REQUIREMENTS WITHIN SECTION 24-503 THAT HAVE A MINIMUM REQUIREMENT AND MAXIMUM LIMIT FOR ARCHITECTURAL DETAILS (SUCH AS FRONT PORCH DEPTH 8'-12') SHALL NOT HAVE A MAXIMUM LIMIT.
4. WALL PLANE, BLANK WALL, AND ROOF PLANE LIMITS MAY BE EXCEEDED BY UP TO 100% (DOUBLE) THE CITY LIMIT, ONLY IF THE DESIGN IS APPROVED BY THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL.

ARCHITECTURAL EXAMPLES

THE OVER ARCHING GOAL FOR THE ARCHITECTURE AT TRIPLE CREEK IS TO CREATE AN UPSCALE MIXED-USE DEVELOPMENT THAT HAS A HEAVY FOCUS ON INTIMATE, HUMAN SCALE DEVELOPMENT. EACH ARCHITECTURAL STYLE WILL CONTRIBUTE TO THE CHARACTER OF THE COMMUNITY, WITH THE INDIVIDUALITY OF EVERY HOME CREATING AN ATTRACTIVE STREETSCAPE THROUGHOUT THE DEVELOPMENT. ELEMENTS SUCH AS ROOF SHAPE AND PITCH, WINDOW SIZE, SHAPE AND PLACEMENT, AND CONSTRUCTION MATERIALS SUCH AS STONE, BRICK, STUCCO OR WOOD CAN ALL BE USED TO CREATE THE SUBTLE DETAILS THAT FOSTER INDIVIDUALITY IN A HOME.

THE STYLES AND ARCHITECTURAL FEATURES LISTED IN THIS SECTION ARE TO BE VIEWED AS DESIGN GUIDELINES FOR THE HOMES WITHIN TRIPLE CREEK. THE ARCHITECTURAL STYLES LISTED CAN BE USED IN MANY VARIATIONS TO CREATE THE UNIQUE AND INDIVIDUAL CHARACTER DESIRED FOR EACH HOME. ALTHOUGH EXAMPLES OF ARCHITECTURAL STYLES ARE BEING PROVIDED, ADDITIONAL STYLES SHALL BE ALLOWED.

REPETITIOUS AND HOMOGENOUS BUILDING STYLES WILL NOT BE PERMITTED AT TRIPLE CREEK. A VARIETY OF HOUSING TYPES, COLOR VARIATIONS AND BUILDING MATERIALS WILL HELP CREATE UNIQUE NEIGHBORHOODS. SINGLE FAMILY HOMES WITH THE SAME STYLE, FLOOR PLAN OR COLOR SCHEME WILL NOT BE BUILT ON LOTS NEXT TO, ADJACENT TO, OR ACROSS THE STREET FROM EACH OTHER.

HISTORIC PRAIRIE STYLE

WITH AN EMPHASIS ON FITTING THE ARCHITECTURE INTO ITS SURROUNDINGS, THE HISTORIC PRAIRIE STYLE INCORPORATES GENTLY SLOPING ROOFS WITH BROAD OVERHANGS, STRONG HORIZONTAL LINES, AND SIMPLE BUILDING MASSING. ONE-STORY PORCHES WITH MASONRY COLUMNS OFTEN FLANK THE MAIN TWO-STORY BODY OF THE HOUSE. THE LOW ROOF-LINE IS OFTEN HIPPED; HOWEVER, GABLE ROOFS CAN BE USED AS ACCENT FEATURES. THE FOLLOWING FEATURES IDENTIFY A HISTORIC PRAIRIE STYLE HOME:

- SHALLOW ROOF PITCHES AND DEEP OVERHANGS
- RIBBON WINDOWS
- BRICK MASONRY OR LAP SIDING WITH MASONRY BASE
- HIPPED ROOF FORMS
- WRAP AROUND PORCH
- IRON PORCH RAILING
- CARRIAGE-TYPE GARAGE DOORS
- CONTRASTING COLORS
- PLANTER BOXES

HISTORIC CLASSIC STYLE

RECOGNIZING OUR NATION'S COLONIAL HERITAGE IS THE INTENT OF THE CLASSIC STYLE. EMBELLISHING THE SIMPLE FORM OF THE HOUSE WITH FAMILIAR DETAILING AND MASSING DOES THIS. THE ROOF FORMS ARE ALSO SIMPLE, WITH ACCENT GABLES FACING THE FRONT. VENTS OR WINDOWS BREAK UP THE MASS OF THE GABLE END ROOF FORMS. DORMERS ARE OFTEN USED TO BREAK DOWN LARGE ROOF MASSES. WIDE PORCHES WITH BUILT-UP WOOD COLUMNS, OR ROUND COLUMNS, ARE AN INVITING FEATURE. A SIMPLE RAILING AROUND THE PORCH ADDS CHARM TO THE FACADE. THE FOLLOWING FEATURES IDENTIFY A HISTORIC CLASSIC STYLE HOME:

- MEDIUM ROOF PITCHES AND MODERATE OVERHANGS
- ROUND GABLE-END VENTS
- GABLED ROOF FORMS
- CORNER TRIM WITH LAP SIDING AND STONE OR BRICK BASE
- ROUND PORCH COLUMNS
- TURNED PICKETS AT PORCH RAILING
- KEYSTONE ACCENTS
- DOUBLE ROUND COLUMNS
- LOUVRED ACCENT SHUTTERS

HISTORIC CRAFTSMAN STYLE

LOW HORIZONTAL FORMS AND SIMPLE SHAPES CHARACTERIZE THE HISTORIC CRAFTSMAN STYLE. RAFTERS AND BEAMS ARE OFTEN EXPOSED. DEEP EAVE OVERHANGS GIVE THE SHELTERING FEELING TO THE ROOF. THE GABLE ENDS ARE ALSO TREATED WITH MATERIALS DIFFERENT FROM THE MAIN BODY OF THE HOUSE TO ADD CHARACTER TO THE FACADE. PORCHES ARE ANCHORED TO THE GROUND WITH MASSIVE COLUMNS OF TAPERED MASONRY OR WOOD. THE FOLLOWING FEATURES IDENTIFY A HISTORIC CRAFTSMAN STYLE HOME:

- MEDIUM ROOF PITCHES AND DEEP OVERHANGS
- GABLE ACCENT MATERIAL WITH TRIM BAND
- SHED ROOF FORMS
- CORNER TRIM WITH LAP SIDING AND BRICK OR STONE BASE
- BUILT-UP PORCH COLUMNS
- WRAP-AROUND PORCH
- TAPERED ACCENT TRIM

CONTEMPORARY CLASSIC STYLE

THE CONTEMPORARY CLASSIC STYLE IS A CLOSE COMPANION OF THE HISTORIC CLASSIC STYLE. THE ROOF FORMS TEND TO BE MORE INTRICATE TO REFLECT THE COMPLEX MASSING OF THE HOUSE. GABLE ROOFS ARE STILL PROMINENT ALONG WITH THE USE OF VENTS AND WINDOWS TO ARTICULATE THE GABLE ENDS. WINDOW PATTERNS AND GRIDS ARE SIMILAR TO THE HISTORIC STYLE; HOWEVER, THE SHUTTERS AND TRIM TEND TO BE SIMPLIFIED. THE FOLLOWING FEATURES IDENTIFY A CONTEMPORARY CLASSIC STYLE HOME:

- MEDIUM ROOF PITCHES AND MODERATE OVERHANGS
- WINDOW MUNTIN PATTERN
- paneled accent shutters
- ROUND GABLE-END VENTS
- GABLED ROOF FORMS
- CORNER TRIM WITH STUCCO SIDING AND CONTINUOUS MASONRY BASE
- SQUARE OR ROUND PORCH COLUMNS
- TURNED PICKETS AT PORCH RAILING
- STUCCO KEYSTONE ACCENTS

CONTEMPORARY CRAFTSMAN STYLE

THE UPDATED VERSION OF THE CRAFTSMAN STYLE IS MORE COMPLEX IN ITS MASSING AND ROOF-LINES TO EXPRESS THE MODERN LIFESTYLE, BUT STILL BORROWS SEVERAL KEY ELEMENTS FROM ITS PREDECESSOR. EXPOSED RAFTERS AND BEAMS, DECORATIVE BRACKETS OR BEAMS ARE USED TO SUPPORT GABLE END ROOFS, AND THE GABLE ENDS ARE TREATED WITH CONTRASTING MATERIALS. THE WINDOWS ARE TALL AND NARROW, GROUPED TOGETHER TO GIVE BRIGHT DAYLIGHT TO THE INTERIOR. THE WINDOWS ALSO HAVE ARTICULATED TRIM AND GEOMETRIC WINDOW GRIDS. THE FOLLOWING FEATURES IDENTIFY A CONTEMPORARY CRAFTSMAN STYLE HOME:

- SHALLOW ROOF PITCHES AND DEEP OVERHANGS
- GABLE ACCENT MATERIAL WITH TRIM BAND
- SHED ROOF FORMS
- STUCCO SIDING WITH BRICK OR STONE BASE
- BUILT-UP PORCH COLUMNS



EXAMPLE - SFD ESTATE LOT



EXAMPLE - SFD ESTATE LOT



EXAMPLE - TOWNHOME



EXAMPLE - SFD COTTAGE



EXAMPLE - SFD ESTATE LOT



EXAMPLE - SFD SMALL LOT



EXAMPLE - TOWNHOME



EXAMPLE - MIXED-USE / COMMERCIAL

NOTE: THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL WILL REGULATE ARCHITECTURAL AND SITE DESIGN FOR ALL RESIDENTIAL LOTS WITHIN THE DEVELOPMENT. IMAGES AND GRAPHICS ON THIS PAGE ARE ILLUSTRATIVE ONLY AND SOLELY FOR GUIDELINE PURPOSES ONLY.

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A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

RESIDENTIAL ARCHITECTURAL EXAMPLES

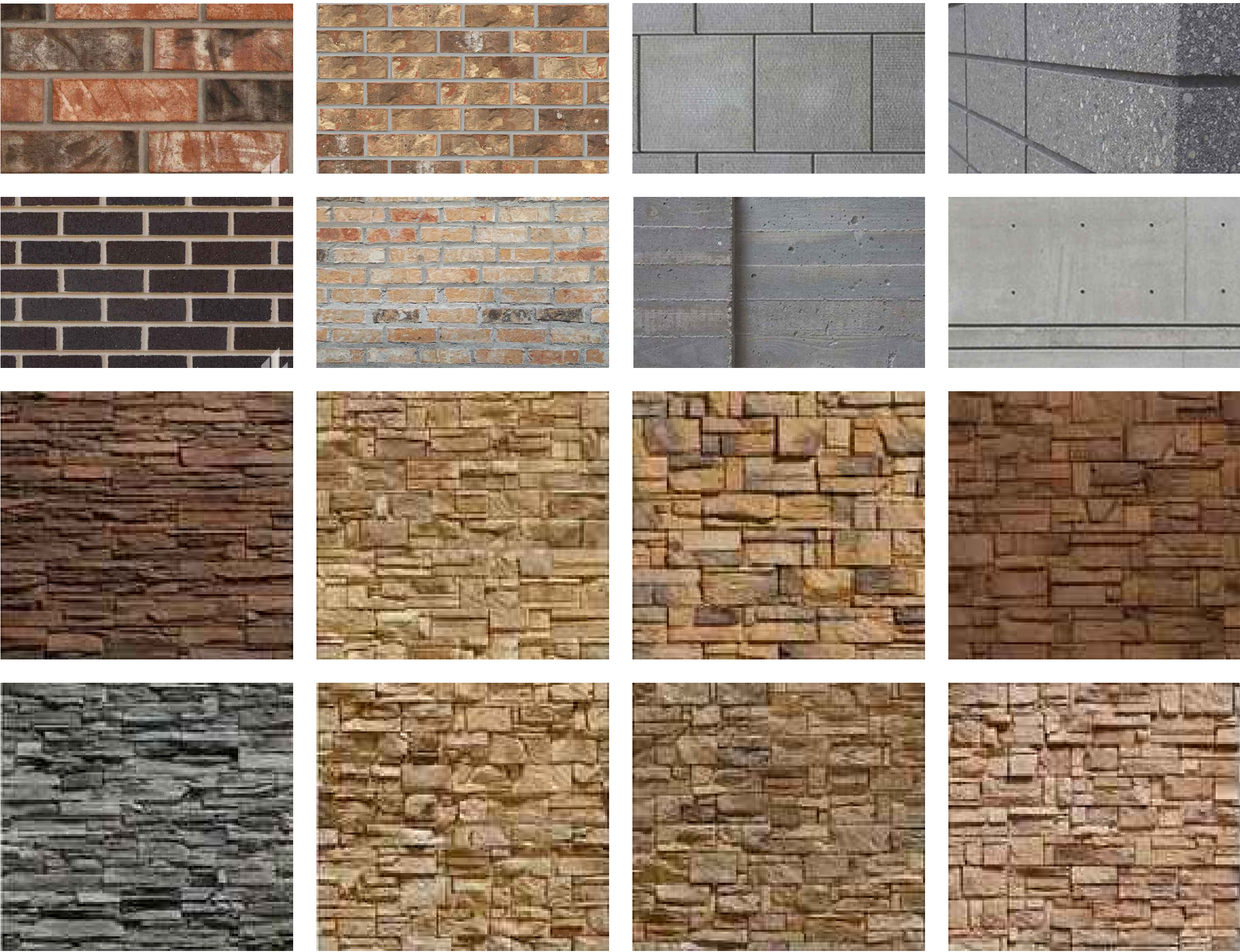
9.0 PALETTES AND FEATURES

THESE DESIGN EXAMPLES SERVE AS A NON-INCLUSIVE GUIDE FOR DESIGN OF ALL ELEMENTS THROUGHOUT THE TRIPLE CREEK DEVELOPMENT AND PROMOTE CONSISTENCY AND QUALITY IN MATERIALS AND FORM IN ALL ASPECTS OF THE COMMUNITY. THROUGH CONSISTENCY IN DESIGN, THE ATMOSPHERE OF AN ESTABLISHED COMMUNITY CAN BE REACHED. THE DESIGN STANDARDS CREATE THE FRAMEWORK FOR THE TRIPLE CREEK COMMUNITY, PROVIDING MINIMUM STANDARDS AS A SUPPLEMENT TO THE CITY OF GREELEY ZONING STANDARDS AND ALL OTHER RELEVANT CITY CODES.



SAMPLE (OVERALL) COLOR PALETTE (EARTH TONES)

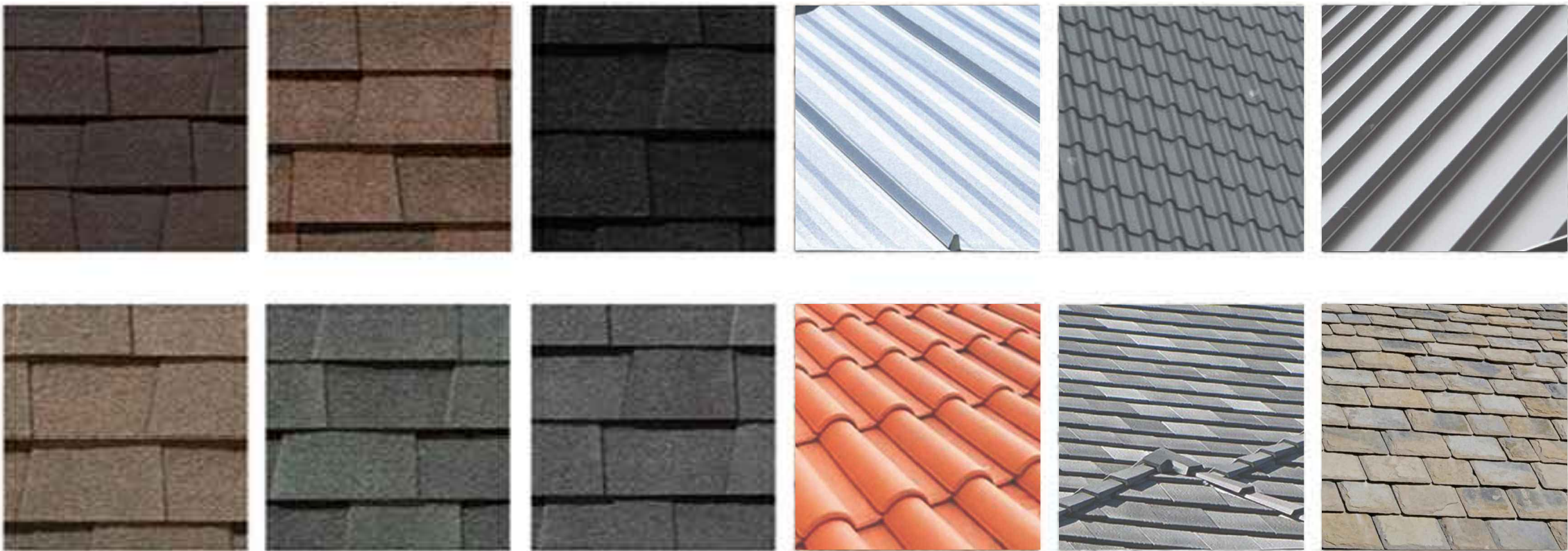
COLORS SHOWN ABOVE ARE NOT INCLUSIVE OF ACCEPTABLE COLORS, WHICH MAY ALSO INCLUDE SOFT PASTELS OF A NEUTRAL HUE OR AS APPROVED BY THE DEVELOPER'S ARCHITECTURE REVIEW COMMITTEE.



SAMPLE MASONRY AND STONE



SAMPLE SIDING STYLES



SAMPLE ARCHITECTURAL ROOF MATERIALS

NOTE: THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL WILL REGULATE ARCHITECTURAL AND SITE DESIGN FOR ALL RESIDENTIAL LOTS WITHIN THE DEVELOPMENT. IMAGES AND GRAPHICS ON THIS PAGE ARE ILLUSTRATIVE ONLY AND SOLELY FOR GUIDELINE PURPOSES ONLY.

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TRIPLE CREEK P.U.D.
GREELEY, CO
ARCHITECTURAL STANDARDS

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL 03/08/23
2nd SUBMITTAL 06/01/23
3rd SUBMITTAL 07/24/23
4th SUBMITTAL 09/01/23

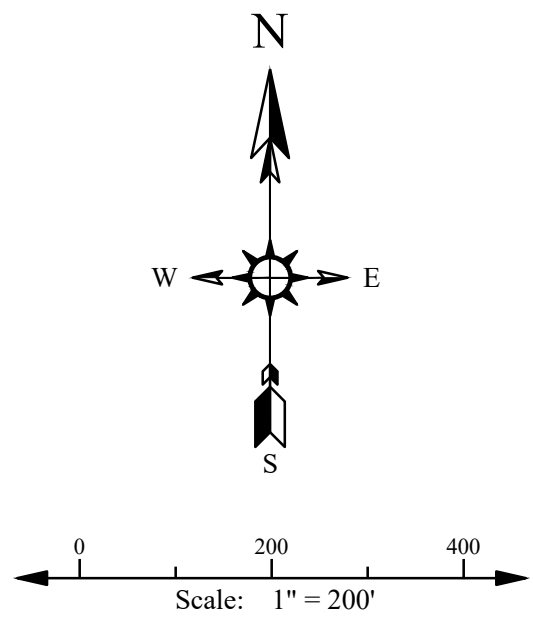
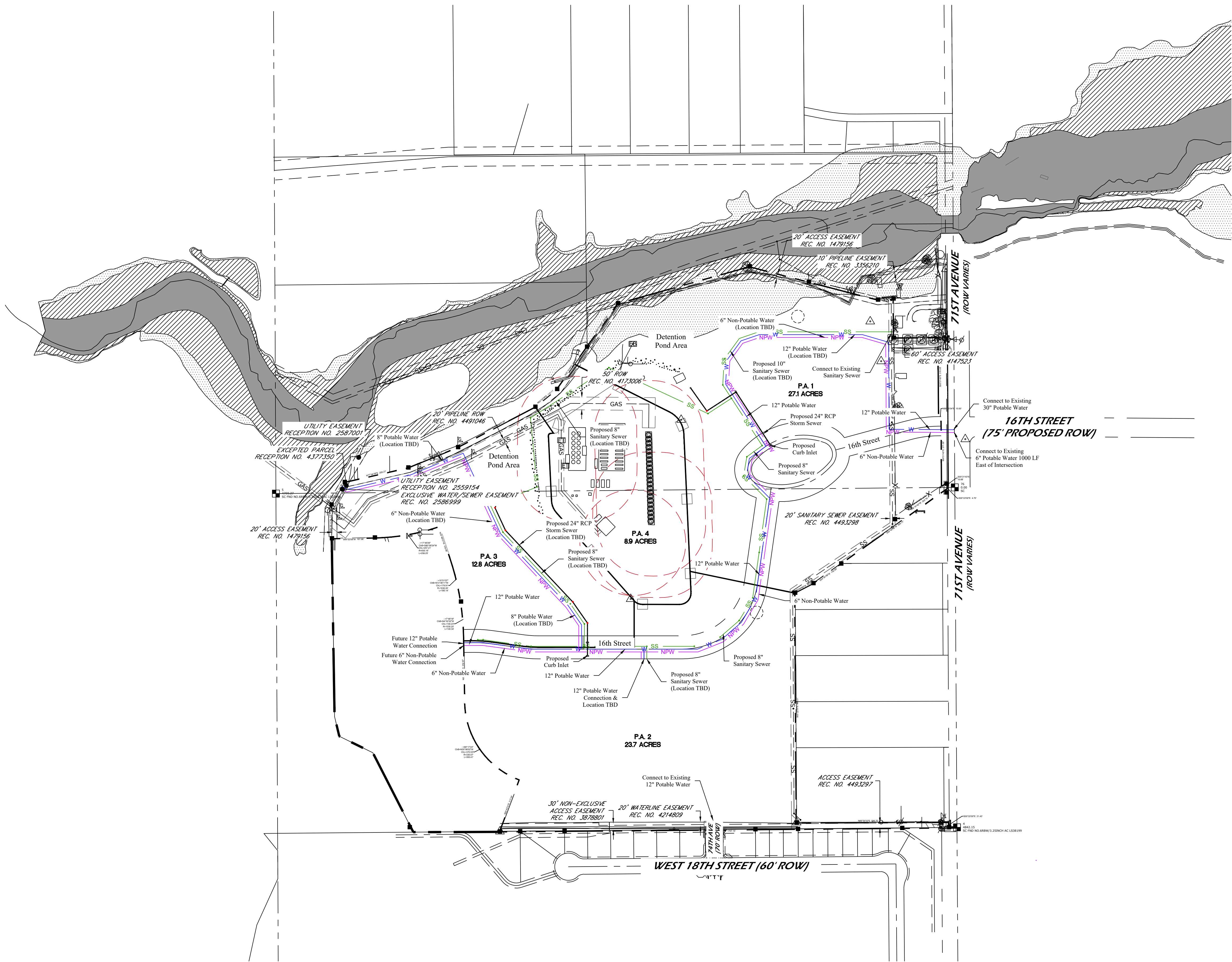
SHEET NUMBER

L6.01

SHEET 26 OF 32

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH,
RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
PUD 2023-0002



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TRIPLE CREEK P.U.D.

GREELEY, CO

OVERALL UTILITY PLAN

PROJECT #: 221042
DRAWN BY: AH
CHECKED BY: ML

ISSUE RECORD

1ST SUBMITTAL 3-8-2023
2ND SUBMITTAL 5-30-2023
3RD SUBMITTAL 7-24-2023
4TH SUBMITTAL 9-1-2023

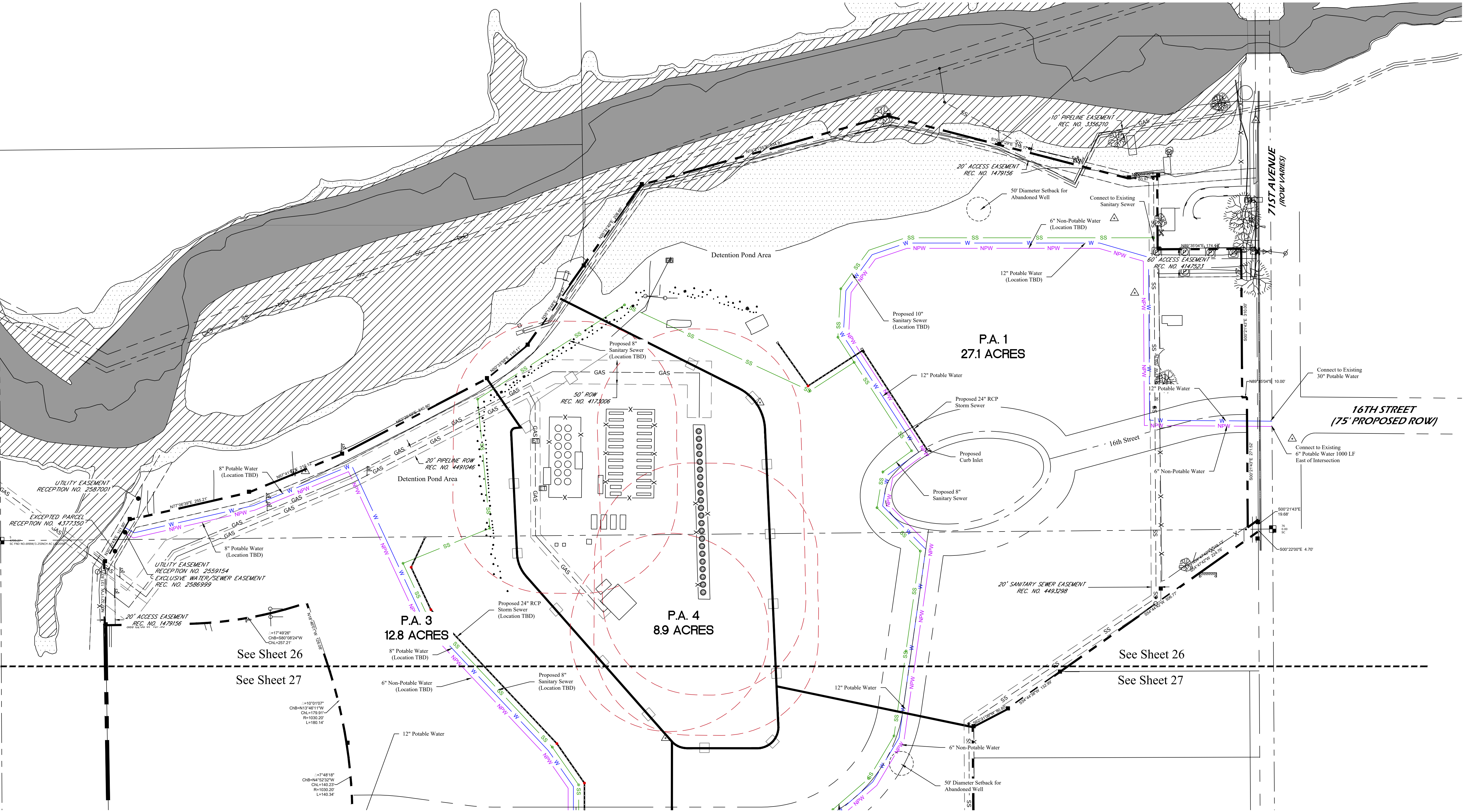
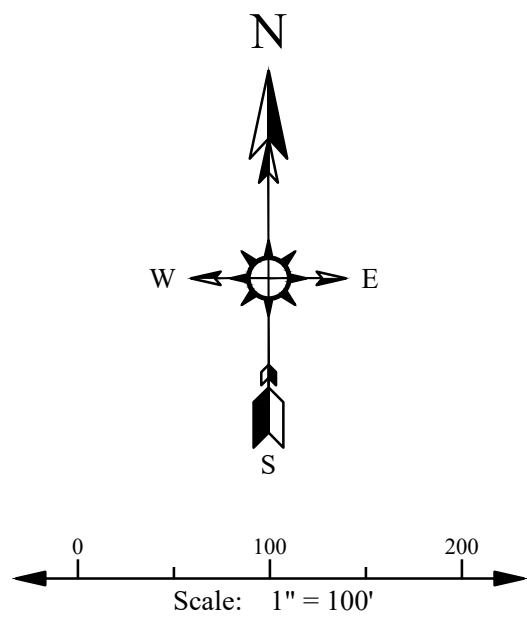
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27 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH,
RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
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PUD 2023-0002



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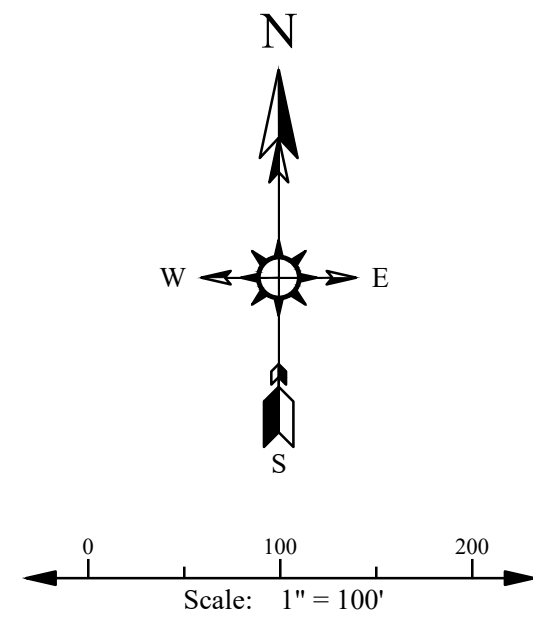
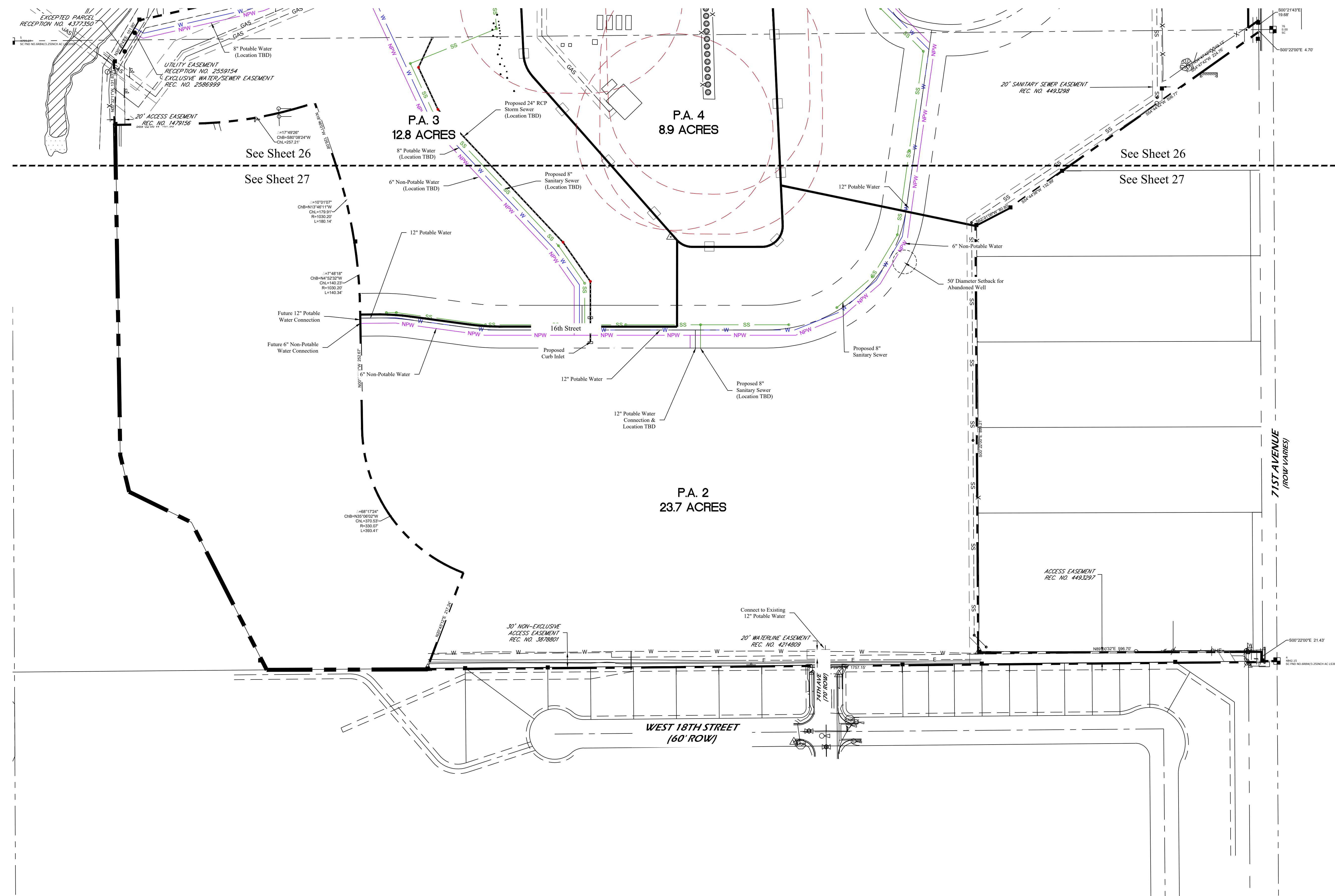
TRIPLE CREEK P.U.D.
GREELEY, CO
UTILITY PLAN - NORTH

PROJECT #:	221042
DRAWN BY:	AH
CHECKED BY:	ML
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1ST SUBMITTAL	3-8-2023
2ND SUBMITTAL	5-30-2023
3RD SUBMITTAL	7-24-2023
4TH SUBMITTAL	9-1-2023
SHEET NUMBER	
28 OF 32	

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH,
RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
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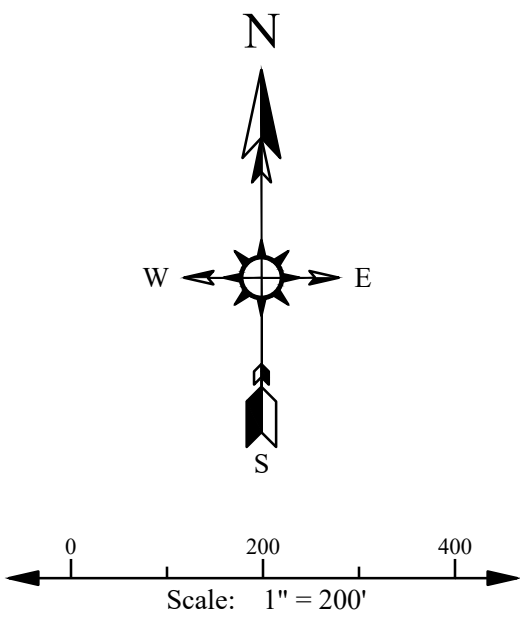
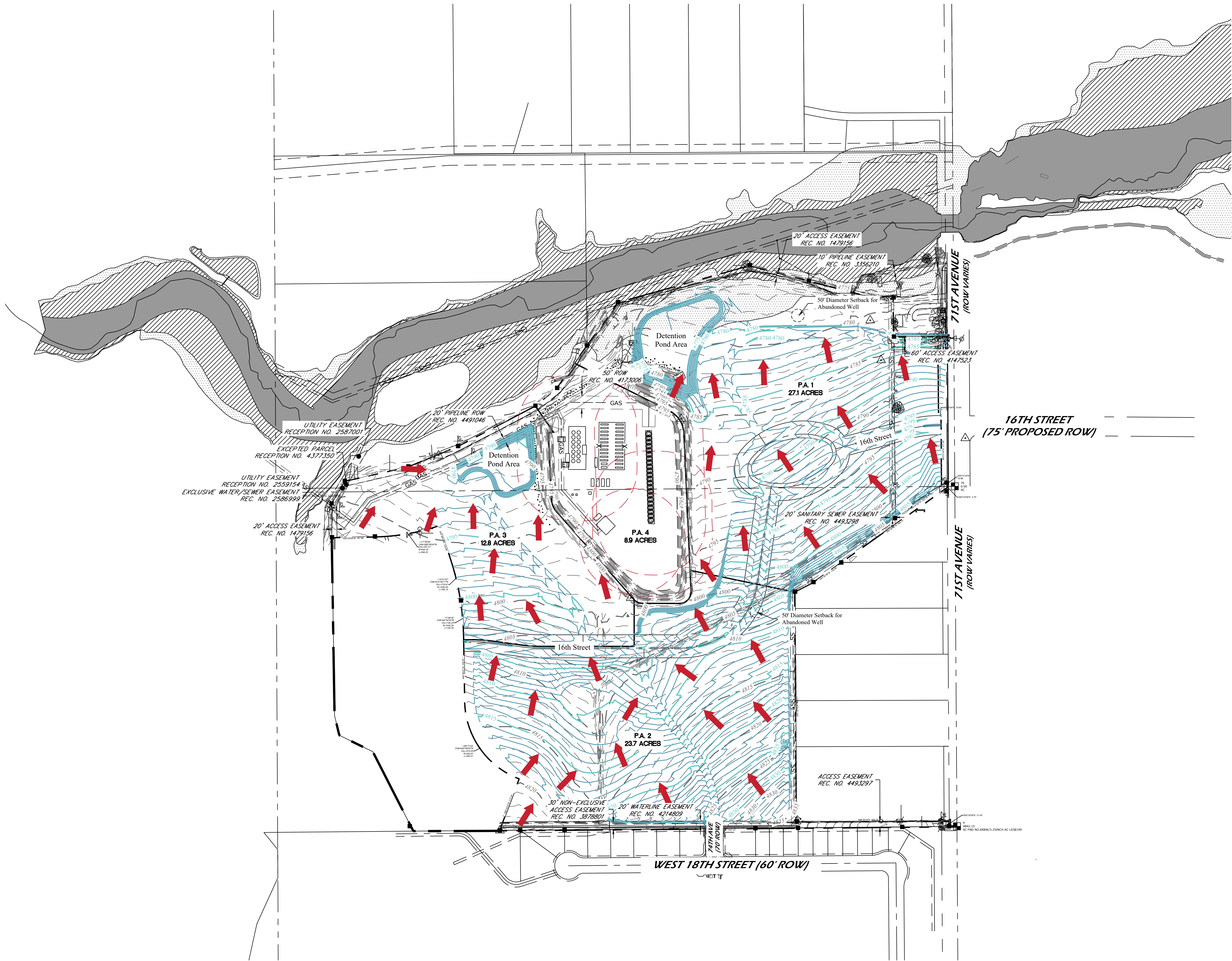
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PHONE: (970) 415-8432

TRIPLE CREEK P.U.D.
GREELEY, CO
UTILITY PLAN - SOUTH

PROJECT #:	221042
DRAWN BY:	AH
CHECKED BY:	ML
ISSUE RECORD	
1ST SUBMITTAL	3-8-2023
2ND SUBMITTAL	5-30-2023
3RD SUBMITTAL	7-24-2023
4TH SUBMITTAL	9-1-2023
SHEET NUMBER	
29 OF 32	

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH,
RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
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PUD 2023-0002



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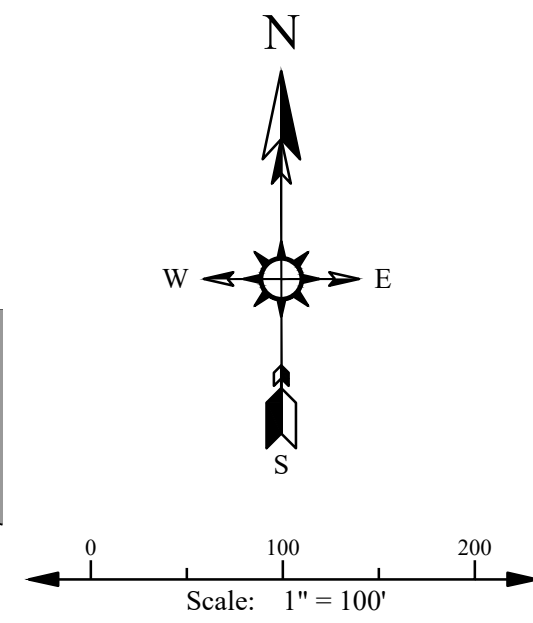
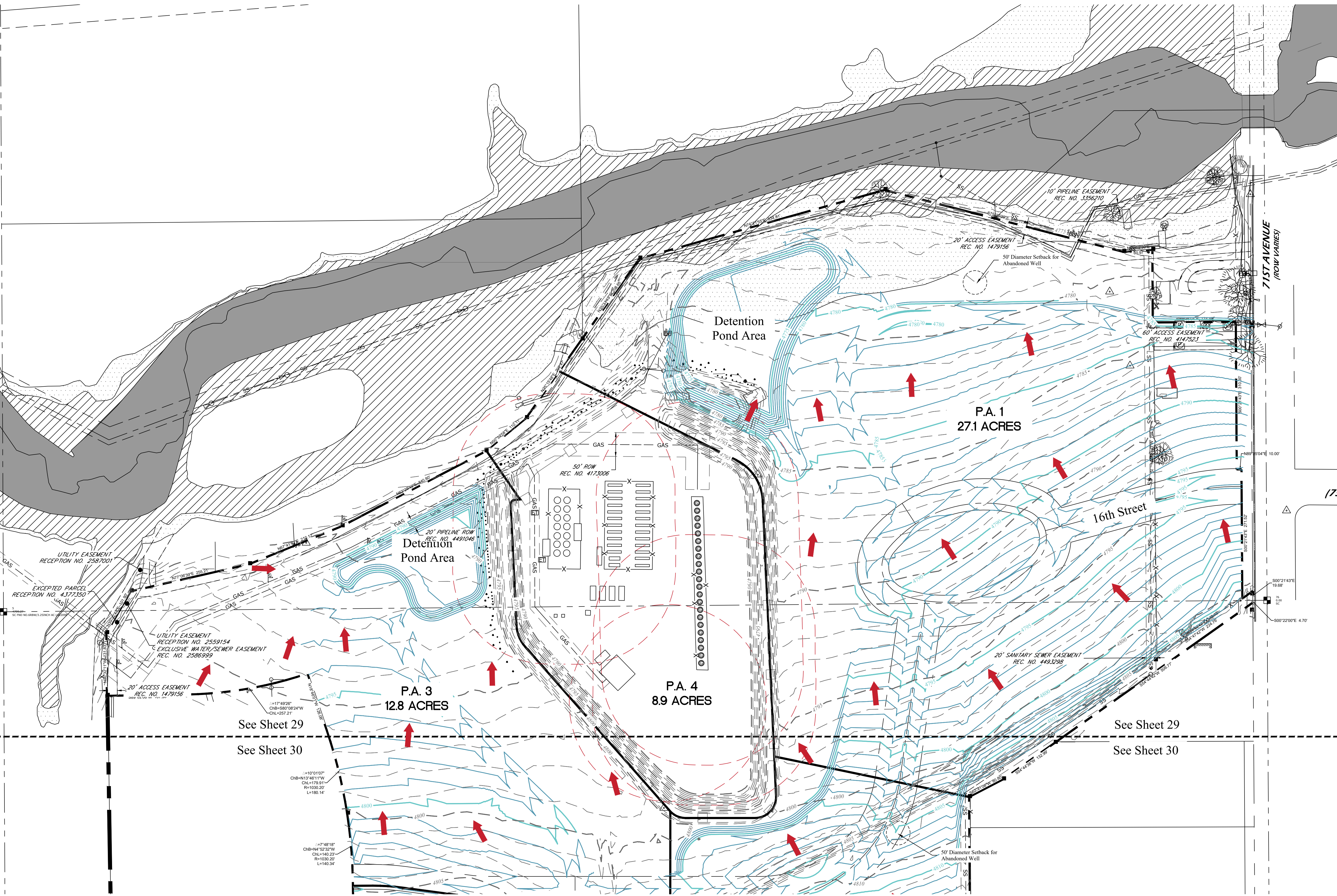
TRIPLE CREEK P.U.D.
GREELEY, CO
OVERALL GRADING PLAN

PROJECT #:	221042
DRAWN BY:	AH
CHECKED BY:	ML
ISSUE RECORD	
1ST SUBMITTAL	3-8-2023
2ND SUBMITTAL	5-30-2023
3RD SUBMITTAL	7-24-2023
4TH SUBMITTAL	9-1-2023
SHEET NUMBER	
30 OF 32	

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH,
RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
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PUD 2023-0002



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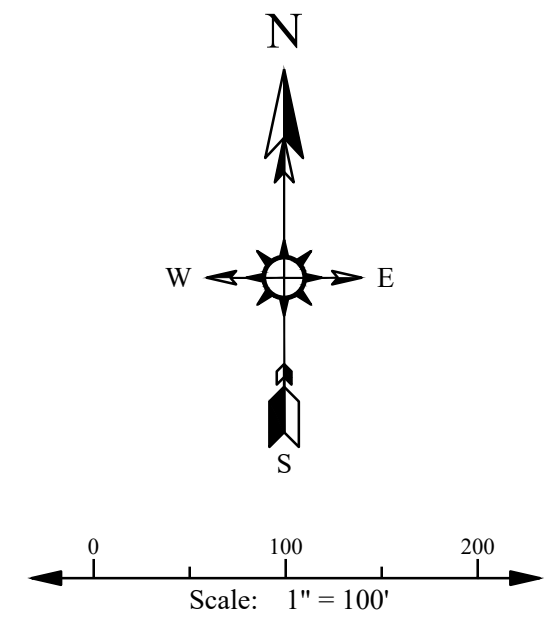
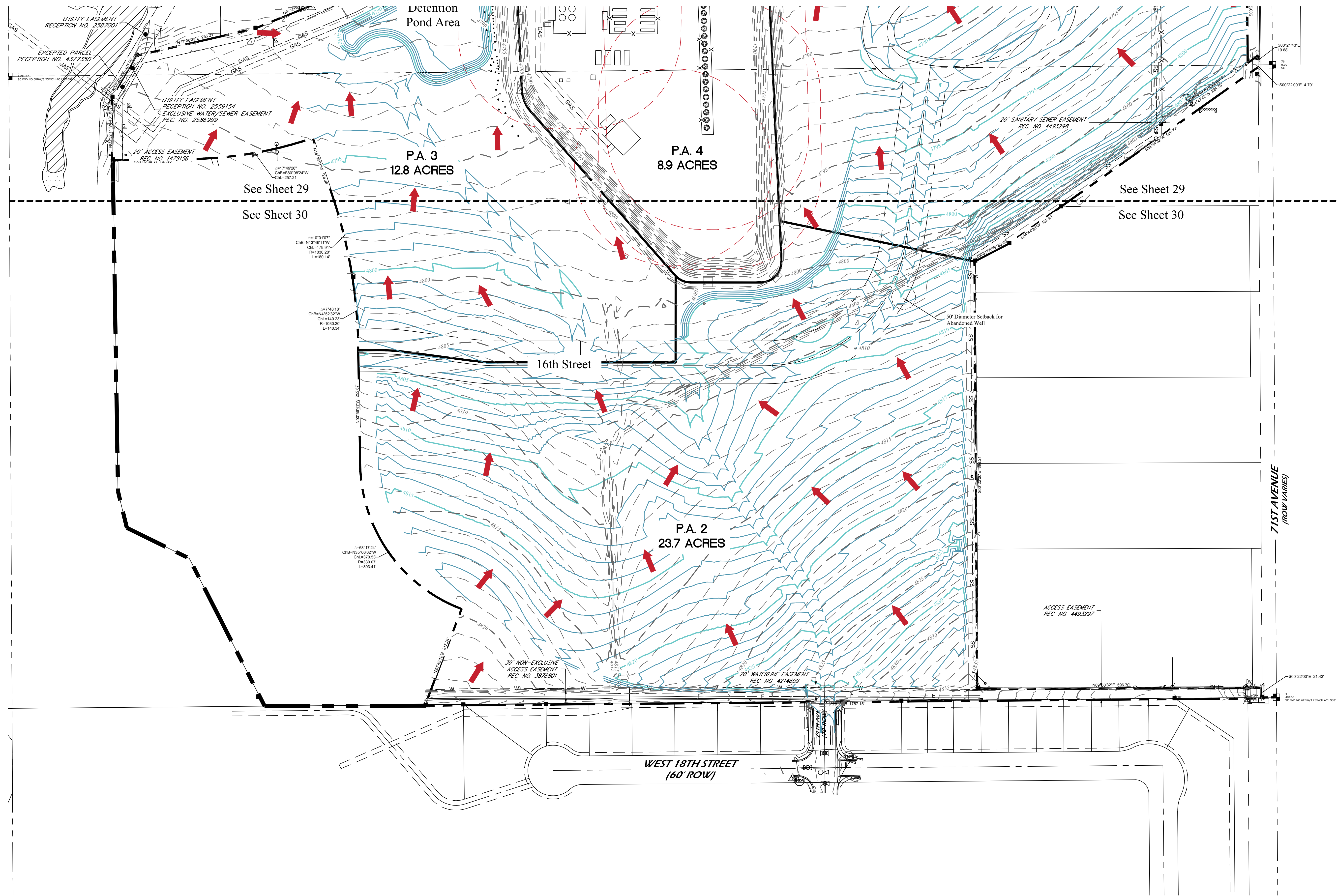
TRIPLE CREEK P.U.D.
GREELEY, CO
GRADING PLAN - NORTH

PROJECT #:	221042
DRAWN BY:	AH
CHECKED BY:	ML
ISSUE RECORD	
1ST SUBMITTAL	3-8-2023
2ND SUBMITTAL	5-30-2023
3RD SUBMITTAL	7-24-2023
4TH SUBMITTAL	9-1-2023
SHEET NUMBER	
31 OF 32	

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH,
RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
PUD 2023-0002



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TRIPLE CREEK P.U.D.
GREELEY, CO
GRADING PLAN - SOUTH

PROJECT #:	221042
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ISSUE RECORD	
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3RD SUBMITTAL	7-24-2023
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SHEET NUMBER	
32 OF 32	

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

4.00 PRELIMINARY LANDSCAPE PLAN

LANDSCAPE TREATMENTS TABLE

SYMBOL	TREATMENT AREA ¹	LANDSCAPE REQUIREMENT
	RESIDENTIAL COLLECTOR STREETSCAPE ²	4 TREES/100 LF MINIMUM
	LANDSCAPE BUFFER AT COMMERCIAL USE & MULTIFAMILY/MIXED USE DWELLING	4 TREES & 20 SHRUBS/100 LF. FOR CREDITS FOR EXISTING VEGETATION, DESIGN & LOCATION. SEE ALTERNATIVE COMPLIANCE CODE SECTION 24-803, DATED OCTOBER 1, 2021 AS AMENDED
	COLLECTOR STREETSCAPE AT COMMERCIAL USE & MULTIFAMILY/MIXED USE DWELLING ³	2 TREES/100 LF MINIMUM
	71ST AVENUE FRONTAGE ³	EXISTING TREES TO REMAIN IF PRACTICAL. ADDITIONAL TREES AND SHRUBS TO BE PROVIDED TO MEET PERIMETER TYPE III REQUIREMENTS IN TABLE 24-8-2, SECTION 24-803 CITY OF GREELEY DEVELOPMENT CODE DATED OCTOBER 1, 2021 AS AMENDED
	LANDSCAPE BUFFER AT PERIMETER	2 TREES (LARGE, SHADE) AND 16 SHRUBS/100 LF MINIMUM. ALL LANDSCAPE REQUIREMENTS MAY BE REDUCED BY 25% IF USED IN COMBINATION WITH DECORATIVE WALLS AND FENCES MEETING APPLICABLE FENCE STANDARDS IN THE CITY OF GREELEY DEVELOPMENT CODE, DATED OCTOBER 1, 2021 AS AMENDED.
	CIVIC AND OPEN SPACE	PER CODE SECTION 24-803
	FRONTAGE & FOUNDATION	PER CODE SECTION 24-803
	WESTERN BOUNDARY AT BROWN PROPERTY	SOLID FENCE OR WALL CONSISTING OF VINYL, WOOD, STONE OR OTHER SIMILAR MATERIAL

¹DEFINITION PER CITY OF GREELEY CODE SECTION 24-802, DATED OCTOBER 1, 2021 AS AMENDED.

²COLLECTOR STREETS REQUIREMENTS APPLY TO EACH SIDE OF THE STREET.

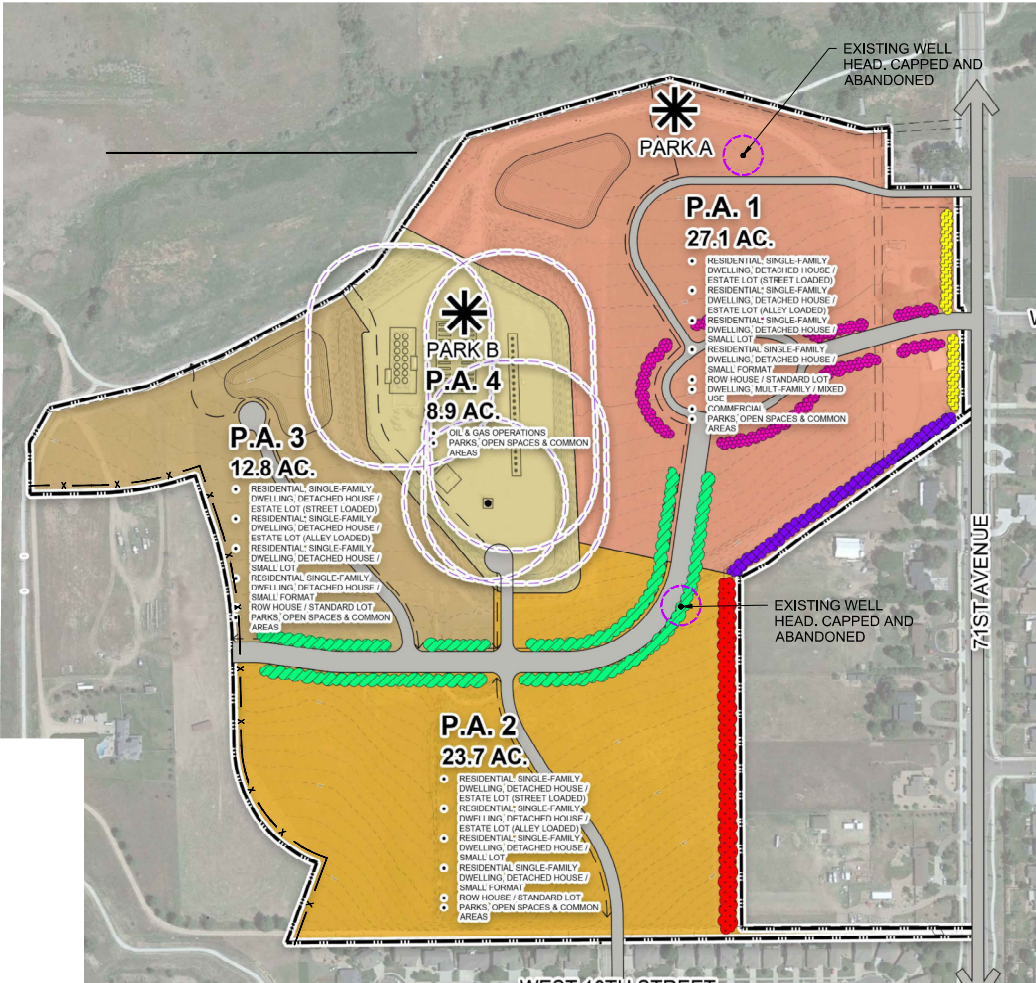
³71ST AVENUE STREET REQUIREMENTS APPLY TO WEST SIDE OF 71ST AVENUE.

* PARK DEDICATIONS

PARK	PARK TYPE	MIN. AREA (ACRES)
PARK A	NEIGHBORHOOD PARK	4.2
PARK B	FUTURE NEIGHBORHOOD PARK	8.8
TOTAL		13

LANDSCAPING REQUIREMENTS

- PROPOSED LANDSCAPING FOR SITE ELEMENTS (STREETSCAPE, FRONTAGE & FOUNDATION, PARKING, PERIMETER TREATMENT, CIVIL & OPEN SPACE) SHALL COMPLY WITH THE APPROVED DEVELOPMENT CODE DATED OCTOBER 1ST, 2021 AS AMENDED THAT IS IN PLACE AT TIME OF DEVELOPMENT, EXCEPT AS WRITTEN BELOW.
- LANDSCAPE DEVELOPMENT THAT REFLECTS THE PREVAILING SEMIARID CONDITIONS REINFORCES THE REGIONAL CHARACTER, CLIMATE, AND HABITAT OF THE CITY OF GREELEY AND ITS LOCAL ENVIRONMENT.
- LANDSCAPING SHALL INCORPORATE WATER CONSERVATION PRACTICES IN DESIGN, INSTALLATION, AND MANAGEMENT TO REDUCE WATER DEMAND, REDUCE WATER LOSS, LIMIT EROSION, LIMIT HIGH-IRRIGATION TURF AND PLANTINGS, AND UTILIZE NATIVE PLANTS AND PLANTS APPROPRIATE FOR THE LOCAL CLIMATIC AND SOIL CONDITIONS. PLANTS SHALL BE SELECTED FROM THE CITY OF GREELEY LANDSCAPE MANUAL; ALTERNATIVES MAY BE PROPOSED PROVIDED THEY FOLLOW THE CITY OF GREELEY CODE FOR APPROVAL. NON-IRRIGATED LANDSCAPE TREATMENTS ARE ENCOURAGED.
- IRRIGATION PRACTICES SHALL UTILIZE HIGH-EFFICIENCY AUTOMATIC IRRIGATION SYSTEMS THAT INCORPORATE WATER CONSERVATION MEASURES. ALTERNATIVE SOURCES OF IRRIGATION FOR ALL LANDSCAPE AREAS IS ENCOURAGED. NON-POTABLE IRRIGATION WILL SERVE OPEN SPACE AND PARKS WITHIN ALL PLANNING AREAS OF THE SITE.
- STORMWATER TREATMENTS FOR AREAS THAT ARE PART OF THE STORMWATER SYSTEM SHALL ADHERE TO THE CITY OF GREELEY STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS AND THE URBAN DRAINAGE CRITERIA MANUAL PUBLISHED BY THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT.
- PERIMETER TREATMENT AREAS SHALL CONTAIN THE PLANT QUANTITIES INDICATED SHALL BE INCLUDED FOR EVERY 100 LINEAR FEET.
- EXISTING TREES, ALONG 71ST AVENUE THAT ARE REMOVED SHALL BE REPLACED WITH 3" CALIPER TREES TO MEET THE REQUIRED LANDSCAPE FRONTAGE IN THIS AREA.



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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT # 221842
DRAWN BY: JH, ML
CHECKED BY: RH

ISSUE RECORD	
1st SUBMITTAL	03/09/23
2nd SUBMITTAL	06/01/23
3rd SUBMITTAL	07/26/23
4th SUBMITTAL	09/01/23

SHEET NUMBER
L4.00
SHEET 13 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

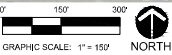
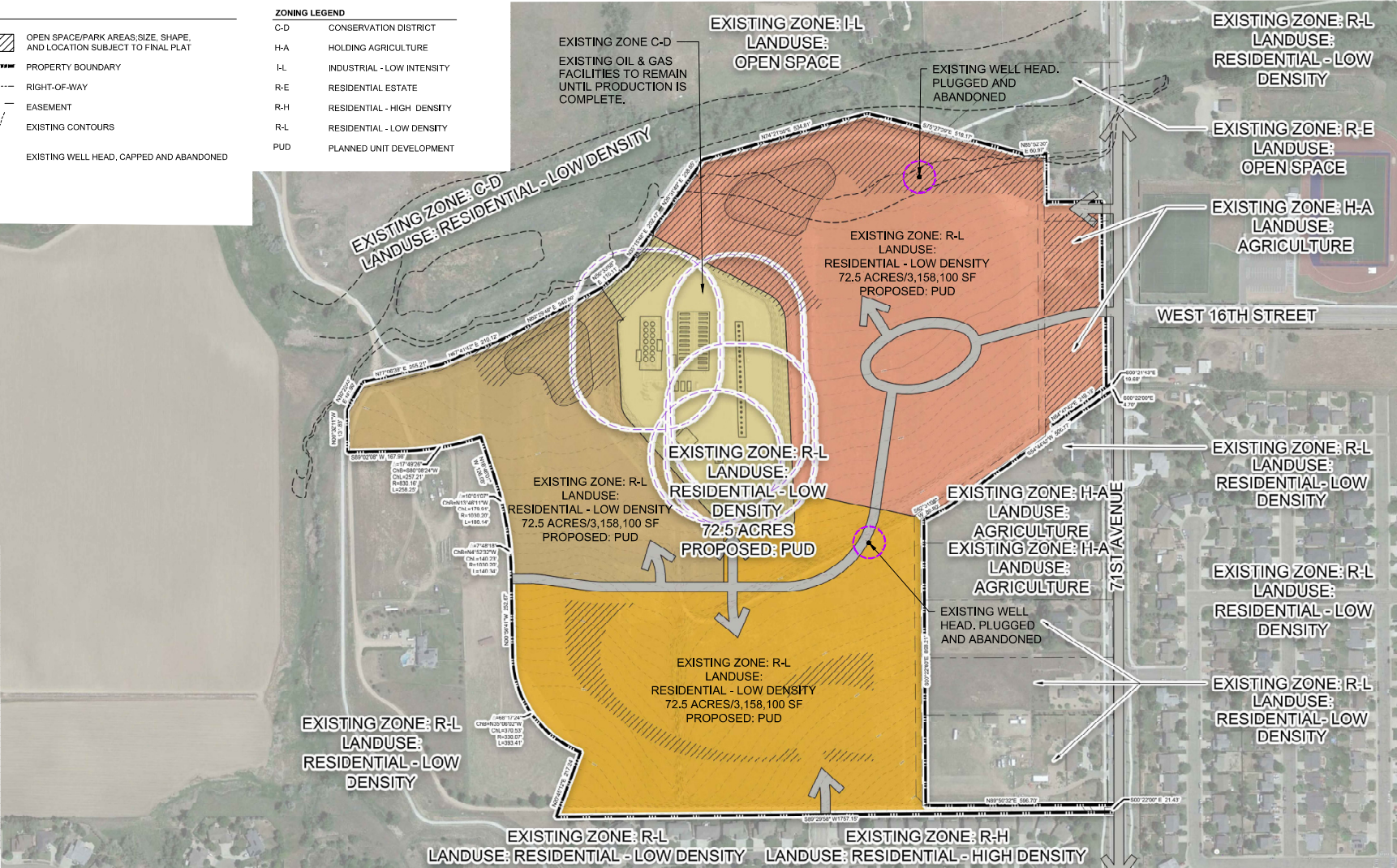
4.01 ZONING SUITABILITY

LEGEND

- OPEN SPACE/PARK AREAS, SIZE, SHAPE, AND LOCATION SUBJECT TO FINAL PLAN
- PROPERTY BOUNDARY
- RIGHT-OF-WAY
- EASEMENT
- EXISTING CONTOURS
- EXISTING WELL HEAD, CAPPED AND ABANDONED

ZONING LEGEND

- C-D CONSERVATION DISTRICT
- H-A HOLDING AGRICULTURE
- I-L INDUSTRIAL - LOW INTENSITY
- R-E RESIDENTIAL ESTATE
- R-H RESIDENTIAL - HIGH DENSITY
- R-L RESIDENTIAL - LOW DENSITY
- PUD PLANNED UNIT DEVELOPMENT



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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT # 221842
DRAWN BY: JAL, ML
CHECKED BY: RH

ISSUE RECORD	
1st SUBMITTAL	03/09/23
2nd SUBMITTAL	06/01/23
3rd SUBMITTAL	07/26/23
4th SUBMITTAL	09/01/23

SHEET NUMBER
L4.01
SHEET 14 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

4.02 PEDESTRIAN CIRCULATION

PEDESTRIAN CIRCULATION SYSTEM

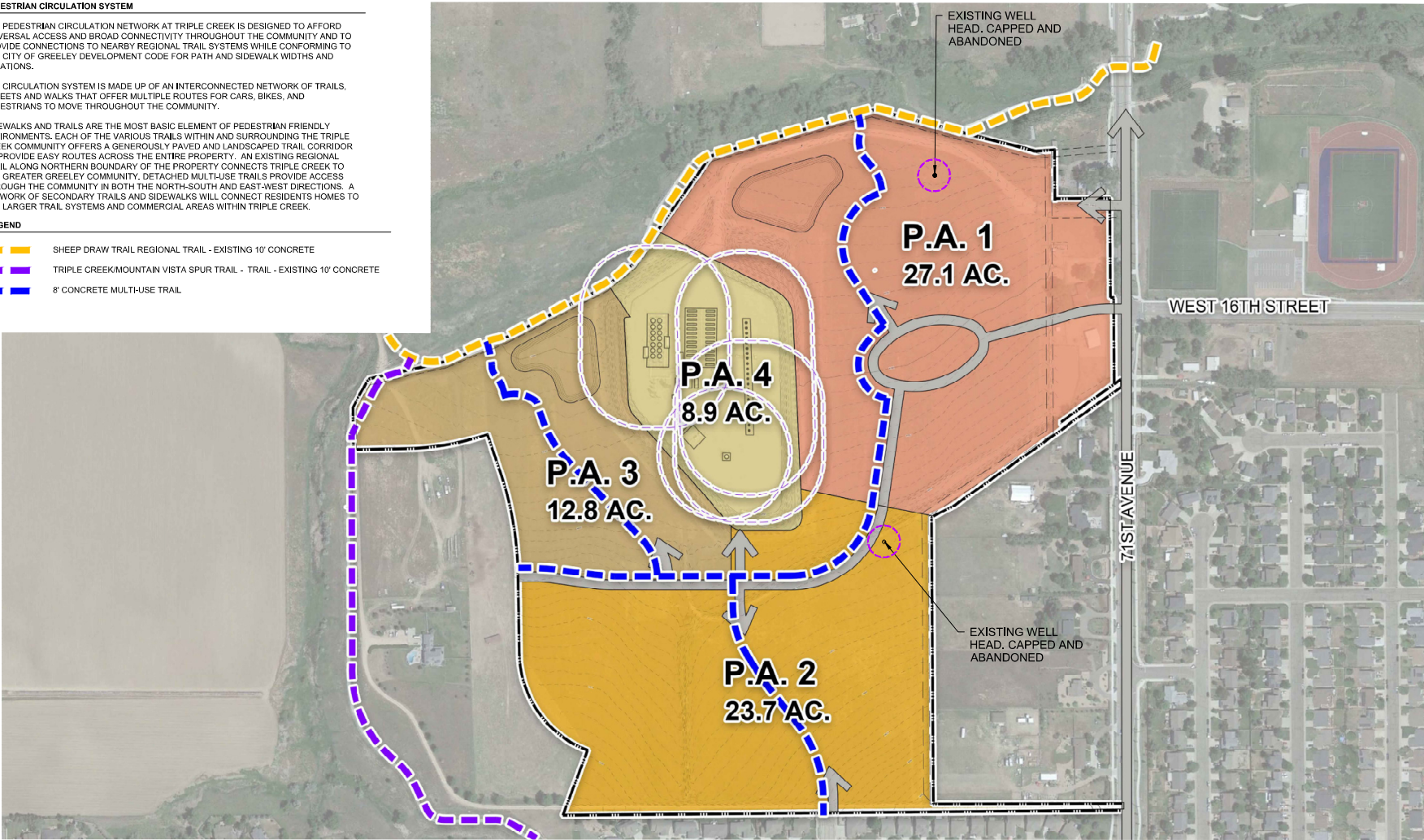
THE PEDESTRIAN CIRCULATION NETWORK AT TRIPLE CREEK IS DESIGNED TO AFFORD UNIVERSAL ACCESS AND BROAD CONNECTIVITY THROUGHOUT THE COMMUNITY AND TO PROVIDE CONNECTIONS TO NEARBY REGIONAL TRAIL SYSTEMS WHILE CONFORMING TO THE CITY OF GREELEY DEVELOPMENT CODE FOR PATH AND SIDEWALK WIDTHS AND LOCATIONS.

THE CIRCULATION SYSTEM IS MADE UP OF AN INTERCONNECTED NETWORK OF TRAILS, STREETS AND WALKS THAT OFFER MULTIPLE ROUTES FOR CARS, BIKES, AND PEDESTRIANS TO MOVE THROUGHOUT THE COMMUNITY.

SIDEWALKS AND TRAILS ARE THE MOST BASIC ELEMENT OF PEDESTRIAN FRIENDLY ENVIRONMENTS. EACH OF THE VARIOUS TRAILS WITHIN AND SURROUNDING THE TRIPLE CREEK COMMUNITY OFFERS A GENEROUSLY PAVED AND LANDSCAPED TRAIL CORRIDOR TO PROVIDE EASY ROUTES ACROSS THE ENTIRE PROPERTY. AN EXISTING REGIONAL TRAIL ALONG NORTHERN BOUNDARY OF THE PROPERTY CONNECTS TRIPLE CREEK TO THE GREATER GREELEY COMMUNITY. DETACHED MULTI-USE TRAILS PROVIDE ACCESS THROUGH THE COMMUNITY IN BOTH THE NORTH-SOUTH AND EAST-WEST DIRECTIONS. A NETWORK OF SECONDARY TRAILS AND SIDEWALKS WILL CONNECT RESIDENTS HOMES TO THE LARGER TRAIL SYSTEMS AND COMMERCIAL AREAS WITHIN TRIPLE CREEK.

LEGEND

- SHEEP DRAW TRAIL REGIONAL TRAIL - EXISTING 10' CONCRETE
- TRIPLE CREEK/MOUNTAIN VISTA SPUR TRAIL - TRAIL - EXISTING 10' CONCRETE
- 8' CONCRETE MULTI-USE TRAIL



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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT # 221942
DRAWN BY: JAL, ML
CHECKED BY: RH

ISSUE RECORD	
1st SUBMITTAL	03/09/23
2nd SUBMITTAL	06/01/23
3rd SUBMITTAL	07/26/23
4th SUBMITTAL	09/01/23

SHEET NUMBER
L4.02
SHEET 15 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
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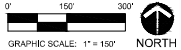
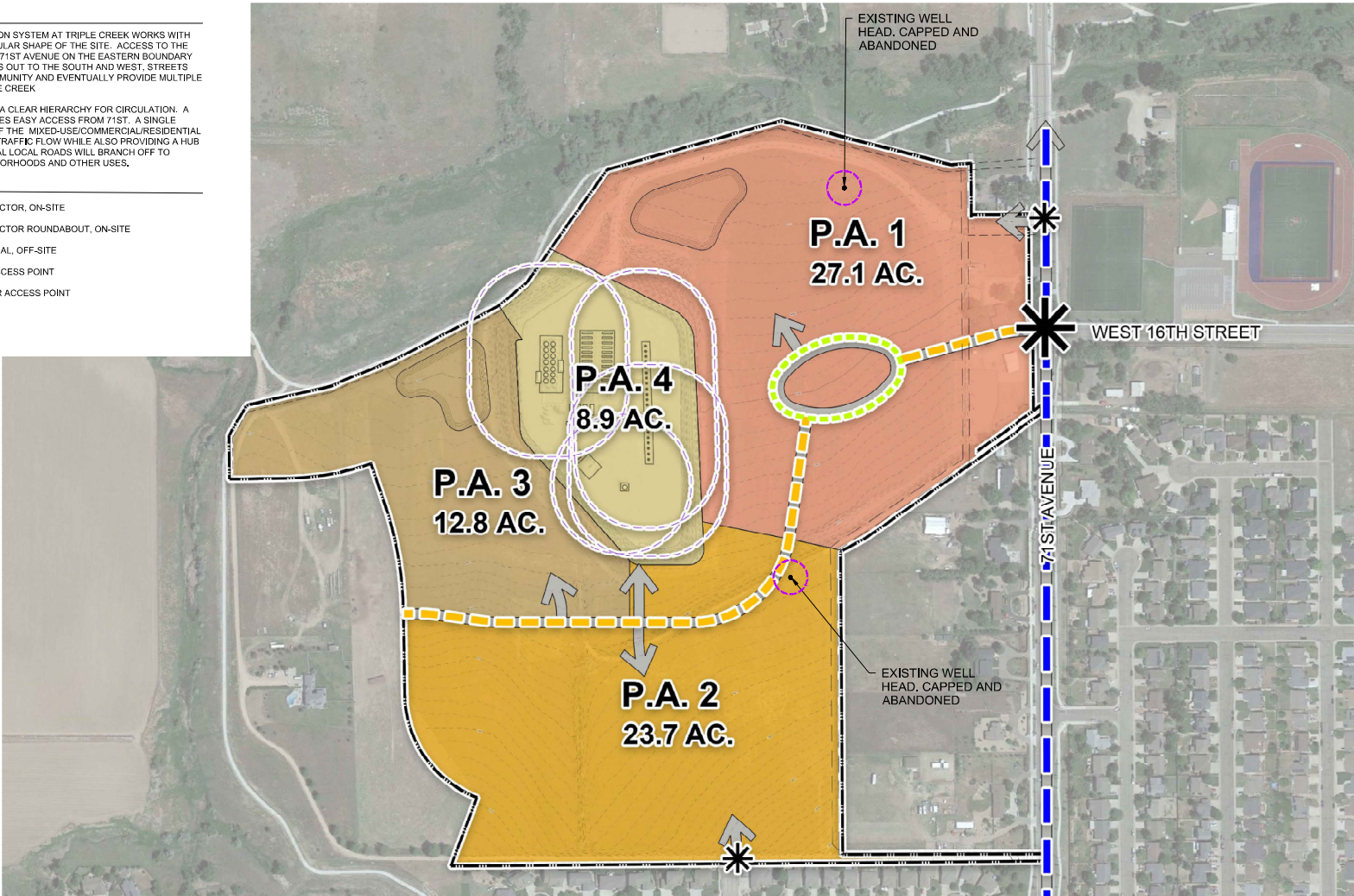
4.03 VEHICULAR CIRCULATION

VEHICULAR CIRCULATION SYSTEM

THE STREET AND VEHICULAR CIRCULATION SYSTEM AT TRIPLE CREEK WORKS WITH THE NATURAL TOPOGRAPHY AND IRREGULAR SHAPE OF THE SITE. ACCESS TO THE SITE WILL INITIALLY BE AVAILABLE FROM 71ST AVENUE ON THE EASTERN BOUNDARY OF THE SITE. AS THIS COMMUNITY BUILDS OUT TO THE SOUTH AND WEST, STREETS CONNECT HOMES TO THE GREELEY COMMUNITY AND EVENTUALLY PROVIDE MULTIPLE POINTS OF ACCESS TO AND FROM TRIPLE CREEK.

WITHIN THE COMMUNITY THERE WILL BE A CLEAR HIERARCHY FOR CIRCULATION. A MAJOR COLLECTOR SPINE ROAD PROVIDES EASY ACCESS FROM 71ST. A SINGLE ROUNDABOUT LOCATED IN THE HEART OF THE MIXED-USE/COMMERCIAL/RESIDENTIAL CENTER ALLOWS FOR UNINTERRUPTED TRAFFIC FLOW WHILE ALSO PROVIDING A HUB FOR COMMUNITY GATHERING. ADDITIONAL LOCAL ROADS WILL BRANCH OFF TO PROVIDE ACCESS TO INDIVIDUAL NEIGHBORHOODS AND OTHER USES.

LEGEND	CLASSIFICATION
	86' R.O.W. MINOR COLLECTOR, ON-SITE
	71' R.O.W. MINOR COLLECTOR ROUNDABOUT, ON-SITE
	EXISTING MINOR ARTERIAL, OFF-SITE
	PRIMARY VEHICULAR ACCESS POINT
	SECONDARY VEHICULAR ACCESS POINT



PLANNER / ARCHITECT /
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CIVIL ENGINEER
WERNISMAN
ENGINEERING &
LAND
DEVELOPMENT
P.O. BOX 105
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CLIENT
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DEVELOPMENT, LLC
5200 WEST 20TH STREET
GREELEY, CO 80634
PHONE: (970) 415-8432

TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT #: 221842
DRAWN BY: JAL ML
CHECKED BY: RH

ISSUE RECORD	
1st SUBMITTAL	03/09/23
2nd SUBMITTAL	06/01/23
3rd SUBMITTAL	07/26/23
4th SUBMITTAL	09/01/23

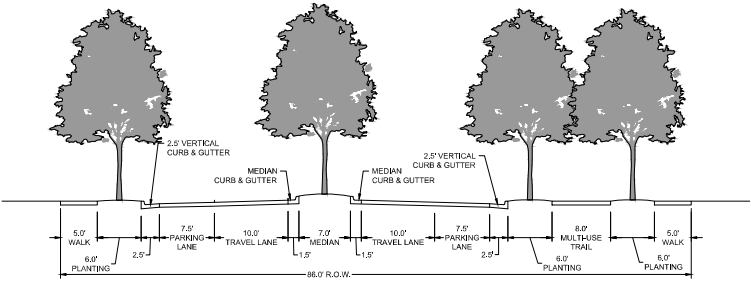
SHEET NUMBER
L4.03
SHEET 16 OF 32

ATTACHMENT C - PUD PLAN SET

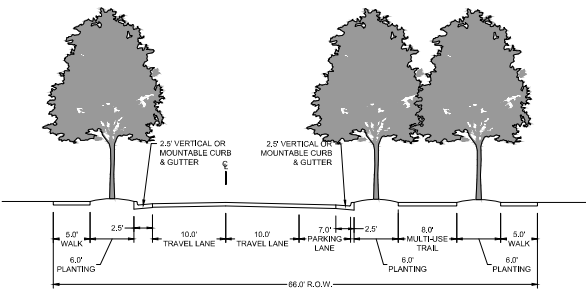
TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

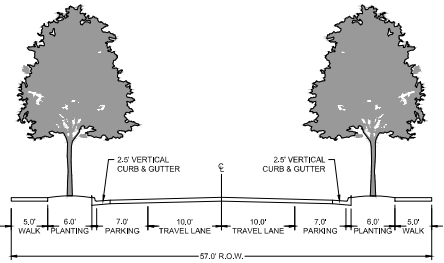
4.04 STREET SECTIONS



86' R.O.W. MINOR COLLECTOR STREET WITH MULTI-USE TRAIL



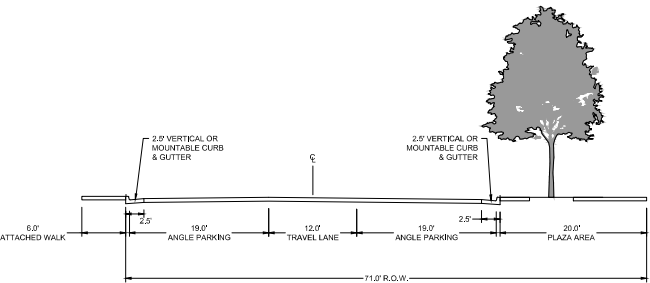
66' R.O.W. LOCAL STREET WITH MULTI-USE TRAIL



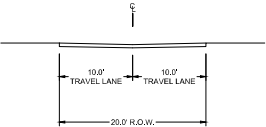
47'-81' R.O.W. LOCAL STREET

NOTES

1. ON-STREET PARKING SHALL BE OPTIONAL. DIFFERENT CONFIGURATIONS MAY BE USED FOR DIFFERENT LOCATIONS WITHIN THE DEVELOPMENT.
2. LOCAL STREETS MAY HAVE PARALLEL PARKING (7' WIDE), ANGLED PARKING (19' WIDE), OR NO PARKING.
3. R.O.W. WIDTH WILL VARY DEPENDING ON PARKING CONFIGURATION.



71' R.O.W. MINOR COLLECTOR ROUNDABOUT
VIEW LOOKING WITH ONE-WAY TRAFFIC



20' R.O.W. PRIVATE ALLEY

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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT #: 221042
DRAWN BY: AJL, ML
CHECKED BY: RH

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4th SUBMITTAL	09/01/23

SHEET NUMBER
L4.04
SHEET 17 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
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72.5 ACRES
PUD2023-0002

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PUD DEVELOPMENT STANDARDS

4.05 SITE FURNISHINGS

BENCH
MANUFACTURER: SITE SCAPES
MODEL: ARLINGTON



**STREET / PEDESTRIAN
LIGHTING**
TRADITIONAL



TRASH RECEPTACLE
MANUFACTURER: SITE SCAPES
MODEL: HALO



TABLES
MANUFACTURER: KENNETH LYNCH & SONS
MODEL: 1939 WORLDS FAIR PICNIC BENCH



BIKE RACKS
MANUFACTURER: MADRAX
MODEL: U-BIKE RACK



GENERAL NOTES:
1. SIMILAR ITEMS MAY BE SUBMITTED FOR APPROVAL AT PRELIMINARY PLAT/FINAL PLAT
2. ALL SITE FURNISHING IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR CHARACTER REFERENCE PURPOSES. SPECIFIC MANUFACTURERS AND MODELS WILL BE DESIGNATED AT TIME OF FINAL PLAT.

TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT #: 221842
DRAWN BY: JAL, ML
CHECKED BY: RH

ISSUE RECORD

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4th SUBMITTAL 09/01/23

SHEET NUMBER

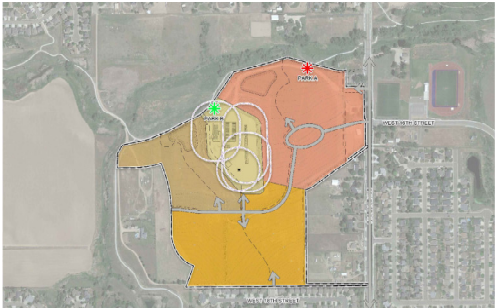
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SHEET 18 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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4.06 PARKS & TRAILS VIGNETTE



LEGEND

- NEIGHBORHOOD PARK
- FUTURE NEIGHBORHOOD PARK
- PEDESTRIAN TRAILS

NEIGHBORHOOD PARK IMPLEMENTATION

- NEIGHBORHOOD PARK SHALL BE SIZED TO MEET THE CITY OF GREELEY'S GOAL LEVEL OF SERVICE FOR A NEIGHBORHOOD PARK, OR BE A MINIMUM OF 10 ACRES, WHICHEVER IS GREATER.
- THE PARK MUST INCLUDE ALL THE REQUIRED ELEMENTS LISTED.
- THE PARK MUST INCLUDE AT LEAST 3 OF THE OPTIONAL ELEMENTS LISTED.
- ADDITIONAL PARK ELEMENTS NOT LISTED SHALL BE ALLOWED IN THE DESIGN OF THE PARK AND MAY BE SUBSTITUTED FOR OPTIONAL ELEMENTS WITH CITY OF GREELEY PLANNING APPROVAL.
- FURNISHINGS FOR PARKS SHALL FOLLOW CITY CODE.

NEIGHBORHOOD PARK DESIGN ELEMENTS

1. REQUIRED ELEMENTS
- BENCHES: 2 PER FIRST 1/2 ACRE AND 1 PER ADDITIONAL ACRE
 - BIKE RACKS: MINIMUM 4 PLUS 1 PER ACRE OVER 5 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD
 - DOG WASTE STATIONS: MINIMUM 1 PER 2 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD
 - LIGHTING PER CITY CODE
 - LINKS TO NEIGHBORHOOD TRAILS
 - MEANDERING TRAILS/PATHS - STABILIZED GRAY OR BUFF CRUSHER FINES, PER CITY SPECIFICATION SECTION02730
 - PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES
 - PLAYGROUND - 5-12 YEARS OLD: ONE FACILITY
 - PLAYGROUND - TOT LOT (2-5 YEARS OLD): ONE FACILITY
 - TRASH RECEPTACLES: MINIMUM 4 PLUS 1 PER 2 ACRES OVER 4 ACRES
 - TURF AREA: WELL GRADED 1/2 ACRE OF TURF GRASS LAWN WITH 5-10 LARGE PARK TREES PER ACRE
 - SHADE SHELTER FOR PICNIC TABLES
2. OPTIONAL ELEMENTS
- AMPHITHEATER
 - COMMUNITY CENTER
 - COMMUNITY GARDEN
 - DISC GOLF
 - FARMER'S MARKET FACILITY
 - FITNESS LOOP: 1 PER 1/2 MILE INCLUDES A COMBINATION OF PHYSICAL/ACTIVE STATIONS AND ACTIVITY SIGNS
 - GROUP PICNIC FACILITIES: MINIMUM 4 TABLES, 6 BARBEQUES, HARD SURFACING
 - INTERPRETIVE SIGNAGE
 - NATURE TRAILS
 - OBSTACLE COURSE
 - PARKING: PER CODE
 - RESTROOM: PER CODE
 - SPORTS COURTS: TENNIS / PICKLEBALL OR BASKETBALL
 - SPORTS FIELDS: 1 MULTI-SPORT
 - WIFI
 - ADDITIONAL OR EXPANDED REQUIRED ELEMENTS

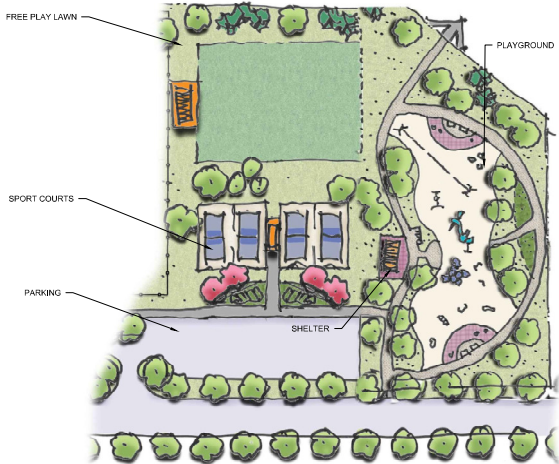
NEIGHBORHOOD PARK IMPLEMENTATION

- TRAILS SHALL HAVE ALL REQUIRED ELEMENTS AND (1) OPTIONAL ELEMENT.

TRAIL DESIGN ELEMENTS

1. REQUIRED ELEMENTS
- BENCHES: 1 PER 1/2 MILE OF PAVED OR GRAVEL TRAIL
 - BIKE / HIKE TRAILS: MINIMUM 5' WIDE, CRUSHER FINES, CONCRETE, OR ASPHALT
 - CRUSHER FINES, CONCRETE, OR ASPHALT TRAILS
 - DOG WASTE STATIONS: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
 - TRASH RECEPTACLES: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
2. OPTIONAL ELEMENTS
- BIKE RACKS: MINIMUM 4 PLUS 1 PER ACRE OVER 5 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
 - BOULDER SEATING
 - EXERCISE STATIONS: MINIMUM 1 PER MILE INCLUDES A COMBINATION OF PHYSICAL / ACTIVE STATIONS AND ACTIVITY SIGNS
 - FENCING (OPEN RAIL)
 - INTERPRETIVE SIGNAGE (DEFINED ON L4.09)
 - LIGHTING: PER CODE
 - PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
 - RESPITE GARDENS
 - SHELTERS: MINIMUM 1 PER 3 MILES OF TRAIL
 - WATER STATIONS: MINIMUM 1, MINIMUM 1 FOR EQUESTRIAN ACCESS

NEIGHBORHOOD PARK
IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY
AND SOLELY FOR REFERENCE PURPOSES.



CONCEPTUAL DESIGNS ILLUSTRATED HEREIN EXPRESS INTENT FOR PARK AND OPEN SPACE IMPROVEMENTS WITHIN THIS PUD. ACTUAL SITE DEVELOPMENT PLANS AND SPECIFIC IMPROVEMENTS SHALL COMPLY WITH THEME, DESIGN ELEMENTS AND IMPLEMENTATION REQUIREMENTS OF THE PUD. ALL IMPROVEMENTS WITHIN PLANNING AREAS SHALL BE CARRIED OUT OVER MULTIPLE PHASES AND FINAL PLATS AS DEVELOPMENT OCCURS.



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LANDSCAPE ARCHITECT
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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT #: 221842
DRAWN BY: JAL, ML
CHECKED BY: RH

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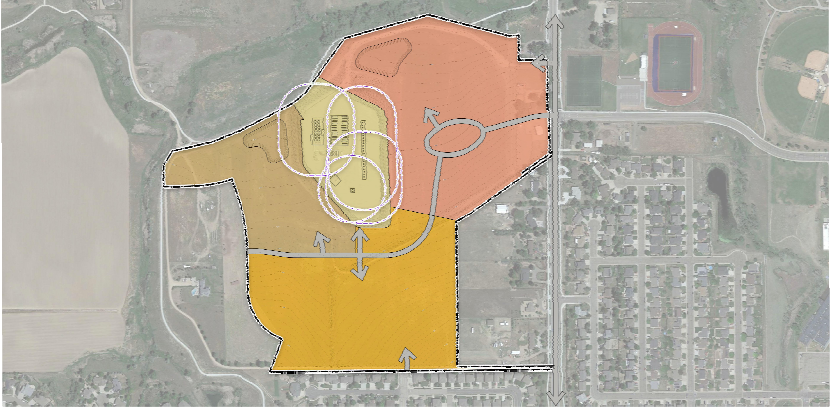
SHEET 19 OF 32

ATTACHMENT C - PUD PLAN SET

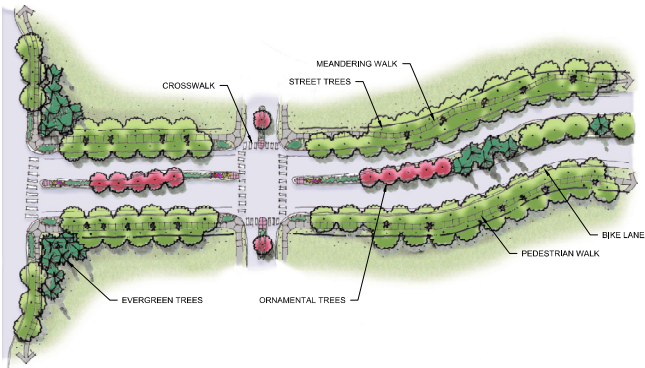
TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66 WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

4.07 STREETSCAPES VIGNETTE

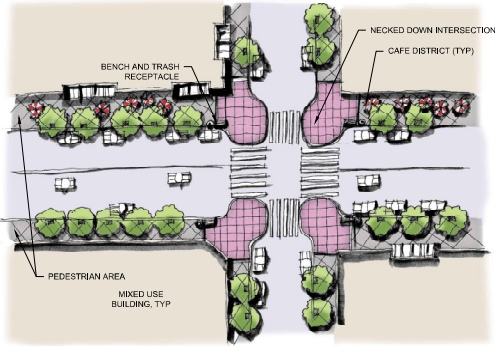


BOULEVARD & PARKWAY (COLLECTOR RIGHT-OF-WAY)
IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR REFERENCE PURPOSES.

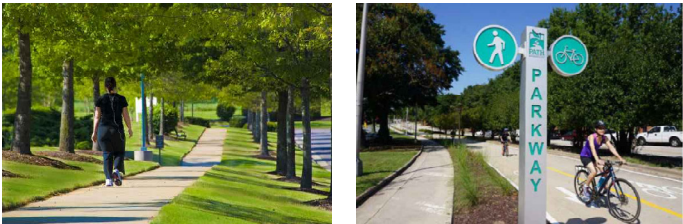
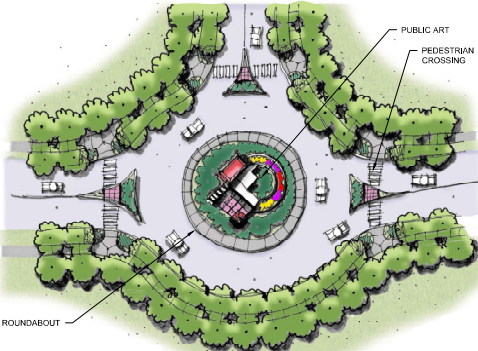


CONCEPTUAL DESIGNS ILLUSTRATED HEREIN EXPRESS INTENT FOR PARK AND OPEN SPACE IMPROVEMENTS WITHIN THIS PUD. ACTUAL SITE DEVELOPMENT PLANS AND SPECIFIC IMPROVEMENTS SHALL COMPLY WITH THEME, DESIGN ELEMENTS AND IMPLEMENTATION REQUIREMENTS OF THE PUD. ALL IMPROVEMENTS WITHIN PLANNING AREAS SHALL BE CARRIED OUT OVER MULTIPLE PHASES AND FINAL PLATS AS DEVELOPMENT OCCURS.

TRAFFIC CALMING
IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR REFERENCE PURPOSES.



ROUNDBOUT
IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR REFERENCE PURPOSES.



STREETSCAPE THEME

TRIPLE CREEK'S VISION FOR STREETSCAPES IS TO MAKE SURE THAT THE STREETS DO NOT HINDER BUT WELCOME THE COMMUNITY TO INTERACT AND FEEL A SENSE OF 'HOME.' THE DESIGN OF THE STREETS PLAYS A SIGNIFICANT ROLE IN THE COMMUNITY, AND IT IS IMPORTANT FOR TRIPLE CREEK TO MAKE THIS EXPERIENCE GREAT FOR RESIDENTS AND VISITORS. TRIPLE CREEK'S STREETS PROVIDE A BUFFER TO HOMES AND CONNECT NEIGHBORHOODS IN A SHARED PUBLIC SPACE AND CREATE A STRONG SENSE OF COMMUNITY.

WITHIN TRIPLE CREEK, COLLECTOR STREETS SHALL SHARE COMMON DESIGN ELEMENTS THAT LINK NEIGHBORHOODS WITHIN THE COMMUNITY, CONTRIBUTING TO AN OVERALL PEDESTRIAN-ORIENTED, ATTRACTIVE AND COHESIVE IMAGE FOR THE COMMUNITY. THE STREETS WILL PROVIDE NEIGHBORHOOD SCALE AND CHARACTER AS WELL AS EXPRESS IDENTITY AND HIERARCHY THROUGH DISTINCTIVE DESIGN.

DESIGN ELEMENTS WILL PROVIDE COMFORT AND WALKABILITY, SECURE SAFETY FOR PEDESTRIANS, FOSTER SOCIAL ACTIVITY, ENCOURAGE HEALTHY LIFESTYLE CHOICES, AND ENHANCE AESTHETIC APPEAL. THE VISION IS TO TREAT STREETS AS ECOSYSTEMS THAT BLEND NATURAL AND HUMAN PROCESSES, PROVIDE SHADE, AND ENABLE DRIVERS TO SEE PEDESTRIANS. ELEMENTS THAT MAY BE INCLUDED ARE STREET LIGHTING AND PEDESTRIAN LIGHTING, LANDSCAPING, SITE FURNISHINGS, STORMWATER BEST MANAGEMENT PRACTICES, SIGNAGE, PUBLIC TRANSPORTATION SHELTERS, PEDESTRIAN CROSSWALKS, AND TRAFFIC CALMING MEASURES.

COMMERCIAL STREETS WILL PROVIDE AMENITIES FOR SHOPPERS SUCH AS PEDESTRIAN LIGHTING, SEATING, TRASH RECEPTACLES, BICYCLE PARKING, EASY-TO-READ SIGNS, ART, AND DISTINCTIVE ZONES FOR PLANTS AND PEDESTRIAN ACCOMMODATION. DESIGN ELEMENTS OF RESIDENTIAL STREETS WILL BE FOCUSED ON ENHANCING THE WALKABILITY AND BEAUTY OF NEIGHBORHOODS AND WILL INCLUDE DETACHED SIDEWALKS AND MULTI-USE TRAILS WITH PLANTING BEDS AND STREET TREES.

STREETSCAPE IMPLEMENTATION

- STREETSCAPES SHALL APPLY TO ALL PUBLIC RIGHTS-OF-WAY.
- STREETSCAPES FOR EACH TYPE OF STREET MUST INCLUDE ALL OF THE REQUIRED ELEMENTS LISTED.
- STREETSCAPES FOR EACH TYPE OF STREET MUST INCLUDE AT LEAST 1 OF THE OPTIONAL ELEMENTS LISTED.
- ADDITIONAL STREETSCAPE ELEMENTS NOT LISTED SHALL BE ALLOWED IN THE DESIGN OF THE STREETSCAPES WITH CITY OF GREELEY PLANNING APPROVAL AND MAY BE SUBSTITUTED FOR THE OPTIONAL ELEMENTS.
- STREET TREES WILL BE PROVIDED CONSISTENT WITH THE DEVELOPMENT CODE AT THE TIME OF DEVELOPMENT.

STREETSCAPE DESIGN ELEMENTS¹

	90' MINOR COLLECTOR STREET	71' MINOR COLLECTOR STREET	66' LOCAL STREET	47'-51' LOCAL STREET
1.0 REQUIRED ELEMENTS				
1.1 STREET LIGHTING	X	X	X	X
1.2 PEDESTRIAN LIGHTING	X	X	X	
1.3.1 ANTI-CARPING	X	X	X	
1.4 DETACHED SIDEWALKS	X	X	X	
1.5 PEDESTRIAN CROSSWALKS	X	X	X	X
1.6 SIGNAGE	X	X	X	X
1.7 STORMWATER MGMT BMPs ²	X	X	X	X
1.8 TREES, 4 TREES PER 100 LINEAL FEET, EA. SIDE	X	X	X	
1.9 STREET TREE FOR LOTS UP TO 50' WIDE, AT LEAST 2 TREES FOR LOTS GREATER THAN 50' WIDE				X
1.10 TRAFFIC CALMING MEASURES ³	X	X	X	
2.0 OPTIONAL ELEMENTS (ADJACENT TO R.O.W.)				
2.1 ART/SCULPTURE	X	X		
2.2 TRANSPORTATION SHELTERS	X	X		
2.3 BICYCLE RACKS	X	X	X	X
2.4 SITE FURNISHINGS	X	X	X	X
¹ SEE SHEET L4.01 FOR STREET CLASSIFICATIONS				
² BMPs = BEST MANAGEMENT PRACTICES				
³ AS REQUIRED BY CITY TRAFFIC AND/OR ENGINEERING DEPARTMENTS				

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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT # 221942
DRAWN BY: JAL, ML
CHECKED BY: RH

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SHEET 20 OF 32

ATTACHMENT C - PUD PLAN SET

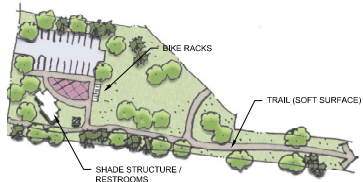
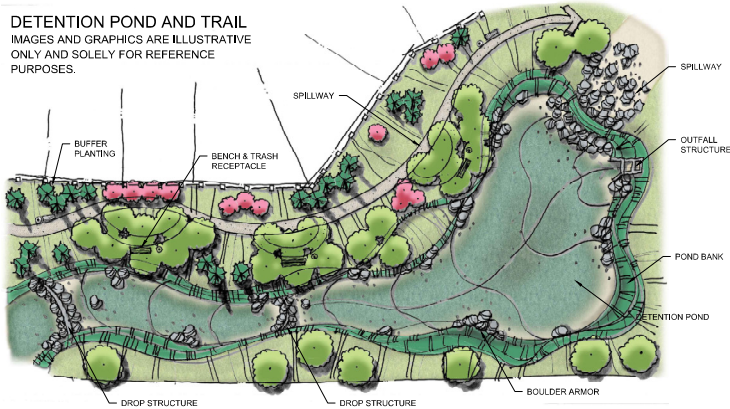
TRIPLE CREEK P.U.D.

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72.5 ACRES
PUD2023-0002

4.08 DRAINAGE & DETENTION VIGNETTE



DETENTION POND AND TRAIL
IMAGES AND GRAPHICS ARE ILLUSTRATIVE
ONLY AND SOLELY FOR REFERENCE
PURPOSES.



TRAILHEAD
IMAGES AND GRAPHICS ARE ILLUSTRATIVE
ONLY AND SOLELY FOR REFERENCE
PURPOSES.

DRAINAGE & DETENTION THEME

TRAILS, DRAINAGE, AND DETENTION ARE ENVISIONED TO BE AESTHETIC ENHANCEMENTS WHICH ARE INTEGRATED INTO MULTI-FUNCTIONAL OPEN SPACE CORRIDORS, PEDESTRIAN CONNECTIVITY OPPORTUNITIES, AND STORMWATER AND WATER QUALITY FACILITIES. TRAILS ARE SITED NOT ONLY WITHIN RIGHTS-OF-WAY BUT ALSO WITHIN UTILITY EASEMENTS, DRAINAGE CORRIDORS, AND LANDSCAPE BUFFERS AND OFFER OPPORTUNITIES FOR RESIDENTS TO ENJOY NATURE AND TRAVEL THROUGH TRIPLE CREEK OUTSIDE OF THE ROAD NETWORK. THE DRAINAGE NETWORK AND DETENTION FACILITIES PROVIDE NECESSARY DRAINAGE AND STORMWATER MANAGEMENT FUNCTIONS, BUT ALSO REDUCE POLLUTION IN THE LOCAL WATERSHED, INCREASE GROUNDWATER RECHARGE, REDUCE FLOODING DURING SEVERE STORMS, AND REDUCE COST OF ENGINEERED INFRASTRUCTURE.

REQUIRED DESIGN ELEMENTS SUCH AS SEATING AND WASTE RECEPTACLES PROVIDE ACCOMMODATION FOR THE SAFETY AND COMFORT OF USERS. OPTIONAL DESIGN ELEMENTS ELEVATE USERS' EXPERIENCES AND PROVIDE ENHANCED OPPORTUNITIES FOR GATHERING AND RECREATION THROUGH SHELTER, VEHICULAR AND BICYCLE PARKING, LIGHTING, PICNIC TABLES, EXERCISE STATIONS, AND GARDENS.

DRAINAGE & DETENTION IMPLEMENTATION

- TRAILS, DRAINAGE & DETENTION ARE SIZED TO ACCOMMODATE THE NEED OF THE USE.
- IMPLEMENTATION MUST INCLUDE ALL THE REQUIRED ELEMENTS AS LISTED FOR EACH USE.
- IMPLEMENTATION MUST INCLUDE AT LEAST 3 OF THE OPTIONAL ELEMENTS LISTED.
- ADDITIONAL ELEMENTS NOT LISTED SHALL BE ALLOWED IN THE DESIGN OF TRAILS, DRAINAGE & DETENTION AND MAY BE SUBSTITUTED FOR THE OPTIONAL ELEMENTS WITH CITY OF GREELEY PLANNING APPROVAL.

DRAINAGE, & DETENTION DESIGN ELEMENTS

- REQUIRED ELEMENTS
 - BENCHES: 1 PER 1/2 MILE OF PAVED OR GRAVEL TRAIL
 - BIKE / HIKE TRAILS: MINIMUM 5' WIDE, CRUSHER FINES, CONCRETE, OR ASPHALT
 - CRUSHER FINES, CONCRETE, OR ASPHALT TRAILS
 - DOG WASTE STATIONS: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
 - TRASH RECEPTACLES: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
- OPTIONAL ELEMENTS
 - BIKE RACKS: MINIMUM 4 PLUS 1 PER ACRE OVER 5 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
 - BOULDER SEATING
 - EXERCISE STATIONS: MINIMUM 1 PER MILE INCLUDES A COMBINATION OF PHYSICAL / ACTIVE STATIONS AND ACTIVITY SIGNS
 - FENCING (OPEN RAIL)
 - INTERPRETIVE SIGNAGE (DEFINED ON V4.00)
 - LIGHTING: PER CODE
 - PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
 - RESPITE GARDENS
 - SHELTERS: MINIMUM 1 PER 3 MILES OF TRAIL
 - WATER STATIONS: MINIMUM 1, MINIMUM 1 FOR EQUESTRIAN ACCESS



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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT #: 221842
DRAWN BY: JAL ML
CHECKED BY: RH

ISSUE RECORD	
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3rd SUBMITTAL	07/26/23
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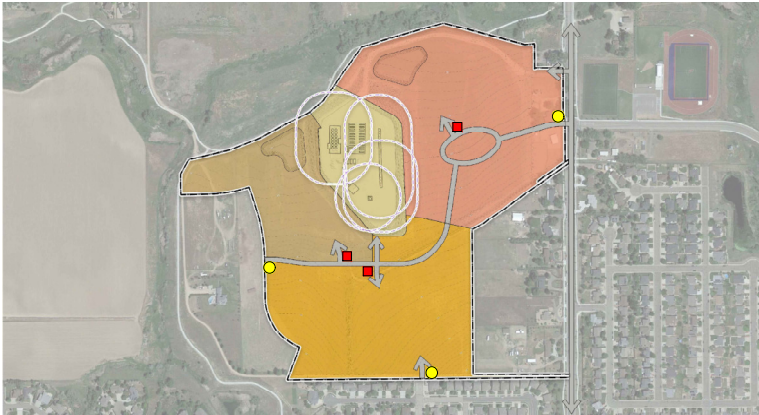
SHEET NUMBER
L4.08
SHEET 21 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

4.09 MONUMENTS AND SIGNAGE VIGNETTE



LEGEND

- POTENTIAL COMMUNITY MONUMENT LOCATION
- POTENTIAL NEIGHBORHOOD MONUMENT LOCATION

MONUMENTS AND SIGNAGE THEME

WITHIN TRIPLE CREEK, MONUMENTS AND SIGNAGE FUNCTION TO PROVIDE INFORMATION FOR NAVIGATION, LOCATION, IDENTIFICATION, EDUCATION, AND SAFETY TO RESIDENTS AND VISITORS OF TRIPLE CREEK; AND TO HELP UNIFY NEIGHBORHOODS INTO A COHESIVE COMMUNITY THROUGH CONSISTENT USE OF MATERIALS AND COLORS.

COMMUNITY MONUMENTS AND SIGNAGE IDENTIFY THE TRIPLE CREEK COMMUNITY TO REGIONAL DRIVERS AND PEDESTRIANS BY VIRTUE OF ITS PROMINENT SIZE, LOCATION, AND DESIGN ALONG 71ST AVENUE. COMMUNITY, COMMERCIAL, AND NEIGHBORHOOD SIGNAGE ECHO THE CHARACTER, MATERIALS, AND THEME OF THE COMMUNITY MONUMENT AT SCALED-DOWN SIZES. SIGNAGE FOR TRAILS AND PARKS WILL IDENTIFY AND PROVIDE IMPORTANT INFORMATION ABOUT COMMUNITY OPEN SPACE. INTERPRETIVE SIGNS WILL COMMUNICATE INFORMATION OF SCIENTIFIC, HISTORIC, CULTURAL, OR GEOGRAPHIC INTEREST. RULES AND POSTING SIGNS CONVEY INFORMATION ABOUT LOCAL RULES AND REGULATIONS TO ENSURE THE HEALTH, SAFETY, AND WELFARE FOR EVERYONE WITHIN THE TRIPLE CREEK COMMUNITY.

MONUMENTS AND SIGNAGE IMPLEMENTATION

- DESIGNS FOR SIGNAGE AND MONUMENTATION SHALL BE INTEGRATED IN CHARACTER AND SCALE WITHIN THE TRIPLE CREEK COMMUNITY.
- THE TRIPLE CREEK COMMUNITY SHALL BE MARKED BY AS MANY AS 3 COMMUNITY MONUMENT SIGNS AT ENTRANCES TO THE COMMUNITY.
- A NEIGHBORHOOD MONUMENT SIGN MAY BE LOCATED AT EACH OF THE NEIGHBORHOOD ENTRIES FROM COLLECTOR ROADS.
- COMMERCIAL/TENANT, DIRECTIONAL, NEIGHBORHOOD, TRAILS/PARKS, INTERPRETIVE, AND RULES & POSTING SIGNAGE SHALL BE LOCATED AS NECESSARY IN SUFFICIENT QUANTITIES, HEIGHTS, AND SIZES TO PROVIDE ADEQUATE NAVIGATION, INFORMATION, IDENTIFICATION, AND SAFETY TO RESIDENTS AND VISITORS.
- SETBACKS FOR SIGNAGE AND MONUMENTATION SHALL FOLLOW EXISTING CODE.
- ADDITIONAL ELEMENTS NOT LISTED SHALL BE ALLOWED WITH CITY OF GREELEY PLANNING APPROVAL.
- ALL SIGNS THROUGHOUT THE PUD SHALL REQUIRE A SIGN PERMIT FROM THE CITY OF GREELEY PRIOR TO INSTALLATION
- COMMERCIAL, TENANT, AND OTHER BUSINESS SIGNAGE SHALL COMPLY WITH REQUIREMENTS FOR SIGNAGE PER CITY CODE DATED OCTOBER 1, 2021 AS AMENDED

COMMUNITY MONUMENT DESIGN



CONCEPTUAL DESIGNS ILLUSTRATED HEREIN EXPRESS INTENT FOR PARK AND OPEN SPACE IMPROVEMENTS WITHIN THIS PUD. ACTUAL SITE DEVELOPMENT PLANS AND SPECIFIC IMPROVEMENTS SHALL COMPLY WITH THEME, DESIGN ELEMENTS AND IMPLEMENTATION REQUIREMENTS OF THE PUD. ALL IMPROVEMENTS WITHIN PLANNING AREAS SHALL BE CARRIED OUT OVER MULTIPLE PHASES AND FINAL PLATS AS DEVELOPMENT OCCURS.

MONUMENTS AND SIGNAGE DESIGN INTENT

REQUIRED ELEMENTS	LOCATION	MAX HEIGHT	SIZE ¹	QUANTITY
COMMUNITY	LOCATED AT COMMUNITY ENTRANCE AT 71ST AVE. AND WEST 16TH STREET	20' HT	18 SF SIGNFACE EACH SIDE, 120 SF OVERALL SIGN AREA EACH SIDE, DOUBLE SIDED	2 MONUMENTS AT 3 LOCATIONS FOR A TOTAL OF 6 MONUMENTS
NEIGHBORHOOD	LOCATED ALONG COLLECTOR ROADS AT NEIGHBORHOOD ENTRANCES	12' HT	14 SF SIGNFACE EACH SIDE, 52 SF OVERALL SIGN AREA EACH SIDE, DOUBLE SIDED	MAXIMUM 4 MONUMENT SIGNS
TRAILS/PARKS	DETERMINED BY DEVELOPER AND SUBJECT TO APPROVAL BY CITY AT THE TIME OF FINAL PLAT AND SITE PLAN.	10' HT	PER EXISTING CITY CODE	MAXIMUM 12 MONUMENT SIGNS

¹ TERMS PER CITY OF GREELEY SIGN CODE DEFINITIONS

NOTE: IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR REFERENCE PURPOSES.

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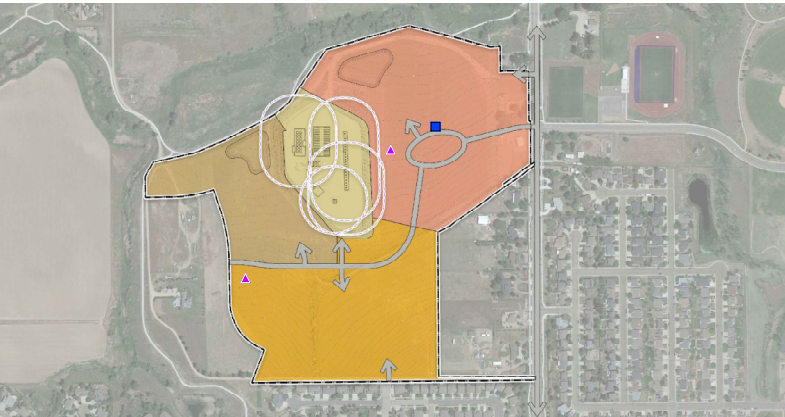
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ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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72.5 ACRES
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4.10 COMMUNITY AMENITIES VIGNETTE



LEGEND

- POTENTIAL POOL HOUSE LOCATION
- COMMUNITY AMENITIES LOCATION

COMMUNITY AMENITIES

COMMUNITY AMENITIES FOR TRIPLE CREEK RESIDENTS WILL BE LOCATED WITHIN THE MULTIFAMILY BUILDINGS IN PLANNING AREA 1. THESE AMENITIES FUNCTION TO PROVIDE RECREATION FOR COMMUNITY MEMBERS AND GUESTS AND A VITAL SPACE FOR SOCIAL ACTIVITIES. TYPES OF AMENITIES COULD INCLUDE MULTI-PURPOSE SPACES SUCH AS CRAFT SPACES, GAME ROOM, FITNESS & YOGA ROOM, CONFERENCE ROOMS, LOUNGE & BILLIARD ROOM.

TYPE AND SIZE OF COMMUNITY AMENITIES WILL BE DETERMINED BY THE DEVELOPER AT TIME OF FINAL PLAT.

THE TRIPLE CREEK METRO DISTRICT ARCHITECTURAL REVIEW PANEL SHALL PROVIDE A LETTER OF CONFORMANCE WITH THE PUD TO THE CITY FOR ALL SITE AND ARCHITECTURAL PROPOSALS WITHIN THE TRIPLE CREEK COMMUNITY AS A CONDITION OF BUILDING PERMIT.

CONCEPTUAL DESIGNS ILLUSTRATED HEREIN EXPRESS INTENT FOR PARK AND OPEN SPACE IMPROVEMENTS WITHIN THIS PUD. ACTUAL SITE DEVELOPMENT PLANS AND SPECIFIC IMPROVEMENTS SHALL COMPLY WITH THEME, DESIGN ELEMENTS AND IMPLEMENTATION REQUIREMENTS OF THE PUD. ALL IMPROVEMENTS WITHIN PLANNING AREAS SHALL BE CARRIED OUT OVER MULTIPLE PHASES AND FINAL PLATS AS DEVELOPMENT OCCURS.

COMMUNITY POOLHOUSES

TWO POTENTIAL POOL LOCATIONS HAVE BEEN IDENTIFIED. THE POOLHOUSES WILL BE LIMITED TO BATHROOMS/CHANGING ROOMS OR A LOCKER ROOM AND A MECHANICAL ROOM. ONE LOCATION WILL BE DESIGNED WITH FAMILIES AND CHILDREN AS THE PRIMARY USERS. THE SECOND LOCATION WILL BE DESIGNED FOR ADULTS WITH HOT TUBS, SAUNAS, LOCKER ROOMS, ETC.

POOLHOUSE IMPLEMENTATION

- DESIGNS FOR POOLS AND POOLHOUSES SHALL BE INTEGRATED IN CHARACTER AND SCALE WITHIN THE COMMUNITY.
- FINAL DESIGN AND SITE PLAN FOR THE POOLHOUSES SHALL DETERMINED AT THE TIME OF PRELIMINARY PLAT.
- DEVELOPMENT STANDARDS AND SETBACKS FOR POOLHOUSES SHALL FOLLOW THE MIXED-USE STANDARDS ON SHEET L6.1, TABLE 1.3 OF THIS PUD.
- PARKING AT THE POOLHOUSES WILL BE LIMITED TO REQUIRED ADA PARKING. AS THIS IS A WALKABLE COMMUNITY, ALL RESIDENTS WILL LIVE WITHIN A SHORT WALK OF THE AMENITIES.



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PUD DEVELOPMENT STANDARDS

5.0 STATEMENT OF COMMITMENTS

CONCEPTUAL PHASING		DEVELOPMENT COMMITMENTS			
PHASE 1 - ROUGH GRADING, UNDERGROUND UTILITIES, ROADS, SOME PARKS PHASE 2 - BUILD OUT OF NORTH MULTIFAMILY BUILDING, PARKING GARAGE, FAMILY POOL, SOME PARKS PHASE 3 - BUILD OUT OF ROW HOMES, SINGLE FAMILY DETACHED & ESTATE LOTS, SOME PARKS PHASE 4 - BUILD OUT OF SOUTH MULTIFAMILY BUILDING, FINAL PARK					
IMPROVEMENT OR COMMITMENT	PLAN PREPARATION AND APPROVAL	CONSTRUCTION TIMING	CONSTRUCTION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	OWNERSHIP
FAMILY POOL	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	BUILT WITH MULTIFAMILY PORTION (PHASE 2)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
ADULTS ONLY POOL	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	ONCE LOTS TURNED OVER TO BUILDERS (PHASE 3)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PARKING GARAGES	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	BUILT WITH MULTIFAMILY PORTION (PHASE 2)	METRO DISTRICT & APARTMENT OWNER	METRO DISTRICT & APARTMENT OWNER	METRO DISTRICT & APARTMENT OWNER
INTERNAL COMMUNITY TRAILS	EXTENT AND ROUTING TO BE DETERMINED BY FINAL LANDSCAPE PLANS FOR CONFORMANCE WITH THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PERIMETER TREATMENT & LANDSCAPING TRACTS	AREAS TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER CITY OF GREELEY DEVELOPMENT CODE AND THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PARK A (ADJ TO REGIONAL TRAIL ON NORTH SIDE)	AREA TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT ¹	CITY OF GREELEY	CITY OF GREELEY
PARK B (@ WELLS)	AREA TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER THE PUD	FOLLOWING DECOMMISSIONING OF THE WELLS (PHASE 4)	METRO DISTRICT ¹	CITY OF GREELEY	CITY OF GREELEY
DETENTION PONDS AND RELATED FACILITIES	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
STORM SEWER FACILITIES & CULVERTS	STORM SEWER FACILITIES & CULVERTS SHALL BE DESIGN PER CITY OF GREELEY STANDARDS AND SHALL BE DETERMINED AT FINAL PLAT	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT	METRO DISTRICT	CITY OF GREELEY ²	CITY OF GREELEY
WET UTILITIES (INCLUDING NON-POT, SANITARY SEWER, WATER MAIN LINES, FIRE HYDRANTS AND SERVICE LINES TO EACH LOT)	UTILITIES SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
DRY UTILITIES	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS AND GUIDELINES FROM THE UTILITY PROVIDER. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT PRIOR TO ANY POSTPONED STREET OR ALLEY SURFACING. NO CURB, GUTTER, OR SIDEWALK SHALL BE INSTALLED UNTIL ALL PLATTED UTILITIES ARE PROVIDED	METRO DISTRICT	UTILITY PROVIDER	UTILITY PROVIDER
STREETS, ALLEYS, AND SIDEWALKS	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA AND WHERE SUBDIVISION ADJACENT EXISTING STREET RIGHT-OF-WAY SHALL INCLUDE AT LEAST THE ADJACENT HALF OF THE STREET	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT, INCLUDING CURB & GUTTER AND ALLEYS	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
OIL & GAS ACCESS ROAD	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
MODIFICATIONS TO SIGNAL AT INTERSECTION OF W 16TH STREET AND 71ST AVENUE	INTERSECTIONS SHALL BE DESIGNED PER CITY AND CDOT STANDARDS AND SHALL BE DETERMINED PER APPROVED TRANSPORTATION IMPACT ANALYSIS AND/OR AS IDENTIFIED BY CDOT AND THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
SURVEY MONUMENTS	SURVEY MONUMENTS TO BE SHOWN ON EACH FINAL PLAT	FOLLOWING RECORDATION OF EACH APPROVED PLAT	PROFESSIONAL LAND SURVEYOR	NA ³	NA ³
DUST ABATEMENT AND EROSION CONTROL PLAN	AREA TO BE DETERMINED BY FINAL CIVIL CONSTRUCTION DOCUMENTS	IMPLEMENTED AT COMMENCEMENT OF CONSTRUCTION OF EACH APPROVED PLAT	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
STREET LIGHTS	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY

¹ THE DEVELOPER WILL NEGOTIATE A SEPARATE AGREEMENT WITH THE CITY FOR THE METRO DISTRICT TO BUILD.
² WITHIN PUBLIC RIGHTS-OF-WAY OR PUBLIC DRAINAGE EASEMENTS.
³ PROPERTY OWNERS ARE RESPONSIBLE FOR REPAIRING DAMAGES TO SURVEY MONUMENTS ON THEIR PROPERTY.

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TRIPLE CREEK P.U.D.
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STATEMENT OF COMMITMENTS

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ATTACHMENT C - PUD PLAN SET

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ARCHITECTURAL STANDARDS

1. ALL COMMERCIAL BUILDINGS AND MULTI-FAMILY/MIXED USE DWELLINGS SHALL FOLLOW THE CITY OF GREELEY ARCHITECTURAL STANDARDS IN SECTION 24-803 OF THE GREELEY DEVELOPMENT CODE (UPDATED OCTOBER 1, 2021).
2. ALL RESIDENTIAL SINGLE-FAMILY DWELLINGS AND ROW HOUSES SHALL FOLLOW THE CITY OF GREELEY ARCHITECTURAL STANDARDS IN SECTION 24-503 OF THE GREELEY DEVELOPMENT CODE (UPDATED OCTOBER 1, 2021) WITH THE FOLLOWING EXCEPTIONS:
- 2.1. ALL RESIDENTIAL HOMES SHALL SUBMIT A LETTER OF APPROVAL FROM THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENSURE AN ENHANCED DESIGN STANDARD OVER AND ABOVE THE CITY'S BASE CODE PRIOR TO OBTAINING BUILDING PERMITS FROM THE CITY OF GREELEY.
- 2.2. ANY IMPROVEMENTS OR ADDITIONS TO RESIDENTIAL HOMES AFTER INITIAL CONSTRUCTION SHALL REQUIRE THE APPROVAL OF THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENSURE AN ENHANCED DESIGN STANDARD OVER AND ABOVE THE CITY'S BASE CODE PRIOR TO OBTAINING BUILDING PERMITS FROM THE CITY OF GREELEY.
3. ALL REQUIREMENTS WITHIN SECTION 24-503 THAT HAVE A MINIMUM REQUIREMENT AND MAXIMUM LIMIT FOR ARCHITECTURAL DETAILS (SUCH AS FRONT PORCH DEPTH 8'-12") SHALL NOT HAVE A MAXIMUM LIMIT.
4. WALL PLANE, BLANK WALL, AND ROOF PLANE LIMITS MAY BE EXCEEDED BY UP TO 100% (DOUBLE) THE CITY LIMIT, ONLY IF THE DESIGN IS APPROVED BY THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL.

ARCHITECTURAL EXAMPLES

THE OVER ARCHING GOAL FOR THE ARCHITECTURE AT TRIPLE CREEK IS TO CREATE AN UPSCALE MIXED-USE DEVELOPMENT THAT HAS A HEAVY FOCUS ON INTIMATE, HUMAN SCALE DEVELOPMENT. EACH ARCHITECTURAL STYLE WILL CONTRIBUTE TO THE CHARACTER OF THE COMMUNITY, WITH THE INDIVIDUALITY OF EVERY HOME CREATING AN ATTRACTIVE STREETScape THROUGHOUT THE DEVELOPMENT. ELEMENTS SUCH AS ROOF SHAPE AND PITCH, WINDOW SIZE, SHAPE AND PLACEMENT, AND CONSTRUCTION MATERIALS SUCH AS STONE, BRICK, STUCCO OR WOOD CAN ALL BE USED TO CREATE THE SUBTLE DETAILS THAT FOSTER INDIVIDUALITY IN A HOME.

THE STYLES AND ARCHITECTURAL FEATURES LISTED IN THIS SECTION ARE TO BE VIEWED AS DESIGN GUIDELINES FOR THE HOMES WITHIN TRIPLE CREEK. THE ARCHITECTURAL STYLES LISTED CAN BE USED IN MANY VARIATIONS TO CREATE THE UNIQUE AND INDIVIDUAL CHARACTER DESIRED FOR EACH HOME. ALTHOUGH EXAMPLES OF ARCHITECTURAL STYLES ARE BEING PROVIDED, ADDITIONAL STYLES SHALL BE ALLOWED.

REPETITIOUS AND HOMOGENOUS BUILDING STYLES WILL NOT BE PERMITTED AT TRIPLE CREEK. A VARIETY OF HOUSING TYPES, COLOR VARIATIONS AND BUILDING MATERIALS WILL HELP CREATE UNIQUE NEIGHBORHOODS. SINGLE FAMILY HOMES WITH THE SAME STYLE, FLOOR PLAN OR COLOR SCHEME WILL NOT BE BUILT ON LOTS NEXT TO, ADJACENT TO, OR ACROSS THE STREET FROM EACH OTHER.

HISTORIC PRAIRIE STYLE

WITH AN EMPHASIS ON FITTING THE ARCHITECTURE INTO ITS SURROUNDINGS, THE HISTORIC PRAIRIE STYLE INCORPORATES GENTLY SLOPING ROOFS WITH BROAD OVERHANGS, STRONG HORIZONTAL LINES, AND SIMPLE BUILDING MASSING. ONE-STORY PORCHES WITH MASONRY COLUMNS OFTEN FLANK THE MAIN TWO-STORY BODY OF THE HOUSE. THE LOW ROOF-LINE IS OFTEN HIPPED; HOWEVER, GABLE ROOFS CAN BE USED AS ACCENT FEATURES. THE FOLLOWING FEATURES IDENTIFY A HISTORIC PRAIRIE STYLE HOME:

- SHALLOW ROOF PITCHES AND DEEP OVERHANGS
- RIBBON WINDOWS
- BRICK MASONRY OR LAP SIDING WITH MASONRY BASE
- HIPPED ROOF FORMS
- WRAP AROUND PORCH
- IRON PORCH RAILING
- CARRIAGE-TYPE GARAGE DOORS
- CONTRASTING COLORS
- PLANTER BOXES

HISTORIC CLASSIC STYLE

RECOGNIZING OUR NATION'S COLONIAL HERITAGE IS THE INTENT OF THE CLASSIC STYLE. EMBELLISHING THE SIMPLE FORM OF THE HOUSE WITH FAMILIAR DETAILING AND MASSING DOES THIS. THE ROOF FORMS ARE ALSO SIMPLE, WITH ACCENT GABLES FACING THE FRONT. VENTS OR WINDOWS BREAK UP THE MASS OF THE GABLE END ROOF FORMS. DORMERS ARE OFTEN USED TO BREAK DOWN LARGE ROOF MASSES. WIDE PORCHES WITH BUILT-UP WOOD COLUMNS, OR ROUND COLUMNS, ARE AN INVITING FEATURE. A SIMPLE RAILING AROUND THE PORCH ADDS CHARM TO THE FACADE. THE FOLLOWING FEATURES IDENTIFY A HISTORIC CLASSIC STYLE HOME:

- MEDIUM ROOF PITCHES AND MODERATE OVERHANGS
- MEDIUM GABLE-END VENTS
- GABLED ROOF FORMS
- CORNER TRIM WITH LAP SIDING AND STONE OR BRICK BASE
- ROUND PORCH COLUMNS
- TURNED PICKETS AT PORCH RAILING
- KEYSTONE ACCENTS
- DOUBLE ROUND COLUMNS
- LOUVRED ACCENT SHUTTERS

HISTORIC CRAFTSMAN STYLE

LOW HORIZONTAL FORMS AND SIMPLE SHAPES CHARACTERIZE THE HISTORIC CRAFTSMAN STYLE. RAFTERS AND BEAMS ARE OFTEN EXPOSED. DEEP EAVE OVERHANGS GIVE THE SHELTERING FEELING TO THE ROOF. THE GABLE ENDS ARE ALSO TREATED WITH MATERIALS DIFFERENT FROM THE MAIN BODY OF THE HOUSE TO ADD CHARACTER TO THE FACADE. PORCHES ARE ANCHORED TO THE GROUND WITH MASSIVE COLUMNS OF TAPERED MASONRY OR WOOD. THE FOLLOWING FEATURES IDENTIFY A HISTORIC CRAFTSMAN STYLE HOME:

- MEDIUM ROOF PITCHES AND DEEP OVERHANGS
- GABLE ACCENT MATERIAL WITH TRIM BAND
- SHED ROOF FORMS
- CORNER TRIM WITH LAP SIDING AND BRICK OR STONE BASE
- BUILT-UP PORCH COLUMNS
- WRAP-AROUND PORCH
- TAPERED ACCENT TRIM

CONTEMPORARY CLASSIC STYLE

THE CONTEMPORARY CLASSIC STYLE IS A CLOSE COMPANION OF THE HISTORIC CLASSIC STYLE. THE ROOF FORMS TEND TO BE MORE INTRICATE TO REFLECT THE COMPLEX MASSING OF THE HOUSE. GABLE ROOFS ARE STILL PROMINENT ALONG WITH THE USE OF VENTS AND WINDOWS TO ARTICULATE THE GABLE ENDS. WINDOW PATTERNS AND GRIDS ARE SIMILAR TO THE HISTORIC STYLE; HOWEVER, THE SHUTTERS AND TRIM TEND TO BE SIMPLIFIED. THE FOLLOWING FEATURES IDENTIFY A CONTEMPORARY CLASSIC STYLE HOME:

- MEDIUM ROOF PITCHES AND MODERATE OVERHANGS
- WINDOW MUNTIN PATTERN
- paneled accent shutters
- ROUND GABLE-END VENTS
- GABLED ROOF FORMS
- CORNER TRIM WITH STUCCO SIDING AND CONTINUOUS MASONRY BASE
- SQUARE OR ROUND PORCH COLUMNS
- TURNED PICKETS AT PORCH RAILING
- STUCCO KEYSTONE ACCENTS

CONTEMPORARY CRAFTSMAN STYLE

THE UPDATED VERSION OF THE CRAFTSMAN STYLE IS MORE COMPLEX IN ITS MASSING AND ROOF-LINES TO EXPRESS THE MODERN LIFESTYLE, BUT STILL BORROWS SEVERAL KEY ELEMENTS FROM ITS PREDECESSOR. EXPOSED RAFTERS AND BEAMS, DECORATIVE BRACKETS OR BEAMS ARE USED TO SUPPORT GABLE END ROOFS, AND THE GABLE ENDS ARE TREATED WITH CONTRASTING MATERIALS. THE WINDOWS ARE TALL AND NARROW, GROUPED TOGETHER TO GIVE BRIGHT DAYLIGHT TO THE INTERIOR. THE WINDOWS ALSO HAVE ARTICULATED TRIM AND GEOMETRIC WINDOW GRIDS. THE FOLLOWING FEATURES IDENTIFY A CONTEMPORARY CRAFTSMAN STYLE HOME:

- SHALLOW ROOF PITCHES AND DEEP OVERHANGS
- GABLE ACCENT MATERIAL WITH TRIM BAND
- SHED ROOF FORMS
- STUCCO SIDING WITH BRICK OR STONE BASE
- BUILT-UP PORCH COLUMNS



EXAMPLE - SFD ESTATE LOT



EXAMPLE - SFD ESTATE LOT



EXAMPLE - TOWNHOME



EXAMPLE - SFD COTTAGE



EXAMPLE - SFD ESTATE LOT



EXAMPLE - SFD SMALL LOT



EXAMPLE - TOWNHOME



EXAMPLE - MIXED-USE / COMMERCIAL

NOTE: THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL WILL REGULATE ARCHITECTURAL AND SITE DESIGN FOR ALL RESIDENTIAL LOTS WITHIN THE DEVELOPMENT. IMAGES AND GRAPHICS ON THIS PAGE ARE ILLUSTRATIVE ONLY AND SOLELY FOR GUIDELINE PURPOSES ONLY.

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TRIPLE CREEK P.U.D.
GREELEY, CO
ARCHITECTURAL STANDARDS

PROJECT # 221842
DRAWN BY: JAL, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL 03/09/23
2nd SUBMITTAL 06/01/23
3rd SUBMITTAL 07/26/23
4th SUBMITTAL 09/01/23

SHEET NUMBER

L6.00
SHEET 25 OF 32

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

RESIDENTIAL ARCHITECTURAL EXAMPLES

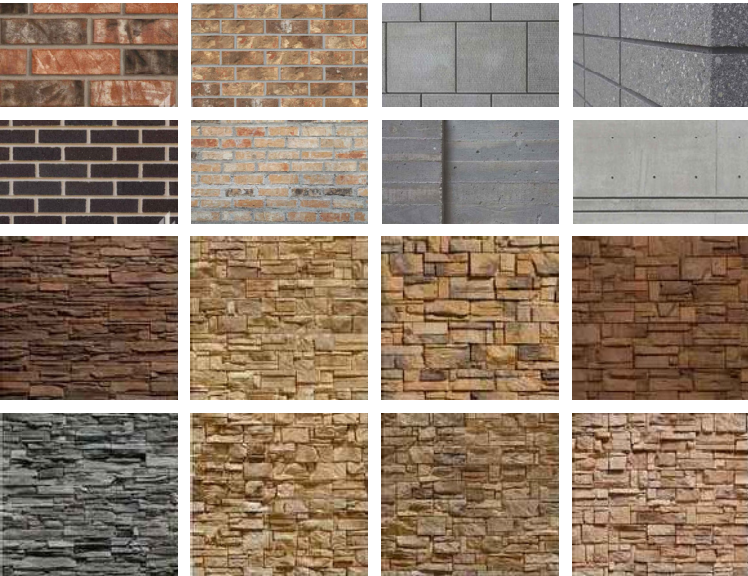
9.0 PALETTES AND FEATURES

THESE DESIGN EXAMPLES SERVE AS A NON-INCLUSIVE GUIDE FOR DESIGN OF ALL ELEMENTS THROUGHOUT THE TRIPLE CREEK DEVELOPMENT AND PROMOTE CONSISTENCY AND QUALITY IN MATERIALS AND FORM IN ALL ASPECTS OF THE COMMUNITY. THROUGH CONSISTENCY IN DESIGN, THE ATMOSPHERE OF AN ESTABLISHED COMMUNITY CAN BE REACHED. THE DESIGN STANDARDS CREATE THE FRAMEWORK FOR THE TRIPLE CREEK COMMUNITY, PROVIDING MINIMUM STANDARDS AS A SUPPLEMENT TO THE CITY OF GREELEY ZONING STANDARDS AND ALL OTHER RELEVANT CITY CODES.



SAMPLE (OVERALL) COLOR PALETTE (EARTH TONES)

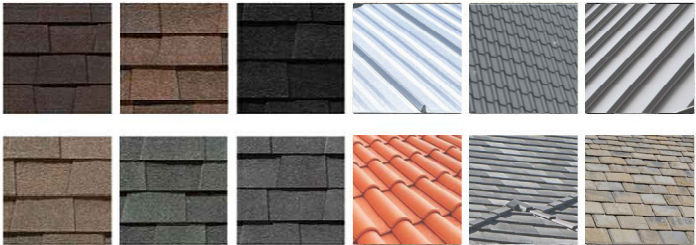
COLORS SHOWN ABOVE ARE NOT INCLUSIVE OF ACCEPTABLE COLORS, WHICH MAY ALSO INCLUDE SOFT PASTELS OF A NEUTRAL HUE OR AS APPROVED BY THE DEVELOPER'S ARCHITECTURE REVIEW COMMITTEE.



SAMPLE MASONRY AND STONE



SAMPLE SIDING STYLES



SAMPLE ARCHITECTURAL ROOF MATERIALS

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TRIPLE CREEK P.U.D.
GREELEY, CO
ARCHITECTURAL STANDARDS

PROJECT #: 221842
DRAWN BY: JAL, ML
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SHEET 26 OF 32

ATTACHMENT D - PERIMETER
TREATMENT PLAN

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

4.00 PRELIMINARY LANDSCAPE PLAN

LANDSCAPE TREATMENTS TABLE

SYMBOL	TREATMENT AREA ¹	LANDSCAPE REQUIREMENT
	RESIDENTIAL COLLECTOR STREETSCAPE ²	4 TREES/100 LF MINIMUM
	LANDSCAPE BUFFER AT COMMERCIAL USE & MULTIFAMILY/MIXED USE DWELLING	4 TREES & 20 SHRUBS/100 LF. FOR CREDITS FOR EXISTING VEGETATION, DESIGN & LOCATION. SEE ALTERNATIVE COMPLIANCE CODE SECTION 24-803, DATED OCTOBER 1, 2021 AS AMENDED
	COLLECTOR STREETSCAPE AT COMMERCIAL USE & MULTIFAMILY/MIXED USE DWELLING ³	2 TREES/100 LF MINIMUM
	71ST AVENUE FRONTAGE ³	EXISTING TREES TO REMAIN IF PRACTICAL. ADDITIONAL TREES AND SHRUBS TO BE PROVIDED TO MEET PERIMETER TYPE III REQUIREMENTS IN TABLE 24-8-2, SECTION 24-803 CITY OF GREELEY DEVELOPMENT CODE DATED OCTOBER 1, 2021 AS AMENDED
	LANDSCAPE BUFFER AT PERIMETER	2 TREES (LARGE, SHADE) AND 16 SHRUBS/100 LF MINIMUM. ALL LANDSCAPE REQUIREMENTS MAY BE REDUCED BY 25% IF USED IN COMBINATION WITH DECORATIVE WALLS AND FENCES MEETING APPLICABLE FENCE STANDARDS IN THE CITY OF GREELEY DEVELOPMENT CODE, DATED OCTOBER 1, 2021 AS AMENDED.
	CIVIC AND OPEN SPACE	PER CODE SECTION 24-803
	FRONTAGE & FOUNDATION	PER CODE SECTION 24-803
	WESTERN BOUNDARY AT BROWN PROPERTY	SOLID FENCE OR WALL CONSISTING OF VINYL, WOOD, STONE OR OTHER SIMILAR MATERIAL

¹DEFINITION PER CITY OF GREELEY CODE SECTION 24-802, DATED OCTOBER 1, 2021 AS AMENDED.

²COLLECTOR STREETS REQUIREMENTS APPLY TO EACH SIDE OF THE STREET.

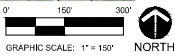
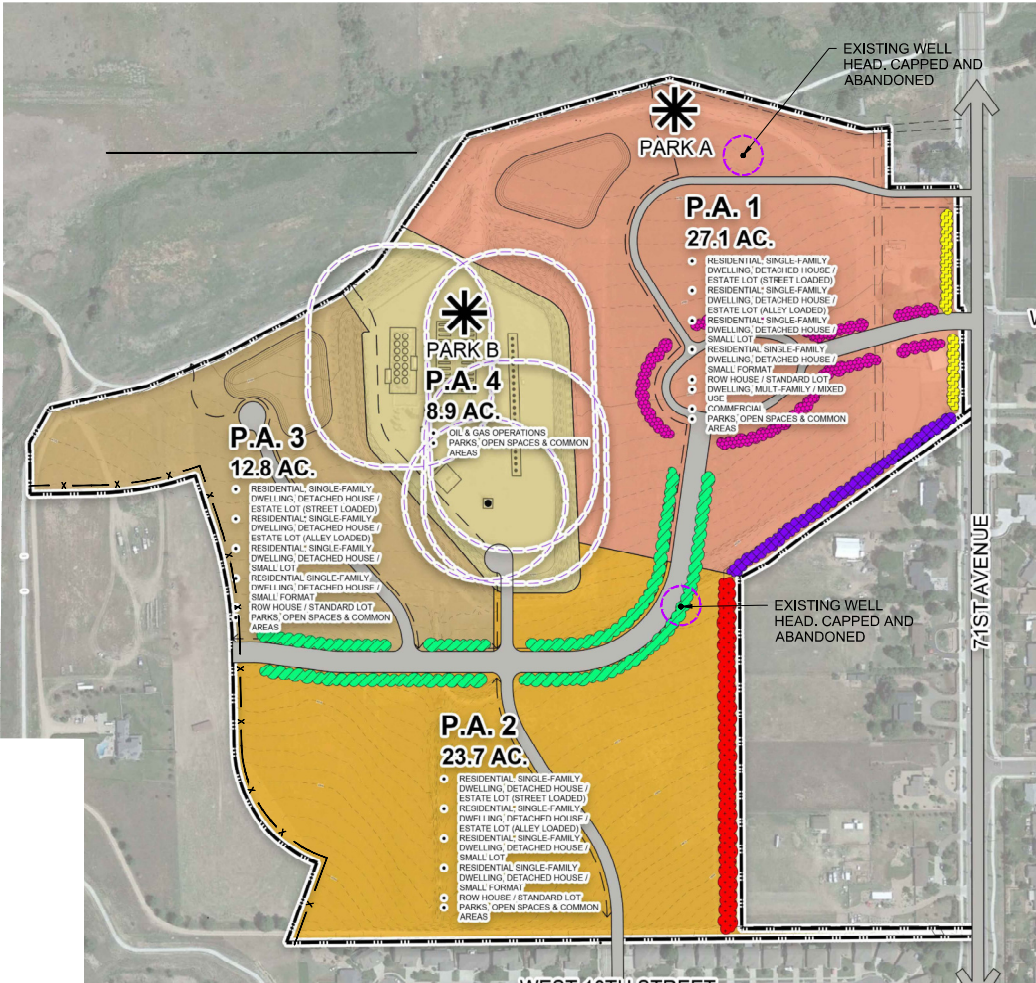
³71ST AVENUE STREET REQUIREMENTS APPLY TO WEST SIDE OF 71ST AVENUE.

* PARK DEDICATIONS

PARK	PARK TYPE	MIN. AREA (ACRES)
PARK A	NEIGHBORHOOD PARK	4.2
PARK B	FUTURE NEIGHBORHOOD PARK	8.8
TOTAL		13

LANDSCAPING REQUIREMENTS

- PROPOSED LANDSCAPING FOR SITE ELEMENTS (STREETSCAPE, FRONTAGE & FOUNDATION, PARKING, PERIMETER TREATMENT, CIVIL & OPEN SPACE) SHALL COMPLY WITH THE APPROVED DEVELOPMENT CODE DATED OCTOBER 1ST, 2021 AS AMENDED THAT IS IN PLACE AT TIME OF DEVELOPMENT, EXCEPT AS WRITTEN BELOW.
- LANDSCAPE DEVELOPMENT THAT REFLECTS THE PREVAILING SEMIARID CONDITIONS REINFORCES THE REGIONAL CHARACTER, CLIMATE, AND HABITAT OF THE CITY OF GREELEY AND ITS LOCAL ENVIRONMENT.
- LANDSCAPING SHALL INCORPORATE WATER CONSERVATION PRACTICES IN DESIGN, INSTALLATION, AND MANAGEMENT TO REDUCE WATER DEMAND, REDUCE WATER LOSS, LIMIT EROSION, LIMIT HIGH-IRRIGATION TURF AND PLANTINGS, AND UTILIZE NATIVE PLANTS AND PLANTS APPROPRIATE FOR THE LOCAL CLIMATIC AND SOIL CONDITIONS. PLANTS SHALL BE SELECTED FROM THE CITY OF GREELEY LANDSCAPE MANUAL; ALTERNATIVES MAY BE PROPOSED PROVIDED THEY FOLLOW THE CITY OF GREELEY CODE FOR APPROVAL. NON-IRRIGATED LANDSCAPE TREATMENTS ARE ENCOURAGED.
- IRRIGATION PRACTICES SHALL UTILIZE HIGH-EFFICIENCY AUTOMATIC IRRIGATION SYSTEMS THAT INCORPORATE WATER CONSERVATION MEASURES. ALTERNATIVE SOURCES OF IRRIGATION FOR ALL LANDSCAPE AREAS IS ENCOURAGED. NON-POTABLE IRRIGATION WILL SERVE OPEN SPACE AND PARKS WITHIN ALL PLANNING AREAS OF THE SITE.
- STORMWATER TREATMENTS FOR AREAS THAT ARE PART OF THE STORMWATER SYSTEM SHALL ADHERE TO THE CITY OF GREELEY STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS AND THE URBAN DRAINAGE CRITERIA MANUAL PUBLISHED BY THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT.
- PERIMETER TREATMENT AREAS SHALL CONTAIN THE PLANT QUANTITIES INDICATED SHALL BE INCLUDED FOR EVERY 100 LINEAR FEET.
- EXISTING TREES, ALONG 71ST AVENUE THAT ARE REMOVED SHALL BE REPLACED WITH 3" CALIPER TREES TO MEET THE REQUIRED LANDSCAPE FRONTAGE IN THIS AREA.



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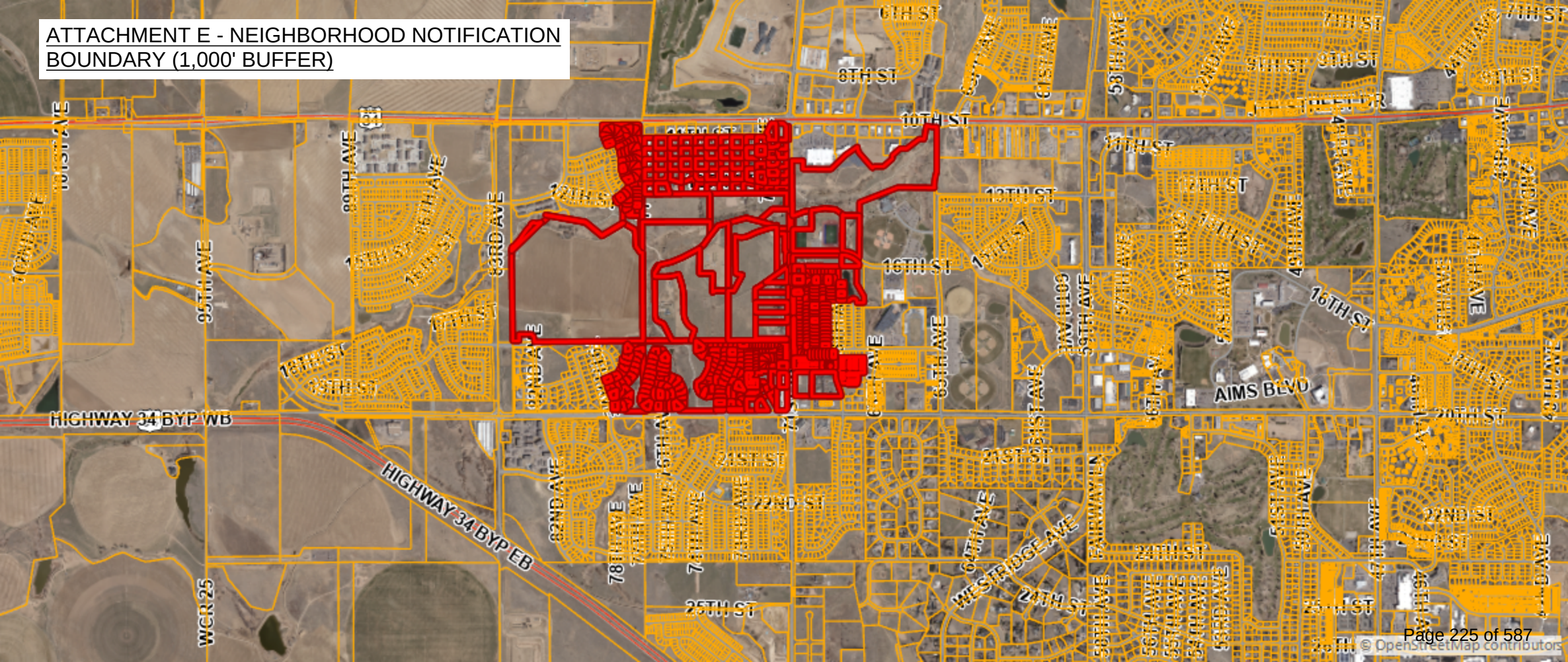
TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY
FACILITIES

PROJECT # 221842
DRAWN BY: JH, ML
CHECKED BY: RH

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SHEET 13 OF 32

ATTACHMENT E - NEIGHBORHOOD NOTIFICATION
BOUNDARY (1,000' BUFFER)



ATTACHMENT F - STATEMENT OF
COMMITMENTS

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

PUD DEVELOPMENT STANDARDS

5.0 STATEMENT OF COMMITMENTS

CONCEPTUAL PHASING		DEVELOPMENT COMMITMENTS			
PHASE 1 - ROUGH GRADING, UNDERGROUND UTILITIES, ROADS, SOME PARKS PHASE 2 - BUILD OUT OF NORTH MULTIFAMILY BUILDING, PARKING GARAGE, FAMILY POOL, SOME PARKS PHASE 3 - BUILD OUT OF ROW HOMES, SINGLE FAMILY DETACHED & ESTATE LOTS, SOME PARKS PHASE 4 - BUILD OUT OF SOUTH MULTIFAMILY BUILDING, FINAL PARK					
IMPROVEMENT OR COMMITMENT	PLAN PREPARATION AND APPROVAL	CONSTRUCTION TIMING	CONSTRUCTION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	OWNERSHIP
FAMILY POOL	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	BUILT WITH MULTIFAMILY PORTION (PHASE 2)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
ADULTS ONLY POOL	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	ONCE LOTS TURNED OVER TO BUILDERS (PHASE 3)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PARKING GARAGES	AREA TO BE DETERMINED BY FINAL ARCHITECTURAL PLANS PER THE PUD	BUILT WITH MULTIFAMILY PORTION (PHASE 2)	METRO DISTRICT & APARTMENT OWNER	METRO DISTRICT & APARTMENT OWNER	METRO DISTRICT & APARTMENT OWNER
INTERNAL COMMUNITY TRAILS	EXTENT AND ROUTING TO BE DETERMINED BY FINAL LANDSCAPE PLANS FOR CONFORMANCE WITH THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PERIMETER TREATMENT & LANDSCAPING TRACTS	AREAS TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER CITY OF GREELEY DEVELOPMENT CODE AND THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
PARK A (ADJ TO REGIONAL TRAIL ON NORTH SIDE)	AREA TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT ¹	CITY OF GREELEY	CITY OF GREELEY
PARK B (@ WELLS)	AREA TO BE DETERMINED BY FINAL LANDSCAPE PLANS PER THE PUD	FOLLOWING DECOMMISSIONING OF THE WELLS (PHASE 4)	METRO DISTRICT ¹	CITY OF GREELEY	CITY OF GREELEY
DETENTION PONDS AND RELATED FACILITIES	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
STORM SEWER FACILITIES & CULVERTS	STORM SEWER FACILITIES & CULVERTS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS AND SHALL BE DETERMINED AT FINAL PLAT	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT	METRO DISTRICT	CITY OF GREELEY ²	CITY OF GREELEY
WET UTILITIES (INCLUDING NON-POT, SANITARY SEWER, WATER MAIN LINES, FIRE HYDRANTS AND SERVICE LINES TO EACH LOT)	UTILITIES SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
DRY UTILITIES	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS AND GUIDELINES FROM THE UTILITY PROVIDER. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT PRIOR TO ANY POSTPONED STREET OR ALLEY SURFACING. NO CURB, GUTTER, OR SIDEWALK SHALL BE INSTALLED UNTIL ALL PLATTED UTILITIES ARE PROVIDED	METRO DISTRICT	UTILITY PROVIDER	UTILITY PROVIDER
STREETS, ALLEYS, AND SIDEWALKS	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA AND WHERE SUBDIVISION ADJACENT EXISTING STREET RIGHT-OF-WAY SHALL INCLUDE AT LEAST THE ADJACENT HALF OF THE STREET	BUILT WITH CONSTRUCTION OF INFRASTRUCTURE FOR EACH APPROVED PLAT, INCLUDING CURB & GUTTER AND ALLEYS	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
OIL & GAS ACCESS ROAD	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
MODIFICATIONS TO SIGNAL AT INTERSECTION OF W 16TH STREET AND 71ST AVENUE	INTERSECTIONS SHALL BE DESIGNED PER CITY AND CDOT STANDARDS AND SHALL BE DETERMINED PER APPROVED TRANSPORTATION IMPACT ANALYSIS AND/OR AS IDENTIFIED BY CDOT AND THE PUD	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY
SURVEY MONUMENTS	SURVEY MONUMENTS TO BE SHOWN ON EACH FINAL PLAT	FOLLOWING RECORDATION OF EACH APPROVED PLAT	PROFESSIONAL LAND SURVEYOR	NA ³	NA ³
DUST ABATEMENT AND EROSION CONTROL PLAN	AREA TO BE DETERMINED BY FINAL CIVIL CONSTRUCTION DOCUMENTS	IMPLEMENTED AT COMMENCEMENT OF CONSTRUCTION OF EACH APPROVED PLAT	METRO DISTRICT	METRO DISTRICT	METRO DISTRICT
STREET LIGHTS	AREAS SHALL BE DESIGNED PER CITY OF GREELEY STANDARDS. EXTENT AND LOCATION SHALL BE DETERMINED AT THE TIME OF FINAL PLAT FOR THE AFFECTED AREA	BUILT WITH STREETS AND ROADS (PHASE 1)	METRO DISTRICT	CITY OF GREELEY	CITY OF GREELEY

¹ THE DEVELOPER WILL NEGOTIATE A SEPARATE AGREEMENT WITH THE CITY FOR THE METRO DISTRICT TO BUILD.
² WITHIN PUBLIC RIGHTS-OF-WAY OR PUBLIC DRAINAGE EASEMENTS.
³ PROPERTY OWNERS ARE RESPONSIBLE FOR REPAIRING DAMAGES TO SURVEY MONUMENTS ON THEIR PROPERTY.

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TRIPLE CREEK P.U.D.
GREELEY, CO

STATEMENT OF COMMITMENTS

PROJECT #: 221842
DRAWN BY: JAL, ML
CHECKED BY: RM

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SHEET 24 OF 32

ATTACHMENT G- ARCHITECTURE
DETAILS

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

ARCHITECTURAL STANDARDS

- ALL COMMERCIAL BUILDINGS AND MULTI-FAMILY/MIXED USE DWELLINGS SHALL FOLLOW THE CITY OF GREELEY ARCHITECTURAL STANDARDS IN SECTION 24-803 OF THE GREELEY DEVELOPMENT CODE (UPDATED OCTOBER 1, 2021).
- ALL RESIDENTIAL SINGLE-FAMILY DWELLINGS AND ROW HOUSES SHALL FOLLOW THE CITY OF GREELEY ARCHITECTURAL STANDARDS IN SECTION 24-503 OF THE GREELEY DEVELOPMENT CODE (UPDATED OCTOBER 1, 2021) WITH THE FOLLOWING EXCEPTIONS:
 - ALL RESIDENTIAL HOMES SHALL SUBMIT A LETTER OF APPROVAL FROM THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENSURE AN ENHANCED DESIGN STANDARD OVER AND ABOVE THE CITY'S BASE CODE PRIOR TO OBTAINING BUILDING PERMITS FROM THE CITY OF GREELEY.
 - ANY IMPROVEMENTS OR ADDITIONS TO RESIDENTIAL HOMES AFTER INITIAL CONSTRUCTION SHALL REQUIRE THE APPROVAL OF THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL TO ENSURE AN ENHANCED DESIGN STANDARD OVER AND ABOVE THE CITY'S BASE CODE PRIOR TO OBTAINING BUILDING PERMITS FROM THE CITY OF GREELEY.
- ALL REQUIREMENTS WITHIN SECTION 24-503 THAT HAVE A MINIMUM REQUIREMENT AND MAXIMUM LIMIT FOR ARCHITECTURAL DETAILS (SUCH AS FRONT PORCH DEPTH 8'-12') SHALL NOT HAVE A MAXIMUM LIMIT.
- WALL PLANE, BLANK WALL, AND ROOF PLANE LIMITS MAY BE EXCEEDED BY UP TO 100% (DOUBLE) THE CITY LIMIT, ONLY IF THE DESIGN IS APPROVED BY THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL.

ARCHITECTURAL EXAMPLES

THE OVER ARCHING GOAL FOR THE ARCHITECTURE AT TRIPLE CREEK IS TO CREATE AN UPSCALE MIXED-USE DEVELOPMENT THAT HAS A HEAVY FOCUS ON INTIMATE, HUMAN SCALE DEVELOPMENT. EACH ARCHITECTURAL STYLE WILL CONTRIBUTE TO THE CHARACTER OF THE COMMUNITY, WITH THE INDIVIDUALITY OF EVERY HOME CREATING AN ATTRACTIVE STREETScape THROUGHOUT THE DEVELOPMENT. ELEMENTS SUCH AS ROOF SHAPE AND PITCH, WINDOW SIZE, SHAPE AND PLACEMENT, AND CONSTRUCTION MATERIALS SUCH AS STONE, BRICK, STUCCO OR WOOD CAN ALL BE USED TO CREATE THE SUBTLE DETAILS THAT FOSTER INDIVIDUALITY IN A HOME.

THE STYLES AND ARCHITECTURAL FEATURES LISTED IN THIS SECTION ARE TO BE VIEWED AS DESIGN GUIDELINES FOR THE HOMES WITHIN TRIPLE CREEK. THE ARCHITECTURAL STYLES LISTED CAN BE USED IN MANY VARIATIONS TO CREATE THE UNIQUE AND INDIVIDUAL CHARACTER DESIRED FOR EACH HOME. ALTHOUGH EXAMPLES OF ARCHITECTURAL STYLES ARE BEING PROVIDED, ADDITIONAL STYLES SHALL BE ALLOWED.

REPETITIOUS AND HOMOGENOUS BUILDING STYLES WILL NOT BE PERMITTED AT TRIPLE CREEK. A VARIETY OF HOUSING TYPES, COLOR VARIATIONS AND BUILDING MATERIALS WILL HELP CREATE UNIQUE NEIGHBORHOODS. SINGLE FAMILY HOMES WITH THE SAME STYLE, FLOOR PLAN OR COLOR SCHEME WILL NOT BE BUILT ON LOTS NEXT TO, ADJACENT TO, OR ACROSS THE STREET FROM EACH OTHER.

HISTORIC PRAIRIE STYLE

WITH AN EMPHASIS ON FITTING THE ARCHITECTURE INTO ITS SURROUNDINGS, THE HISTORIC PRAIRIE STYLE INCORPORATES GENTLY SLOPING ROOFS WITH BROAD OVERHANGS, STRONG HORIZONTAL LINES, AND SIMPLE BUILDING MASSING. ONE-STORY PORCHES WITH MASONRY COLUMNS OFTEN FLANK THE MAIN TWO-STORY BODY OF THE HOUSE. THE LOW ROOF-LINE IS OFTEN HIPPED; HOWEVER, GABLE ROOFS CAN BE USED AS ACCENT FEATURES. THE FOLLOWING FEATURES IDENTIFY A HISTORIC PRAIRIE STYLE HOME:

- SHALLOW ROOF PITCHES AND DEEP OVERHANGS
- RIBBON WINDOWS
- BRICK MASONRY OR LAP SIDING WITH MASONRY BASE
- HIPPED ROOF FORMS
- WRAP AROUND PORCH
- IRON PORCH RAILING
- CARRIAGE-TYPE GARAGE DOORS
- CONTRASTING COLORS
- PLANTER BOXES

HISTORIC CLASSIC STYLE

RECOGNIZING OUR NATION'S COLONIAL HERITAGE IS THE INTENT OF THE CLASSIC STYLE. EMBELLISHING THE SIMPLE FORM OF THE HOUSE WITH FAMILIAR DETAILING AND MASSING DOES THIS. THE ROOF FORMS ARE ALSO SIMPLE, WITH ACCENT GABLES FACING THE FRONT. VENTS OR WINDOWS BREAK UP THE MASS OF THE GABLE END ROOF FORMS. DORMERS ARE OFTEN USED TO BREAK DOWN LARGE ROOF MASSES. WIDE PORCHES WITH BUILT-UP WOOD COLUMNS, OR ROUND COLUMNS, ARE AN INVITING FEATURE. A SIMPLE RAILING AROUND THE PORCH ADDS CHARM TO THE FACADE. THE FOLLOWING FEATURES IDENTIFY A HISTORIC CLASSIC STYLE HOME:

- MEDIUM ROOF PITCHES AND MODERATE OVERHANGS
- ROUND GABLE-END VENTS
- GABLED ROOF FORMS
- CORNER TRIM WITH LAP SIDING AND STONE OR BRICK BASE
- ROUND PORCH COLUMNS
- TURNED PICKETS AT PORCH RAILING
- KEYSTONE ACCENTS
- DOUBLE ROUND COLUMNS
- LOUVRED ACCENT SHUTTERS

HISTORIC CRAFTSMAN STYLE

LOW HORIZONTAL FORMS AND SIMPLE SHAPES CHARACTERIZE THE HISTORIC CRAFTSMAN STYLE. RAFTERS AND BEAMS ARE OFTEN EXPOSED. DEEP EAVE OVERHANGS GIVE THE SHELTERING FEELING TO THE ROOF. THE GABLE ENDS ARE ALSO TREATED WITH MATERIALS DIFFERENT FROM THE MAIN BODY OF THE HOUSE TO ADD CHARACTER TO THE FACADE. PORCHES ARE ANCHORED TO THE GROUND WITH MASSIVE COLUMNS OF TAPERED MASONRY OR WOOD. THE FOLLOWING FEATURES IDENTIFY A HISTORIC CRAFTSMAN STYLE HOME:

- MEDIUM ROOF PITCHES AND DEEP OVERHANGS
- GABLE ACCENT MATERIAL WITH TRIM BAND
- SHED ROOF FORMS
- CORNER TRIM WITH LAP SIDING AND BRICK OR STONE BASE
- BUILT-UP PORCH COLUMNS
- WRAP-AROUND PORCH
- TAPERED ACCENT TRIM

CONTEMPORARY CLASSIC STYLE

THE CONTEMPORARY CLASSIC STYLE IS A CLOSE COMPANION OF THE HISTORIC CLASSIC STYLE. THE ROOF FORMS TEND TO BE MORE INTRICATE TO REFLECT THE COMPLEX MASSING OF THE HOUSE. GABLE ROOFS ARE STILL PROMINENT ALONG WITH THE USE OF VENTS AND WINDOWS TO ARTICULATE THE GABLE ENDS. WINDOW PATTERNS AND GRIDS ARE SIMILAR TO THE HISTORIC STYLE; HOWEVER, THE SHUTTERS AND TRIM TEND TO BE SIMPLIFIED. THE FOLLOWING FEATURES IDENTIFY A CONTEMPORARY CLASSIC STYLE HOME:

- MEDIUM ROOF PITCHES AND MODERATE OVERHANGS
- WINDOW MUNTIN PATTERN
- PANELED ACCENT SHUTTERS
- ROUND GABLE-END VENTS
- GABLED ROOF FORMS
- CORNER TRIM WITH STUCCO SIDING AND CONTINUOUS MASONRY BASE
- SQUARE OR ROUND PORCH COLUMNS
- TURNED PICKETS AT PORCH RAILING
- STUCCO KEYSTONE ACCENTS

CONTEMPORARY CRAFTSMAN STYLE

THE UPDATED VERSION OF THE CRAFTSMAN STYLE IS MORE COMPLEX IN ITS MASSING AND ROOF-LINES TO EXPRESS THE MODERN LIFESTYLE, BUT STILL BORROWS SEVERAL KEY ELEMENTS FROM ITS PREDECESSOR. EXPOSED RAFTERS AND BEAMS, DECORATIVE BRACKETS OR BEAMS ARE USED TO SUPPORT GABLE END ROOFS, AND THE GABLE ENDS ARE TREATED WITH CONTRASTING MATERIALS. THE WINDOWS ARE TALL AND NARROW, GROUPED TOGETHER TO GIVE BRIGHT DAYLIGHT TO THE INTERIOR. THE WINDOWS ALSO HAVE ARTICULATED TRIM AND GEOMETRIC WINDOW GRIDS. THE FOLLOWING FEATURES IDENTIFY A CONTEMPORARY CRAFTSMAN STYLE HOME:

- SHALLOW ROOF PITCHES AND DEEP OVERHANGS
- GABLE ACCENT MATERIAL WITH TRIM BAND
- SHED ROOF FORMS
- STUCCO SIDING WITH BRICK OR STONE BASE
- BUILT-UP PORCH COLUMNS



EXAMPLE - SFD ESTATE LOT



EXAMPLE - SFD ESTATE LOT



EXAMPLE - TOWNHOME



EXAMPLE - SFD COTTAGE



EXAMPLE - SFD ESTATE LOT



EXAMPLE - SFD SMALL LOT



EXAMPLE - TOWNHOME



EXAMPLE - MIXED-USE / COMMERCIAL

NOTE: THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL WILL REGULATE ARCHITECTURAL AND SITE DESIGN FOR ALL RESIDENTIAL LOTS WITHIN THE DEVELOPMENT. IMAGES AND GRAPHICS ON THIS PAGE ARE ILLUSTRATIVE ONLY AND SOLELY FOR GUIDELINE PURPOSES ONLY.

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TRIPLE CREEK
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TRIPLE CREEK P.U.D.
GREELEY, CO

ARCHITECTURAL STANDARDS

PROJECT # 221942
DRAWN BY: JAL, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL	03/09/23
2nd SUBMITTAL	06/01/23
3rd SUBMITTAL	07/26/23
4th SUBMITTAL	09/01/23

SHEET NUMBER

L6.00
SHEET 25 OF 32

ATTACHMENT G- ARCHITECTURE
DETAILS

TRIPLE CREEK P.U.D.

A PARCEL OF LAND BEING PARTS OF THE EAST HALF OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

RESIDENTIAL ARCHITECTURAL EXAMPLES

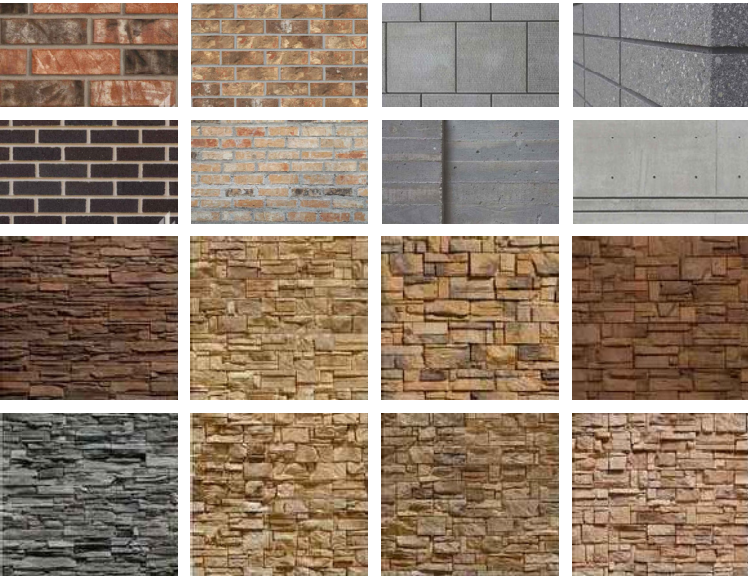
9.0 PALETTES AND FEATURES

THESE DESIGN EXAMPLES SERVE AS A NON-INCLUSIVE GUIDE FOR DESIGN OF ALL ELEMENTS THROUGHOUT THE TRIPLE CREEK DEVELOPMENT AND PROMOTE CONSISTENCY AND QUALITY IN MATERIALS AND FORM IN ALL ASPECTS OF THE COMMUNITY. THROUGH CONSISTENCY IN DESIGN, THE ATMOSPHERE OF AN ESTABLISHED COMMUNITY CAN BE REACHED. THE DESIGN STANDARDS CREATE THE FRAMEWORK FOR THE TRIPLE CREEK COMMUNITY, PROVIDING MINIMUM STANDARDS AS A SUPPLEMENT TO THE CITY OF GREELEY ZONING STANDARDS AND ALL OTHER RELEVANT CITY CODES.



SAMPLE (OVERALL) COLOR PALETTE (EARTH TONES)

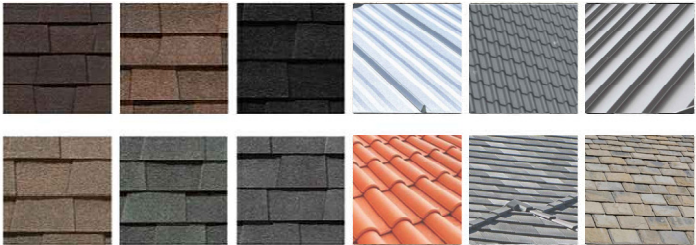
COLORS SHOWN ABOVE ARE NOT INCLUSIVE OF ACCEPTABLE COLORS, WHICH MAY ALSO INCLUDE SOFT PASTELS OF A NEUTRAL HUE OR AS APPROVED BY THE DEVELOPER'S ARCHITECTURE REVIEW COMMITTEE.



SAMPLE MASONRY AND STONE



SAMPLE SIDING STYLES



SAMPLE ARCHITECTURAL ROOF MATERIALS

NOTE: THE TRIPLE CREEK ARCHITECTURAL REVIEW PANEL WILL REGULATE ARCHITECTURAL AND SITE DESIGN FOR ALL RESIDENTIAL LOTS WITHIN THE DEVELOPMENT. IMAGES AND GRAPHICS ON THIS PAGE ARE ILLUSTRATIVE ONLY AND SOLELY FOR GUIDELINE PURPOSES ONLY.

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GREELEY, CO
ARCHITECTURAL STANDARDS

PROJECT #: 221942
DRAWN BY: JAL, ML
CHECKED BY: RH

ISSUE RECORD

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SHEET NUMBER
L6.01
SHEET 26 OF 32

Triple Creek Subdivision

Southwest quadrant of W. 16th Street and 71st Avenue, Greeley

Traffic Impact Study

KE Job #2019-031

Prepared for:

Richmark Real Estate Partners, LLC
5200 W. 20th Street
Greeley, CO 80634

Prepared by:



KELLAR ENGINEERING

www.kellarengineering.com
970.219.1602 phone



March 8, 2023

Sean K. Kellar, PE, PTOE

This document, together with the concepts and recommendations presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization from Kellar Engineering LLC shall be without liability to Kellar Engineering LLC.

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ATTACHMENT H - TRAFFIC IMPACT STUDY

1.0 Introduction

This Traffic Impact Study (TIS) is for the proposed Triple Creek Subdivision located at the southwest quadrant of W. 16th Street and 71st Avenue in Greeley, CO. The purpose of this TIS is to identify project traffic generation characteristics, to identify potential traffic related impacts on the adjacent street system, and to develop mitigation measures required for identified traffic impacts.

Kellar Engineering LLC (KE) has prepared the TIS to document the results of anticipated traffic conditions in accordance with the City of Greeley's requirements and to identify any projected impacts to the transportation system. The project is anticipated to generate approximately 8,157 daily weekday trips, 556 AM total peak hour trips, and 746 PM total peak hour trips. See Table 1: Trip Generation.

2.0 Existing Conditions and Roadway Network

The project site is located at the southwest quadrant of W. 16th Street and 71st Avenue in Greeley, CO. 71st Avenue is classified as a 2-lane minor arterial on the City's Transportation Plan adjacent to the project site. 71st Avenue has 2 thru lanes and a posted speed of 40 mph adjacent to the project site. The intersection of 71st Avenue/16th Street is signalized and currently the west leg of the intersection is not constructed. This project proposes to construct the west leg of the 71st Avenue/16th Street intersection. 16th Street's roadway classification on the 2035 Transportation Plan isn't shown since only collector and arterial roadways are shown on Figure 4-1 (Master Street Plan Map). Additionally, 20th Street is classified as a 4-lane arterial on the City's Transportation Plan. The intersection of 71st Avenue/20th Street is currently signalized with 5-section signal heads facing the left-turn lanes and video detection. 20th Street has a posted speed of 40 mph at the 71st Avenue/20th Street intersection.

2.1 Recent Traffic Volumes

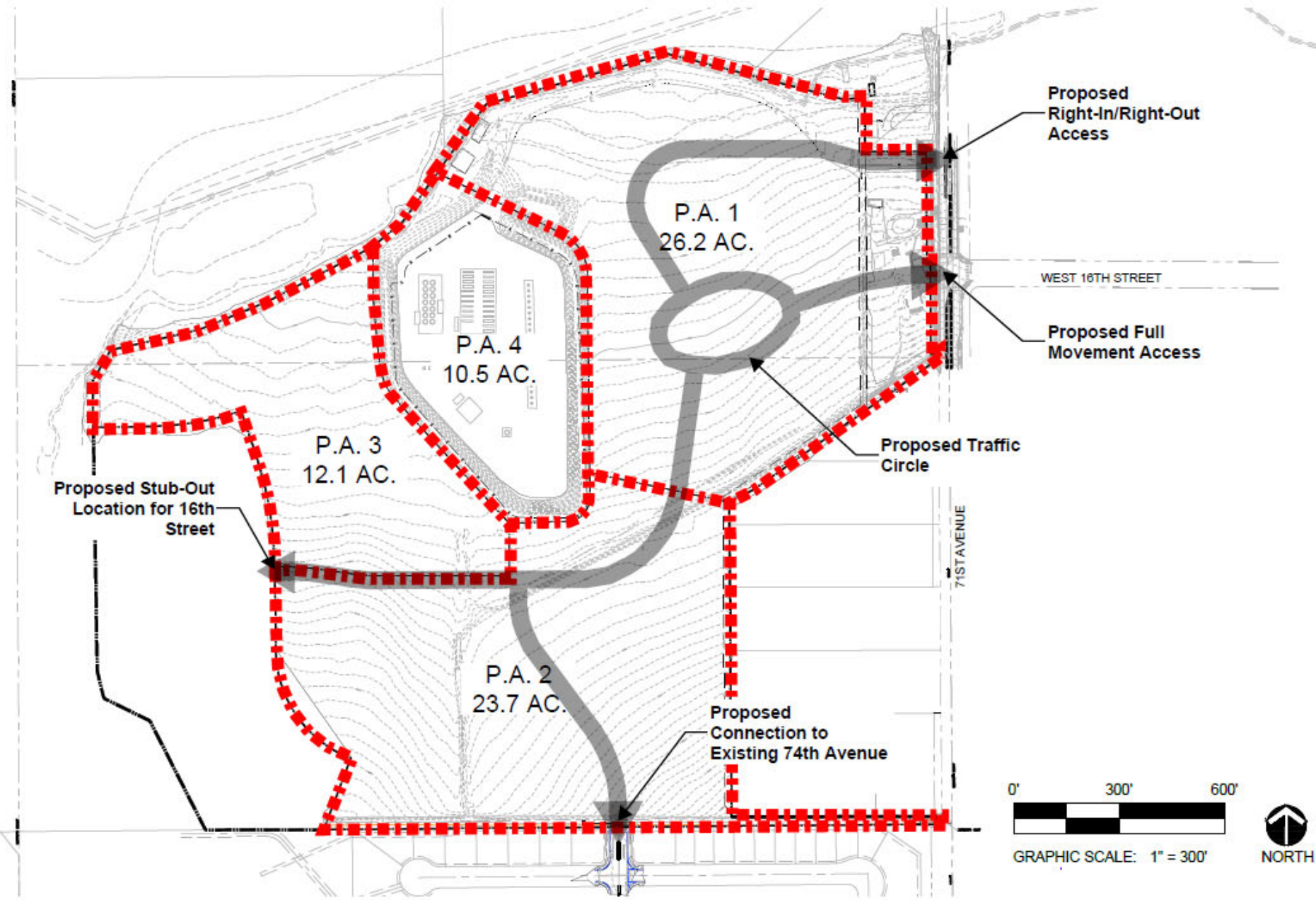
Recent weekday peak hour traffic volume counts were conducted using data collection cameras. The traffic counts were conducted in 15-minute intervals on Tuesday, 12/13/22 during the peak hours from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The traffic counts are shown in Figure 3 with the count sheets provided in Appendix A.

ATTACHMENT H - TRAFFIC IMPACT STUDY

Figure 1: Vicinity Map



Figure 2: Site Plan



Triple Creek - Planning Areas
Greeley, Colorado
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ATTACHMENT H - TRAFFIC IMPACT STUDY

3.0 Proposed Development

The proposed development consists of a mix of: single-family, multi-family, and commercial land uses. See Table 1: Trip Generation and Figure 2: Site Plan

3.1 Pedestrian Facilities

The proposed project will be responsible for the public street improvements adjacent to and within the property (including sidewalk). These sidewalk facilities will be sufficient to accommodate pedestrians per City standards.

4.1 Trip Generation

Site generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Report* published by the Institute of Transportation Engineers (ITE). ITE has established trip generation rates in nationwide studies of similar land uses. For this study, KE used the *ITE 11th Edition Trip Generation Report* average trip rates. The proposed project is anticipated to generate approximately 8,157 daily weekday trips, 556 AM total peak hour trips, and 746 PM total peak hour trips. See Table 1: Trip Generation.

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 1: Trip Generation (ITE Trip Generation, 11th Edition) – *Triple Creek Subdivision*

ITE Code	Land Area	Land Use	Size	Average Daily Trips		AM Peak Hour Trips						PM Peak Hour Trips					
				Rate	Total	Rate	% In	In	% Out	Out	Total	Rate	% In	In	% Out	Out	Total
	P.A. 1																
221		Multifamily (Mid-Rise Apartments)	650 DU	4.54	2,951	0.37	23%	55	77%	186	241	0.39	61%	155	39%	99	254
220		Multifamily (Low-Rise Townhomes)	40 DU	6.74	270	0.40	24%	4	76%	12	16	0.51	63%	13	37%	7	20
822		Commercial	*23 KSF	54.45	1,252	2.36	60%	33	40%	21	54	6.59	50%	76	50%	76	152
	P.A. 2																
210		Single-Family (Detached)	94 DU	9.43	886	0.70	25%	16	75%	50	66	0.94	63%	56	37%	32	88
220		Multifamily (Low-Rise Townhomes)	142 DU	6.74	957	0.40	24%	14	76%	43	57	0.51	63%	46	37%	26	72
	P.A. 3																
210		Single-Family (Detached)	48 DU	9.43	453	0.70	25%	8	75%	26	34	0.94	63%	28	37%	17	45
220		Multifamily (Low-Rise Townhomes)	73 DU	6.74	492	0.40	24%	7	76%	22	29	0.51	63%	23	37%	14	37
	P.A. 4																
210		Single-Family (Detached)	45 DU	9.43	424	0.70	25%	8	75%	23	31	0.94	63%	27	37%	15	42
220		Multifamily (Low-Rise Townhomes)	70 DU	6.74	472	0.40	24%	7	76%	21	28	0.51	63%	22	37%	14	36
Subtotal					8,157			152		404	556			446		300	746
Total					8,157			152		404	556			446		300	746

DU = Dwelling Units
KSF = Thousand Square Feet

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 1b: Trip Generation (ITE Trip Generation, 11th Edition) – 130 Acres to the West of the Triple Creek Subdivision

ITE Code	Land Area	Land Use	Size	Average Daily Trips		AM Peak Hour Trips						PM Peak Hour Trips					
				Rate	Total	Rate	% In	In	% Out	Out	Total	Rate	% In	In	% Out	Out	Total
	130 acres west																
210	9 units/acre	Single-Family (Detached)	1,170 DU	9.43	11,033	0.70	25%	205	75%	614	819	0.94	63%	693	37%	407	1100
Total					11,033			205		614	819			693		407	1,100

DU = Dwelling Units



Figure 3: Recent Peak Hour Traffic

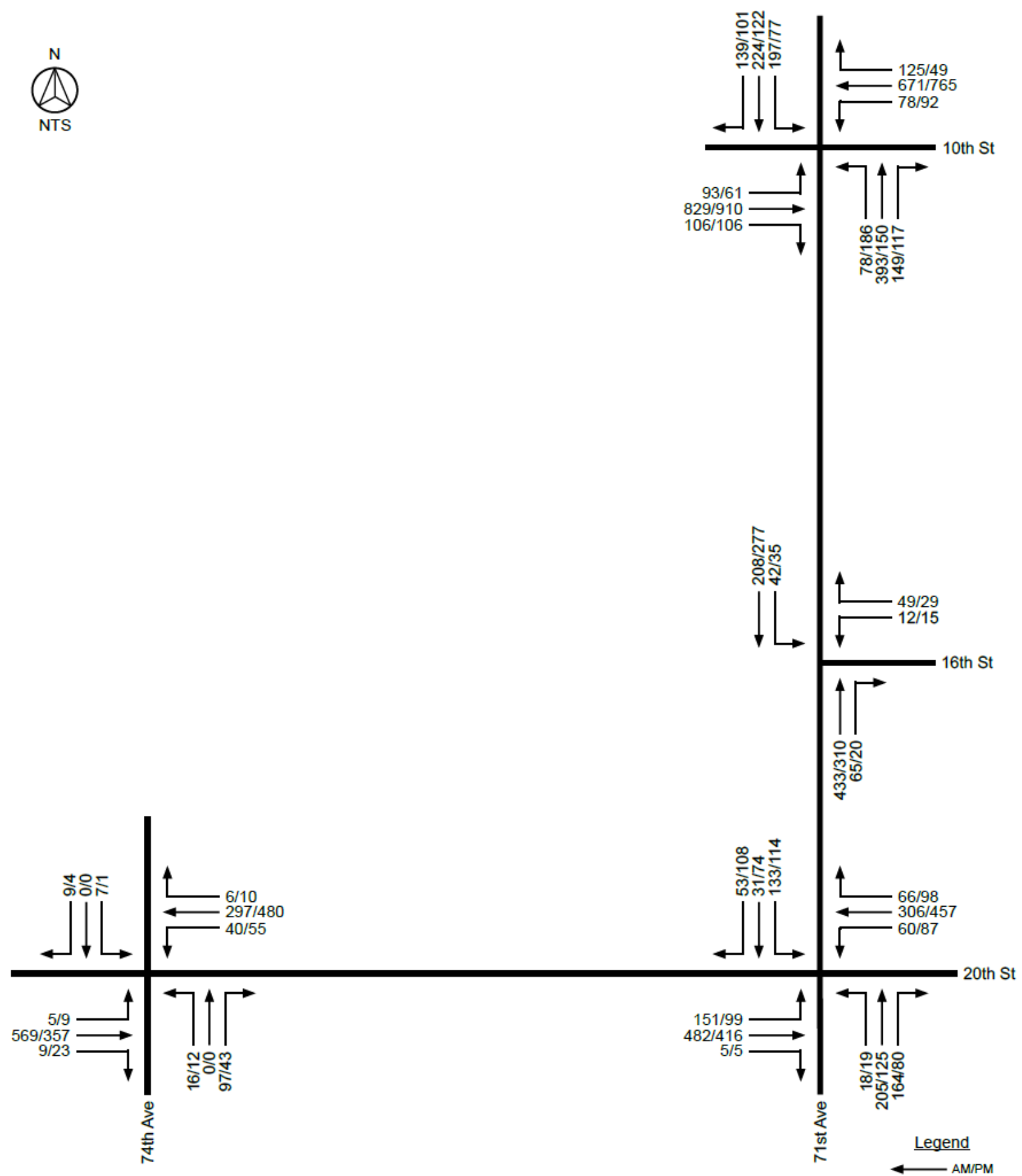


Figure 4: 2025 Background Traffic

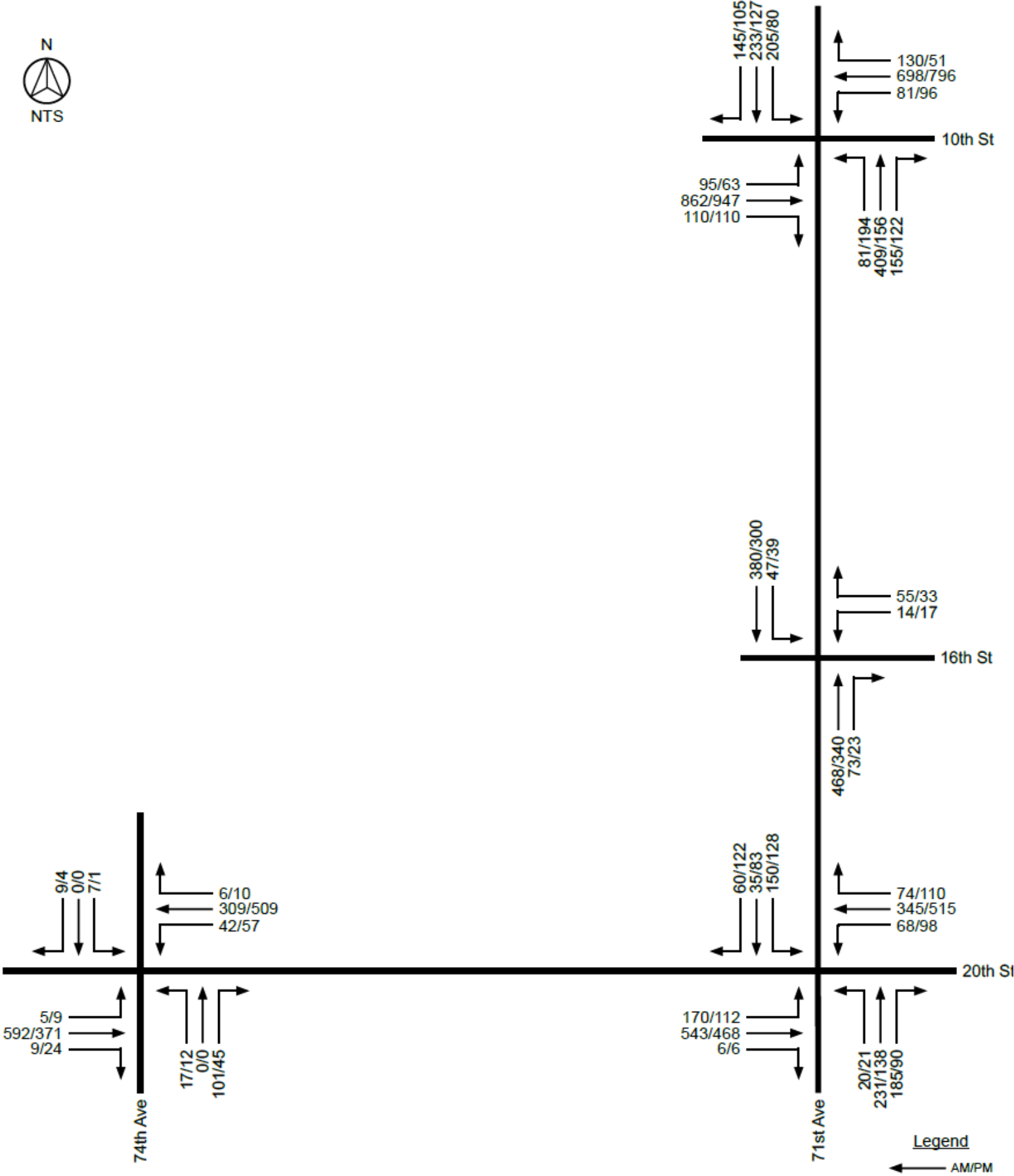


Figure 5: 2045 Background Traffic

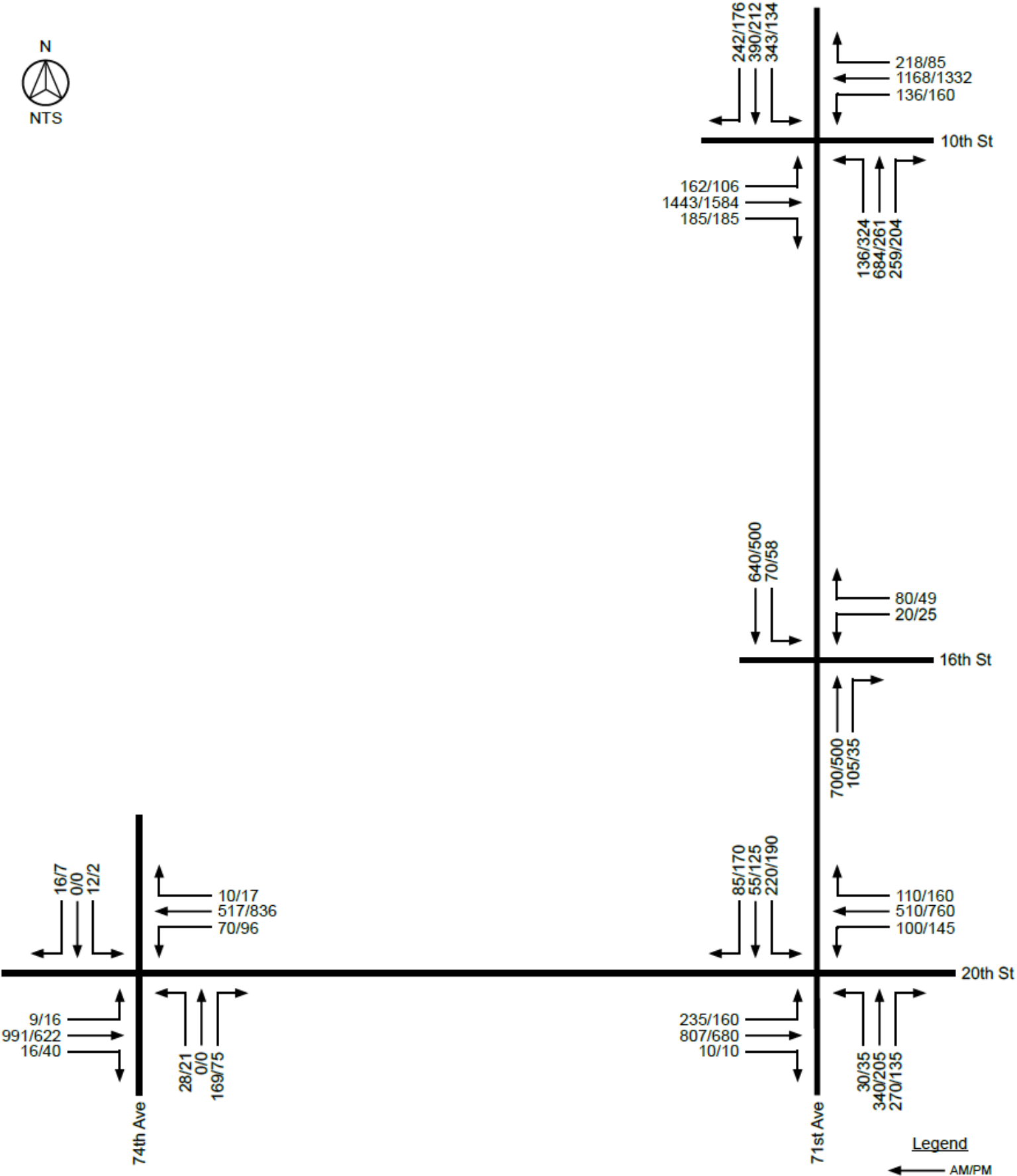


Figure 6: Trip Distribution

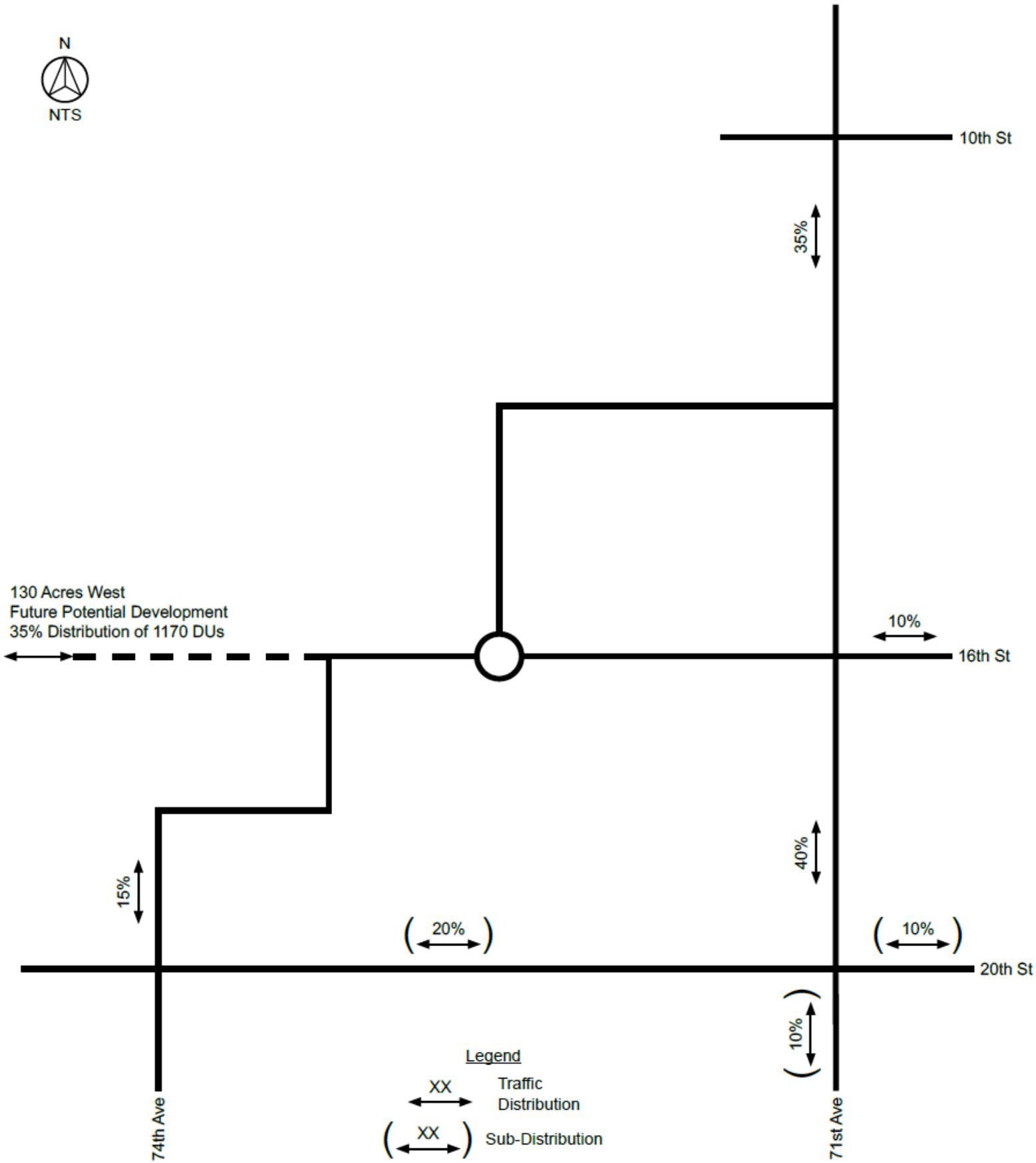


Figure 7: Site Generated Peak Hour Traffic

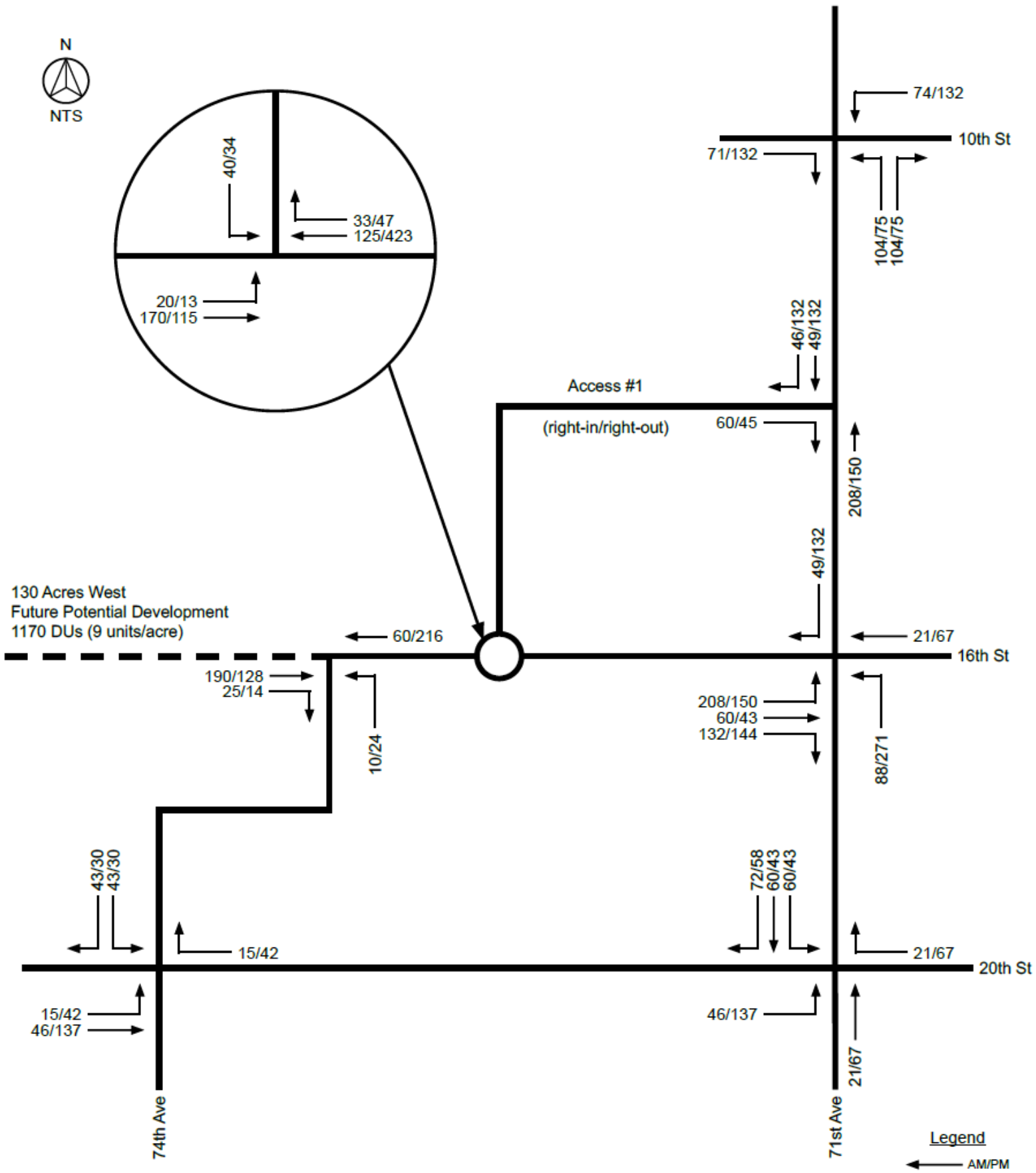


Figure 8: 2025 Short Range Total Traffic



Figure 8: 2025 Short Range Total Traffic (continued...)

2025 Short Total AM Peak Hour

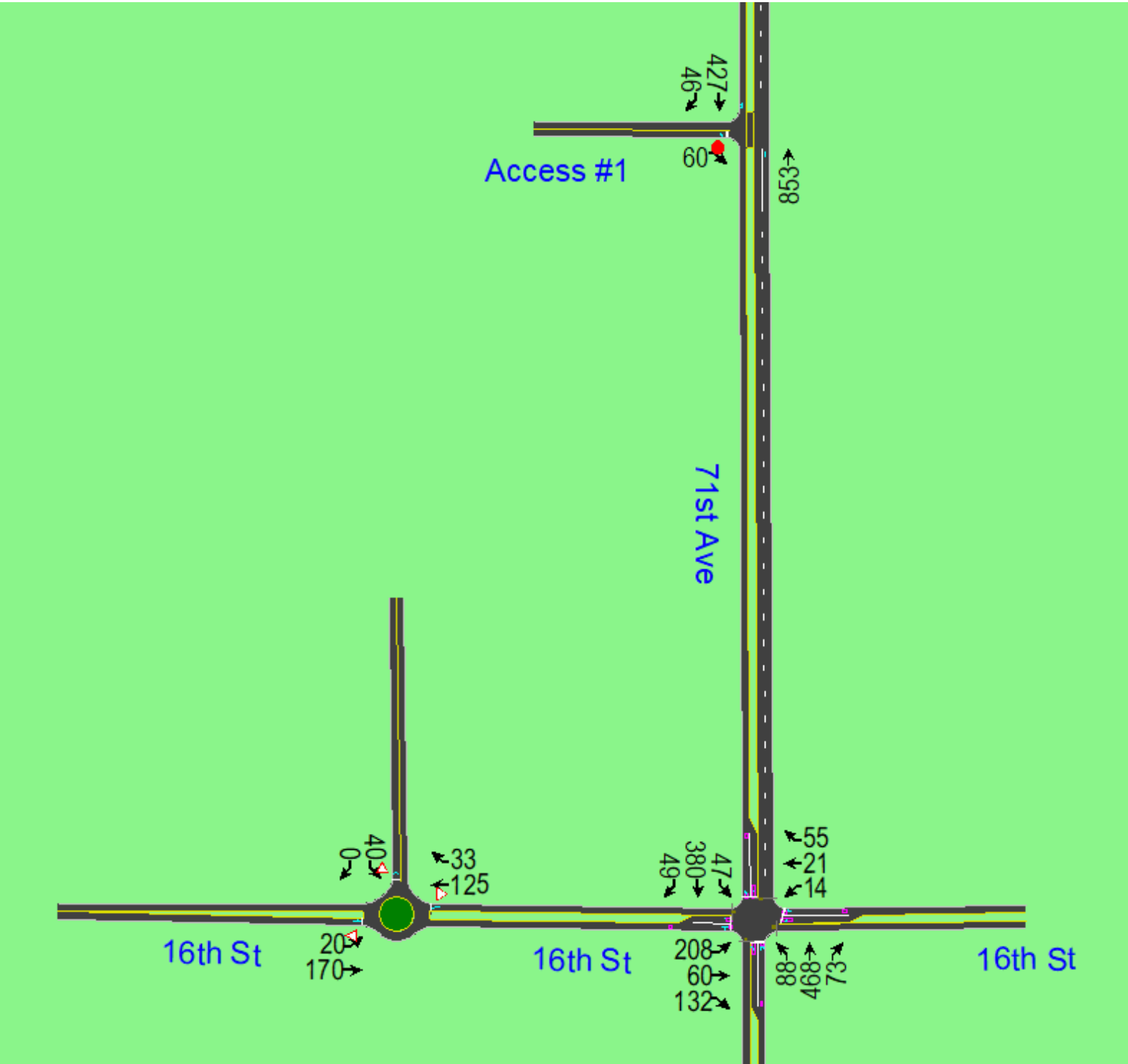


Figure 8: 2025 Short Range Total Traffic (continued...)

2025 Short Total AM Peak Hour

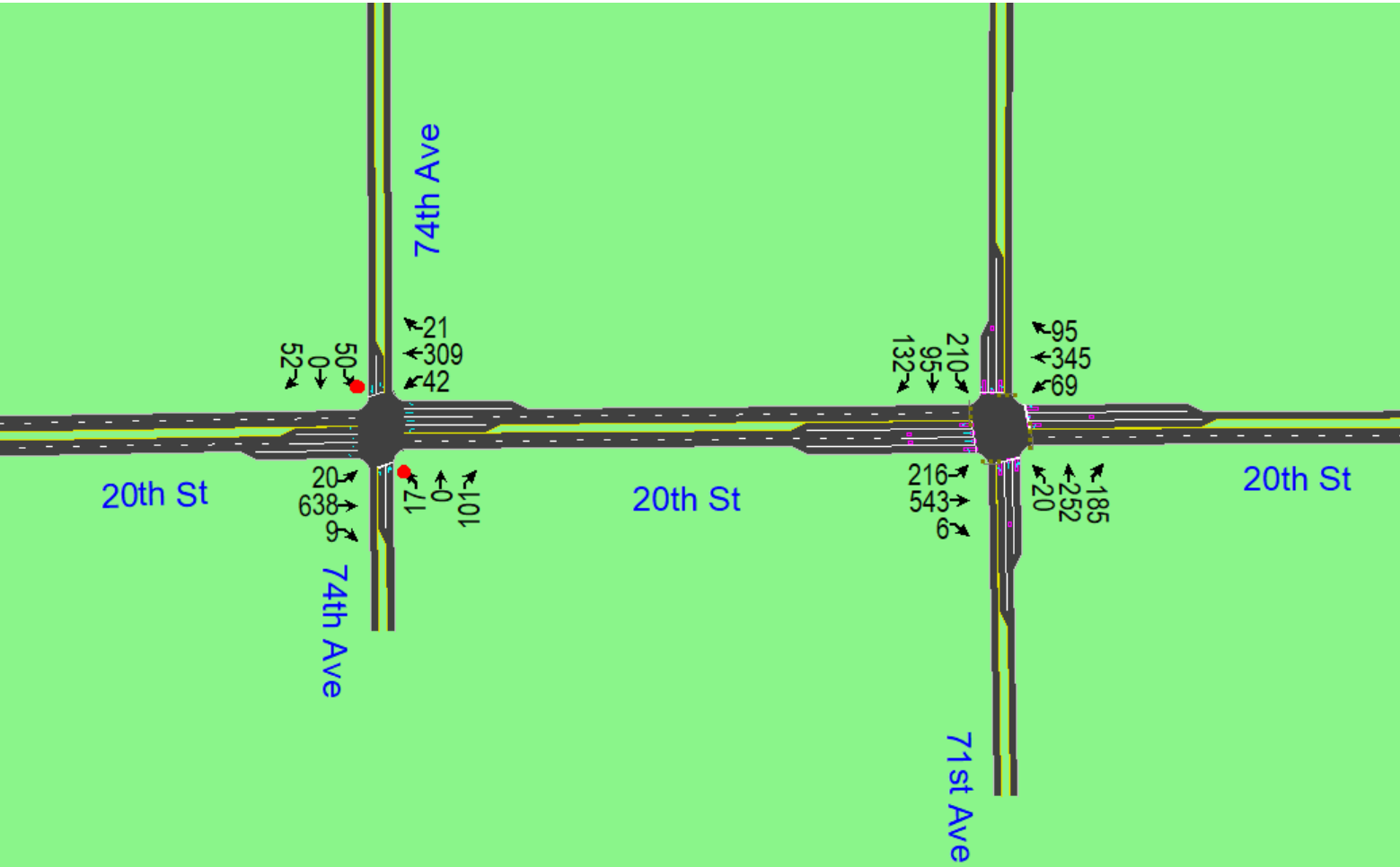


Figure 8: 2025 Short Range Total Traffic (continued...)

2025 Short Total PM Peak Hour

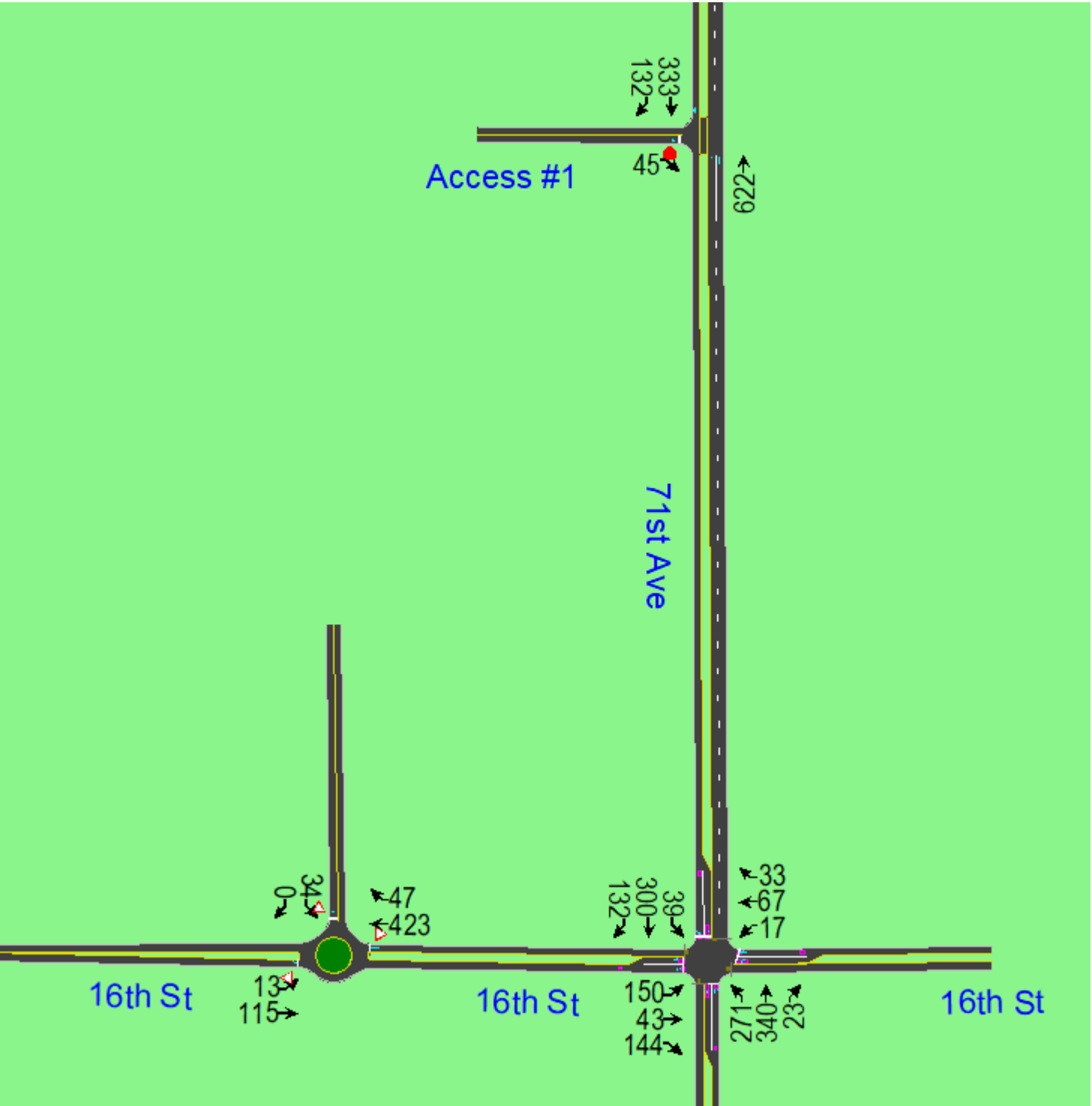


Figure 8: 2025 Short Range Total Traffic (continued...)

2025 Short Total PM Peak Hour

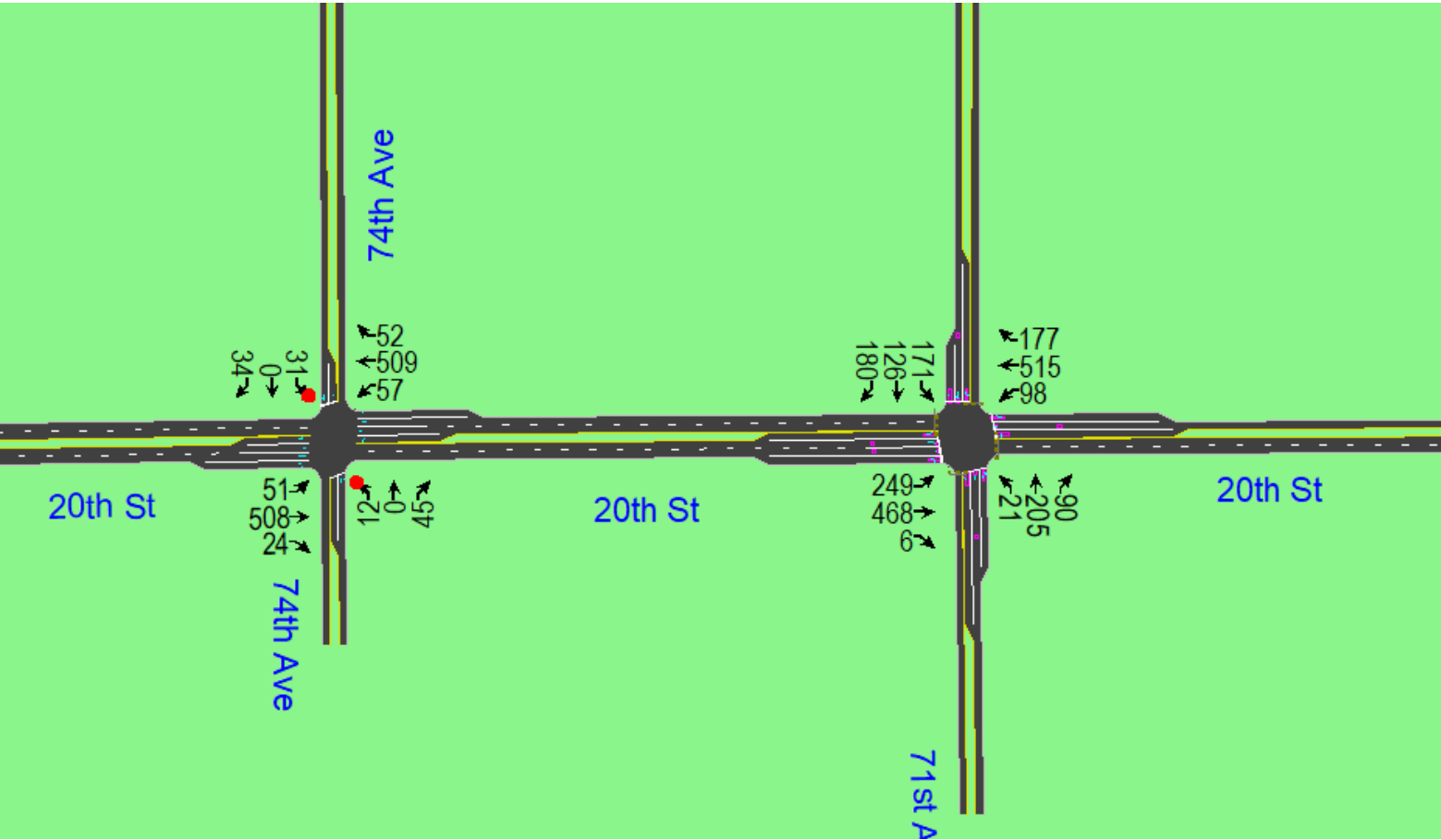


Figure 9: 2045 Long Range Total Traffic

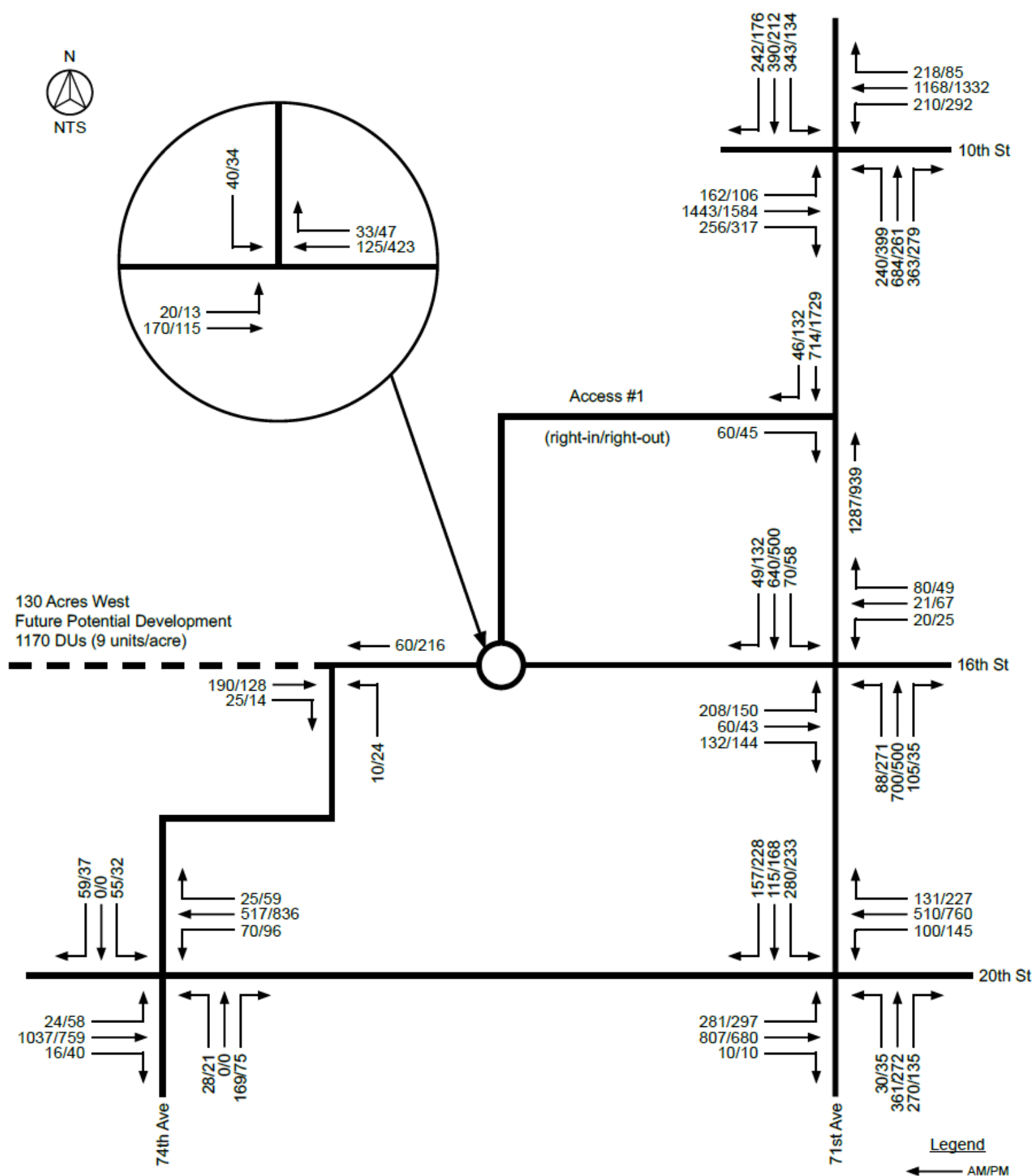


Figure 9: 2045 Long Range Total Traffic (continued...)

2045 Long Total AM Peak Hour

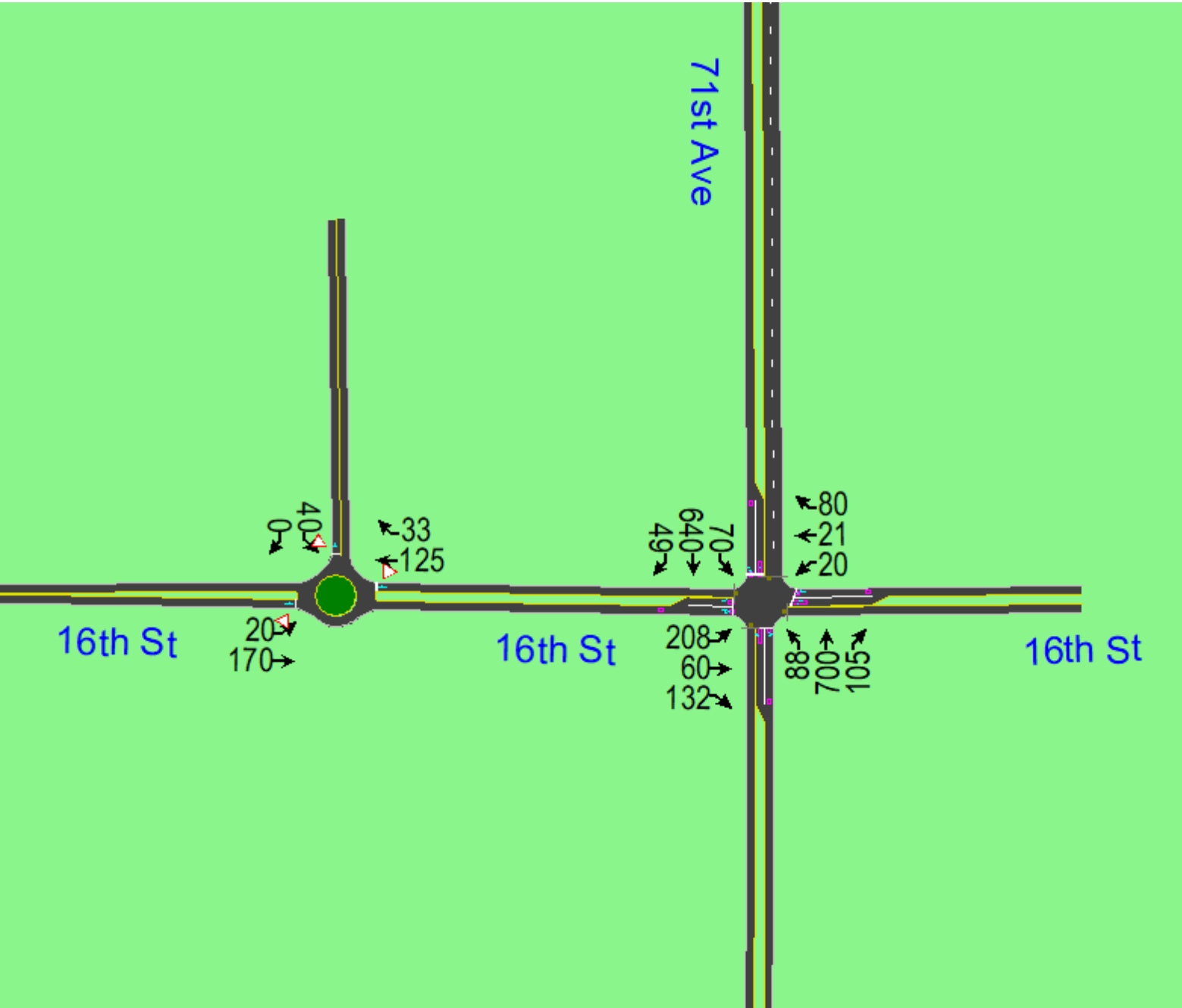


Figure 9: 2045 Long Range Total Traffic (continued...)

2045 Long Total AM Peak Hour

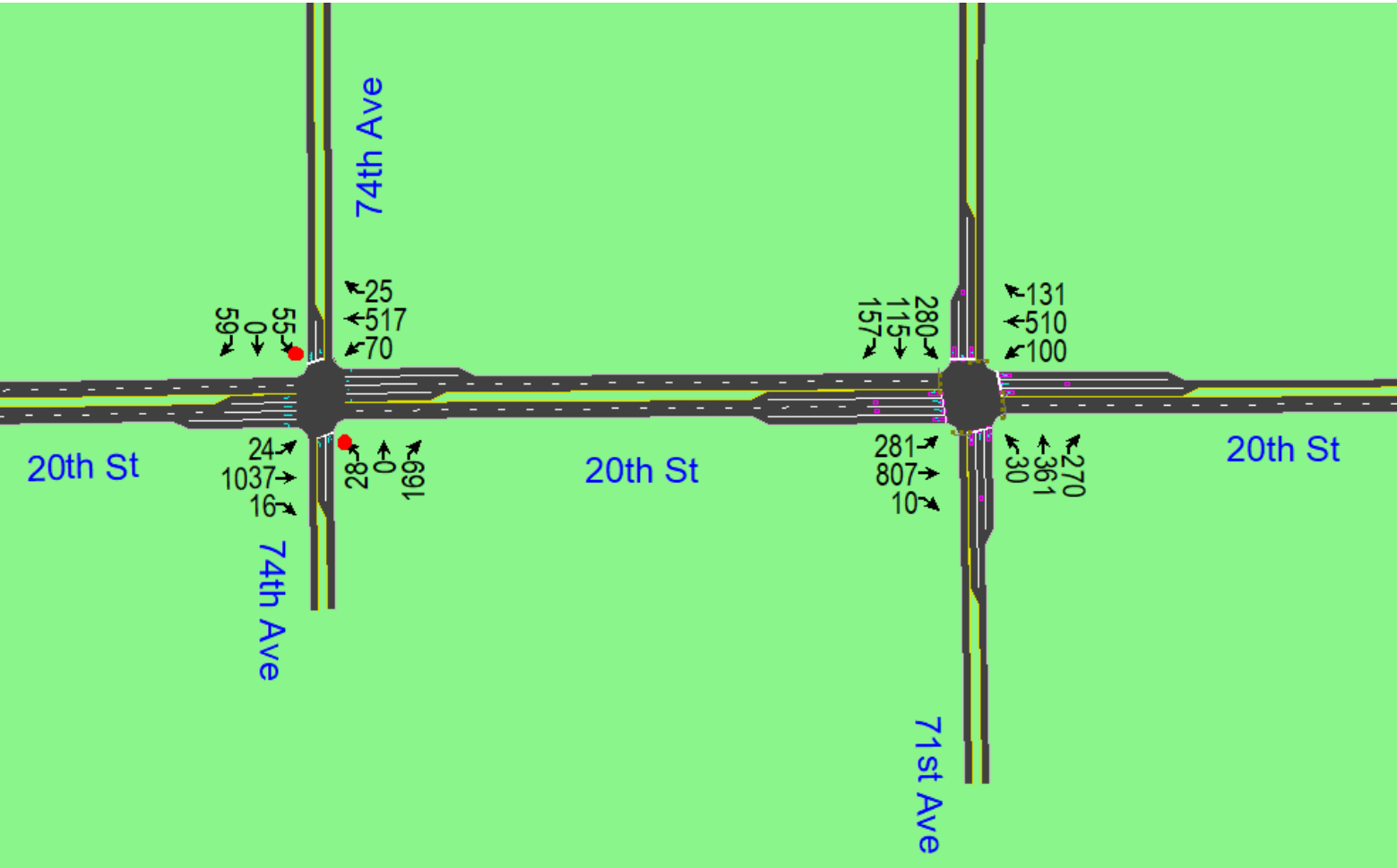


Figure 9: 2045 Long Range Total Traffic (continued...)

2045 Long Total PM Peak Hour

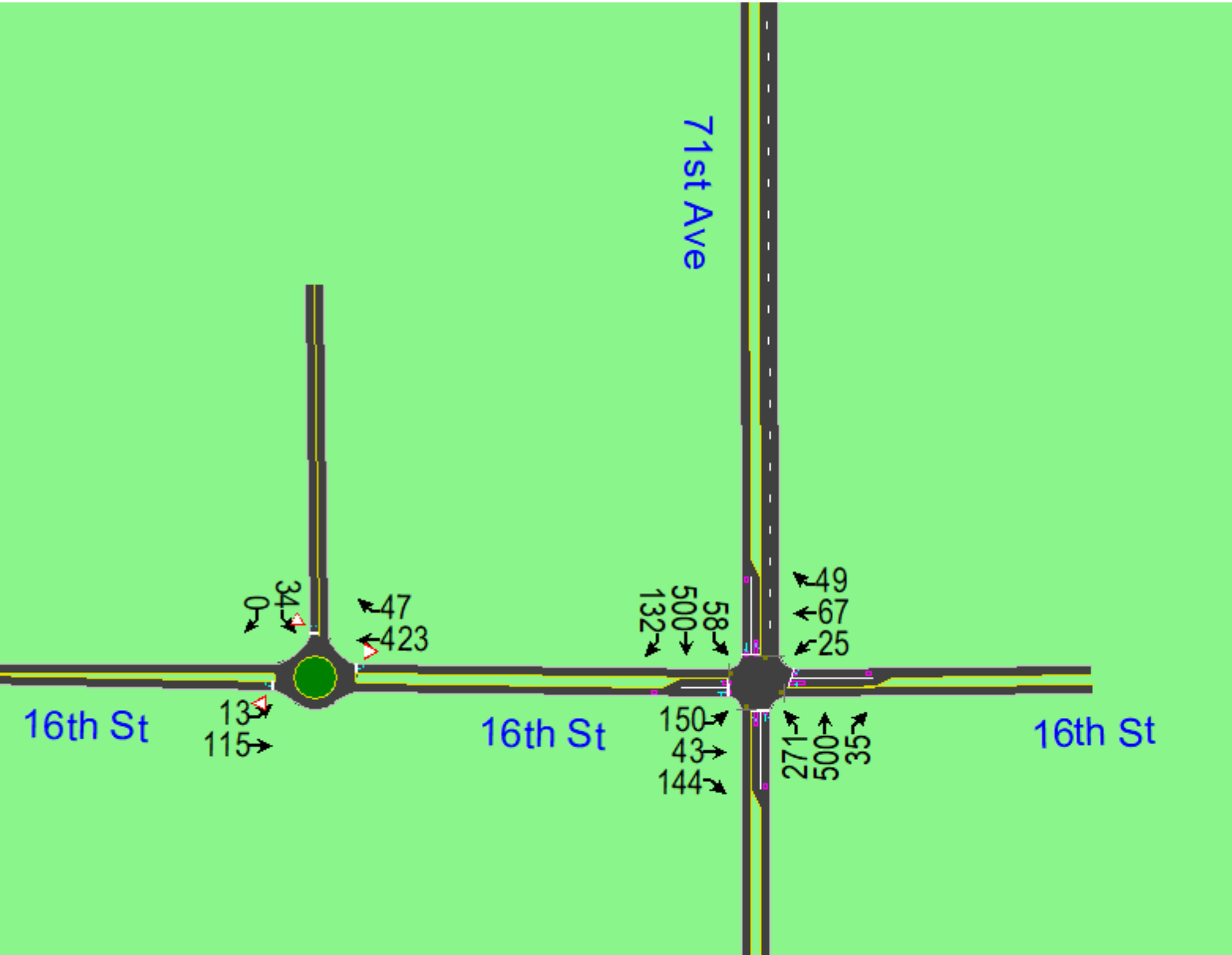
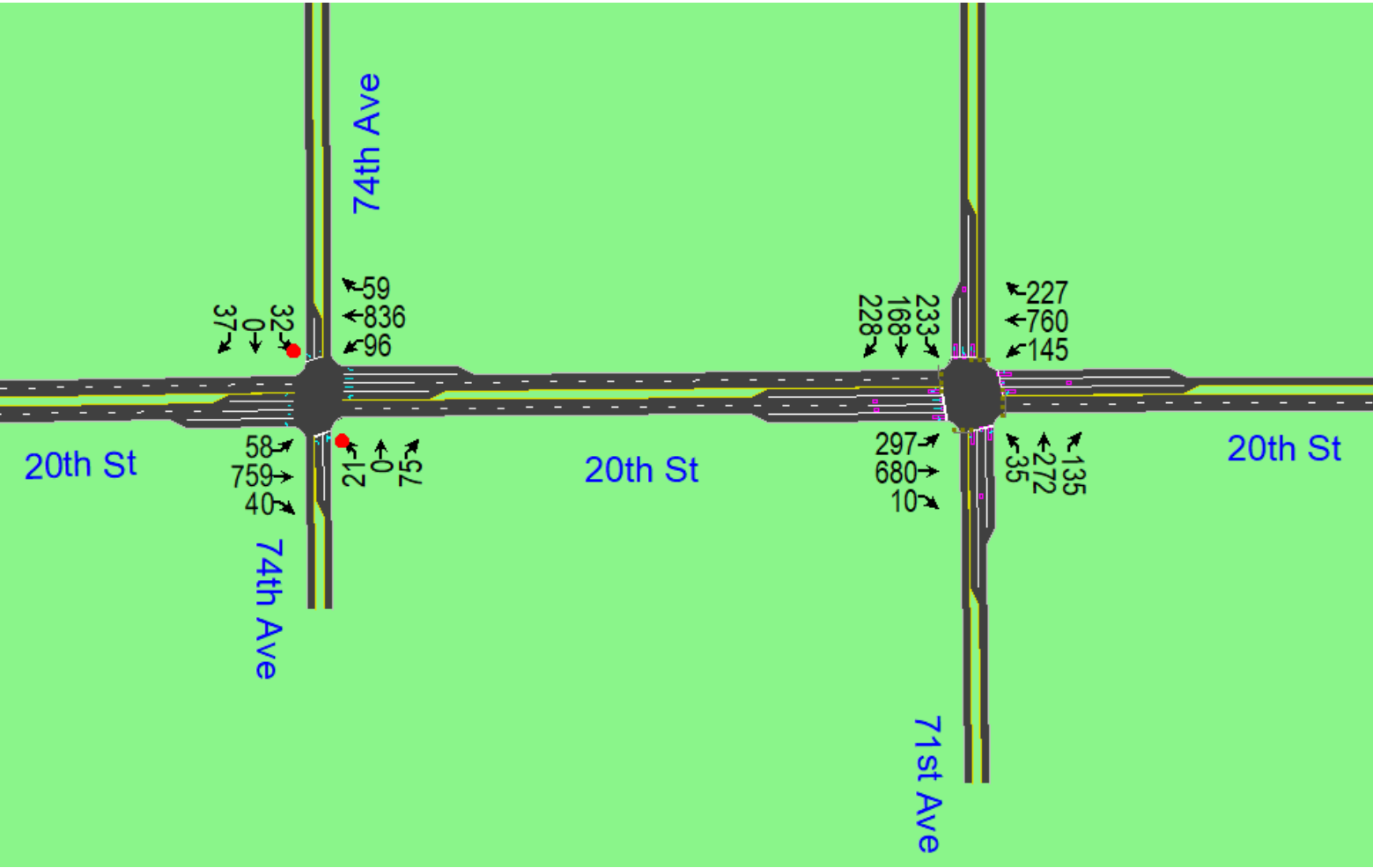


Figure 9: 2045 Long Range Total Traffic (continued...)

2045 Long Total PM Peak Hour



ATTACHMENT H - TRAFFIC IMPACT STUDY

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, anticipated surrounding development areas, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site generated traffic that approaches the site from a given direction and departs the site back to the original source. Figure 6 illustrates the trip distribution used for the project's analysis.

4.3 Traffic Assignment

Traffic assignment was obtained by applying the trip distributions to the estimated trip generation of the development. Figure 7 shows the site generated traffic assignment for the project. Additionally, 1,170 single-family dwelling units were included as future potential development of the 130 acres to the west in the site generated traffic to be conservative. See Table 1b, Figure 6, and Figure 7.

4.4 Short Range Total Peak Hour Traffic

Site generated peak hour traffic volumes were added to the background traffic volumes to represent the estimated traffic conditions for the short range 2025 horizon. These background (2025) and short range (2025) total traffic volumes are shown in Figures 4 and 8. The short range analysis year 2025 includes the proposed development for this project plus a 2% increase in background traffic per the CDOT Online Transportation Information System (OTIS). Additionally, 1,170 single-family dwelling units were included as future potential development of the 130 acres to the west in the site generated traffic to be conservative. See Table 1b, Figure 6, and Figure 7.

4.5 Long Range Total Peak Hour Traffic

Site generated peak hour traffic volumes were added to the background traffic volumes to represent the estimated traffic conditions for the long range 2045 horizon. These background (2045) and long range (2045) total traffic volumes are shown in Figures 5 and 9. The long range

ATTACHMENT H - TRAFFIC IMPACT STUDY

analysis year 2045 includes the proposed development for the project plus project plus a 2% increase in background traffic per the CDOT Online Transportation Information System (OTIS). Additionally, 1,170 single-family dwelling units were included as future potential development of the 130 acres to the west in the site generated traffic to be conservative. See Table 1b, Figure 6, and Figure 7.

5.0 Traffic Operation Analysis

KE's analysis of traffic operations in the site vicinity was conducted to determine the capacity at the identified intersections. The acknowledged source for determining overall capacity is the latest edition of the Highway Capacity Manual (HCM).

5.1 Analysis Methodology

Capacity analysis results are listed in terms of level of service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. LOS ranges from an A (very little delay) to an F (long delays). A description of the level of service (LOS) for signalized and unsignalized intersections from the Highway Capacity Manual (HCM) are provided in Appendix C.

5.2 Intersection Operational Analysis

Operational analysis was performed for the short range 2025 horizon and the long range 2045 horizon. The calculations for this analysis are provided in Appendix F. Using the short range total traffic volumes, the project's study intersections are projected to operate acceptably. See Table 5.

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 2: Recent Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/20 th Street	EB Left	B	B
	EB Thru	C	C
	EB Right	A	A
	EB Approach	C	C
	WB Left	B	B
	WB Thru	D	D
	WB Right	A	A
	WB Approach	C	C
	NB Left	B	B
	NB Thru	C	C
	NB Right	A	A
	NB Approach	B	B
	SB Left	B	B
	SB Thru	B	C
	SB Right	A	A
	SB Approach	B	B
	Overall	C	C

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/16 th Street	WB Left	B	C
	WB Thru/Right	A	A
	WB Approach	A	A
	NB Left	A	A
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left	A	A
	SB Thru/Right	A	A
	SB Approach	A	A
	Overall	A	A

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 2: Recent Peak Hour Operations (continued...)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/10 th Street	EB Left	B	B
	EB Thru	C	C
	EB Right	A	A
	EB Approach	C	C
	WB Left	B	B
	WB Thru	C	C
	WB Right	A	A
	WB Approach	C	C
	NB Left	B	B
	NB Thru	C	C
	NB Right	A	A
	NB Approach	B	B
	SB Left	B	B
	SB Thru	C	C
	SB Right	A	A
	SB Approach	B	B
	Overall	C	C

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
74 th Avenue/20 th Street	EB Left	A	A
	EB Thru	A	A
	EB Right	A	A
	EB Approach	A	A
	WB Left	A	A
	WB Thru	A	A
	WB Right	A	A
	WB Approach	A	A
	NB Left	C	C
	NB Thru/Right	B	A
	NB Approach	B	B
	SB Left	C	C
	SB Thru/Right	A	A
	SB Approach	B	B

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 3: 2025 Background Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/20 th Street	EB Left	C	C
	EB Thru	C	C
	EB Right	A	A
	EB Approach	C	C
	WB Left	B	B
	WB Thru	D	D
	WB Right	A	A
	WB Approach	C	C
	NB Left	B	C
	NB Thru	C	C
	NB Right	A	A
	NB Approach	B	C
	SB Left	B	C
	SB Thru	B	C
	SB Right	A	A
	SB Approach	B	B
	Overall	C	C

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/16 th Street	WB Left	B	C
	WB Thru/Right	A	A
	WB Approach	A	A
	NB Left	A	A
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left	A	A
	SB Thru/Right	A	A
	SB Approach	A	A
	Overall	A	A

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 3: 2025 Background Peak Hour Operations (continued...)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/10 th Street	EB Left	B	B
	EB Thru	C	D
	EB Right	A	A
	EB Approach	C	C
	WB Left	B	C
	WB Thru	C	C
	WB Right	A	A
	WB Approach	C	C
	NB Left	B	C
	NB Thru	C	C
	NB Right	A	A
	NB Approach	B	B
	SB Left	B	C
	SB Thru	C	C
	SB Right	A	A
	SB Approach	B	B
	Overall	C	C

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
74 th Avenue/20 th Street	EB Left	A	A
	EB Thru	A	A
	EB Right	A	A
	EB Approach	A	A
	WB Left	A	A
	WB Thru	A	A
	WB Right	A	A
	WB Approach	A	A
	NB Left	C	C
	NB Thru/Right	B	A
	NB Approach	B	B
	SB Left	C	C
	SB Thru/Right	A	B
	SB Approach	B	B

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 4: 2045 Background Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/20 th Street	EB Left	E	E
	EB Thru	C	C
	EB Right	A	A
	EB Approach	C	C
	WB Left	B	B
	WB Thru	E	E
	WB Right	A	A
	WB Approach	D	D
	NB Left	B	C
	NB Thru	E	D
	NB Right	B	A
	NB Approach	D	C
	SB Left	F (86.4 sec)	E
	SB Thru	C	C
	SB Right	A	A
	SB Approach	E	D
	Overall	D	D

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/16 th Street	WB Left	B	C
	WB Thru/Right	A	A
	WB Approach	A	A
	NB Left	A	A
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left	A	A
	SB Thru/Right	A	A
	SB Approach	A	A
	Overall	A	A

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 4: 2045 Background Peak Hour Operations (continued...)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/10 th Street	EB Left	E	D
	EB Thru	E	E
	EB Right	A	A
	EB Approach	E	E
	WB Left	E	D
	WB Thru	D	C
	WB Right	A	A
	WB Approach	D	C
	NB Left	D	E
	NB Thru	E	D
	NB Right	C	A
	NB Approach	E	D
	SB Left	F (99.2 sec)	D
	SB Thru	D	E
	SB Right	B	B
	SB Approach	E	D
	Overall	E	D

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
74 th Avenue/20 th Street	EB Left	A	B
	EB Thru	A	A
	EB Right	A	A
	EB Approach	A	A
	WB Left	B	A
	WB Thru	A	A
	WB Right	A	A
	WB Approach	A	A
	NB Left	F (91.2 sec)	F (55.9 sec)
	NB Thru/Right	C	B
	NB Approach	D	C
	SB Left	F (67.9 sec)	F (60.5 sec)
	SB Thru/Right	B	B
	SB Approach	D	C

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 5: 2025 Short Range Total Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/20 th Street	EB Left	C	D
	EB Thru	C	B
	EB Right	A	A
	EB Approach	C	C
	WB Left	B	B
	WB Thru	D	D
	WB Right	A	A
	WB Approach	D	C
	NB Left	B	C
	NB Thru	C	D
	NB Right	A	A
	NB Approach	C	C
	SB Left	C	C
	SB Thru	B	C
	SB Right	A	A
	SB Approach	B	C
	Overall	C	C

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/Access #1			
	EB Right	B	B
	EB Approach	B	B
	NB Left	A	A
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left	A	A
	SB Thru/Right	A	A
	SB Approach	A	A

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 5: 2025 Short Range Total Peak Hour Operations (continued...)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/10 th Street	EB Left	B	B
	EB Thru	C	D
	EB Right	A	A
	EB Approach	C	C
	WB Left	C	D
	WB Thru	C	C
	WB Right	A	A
	WB Approach	C	C
	NB Left	C	C
	NB Thru	C	C
	NB Right	A	A
	NB Approach	C	C
	SB Left	C	C
	SB Thru	C	C
	SB Right	A	A
	SB Approach	C	B
	Overall	C	C

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
74 th Avenue/20 th Street	EB Left	A	A
	EB Thru	A	A
	EB Right	A	A
	EB Approach	A	A
	WB Left	A	A
	WB Thru	A	A
	WB Right	A	A
	WB Approach	A	A
	NB Left	D	D
	NB Thru/Right	B	B
	NB Approach	B	B
	SB Left	D	E
	SB Thru/Right	A	B
	SB Approach	C	C

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Table 5: 2025 Short Range Total Peak Hour Operations (continued...)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
16 th Street Roundabout			
	EB Approach	A	A
	WB Approach	A	A
	NB Approach	A	A
	SB Approach	A	A
	Overall	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/16 th Street	EB Left	C	C
	EB Thru/Right	A	A
	EB Approach	B	B
	WB Left	B	B
	WB Thru/Right	A	B
	WB Approach	A	B
	NB Left	A	B
	NB Thru/Right	B	A
	NB Approach	B	A
	SB Left	A	A
	SB Thru/Right	A	A
	SB Approach	A	A
	Overall	B	B

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 6: 2045 Long Range Total Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/20 th Street	EB Left	F (99.3 sec)	C (160.5 sec)
	EB Thru	C	C
	EB Right	A	A
	EB Approach	D	E
	WB Left	C	B
	WB Thru	F (92.1 sec)	F (111.8 sec)
	WB Right	A	A
	WB Approach	E	E
	NB Left	B	C
	NB Thru	F (83.1 sec)	F (81.5 sec)
	NB Right	B	A
	NB Approach	D	D
	SB Left	F (104.3 sec)	F (136.1 sec)
	SB Thru	C	D
	SB Right	A	B
	SB Approach	E	E
	Overall	E	E

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/Access #1			
	EB Right	C	F (104.1 sec)
	EB Approach	C	F (104.1 sec)
	NB Left	A	A
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left	A	A
	SB Thru/Right	A	A
	SB Approach	A	A

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 6: 2045 Long Range Total Peak Hour Operations (continued...)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/10 th Street	EB Left	E	D
	EB Thru	F (89.4 sec)	F (97.3 sec)
	EB Right	A	A
	EB Approach	E	F (80.1 sec)
	WB Left	F (131.3 sec)	F (140.3 sec)
	WB Thru	D	C
	WB Right	A	A
	WB Approach	D	D
	NB Left	F (94.5 sec)	F (133.5 sec)
	NB Thru	E	D
	NB Right	D	B
	NB Approach	E	E
	SB Left	F (134.7 sec)	D
	SB Thru	E	E
	SB Right	B	B
	SB Approach	E	D
	Overall	E	E

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
74 th Avenue/20 th Street	EB Left	A	A
	EB Thru	A	A
	EB Right	A	A
	EB Approach	A	A
	WB Left	A	A
	WB Thru	A	A
	WB Right	A	A
	WB Approach	A	A
	NB Left	F (128.7 sec)	F (113.7 sec)
	NB Thru/Right	C	B
	NB Approach	D	B
	SB Left	F (220.9 sec)	F (200.6 sec)
	SB Thru/Right	B	B
	SB Approach	F (112.0 sec)	F (99.5 sec)

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Table 6: 2045 Long Range Total Peak Hour Operations (continued...)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
16 th Street Roundabout			
	EB Approach	A	A
	WB Approach	A	A
	NB Approach	A	A
	SB Approach	A	A
	Overall	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71 st Avenue/16 th Street	EB Left	D	D
	EB Thru/Right	B	B
	EB Approach	C	C
	WB Left	C	C
	WB Thru/Right	A	B
	WB Approach	B	C
	NB Left	A	C
	NB Thru/Right	B	A
	NB Approach	B	B
	SB Left	B	A
	SB Thru/Right	B	A
	SB Approach	B	A
	Overall	B	B

ATTACHMENT H - TRAFFIC IMPACT STUDY

6.0 Findings:

Based upon the analysis in this study, the proposed Triple Creek Subdivision project at the southeast quadrant of W. 16th Street and 71st Avenue will be able to successfully meet the City of Greeley's requirements for traffic.

The findings of the TIS are summarized below:

- The proposed project is anticipated to generate approximately 8,157 daily weekday trips, 556 AM peak hour trips, and 746 PM peak hour trips.
- All studied intersections are projected to operate acceptably and comply with the City's intersection level of service (LOS) requirements with full development of the proposed project and background traffic for the 2025 Short Range Total future. See Table 5.
- The eastbound approach geometry of the intersection of W. 16th Street/71st Avenue should be constructed with one thru lane and an eastbound left-turn lane. This eastbound left-turn lane should have a minimum storage length of 130'.
- Additionally, a northbound left-turn lane at the intersection of W. 16th Street/71st Avenue is needed (if not already constructed by others). This northbound left-turn lane should have a minimum storage length of 250'.
- The proposed roadway layout of the Triple Creek Subdivision will be sufficient to accommodate the project's traffic and background traffic.
- The proposed project complies with the City of Greeley's requirements for traffic.

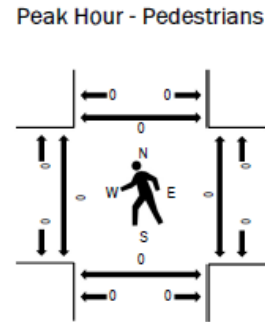
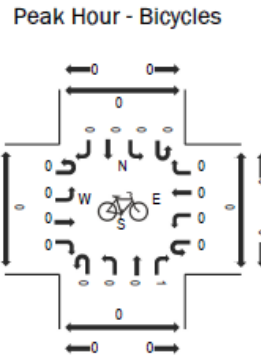
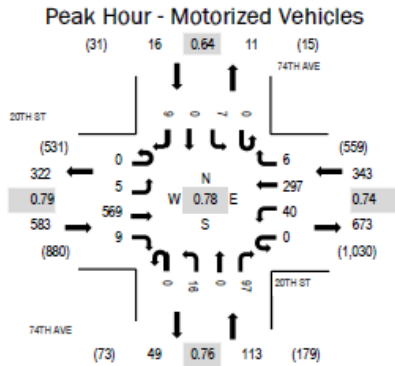
APPENDICES:

ATTACHMENT H - TRAFFIC IMPACT STUDY

Appendix A: Traffic Counts



Location: 1 74TH AVE & 20TH ST AM
 Date: Tuesday, December 13, 2022
 Peak Hour: 07:15 AM - 08:15 AM
 Peak 15-Minutes: 07:45 AM - 08:00 AM



Note: Total study counts contained in parentheses.

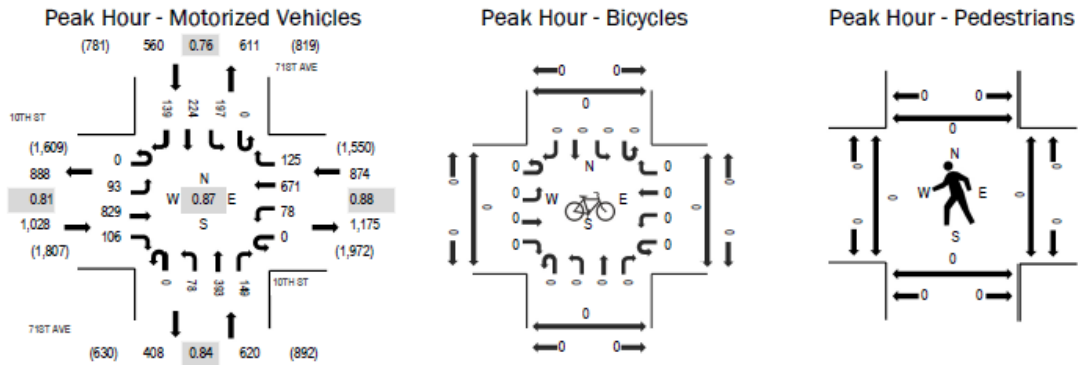
Traffic Counts - Motorized Vehicles

Interval Start Time	20TH ST Eastbound				20TH ST Westbound				74TH AVE Northbound				74TH AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	88	1	0	6	48	1	0	6	0	20	0	1	0	3	174	1,030	0	0	0	0
7:15 AM	0	0	145	2	0	10	53	0	0	7	0	18	0	1	0	2	238	1,055	0	0	0	0
7:30 AM	0	4	155	3	0	2	66	3	0	6	0	35	0	3	0	4	281	967	0	0	0	0
7:45 AM	0	0	182	2	0	13	102	2	0	1	0	32	0	2	0	1	337	822	0	0	0	0
8:00 AM	0	1	87	2	0	15	76	1	0	2	0	12	0	1	0	2	199	619	0	0	0	0
8:15 AM	0	1	64	2	0	6	61	0	0	4	0	7	0	4	0	1	150		0	0	0	0
8:30 AM	0	1	78	0	0	6	43	0	0	1	0	7	0	0	0	0	136		0	0	0	0
8:45 AM	0	0	62	0	0	3	41	1	0	0	0	21	0	5	0	1	134		0	0	0	1
Count Total	0	7	861	12	0	61	490	8	0	27	0	152	0	17	0	14	1,649		0	0	0	1
Peak Hour	0	5	569	9	0	40	297	6	0	16	0	97	0	7	0	9	1,055		0	0	0	0

ATTACHMENT H - TRAFFIC IMPACT STUDY



Location: 2 71ST AVE & 10TH ST AM
 Date: Tuesday, December 13, 2022
 Peak Hour: 07:15 AM - 08:15 AM
 Peak 15-Minutes: 07:45 AM - 08:00 AM



Note: Total study counts contained in parentheses.

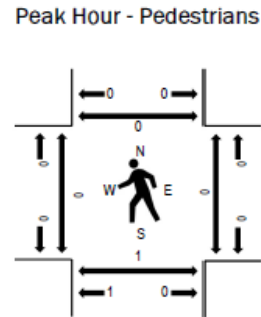
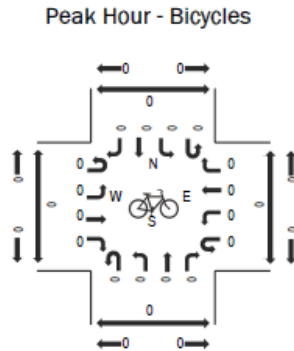
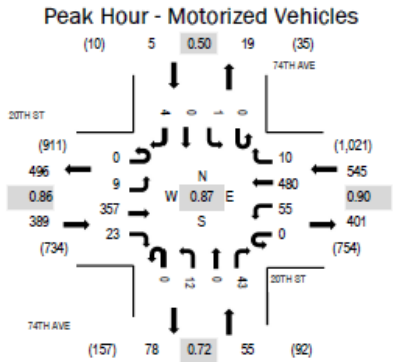
Traffic Counts - Motorized Vehicles

Interval Start Time	10TH ST Eastbound				10TH ST Westbound				71ST AVE Northbound				71ST AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	11	177	28	0	10	169	20	0	22	46	28	0	4	27	15	557	2,977	0	0	0	0
7:15 AM	0	16	198	27	0	4	158	36	0	15	97	23	0	34	41	23	672	3,082	0	0	0	0
7:30 AM	0	27	202	27	0	23	175	37	0	19	127	39	0	72	78	34	860	2,934	0	0	0	0
7:45 AM	0	33	254	32	0	30	185	36	0	18	95	55	0	47	59	44	888	2,505	0	0	0	0
8:00 AM	0	17	175	20	0	21	153	16	0	26	74	32	0	44	46	38	662	2,053	0	0	0	0
8:15 AM	0	13	163	14	0	15	159	11	0	16	27	23	0	19	30	34	524		0	0	0	0
8:30 AM	0	10	157	12	0	11	126	5	0	16	20	19	0	13	28	14	431		0	0	0	0
8:45 AM	0	8	165	21	0	14	123	13	0	14	24	17	0	12	12	13	436		0	0	0	0
Count Total	0	135	1,491	181	0	128	1,248	174	0	146	510	236	0	245	321	215	5,030		0	0	0	0
Peak Hour	0	93	829	106	0	78	671	125	0	78	393	149	0	197	224	139	3,082		0	0	0	0

ATTACHMENT H - TRAFFIC IMPACT STUDY



Location: 1 74TH AVE & 20TH ST PM
 Date: Tuesday, December 13, 2022
 Peak Hour: 04:30 PM - 05:30 PM
 Peak 15-Minutes: 05:00 PM - 05:15 PM



Note: Total study counts contained in parentheses.

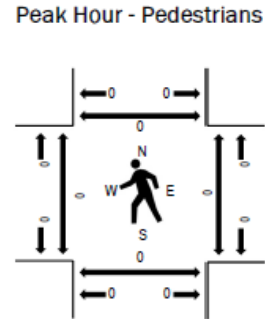
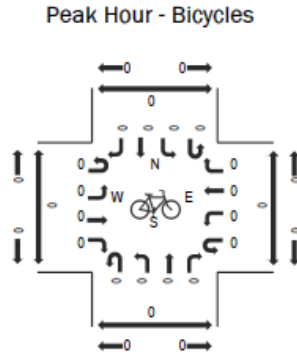
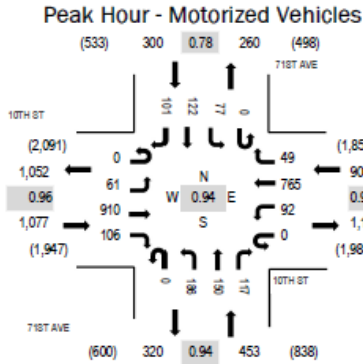
Traffic Counts - Motorized Vehicles

Interval Start Time	20TH ST Eastbound				20TH ST Westbound				74TH AVE Northbound				74TH AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	2	83	5	0	19	124	4	0	2	0	4	0	2	0	1	246	938	0	0	0	0
4:15 PM	0	0	94	7	0	18	103	1	0	1	0	14	0	0	0	0	238	978	0	0	0	0
4:30 PM	0	2	72	6	0	13	137	2	0	1	0	9	0	0	0	0	242	994	0	0	1	0
4:45 PM	0	4	89	5	0	7	97	1	0	3	0	5	0	0	0	1	212	956	0	0	0	0
5:00 PM	0	2	105	7	0	20	126	6	0	5	0	14	0	0	0	1	286	919	0	0	0	0
5:15 PM	0	1	91	5	0	15	120	1	0	3	0	15	0	1	0	2	254		0	0	0	0
5:30 PM	0	3	77	4	0	10	101	1	0	2	0	5	0	1	0	0	204		0	0	0	0
5:45 PM	0	3	64	3	0	13	80	2	0	1	0	8	0	1	0	0	175		0	0	0	0
Count Total	0	17	675	42	0	115	888	18	0	18	0	74	0	5	0	5	1,857		0	0	1	0
Peak Hour	0	9	357	23	0	55	480	10	0	12	0	43	0	1	0	4	994		0	0	1	0

ATTACHMENT H - TRAFFIC IMPACT STUDY



Location: 2 71ST AVE & 10TH ST PM
 Date: Tuesday, December 13, 2022
 Peak Hour: 04:00 PM - 05:00 PM
 Peak 15-Minutes: 04:15 PM - 04:30 PM



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	10TH ST Eastbound				10TH ST Westbound				71ST AVE Northbound				71ST AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	12	237	31	0	22	179	15	0	62	38	24	0	30	38	28	716	2,736	0	0	0	0
4:15 PM	0	20	228	26	0	31	208	14	0	45	36	30	0	20	36	34	728	2,660	0	0	0	0
4:30 PM	0	18	235	23	0	27	193	10	0	40	40	34	0	17	26	21	684	2,590	0	0	0	0
4:45 PM	0	11	210	26	0	12	185	10	0	39	36	29	0	10	22	18	608	2,490	0	0	0	0
5:00 PM	0	11	165	16	0	24	219	9	0	48	41	32	0	14	38	23	640	2,441	0	0	0	0
5:15 PM	0	24	178	17	0	31	215	13	0	47	37	31	0	7	35	23	658		0	0	0	0
5:30 PM	0	12	203	14	0	25	195	11	0	34	26	15	0	14	19	16	584		0	0	0	0
5:45 PM	0	14	197	19	0	26	173	12	0	29	28	17	0	11	16	17	559		0	0	0	0
Count Total	0	122	1,653	172	0	198	1,567	94	0	344	282	212	0	123	230	180	5,177		0	0	0	0
Peak Hour	0	61	910	106	0	92	765	49	0	186	150	117	0	77	122	101	2,736		0	0	0	0

ATTACHMENT H - TRAFFIC IMPACT
STUDY

Traffic Counts																		
71st Ave and 20th St Intersection Point AM - 15 Minute Summary																		
Time Begins	Westbound: 20th St				Eastbound: 20th St				Total East/West	Southbound: 71st Ave				Northbound: 71st Ave				Total North/South
	Left	Thru	Right	Total	Left	Thru	Right	Total		Left	Thru	Right	Total	Left	Thru	Right	Total	
7:00	8	58	12	78	40	90	0	130	208	22	9	9	40	2	55	31	88	128
7:15	17	72	18	107	44	117	4	165	272	22	3	12	37	4	59	45	108	145
7:30	15	84	16	115	43	150	1	194	313	48	5	17	70	6	49	52	107	177
7:45	16	92	20	128	24	125	0	149	277	41	14	15	70	6	42	36	84	154
8:00	8	70	17	95	25	103	2	130	225	30	6	18	54	5	28	23	56	110
8:15	7	55	16	78	11	73	0	84	162	14	3	10	27	5	20	15	40	67
8:30	8	61	17	86	15	89	1	105	191	23	4	15	42	3	31	17	51	93
8:45	19	51	3	73	20	78	3	101	174	16	7	16	39	3	21	5	29	68
7:00 - 8:00	60	306	66	432	151	482	5	638	1070	133	31	53	217	18	205	164	387	604
PHF	0.79	0.83	0.83	0.84	0.86	0.80	0.31	0.82	0.85	0.69	0.55	0.74	0.78	0.75	0.87	0.79	0.90	0.85
71st Ave and 20th St Intersection Point PM - 15 Minute Summary																		
16:00	21	135	34	190	19	69	2	90	280	26	18	23	67	4	53	26	83	150
16:15	18	113	34	165	26	98	4	128	293	25	28	31	84	9	31	23	63	147
16:30	18	109	29	156	27	86	2	115	271	25	22	23	70	4	36	18	58	128
16:45	25	107	18	150	23	92	1	116	266	25	16	24	65	5	31	20	56	121
17:00	28	114	28	170	25	103	2	130	300	31	20	25	76	4	29	11	44	120
17:15	15	124	28	171	25	101	1	127	298	37	21	32	90	5	33	25	63	153
17:30	15	112	24	151	26	120	1	147	298	21	17	27	65	5	32	24	61	126
17:45	20	81	29	130	23	89	1	113	243	27	13	32	72	9	36	18	63	135
4:45 - 5:45	87	457	98	642	99	416	5	520	1162	114	74	108	296	19	125	80	224	520
PHF	0.78	0.85	0.72	0.84	0.92	0.87	0.31	0.88	0.97	0.77	0.66	0.84	0.82	0.53	0.59	0.77	0.67	0.85
= Peak Hour = Peak 15 Minutes																		
															 Fetzer Engineering, LLC			

ATTACHMENT H - TRAFFIC IMPACT STUDY

71st Ave and 20th St Intersection Pedestrians and Bicycles												
Pedestrians on Crosswalk PM - 15 Minute Summary												
Time Begins	Westbound: 20th St			Eastbound: 20th St			Southbound: 71st Ave			Northbound: 71st Ave		
	North	South	Total	North	South	Total	East	West	Total	East	West	Total
7:00			0			0			0			0
7:15		2	2			0			0			0
7:30			0			0			0			0
7:45			0			0			0			0
8:00			0			0			0			0
8:15			0			0	1		1			0
8:30			0			0			0	1		1
8:45	1		1			0			0			0
Total	1	2	3	0	0	0	1	0	1	0	1	1
Bicycles on Crosswalk PM - 15 Minute Summary												
Time Begins	Westbound: 20th St			Eastbound: 20th St			Southbound: 71st Ave			Northbound: 71st Ave		
	North	South	Total	North	South	Total	East	West	Total	East	West	Total
7:00			0			0			0			0
7:15			0			0			0			0
7:30			0			0			0			0
7:45			0			0			0			0
8:00			0			0			0			0
8:15			0			0			0			0
8:30			0			0			0			0
8:45			0			0			0			0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians on Crosswalk PM - 15 Minute Summary												
Time Begins	Westbound: 20th St			Eastbound: 20th St			Southbound: 71st Ave			Northbound: 71st Ave		
	North	South	Total	North	South	Total	East	West	Total	East	West	Total
16:00		1	1		1	1			0			0
16:15			0	2		2			0	1		1
16:30		2	2			0			0		2	2
16:45			0			0			0			0
17:00			0	1		1	2		2			0
17:15			0			0			0			0
17:30			0			0	2		2			0
17:45		1	1			0			0			0
Total	0	4	4	3	1	4	4	0	4	1	2	3
Bicycles on Crosswalk PM - 15 Minute Summary												
Time Begins	Westbound: 20th St			Eastbound: 20th St			Southbound: 71st Ave			Northbound: 71st Ave		
	North	South	Total	North	South	Total	East	West	Total	East	West	Total
16:00			0			0			0			0
16:15			0			0			0			0
16:30			0			0			0	2		0
16:45	1		0			0			0			0
17:00			0			0			0			0
17:15			0			0			0			0
17:30	2	1	0			0			0	1		0
17:45	1	1	0			0			0	1		0
Total	4	2	0	0	0	0	0	0	0	4	0	0
Notes:												
AM		PM								Contact info		
Date:	5/2/2019	Date:	5/2/2019							Shawn Fetzter, P.E.		
Time:	7:00 - 9:00	Time:	4:00 - 6:00							1768 Twin Lakes Cir, Loveland, Co 80538		
Day:	Tuesday	Day:	Tuesday							Email - sfetzter@fetzerengineering.com		
Observer:	SKF (Video)	Observer:	SKF (Video)							Phone - 970-702-4884		

ATTACHMENT H - TRAFFIC IMPACT STUDY



(303) 216-2439
www.alltrafficdata.net

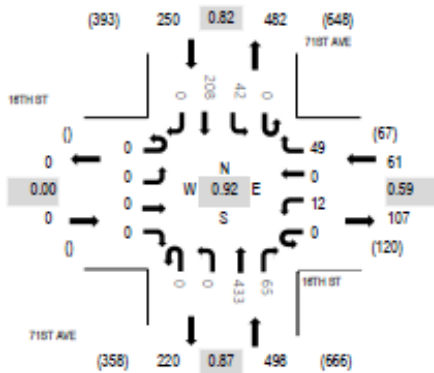
Location: 34 71ST AVE & 16TH ST AM

Date: Thursday, April 4, 2019

Peak Hour: 07:00 AM - 08:00 AM

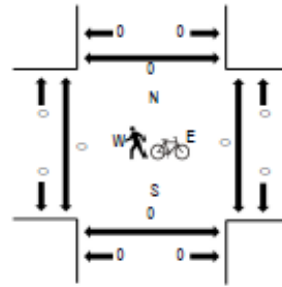
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	16TH ST Eastbound				16TH ST Westbound				71ST AVE Northbound				71ST AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	5	0	21	0	0	74	45	0	24	31	0	200	809	0	0	0	0
7:15 AM	0	0	0	0	0	5	0	14	0	0	107	14	0	11	39	0	190	709	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	9	0	0	140	3	0	5	64	0	221	585	0	0	0	0
7:45 AM	0	0	0	0	0	2	0	5	0	0	112	3	0	2	74	0	198	435	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	2	0	0	49	2	0	1	46	0	100	317	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	1	0	0	33	1	0	3	27	0	66		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	43	0	0	2	26	0	71		0	0	0	0
8:45 AM	0	0	0	0	0	2	0	0	0	0	38	2	0	2	36	0	80		0	0	0	0
Count Total	0	0	0	0	0	15	0	52	0	0	596	70	0	50	343	0	1,126		0	0	0	0
Peak Hour	0	0	0	0	0	12	0	49	0	0	433	65	0	42	208	0	809		0	0	0	0

ATTACHMENT H - TRAFFIC IMPACT STUDY



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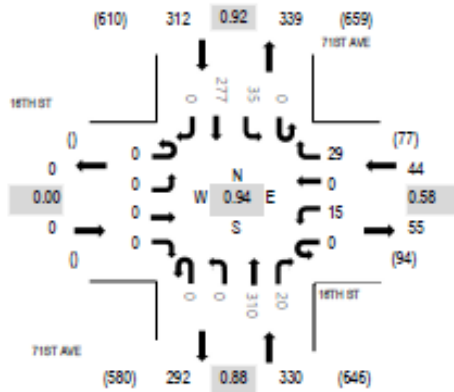
Location: 34 71ST AVE & 16TH ST PM

Date: Thursday, April 4, 2019

Peak Hour: 04:15 PM - 05:15 PM

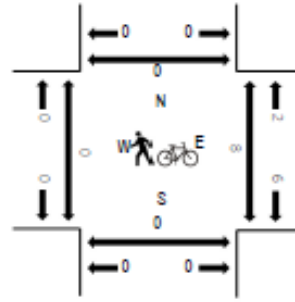
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	16TH ST Eastbound				16TH ST Westbound				71ST AVE Northbound				71ST AVE Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
4:00 PM	0	0	0	0	0	4	0	4	0	0	76	4	0	7	67	0	162	666	0	0	0	0	
4:15 PM	0	0	0	0	0	8	0	11	0	0	69	9	0	11	62	0	170	686	0	0	0	0	
4:30 PM	0	0	0	0	0	1	0	7	0	0	79	4	0	12	62	0	165	665	0	8	0	0	
4:45 PM	0	0	0	0	0	3	0	6	0	0	74	1	0	6	79	0	169	658	0	0	0	0	
5:00 PM	0	0	0	0	0	3	0	5	0	0	88	6	0	6	74	0	182	667	0	0	0	0	
5:15 PM	0	0	0	0	0	3	0	5	0	0	73	2	0	5	61	0	149		0	1	0	0	
5:30 PM	0	0	0	0	0	2	0	5	0	0	68	7	0	5	71	0	158		0	1	0	0	
5:45 PM	0	0	0	0	0	3	0	7	0	0	82	4	0	5	77	0	178		0	0	0	0	
Count Total	0	0	0	0	0	27	0	50	0	0	609	37	0	57	553	0	1,333		0	10	0	0	
Peak Hour	0	0	0	0	0	15	0	29	0	0	310	20	0	35	277	0	686		0	8	0	0	

ATTACHMENT H - TRAFFIC IMPACT STUDY

Appendix B: TIS Base Assumption Form

Transportation Impact Study Base Assumption Form

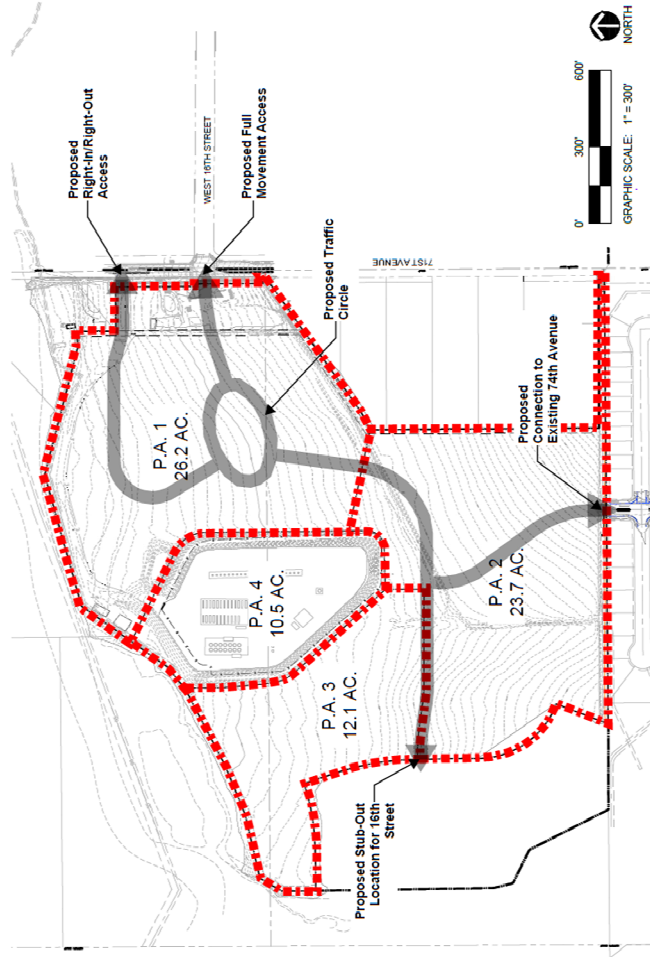
Project Information			
Project Name:		Triple Creek Subdivision	
Project Location:		West of 71st Avenue, North of 18th Street, Greeley	
TIS Assumptions			
Type of Study	Memo	Intermediate	Full Yes
Study Area Boundaries	North 16th Street	South 20th Street	
	East 71st Ave	West 74th Ave	
Future Growth Rates 2% per CDOT	Short term Yes	Long term Yes	
Study Intersections	All access drives N/A	1. 20th Street/71st Ave	
	2. 74th Ave connection	3. 16th Street/71st Ave	
	4. 74th Ave/20th Street	5. 10th Street/71st Ave	
Time Period for Study	AM 7:00-9:00 Yes	PM 4:00-6:00 Yes	Sat. Noon N/A
Trip Generation Rates	Per ITE		
Trip Adjustment Factors	Passby: N/A	Captive Market: N/A	
Mode Split Assumptions	N/A		
Other Traffic Studies	City to provide		
Active Modes Analysis			
Other Areas Requiring Special Study	Include 130 acres (9 units per acre) to the west as background traffic in land use assumptions, include PA.4 land uses, include Sheep Draw Trail for pedestrian connections south of site. 0.92 default PHF with higher values used only at the City's discretion as conditions direct.		

Date: 12/16/2022

Traffic Engineer: Sean Kellar, PE, PTOE

Greeley Traffic Engineer Steven Younkin, PE, PTOE, RSP1 - 12/28/2022

ATTACHMENT H - TRAFFIC IMPACT STUDY



Triple Creek - Planning Areas

Greeley, Colorado

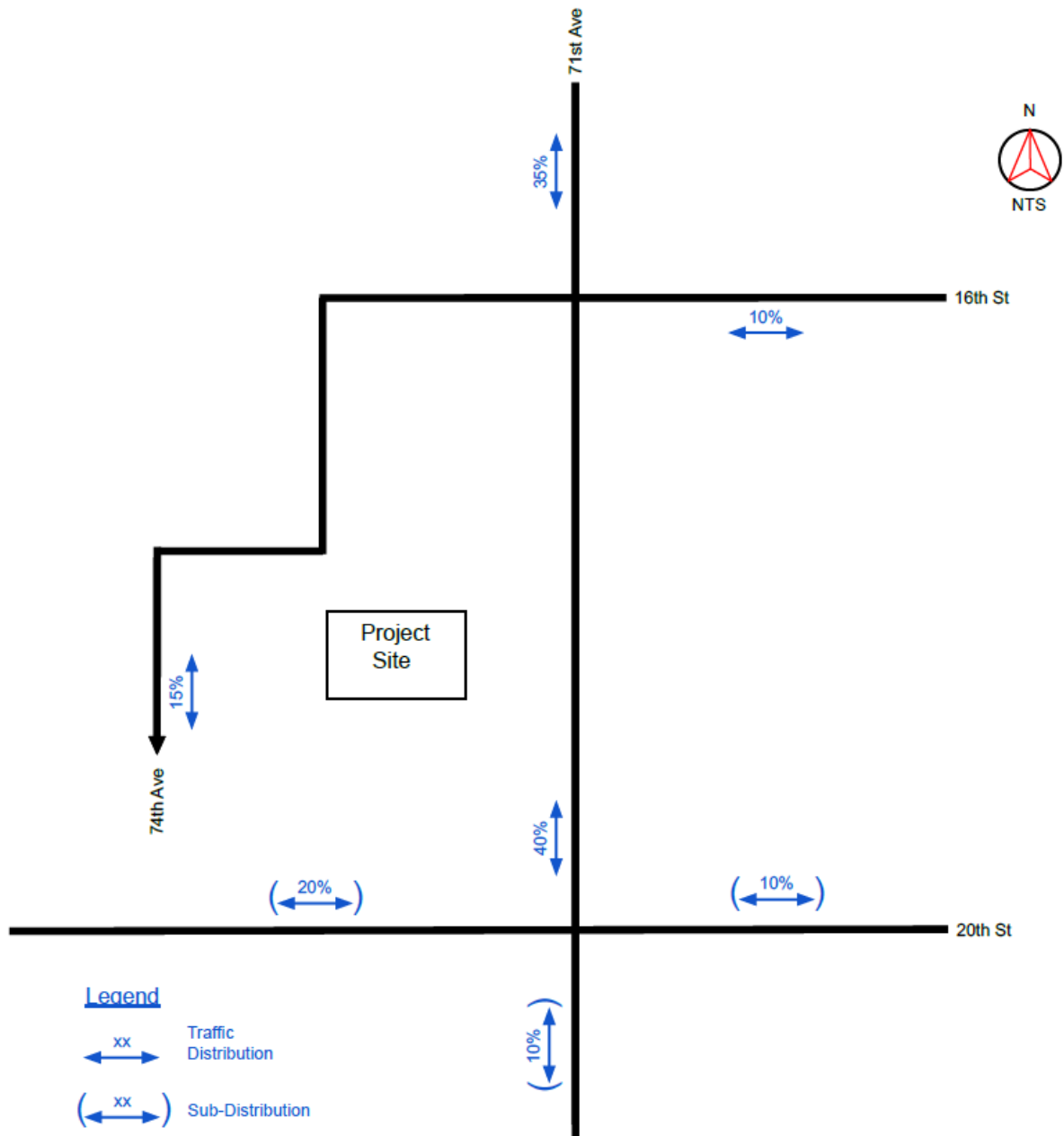
November 7, 2022 • Project #221042

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Trip Distribution



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Appendix C: Level of Service (LOS) Table

Level of Service Definitions

Level of Service (LOS)	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

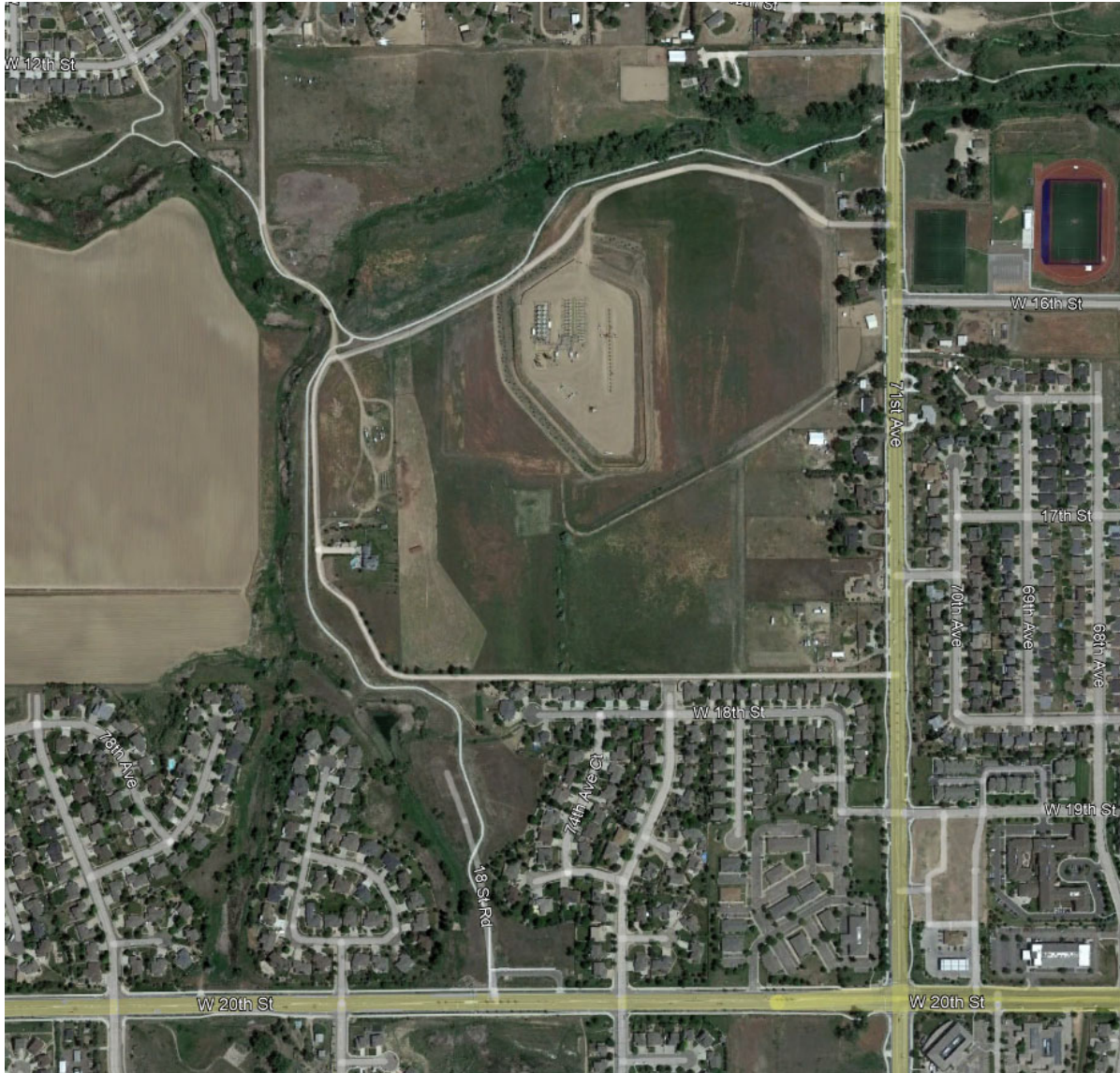
City of Greeley Acceptable Level of Service Table:

Table 4. Acceptable Level of Service Standards

Intersection Component	Major Intersection ¹	Minor Intersection ²
Overall (City Limits)	LOS C	LOS C
Overall (LREGA) ³	LOS D	LOS C
Any Leg	LOS D	LOS E
Any Movement	LOS E	LOS F
¹ Includes all signalized and unsignalized arterial/arterial and arterial/major collector intersections. ² Includes all unsignalized intersections and high volume driveways. ³ Long Range Expected Growth Area *On State and US Highways overall LOS D is acceptable.		

ATTACHMENT H - TRAFFIC IMPACT STUDY

Appendix D: Aerial Image and Site Photos



ATTACHMENT H - TRAFFIC IMPACT
STUDY



20th Street and 71st Ave Looking East



20th Street and 71st Ave Looking East

ATTACHMENT H - TRAFFIC IMPACT
STUDY



20th Street and 71st Ave Looking North



20th Street and 71st Ave Looking North

ATTACHMENT H - TRAFFIC IMPACT
STUDY



20th Street and 71st Ave Looking South



20th Street and 71st Ave Looking South

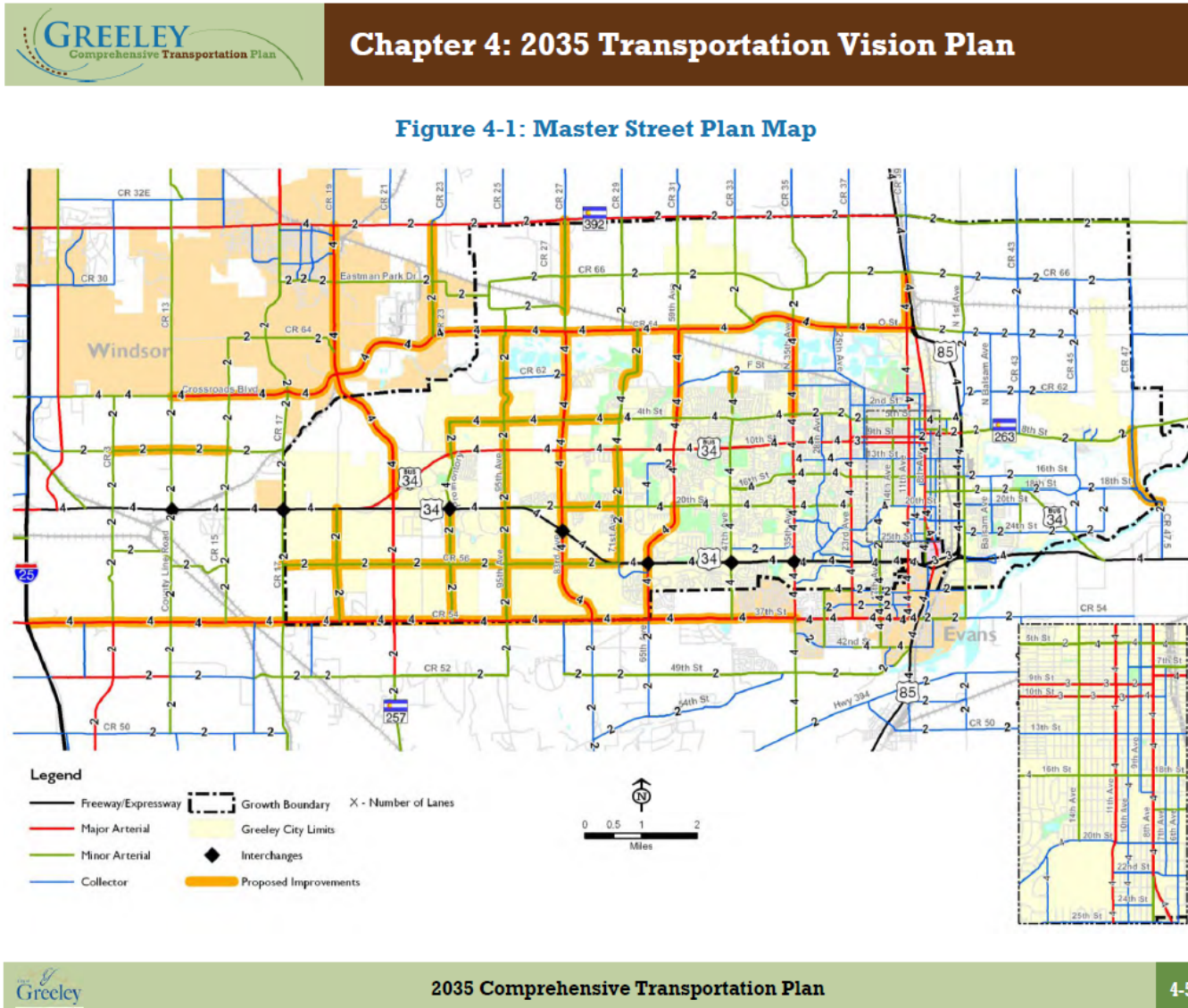
ATTACHMENT H - TRAFFIC IMPACT
STUDY



20th Street and 71st Ave Looking West

ATTACHMENT H - TRAFFIC IMPACT STUDY

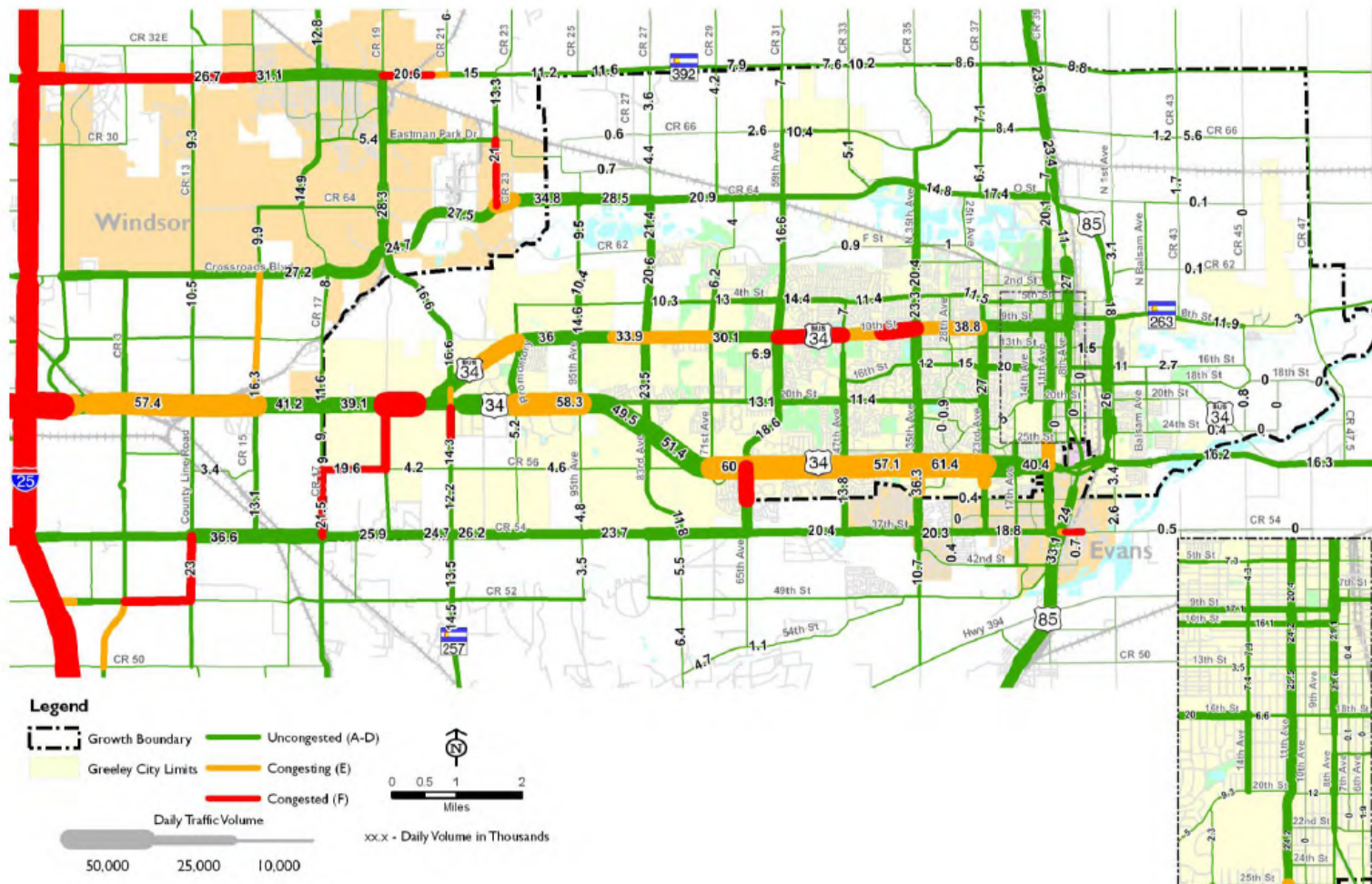
Appendix E: Pages from Greeley Transportation Plan





Chapter 4: 2035 Transportation Vision Plan

Figure 4-3: 2035 Forecast Daily Traffic Volumes



ATTACHMENT H - TRAFFIC IMPACT
STUDY

Appendix F: HCM Calculations (Synchro)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	482	5	60	306	66	18	205	164	133	31	53
Future Volume (vph)	151	482	5	60	306	66	18	205	164	133	31	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.295			0.456			0.735			0.454		
Satd. Flow (perm)	495	3185	1425	764	1676	1425	1232	1676	1425	761	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			164			178			164
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	164	524	5	65	333	72	20	223	178	145	34	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	164	524	5	65	333	72	20	223	178	145	34	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	12.0	25.6	25.6	10.4	24.0	24.0	9.5	24.0	24.0	10.0	24.5	24.5
Total Split (%)	17.1%	36.6%	36.6%	14.9%	34.3%	34.3%	13.6%	34.3%	34.3%	14.3%	35.0%	35.0%
Maximum Green (s)	7.5	21.1	21.1	5.9	19.5	19.5	5.0	19.5	19.5	5.5	20.0	20.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	27.6	23.1	23.1	23.3	17.4	17.4	27.2	23.1	23.1	30.8	29.7	29.7
Actuated g/C Ratio	0.39	0.33	0.33	0.33	0.25	0.25	0.39	0.33	0.33	0.44	0.42	0.42
v/c Ratio	0.53	0.50	0.01	0.20	0.80	0.15	0.04	0.40	0.30	0.36	0.05	0.08
Control Delay	19.2	21.3	0.0	13.2	39.9	0.7	12.3	23.0	5.2	15.7	15.2	0.2
Queue Delay	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 Delay	19.2	21.3	0.0	13.2	39.9	0.7	12.3	23.0	5.2	15.7	15.2	0.2
LOS	B	C	A	B	D	A	B	C	A	B	B	A
Approach Delay		20.7			30.2			14.9			11.9	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 20.6

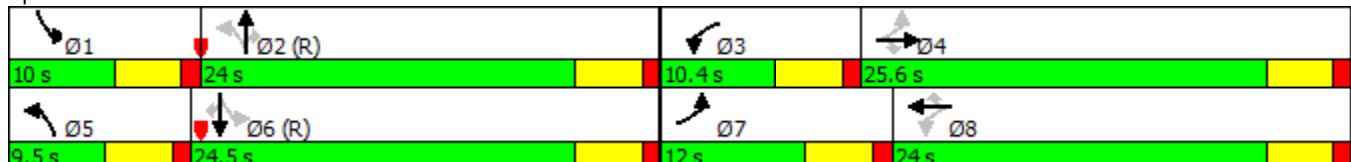
Intersection LOS: C

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	164	524	5	65	333	72	20	223	178	145	34	58
v/c Ratio	0.53	0.50	0.01	0.20	0.80	0.15	0.04	0.40	0.30	0.36	0.05	0.08
Control Delay	19.2	21.3	0.0	13.2	39.9	0.7	12.3	23.0	5.2	15.7	15.2	0.2
Queue Delay	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 Delay	19.2	21.3	0.0	13.2	39.9	0.7	12.3	23.0	5.2	15.7	15.2	0.2
Queue Length 50th (ft)	42	98	0	16	129	0	5	80	0	38	8	0
Queue Length 95th (ft)	78	144	0	36	#238	0	16	141	42	74	30	0
Internal Link Dist (ft)	837			752			470			2675		
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	312	1055	582	324	466	515	506	551	588	408	711	699
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.50	0.01	0.20	0.71	0.14	0.04	0.40	0.30	0.36	0.05	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	482	5	60	306	66	18	205	164	133	31	53
Future Volume (veh/h)	151	482	5	60	306	66	18	205	164	133	31	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	164	524	5	65	333	72	20	223	178	145	34	58
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	312	934	418	305	413	351	514	536	456	418	629	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.29	0.29	0.05	0.25	0.25	0.02	0.32	0.32	0.08	0.38	0.38
Ln Grp Delay, s/veh	19.3	21.6	17.6	18.7	33.9	21.2	15.3	21.0	21.0	14.2	14.1	14.6
Ln Grp LOS	B	C	B	B	C	C	B	C	C	B	B	B
Approach Vol, veh/h		693			470			421			237	
Approach Delay, s/veh		21.1			29.9			20.8			14.3	
Approach LOS		C			C			C			B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		10.0	26.9	8.1	25.0	6.1	30.8	11.4	21.7			
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Max Green (Gmax), s		5.5	19.5	5.9	21.1	5.0	20.0	7.5	19.5			
Max Allow Headway (MAH), s		3.8	4.5	3.7	4.9	3.7	4.5	3.7	4.9			
Max Q Clear (g_c+I1), s		6.1	9.3	4.1	11.7	2.6	3.9	7.2	15.1			
Green Ext Time (g_e), s		0.0	1.6	0.0	3.7	0.0	1.9	0.0	2.1			
Prob of Phs Call (p_c)		0.94	1.00	0.72	1.00	0.32	1.00	0.96	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.51	1.00	0.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1597		1597		1597		1597				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1676		3185		1676		1676			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1425		1425		1425		1425			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)				

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	145	0	65	0	20	0	164	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	4.1	0.0	2.1	0.0	0.6	0.0	5.2	0.0
Cycle Q Clear Time (g_c), s	4.1	0.0	2.1	0.0	0.6	0.0	5.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	882	0	784	0	1169	0	879	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.8	0.0	17.2	0.0	22.4	0.0	18.0	0.0
Perm LT Serve Time (g_u), s	15.1	0.0	10.8	0.0	22.4	0.0	4.1	0.0
Perm LT Q Serve Time (g_ps), s	1.7	0.0	0.6	0.0	0.0	0.0	3.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	418	0	305	0	514	0	312	0
V/C Ratio (X)	0.35	0.00	0.21	0.00	0.04	0.00	0.53	0.00
Avail Cap (c_a), veh/h	418	0	358	0	591	0	326	0
Upstream Filter (I)	0.99	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	13.7	0.0	18.3	0.0	15.3	0.0	17.9	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.3	0.0	0.0	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	14.2	0.0	18.7	0.0	15.3	0.0	19.3	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	0.9	0.0	0.2	0.0	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	0.9	0.0	0.3	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.09	0.00	0.03	0.00	0.25	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	223	0	524	0	34	0	333
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	7.3	0.0	9.7	0.0	0.9	0.0	13.1
Cycle Q Clear Time (g_c), s	0.0	7.3	0.0	9.7	0.0	0.9	0.0	13.1
Lane Grp Cap (c), veh/h	0	536	0	934	0	629	0	413
V/C Ratio (X)	0.00	0.42	0.00	0.56	0.00	0.05	0.00	0.81
Avail Cap (c_a), veh/h	0	536	0	960	0	629	0	467
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.7	0.0	20.9	0.0	13.9	0.0	24.8
Incr Delay (d2), s/veh	0.0	2.4	0.0	0.7	0.0	0.2	0.0	9.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	0.0	21.6	0.0	14.1	0.0	33.9
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	4.3	0.0	0.4	0.0	6.0

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.0	0.0	1.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.7	0.0	4.4	0.0	0.4	0.0	7.1
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.13	0.00	0.00	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	178	0	5	0	58	0	72
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	6.8	0.0	0.2	0.0	1.9	0.0	2.8
Cycle Q Clear Time (g_c), s	0.0	6.8	0.0	0.2	0.0	1.9	0.0	2.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	456	0	418	0	535	0	351
V/C Ratio (X)	0.00	0.39	0.00	0.01	0.00	0.11	0.00	0.21
Avail Cap (c_a), veh/h	0	456	0	430	0	535	0	397
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.5	0.0	17.6	0.0	14.2	0.0	21.0
Incr Delay (d2), s/veh	0.0	2.5	0.0	0.0	0.0	0.4	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	0.0	17.6	0.0	14.6	0.0	21.2
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.1	0.0	0.7	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	0.1	0.0	0.8	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.57	0.00	0.01	0.00	0.24	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	482	5	60	306	66	18	205	164	133	31	53
Future Volume (veh/h)	151	482	5	60	306	66	18	205	164	133	31	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	164	524	5	65	333	72	20	223	178	145	34	58
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	934	418	305	413	351	514	536	456	418	629	535
Arrive On Green	0.10	0.29	0.29	0.05	0.25	0.25	0.02	0.32	0.32	0.08	0.38	0.38
Sat Flow, veh/h	1597	3185	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Grp Volume(v), veh/h	164	524	5	65	333	72	20	223	178	145	34	58
Grp Sat Flow(s),veh/h/ln	1597	1593	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Q Serve(g_s), s	5.2	9.7	0.2	2.1	13.1	2.8	0.6	7.3	6.8	4.1	0.9	1.9
Cycle Q Clear(g_c), s	5.2	9.7	0.2	2.1	13.1	2.8	0.6	7.3	6.8	4.1	0.9	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	934	418	305	413	351	514	536	456	418	629	535
V/C Ratio(X)	0.53	0.56	0.01	0.21	0.81	0.21	0.04	0.42	0.39	0.35	0.05	0.11
Avail Cap(c_a), veh/h	326	960	430	358	467	397	591	536	456	418	629	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	17.9	20.9	17.6	18.3	24.8	21.0	15.3	18.7	18.5	13.7	13.9	14.2
Incr Delay (d2), s/veh	1.4	0.7	0.0	0.3	9.1	0.3	0.0	2.4	2.5	0.5	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.4	0.1	0.9	7.1	1.1	0.3	3.7	3.0	1.8	0.4	0.8
LnGrp Delay(d),s/veh	19.3	21.6	17.6	18.7	33.9	21.2	15.3	21.0	21.0	14.2	14.1	14.6
LnGrp LOS	B	C	B	B	C	C	B	C	C	B	B	B
Approach Vol, veh/h		693			470			421			237	
Approach Delay, s/veh		21.1			29.9			20.8			14.3	
Approach LOS		C			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	26.9	8.1	25.0	6.1	30.8	11.4	21.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.5	5.9	21.1	5.0	20.0	7.5	19.5				
Max Q Clear Time (g_c+I1), s	6.1	9.3	4.1	11.7	2.6	3.9	7.2	15.1				
Green Ext Time (p_c), s	0.0	1.6	0.0	3.7	0.0	1.9	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			22.4									
HCM 2010 LOS			C									

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	T	R
Traffic Volume (vph)	12	49	433	65	42	208
Future Volume (vph)	12	49	433	65	42	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.892		0.982			
Flt Protected	0.990				0.950	
Satd. Flow (prot)	1645	0	1829	0	1770	1863
Flt Permitted	0.990				0.449	
Satd. Flow (perm)	1645	0	1829	0	836	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	53		20			
Link Speed (mph)	30		40			40
Link Distance (ft)	426		2755			2825
Travel Time (s)	9.7		47.0			48.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	53	471	71	46	226
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	542	0	46	226
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	

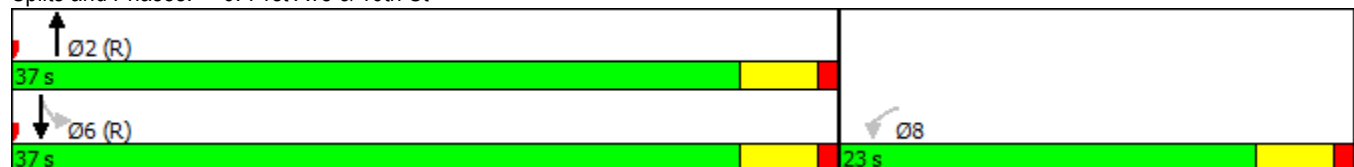
	←		↑		↓	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	22.5		22.5		22.5	22.5
Total Split (s)	23.0		37.0		37.0	37.0
Total Split (%)	38.3%		61.7%		61.7%	61.7%
Maximum Green (s)	18.5		32.5		32.5	32.5
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effect Green (s)	6.6		50.2		50.2	50.2
Actuated g/C Ratio	0.11		0.84		0.84	0.84
v/c Ratio	0.29		0.35		0.07	0.14
Control Delay	13.6		3.2		2.6	2.4
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	13.6		3.2		2.6	2.4
LOS	B		A		A	A
Approach Delay	13.6		3.2			2.4
Approach LOS	B		A			A

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.35
 Intersection Signal Delay: 3.7
 Intersection Capacity Utilization 46.3%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 6: 71st Ave & 16th St



				
Lane Group	WBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	542	46	226
v/c Ratio	0.29	0.35	0.07	0.14
Control Delay	13.6	3.2	2.6	2.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.6	3.2	2.6	2.4
Queue Length 50th (ft)	4	46	3	16
Queue Length 95th (ft)	33	103	11	39
Internal Link Dist (ft)	346	2675		2745
Turn Bay Length (ft)	100		100	
Base Capacity (vph)	543	1534	699	1559
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.35	0.07	0.14
Intersection Summary				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	569	9	40	297	6	16	0	97	7	0	9
Future Volume (vph)	5	569	9	40	297	6	16	0	97	7	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	618	10	43	323	7	17	0	105	8	0	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	618	10	43	323	7	17	105	0	8	10	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.6% ICU Level of Service A

Analysis Period (min) 15

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	829	106	78	671	125	78	393	149	197	224	139
Future Volume (vph)	93	829	106	78	671	125	78	393	149	197	224	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.202			0.166			0.608			0.360		
Satd. Flow (perm)	376	3539	1583	309	3539	1583	1133	3539	1583	671	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			143			162			151
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			2825			546	
Travel Time (s)		13.8			17.1			48.2			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	901	115	85	729	136	85	427	162	214	243	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	901	115	85	729	136	85	427	162	214	243	151
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	11.0	31.0	31.0	10.0	30.0	30.0	10.0	25.0	25.0	14.0	29.0	29.0
Total Split (%)	13.8%	38.8%	38.8%	12.5%	37.5%	37.5%	12.5%	31.3%	31.3%	17.5%	36.3%	36.3%
Maximum Green (s)	6.5	26.5	26.5	5.5	25.5	25.5	5.5	20.5	20.5	9.5	24.5	24.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	30.1	24.9	24.9	28.5	24.1	24.1	30.3	24.5	24.5	37.5	29.8	29.8
Actuated g/C Ratio	0.38	0.31	0.31	0.36	0.30	0.30	0.38	0.31	0.31	0.47	0.37	0.37
v/c Ratio	0.40	0.82	0.19	0.40	0.68	0.24	0.18	0.39	0.27	0.49	0.35	0.22
Control Delay	18.1	32.2	3.1	19.0	28.1	4.6	14.9	24.9	5.6	18.2	22.7	4.8
Queue Delay	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 Delay	18.1	32.2	3.1	19.0	28.1	4.6	14.9	24.9	5.6	18.2	22.7	4.8
LOS	B	C	A	B	C	A	B	C	A	B	C	A
Approach Delay		27.9			23.9			19.0			16.6	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 22.9

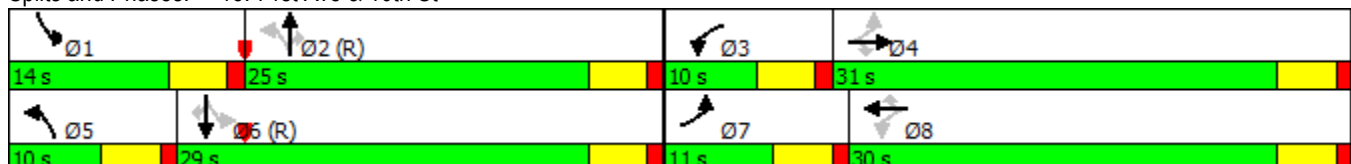
Intersection LOS: C

Intersection Capacity Utilization 64.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	101	901	115	85	729	136	85	427	162	214	243	151
v/c Ratio	0.40	0.82	0.19	0.40	0.68	0.24	0.18	0.39	0.27	0.49	0.35	0.22
Control Delay	18.1	32.2	3.1	19.0	28.1	4.6	14.9	24.9	5.6	18.2	22.7	4.8
Queue Delay	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 Delay	18.1	32.2	3.1	19.0	28.1	4.6	14.9	24.9	5.6	18.2	22.7	4.8
Queue Length 50th (ft)	28	210	0	23	163	0	24	94	0	67	96	0
Queue Length 95th (ft)	56	280	23	48	221	34	51	138	44	115	161	39
Internal Link Dist (ft)	1037			1302			2745			466		
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	254	1172	620	210	1128	602	475	1084	597	445	694	684
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.77	0.19	0.40	0.65	0.23	0.18	0.39	0.27	0.48	0.35	0.22
Intersection Summary												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	829	106	78	671	125	78	393	149	197	224	139
Future Volume (veh/h)	93	829	106	78	671	125	78	393	149	197	224	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	901	115	85	729	136	85	427	162	214	243	151
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	274	1109	496	228	1096	490	439	1080	483	446	662	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.31	0.31	0.05	0.31	0.31	0.05	0.31	0.31	0.10	0.36	0.36
Ln Grp Delay, s/veh	19.4	29.6	20.6	20.6	25.4	21.2	17.6	23.0	23.3	16.4	20.7	19.5
Ln Grp LOS	B	C	C	C	C	C	B	C	C	B	C	B
Approach Vol, veh/h		1117			950			674			608	
Approach Delay, s/veh		27.7			24.4			22.4			18.9	
Approach LOS		C			C			C			B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		12.8	28.9	8.7	29.6	8.7	32.9	9.0	29.3			
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Max Green (Gmax), s		9.5	20.5	5.5	26.5	5.5	24.5	6.5	25.5			
Max Allow Headway (MAH), s		3.7	4.7	3.6	4.6	3.7	4.7	3.6	4.6			
Max Q Clear (g_c+I1), s		8.3	9.6	4.6	20.8	4.6	9.7	5.1	16.3			
Green Ext Time (g_e), s		0.1	3.8	0.0	4.3	0.0	4.5	0.0	6.4			
Prob of Phs Call (p_c)		0.99	1.00	0.85	1.00	0.85	1.00	0.89	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.94	1.00	0.00	1.00	0.77			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1774		1774		1774		1774				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3539		3539		1863		3539			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1583		1583		1583		1583			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)				

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	214	0	85	0	85	0	101	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	6.3	0.0	2.6	0.0	2.6	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	6.3	0.0	2.6	0.0	2.6	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	824	0	553	0	986	0	637	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	25.9	0.0	24.8	0.0	24.4	0.0	24.8	0.0
Perm LT Serve Time (g_u), s	16.8	0.0	6.3	0.0	20.7	0.0	10.4	0.0
Perm LT Q Serve Time (g_ps), s	3.2	0.0	3.4	0.0	0.3	0.0	2.7	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	446	0	228	0	439	0	274	0
V/C Ratio (X)	0.48	0.00	0.37	0.00	0.19	0.00	0.37	0.00
Avail Cap (c_a), veh/h	473	0	256	0	467	0	317	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.94	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.6	0.0	19.6	0.0	17.4	0.0	18.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	1.0	0.0	0.2	0.0	0.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.4	0.0	20.6	0.0	17.6	0.0	19.4	0.0
1st-Term Q (Q1), veh/ln	3.0	0.0	1.3	0.0	1.3	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	1.3	0.0	1.3	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.06	0.00	0.14	0.00	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	427	0	901	0	243	0	729
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	7.6	0.0	18.8	0.0	7.7	0.0	14.3
Cycle Q Clear Time (g_c), s	0.0	7.6	0.0	18.8	0.0	7.7	0.0	14.3
Lane Grp Cap (c), veh/h	0	1080	0	1109	0	662	0	1096
V/C Ratio (X)	0.00	0.40	0.00	0.81	0.00	0.37	0.00	0.67
Avail Cap (c_a), veh/h	0	1080	0	1172	0	662	0	1128
Upstream Filter (I)	0.00	0.94	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.0	0.0	25.3	0.0	19.1	0.0	24.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	4.3	0.0	1.6	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.0	0.0	29.6	0.0	20.7	0.0	25.4
1st-Term Q (Q1), veh/ln	0.0	3.7	0.0	9.1	0.0	4.0	0.0	7.0

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.7	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	9.8	0.0	4.3	0.0	7.2
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.23	0.00	0.22	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	162	0	115	0	151	0	136
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	6.3	0.0	4.3	0.0	5.4	0.0	5.2
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	4.3	0.0	5.4	0.0	5.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	483	0	496	0	563	0	490
V/C Ratio (X)	0.00	0.34	0.00	0.23	0.00	0.27	0.00	0.28
Avail Cap (c_a), veh/h	0	483	0	524	0	563	0	505
Upstream Filter (I)	0.00	0.94	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.5	0.0	20.3	0.0	18.4	0.0	20.9
Incr Delay (d2), s/veh	0.0	1.8	0.0	0.2	0.0	1.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.3	0.0	20.6	0.0	19.5	0.0	21.2
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	1.9	0.0	2.3	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	1.9	0.0	2.5	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.47	0.00	0.14	0.00	0.34	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	829	106	78	671	125	78	393	149	197	224	139
Future Volume (veh/h)	93	829	106	78	671	125	78	393	149	197	224	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	901	115	85	729	136	85	427	162	214	243	151
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	1109	496	228	1096	490	439	1080	483	446	662	563
Arrive On Green	0.06	0.31	0.31	0.05	0.31	0.31	0.05	0.31	0.31	0.10	0.36	0.36
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	101	901	115	85	729	136	85	427	162	214	243	151
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	3.1	18.8	4.3	2.6	14.3	5.2	2.6	7.6	6.3	6.3	7.7	5.4
Cycle Q Clear(g_c), s	3.1	18.8	4.3	2.6	14.3	5.2	2.6	7.6	6.3	6.3	7.7	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	1109	496	228	1096	490	439	1080	483	446	662	563
V/C Ratio(X)	0.37	0.81	0.23	0.37	0.67	0.28	0.19	0.40	0.34	0.48	0.37	0.27
Avail Cap(c_a), veh/h	317	1172	524	256	1128	505	467	1080	483	473	662	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	25.3	20.3	19.6	24.0	20.9	17.4	22.0	21.5	15.6	19.1	18.4
Incr Delay (d2), s/veh	0.8	4.3	0.2	1.0	1.4	0.3	0.2	1.0	1.8	0.8	1.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	9.8	1.9	1.3	7.2	2.3	1.3	3.9	3.0	3.1	4.3	2.6
LnGrp Delay(d),s/veh	19.4	29.6	20.6	20.6	25.4	21.2	17.6	23.0	23.3	16.4	20.7	19.5
LnGrp LOS	B	C	C	C	C	C	B	C	C	B	C	B
Approach Vol, veh/h		1117			950			674			608	
Approach Delay, s/veh		27.7			24.4			22.4			18.9	
Approach LOS		C			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	28.9	8.7	29.6	8.7	32.9	9.0	29.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	20.5	5.5	26.5	5.5	24.5	6.5	25.5				
Max Q Clear Time (g_c+I1), s	8.3	9.6	4.6	20.8	4.6	9.7	5.1	16.3				
Green Ext Time (p_c), s	0.1	3.8	0.0	4.3	0.0	4.5	0.0	6.4				
Intersection Summary												
HCM 2010 Ctrl Delay			24.1									
HCM 2010 LOS			C									

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	569	9	40	297	6	16	0	97	7	0	9
Future Vol, veh/h	5	569	9	40	297	6	16	0	97	7	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	618	10	43	323	7	17	0	105	8	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	330	0	0	628	0	0	876	1044	309	728	1047	162
Stage 1	-	-	-	-	-	-	628	628	-	409	409	-
Stage 2	-	-	-	-	-	-	248	416	-	319	638	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1226	-	-	950	-	-	243	228	687	311	227	854
Stage 1	-	-	-	-	-	-	437	474	-	590	594	-
Stage 2	-	-	-	-	-	-	734	590	-	667	469	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1226	-	-	950	-	-	231	217	687	253	216	854
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	217	-	253	216	-
Stage 1	-	-	-	-	-	-	435	472	-	588	567	-
Stage 2	-	-	-	-	-	-	693	563	-	562	467	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1	12.7	13.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	231	687	1226	-	-	950	-	-	253	854
HCM Lane V/C Ratio	0.075	0.153	0.004	-	-	0.046	-	-	0.03	0.011
HCM Control Delay (s)	21.8	11.2	7.9	-	-	9	-	-	19.7	9.3
HCM Lane LOS	C	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.2	0.5	0	-	-	0.1	-	-	0.1	0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	416	5	87	457	98	19	125	80	114	74	108
Future Volume (vph)	99	416	5	87	457	98	19	125	80	114	74	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.219			0.420			0.705			0.590		
Satd. Flow (perm)	367	3185	1425	704	1676	1425	1182	1676	1425	989	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			143			143			143
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	452	5	95	497	107	21	136	87	124	80	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	452	5	95	497	107	21	136	87	124	80	117
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	10.0	35.4	35.4	10.6	36.0	36.0	9.5	24.0	24.0	10.0	24.5	24.5
Total Split (%)	12.5%	44.3%	44.3%	13.3%	45.0%	45.0%	11.9%	30.0%	30.0%	12.5%	30.6%	30.6%
Maximum Green (s)	5.5	30.9	30.9	6.1	31.5	31.5	5.0	19.5	19.5	5.5	20.0	20.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	31.7	27.3	27.3	32.6	27.8	27.8	30.7	26.4	26.4	33.6	31.4	31.4
Actuated g/C Ratio	0.40	0.34	0.34	0.41	0.35	0.35	0.38	0.33	0.33	0.42	0.39	0.39
v/c Ratio	0.47	0.42	0.01	0.27	0.86	0.18	0.04	0.25	0.15	0.27	0.12	0.18
Control Delay	18.3	20.9	0.0	12.9	39.2	2.2	16.4	25.2	1.9	18.5	21.5	3.8
Queue Delay	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 Delay	18.3	20.9	0.0	12.9	39.2	2.2	16.4	25.2	1.9	18.5	21.5	3.8
LOS	B	C	A	B	D	A	B	C	A	B	C	A
Approach Delay		20.2			30.0			16.1			13.9	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 22.3

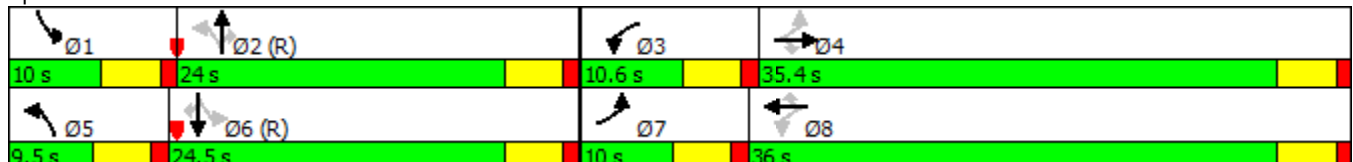
Intersection LOS: C

Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	108	452	5	95	497	107	21	136	87	124	80	117
v/c Ratio	0.47	0.42	0.01	0.27	0.86	0.18	0.04	0.25	0.15	0.27	0.12	0.18
Control Delay	18.3	20.9	0.0	12.9	39.2	2.2	16.4	25.2	1.9	18.5	21.5	3.8
Queue Delay	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 Delay	18.3	20.9	0.0	12.9	39.2	2.2	16.4	25.2	1.9	18.5	21.5	3.8
Queue Length 50th (ft)	28	86	0	24	218	0	6	56	0	40	25	0
Queue Length 95th (ft)	52	121	0	47	#336	17	21	105	11	80	67	27
Internal Link Dist (ft)	837			752			470			2675		
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	229	1230	638	354	659	647	481	552	565	464	658	646
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.37	0.01	0.27	0.75	0.17	0.04	0.25	0.15	0.27	0.12	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	416	5	87	457	98	19	125	80	114	74	108
Future Volume (veh/h)	99	416	5	87	457	98	19	125	80	114	74	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	108	452	5	95	497	107	21	136	87	124	80	117
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	240	1120	501	383	579	492	445	501	426	446	577	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.35	0.35	0.06	0.35	0.35	0.02	0.30	0.30	0.07	0.34	0.34
Ln Grp Delay, s/veh	20.0	19.8	16.9	16.1	34.3	18.8	18.7	22.7	22.0	17.2	18.5	19.9
Ln Grp LOS	B	B	B	B	C	B	B	C	C	B	B	B
Approach Vol, veh/h		565			699			244			321	
Approach Delay, s/veh		19.8			29.5			22.1			18.5	
Approach LOS		B			C			C			B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	10.0	28.4	8.9	32.6	6.4	32.1	9.4	32.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.5	19.5	6.1	30.9	5.0	20.0	5.5	31.5				
Max Allow Headway (MAH), s	3.8	4.5	3.7	4.9	3.7	4.5	3.7	4.9				
Max Q Clear (g_c+I1), s	6.2	7.0	5.0	10.6	2.7	6.7	5.4	24.1				
Green Ext Time (g_e), s	0.0	1.4	0.0	6.3	0.0	1.5	0.0	3.6				
Prob of Phs Call (p_c)	0.94	1.00	0.88	1.00	0.37	1.00	0.91	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.14	1.00	0.00	1.00	0.73				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2			4		6			8		
Mvmt Sat Flow, veh/h		1676			3185		1676			1676		
Right-Turn Movement Data												
Assigned Mvmt			12		14		16			18		
Mvmt Sat Flow, veh/h			1425		1425		1425			1425		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	124	0	95	0	21	0	108	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	4.2	0.0	3.0	0.0	0.7	0.0	3.4	0.0
Cycle Q Clear Time (g_c), s	4.2	0.0	3.0	0.0	0.7	0.0	3.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1038	0	838	0	1063	0	731	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	25.1	0.0	27.6	0.0	23.9	0.0	27.6	0.0
Perm LT Serve Time (g_u), s	19.0	0.0	19.6	0.0	23.9	0.0	5.6	0.0
Perm LT Q Serve Time (g_ps), s	0.8	0.0	1.0	0.0	0.0	0.0	3.8	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	446	0	383	0	445	0	240	0
V/C Ratio (X)	0.28	0.00	0.25	0.00	0.05	0.00	0.45	0.00
Avail Cap (c_a), veh/h	446	0	417	0	508	0	251	0
Upstream Filter (I)	0.99	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.8	0.0	15.7	0.0	18.6	0.0	18.6	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.3	0.0	0.0	0.0	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.2	0.0	16.1	0.0	18.7	0.0	20.0	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	1.3	0.0	0.3	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	1.4	0.0	0.3	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.14	0.00	0.04	0.00	0.17	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	136	0	452	0	80	0	497
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	5.0	0.0	8.6	0.0	2.6	0.0	22.1
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	8.6	0.0	2.6	0.0	22.1
Lane Grp Cap (c), veh/h	0	501	0	1120	0	577	0	579
V/C Ratio (X)	0.00	0.27	0.00	0.40	0.00	0.14	0.00	0.86
Avail Cap (c_a), veh/h	0	501	0	1230	0	577	0	660
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.4	0.0	19.6	0.0	18.1	0.0	24.4
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.2	0.0	0.5	0.0	10.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.7	0.0	19.8	0.0	18.5	0.0	34.3
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	3.8	0.0	1.2	0.0	10.2

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	1.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	3.8	0.0	1.3	0.0	11.8
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.12	0.00	0.01	0.00	0.38
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	87	0	5	0	117	0	107
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	3.6	0.0	0.2	0.0	4.7	0.0	4.3
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.2	0.0	4.7	0.0	4.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	426	0	501	0	491	0	492
V/C Ratio (X)	0.00	0.20	0.00	0.01	0.00	0.24	0.00	0.22
Avail Cap (c_a), veh/h	0	426	0	550	0	491	0	561
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.9	0.0	16.9	0.0	18.7	0.0	18.5
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	1.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.0	0.0	16.9	0.0	19.9	0.0	18.8
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	0.1	0.0	1.9	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	0.1	0.0	2.0	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.30	0.00	0.01	0.00	0.61	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	416	5	87	457	98	19	125	80	114	74	108
Future Volume (veh/h)	99	416	5	87	457	98	19	125	80	114	74	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	108	452	5	95	497	107	21	136	87	124	80	117
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1120	501	383	579	492	445	501	426	446	577	491
Arrive On Green	0.06	0.35	0.35	0.06	0.35	0.35	0.02	0.30	0.30	0.07	0.34	0.34
Sat Flow, veh/h	1597	3185	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Grp Volume(v), veh/h	108	452	5	95	497	107	21	136	87	124	80	117
Grp Sat Flow(s),veh/h/ln	1597	1593	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Q Serve(g_s), s	3.4	8.6	0.2	3.0	22.1	4.3	0.7	5.0	3.6	4.2	2.6	4.7
Cycle Q Clear(g_c), s	3.4	8.6	0.2	3.0	22.1	4.3	0.7	5.0	3.6	4.2	2.6	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	1120	501	383	579	492	445	501	426	446	577	491
V/C Ratio(X)	0.45	0.40	0.01	0.25	0.86	0.22	0.05	0.27	0.20	0.28	0.14	0.24
Avail Cap(c_a), veh/h	251	1230	550	417	660	561	508	501	426	446	577	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	18.6	19.6	16.9	15.7	24.4	18.5	18.6	21.4	20.9	16.8	18.1	18.7
Incr Delay (d2), s/veh	1.3	0.2	0.0	0.3	10.0	0.2	0.0	1.3	1.1	0.3	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.8	0.1	1.4	11.8	1.7	0.3	2.5	1.6	1.8	1.3	2.0
LnGrp Delay(d),s/veh	20.0	19.8	16.9	16.1	34.3	18.8	18.7	22.7	22.0	17.2	18.5	19.9
LnGrp LOS	B	B	B	B	C	B	B	C	C	B	B	B
Approach Vol, veh/h		565			699			244			321	
Approach Delay, s/veh		19.8			29.5			22.1			18.5	
Approach LOS		B			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	28.4	8.9	32.6	6.4	32.1	9.4	32.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	19.5	6.1	30.9	5.0	20.0	5.5	31.5				
Max Q Clear Time (g_c+I1), s	6.2	7.0	5.0	10.6	2.7	6.7	5.4	24.1				
Green Ext Time (p_c), s	0.0	1.4	0.0	6.3	0.0	1.5	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

ATAGHMENT Peak Hour
STUDY 1st Ave & 16th St

Kellar Engineering LLC

03/06/2023

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	T	R
Traffic Volume (vph)	15	29	310	20	35	277
Future Volume (vph)	15	29	310	20	35	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910		0.992			
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1668	0	1848	0	1770	1863
Flt Permitted	0.984				0.547	
Satd. Flow (perm)	1668	0	1848	0	1019	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	32		7			
Link Speed (mph)	30		40			40
Link Distance (ft)	426		2755			1239
Travel Time (s)	9.7		47.0			21.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	32	337	22	38	301
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	359	0	38	301
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	

Lanes, Volumes, Timings
Sean Kellar, PE, PTOE

Synchro Report

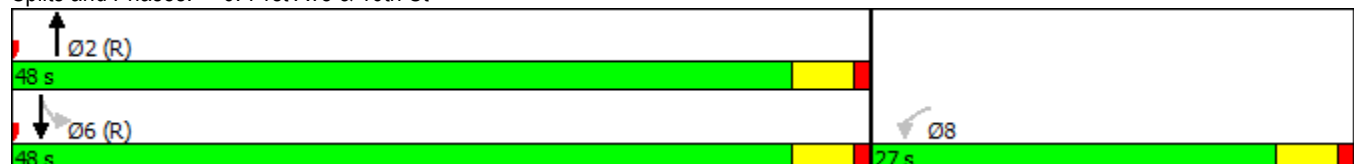
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	22.5		22.5		22.5	22.5
Total Split (s)	27.0		48.0		48.0	48.0
Total Split (%)	36.0%		64.0%		64.0%	64.0%
Maximum Green (s)	22.5		43.5		43.5	43.5
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	6.7		65.1		65.1	65.1
Actuated g/C Ratio	0.09		0.87		0.87	0.87
v/c Ratio	0.27		0.22		0.04	0.19
Control Delay	20.2		2.1		2.0	2.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	20.2		2.1		2.0	2.0
LOS	C		A		A	A
Approach Delay	20.2		2.1			2.0
Approach LOS	C		A			A

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.27
 Intersection Signal Delay: 3.2
 Intersection Capacity Utilization 37.1%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 6: 71st Ave & 16th St



				
Lane Group	WBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	359	38	301
v/c Ratio	0.27	0.22	0.04	0.19
Control Delay	20.2	2.1	2.0	2.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.2	2.1	2.0	2.0
Queue Length 50th (ft)	7	28	3	23
Queue Length 95th (ft)	36	58	9	49
Internal Link Dist (ft)	346	2675		1159
Turn Bay Length (ft)	100		100	
Base Capacity (vph)	522	1605	884	1617
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.22	0.04	0.19
Intersection Summary				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	357	23	55	480	10	12	0	43	1	0	4
Future Volume (vph)	9	357	23	55	480	10	12	0	43	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	388	25	60	522	11	13	0	47	1	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	388	25	60	522	11	13	47	0	1	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.9%											
Analysis Period (min)	15											
ICU Level of Service A												

AT&T Center Peak Hour
STUDY 1st Ave & 10th St

Kellar Engineering LLC

03/06/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	910	106	92	765	49	186	150	117	77	122	101
Future Volume (vph)	61	910	106	92	765	49	186	150	117	77	122	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.189			0.148			0.606			0.651		
Satd. Flow (perm)	352	3539	1583	276	3539	1583	1129	3539	1583	1213	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			143			143			143
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			1586			546	
Travel Time (s)		13.8			17.1			27.0			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	65	968	113	98	814	52	198	160	124	82	130	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	968	113	98	814	52	198	160	124	82	130	107
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	10.2	34.0	34.0	10.0	33.8	33.8	11.0	26.2	26.2	9.8	25.0	25.0
Total Split (%)	12.8%	42.5%	42.5%	12.5%	42.3%	42.3%	13.8%	32.8%	32.8%	12.3%	31.3%	31.3%
Maximum Green (s)	5.7	29.5	29.5	5.5	29.3	29.3	6.5	21.7	21.7	5.3	20.5	20.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	31.7	27.2	27.2	31.4	27.0	27.0	33.5	27.6	27.6	29.8	24.0	24.0
Actuated g/C Ratio	0.40	0.34	0.34	0.39	0.34	0.34	0.42	0.34	0.34	0.37	0.30	0.30
v/c Ratio	0.27	0.81	0.18	0.47	0.68	0.08	0.37	0.13	0.19	0.17	0.23	0.19
Control Delay	14.1	29.7	2.6	19.2	25.8	0.3	18.5	21.5	4.2	16.3	24.7	3.0
Queue Delay	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 Delay	14.1	29.7	2.6	19.2	25.8	0.3	18.5	21.5	4.2	16.3	24.7	3.0
LOS	B	C	A	B	C	A	B	C	A	B	C	A
Approach Delay		26.2			23.8			15.8			15.2	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 22.5

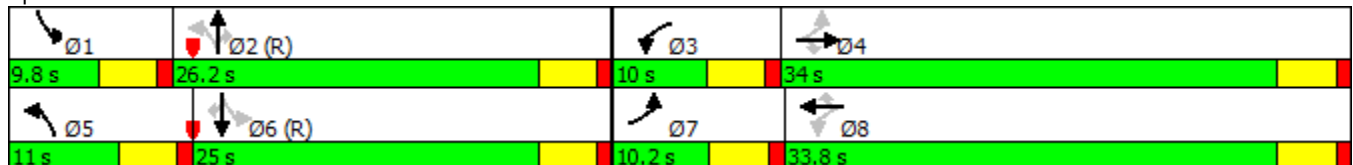
Intersection LOS: C

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	65	968	113	98	814	52	198	160	124	82	130	107
v/c Ratio	0.27	0.81	0.18	0.47	0.68	0.08	0.37	0.13	0.19	0.17	0.23	0.19
Control Delay	14.1	29.7	2.6	19.2	25.8	0.3	18.5	21.5	4.2	16.3	24.7	3.0
Queue Delay	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 Delay	14.1	29.7	2.6	19.2	25.8	0.3	18.5	21.5	4.2	16.3	24.7	3.0
Queue Length 50th (ft)	17	220	0	25	175	0	65	32	0	25	52	0
Queue Length 95th (ft)	36	288	21	50	233	0	115	55	30	53	98	22
Internal Link Dist (ft)	1037			1302			1506			466		
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	240	1305	674	210	1296	670	531	1218	639	491	558	575
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.74	0.17	0.47	0.63	0.08	0.37	0.13	0.19	0.17	0.23	0.19
Intersection Summary												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	910	106	92	765	49	186	150	117	77	122	101
Future Volume (veh/h)	61	910	106	92	765	49	186	150	117	77	122	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	65	968	113	98	814	52	198	160	124	82	130	107
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	275	1217	545	239	1245	557	509	1144	512	501	548	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.34	0.34	0.06	0.35	0.35	0.08	0.32	0.32	0.05	0.29	0.29
Ln Grp Delay, s/veh	17.3	27.0	18.7	19.4	23.0	17.5	18.2	19.4	21.0	18.0	22.4	22.5
Ln Grp LOS	B	C	B	B	C	B	B	B	C	B	C	C
Approach Vol, veh/h		1146			964			482			319	
Approach Delay, s/veh		25.6			22.3			19.3			21.3	
Approach LOS		C			C			B			C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		8.7	30.4	8.9	32.0	11.0	28.0	8.3	32.6			
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Max Green (Gmax), s		5.3	21.7	5.5	29.5	6.5	20.5	5.7	29.3			
Max Allow Headway (MAH), s		3.7	4.5	3.6	4.7	3.7	4.5	3.6	4.7			
Max Q Clear (g_c+I1), s		4.5	6.6	4.8	21.8	8.3	6.2	3.9	17.5			
Green Ext Time (g_e), s		0.0	2.1	0.0	5.8	0.0	2.0	0.0	8.1			
Prob of Phs Call (p_c)		0.84	1.00	0.89	1.00	0.99	1.00	0.76	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.86	1.00	0.00	1.00	0.70			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1774		1774		1774		1774				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3539		3539		1863		3539			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1583		1583		1583		1583			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)				

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	82	0	98	0	198	0	65	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	2.5	0.0	2.8	0.0	6.3	0.0	1.9	0.0
Cycle Q Clear Time (g_c), s	2.5	0.0	2.8	0.0	6.3	0.0	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1091	0	520	0	1139	0	636	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.5	0.0	27.5	0.0	23.5	0.0	27.5	0.0
Perm LT Serve Time (g_u), s	23.3	0.0	7.8	0.0	19.3	0.0	12.6	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	4.6	0.0	0.9	0.0	1.7	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	501	0	239	0	509	0	275	0
V/C Ratio (X)	0.16	0.00	0.41	0.00	0.39	0.00	0.24	0.00
Avail Cap (c_a), veh/h	525	0	262	0	509	0	317	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.9	0.0	18.3	0.0	17.7	0.0	16.9	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.1	0.0	0.5	0.0	0.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.0	0.0	19.4	0.0	18.2	0.0	17.3	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	1.4	0.0	3.0	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	1.4	0.0	3.1	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.06	0.00	0.34	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	160	0	968	0	130	0	814
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	2.6	0.0	19.8	0.0	4.2	0.0	15.5
Cycle Q Clear Time (g_c), s	0.0	2.6	0.0	19.8	0.0	4.2	0.0	15.5
Lane Grp Cap (c), veh/h	0	1144	0	1217	0	548	0	1245
V/C Ratio (X)	0.00	0.14	0.00	0.80	0.00	0.24	0.00	0.65
Avail Cap (c_a), veh/h	0	1144	0	1305	0	548	0	1296
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.2	0.0	23.7	0.0	21.4	0.0	21.8
Incr Delay (d2), s/veh	0.0	0.3	0.0	3.3	0.0	1.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.4	0.0	27.0	0.0	22.4	0.0	23.0
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	9.5	0.0	2.2	0.0	7.6

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	10.1	0.0	2.3	0.0	7.8
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.24	0.00	0.12	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	124	0	113	0	107	0	52
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	4.6	0.0	4.0	0.0	4.1	0.0	1.8
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	4.0	0.0	4.1	0.0	1.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	512	0	545	0	466	0	557
V/C Ratio (X)	0.00	0.24	0.00	0.21	0.00	0.23	0.00	0.09
Avail Cap (c_a), veh/h	0	512	0	584	0	466	0	580
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.9	0.0	18.5	0.0	21.4	0.0	17.4
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.2	0.0	1.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	0.0	18.7	0.0	22.5	0.0	17.5
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	1.8	0.0	1.8	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	1.8	0.0	1.9	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.13	0.00	0.26	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	23.0
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	910	106	92	765	49	186	150	117	77	122	101
Future Volume (veh/h)	61	910	106	92	765	49	186	150	117	77	122	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	65	968	113	98	814	52	198	160	124	82	130	107
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	1217	545	239	1245	557	509	1144	512	501	548	466
Arrive On Green	0.05	0.34	0.34	0.06	0.35	0.35	0.08	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	65	968	113	98	814	52	198	160	124	82	130	107
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	1.9	19.8	4.0	2.8	15.5	1.8	6.3	2.6	4.6	2.5	4.2	4.1
Cycle Q Clear(g_c), s	1.9	19.8	4.0	2.8	15.5	1.8	6.3	2.6	4.6	2.5	4.2	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	1217	545	239	1245	557	509	1144	512	501	548	466
V/C Ratio(X)	0.24	0.80	0.21	0.41	0.65	0.09	0.39	0.14	0.24	0.16	0.24	0.23
Avail Cap(c_a), veh/h	317	1305	584	262	1296	580	509	1144	512	525	548	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	23.7	18.5	18.3	21.8	17.4	17.7	19.2	19.9	17.9	21.4	21.4
Incr Delay (d2), s/veh	0.4	3.3	0.2	1.1	1.1	0.1	0.5	0.3	1.1	0.2	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	10.1	1.8	1.4	7.8	0.8	3.1	1.3	2.2	1.3	2.3	1.9
LnGrp Delay(d),s/veh	17.3	27.0	18.7	19.4	23.0	17.5	18.2	19.4	21.0	18.0	22.4	22.5
LnGrp LOS	B	C	B	B	C	B	B	B	C	B	C	C
Approach Vol, veh/h	1146				964				482		319	
Approach Delay, s/veh	25.6				22.3				19.3		21.3	
Approach LOS	C				C				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	30.4	8.9	32.0	11.0	28.0	8.3	32.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.3	21.7	5.5	29.5	6.5	20.5	5.7	29.3				
Max Q Clear Time (g_c+I1), s	4.5	6.6	4.8	21.8	8.3	6.2	3.9	17.5				
Green Ext Time (p_c), s	0.0	2.1	0.0	5.8	0.0	2.0	0.0	8.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	357	23	55	480	10	12	0	43	1	0	4
Future Vol, veh/h	9	357	23	55	480	10	12	0	43	1	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	388	25	60	522	11	13	0	47	1	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	533	0	0	413	0	0	789	1061	194	856	1075	261
Stage 1	-	-	-	-	-	-	408	408	-	642	642	-
Stage 2	-	-	-	-	-	-	381	653	-	214	433	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1031	-	-	1142	-	-	281	222	815	251	218	738
Stage 1	-	-	-	-	-	-	591	595	-	429	467	-
Stage 2	-	-	-	-	-	-	613	462	-	768	580	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1031	-	-	1142	-	-	266	208	815	225	204	738
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	208	-	225	204	-
Stage 1	-	-	-	-	-	-	585	589	-	425	442	-
Stage 2	-	-	-	-	-	-	577	438	-	717	574	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2	-	-	0.8	-	-	11.8	-	-	12.1	-	-
HCM LOS	-	-	-	-	-	-	B	-	-	B	-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	266	815	1031	-	-	1142	-	-	225	738
HCM Lane V/C Ratio	0.049	0.057	0.009	-	-	0.052	-	-	0.005	0.006
HCM Control Delay (s)	19.2	9.7	8.5	-	-	8.3	-	-	21.1	9.9
HCM Lane LOS	C	A	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.2	0.2	0	-	-	0.2	-	-	0	0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	543	6	68	345	74	20	231	185	150	35	60
Future Volume (vph)	170	543	6	68	345	74	20	231	185	150	35	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.264			0.354			0.732			0.415		
Satd. Flow (perm)	443	3185	1425	593	1676	1425	1227	1676	1425	696	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			164			201			164
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	590	7	74	375	80	22	251	201	163	38	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	590	7	74	375	80	22	251	201	163	38	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	11.6	25.5	25.5	10.6	24.5	24.5	9.5	24.3	24.3	9.6	24.4	24.4
Total Split (%)	16.6%	36.4%	36.4%	15.1%	35.0%	35.0%	13.6%	34.7%	34.7%	13.7%	34.9%	34.9%
Maximum Green (s)	7.1	21.0	21.0	6.1	20.0	20.0	5.0	19.8	19.8	5.1	19.9	19.9
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	27.3	21.6	21.6	24.5	18.5	18.5	25.9	20.7	20.7	29.1	27.1	27.1
Actuated g/C Ratio	0.39	0.31	0.31	0.35	0.26	0.26	0.37	0.30	0.30	0.42	0.39	0.39
v/c Ratio	0.64	0.60	0.01	0.25	0.85	0.16	0.05	0.51	0.36	0.45	0.06	0.10
Control Delay	24.5	23.9	0.0	13.8	43.5	0.7	12.4	25.3	5.4	18.4	17.2	0.3
Queue Delay	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 Delay	24.5	23.9	0.0	13.8	43.5	0.7	12.4	25.3	5.4	18.4	17.2	0.3
LOS	C	C	A	B	D	A	B	C	A	B	B	A
Approach Delay		23.8			32.8			16.2			13.8	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.1

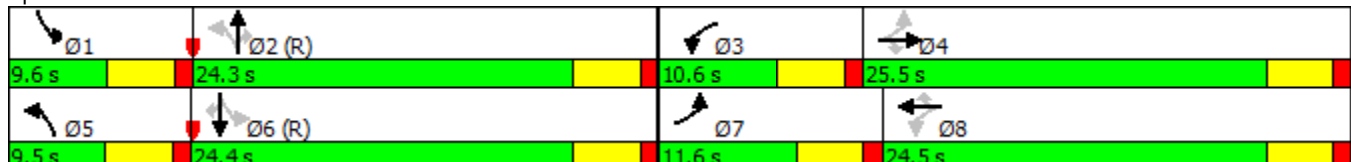
Intersection LOS: C

Intersection Capacity Utilization 68.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	185	590	7	74	375	80	22	251	201	163	38	65
v/c Ratio	0.64	0.60	0.01	0.25	0.85	0.16	0.05	0.51	0.36	0.45	0.06	0.10
Control Delay	24.5	23.9	0.0	13.8	43.5	0.7	12.4	25.3	5.4	18.4	17.2	0.3
Queue Delay	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 Delay	24.5	23.9	0.0	13.8	43.5	0.7	12.4	25.3	5.4	18.4	17.2	0.3
Queue Length 50th (ft)	47	114	0	17	148	0	5	91	0	44	9	0
Queue Length 95th (ft)	#95	165	0	39	#279	1	17	158	44	83	33	0
Internal Link Dist (ft)	837			752			470			2675		
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	289	999	559	295	478	524	480	495	562	362	648	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.59	0.01	0.25	0.78	0.15	0.05	0.51	0.36	0.45	0.06	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	543	6	68	345	74	20	231	185	150	35	60
Future Volume (veh/h)	170	543	6	68	345	74	20	231	185	150	35	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	185	590	7	74	375	80	22	251	201	163	38	65
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	303	975	436	299	434	369	501	519	441	377	599	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.31	0.31	0.05	0.26	0.26	0.02	0.31	0.31	0.07	0.36	0.36
Ln Grp Delay, s/veh	21.4	21.8	17.0	18.2	38.8	20.6	15.8	22.8	22.8	15.8	15.0	15.6
Ln Grp LOS	C	C	B	B	D	C	B	C	C	B	B	B
Approach Vol, veh/h		782			529			474			266	
Approach Delay, s/veh		21.6			33.2			22.5			15.7	
Approach LOS		C			C			C			B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.6	26.2	8.3	25.9	6.2	29.5	11.6	22.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.1	19.8	6.1	21.0	5.0	19.9	7.1	20.0				
Max Allow Headway (MAH), s	3.8	4.5	3.7	4.9	3.7	4.5	3.7	4.9				
Max Q Clear (g_c+I1), s	6.8	10.5	4.3	13.0	2.7	4.1	7.8	16.9				
Green Ext Time (g_e), s	0.0	1.7	0.0	3.7	0.0	2.2	0.0	1.2				
Prob of Phs Call (p_c)	0.96	1.00	0.76	1.00	0.35	1.00	0.97	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.67	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		1676		3185		1676		1676				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1425		1425		1425		1425				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	163	0	74	0	22	0	185	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	4.8	0.0	2.3	0.0	0.7	0.0	5.8	0.0
Cycle Q Clear Time (g_c), s	4.8	0.0	2.3	0.0	0.7	0.0	5.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	841	0	736	0	1158	0	839	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	22.5	0.0	18.1	0.0	21.7	0.0	18.9	0.0
Perm LT Serve Time (g_u), s	13.1	0.0	10.4	0.0	21.7	0.0	3.2	0.0
Perm LT Q Serve Time (g_ps), s	2.3	0.0	0.9	0.0	0.0	0.0	3.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	377	0	299	0	501	0	303	0
V/C Ratio (X)	0.43	0.00	0.25	0.00	0.04	0.00	0.61	0.00
Avail Cap (c_a), veh/h	377	0	351	0	575	0	303	0
Upstream Filter (I)	0.97	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.1	0.0	17.8	0.0	15.7	0.0	17.9	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.4	0.0	0.0	0.0	3.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	15.8	0.0	18.2	0.0	15.8	0.0	21.4	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	1.0	0.0	0.3	0.0	2.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	1.0	0.0	0.3	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.11	0.00	0.03	0.00	0.29	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	251	0	590	0	38	0	375
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	8.5	0.0	11.0	0.0	1.0	0.0	14.9
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	11.0	0.0	1.0	0.0	14.9
Lane Grp Cap (c), veh/h	0	519	0	975	0	599	0	434
V/C Ratio (X)	0.00	0.48	0.00	0.61	0.00	0.06	0.00	0.86
Avail Cap (c_a), veh/h	0	519	0	975	0	599	0	479
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	20.7	0.0	14.8	0.0	24.7
Incr Delay (d2), s/veh	0.0	3.2	0.0	1.1	0.0	0.2	0.0	14.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.8	0.0	21.8	0.0	15.0	0.0	38.8
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	4.8	0.0	0.5	0.0	6.9

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	1.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.4	0.0	5.0	0.0	0.5	0.0	8.6
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.15	0.00	0.00	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	201	0	7	0	65	0	80
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	7.9	0.0	0.2	0.0	2.1	0.0	3.1
Cycle Q Clear Time (g_c), s	0.0	7.9	0.0	0.2	0.0	2.1	0.0	3.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	441	0	436	0	509	0	369
V/C Ratio (X)	0.00	0.46	0.00	0.02	0.00	0.13	0.00	0.22
Avail Cap (c_a), veh/h	0	441	0	436	0	509	0	407
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.4	0.0	16.9	0.0	15.1	0.0	20.4
Incr Delay (d2), s/veh	0.0	3.4	0.0	0.0	0.0	0.5	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.8	0.0	17.0	0.0	15.6	0.0	20.6
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	0.1	0.0	0.8	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.5	0.0	0.1	0.0	0.9	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.68	0.00	0.01	0.00	0.28	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	24.0							
HCM 2010 LOS	C							

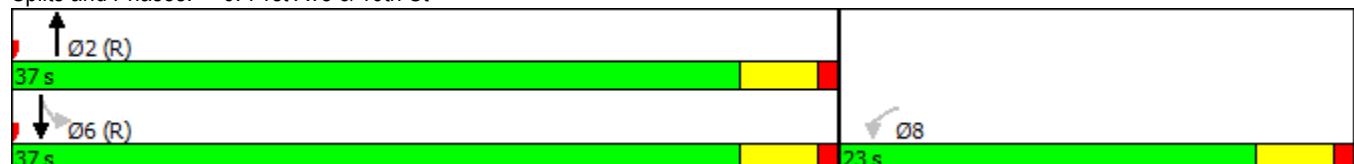
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	14	55	468	73	47	380
Future Volume (vph)	14	55	468	73	47	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.892		0.982			
Flt Protected	0.990				0.950	
Satd. Flow (prot)	1645	0	1829	0	1770	1863
Flt Permitted	0.990				0.423	
Satd. Flow (perm)	1645	0	1829	0	788	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	60		20			
Link Speed (mph)	30		40			40
Link Distance (ft)	426		2755			2825
Travel Time (s)	9.7		47.0			48.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	60	509	79	51	413
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	0	588	0	51	413
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	22.5		22.5		22.5	22.5
Total Split (s)	23.0		37.0		37.0	37.0
Total Split (%)	38.3%		61.7%		61.7%	61.7%
Maximum Green (s)	18.5		32.5		32.5	32.5
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effect Green (s)	6.7		50.1		50.1	50.1
Actuated g/C Ratio	0.11		0.84		0.84	0.84
v/c Ratio	0.32		0.38		0.08	0.27
Control Delay	13.6		3.4		2.7	2.8
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	13.6		3.4		2.7	2.8
LOS	B		A		A	A
Approach Delay	13.6		3.4			2.8
Approach LOS	B		A			A

Intersection Summary

Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 3.8	Intersection LOS: A
Intersection Capacity Utilization 48.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: 71st Ave & 16th St





Lane Group	WBL	NBT	SBL	SBT
Lane Group Flow (vph)	75	588	51	413
v/c Ratio	0.32	0.38	0.08	0.27
Control Delay	13.6	3.4	2.7	2.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.6	3.4	2.7	2.8
Queue Length 50th (ft)	5	52	3	33
Queue Length 95th (ft)	36	117	13	76
Internal Link Dist (ft)	346	2675		2745
Turn Bay Length (ft)	100		100	
Base Capacity (vph)	548	1531	658	1556
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.38	0.08	0.27
Intersection Summary				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	592	9	42	309	6	17	0	101	7	0	9
Future Volume (vph)	5	592	9	42	309	6	17	0	101	7	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	643	10	46	336	7	18	0	110	8	0	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	643	10	46	336	7	18	110	0	8	10	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	862	110	81	698	130	81	409	155	205	233	145
Future Volume (vph)	95	862	110	81	698	130	81	409	155	205	233	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.193			0.161			0.602			0.338		
Satd. Flow (perm)	360	3539	1583	300	3539	1583	1121	3539	1583	630	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			143			168			158
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			2825			546	
Travel Time (s)		13.8			17.1			48.2			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	937	120	88	759	141	88	445	168	223	253	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	937	120	88	759	141	88	445	168	223	253	158
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	11.1	32.0	32.0	10.0	30.9	30.9	10.0	24.0	24.0	14.0	28.0	28.0
Total Split (%)	13.9%	40.0%	40.0%	12.5%	38.6%	38.6%	12.5%	30.0%	30.0%	17.5%	35.0%	35.0%
Maximum Green (s)	6.6	27.5	27.5	5.5	26.4	26.4	5.5	19.5	19.5	9.5	23.5	23.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	31.1	25.8	25.8	29.3	24.9	24.9	29.3	23.5	23.5	36.6	28.9	28.9
Actuated g/C Ratio	0.39	0.32	0.32	0.37	0.31	0.31	0.37	0.29	0.29	0.46	0.36	0.36
v/c Ratio	0.41	0.82	0.20	0.42	0.69	0.24	0.19	0.43	0.29	0.53	0.38	0.24
Control Delay	17.6	31.6	3.3	18.8	27.6	4.7	15.7	26.1	5.8	19.9	23.8	4.9
Queue Delay	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 Delay	17.6	31.6	3.3	18.8	27.6	4.7	15.7	26.1	5.8	19.9	23.8	4.9
LOS	B	C	A	B	C	A	B	C	A	B	C	A
Approach Delay		27.4			23.6			19.9			17.7	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 23.1

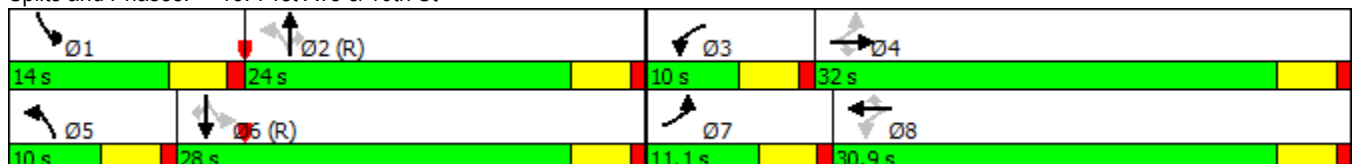
Intersection LOS: C

Intersection Capacity Utilization 66.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	937	120	88	759	141	88	445	168	223	253	158
v/c Ratio	0.41	0.82	0.20	0.42	0.69	0.24	0.19	0.43	0.29	0.53	0.38	0.24
Control Delay	17.6	31.6	3.3	18.8	27.6	4.7	15.7	26.1	5.8	19.9	23.8	4.9
Queue Delay	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 Delay	17.6	31.6	3.3	18.8	27.6	4.7	15.7	26.1	5.8	19.9	23.8	4.9
Queue Length 50th (ft)	28	216	0	24	168	0	26	101	0	72	103	0
Queue Length 95th (ft)	55	289	25	49	228	36	54	146	46	123	171	41
Internal Link Dist (ft)	1037			1302			2745			466		
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	256	1216	638	210	1167	618	457	1039	583	426	673	672
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.77	0.19	0.42	0.65	0.23	0.19	0.43	0.29	0.52	0.38	0.24
Intersection Summary												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	862	110	81	698	130	81	409	155	205	233	145
Future Volume (veh/h)	95	862	110	81	698	130	81	409	155	205	233	145
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	103	937	120	88	759	141	88	445	168	223	253	158
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	276	1153	516	229	1141	510	417	1016	455	431	637	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.33	0.33	0.05	0.32	0.32	0.05	0.29	0.29	0.11	0.34	0.34
Ln Grp Delay, s/veh	18.8	28.9	19.9	20.2	24.8	20.5	18.6	24.5	24.9	17.3	21.9	20.6
Ln Grp LOS	B	C	B	C	C	C	B	C	C	B	C	C
Approach Vol, veh/h		1160			988			701			634	
Approach Delay, s/veh		27.0			23.8			23.9			20.0	
Approach LOS		C			C			C			B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		13.2	27.5	8.8	30.6	8.8	31.9	9.1	30.3			
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Max Green (Gmax), s		9.5	19.5	5.5	27.5	5.5	23.5	6.6	26.4			
Max Allow Headway (MAH), s		3.7	4.7	3.6	4.6	3.7	4.7	3.6	4.6			
Max Q Clear (g_c+I1), s		8.7	10.2	4.6	21.4	4.8	10.3	5.1	16.8			
Green Ext Time (g_e), s		0.1	3.6	0.0	4.6	0.0	4.4	0.0	6.8			
Prob of Phs Call (p_c)		0.99	1.00	0.86	1.00	0.86	1.00	0.90	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.93	1.00	0.00	1.00	0.77			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1774		1774		1774		1774				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3539		3539		1863		3539			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1583		1583		1583		1583			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)				

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	223	0	88	0	88	0	103	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	6.7	0.0	2.6	0.0	2.8	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	6.7	0.0	2.6	0.0	2.8	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	806	0	532	0	971	0	616	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	24.9	0.0	25.8	0.0	23.0	0.0	25.8	0.0
Perm LT Serve Time (g_u), s	14.8	0.0	6.6	0.0	19.1	0.0	11.0	0.0
Perm LT Q Serve Time (g_ps), s	3.9	0.0	3.8	0.0	0.4	0.0	3.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	431	0	229	0	417	0	276	0
V/C Ratio (X)	0.52	0.00	0.38	0.00	0.21	0.00	0.37	0.00
Avail Cap (c_a), veh/h	449	0	256	0	443	0	321	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.93	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.3	0.0	19.1	0.0	18.4	0.0	18.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.1	0.0	0.2	0.0	0.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.3	0.0	20.2	0.0	18.6	0.0	18.8	0.0
1st-Term Q (Q1), veh/ln	3.2	0.0	1.3	0.0	1.3	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.3	0.0	1.3	0.0	1.3	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.29	0.00	0.06	0.00	0.15	0.00	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	445	0	937	0	253	0	759
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	8.2	0.0	19.4	0.0	8.3	0.0	14.8
Cycle Q Clear Time (g_c), s	0.0	8.2	0.0	19.4	0.0	8.3	0.0	14.8
Lane Grp Cap (c), veh/h	0	1016	0	1153	0	637	0	1141
V/C Ratio (X)	0.00	0.44	0.00	0.81	0.00	0.40	0.00	0.67
Avail Cap (c_a), veh/h	0	1016	0	1217	0	637	0	1168
Upstream Filter (I)	0.00	0.93	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.3	0.0	24.7	0.0	20.0	0.0	23.4
Incr Delay (d2), s/veh	0.0	1.3	0.0	4.1	0.0	1.9	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	28.9	0.0	21.9	0.0	24.8
1st-Term Q (Q1), veh/ln	0.0	4.0	0.0	9.5	0.0	4.2	0.0	7.2

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.7	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	10.2	0.0	4.5	0.0	7.4
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.24	0.00	0.24	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	120	0	158	0	141
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	6.8	0.0	4.4	0.0	5.8	0.0	5.3
Cycle Q Clear Time (g_c), s	0.0	6.8	0.0	4.4	0.0	5.8	0.0	5.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	455	0	516	0	541	0	510
V/C Ratio (X)	0.00	0.37	0.00	0.23	0.00	0.29	0.00	0.28
Avail Cap (c_a), veh/h	0	455	0	544	0	541	0	522
Upstream Filter (I)	0.00	0.93	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.7	0.0	19.7	0.0	19.2	0.0	20.2
Incr Delay (d2), s/veh	0.0	2.1	0.0	0.2	0.0	1.4	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.9	0.0	19.9	0.0	20.6	0.0	20.5
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	1.9	0.0	2.5	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	0.0	2.0	0.0	2.8	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.51	0.00	0.14	0.00	0.37	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	592	9	42	309	6	17	0	101	7	0	9
Future Vol, veh/h	5	592	9	42	309	6	17	0	101	7	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	643	10	46	336	7	18	0	110	8	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	343	0	0	653	0	0	913	1088	322	760	1091	168
Stage 1	-	-	-	-	-	-	653	653	-	428	428	-
Stage 2	-	-	-	-	-	-	260	435	-	332	663	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1213	-	-	930	-	-	228	214	674	295	213	847
Stage 1	-	-	-	-	-	-	423	462	-	575	583	-
Stage 2	-	-	-	-	-	-	722	579	-	655	457	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1213	-	-	930	-	-	216	203	674	237	202	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	203	-	237	202	-
Stage 1	-	-	-	-	-	-	421	460	-	573	554	-
Stage 2	-	-	-	-	-	-	678	551	-	546	455	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.1	13.1	14.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	216	674	1213	-	-	930	-	-	237	847
HCM Lane V/C Ratio	0.086	0.163	0.004	-	-	0.049	-	-	0.032	0.012
HCM Control Delay (s)	23.2	11.4	8	-	-	9.1	-	-	20.7	9.3
HCM Lane LOS	C	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.3	0.6	0	-	-	0.2	-	-	0.1	0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	468	6	98	515	110	21	138	90	128	83	122
Future Volume (vph)	112	468	6	98	515	110	21	138	90	128	83	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.191			0.393			0.699			0.521		
Satd. Flow (perm)	320	3185	1425	659	1676	1425	1172	1676	1425	873	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			120			115			133
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	509	7	107	560	120	23	150	98	139	90	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	509	7	107	560	120	23	150	98	139	90	133
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	11.0	51.0	51.0	11.0	51.0	51.0	9.5	25.0	25.0	13.0	28.5	28.5
Total Split (%)	11.0%	51.0%	51.0%	11.0%	51.0%	51.0%	9.5%	25.0%	25.0%	13.0%	28.5%	28.5%
Maximum Green (s)	6.5	46.5	46.5	6.5	46.5	46.5	5.0	20.5	20.5	8.5	24.0	24.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	45.9	39.4	39.4	45.9	39.4	39.4	32.7	26.8	26.8	40.2	36.4	36.4
Actuated g/C Ratio	0.46	0.39	0.39	0.46	0.39	0.39	0.33	0.27	0.27	0.40	0.36	0.36
v/c Ratio	0.53	0.41	0.01	0.30	0.85	0.19	0.06	0.33	0.21	0.33	0.15	0.22
Control Delay	20.9	22.1	0.0	14.0	39.9	3.7	21.9	34.7	5.9	24.1	26.9	6.6
Queue Delay	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 Delay	20.9	22.1	0.0	14.0	39.9	3.7	21.9	34.7	5.9	24.1	26.9	6.6
LOS	C	C	A	B	D	A	C	C	A	C	C	A
Approach Delay		21.6			30.9			23.2			18.4	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 24.8

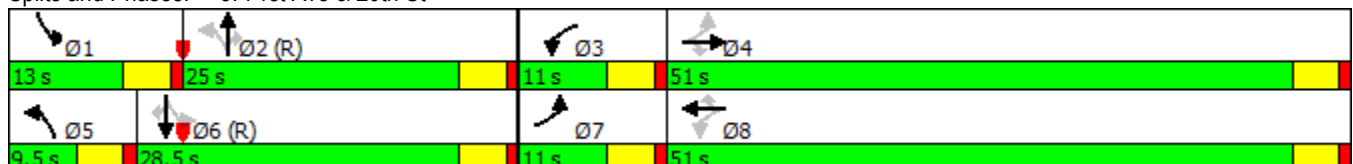
Intersection LOS: C

Intersection Capacity Utilization 68.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	509	7	107	560	120	23	150	98	139	90	133
v/c Ratio	0.53	0.41	0.01	0.30	0.85	0.19	0.06	0.33	0.21	0.33	0.15	0.22
Control Delay	20.9	22.1	0.0	14.0	39.9	3.7	21.9	34.7	5.9	24.1	26.9	6.6
Queue Delay	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 Delay	20.9	22.1	0.0	14.0	39.9	3.7	21.9	34.7	5.9	24.1	26.9	6.6
Queue Length 50th (ft)	39	118	0	34	312	0	9	80	0	58	36	0
Queue Length 95th (ft)	61	144	0	54	412	30	28	146	33	113	90	46
Internal Link Dist (ft)	837			752			470			2675		
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	229	1481	724	362	779	726	408	449	466	420	610	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.34	0.01	0.30	0.72	0.17	0.06	0.33	0.21	0.33	0.15	0.22
Intersection Summary												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	468	6	98	515	110	21	138	90	128	83	122
Future Volume (veh/h)	112	468	6	98	515	110	21	138	90	128	83	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	122	509	7	107	560	120	23	150	98	139	90	133
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	227	1253	561	384	649	552	414	491	417	421	580	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.39	0.39	0.06	0.39	0.39	0.02	0.29	0.29	0.08	0.35	0.35
Ln Grp Delay, s/veh	24.5	22.1	18.5	17.6	36.7	20.7	23.8	29.1	28.2	21.3	23.2	24.9
Ln Grp LOS	C	C	B	B	D	C	C	C	C	C	C	C
Approach Vol, veh/h		638			787			271			362	
Approach Delay, s/veh		22.5			31.7			28.3			23.1	
Approach LOS		C			C			C			C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	12.2	33.8	10.2	43.8	6.9	39.1	10.8	43.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	8.5	20.5	6.5	46.5	5.0	24.0	6.5	46.5				
Max Allow Headway (MAH), s	3.8	4.5	3.7	4.9	3.7	4.5	3.7	4.9				
Max Q Clear (g_c+I1), s	7.8	8.9	6.0	13.5	3.0	8.7	6.5	32.7				
Green Ext Time (g_e), s	0.0	1.6	0.0	8.4	0.0	1.8	0.0	6.0				
Prob of Phs Call (p_c)	0.98	1.00	0.95	1.00	0.47	1.00	0.97	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.05	1.00	0.00	1.00	0.40				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2			4		6			8		
Mvmt Sat Flow, veh/h		1676			3185		1676			1676		
Right-Turn Movement Data												
Assigned Mvmt		12			14		16			18		
Mvmt Sat Flow, veh/h		1425			1425		1425			1425		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	139	0	107	0	23	0	122	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	5.8	0.0	4.0	0.0	1.0	0.0	4.5	0.0
Cycle Q Clear Time (g_c), s	5.8	0.0	4.0	0.0	1.0	0.0	4.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1014	0	793	0	1038	0	681	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	31.3	0.0	38.7	0.0	29.3	0.0	38.7	0.0
Perm LT Serve Time (g_u), s	22.3	0.0	27.8	0.0	29.3	0.0	8.0	0.0
Perm LT Q Serve Time (g_ps), s	1.4	0.0	1.7	0.0	0.0	0.0	6.7	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	421	0	384	0	414	0	227	0
V/C Ratio (X)	0.33	0.00	0.28	0.00	0.06	0.00	0.54	0.00
Avail Cap (c_a), veh/h	434	0	396	0	456	0	230	0
Upstream Filter (I)	0.99	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.9	0.0	17.2	0.0	23.7	0.0	22.1	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.0	0.1	0.0	2.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	21.3	0.0	17.6	0.0	23.8	0.0	24.5	0.0
1st-Term Q (Q1), veh/ln	2.5	0.0	1.8	0.0	0.4	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.6	0.0	1.8	0.0	0.4	0.0	2.2	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	0.18	0.00	0.05	0.00	0.23	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	150	0	509	0	90	0	560
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	6.9	0.0	11.5	0.0	3.7	0.0	30.7
Cycle Q Clear Time (g_c), s	0.0	6.9	0.0	11.5	0.0	3.7	0.0	30.7
Lane Grp Cap (c), veh/h	0	491	0	1253	0	580	0	649
V/C Ratio (X)	0.00	0.31	0.00	0.41	0.00	0.16	0.00	0.86
Avail Cap (c_a), veh/h	0	491	0	1481	0	580	0	780
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	21.9	0.0	22.6	0.0	28.2
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.2	0.0	0.6	0.0	8.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.1	0.0	22.1	0.0	23.2	0.0	36.7
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	5.1	0.0	1.7	0.0	14.2

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	1.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	5.1	0.0	1.8	0.0	15.7
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.16	0.00	0.02	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	98	0	7	0	133	0	120
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	5.2	0.0	0.3	0.0	6.7	0.0	5.6
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.3	0.0	6.7	0.0	5.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	417	0	561	0	493	0	552
V/C Ratio (X)	0.00	0.23	0.00	0.01	0.00	0.27	0.00	0.22
Avail Cap (c_a), veh/h	0	417	0	663	0	493	0	663
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.99	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.9	0.0	18.5	0.0	23.6	0.0	20.5
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	1.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.2	0.0	18.5	0.0	24.9	0.0	20.7
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.1	0.0	2.7	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.1	0.0	2.8	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.42	0.00	0.01	0.00	0.87	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	26.9							
HCM 2010 LOS	C							

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	33	340	23	39	300
Future Volume (vph)	17	33	340	23	39	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910		0.991			
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1668	0	1846	0	1770	1863
Flt Permitted	0.984				0.529	
Satd. Flow (perm)	1668	0	1846	0	985	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	36		8			
Link Speed (mph)	30		40			40
Link Distance (ft)	426		2755			1239
Travel Time (s)	9.7		47.0			21.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	36	370	25	42	326
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	395	0	42	326
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

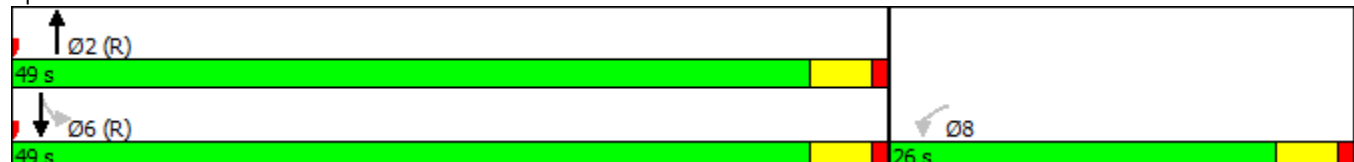
Synchro Report

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	22.5		22.5		22.5	22.5
Total Split (s)	26.0		49.0		49.0	49.0
Total Split (%)	34.7%		65.3%		65.3%	65.3%
Maximum Green (s)	21.5		44.5		44.5	44.5
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effect Green (s)	6.7		65.1		65.1	65.1
Actuated g/C Ratio	0.09		0.87		0.87	0.87
v/c Ratio	0.30		0.25		0.05	0.20
Control Delay	20.2		2.2		2.0	2.1
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	20.2		2.2		2.0	2.1
LOS	C		A		A	A
Approach Delay	20.2		2.2			2.1
Approach LOS	C		A			A

Intersection Summary

Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.30	
Intersection Signal Delay: 3.3	Intersection LOS: A
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: 71st Ave & 16th St





Lane Group	WBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	395	42	326
v/c Ratio	0.30	0.25	0.05	0.20
Control Delay	20.2	2.2	2.0	2.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.2	2.2	2.0	2.1
Queue Length 50th (ft)	8	31	3	25
Queue Length 95th (ft)	39	66	10	54
Internal Link Dist (ft)	346	2675		1159
Turn Bay Length (ft)	100		100	
Base Capacity (vph)	503	1602	854	1616
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.11	0.25	0.05	0.20
Intersection Summary				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	371	24	57	509	10	12	0	45	1	0	4
Future Volume (vph)	9	371	24	57	509	10	12	0	45	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	403	26	62	553	11	13	0	49	1	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	403	26	62	553	11	13	49	0	1	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	34.7%											
Analysis Period (min)	15											
	ICU Level of Service A											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	947	110	96	796	51	194	156	122	80	127	105
Future Volume (vph)	63	947	110	96	796	51	194	156	122	80	127	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.202			0.107			0.553			0.647		
Satd. Flow (perm)	376	3539	1583	199	3539	1583	1030	3539	1583	1205	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			164			130			164
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			1586			546	
Travel Time (s)		13.8			17.1			27.0			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	67	1007	117	102	847	54	206	166	130	85	135	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	1007	117	102	847	54	206	166	130	85	135	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	10.2	44.0	44.0	13.4	47.2	47.2	17.0	32.4	32.4	10.2	25.6	25.6
Total Split (%)	10.2%	44.0%	44.0%	13.4%	47.2%	47.2%	17.0%	32.4%	32.4%	10.2%	25.6%	25.6%
Maximum Green (s)	5.7	39.5	39.5	8.9	42.7	42.7	12.5	27.9	27.9	5.7	21.1	21.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	39.6	35.0	35.0	44.2	37.3	37.3	45.4	36.4	36.4	36.2	29.6	29.6
Actuated g/C Ratio	0.40	0.35	0.35	0.44	0.37	0.37	0.45	0.36	0.36	0.36	0.30	0.30
v/c Ratio	0.30	0.81	0.18	0.47	0.64	0.08	0.37	0.13	0.20	0.18	0.25	0.19
Control Delay	16.5	35.1	1.7	21.0	27.7	0.2	21.4	25.3	5.9	20.4	32.2	2.4
Queue Delay	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 Delay	16.5	35.1	1.7	21.0	27.7	0.2	21.4	25.3	5.9	20.4	32.2	2.4
LOS	B	D	A	C	C	A	C	C	A	C	C	A
Approach Delay		30.8			25.6			18.7			19.1	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 25.8

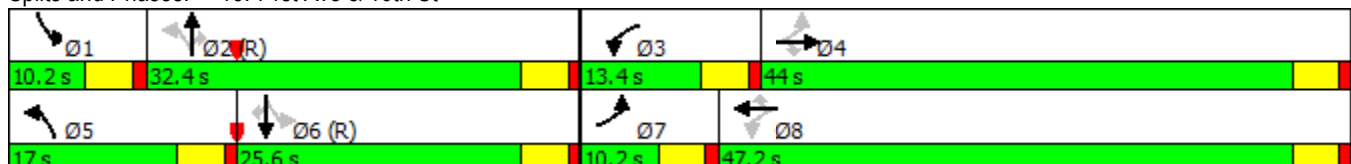
Intersection LOS: C

Intersection Capacity Utilization 63.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	67	1007	117	102	847	54	206	166	130	85	135	112
v/c Ratio	0.30	0.81	0.18	0.47	0.64	0.08	0.37	0.13	0.20	0.18	0.25	0.19
Control Delay	16.5	35.1	1.7	21.0	27.7	0.2	21.4	25.3	5.9	20.4	32.2	2.4
Queue Delay	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 Delay	16.5	35.1	1.7	21.0	27.7	0.2	21.4	25.3	5.9	20.4	32.2	2.4
Queue Length 50th (ft)	22	298	0	34	224	0	84	41	0	32	70	0
Queue Length 95th (ft)	41	356	15	58	269	0	148	68	43	67	130	16
Internal Link Dist (ft)	1037			1302			1506			466		
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	228	1397	724	228	1511	769	563	1287	658	474	550	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.72	0.16	0.45	0.56	0.07	0.37	0.13	0.20	0.18	0.25	0.19
Intersection Summary												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	947	110	96	796	51	194	156	122	80	127	105
Future Volume (veh/h)	63	947	110	96	796	51	194	156	122	80	127	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	1007	117	102	847	54	206	166	130	85	135	112
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	253	1271	569	218	1310	586	534	1275	570	492	580	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.36	0.36	0.05	0.37	0.37	0.10	0.36	0.36	0.05	0.31	0.31
Ln Grp Delay, s/veh	21.1	31.6	22.3	24.0	26.9	20.6	19.3	21.7	23.2	21.8	26.5	26.6
Ln Grp LOS	C	C	C	C	C	C	B	C	C	C	C	C
Approach Vol, veh/h		1191			1003			502			332	
Approach Delay, s/veh		30.1			26.2			21.1			25.3	
Approach LOS		C			C			C			C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		9.2	40.5	9.8	40.4	14.1	35.6	8.7	41.5			
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Max Green (Gmax), s		5.7	27.9	8.9	39.5	12.5	21.1	5.7	42.7			
Max Allow Headway (MAH), s		3.7	4.5	3.6	4.7	3.7	4.5	3.6	4.7			
Max Q Clear (g_c+I1), s		5.2	7.7	5.6	27.5	9.5	7.4	4.3	21.8			
Green Ext Time (g_e), s		0.0	2.4	0.1	8.4	0.2	2.1	0.0	12.4			
Prob of Phs Call (p_c)		0.91	1.00	0.94	1.00	1.00	1.00	0.84	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.72	1.00	0.00	1.00	0.48			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1774		1774		1774		1774				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3539		3539		1863		3539			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1583		1583		1583		1583			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)				

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	85	0	102	0	206	0	67	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	3.2	0.0	3.6	0.0	7.5	0.0	2.3	0.0
Cycle Q Clear Time (g_c), s	3.2	0.0	3.6	0.0	7.5	0.0	2.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1079	0	499	0	1128	0	616	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	31.1	0.0	35.9	0.0	33.1	0.0	35.9	0.0
Perm LT Serve Time (g_u), s	31.1	0.0	10.4	0.0	25.7	0.0	17.2	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	6.5	0.0	1.6	0.0	2.3	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	492	0	218	0	534	0	253	0
V/C Ratio (X)	0.17	0.00	0.47	0.00	0.39	0.00	0.27	0.00
Avail Cap (c_a), veh/h	509	0	282	0	584	0	279	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.6	0.0	22.4	0.0	18.9	0.0	20.6	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.6	0.0	0.5	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	21.8	0.0	24.0	0.0	19.3	0.0	21.1	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	1.7	0.0	3.6	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	1.8	0.0	3.7	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	0.08	0.00	0.41	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	166	0	1007	0	135	0	847
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	3.1	0.0	25.5	0.0	5.4	0.0	19.8
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	25.5	0.0	5.4	0.0	19.8
Lane Grp Cap (c), veh/h	0	1275	0	1271	0	580	0	1310
V/C Ratio (X)	0.00	0.13	0.00	0.79	0.00	0.23	0.00	0.65
Avail Cap (c_a), veh/h	0	1275	0	1398	0	580	0	1511
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.5	0.0	28.7	0.0	25.6	0.0	26.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.9	0.0	0.9	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	0.0	31.6	0.0	26.5	0.0	26.9
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	12.4	0.0	2.8	0.0	9.6

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	13.0	0.0	2.9	0.0	9.8
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.31	0.00	0.15	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	130	0	117	0	112	0	54
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	5.7	0.0	5.1	0.0	5.2	0.0	2.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	5.1	0.0	5.2	0.0	2.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	570	0	569	0	493	0	586
V/C Ratio (X)	0.00	0.23	0.00	0.21	0.00	0.23	0.00	0.09
Avail Cap (c_a), veh/h	0	570	0	625	0	493	0	676
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.3	0.0	22.2	0.0	25.5	0.0	20.5
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.2	0.0	1.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.2	0.0	22.3	0.0	26.6	0.0	20.6
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	2.2	0.0	2.3	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	2.3	0.0	2.4	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.42	0.00	0.16	0.00	0.33	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	26.8							
HCM 2010 LOS	C							

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	371	24	57	509	10	12	0	45	1	0	4
Future Vol, veh/h	9	371	24	57	509	10	12	0	45	1	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	403	26	62	553	11	13	0	49	1	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	564	0	0	429	0	0	824	1111	202	899	1126	277
Stage 1	-	-	-	-	-	-	423	423	-	677	677	-
Stage 2	-	-	-	-	-	-	401	688	-	222	449	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1004	-	-	1127	-	-	265	208	805	234	203	720
Stage 1	-	-	-	-	-	-	579	586	-	409	450	-
Stage 2	-	-	-	-	-	-	597	445	-	760	571	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1004	-	-	1127	-	-	250	195	805	209	190	720
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	195	-	209	190	-
Stage 1	-	-	-	-	-	-	573	580	-	405	425	-
Stage 2	-	-	-	-	-	-	561	421	-	707	565	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.8			12			12.5		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	250	805	1004	-	-	1127	-	-	209	720
HCM Lane V/C Ratio	0.052	0.061	0.01	-	-	0.055	-	-	0.005	0.006
HCM Control Delay (s)	20.2	9.8	8.6	-	-	8.4	-	-	22.3	10
HCM Lane LOS	C	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	0.2	0	-	-	0.2	-	-	0	0

Intersection			
Intersection Delay, s/veh	4.9		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	207	172	43
Demand Flow Rate, veh/h	211	176	44
Vehicles Circulating, veh/h	44	22	139
Vehicles Exiting, veh/h	139	233	59
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.2	4.8	4.1
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	211	176	44
Cap Entry Lane, veh/h	1081	1105	983
Entry HV Adj Factor	0.982	0.979	0.977
Flow Entry, veh/h	207	172	43
Cap Entry, veh/h	1062	1082	961
V/C Ratio	0.195	0.159	0.045
Control Delay, s/veh	5.2	4.8	4.1
LOS	A	A	A
95th %tile Queue, veh	1	1	0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	543	6	69	345	95	20	252	185	210	95	132
Future Volume (vph)	216	543	6	69	345	95	20	252	185	210	95	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.223			0.402			0.690			0.340		
Satd. Flow (perm)	374	3185	1425	674	1676	1425	1157	1676	1425	570	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			143			201			143
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	235	590	7	75	375	103	22	274	201	228	103	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	590	7	75	375	103	22	274	201	228	103	143
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	14.7	30.9	30.9	10.8	27.0	27.0	9.5	24.3	24.3	14.0	28.8	28.8
Total Split (%)	18.4%	38.6%	38.6%	13.5%	33.8%	33.8%	11.9%	30.4%	30.4%	17.5%	36.0%	36.0%
Maximum Green (s)	10.2	26.4	26.4	6.3	22.5	22.5	5.0	19.8	19.8	9.5	24.3	24.3
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	35.0	26.9	26.9	26.9	20.8	20.8	26.7	21.5	21.5	35.5	31.7	31.7
Actuated g/C Ratio	0.44	0.34	0.34	0.34	0.26	0.26	0.33	0.27	0.27	0.44	0.40	0.40
v/c Ratio	0.74	0.55	0.01	0.25	0.86	0.22	0.05	0.61	0.38	0.61	0.16	0.22
Control Delay	30.2	24.3	0.0	15.0	48.7	3.0	14.4	33.3	6.3	23.2	19.1	5.0
Queue Delay	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 Delay	30.2	24.3	0.0	15.0	48.7	3.0	14.4	33.3	6.3	23.2	19.1	5.0
LOS	C	C	A	B	D	A	B	C	A	C	B	A
Approach Delay		25.8			35.6			21.5			16.8	
Approach LOS		C			D			C			B	

Intersection Summary

Area Type: CBD

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 25.4

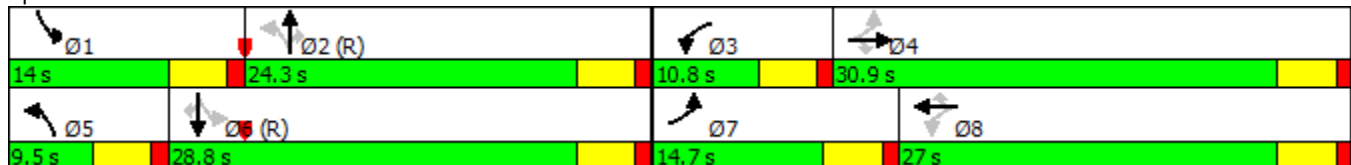
Intersection LOS: C

Intersection Capacity Utilization 76.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%				0%			
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.850				0.850				0.850			
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.223			0.402			0.690			0.340		
Satd. Flow (perm)	374	3185	1425	674	1676	1425	1157	1676	1425	570	1676	1425
Right Turn on Red	Yes				Yes				Yes			
Satd. Flow (RTOR)	143				143				201			
Link Speed (mph)	40				40				40			
Link Distance (ft)	917				832				550			
Travel Time (s)	15.6				14.2				9.4			

Intersection Summary

Area Type: CBD

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	235	590	7	75	375	103	22	274	201	228	103	143
v/c Ratio	0.74	0.55	0.01	0.25	0.86	0.22	0.05	0.61	0.38	0.61	0.16	0.22
Control Delay	30.2	24.3	0.0	15.0	48.7	3.0	14.4	33.3	6.3	23.2	19.1	5.0
Queue Delay	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 Delay	30.2	24.3	0.0	15.0	48.7	3.0	14.4	33.3	6.3	23.2	19.1	5.0
Queue Length 50th (ft)	71	126	0	20	173	0	6	123	0	74	31	0
Queue Length 95th (ft)	#143	177	0	44	#311	19	20	205	49	128	76	39
Internal Link Dist (ft)	837			752			470			2675		
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	319	1085	580	301	471	503	414	450	529	378	664	650
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.54	0.01	0.25	0.80	0.20	0.05	0.61	0.38	0.60	0.16	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	543	6	69	345	95	20	252	185	210	95	132
Future Volume (veh/h)	216	543	6	69	345	95	20	252	185	210	95	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	235	590	7	75	375	103	22	274	201	228	103	143
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	328	1063	476	305	433	368	405	456	387	386	614	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.33	0.33	0.05	0.26	0.26	0.02	0.27	0.27	0.12	0.37	0.37
Ln Grp Delay, s/veh	26.5	22.4	17.9	20.7	43.0	24.1	20.2	31.1	29.6	19.7	17.7	19.0
Ln Grp LOS	C	C	B	C	D	C	C	C	C	B	B	B
Approach Vol, veh/h		832			553			497			474	
Approach Delay, s/veh		23.5			36.5			30.0			19.0	
Approach LOS		C			D			C			B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	14.0	26.2	8.6	31.2	6.4	33.8	14.6	25.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	9.5	19.8	6.3	26.4	5.0	24.3	10.2	22.5				
Max Allow Headway (MAH), s	3.8	4.5	3.7	4.9	3.7	4.5	3.7	4.9				
Max Q Clear (g_c+I1), s	9.8	13.4	4.7	14.1	2.8	7.7	10.2	19.1				
Green Ext Time (g_e), s	0.0	1.8	0.0	5.0	0.0	3.0	0.0	1.6				
Prob of Phs Call (p_c)	0.99	1.00	0.81	1.00	0.39	1.00	0.99	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.39	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2			4		6			8		
Mvmt Sat Flow, veh/h		1676			3185		1676			1676		
Right-Turn Movement Data												
Assigned Mvmt			12		14		16			18		
Mvmt Sat Flow, veh/h			1425		1425		1425			1425		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	228	0	75	0	22	0	235	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	7.8	0.0	2.7	0.0	0.8	0.0	8.2	0.0
Cycle Q Clear Time (g_c), s	7.8	0.0	2.7	0.0	0.8	0.0	8.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	824	0	736	0	1016	0	821	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.7	0.0	20.7	0.0	21.7	0.0	22.7	0.0
Perm LT Serve Time (g_u), s	10.4	0.0	14.6	0.0	21.7	0.0	3.6	0.0
Perm LT Q Serve Time (g_ps), s	5.1	0.0	0.7	0.0	0.0	0.0	3.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	386	0	305	0	405	0	328	0
V/C Ratio (X)	0.59	0.00	0.25	0.00	0.05	0.00	0.72	0.00
Avail Cap (c_a), veh/h	386	0	350	0	466	0	330	0
Upstream Filter (I)	0.91	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.5	0.0	20.3	0.0	20.1	0.0	19.3	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.4	0.0	0.1	0.0	7.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	19.7	0.0	20.7	0.0	20.2	0.0	26.5	0.0
1st-Term Q (Q1), veh/ln	3.4	0.0	1.2	0.0	0.3	0.0	3.5	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.7	0.0	1.2	0.0	0.3	0.0	4.2	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.12	0.00	0.04	0.00	0.44	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	274	0	590	0	103	0	375
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	11.4	0.0	12.1	0.0	3.3	0.0	17.1
Cycle Q Clear Time (g_c), s	0.0	11.4	0.0	12.1	0.0	3.3	0.0	17.1
Lane Grp Cap (c), veh/h	0	456	0	1063	0	614	0	433
V/C Ratio (X)	0.00	0.60	0.00	0.55	0.00	0.17	0.00	0.87
Avail Cap (c_a), veh/h	0	456	0	1063	0	614	0	472
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.91	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.4	0.0	21.8	0.0	17.1	0.0	28.4
Incr Delay (d2), s/veh	0.0	5.8	0.0	0.6	0.0	0.5	0.0	14.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.1	0.0	22.4	0.0	17.7	0.0	43.0
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	5.3	0.0	1.5	0.0	7.9

2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.1	0.0	0.1	0.0	1.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.0	0.0	5.4	0.0	1.6	0.0	9.7
%ile Storage Ratio (RQ%)	0.00	0.31	0.00	0.16	0.00	0.02	0.00	0.31
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	201	0	7	0	143	0	103
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	9.6	0.0	0.3	0.0	5.7	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	0.3	0.0	5.7	0.0	4.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	387	0	476	0	522	0	368
V/C Ratio (X)	0.00	0.52	0.00	0.01	0.00	0.27	0.00	0.28
Avail Cap (c_a), veh/h	0	387	0	476	0	522	0	401
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.91	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.7	0.0	17.8	0.0	17.9	0.0	23.7
Incr Delay (d2), s/veh	0.0	4.9	0.0	0.0	0.0	1.2	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.6	0.0	17.9	0.0	19.0	0.0	24.1
1st-Term Q (Q1), veh/ln	0.0	3.7	0.0	0.1	0.0	2.2	0.0	1.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.3	0.0	0.1	0.0	2.4	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	0.82	0.00	0.01	0.00	0.73	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	27.0
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	543	6	69	345	95	20	252	185	210	95	132
Future Volume (veh/h)	216	543	6	69	345	95	20	252	185	210	95	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	235	590	7	75	375	103	22	274	201	228	103	143
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	1063	476	305	433	368	405	456	387	386	614	522
Arrive On Green	0.13	0.33	0.33	0.05	0.26	0.26	0.02	0.27	0.27	0.12	0.37	0.37
Sat Flow, veh/h	1597	3185	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Grp Volume(v), veh/h	235	590	7	75	375	103	22	274	201	228	103	143
Grp Sat Flow(s),veh/h/ln	1597	1593	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Q Serve(g_s), s	8.2	12.1	0.3	2.7	17.1	4.6	0.8	11.4	9.6	7.8	3.3	5.7
Cycle Q Clear(g_c), s	8.2	12.1	0.3	2.7	17.1	4.6	0.8	11.4	9.6	7.8	3.3	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	1063	476	305	433	368	405	456	387	386	614	522
V/C Ratio(X)	0.72	0.55	0.01	0.25	0.87	0.28	0.05	0.60	0.52	0.59	0.17	0.27
Avail Cap(c_a), veh/h	330	1063	476	350	472	401	466	456	387	386	614	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	19.3	21.8	17.8	20.3	28.4	23.7	20.1	25.4	24.7	17.5	17.1	17.9
Incr Delay (d2), s/veh	7.2	0.6	0.0	0.4	14.7	0.4	0.1	5.8	4.9	2.2	0.5	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	5.4	0.1	1.2	9.7	1.9	0.3	6.0	4.3	3.7	1.6	2.4
LnGrp Delay(d),s/veh	26.5	22.4	17.9	20.7	43.0	24.1	20.2	31.1	29.6	19.7	17.7	19.0
LnGrp LOS	C	C	B	C	D	C	C	C	C	B	B	B
Approach Vol, veh/h		832			553			497			474	
Approach Delay, s/veh		23.5			36.5			30.0			19.0	
Approach LOS		C			D			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	26.2	8.6	31.2	6.4	33.8	14.6	25.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	19.8	6.3	26.4	5.0	24.3	10.2	22.5				
Max Q Clear Time (g_c+I1), s	9.8	13.4	4.7	14.1	2.8	7.7	10.2	19.1				
Green Ext Time (p_c), s	0.0	1.8	0.0	5.0	0.0	3.0	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			27.0									
HCM 2010 LOS			C									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	60	132	14	21	55	88	468	73	47	380	49
Future Volume (vph)	208	60	132	14	21	55	88	468	73	47	380	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.897			0.892			0.980			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1671	0	1770	1662	0	1770	1825	0	1770	1831	0
Flt Permitted	0.703			0.573			0.440			0.352		
Satd. Flow (perm)	1310	1671	0	1067	1662	0	820	1825	0	656	1831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		143			60			19			16	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		560			426			2755			1239	
Travel Time (s)		12.7			9.7			47.0			21.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	65	143	15	23	60	96	509	79	51	413	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	208	0	15	83	0	96	588	0	51	466	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

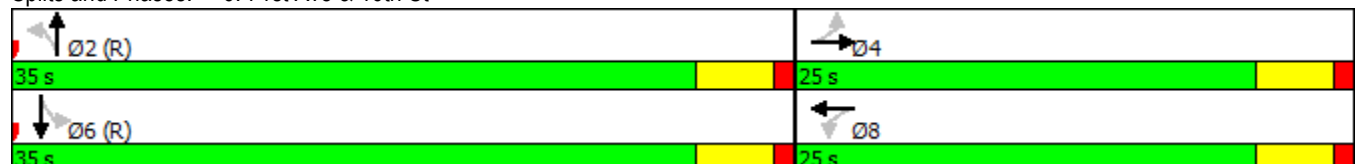
Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	20.5	20.5		20.5	20.5		30.5	30.5		30.5	30.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	15.3	15.3		15.3	15.3		35.7	35.7		35.7	35.7	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.60	0.60		0.60	0.60	
v/c Ratio	0.68	0.39		0.06	0.18		0.20	0.54		0.13	0.43	
Control Delay	29.8	8.2		14.8	7.6		8.5	10.5		8.1	9.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.8	8.2		14.8	7.6		8.5	10.5		8.1	9.0	
LOS	C	A		B	A		A	B		A	A	
Approach Delay		19.5			8.7			10.2			8.9	
Approach LOS		B			A			B			A	

Intersection Summary

Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 12.0	Intersection LOS: B
Intersection Capacity Utilization 62.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: 71st Ave & 16th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	60		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.897			0.892			0.980			0.983		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1671	0	1770	1662	0	1770	1825	0	1770	1831	0
Flt Permitted	0.703			0.573			0.440			0.352		
Satd. Flow (perm)	1310	1671	0	1067	1662	0	820	1825	0	656	1831	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	143			60			19			16		
Link Speed (mph)	30			30			40			40		
Link Distance (ft)	560			426			2755			1239		
Travel Time (s)	12.7			9.7			47.0			21.1		

Intersection Summary

Area Type: Other

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	226	208	15	83	96	588	51	466
v/c Ratio	0.68	0.39	0.06	0.18	0.20	0.54	0.13	0.43
Control Delay	29.8	8.2	14.8	7.6	8.5	10.5	8.1	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	8.2	14.8	7.6	8.5	10.5	8.1	9.0
Queue Length 50th (ft)	73	18	4	6	14	107	7	77
Queue Length 95th (ft)	123	56	14	30	43	230	26	166
Internal Link Dist (ft)		480		346		2675		1159
Turn Bay Length (ft)	60		100		100		100	
Base Capacity (vph)	447	665	364	607	487	1093	390	1095
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.31	0.04	0.14	0.20	0.54	0.13	0.43
Intersection Summary								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	60	132	14	21	55	88	468	73	47	380	49
Future Volume (veh/h)	208	60	132	14	21	55	88	468	73	47	380	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	226	65	143	15	23	60	96	509	79	51	413	53
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	408	135	296	299	119	310	536	931	144	446	956	123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.59	0.59	0.59	0.59	0.59	0.59
Ln Grp Delay, s/veh	23.2	0.0	19.7	21.9	0.0	17.6	10.7	0.0	9.0	12.2	0.0	8.0
Ln Grp LOS	C		B	C		B	B		A	B		A
Approach Vol, veh/h		434			98			684			517	
Approach Delay, s/veh		21.5			18.2			9.2			8.4	
Approach LOS		C			B			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			39.9		20.1		39.9		20.1			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			30.5		20.5		30.5		20.5			
Max Allow Headway (MAH), s			5.1		4.8		5.1		4.8			
Max Q Clear (g_c+I1), s			14.2		14.1		16.1		9.0			
Green Ext Time (g_e), s			6.8		1.4		6.4		2.1			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.63		0.00		0.15			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			923		1310		825		1169			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1575		519		1618		458			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			244		1142		208		1194			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment												

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	96	0	226	0	51	0	15
Grp Sat Flow (s), veh/h/ln	0	923	0	1310	0	825	0	1169
Q Serve Time (g_s), s	0.0	3.8	0.0	9.8	0.0	2.4	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	12.2	0.0	12.1	0.0	14.1	0.0	7.0
Perm LT Sat Flow (s_l), veh/h/ln	0	923	0	1310	0	825	0	1169
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	35.4	0.0	15.6	0.0	35.4	0.0	15.6
Perm LT Serve Time (g_u), s	0.0	27.0	0.0	13.2	0.0	23.7	0.0	9.2
Perm LT Q Serve Time (g_ps), s	0.0	3.8	0.0	9.8	0.0	2.4	0.0	0.7
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	536	0	408	0	446	0	299
V/C Ratio (X)	0.00	0.18	0.00	0.55	0.00	0.11	0.00	0.05
Avail Cap (c_a), veh/h	0	536	0	516	0	446	0	395
Upstream Filter (I)	0.00	0.78	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.1	0.0	22.1	0.0	11.7	0.0	21.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	1.2	0.0	0.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.7	0.0	23.2	0.0	12.2	0.0	21.9
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	3.5	0.0	0.5	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	3.6	0.0	0.6	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	1.54	0.00	0.15	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	588	0	208	0	466	0	83
Grp Sat Flow (s), veh/h/ln	0	1820	0	1661	0	1826	0	1652
Q Serve Time (g_s), s	0.0	11.7	0.0	6.4	0.0	8.4	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	11.7	0.0	6.4	0.0	8.4	0.0	2.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.13	0.00	0.69	0.00	0.11	0.00	0.72
Lane Grp Cap (c), veh/h	0	1075	0	431	0	1079	0	428
V/C Ratio (X)	0.00	0.55	0.00	0.48	0.00	0.43	0.00	0.19
Avail Cap (c_a), veh/h	0	1075	0	568	0	1079	0	564
Upstream Filter (I)	0.00	0.78	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.4	0.0	18.8	0.0	6.7	0.0	17.3
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.8	0.0	1.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.0	0.0	19.7	0.0	8.0	0.0	17.6
1st-Term Q (Q1), veh/ln	0.0	5.7	0.0	2.9	0.0	4.1	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.2	0.0	3.0	0.0	4.5	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.16	0.00	0.10	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	60	132	14	21	55	88	468	73	47	380	49
Future Volume (veh/h)	208	60	132	14	21	55	88	468	73	47	380	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	226	65	143	15	23	60	96	509	79	51	413	53
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	135	296	299	119	310	536	931	144	446	956	123
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1310	519	1142	1169	458	1194	923	1575	244	825	1618	208
Grp Volume(v), veh/h	226	0	208	15	0	83	96	0	588	51	0	466
Grp Sat Flow(s),veh/h/ln	1310	0	1661	1169	0	1652	923	0	1820	825	0	1826
Q Serve(g_s), s	9.8	0.0	6.4	0.7	0.0	2.4	3.8	0.0	11.7	2.4	0.0	8.4
Cycle Q Clear(g_c), s	12.1	0.0	6.4	7.0	0.0	2.4	12.2	0.0	11.7	14.1	0.0	8.4
Prop In Lane	1.00		0.69	1.00		0.72	1.00		0.13	1.00		0.11
Lane Grp Cap(c), veh/h	408	0	431	299	0	428	536	0	1075	446	0	1079
V/C Ratio(X)	0.55	0.00	0.48	0.05	0.00	0.19	0.18	0.00	0.55	0.11	0.00	0.43
Avail Cap(c_a), veh/h	516	0	568	395	0	564	536	0	1075	446	0	1079
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.78	0.00	0.78	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	18.8	21.8	0.0	17.3	10.1	0.0	7.4	11.7	0.0	6.7
Incr Delay (d2), s/veh	1.2	0.0	0.8	0.1	0.0	0.2	0.6	0.0	1.6	0.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	3.0	0.2	0.0	1.1	1.0	0.0	6.2	0.6	0.0	4.5
LnGrp Delay(d),s/veh	23.2	0.0	19.7	21.9	0.0	17.6	10.7	0.0	9.0	12.2	0.0	8.0
LnGrp LOS	C		B	C		B	B		A	B		A
Approach Vol, veh/h		434			98			684			517	
Approach Delay, s/veh		21.5			18.2			9.2			8.4	
Approach LOS		C			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.9		20.1		39.9		20.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		30.5		20.5		30.5		20.5				
Max Q Clear Time (g_c+I1), s		14.2		14.1		16.1		9.0				
Green Ext Time (p_c), s		6.8		1.4		6.4		2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	638	9	42	309	21	17	0	101	50	0	52
Future Volume (vph)	20	638	9	42	309	21	17	0	101	50	0	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	693	10	46	336	23	18	0	110	54	0	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	693	10	46	336	23	18	110	0	54	57	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.4% ICU Level of Service A

Analysis Period (min) 15

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%				0%		0%	
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850				0.850		0.850		0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)	30				30				25		25	
Link Distance (ft)	638				917				299		646	
Travel Time (s)	14.5				20.8				8.2		17.6	
Intersection Summary												
Area Type:	Other											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	862	181	155	698	130	185	409	259	205	233	145
Future Volume (vph)	95	862	181	155	698	130	185	409	259	205	233	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor			0.59									
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.246			0.144			0.507			0.359		
Satd. Flow (perm)	458	3539	928	268	3539	1583	944	3539	1583	669	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			197			143			238			158
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			1586			546	
Travel Time (s)		13.8			17.1			27.0			9.3	
Confl. Peds. (#/hr)			181									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	937	197	168	759	141	201	445	282	223	253	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	937	197	168	759	141	201	445	282	223	253	158
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	11.2	30.0	30.0	12.0	30.8	30.8	11.0	25.0	25.0	13.0	27.0	27.0
Total Split (%)	14.0%	37.5%	37.5%	15.0%	38.5%	38.5%	13.8%	31.3%	31.3%	16.3%	33.8%	33.8%
Maximum Green (s)	6.7	25.5	25.5	7.5	26.3	26.3	6.5	20.5	20.5	8.5	22.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	31.2	24.7	24.7	33.7	27.7	27.7	28.1	21.4	21.4	31.5	23.1	23.1
Actuated g/C Ratio	0.39	0.31	0.31	0.42	0.35	0.35	0.35	0.27	0.27	0.39	0.29	0.29
v/c Ratio	0.36	0.86	0.47	0.66	0.62	0.22	0.50	0.47	0.47	0.59	0.47	0.28
Control Delay	16.1	35.2	7.4	28.2	24.9	4.6	21.3	26.9	8.5	22.8	27.2	5.5
Queue Delay	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 Delay	16.1	35.2	7.4	28.2	24.9	4.6	21.3	26.9	8.5	22.8	27.2	5.5
LOS	B	D	A	C	C	A	C	C	A	C	C	A
Approach Delay		29.2			22.8			20.1			20.2	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 23.8

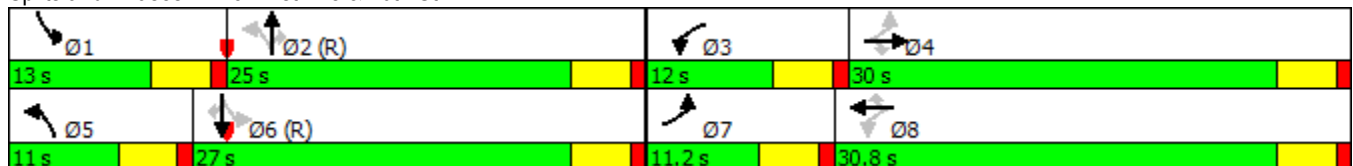
Intersection LOS: C

Intersection Capacity Utilization 70.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor	0.59											
Frt	0.850			0.850			0.850			0.850		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.246			0.144			0.507			0.359		
Satd. Flow (perm)	458	3539	928	268	3539	1583	944	3539	1583	669	1863	1583
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	197			143			238			158		
Link Speed (mph)	55			55			40			40		
Link Distance (ft)	1117			1382			1586			546		
Travel Time (s)	13.8			17.1			27.0			9.3		

Intersection Summary

Area Type: Other

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	937	197	168	759	141	201	445	282	223	253	158
v/c Ratio	0.36	0.86	0.47	0.66	0.62	0.22	0.50	0.47	0.47	0.59	0.47	0.28
Control Delay	16.1	35.2	7.4	28.2	24.9	4.6	21.3	26.9	8.5	22.8	27.2	5.5
Queue Delay	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 Delay	16.1	35.2	7.4	28.2	24.9	4.6	21.3	26.9	8.5	22.8	27.2	5.5
Queue Length 50th (ft)	28	226	0	47	168	0	64	99	17	72	105	0
Queue Length 95th (ft)	55	#309	49	#113	228	36	110	144	79	123	174	42
Internal Link Dist (ft)	1037				1302				1506			
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	289	1128	430	253	1226	642	401	948	598	382	538	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.83	0.46	0.66	0.62	0.22	0.50	0.47	0.47	0.58	0.47	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	862	181	155	698	130	185	409	259	205	233	145
Future Volume (veh/h)	95	862	181	155	698	130	185	409	259	205	233	145
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.70	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	103	937	197	168	759	141	201	445	282	223	253	158
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	287	1084	342	272	1185	530	419	976	437	403	560	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.31	0.31	0.09	0.33	0.33	0.08	0.28	0.28	0.11	0.30	0.30
Ln Grp Delay, s/veh	19.0	33.1	25.5	23.4	23.7	19.7	19.9	25.5	32.7	19.7	25.2	23.6
Ln Grp LOS	B	C	C	C	C	B	B	C	C	B	C	C
Approach Vol, veh/h		1237			1068			928			634	
Approach Delay, s/veh		30.8			23.1			26.5			22.9	
Approach LOS		C			C			C			C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		13.0	26.6	11.4	29.0	11.0	28.6	9.1	31.3			
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Max Green (Gmax), s		8.5	20.5	7.5	25.5	6.5	22.5	6.7	26.3			
Max Allow Headway (MAH), s		3.7	4.6	3.6	4.7	3.7	4.6	3.6	4.7			
Max Q Clear (g_c+I1), s		9.1	14.6	7.1	22.0	8.5	10.8	5.1	16.5			
Green Ext Time (g_e), s		0.0	2.9	0.0	2.5	0.0	4.5	0.0	7.1			
Prob of Phs Call (p_c)		0.99	1.00	0.98	1.00	0.99	1.00	0.90	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.79			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1774		1774		1774		1774				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3539		3539		1863		3539			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1583		1116		1583		1583			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)				

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	223	0	168	0	201	0	103	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	7.1	0.0	5.1	0.0	6.5	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	7.1	0.0	5.1	0.0	6.5	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	725	0	494	0	971	0	616	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	22.1	0.0	24.5	0.0	22.1	0.0	24.5	0.0
Perm LT Serve Time (g_u), s	13.7	0.0	4.5	0.0	15.3	0.0	12.3	0.0
Perm LT Q Serve Time (g_ps), s	3.7	0.0	4.5	0.0	1.9	0.0	2.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	403	0	272	0	419	0	287	0
V/C Ratio (X)	0.55	0.00	0.62	0.00	0.48	0.00	0.36	0.00
Avail Cap (c_a), veh/h	403	0	284	0	419	0	333	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	18.1	0.0	19.7	0.0	19.1	0.0	18.3	0.0
Incr Delay (d2), s/veh	1.6	0.0	3.8	0.0	0.8	0.0	0.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	19.7	0.0	23.4	0.0	19.9	0.0	19.0	0.0
1st-Term Q (Q1), veh/ln	3.4	0.0	2.5	0.0	3.1	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.3	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.6	0.0	2.8	0.0	3.2	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.31	0.00	0.12	0.00	0.36	0.00	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	445	0	937	0	253	0	759
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	8.3	0.0	20.0	0.0	8.8	0.0	14.5
Cycle Q Clear Time (g_c), s	0.0	8.3	0.0	20.0	0.0	8.8	0.0	14.5
Lane Grp Cap (c), veh/h	0	976	0	1084	0	560	0	1185
V/C Ratio (X)	0.00	0.46	0.00	0.86	0.00	0.45	0.00	0.64
Avail Cap (c_a), veh/h	0	976	0	1128	0	560	0	1185
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.0	0.0	26.2	0.0	22.6	0.0	22.5
Incr Delay (d2), s/veh	0.0	1.5	0.0	7.0	0.0	2.6	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.5	0.0	33.1	0.0	25.2	0.0	23.7
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	9.8	0.0	4.5	0.0	7.1

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.0	0.0	0.4	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.3	0.0	10.8	0.0	4.9	0.0	7.3
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.26	0.00	0.26	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	282	0	197	0	158	0	141
Grp Sat Flow (s), veh/h/ln	0	1583	0	1116	0	1583	0	1583
Q Serve Time (g_s), s	0.0	12.6	0.0	11.9	0.0	6.2	0.0	5.2
Cycle Q Clear Time (g_c), s	0.0	12.6	0.0	11.9	0.0	6.2	0.0	5.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	437	0	342	0	476	0	530
V/C Ratio (X)	0.00	0.65	0.00	0.58	0.00	0.33	0.00	0.27
Avail Cap (c_a), veh/h	0	437	0	356	0	476	0	530
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.5	0.0	23.4	0.0	21.7	0.0	19.4
Incr Delay (d2), s/veh	0.0	7.2	0.0	2.1	0.0	1.9	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.7	0.0	25.5	0.0	23.6	0.0	19.7
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	3.7	0.0	2.7	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.2	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.4	0.0	3.9	0.0	3.0	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	1.01	0.00	0.28	0.00	0.40	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	26.3
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	862	181	155	698	130	185	409	259	205	233	145
Future Volume (veh/h)	95	862	181	155	698	130	185	409	259	205	233	145
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.70	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	103	937	197	168	759	141	201	445	282	223	253	158
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	287	1084	342	272	1185	530	419	976	437	403	560	476
Arrive On Green	0.06	0.31	0.31	0.09	0.33	0.33	0.08	0.28	0.28	0.11	0.30	0.30
Sat Flow, veh/h	1774	3539	1116	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	103	937	197	168	759	141	201	445	282	223	253	158
Grp Sat Flow(s),veh/h/ln	1774	1770	1116	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	3.1	20.0	11.9	5.1	14.5	5.2	6.5	8.3	12.6	7.1	8.8	6.2
Cycle Q Clear(g_c), s	3.1	20.0	11.9	5.1	14.5	5.2	6.5	8.3	12.6	7.1	8.8	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	1084	342	272	1185	530	419	976	437	403	560	476
V/C Ratio(X)	0.36	0.86	0.58	0.62	0.64	0.27	0.48	0.46	0.65	0.55	0.45	0.33
Avail Cap(c_a), veh/h	333	1128	356	284	1185	530	419	976	437	403	560	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	26.2	23.4	19.7	22.5	19.4	19.1	24.0	25.5	18.1	22.6	21.7
Incr Delay (d2), s/veh	0.8	7.0	2.1	3.8	1.2	0.3	0.8	1.5	7.2	1.6	2.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	10.8	3.8	2.8	7.3	2.3	3.2	4.3	6.4	3.6	4.9	3.0
LnGrp Delay(d),s/veh	19.0	33.1	25.5	23.4	23.7	19.7	19.9	25.5	32.7	19.7	25.2	23.6
LnGrp LOS	B	C	C	C	C	B	B	C	C	B	C	C
Approach Vol, veh/h	1237				1068				928			
Approach Delay, s/veh	30.8				23.1				26.5			
Approach LOS	C				C				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	26.6	11.4	29.0	11.0	28.6	9.1	31.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	20.5	7.5	25.5	6.5	22.5	6.7	26.3				
Max Q Clear Time (g_c+I1), s	9.1	14.6	7.1	22.0	8.5	10.8	5.1	16.5				
Green Ext Time (p_c), s	0.0	2.9	0.0	2.5	0.0	4.5	0.0	7.1				
Intersection Summary												
HCM 2010 Ctrl Delay	26.3											
HCM 2010 LOS	C											

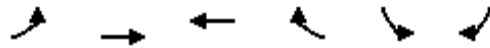
						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	853	427	46
Future Volume (vph)	0	60	0	853	427	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.865			0.987	
Fit Protected						
Satd. Flow (prot)	0	1611	0	3539	1839	0
Fit Permitted						
Satd. Flow (perm)	0	1611	0	3539	1839	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	340			1239	1586	
Travel Time (s)	9.3			28.2	36.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	65	0	927	464	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	65	0	927	514	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.6%			ICU Level of Service A		
Analysis Period (min)	15					



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt		0.865			0.987	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	1839	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	1839	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	340			1239	1586	
Travel Time (s)	9.3			28.2	36.0	

Intersection Summary

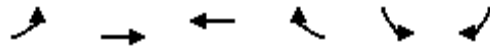
Area Type: Other



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Volume (vph)	20	170	125	33	40	0
Future Volume (vph)	20	170	125	33	40	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.972				
Flt Protected		0.995			0.950	
Satd. Flow (prot)	0	1853	1811	0	1770	0
Flt Permitted		0.995			0.950	
Satd. Flow (perm)	0	1853	1811	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		531	560		497	
Travel Time (s)		12.1	12.7		11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	185	136	36	43	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	207	172	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Yield	Yield		Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	32.0%
Analysis Period (min)	15
	ICU Level of Service A



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.972			
Flt Protected		0.995			0.950	
Satd. Flow (prot)	0	1853	1811	0	1770	0
Flt Permitted		0.995			0.950	
Satd. Flow (perm)	0	1853	1811	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		531	560		497	
Travel Time (s)		12.1	12.7		11.3	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	638	9	42	309	21	17	0	101	50	0	52
Future Vol, veh/h	20	638	9	42	309	21	17	0	101	50	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	693	10	46	336	23	18	0	110	54	0	57
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	359	0	0	703	0	0	997	1188	347	819	1175	168
Stage 1	-	-	-	-	-	-	737	737	-	428	428	-
Stage 2	-	-	-	-	-	-	260	451	-	391	747	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1196	-	-	890	-	-	198	187	649	267	190	847
Stage 1	-	-	-	-	-	-	376	423	-	575	583	-
Stage 2	-	-	-	-	-	-	722	569	-	605	418	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1196	-	-	890	-	-	175	174	649	210	177	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	174	-	210	177	-
Stage 1	-	-	-	-	-	-	369	415	-	565	553	-
Stage 2	-	-	-	-	-	-	639	539	-	493	410	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1			14			18.6		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	175	649	1196	-	-	890	-	-	210	847		
HCM Lane V/C Ratio	0.106	0.169	0.018	-	-	0.051	-	-	0.259	0.067		
HCM Control Delay (s)	28	11.7	8.1	-	-	9.3	-	-	28	9.6		
HCM Lane LOS	D	B	A	-	-	A	-	-	D	A		
HCM 95th %tile Q(veh)	0.3	0.6	0.1	-	-	0.2	-	-	1	0.2		

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗	
Traffic Vol, veh/h	0	60	0	853	427	46
Future Vol, veh/h	0	60	0	853	427	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	65	0	927	464	50
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	489	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	578	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	578	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	12	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	578	-	-		
HCM Lane V/C Ratio	-	0.113	-	-		
HCM Control Delay (s)	-	12	-	-		
HCM Lane LOS	-	B	-	-		
HCM 95th %tile Q(veh)	-	0.4	-	-		

Intersection			
Intersection Delay, s/veh	7.5		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	139	511	37
Demand Flow Rate, veh/h	142	521	38
Vehicles Circulating, veh/h	38	14	469
Vehicles Exiting, veh/h	469	165	66
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.5	8.5	5.8
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	142	521	38
Cap Entry Lane, veh/h	1088	1114	707
Entry HV Adj Factor	0.982	0.980	0.974
Flow Entry, veh/h	139	511	37
Cap Entry, veh/h	1069	1092	688
V/C Ratio	0.131	0.468	0.054
Control Delay, s/veh	4.5	8.5	5.8
LOS	A	A	A
95th %tile Queue, veh	0	3	0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	249	468	6	98	515	177	21	205	90	171	126	180
Future Volume (vph)	249	468	6	98	515	177	21	205	90	171	126	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.140			0.465			0.669			0.346		
Satd. Flow (perm)	235	3185	1425	780	1676	1425	1122	1676	1425	580	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			213			213			196
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	271	509	7	107	560	192	23	223	98	186	137	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	271	509	7	107	560	192	23	223	98	186	137	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	19.0	52.0	52.0	11.0	44.0	44.0	9.5	22.8	22.8	14.2	27.5	27.5
Total Split (%)	19.0%	52.0%	52.0%	11.0%	44.0%	44.0%	9.5%	22.8%	22.8%	14.2%	27.5%	27.5%
Maximum Green (s)	14.5	47.5	47.5	6.5	39.5	39.5	5.0	18.3	18.3	9.7	23.0	23.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	55.6	44.6	44.6	43.3	36.8	36.8	26.1	20.9	20.9	35.4	31.6	31.6
Actuated g/C Ratio	0.56	0.45	0.45	0.43	0.37	0.37	0.26	0.21	0.21	0.35	0.32	0.32
v/c Ratio	0.83	0.36	0.01	0.27	0.91	0.29	0.07	0.64	0.21	0.61	0.26	0.34
Control Delay	40.8	18.6	0.0	12.6	49.8	3.3	24.1	47.2	1.0	34.9	30.2	6.5
Queue Delay	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 Delay	40.8	18.6	0.0	12.6	49.8	3.3	24.1	47.2	1.0	34.9	30.2	6.5
LOS	D	B	A	B	D	A	C	D	A	C	C	A
Approach Delay		26.1			34.8			32.5			22.9	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 29.3

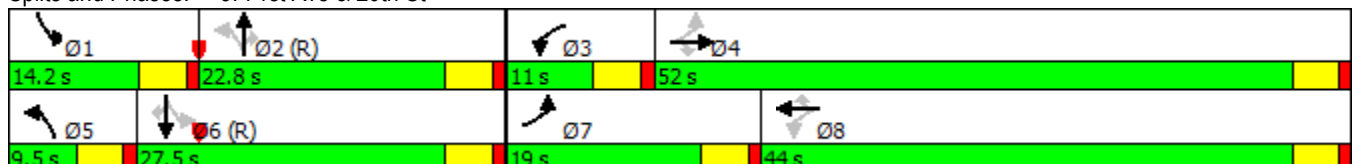
Intersection LOS: C

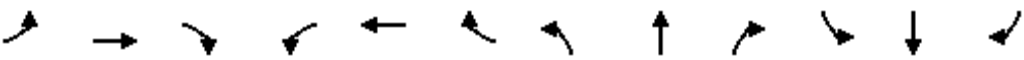
Intersection Capacity Utilization 83.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	271	509	7	107	560	192	23	223	98	186	137	196
v/c Ratio	0.83	0.36	0.01	0.27	0.91	0.29	0.07	0.64	0.21	0.61	0.26	0.34
Control Delay	40.8	18.6	0.0	12.6	49.8	3.3	24.1	47.2	1.0	34.9	30.2	6.5
Queue Delay	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 Delay	40.8	18.6	0.0	12.6	49.8	3.3	24.1	47.2	1.0	34.9	30.2	6.5
Queue Length 50th (ft)	94	103	0	28	318	0	10	135	0	90	64	0
Queue Length 95th (ft)	#227	141	0	53	#512	33	28	#240	0	#153	130	56
Internal Link Dist (ft)	837			752			470			2675		
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	327	1512	762	390	662	691	317	349	465	307	528	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.34	0.01	0.27	0.85	0.28	0.07	0.64	0.21	0.61	0.26	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	468	6	98	515	177	21	205	90	171	126	180
Future Volume (veh/h)	249	468	6	98	515	177	21	205	90	171	126	180
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	271	509	7	107	560	192	23	223	98	186	137	196
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	301	1383	619	424	621	528	326	387	329	334	510	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	0.43	0.43	0.06	0.37	0.37	0.02	0.23	0.23	0.10	0.30	0.30
Ln Grp Delay, s/veh	45.7	19.2	16.1	17.9	44.8	23.3	28.3	40.2	34.1	27.1	27.5	31.2
Ln Grp LOS	D	B	B	B	D	C	C	D	C	C	C	C
Approach Vol, veh/h		787			859			344			519	
Approach Delay, s/veh		28.3			36.7			37.7			28.8	
Approach LOS		C			D			D			C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	14.2	27.6	10.3	47.9	6.9	34.9	16.7	41.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	9.7	18.3	6.5	47.5	5.0	23.0	14.5	39.5				
Max Allow Headway (MAH), s	3.8	4.6	3.7	4.8	3.7	4.6	3.7	4.8				
Max Q Clear (g_c+I1), s	10.6	13.8	6.1	12.8	3.1	13.1	12.0	33.6				
Green Ext Time (g_e), s	0.0	1.3	0.0	8.9	0.0	2.2	0.2	3.5				
Prob of Phs Call (p_c)	0.99	1.00	0.95	1.00	0.47	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.05	1.00	0.00	1.00	0.90				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2			4		6			8		
Mvmt Sat Flow, veh/h		1676			3185		1676			1676		
Right-Turn Movement Data												
Assigned Mvmt			12			14			16			18
Mvmt Sat Flow, veh/h			1425			1425			1425			1425
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	186	0	107	0	23	0	271	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	8.6	0.0	4.1	0.0	1.1	0.0	10.0	0.0
Cycle Q Clear Time (g_c), s	8.6	0.0	4.1	0.0	1.1	0.0	10.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	949	0	793	0	939	0	637	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	25.1	0.0	37.0	0.0	23.1	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	11.3	0.0	32.6	0.0	23.1	0.0	5.5	0.0
Perm LT Q Serve Time (g_ps), s	3.4	0.0	0.7	0.0	0.0	0.0	5.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	334	0	424	0	326	0	301	0
V/C Ratio (X)	0.56	0.00	0.25	0.00	0.07	0.00	0.90	0.00
Avail Cap (c_a), veh/h	334	0	435	0	369	0	338	0
Upstream Filter (I)	0.92	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.2	0.0	17.6	0.0	28.2	0.0	21.6	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.3	0.0	0.1	0.0	24.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	27.1	0.0	17.9	0.0	28.3	0.0	45.7	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	1.8	0.0	0.5	0.0	4.3	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	2.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.9	0.0	1.8	0.0	0.5	0.0	6.3	0.0
%ile Storage Ratio (RQ%)	0.49	0.00	0.18	0.00	0.06	0.00	0.67	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	223	0	509	0	137	0	560
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	11.8	0.0	10.8	0.0	6.2	0.0	31.6
Cycle Q Clear Time (g_c), s	0.0	11.8	0.0	10.8	0.0	6.2	0.0	31.6
Lane Grp Cap (c), veh/h	0	387	0	1383	0	510	0	621
V/C Ratio (X)	0.00	0.58	0.00	0.37	0.00	0.27	0.00	0.90
Avail Cap (c_a), veh/h	0	387	0	1513	0	510	0	662
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.92	0.00	1.00
Uniform Delay (d1), s/veh	0.0	34.1	0.0	19.1	0.0	26.4	0.0	29.8
Incr Delay (d2), s/veh	0.0	6.1	0.0	0.2	0.0	1.2	0.0	15.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.2	0.0	19.2	0.0	27.5	0.0	44.8
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	4.7	0.0	2.9	0.0	14.6

2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.0	0.0	0.2	0.0	2.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.1	0.0	4.8	0.0	3.0	0.0	17.2
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.14	0.00	0.03	0.00	0.56
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	98	0	7	0	196	0	192
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	5.7	0.0	0.3	0.0	11.1	0.0	9.8
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	0.3	0.0	11.1	0.0	9.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	329	0	619	0	434	0	528
V/C Ratio (X)	0.00	0.30	0.00	0.01	0.00	0.45	0.00	0.36
Avail Cap (c_a), veh/h	0	329	0	677	0	434	0	563
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.92	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.8	0.0	16.1	0.0	28.1	0.0	22.9
Incr Delay (d2), s/veh	0.0	2.3	0.0	0.0	0.0	3.1	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.1	0.0	16.1	0.0	31.2	0.0	23.3
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.1	0.0	4.4	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	0.1	0.0	4.7	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.47	0.00	0.01	0.00	1.45	0.00	0.43
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	32.6
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	468	6	98	515	177	21	205	90	171	126	180
Future Volume (veh/h)	249	468	6	98	515	177	21	205	90	171	126	180
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	271	509	7	107	560	192	23	223	98	186	137	196
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	1383	619	424	621	528	326	387	329	334	510	434
Arrive On Green	0.12	0.43	0.43	0.06	0.37	0.37	0.02	0.23	0.23	0.10	0.30	0.30
Sat Flow, veh/h	1597	3185	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Grp Volume(v), veh/h	271	509	7	107	560	192	23	223	98	186	137	196
Grp Sat Flow(s),veh/h/ln	1597	1593	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Q Serve(g_s), s	10.0	10.8	0.3	4.1	31.6	9.8	1.1	11.8	5.7	8.6	6.2	11.1
Cycle Q Clear(g_c), s	10.0	10.8	0.3	4.1	31.6	9.8	1.1	11.8	5.7	8.6	6.2	11.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	301	1383	619	424	621	528	326	387	329	334	510	434
V/C Ratio(X)	0.90	0.37	0.01	0.25	0.90	0.36	0.07	0.58	0.30	0.56	0.27	0.45
Avail Cap(c_a), veh/h	338	1513	677	435	662	563	369	387	329	334	510	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	21.6	19.1	16.1	17.6	29.8	22.9	28.2	34.1	31.8	25.2	26.4	28.1
Incr Delay (d2), s/veh	24.1	0.2	0.0	0.3	15.1	0.4	0.1	6.1	2.3	1.9	1.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	4.8	0.1	1.8	17.2	3.9	0.5	6.1	2.4	3.9	3.0	4.7
LnGrp Delay(d),s/veh	45.7	19.2	16.1	17.9	44.8	23.3	28.3	40.2	34.1	27.1	27.5	31.2
LnGrp LOS	D	B	B	B	D	C	C	D	C	C	C	C
Approach Vol, veh/h		787			859			344			519	
Approach Delay, s/veh		28.3			36.7			37.7			28.8	
Approach LOS		C			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	27.6	10.3	47.9	6.9	34.9	16.7	41.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.7	18.3	6.5	47.5	5.0	23.0	14.5	39.5				
Max Q Clear Time (g_c+I1), s	10.6	13.8	6.1	12.8	3.1	13.1	12.0	33.6				
Green Ext Time (p_c), s	0.0	1.3	0.0	8.9	0.0	2.2	0.2	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			32.6									
HCM 2010 LOS			C									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	43	144	17	67	33	271	340	23	39	300	132
Future Volume (vph)	150	43	144	17	67	33	271	340	23	39	300	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.885			0.950			0.991			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1649	0	1770	1770	0	1770	1846	0	1770	1777	0
Flt Permitted	0.687			0.556			0.452			0.506		
Satd. Flow (perm)	1280	1649	0	1036	1770	0	842	1846	0	943	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		157			36			9			58	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		560			426			2755			1239	
Travel Time (s)		12.7			9.7			47.0			21.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	47	157	18	73	36	295	370	25	42	326	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	204	0	18	109	0	295	395	0	42	469	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		37.4	37.4		37.4	37.4	
Total Split (%)	37.7%	37.7%		37.7%	37.7%		62.3%	62.3%		62.3%	62.3%	
Maximum Green (s)	18.1	18.1		18.1	18.1		32.9	32.9		32.9	32.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.9	12.9		12.9	12.9		38.1	38.1		38.1	38.1	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.64	0.64		0.64	0.64	
v/c Ratio	0.59	0.43		0.08	0.27		0.55	0.34		0.07	0.41	
Control Delay	29.3	8.5		17.2	14.3		12.9	6.9		6.0	6.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.3	8.5		17.2	14.3		12.9	6.9		6.0	6.9	
LOS	C	A		B	B		B	A		A	A	
Approach Delay		17.7			14.7			9.4			6.8	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 10.8

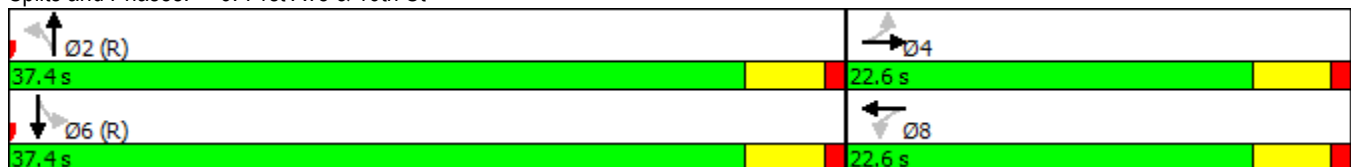
Intersection LOS: B

Intersection Capacity Utilization 65.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: 71st Ave & 16th St



								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	163	204	18	109	295	395	42	469
v/c Ratio	0.59	0.43	0.08	0.27	0.55	0.34	0.07	0.41
Control Delay	29.3	8.5	17.2	14.3	12.9	6.9	6.0	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	8.5	17.2	14.3	12.9	6.9	6.0	6.9
Queue Length 50th (ft)	53	14	5	22	50	54	5	59
Queue Length 95th (ft)	95	54	17	51	#152	123	19	141
Internal Link Dist (ft)		480		346		2675		1159
Turn Bay Length (ft)	60		100		100		100	
Base Capacity (vph)	386	607	312	559	534	1175	598	1149
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.34	0.06	0.19	0.55	0.34	0.07	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	43	144	17	67	33	271	340	23	39	300	132
Future Volume (veh/h)	150	43	144	17	67	33	271	340	23	39	300	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	163	47	157	18	73	36	295	370	25	42	326	143
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	344	86	286	257	267	132	569	1076	73	633	766	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.62	0.62	0.62	0.62	0.62	0.62
Ln Grp Delay, s/veh	24.4	0.0	21.8	23.9	0.0	19.5	14.1	0.0	6.0	7.4	0.0	7.0
Ln Grp LOS	C		C	C		B	B		A	A		A
Approach Vol, veh/h		367			127			690			511	
Approach Delay, s/veh		22.9			20.1			9.5			7.0	
Approach LOS		C			C			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			41.9		18.1		41.9		18.1			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			32.9		18.1		32.9		18.1			
Max Allow Headway (MAH), s			5.1		4.9		5.1		4.9			
Max Q Clear (g_c+I1), s			24.7		12.3		10.2		9.4			
Green Ext Time (g_e), s			4.3		1.3		7.6		1.7			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.77		0.00		0.33			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			920		1279		985		1173			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1726		378		1229		1179			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			117		1262		539		581			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment												

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	295	0	163	0	42	0	18
Grp Sat Flow (s), veh/h/ln	0	920	0	1279	0	985	0	1173
Q Serve Time (g_s), s	0.0	14.5	0.0	7.2	0.0	1.3	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	22.7	0.0	10.3	0.0	7.4	0.0	7.4
Perm LT Sat Flow (s_l), veh/h/ln	0	920	0	1279	0	985	0	1173
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	37.4	0.0	13.6	0.0	37.4	0.0	13.6
Perm LT Serve Time (g_u), s	0.0	29.3	0.0	10.5	0.0	31.3	0.0	7.0
Perm LT Q Serve Time (g_ps), s	0.0	14.5	0.0	7.2	0.0	1.3	0.0	0.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	569	0	344	0	633	0	257
V/C Ratio (X)	0.00	0.52	0.00	0.47	0.00	0.07	0.00	0.07
Avail Cap (c_a), veh/h	0	569	0	441	0	633	0	345
Upstream Filter (I)	0.00	0.75	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	23.4	0.0	7.2	0.0	23.8
Incr Delay (d2), s/veh	0.0	2.5	0.0	1.0	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.1	0.0	24.4	0.0	7.4	0.0	23.9
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	2.5	0.0	0.4	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	2.6	0.0	0.4	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	1.02	0.00	1.11	0.00	0.10	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	395	0	204	0	469	0	109
Grp Sat Flow (s), veh/h/ln	0	1842	0	1640	0	1768	0	1760
Q Serve Time (g_s), s	0.0	6.2	0.0	6.6	0.0	8.2	0.0	3.1
Cycle Q Clear Time (g_c), s	0.0	6.2	0.0	6.6	0.0	8.2	0.0	3.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.06	0.00	0.77	0.00	0.30	0.00	0.33
Lane Grp Cap (c), veh/h	0	1149	0	371	0	1102	0	399
V/C Ratio (X)	0.00	0.34	0.00	0.55	0.00	0.43	0.00	0.27
Avail Cap (c_a), veh/h	0	1149	0	495	0	1102	0	531
Upstream Filter (I)	0.00	0.75	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	5.4	0.0	20.5	0.0	5.8	0.0	19.1
Incr Delay (d2), s/veh	0.0	0.6	0.0	1.3	0.0	1.2	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.0	0.0	21.8	0.0	7.0	0.0	19.5
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	2.9	0.0	3.9	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	3.1	0.0	4.3	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.17	0.00	0.09	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	43	144	17	67	33	271	340	23	39	300	132
Future Volume (veh/h)	150	43	144	17	67	33	271	340	23	39	300	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	163	47	157	18	73	36	295	370	25	42	326	143
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	86	286	257	267	132	569	1076	73	633	766	336
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1279	378	1262	1173	1179	581	920	1726	117	985	1229	539
Grp Volume(v), veh/h	163	0	204	18	0	109	295	0	395	42	0	469
Grp Sat Flow(s),veh/h/ln	1279	0	1640	1173	0	1760	920	0	1842	985	0	1768
Q Serve(g_s), s	7.2	0.0	6.6	0.8	0.0	3.1	14.5	0.0	6.2	1.3	0.0	8.2
Cycle Q Clear(g_c), s	10.3	0.0	6.6	7.4	0.0	3.1	22.7	0.0	6.2	7.4	0.0	8.2
Prop In Lane	1.00		0.77	1.00		0.33	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	344	0	371	257	0	399	569	0	1149	633	0	1102
V/C Ratio(X)	0.47	0.00	0.55	0.07	0.00	0.27	0.52	0.00	0.34	0.07	0.00	0.43
Avail Cap(c_a), veh/h	441	0	495	345	0	531	569	0	1149	633	0	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.75	0.00	0.75	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	20.5	23.8	0.0	19.1	11.6	0.0	5.4	7.2	0.0	5.8
Incr Delay (d2), s/veh	1.0	0.0	1.3	0.1	0.0	0.4	2.5	0.0	0.6	0.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	3.1	0.3	0.0	1.5	4.0	0.0	3.3	0.4	0.0	4.3
LnGrp Delay(d),s/veh	24.4	0.0	21.8	23.9	0.0	19.5	14.1	0.0	6.0	7.4	0.0	7.0
LnGrp LOS	C		C	C		B	B		A	A		A
Approach Vol, veh/h	367				127		690				511	
Approach Delay, s/veh	22.9				20.1		9.5				7.0	
Approach LOS	C				C		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	41.9		18.1		41.9		18.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	32.9		18.1		32.9		18.1					
Max Q Clear Time (g_c+I1), s	24.7		12.3		10.2		9.4					
Green Ext Time (p_c), s	4.3		1.3		7.6		1.7					
Intersection Summary												
HCM 2010 Ctrl Delay	12.5											
HCM 2010 LOS	B											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	508	24	57	509	52	12	0	45	31	0	34
Future Volume (vph)	51	508	24	57	509	52	12	0	45	31	0	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	552	26	62	553	57	13	0	49	34	0	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	552	26	62	553	57	13	49	0	34	37	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.8% ICU Level of Service A

Analysis Period (min) 15

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	947	242	228	796	51	269	156	197	80	127	105
Future Volume (vph)	63	947	242	228	796	51	269	156	197	80	127	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.272			0.114			0.514			0.647		
Satd. Flow (perm)	507	3539	1583	212	3539	1583	957	3539	1583	1205	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			257			127			210			182
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			1586			546	
Travel Time (s)		13.8			17.1			27.0			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	67	1007	257	243	847	54	286	166	210	85	135	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	1007	257	243	847	54	286	166	210	85	135	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	10.2	35.0	35.0	17.0	41.8	41.8	14.0	28.0	28.0	10.0	24.0	24.0
Total Split (%)	11.3%	38.9%	38.9%	18.9%	46.4%	46.4%	15.6%	31.1%	31.1%	11.1%	26.7%	26.7%
Maximum Green (s)	5.7	30.5	30.5	12.5	37.3	37.3	9.5	23.5	23.5	5.5	19.5	19.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	35.3	29.6	29.6	45.8	37.7	37.7	34.8	26.9	26.9	26.6	20.8	20.8
Actuated g/C Ratio	0.39	0.33	0.33	0.51	0.42	0.42	0.39	0.30	0.30	0.30	0.23	0.23
v/c Ratio	0.24	0.87	0.37	0.78	0.57	0.07	0.62	0.16	0.34	0.22	0.31	0.22
Control Delay	13.6	37.4	4.6	36.7	22.1	0.2	28.1	25.5	5.6	20.5	31.9	1.8
Queue Delay	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 Delay	13.6	37.4	4.6	36.7	22.1	0.2	28.1	25.5	5.6	20.5	31.9	1.8
LOS	B	D	A	D	C	A	C	C	A	C	C	A
Approach Delay		29.9			24.1			20.3			18.8	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 25.1

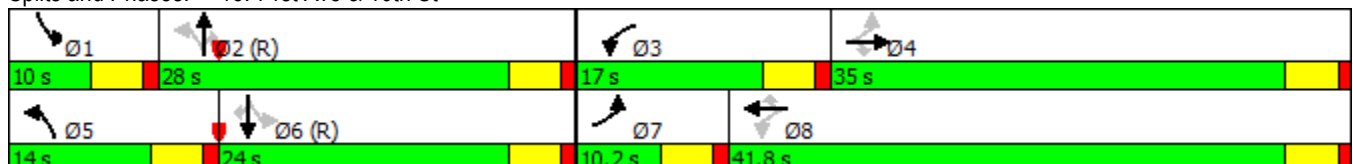
Intersection LOS: C

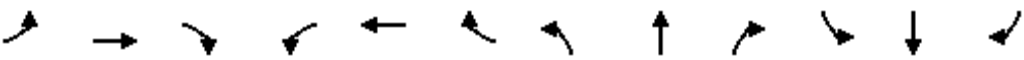
Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	67	1007	257	243	847	54	286	166	210	85	135	112
v/c Ratio	0.24	0.87	0.37	0.78	0.57	0.07	0.62	0.16	0.34	0.22	0.31	0.22
Control Delay	13.6	37.4	4.6	36.7	22.1	0.2	28.1	25.5	5.6	20.5	31.9	1.8
Queue Delay	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 Delay	13.6	37.4	4.6	36.7	22.1	0.2	28.1	25.5	5.6	20.5	31.9	1.8
Queue Length 50th (ft)	18	275	0	80	190	0	120	38	0	31	65	0
Queue Length 95th (ft)	38	#358	50	#190	250	0	191	64	52	63	118	8
Internal Link Dist (ft)		1037			1302			1506			466	
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	278	1199	706	324	1490	740	458	1058	620	392	430	506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.84	0.36	0.75	0.57	0.07	0.62	0.16	0.34	0.22	0.31	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	947	242	228	796	51	269	156	197	80	127	105
Future Volume (veh/h)	63	947	242	228	796	51	269	156	197	80	127	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	1007	257	243	847	54	286	166	210	85	135	112
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	286	1169	523	302	1397	625	489	1097	491	425	474	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.33	0.33	0.11	0.39	0.39	0.11	0.31	0.31	0.05	0.25	0.25
Ln Grp Delay, s/veh	19.5	34.7	24.8	31.4	22.3	17.1	23.3	22.8	27.4	23.1	28.5	28.6
Ln Grp LOS	B	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		1331			1144			662			332	
Approach Delay, s/veh		32.0			24.0			24.5			27.1	
Approach LOS		C			C			C			C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.0	32.4	14.3	34.2	14.0	27.4	8.6	40.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.5	23.5	12.5	30.5	9.5	19.5	5.7	37.3				
Max Allow Headway (MAH), s	3.7	4.5	3.6	4.6	3.7	4.5	3.6	4.6				
Max Q Clear (g_c+I1), s	5.1	11.5	9.7	26.0	11.5	7.2	4.2	19.1				
Green Ext Time (g_e), s	0.0	2.2	0.2	3.8	0.0	2.3	0.0	11.8				
Prob of Phs Call (p_c)	0.88	1.00	1.00	1.00	1.00	1.00	0.81	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.58				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1774		1774		1774		1774					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3539		3539		1863		3539				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1583		1583		1583		1583				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	85	0	243	0	286	0	67	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	3.1	0.0	7.7	0.0	9.5	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	3.1	0.0	7.7	0.0	9.5	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1003	0	437	0	1128	0	616	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	22.9	0.0	31.7	0.0	24.9	0.0	29.7	0.0
Perm LT Serve Time (g_u), s	22.9	0.0	5.8	0.0	17.7	0.0	18.4	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	5.8	0.0	4.5	0.0	1.4	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	425	0	302	0	489	0	286	0
V/C Ratio (X)	0.20	0.00	0.80	0.00	0.58	0.00	0.23	0.00
Avail Cap (c_a), veh/h	444	0	354	0	489	0	318	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.8	0.0	20.4	0.0	21.5	0.0	19.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	11.1	0.0	1.8	0.0	0.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.1	0.0	31.4	0.0	23.3	0.0	19.5	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	3.7	0.0	5.0	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.9	0.0	0.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	4.6	0.0	5.2	0.0	1.1	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	0.20	0.00	0.58	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	166	0	1007	0	135	0	847
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	3.1	0.0	24.0	0.0	5.2	0.0	17.1
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	24.0	0.0	5.2	0.0	17.1
Lane Grp Cap (c), veh/h	0	1097	0	1169	0	474	0	1397
V/C Ratio (X)	0.00	0.15	0.00	0.86	0.00	0.28	0.00	0.61
Avail Cap (c_a), veh/h	0	1097	0	1199	0	474	0	1467
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.5	0.0	28.2	0.0	27.0	0.0	21.7
Incr Delay (d2), s/veh	0.0	0.3	0.0	6.5	0.0	1.5	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.8	0.0	34.7	0.0	28.5	0.0	22.3
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	11.6	0.0	2.7	0.0	8.4

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.1	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.5	0.0	12.7	0.0	2.9	0.0	8.5
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.30	0.00	0.15	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

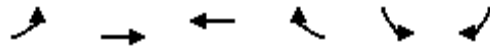
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	210	0	257	0	112	0	54
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	9.5	0.0	11.7	0.0	5.1	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	9.5	0.0	11.7	0.0	5.1	0.0	1.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	491	0	523	0	403	0	625
V/C Ratio (X)	0.00	0.43	0.00	0.49	0.00	0.28	0.00	0.09
Avail Cap (c_a), veh/h	0	491	0	537	0	403	0	656
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.7	0.0	24.1	0.0	26.9	0.0	17.1
Incr Delay (d2), s/veh	0.0	2.7	0.0	0.7	0.0	1.7	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.4	0.0	24.8	0.0	28.6	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	5.1	0.0	2.2	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	0.0	5.2	0.0	2.4	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.72	0.00	0.38	0.00	0.33	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	947	242	228	796	51	269	156	197	80	127	105
Future Volume (veh/h)	63	947	242	228	796	51	269	156	197	80	127	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	1007	257	243	847	54	286	166	210	85	135	112
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	1169	523	302	1397	625	489	1097	491	425	474	403
Arrive On Green	0.05	0.33	0.33	0.11	0.39	0.39	0.11	0.31	0.31	0.05	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	67	1007	257	243	847	54	286	166	210	85	135	112
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	2.2	24.0	11.7	7.7	17.1	1.9	9.5	3.1	9.5	3.1	5.2	5.1
Cycle Q Clear(g_c), s	2.2	24.0	11.7	7.7	17.1	1.9	9.5	3.1	9.5	3.1	5.2	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	286	1169	523	302	1397	625	489	1097	491	425	474	403
V/C Ratio(X)	0.23	0.86	0.49	0.80	0.61	0.09	0.58	0.15	0.43	0.20	0.28	0.28
Avail Cap(c_a), veh/h	318	1199	537	354	1467	656	489	1097	491	444	474	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	28.2	24.1	20.4	21.7	17.1	21.5	22.5	24.7	22.8	27.0	26.9
Incr Delay (d2), s/veh	0.4	6.5	0.7	11.1	0.7	0.1	1.8	0.3	2.7	0.2	1.5	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	12.7	5.2	4.6	8.5	0.8	1.6	1.5	4.5	1.5	2.9	2.4
LnGrp Delay(d),s/veh	19.5	34.7	24.8	31.4	22.3	17.1	23.3	22.8	27.4	23.1	28.5	28.6
LnGrp LOS	B	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		1331			1144			662			332	
Approach Delay, s/veh		32.0			24.0			24.5			27.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	32.4	14.3	34.2	14.0	27.4	8.6	40.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	23.5	12.5	30.5	9.5	19.5	5.7	37.3				
Max Q Clear Time (g_c+I1), s	5.1	11.5	9.7	26.0	11.5	7.2	4.2	19.1				
Green Ext Time (p_c), s	0.0	2.2	0.2	3.8	0.0	2.3	0.0	11.8				
Intersection Summary												
HCM 2010 Ctrl Delay				27.5								
HCM 2010 LOS				C								

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 		
Traffic Volume (vph)	0	45	0	622	333	132
Future Volume (vph)	0	45	0	622	333	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.865			0.962	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	1792	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	1792	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	340			1239	1586	
Travel Time (s)	9.3			28.2	36.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	49	0	676	362	143
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	49	0	676	505	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.6%			ICU Level of Service A		
Analysis Period (min)	15					



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Volume (vph)	13	115	423	47	34	0
Future Volume (vph)	13	115	423	47	34	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.987			
Flt Protected		0.995			0.950	
Satd. Flow (prot)	0	1853	1839	0	1770	0
Flt Permitted		0.995			0.950	
Satd. Flow (perm)	0	1853	1839	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		531	560		497	
Travel Time (s)		12.1	12.7		11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	125	460	51	37	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	139	511	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Yield	Yield		Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	35.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	508	24	57	509	52	12	0	45	31	0	34
Future Vol, veh/h	51	508	24	57	509	52	12	0	45	31	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	552	26	62	553	57	13	0	49	34	0	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	610	0	0	578	0	0	1063	1396	276	1063	1365	277
Stage 1	-	-	-	-	-	-	662	662	-	677	677	-
Stage 2	-	-	-	-	-	-	401	734	-	386	688	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	965	-	-	992	-	-	177	140	721	177	146	720
Stage 1	-	-	-	-	-	-	417	457	-	409	450	-
Stage 2	-	-	-	-	-	-	597	424	-	609	445	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	965	-	-	992	-	-	153	124	721	150	129	720
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	124	-	150	129	-
Stage 1	-	-	-	-	-	-	393	431	-	386	422	-
Stage 2	-	-	-	-	-	-	531	398	-	535	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.8	14.7	22.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	153	721	965	-	-	992	-	-	150	720
HCM Lane V/C Ratio	0.085	0.068	0.057	-	-	0.062	-	-	0.225	0.051
HCM Control Delay (s)	30.7	10.4	9	-	-	8.9	-	-	35.8	10.3
HCM Lane LOS	D	B	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.3	0.2	0.2	-	-	0.2	-	-	0.8	0.2

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗	
Traffic Vol, veh/h	0	45	0	622	333	132
Future Vol, veh/h	0	45	0	622	333	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	49	0	676	362	143
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	434	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	621	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	621	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.3	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	621	-	-		
HCM Lane V/C Ratio	-	0.079	-	-		
HCM Control Delay (s)	-	11.3	-	-		
HCM Lane LOS	-	B	-	-		
HCM 95th %tile Q(veh)	-	0.3	-	-		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	807	10	100	510	110	30	340	270	220	55	85
Future Volume (vph)	235	807	10	100	510	110	30	340	270	220	55	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.125			0.245			0.718			0.164		
Satd. Flow (perm)	210	3185	1425	411	1676	1425	1204	1676	1425	275	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127			182			206			182
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	877	11	109	554	120	33	370	293	239	60	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	877	11	109	554	120	33	370	293	239	60	92
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	15.1	39.9	39.9	10.2	35.0	35.0	9.5	26.5	26.5	13.4	30.4	30.4
Total Split (%)	16.8%	44.3%	44.3%	11.3%	38.9%	38.9%	10.6%	29.4%	29.4%	14.9%	33.8%	33.8%
Maximum Green (s)	10.6	35.4	35.4	5.7	30.5	30.5	5.0	22.0	22.0	8.9	25.9	25.9
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	45.6	37.4	37.4	36.2	30.5	30.5	27.0	22.0	22.0	35.0	29.7	29.7
Actuated g/C Ratio	0.51	0.42	0.42	0.40	0.34	0.34	0.30	0.24	0.24	0.39	0.33	0.33
v/c Ratio	0.95	0.66	0.02	0.45	0.98	0.20	0.09	0.90	0.58	1.01	0.11	0.16
Control Delay	65.1	24.9	0.0	19.1	63.9	1.6	18.0	60.8	14.8	86.4	23.8	0.6
Queue Delay	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 Delay	65.1	24.9	0.0	19.1	63.9	1.6	18.0	60.8	14.8	86.4	23.8	0.6
LOS	E	C	A	B	E	A	B	E	B	F	C	A
Approach Delay		33.6			48.1			39.4			56.6	
Approach LOS		C			D			D			E	

Intersection Summary

Area Type: CBD

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 41.7

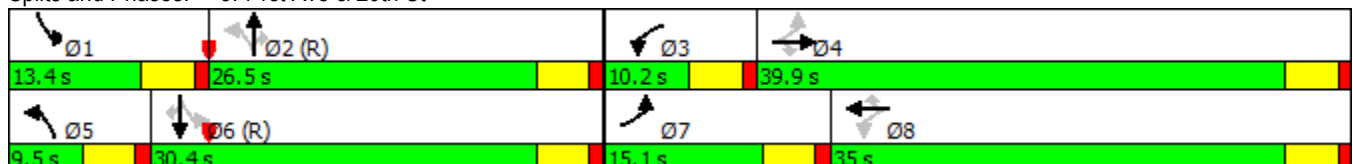
Intersection LOS: D

Intersection Capacity Utilization 92.7%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	255	877	11	109	554	120	33	370	293	239	60	92
v/c Ratio	0.95	0.66	0.02	0.45	0.98	0.20	0.09	0.90	0.58	1.01	0.11	0.16
Control Delay	65.1	24.9	0.0	19.1	63.9	1.6	18.0	60.8	14.8	86.4	23.8	0.6
Queue Delay	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 Delay	65.1	24.9	0.0	19.1	63.9	1.6	18.0	60.8	14.8	86.4	23.8	0.6
Queue Length 50th (ft)	94	214	0	31	308	0	11	204	40	~96	25	0
Queue Length 95th (ft)	#244	285	0	60	#520	11	30	#368	122	#243	55	0
Internal Link Dist (ft)		837			752			470			2675	
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	269	1324	666	240	567	603	382	409	503	237	553	591
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.66	0.02	0.45	0.98	0.20	0.09	0.90	0.58	1.01	0.11	0.16

Intersection Summary												
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	807	10	100	510	110	30	340	270	220	55	85
Future Volume (veh/h)	235	807	10	100	510	110	30	340	270	220	55	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	255	877	11	109	554	120	33	370	293	239	60	92
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	277	1258	563	271	568	483	400	410	348	259	523	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	0.39	0.39	0.06	0.34	0.34	0.03	0.24	0.24	0.10	0.31	0.31
Ln Grp Delay, s/veh	55.3	24.4	16.6	20.0	60.8	21.7	24.2	58.7	53.5	59.1	22.5	23.7
Ln Grp LOS	E	C	B	B	E	C	C	E	D	E	C	C
Approach Vol, veh/h		1143			783			696			391	
Approach Delay, s/veh		31.2			49.1			54.8			45.1	
Approach LOS		C			D			D			D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	13.4	26.5	10.1	40.0	7.3	32.6	15.1	35.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	8.9	22.0	5.7	35.4	5.0	25.9	10.6	30.5				
Max Allow Headway (MAH), s	3.8	4.5	3.7	4.9	3.7	4.5	3.7	4.9				
Max Q Clear (g_c+I1), s	10.9	21.3	6.0	22.7	3.4	6.3	11.1	31.4				
Green Ext Time (g_e), s	0.0	0.3	0.0	7.5	0.0	3.7	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	0.93	1.00	0.56	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.61	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2			4		6			8		
Mvmt Sat Flow, veh/h		1676			3185		1676			1676		
Right-Turn Movement Data												
Assigned Mvmt			12		14		16			18		
Mvmt Sat Flow, veh/h			1425		1425		1425			1425		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	239	0	109	0	33	0	255	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	8.9	0.0	4.0	0.0	1.4	0.0	9.1	0.0
Cycle Q Clear Time (g_c), s	8.9	0.0	4.0	0.0	1.4	0.0	9.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	692	0	561	0	1107	0	685	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	24.0	0.0	30.5	0.0	22.0	0.0	32.5	0.0
Perm LT Serve Time (g_u), s	2.7	0.0	14.8	0.0	22.0	0.0	1.1	0.0
Perm LT Q Serve Time (g_ps), s	2.7	0.0	3.8	0.0	0.0	0.0	1.1	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	259	0	271	0	400	0	277	0
V/C Ratio (X)	0.92	0.00	0.40	0.00	0.08	0.00	0.92	0.00
Avail Cap (c_a), veh/h	259	0	274	0	439	0	277	0
Upstream Filter (I)	0.88	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.1	0.0	19.0	0.0	24.1	0.0	21.1	0.0
Incr Delay (d2), s/veh	33.0	0.0	1.0	0.0	0.1	0.0	34.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.1	0.0	20.0	0.0	24.2	0.0	55.3	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	1.7	0.0	0.6	0.0	6.2	0.0
2nd-Term Q (Q2), veh/ln	2.4	0.0	0.1	0.0	0.0	0.0	2.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.4	0.0	1.8	0.0	0.6	0.0	8.9	0.0
%ile Storage Ratio (RQ%)	0.56	0.00	0.18	0.00	0.07	0.00	0.94	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	370	0	877	0	60	0	554
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	19.3	0.0	20.7	0.0	2.3	0.0	29.4
Cycle Q Clear Time (g_c), s	0.0	19.3	0.0	20.7	0.0	2.3	0.0	29.4
Lane Grp Cap (c), veh/h	0	410	0	1258	0	523	0	568
V/C Ratio (X)	0.00	0.90	0.00	0.70	0.00	0.11	0.00	0.98
Avail Cap (c_a), veh/h	0	410	0	1258	0	523	0	568
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.88	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.0	0.0	22.7	0.0	22.1	0.0	29.4
Incr Delay (d2), s/veh	0.0	25.7	0.0	1.7	0.0	0.4	0.0	31.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	58.7	0.0	24.4	0.0	22.5	0.0	60.8
1st-Term Q (Q1), veh/ln	0.0	8.8	0.0	9.0	0.0	1.1	0.0	13.5

2nd-Term Q (Q2), veh/ln	0.0	2.9	0.0	0.3	0.0	0.1	0.0	5.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	11.8	0.0	9.3	0.0	1.1	0.0	18.5
%ile Storage Ratio (RQ%)	0.00	0.61	0.00	0.28	0.00	0.01	0.00	0.60
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	293	0	11	0	92	0	120
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	17.6	0.0	0.4	0.0	4.3	0.0	5.5
Cycle Q Clear Time (g_c), s	0.0	17.6	0.0	0.4	0.0	4.3	0.0	5.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	348	0	563	0	445	0	483
V/C Ratio (X)	0.00	0.84	0.00	0.02	0.00	0.21	0.00	0.25
Avail Cap (c_a), veh/h	0	348	0	563	0	445	0	483
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.88	0.00	1.00
Uniform Delay (d1), s/veh	0.0	32.3	0.0	16.6	0.0	22.8	0.0	21.5
Incr Delay (d2), s/veh	0.0	21.1	0.0	0.0	0.0	0.9	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.5	0.0	16.6	0.0	23.7	0.0	21.7
1st-Term Q (Q1), veh/ln	0.0	6.9	0.0	0.2	0.0	1.7	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	2.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.0	0.0	0.2	0.0	1.8	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	1.71	0.00	0.02	0.00	0.55	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	43.1							
HCM 2010 LOS	D							

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	807	10	100	510	110	30	340	270	220	55	85
Future Volume (veh/h)	235	807	10	100	510	110	30	340	270	220	55	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	255	877	11	109	554	120	33	370	293	239	60	92
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	1258	563	271	568	483	400	410	348	259	523	445
Arrive On Green	0.12	0.39	0.39	0.06	0.34	0.34	0.03	0.24	0.24	0.10	0.31	0.31
Sat Flow, veh/h	1597	3185	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Grp Volume(v), veh/h	255	877	11	109	554	120	33	370	293	239	60	92
Grp Sat Flow(s),veh/h/ln	1597	1593	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Q Serve(g_s), s	9.1	20.7	0.4	4.0	29.4	5.5	1.4	19.3	17.6	8.9	2.3	4.3
Cycle Q Clear(g_c), s	9.1	20.7	0.4	4.0	29.4	5.5	1.4	19.3	17.6	8.9	2.3	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	1258	563	271	568	483	400	410	348	259	523	445
V/C Ratio(X)	0.92	0.70	0.02	0.40	0.98	0.25	0.08	0.90	0.84	0.92	0.11	0.21
Avail Cap(c_a), veh/h	277	1258	563	274	568	483	439	410	348	259	523	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	21.1	22.7	16.6	19.0	29.4	21.5	24.1	33.0	32.3	26.1	22.1	22.8
Incr Delay (d2), s/veh	34.1	1.7	0.0	1.0	31.4	0.3	0.1	25.7	21.1	33.0	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	9.3	0.2	1.8	18.5	2.2	0.6	11.8	9.0	6.6	1.1	1.8
LnGrp Delay(d),s/veh	55.3	24.4	16.6	20.0	60.8	21.7	24.2	58.7	53.5	59.1	22.5	23.7
LnGrp LOS	E	C	B	B	E	C	C	E	D	E	C	C
Approach Vol, veh/h	1143				783				696			
Approach Delay, s/veh	31.2				49.1				54.8			
Approach LOS	C				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	26.5	10.1	40.0	7.3	32.6	15.1	35.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.9	22.0	5.7	35.4	5.0	25.9	10.6	30.5				
Max Q Clear Time (g_c+I1), s	10.9	21.3	6.0	22.7	3.4	6.3	11.1	31.4				
Green Ext Time (p_c), s	0.0	0.3	0.0	7.5	0.0	3.7	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	43.1											
HCM 2010 LOS	D											

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	80	700	105	70	640
Future Volume (vph)	20	80	700	105	70	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.892		0.982			
Flt Protected	0.990				0.950	
Satd. Flow (prot)	1645	0	1829	0	1770	1863
Flt Permitted	0.990				0.267	
Satd. Flow (perm)	1645	0	1829	0	497	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	87		20			
Link Speed (mph)	30		40			40
Link Distance (ft)	426		2755			2825
Travel Time (s)	9.7		47.0			48.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	87	761	114	76	696
Shared Lane Traffic (%)						
Lane Group Flow (vph)	109	0	875	0	76	696
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

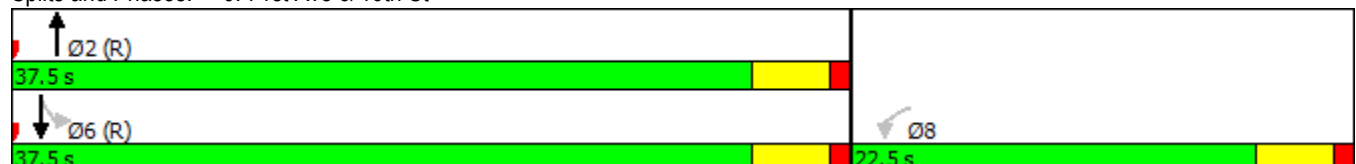
Synchro Report

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	22.5		22.5		22.5	22.5
Total Split (s)	22.5		37.5		37.5	37.5
Total Split (%)	37.5%		62.5%		62.5%	62.5%
Maximum Green (s)	18.0		33.0		33.0	33.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effect Green (s)	7.0		46.9		46.9	46.9
Actuated g/C Ratio	0.12		0.78		0.78	0.78
v/c Ratio	0.41		0.61		0.20	0.48
Control Delay	13.4		6.5		4.5	4.9
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	13.4		6.5		4.5	4.9
LOS	B		A		A	A
Approach Delay	13.4		6.5			4.8
Approach LOS	B		A			A

Intersection Summary

Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 64.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: 71st Ave & 16th St



				
Lane Group	WBL	NBT	SBL	SBT
Lane Group Flow (vph)	109	875	76	696
v/c Ratio	0.41	0.61	0.20	0.48
Control Delay	13.4	6.5	4.5	4.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.4	6.5	4.5	4.9
Queue Length 50th (ft)	7	105	6	72
Queue Length 95th (ft)	43	261	23	169
Internal Link Dist (ft)	346	2675		2745
Turn Bay Length (ft)	100		100	
Base Capacity (vph)	554	1432	388	1454
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.61	0.20	0.48
Intersection Summary				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	991	16	70	517	10	28	0	169	12	0	16
Future Volume (vph)	9	991	16	70	517	10	28	0	169	12	0	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	1077	17	76	562	11	30	0	184	13	0	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	1077	17	76	562	11	30	184	0	13	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	51.7%											
Analysis Period (min)	15											
	ICU Level of Service A											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	1443	185	136	1168	218	136	684	259	343	390	242
Future Volume (vph)	162	1443	185	136	1168	218	136	684	259	343	390	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.097			0.103			0.295			0.160		
Satd. Flow (perm)	181	3539	1583	192	3539	1583	550	3539	1583	298	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			201			237			164			152
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			2825			546	
Travel Time (s)		13.8			17.1			48.2			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	176	1568	201	148	1270	237	148	743	282	373	424	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	1568	201	148	1270	237	148	743	282	373	424	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	11.8	45.6	45.6	9.6	43.4	43.4	11.2	25.0	25.0	19.8	33.6	33.6
Total Split (%)	11.8%	45.6%	45.6%	9.6%	43.4%	43.4%	11.2%	25.0%	25.0%	19.8%	33.6%	33.6%
Maximum Green (s)	7.3	41.1	41.1	5.1	38.9	38.9	6.7	20.5	20.5	15.3	29.1	29.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	48.4	41.1	41.1	44.0	38.9	38.9	27.2	20.5	20.5	40.3	29.1	29.1
Actuated g/C Ratio	0.48	0.41	0.41	0.44	0.39	0.39	0.27	0.20	0.20	0.40	0.29	0.29
v/c Ratio	0.87	1.08	0.26	0.90	0.92	0.31	0.64	1.02	0.62	1.08	0.78	0.46
Control Delay	57.2	77.5	3.7	68.8	41.5	3.9	35.9	80.0	21.7	99.2	44.2	15.1
Queue Delay	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 Delay	57.2	77.5	3.7	68.8	41.5	3.9	35.9	80.0	21.7	99.2	44.2	15.1
LOS	E	E	A	E	D	A	D	E	C	F	D	B
Approach Delay		68.0			38.6			60.4			56.4	
Approach LOS		E			D			E			E	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 56.0

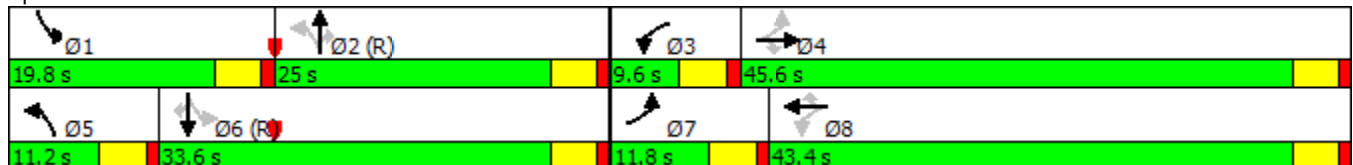
Intersection LOS: E

Intersection Capacity Utilization 100.3%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	176	1568	201	148	1270	237	148	743	282	373	424	263
v/c Ratio	0.87	1.08	0.26	0.90	0.92	0.31	0.64	1.02	0.62	1.08	0.78	0.46
Control Delay	57.2	77.5	3.7	68.8	41.5	3.9	35.9	80.0	21.7	99.2	44.2	15.1
Queue Delay	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 Delay	57.2	77.5	3.7	68.8	41.5	3.9	35.9	80.0	21.7	99.2	44.2	15.1
Queue Length 50th (ft)	60	~590	0	49	398	0	60	~266	65	~216	247	54
Queue Length 95th (ft)	#183	#727	42	#162	#541	47	#111	#384	155	#400	#391	128
Internal Link Dist (ft)		1037			1302			2745			466	
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	203	1454	769	164	1376	760	231	725	454	345	542	568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	1.08	0.26	0.90	0.92	0.31	0.64	1.02	0.62	1.08	0.78	0.46

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	1443	185	136	1168	218	136	684	259	343	390	242
Future Volume (veh/h)	162	1443	185	136	1168	218	136	684	259	343	390	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	176	1568	201	148	1270	237	148	743	282	373	424	263
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	218	1455	651	162	1377	616	253	726	325	343	542	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.41	0.41	0.05	0.39	0.39	0.07	0.20	0.20	0.15	0.29	0.29
Ln Grp Delay, s/veh	43.2	77.1	20.1	70.3	39.6	22.3	32.5	75.1	59.1	101.3	43.3	35.2
Ln Grp LOS	D	F	C	E	D	C	C	F	E	F	D	D
Approach Vol, veh/h		1945			1655			1173			1060	
Approach Delay, s/veh		68.2			39.9			65.9			61.7	
Approach LOS		E			D			E			E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	19.8	25.0	9.6	45.6	11.2	33.6	11.8	43.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	15.3	20.5	5.1	41.1	6.7	29.1	7.3	38.9				
Max Allow Headway (MAH), s	3.7	4.7	3.6	4.6	3.7	4.7	3.6	4.6				
Max Q Clear (g_c+I1), s	17.3	22.5	7.1	43.1	8.6	22.9	7.9	36.2				
Green Ext Time (g_e), s	0.0	0.0	0.0	0.0	0.0	4.3	0.0	2.6				
Prob of Phs Call (p_c)	1.00	1.00	0.98	1.00	0.98	1.00	0.99	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1774		1774		1774		1774					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3539		3539		1863		3539				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1583		1583		1583		1583				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	373	0	148	0	148	0	176	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	15.3	0.0	5.1	0.0	6.6	0.0	5.9	0.0
Cycle Q Clear Time (g_c), s	15.3	0.0	5.1	0.0	6.6	0.0	5.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	548	0	269	0	752	0	346	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	22.5	0.0	38.9	0.0	20.5	0.0	38.9	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	8.2	0.0	4.7	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	3.0	0.0	4.7	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	343	0	162	0	253	0	218	0
V/C Ratio (X)	1.09	0.00	0.91	0.00	0.59	0.00	0.81	0.00
Avail Cap (c_a), veh/h	343	0	162	0	253	0	218	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.76	0.00	1.00	0.00
Uniform Delay (d1), s/veh	27.7	0.0	24.7	0.0	29.9	0.0	23.4	0.0
Incr Delay (d2), s/veh	73.6	0.0	45.6	0.0	2.6	0.0	19.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	101.3	0.0	70.3	0.0	32.5	0.0	43.2	0.0
1st-Term Q (Q1), veh/ln	9.4	0.0	2.5	0.0	3.2	0.0	2.9	0.0
2nd-Term Q (Q2), veh/ln	7.0	0.0	2.1	0.0	0.2	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	16.5	0.0	4.5	0.0	3.4	0.0	4.1	0.0
%ile Storage Ratio (RQ%)	1.44	0.00	0.20	0.00	0.37	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	743	0	1568	0	424	0	1270
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	20.5	0.0	41.1	0.0	20.9	0.0	34.2
Cycle Q Clear Time (g_c), s	0.0	20.5	0.0	41.1	0.0	20.9	0.0	34.2
Lane Grp Cap (c), veh/h	0	726	0	1455	0	542	0	1377
V/C Ratio (X)	0.00	1.02	0.00	1.08	0.00	0.78	0.00	0.92
Avail Cap (c_a), veh/h	0	726	0	1455	0	542	0	1377
Upstream Filter (I)	0.00	0.76	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.8	0.0	29.5	0.0	32.5	0.0	29.1
Incr Delay (d2), s/veh	0.0	35.3	0.0	47.7	0.0	10.7	0.0	10.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	75.1	0.0	77.1	0.0	43.3	0.0	39.6
1st-Term Q (Q1), veh/ln	0.0	10.0	0.0	20.0	0.0	10.7	0.0	16.6

2nd-Term Q (Q2), veh/ln	0.0	3.6	0.0	9.6	0.0	1.6	0.0	2.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	13.5	0.0	29.6	0.0	12.3	0.0	18.6
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.70	0.00	0.64	0.00	0.36
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	4.4	0.0	28.3	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	282	0	201	0	263	0	237
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	17.2	0.0	8.6	0.0	14.1	0.0	10.8
Cycle Q Clear Time (g_c), s	0.0	17.2	0.0	8.6	0.0	14.1	0.0	10.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	325	0	651	0	461	0	616
V/C Ratio (X)	0.00	0.87	0.00	0.31	0.00	0.57	0.00	0.38
Avail Cap (c_a), veh/h	0	325	0	651	0	461	0	616
Upstream Filter (I)	0.00	0.76	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	38.4	0.0	19.9	0.0	30.1	0.0	22.0
Incr Delay (d2), s/veh	0.0	20.6	0.0	0.3	0.0	5.1	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	59.1	0.0	20.1	0.0	35.2	0.0	22.3
1st-Term Q (Q1), veh/ln	0.0	7.5	0.0	3.7	0.0	6.1	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	1.9	0.0	0.0	0.0	0.6	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.4	0.0	3.8	0.0	6.8	0.0	4.7
%ile Storage Ratio (RQ%)	0.00	1.49	0.00	0.27	0.00	0.91	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	58.5							
HCM 2010 LOS	E							

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	1443	185	136	1168	218	136	684	259	343	390	242
Future Volume (veh/h)	162	1443	185	136	1168	218	136	684	259	343	390	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	176	1568	201	148	1270	237	148	743	282	373	424	263
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1455	651	162	1377	616	253	726	325	343	542	461
Arrive On Green	0.07	0.41	0.41	0.05	0.39	0.39	0.07	0.20	0.20	0.15	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	176	1568	201	148	1270	237	148	743	282	373	424	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	5.9	41.1	8.6	5.1	34.2	10.8	6.6	20.5	17.2	15.3	20.9	14.1
Cycle Q Clear(g_c), s	5.9	41.1	8.6	5.1	34.2	10.8	6.6	20.5	17.2	15.3	20.9	14.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	1455	651	162	1377	616	253	726	325	343	542	461
V/C Ratio(X)	0.81	1.08	0.31	0.91	0.92	0.38	0.59	1.02	0.87	1.09	0.78	0.57
Avail Cap(c_a), veh/h	218	1455	651	162	1377	616	253	726	325	343	542	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	29.5	19.9	24.7	29.1	22.0	29.9	39.8	38.4	27.7	32.5	30.1
Incr Delay (d2), s/veh	19.8	47.7	0.3	45.6	10.5	0.4	2.6	35.3	20.6	73.6	10.7	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	29.6	3.8	4.5	18.6	4.7	3.4	13.5	9.4	16.5	12.3	6.8
LnGrp Delay(d),s/veh	43.2	77.1	20.1	70.3	39.6	22.3	32.5	75.1	59.1	101.3	43.3	35.2
LnGrp LOS	D	F	C	E	D	C	C	F	E	F	D	D
Approach Vol, veh/h		1945			1655			1173			1060	
Approach Delay, s/veh		68.2			39.9			65.9			61.7	
Approach LOS		E			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	25.0	9.6	45.6	11.2	33.6	11.8	43.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.3	20.5	5.1	41.1	6.7	29.1	7.3	38.9				
Max Q Clear Time (g_c+I1), s	17.3	22.5	7.1	43.1	8.6	22.9	7.9	36.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.3	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			58.5									
HCM 2010 LOS			E									

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	991	16	70	517	10	28	0	169	12	0	16
Future Vol, veh/h	9	991	16	70	517	10	28	0	169	12	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1077	17	76	562	11	30	0	184	13	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	573	0	0	1094	0	0	1530	1822	539	1273	1828	281
Stage 1	-	-	-	-	-	-	1097	1097	-	714	714	-
Stage 2	-	-	-	-	-	-	433	725	-	559	1114	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	996	-	-	634	-	-	80	77	487	124	76	716
Stage 1	-	-	-	-	-	-	227	287	-	388	433	-
Stage 2	-	-	-	-	-	-	571	428	-	481	282	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	996	-	-	634	-	-	70	67	487	70	66	716
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	67	-	70	66	-
Stage 1	-	-	-	-	-	-	225	284	-	384	381	-
Stage 2	-	-	-	-	-	-	490	377	-	297	279	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1	-	-	1.3	-	-	27.4	-	-	34.9	-	-
HCM LOS	A	-	-	B	-	-	D	-	-	D	-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	70	487	996	-	-	634	-	-	70	716
HCM Lane V/C Ratio	0.435	0.377	0.01	-	-	0.12	-	-	0.186	0.024
HCM Control Delay (s)	91.2	16.8	8.7	-	-	11.5	-	-	67.9	10.2
HCM Lane LOS	F	C	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.7	1.7	0	-	-	0.4	-	-	0.6	0.1

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	680	10	145	760	160	35	205	135	190	125	170
Future Volume (vph)	160	680	10	145	760	160	35	205	135	190	125	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.086			0.277			0.670			0.341		
Satd. Flow (perm)	144	3185	1425	464	1676	1425	1123	1676	1425	572	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			150			147			185
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	739	11	158	826	174	38	223	147	207	136	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	739	11	158	826	174	38	223	147	207	136	185
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	11.8	49.8	49.8	15.0	53.0	53.0	9.6	24.1	24.1	11.1	25.6	25.6
Total Split (%)	11.8%	49.8%	49.8%	15.0%	53.0%	53.0%	9.6%	24.1%	24.1%	11.1%	25.6%	25.6%
Maximum Green (s)	7.3	45.3	45.3	10.5	48.5	48.5	5.1	19.6	19.6	6.6	21.1	21.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	53.8	46.5	46.5	57.8	48.5	48.5	24.7	19.6	19.6	28.9	24.9	24.9
Actuated g/C Ratio	0.54	0.46	0.46	0.58	0.48	0.48	0.25	0.20	0.20	0.29	0.25	0.25
v/c Ratio	0.95	0.50	0.02	0.42	1.02	0.23	0.13	0.68	0.37	0.89	0.33	0.37
Control Delay	79.9	20.3	0.0	12.5	63.1	4.2	26.0	49.0	8.8	70.0	35.0	7.5
Queue Delay	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 Delay	79.9	20.3	0.0	12.5	63.1	4.2	26.0	49.0	8.8	70.0	35.0	7.5
LOS	E	C	A	B	E	A	C	D	A	E	C	A
Approach Delay		31.3			47.3			32.4			39.1	
Approach LOS		C			D			C			D	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 39.0

Intersection LOS: D

Intersection Capacity Utilization 93.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St

							
Ø1	Ø2 (R)		Ø3		Ø4		
11.1 s	24.1 s		15 s		49.8 s		
							
Ø5	Ø6 (R)		Ø7		Ø8		
9.6 s	25.6 s		11.8 s		53 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	174	739	11	158	826	174	38	223	147	207	136	185
v/c Ratio	0.95	0.50	0.02	0.42	1.02	0.23	0.13	0.68	0.37	0.89	0.33	0.37
Control Delay	79.9	20.3	0.0	12.5	63.1	4.2	26.0	49.0	8.8	70.0	35.0	7.5
Queue Delay	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 Delay	79.9	20.3	0.0	12.5	63.1	4.2	26.0	49.0	8.8	70.0	35.0	7.5
Queue Length 50th (ft)	66	168	0	41	~532	8	17	133	0	105	75	0
Queue Length 95th (ft)	#202	225	0	71	#791	43	41	#219	51	#242	132	56
Internal Link Dist (ft)		837			752			470			2675	
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	183	1481	724	392	812	768	301	328	397	232	417	494
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.50	0.02	0.40	1.02	0.23	0.13	0.68	0.37	0.89	0.33	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	680	10	145	760	160	35	205	135	190	125	170
Future Volume (veh/h)	160	680	10	145	760	160	35	205	135	190	125	170
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	174	739	11	158	826	174	38	223	147	207	136	185
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	189	1557	696	396	813	691	277	329	279	243	385	327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.49	0.49	0.07	0.49	0.49	0.03	0.20	0.20	0.07	0.23	0.23
Ln Grp Delay, s/veh	70.5	17.2	13.2	13.2	61.3	15.3	30.8	48.0	43.0	59.5	34.7	40.7
Ln Grp LOS	E	B	B	B	F	B	C	D	D	E	C	D
Approach Vol, veh/h		924			1158			408			528	
Approach Delay, s/veh		27.2			47.8			44.6			46.5	
Approach LOS		C			D			D			D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	11.1	24.1	11.4	53.4	7.8	27.4	11.8	53.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	6.6	19.6	10.5	45.3	5.1	21.1	7.3	48.5				
Max Allow Headway (MAH), s	3.8	4.5	3.7	4.9	3.7	4.5	3.7	4.9				
Max Q Clear (g_c+I1), s	8.6	14.3	6.9	17.4	3.9	13.5	8.3	50.5				
Green Ext Time (g_e), s	0.0	1.5	0.1	13.7	0.0	2.0	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	0.99	1.00	0.65	1.00	0.99	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.34	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		1676		3185		1676		1676				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1425		1425		1425		1425				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	207	0	158	0	38	0	174	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	6.6	0.0	4.9	0.0	1.9	0.0	6.3	0.0
Cycle Q Clear Time (g_c), s	6.6	0.0	4.9	0.0	1.9	0.0	6.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	907	0	638	0	949	0	505	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	20.4	0.0	48.5	0.0	19.6	0.0	48.5	0.0
Perm LT Serve Time (g_u), s	7.3	0.0	33.4	0.0	16.1	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	7.3	0.0	5.0	0.0	0.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	243	0	396	0	277	0	189	0
V/C Ratio (X)	0.85	0.00	0.40	0.00	0.14	0.00	0.92	0.00
Avail Cap (c_a), veh/h	243	0	453	0	307	0	189	0
Upstream Filter (I)	0.94	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	36.8	0.0	12.5	0.0	30.5	0.0	26.3	0.0
Incr Delay (d2), s/veh	22.7	0.0	0.7	0.0	0.2	0.0	44.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.5	0.0	13.2	0.0	30.8	0.0	70.5	0.0
1st-Term Q (Q1), veh/ln	2.8	0.0	2.1	0.0	0.8	0.0	4.7	0.0
2nd-Term Q (Q2), veh/ln	1.5	0.0	0.1	0.0	0.0	0.0	2.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.3	0.0	2.2	0.0	0.8	0.0	7.0	0.0
%ile Storage Ratio (RQ%)	0.55	0.00	0.22	0.00	0.10	0.00	0.75	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	223	0	739	0	136	0	826
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	12.3	0.0	15.4	0.0	6.8	0.0	48.5
Cycle Q Clear Time (g_c), s	0.0	12.3	0.0	15.4	0.0	6.8	0.0	48.5
Lane Grp Cap (c), veh/h	0	329	0	1557	0	385	0	813
V/C Ratio (X)	0.00	0.68	0.00	0.47	0.00	0.35	0.00	1.02
Avail Cap (c_a), veh/h	0	329	0	1557	0	385	0	813
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	1.00
Uniform Delay (d1), s/veh	0.0	37.3	0.0	17.0	0.0	32.3	0.0	25.8
Incr Delay (d2), s/veh	0.0	10.8	0.0	0.2	0.0	2.4	0.0	35.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.0	0.0	17.2	0.0	34.7	0.0	61.3
1st-Term Q (Q1), veh/ln	0.0	5.7	0.0	6.8	0.0	3.1	0.0	22.4

2nd-Term Q (Q2), veh/ln	0.0	1.0	0.0	0.0	0.0	0.3	0.0	8.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.7	0.0	6.8	0.0	3.4	0.0	30.4
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.21	0.00	0.03	0.00	0.98
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	147	0	11	0	185	0	174
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	9.2	0.0	0.4	0.0	11.5	0.0	7.2
Cycle Q Clear Time (g_c), s	0.0	9.2	0.0	0.4	0.0	11.5	0.0	7.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	279	0	696	0	327	0	691
V/C Ratio (X)	0.00	0.53	0.00	0.02	0.00	0.57	0.00	0.25
Avail Cap (c_a), veh/h	0	279	0	696	0	327	0	691
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	1.00
Uniform Delay (d1), s/veh	0.0	36.0	0.0	13.2	0.0	34.1	0.0	15.1
Incr Delay (d2), s/veh	0.0	6.9	0.0	0.0	0.0	6.5	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.0	0.0	13.2	0.0	40.7	0.0	15.3
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	0.2	0.0	4.5	0.0	2.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	0.2	0.0	5.1	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	0.80	0.00	0.02	0.00	1.57	0.00	0.31
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	40.9							
HCM 2010 LOS	D							

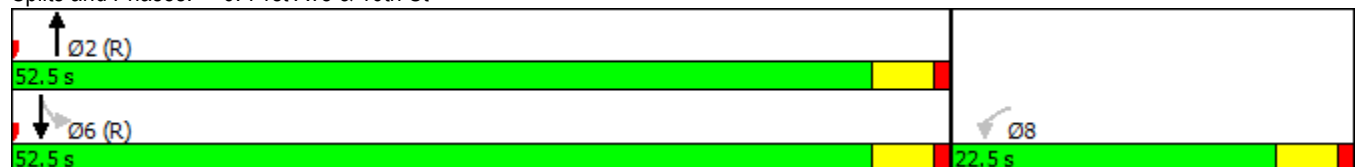
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	680	10	145	760	160	35	205	135	190	125	170
Future Volume (veh/h)	160	680	10	145	760	160	35	205	135	190	125	170
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	174	739	11	158	826	174	38	223	147	207	136	185
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	1557	696	396	813	691	277	329	279	243	385	327
Arrive On Green	0.07	0.49	0.49	0.07	0.49	0.49	0.03	0.20	0.20	0.07	0.23	0.23
Sat Flow, veh/h	1597	3185	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Grp Volume(v), veh/h	174	739	11	158	826	174	38	223	147	207	136	185
Grp Sat Flow(s),veh/h/ln	1597	1593	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Q Serve(g_s), s	6.3	15.4	0.4	4.9	48.5	7.2	1.9	12.3	9.2	6.6	6.8	11.5
Cycle Q Clear(g_c), s	6.3	15.4	0.4	4.9	48.5	7.2	1.9	12.3	9.2	6.6	6.8	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	1557	696	396	813	691	277	329	279	243	385	327
V/C Ratio(X)	0.92	0.47	0.02	0.40	1.02	0.25	0.14	0.68	0.53	0.85	0.35	0.57
Avail Cap(c_a), veh/h	189	1557	696	453	813	691	307	329	279	243	385	327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	26.3	17.0	13.2	12.5	25.8	15.1	30.5	37.3	36.0	36.8	32.3	34.1
Incr Delay (d2), s/veh	44.2	0.2	0.0	0.7	35.6	0.2	0.2	10.8	6.9	22.7	2.4	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	6.8	0.2	2.2	30.4	2.9	0.8	6.7	4.2	6.0	3.4	5.1
LnGrp Delay(d),s/veh	70.5	17.2	13.2	13.2	61.3	15.3	30.8	48.0	43.0	59.5	34.7	40.7
LnGrp LOS	E	B	B	B	F	B	C	D	D	E	C	D
Approach Vol, veh/h	924				1158		408				528	
Approach Delay, s/veh	27.2				47.8		44.6				46.5	
Approach LOS	C				D		D				D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	24.1	11.4	53.4	7.8	27.4	11.8	53.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.6	19.6	10.5	45.3	5.1	21.1	7.3	48.5				
Max Q Clear Time (g_c+I1), s	8.6	14.3	6.9	17.4	3.9	13.5	8.3	50.5				
Green Ext Time (p_c), s	0.0	1.5	0.1	13.7	0.0	2.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			40.9									
HCM 2010 LOS			D									

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	49	500	35	58	500
Future Volume (vph)	25	49	500	35	58	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.911		0.991			
Flt Protected	0.983				0.950	
Satd. Flow (prot)	1668	0	1846	0	1770	1863
Flt Permitted	0.983				0.425	
Satd. Flow (perm)	1668	0	1846	0	792	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	53		9			
Link Speed (mph)	30		40			40
Link Distance (ft)	426		2755			1239
Travel Time (s)	9.7		47.0			21.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	53	543	38	63	543
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	581	0	63	543
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	22.5		22.5		22.5	22.5
Total Split (s)	22.5		52.5		52.5	52.5
Total Split (%)	30.0%		70.0%		70.0%	70.0%
Maximum Green (s)	18.0		48.0		48.0	48.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effect Green (s)	7.2		61.7		61.7	61.7
Actuated g/C Ratio	0.10		0.82		0.82	0.82
v/c Ratio	0.38		0.38		0.10	0.35
Control Delay	20.0		3.4		2.6	3.2
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	20.0		3.4		2.6	3.2
LOS	C		A		A	A
Approach Delay	20.0		3.4			3.2
Approach LOS	C		A			A

Intersection Summary	
Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 4.3	Intersection LOS: A
Intersection Capacity Utilization 48.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: 71st Ave & 16th St





Lane Group	WBL	NBT	SBL	SBT
Lane Group Flow (vph)	80	581	63	543
v/c Ratio	0.38	0.38	0.10	0.35
Control Delay	20.0	3.4	2.6	3.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.0	3.4	2.6	3.2
Queue Length 50th (ft)	12	56	5	52
Queue Length 95th (ft)	49	119	15	110
Internal Link Dist (ft)	346	2675		1159
Turn Bay Length (ft)	100		100	
Base Capacity (vph)	440	1520	651	1532
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.38	0.10	0.35
Intersection Summary				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	622	40	96	836	17	21	0	75	2	0	7
Future Volume (vph)	16	622	40	96	836	17	21	0	75	2	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	676	43	104	909	18	23	0	82	2	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	676	43	104	909	18	23	82	0	2	8	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.3%											
Analysis Period (min)	15											
ICU Level of Service A												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	1584	185	160	1332	85	324	261	204	134	212	176
Future Volume (vph)	106	1584	185	160	1332	85	324	261	204	134	212	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.068			0.064			0.209			0.581		
Satd. Flow (perm)	127	3539	1583	119	3539	1583	389	3539	1583	1082	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			126			202			164
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			1586			546	
Travel Time (s)		13.8			17.1			27.0			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	113	1685	197	170	1417	90	345	278	217	143	226	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	1685	197	170	1417	90	345	278	217	143	226	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	13.2	60.0	60.0	20.0	66.8	66.8	26.0	36.8	36.8	13.2	24.0	24.0
Total Split (%)	10.2%	46.2%	46.2%	15.4%	51.4%	51.4%	20.0%	28.3%	28.3%	10.2%	18.5%	18.5%
Maximum Green (s)	8.7	55.5	55.5	15.5	62.3	62.3	21.5	32.3	32.3	8.7	19.5	19.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	66.7	58.4	58.4	74.4	62.7	62.7	45.5	32.3	32.3	28.2	19.5	19.5
Actuated g/C Ratio	0.51	0.45	0.45	0.57	0.48	0.48	0.35	0.25	0.25	0.22	0.15	0.15
v/c Ratio	0.67	1.06	0.25	0.75	0.83	0.11	0.95	0.32	0.40	0.51	0.81	0.50
Control Delay	43.2	75.7	6.1	48.1	34.5	1.4	71.5	41.0	8.9	39.8	75.8	15.3
Queue Delay	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 Delay	43.2	75.7	6.1	48.1	34.5	1.4	71.5	41.0	8.9	39.8	75.8	15.3
LOS	D	E	A	D	C	A	E	D	A	D	E	B
Approach Delay		67.0			34.1			45.2			46.2	
Approach LOS		E			C			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 50.2

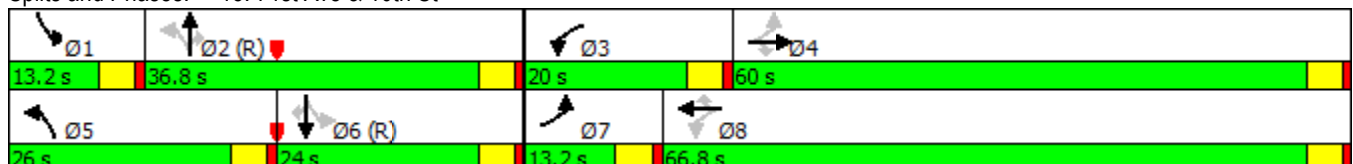
Intersection LOS: D

Intersection Capacity Utilization 96.8%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	1685	197	170	1417	90	345	278	217	143	226	187
v/c Ratio	0.67	1.06	0.25	0.75	0.83	0.11	0.95	0.32	0.40	0.51	0.81	0.50
Control Delay	43.2	75.7	6.1	48.1	34.5	1.4	71.5	41.0	8.9	39.8	75.8	15.3
Queue Delay	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 Delay	43.2	75.7	6.1	48.1	34.5	1.4	71.5	41.0	8.9	39.8	75.8	15.3
Queue Length 50th (ft)	42	~828	16	88	533	0	234	101	10	85	187	17
Queue Length 95th (ft)	#124	#995	63	167	636	13	#415	142	76	139	#316	89
Internal Link Dist (ft)		1037			1302			1506			466	
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	175	1589	801	265	1707	829	364	880	545	280	279	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	1.06	0.25	0.64	0.83	0.11	0.95	0.32	0.40	0.51	0.81	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1584	185	160	1332	85	324	261	204	134	212	176
Future Volume (veh/h)	106	1584	185	160	1332	85	324	261	204	134	212	176
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	1685	197	170	1417	90	345	278	217	143	226	187
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	180	1534	686	197	1639	733	417	996	446	339	341	290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.43	0.43	0.08	0.46	0.46	0.17	0.28	0.28	0.07	0.18	0.18
Ln Grp Delay, s/veh	33.0	91.6	24.0	56.5	36.1	19.9	47.3	37.1	42.7	40.6	59.1	59.8
Ln Grp LOS	C	F	C	E	D	B	D	D	D	D	E	E
Approach Vol, veh/h		1995			1677			840			556	
Approach Delay, s/veh		81.6			37.3			42.7			54.6	
Approach LOS		F			D			D			D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	13.2	41.1	14.8	60.9	26.0	28.3	11.0	64.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	8.7	32.3	15.5	55.5	21.5	19.5	8.7	62.3				
Max Allow Headway (MAH), s	3.7	4.5	3.6	4.7	3.7	4.5	3.6	4.7				
Max Q Clear (g_c+I1), s	10.5	16.8	10.2	58.4	22.0	16.7	6.6	48.6				
Green Ext Time (g_e), s	0.0	3.9	0.2	0.0	0.0	1.3	0.0	11.6				
Prob of Phs Call (p_c)	0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00				
Prob of Max Out (p_x)	1.00	0.00	0.23	1.00	1.00	0.00	1.00	0.93				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1774		1774		1774		1774					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3539		3539		1863		3539				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1583		1583		1583		1583				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	143	0	170	0	345	0	113	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	8.5	0.0	8.2	0.0	20.0	0.0	4.6	0.0
Cycle Q Clear Time (g_c), s	8.5	0.0	8.2	0.0	20.0	0.0	4.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	899	0	241	0	969	0	346	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.8	0.0	57.7	0.0	25.8	0.0	56.4	0.0
Perm LT Serve Time (g_u), s	23.8	0.0	0.0	0.0	9.1	0.0	13.6	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	9.1	0.0	13.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	339	0	197	0	417	0	180	0
V/C Ratio (X)	0.42	0.00	0.86	0.00	0.83	0.00	0.63	0.00
Avail Cap (c_a), veh/h	339	0	267	0	417	0	210	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	39.8	0.0	37.3	0.0	34.3	0.0	28.6	0.0
Incr Delay (d2), s/veh	0.8	0.0	19.2	0.0	13.0	0.0	4.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	40.6	0.0	56.5	0.0	47.3	0.0	33.0	0.0
1st-Term Q (Q1), veh/ln	4.2	0.0	6.0	0.0	9.8	0.0	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	1.0	0.0	1.5	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.2	0.0	7.0	0.0	11.3	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.37	0.00	0.31	0.00	1.25	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	278	0	1685	0	226	0	1417
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	8.0	0.0	56.4	0.0	14.7	0.0	46.6
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	56.4	0.0	14.7	0.0	46.6
Lane Grp Cap (c), veh/h	0	996	0	1534	0	341	0	1639
V/C Ratio (X)	0.00	0.28	0.00	1.10	0.00	0.66	0.00	0.86
Avail Cap (c_a), veh/h	0	996	0	1534	0	341	0	1696
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	36.4	0.0	36.8	0.0	49.4	0.0	31.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	54.8	0.0	9.8	0.0	4.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.1	0.0	91.6	0.0	59.1	0.0	36.1
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	27.5	0.0	7.5	0.0	22.6

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	11.7	0.0	0.9	0.0	1.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	39.2	0.0	8.5	0.0	23.7
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.93	0.00	0.44	0.00	0.46
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	37.7	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	217	0	197	0	187	0	90
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	14.8	0.0	10.5	0.0	14.2	0.0	4.2
Cycle Q Clear Time (g_c), s	0.0	14.8	0.0	10.5	0.0	14.2	0.0	4.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	446	0	686	0	290	0	733
V/C Ratio (X)	0.00	0.49	0.00	0.29	0.00	0.65	0.00	0.12
Avail Cap (c_a), veh/h	0	446	0	686	0	290	0	759
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	38.9	0.0	23.8	0.0	49.2	0.0	19.9
Incr Delay (d2), s/veh	0.0	3.8	0.0	0.2	0.0	10.6	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	42.7	0.0	24.0	0.0	59.8	0.0	19.9
1st-Term Q (Q1), veh/ln	0.0	6.5	0.0	4.6	0.0	6.2	0.0	1.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.9	0.0	4.6	0.0	7.1	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	1.10	0.00	0.34	0.00	0.95	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	57.5							
HCM 2010 LOS	E							

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1584	185	160	1332	85	324	261	204	134	212	176
Future Volume (veh/h)	106	1584	185	160	1332	85	324	261	204	134	212	176
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	1685	197	170	1417	90	345	278	217	143	226	187
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	1534	686	197	1639	733	417	996	446	339	341	290
Arrive On Green	0.05	0.43	0.43	0.08	0.46	0.46	0.17	0.28	0.28	0.07	0.18	0.18
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	113	1685	197	170	1417	90	345	278	217	143	226	187
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	4.6	56.4	10.5	8.2	46.6	4.2	20.0	8.0	14.8	8.5	14.7	14.2
Cycle Q Clear(g_c), s	4.6	56.4	10.5	8.2	46.6	4.2	20.0	8.0	14.8	8.5	14.7	14.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	1534	686	197	1639	733	417	996	446	339	341	290
V/C Ratio(X)	0.63	1.10	0.29	0.86	0.86	0.12	0.83	0.28	0.49	0.42	0.66	0.65
Avail Cap(c_a), veh/h	210	1534	686	267	1696	759	417	996	446	339	341	290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	36.8	23.8	37.3	31.2	19.9	34.3	36.4	38.9	39.8	49.4	49.2
Incr Delay (d2), s/veh	4.5	54.8	0.2	19.2	4.8	0.1	13.0	0.7	3.8	0.8	9.8	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	39.2	4.6	7.0	23.7	1.9	11.3	4.0	6.9	4.2	8.5	7.1
LnGrp Delay(d),s/veh	33.0	91.6	24.0	56.5	36.1	19.9	47.3	37.1	42.7	40.6	59.1	59.8
LnGrp LOS	C	F	C	E	D	B	D	D	D	D	E	E
Approach Vol, veh/h		1995			1677			840			556	
Approach Delay, s/veh		81.6			37.3			42.7			54.6	
Approach LOS		F			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	41.1	14.8	60.9	26.0	28.3	11.0	64.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.7	32.3	15.5	55.5	21.5	19.5	8.7	62.3				
Max Q Clear Time (g_c+I1), s	10.5	16.8	10.2	58.4	22.0	16.7	6.6	48.6				
Green Ext Time (p_c), s	0.0	3.9	0.2	0.0	0.0	1.3	0.0	11.6				
Intersection Summary												
HCM 2010 Ctrl Delay				57.5								
HCM 2010 LOS				E								

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	622	40	96	836	17	21	0	75	2	0	7
Future Vol, veh/h	16	622	40	96	836	17	21	0	75	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	676	43	104	909	18	23	0	82	2	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	927	0	0	719	0	0	1373	1845	338	1489	1870	455
Stage 1	-	-	-	-	-	-	710	710	-	1117	1117	-
Stage 2	-	-	-	-	-	-	663	1135	-	372	753	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	733	-	-	878	-	-	105	74	658	86	71	552
Stage 1	-	-	-	-	-	-	391	435	-	221	281	-
Stage 2	-	-	-	-	-	-	417	275	-	621	416	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	733	-	-	878	-	-	93	64	658	67	61	552
Mov Cap-2 Maneuver	-	-	-	-	-	-	93	64	-	67	61	-
Stage 1	-	-	-	-	-	-	382	425	-	216	248	-
Stage 2	-	-	-	-	-	-	363	243	-	531	406	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1	21	22.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	93	658	733	-	-	878	-	-	67	552
HCM Lane V/C Ratio	0.245	0.124	0.024	-	-	0.119	-	-	0.032	0.014
HCM Control Delay (s)	55.9	11.2	10	-	-	9.7	-	-	60.5	11.6
HCM Lane LOS	F	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.9	0.4	0.1	-	-	0.4	-	-	0.1	0

Intersection			
Intersection Delay, s/veh	4.9		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	207	172	43
Demand Flow Rate, veh/h	211	176	44
Vehicles Circulating, veh/h	44	22	139
Vehicles Exiting, veh/h	139	233	59
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.2	4.8	4.1
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	211	176	44
Cap Entry Lane, veh/h	1081	1105	983
Entry HV Adj Factor	0.982	0.979	0.977
Flow Entry, veh/h	207	172	43
Cap Entry, veh/h	1062	1082	961
V/C Ratio	0.195	0.159	0.045
Control Delay, s/veh	5.2	4.8	4.1
LOS	A	A	A
95th %tile Queue, veh	1	1	0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	281	807	10	100	510	131	30	361	270	280	115	157
Future Volume (vph)	281	807	10	100	510	131	30	361	270	280	115	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.112			0.228			0.677			0.142		
Satd. Flow (perm)	188	3185	1425	382	1676	1425	1135	1676	1425	238	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			213			213			171
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	305	877	11	109	554	142	33	392	293	304	125	171
Shared Lane Traffic (%)												
Lane Group Flow (vph)	305	877	11	109	554	142	33	392	293	304	125	171
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

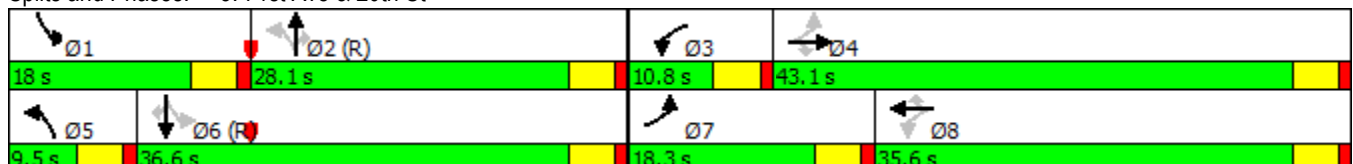
Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	18.3	43.1	43.1	10.8	35.6	35.6	9.5	28.1	28.1	18.0	36.6	36.6
Total Split (%)	18.3%	43.1%	43.1%	10.8%	35.6%	35.6%	9.5%	28.1%	28.1%	18.0%	36.6%	36.6%
Maximum Green (s)	13.8	38.6	38.6	6.3	31.1	31.1	5.0	23.6	23.6	13.5	32.1	32.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	49.4	38.6	38.6	37.4	31.1	31.1	28.6	23.6	23.6	41.6	35.9	35.9
Actuated g/C Ratio	0.49	0.39	0.39	0.37	0.31	0.31	0.29	0.24	0.24	0.42	0.36	0.36
v/c Ratio	1.07	0.71	0.02	0.50	1.06	0.24	0.10	0.99	0.59	1.08	0.21	0.28
Control Delay	99.3	30.0	0.0	23.4	92.1	1.7	19.1	83.1	15.3	104.3	24.9	5.2
Queue Delay	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 Delay	99.3	30.0	0.0	23.4	92.1	1.7	19.1	83.1	15.3	104.3	24.9	5.2
LOS	F	C	A	C	F	A	B	F	B	F	C	A
Approach Delay		47.4			66.8			52.5			59.5	
Approach LOS		D			E			D			E	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 55.4
 Intersection LOS: E
 Intersection Capacity Utilization 100.5%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.850			0.850			0.850			0.850		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.112			0.228			0.677			0.142		
Satd. Flow (perm)	188	3185	1425	382	1676	1425	1135	1676	1425	238	1676	1425
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	164			213			213			171		
Link Speed (mph)	40			40			40			35		
Link Distance (ft)	917			832			550			2755		
Travel Time (s)	15.6			14.2			9.4			53.7		

Intersection Summary

Area Type: CBD

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	305	877	11	109	554	142	33	392	293	304	125	171
v/c Ratio	1.07	0.71	0.02	0.50	1.06	0.24	0.10	0.99	0.59	1.08	0.21	0.28
Control Delay	99.3	30.0	0.0	23.4	92.1	1.7	19.1	83.1	15.3	104.3	24.9	5.2
Queue Delay	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 Delay	99.3	30.0	0.0	23.4	92.1	1.7	19.1	83.1	15.3	104.3	24.9	5.2
Queue Length 50th (ft)	~170	245	0	36	~391	0	12	250	41	~172	58	0
Queue Length 95th (ft)	#338	318	0	67	#596	9	31	#441	128	#340	104	46
Internal Link Dist (ft)		837			752			470			2675	
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	286	1229	650	219	521	589	347	395	499	281	601	621
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.71	0.02	0.50	1.06	0.24	0.10	0.99	0.59	1.08	0.21	0.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	281	807	10	100	510	131	30	361	270	280	115	157
Future Volume (veh/h)	281	807	10	100	510	131	30	361	270	280	115	157
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	305	877	11	109	554	142	33	392	293	304	125	171
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	292	1230	550	258	521	443	349	396	336	289	572	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.14	0.39	0.39	0.06	0.31	0.31	0.03	0.24	0.24	0.14	0.34	0.34
Ln Grp Delay, s/veh	92.7	28.0	19.0	23.7	91.5	26.8	27.6	81.1	62.0	86.0	24.1	26.2
Ln Grp LOS	F	C	B	C	F	C	C	F	E	F	C	C
Approach Vol, veh/h		1193			805			718			600	
Approach Delay, s/veh		44.4			70.9			70.8			56.1	
Approach LOS		D			E			E			E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	18.0	28.1	10.8	43.1	7.5	38.6	18.3	35.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	13.5	23.6	6.3	38.6	5.0	32.1	13.8	31.1				
Max Allow Headway (MAH), s	3.8	4.5	3.7	4.9	3.7	4.5	3.7	4.9				
Max Q Clear (g_c+I1), s	15.5	25.3	6.6	25.3	3.5	11.0	15.8	33.1				
Green Ext Time (g_e), s	0.0	0.0	0.0	7.8	0.0	4.6	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	0.95	1.00	0.60	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.59	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		1676		3185		1676		1676				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1425		1425		1425		1425				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	304	0	109	0	33	0	305	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	13.5	0.0	4.6	0.0	1.5	0.0	13.8	0.0
Cycle Q Clear Time (g_c), s	13.5	0.0	4.6	0.0	1.5	0.0	13.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	678	0	561	0	971	0	671	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	25.6	0.0	31.1	0.0	23.6	0.0	33.1	0.0
Perm LT Serve Time (g_u), s	0.3	0.0	15.3	0.0	23.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.3	0.0	3.8	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	289	0	258	0	349	0	292	0
V/C Ratio (X)	1.05	0.00	0.42	0.00	0.09	0.00	1.04	0.00
Avail Cap (c_a), veh/h	289	0	259	0	381	0	292	0
Upstream Filter (I)	0.76	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.0	0.0	22.6	0.0	27.5	0.0	28.3	0.0
Incr Delay (d2), s/veh	60.0	0.0	1.1	0.0	0.1	0.0	64.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	86.0	0.0	23.7	0.0	27.6	0.0	92.7	0.0
1st-Term Q (Q1), veh/ln	5.9	0.0	2.0	0.0	0.7	0.0	8.0	0.0
2nd-Term Q (Q2), veh/ln	4.8	0.0	0.1	0.0	0.0	0.0	5.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	10.7	0.0	2.1	0.0	0.7	0.0	13.3	0.0
%ile Storage Ratio (RQ%)	1.36	0.00	0.21	0.00	0.08	0.00	1.40	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	3.6	0.0	0.0	0.0	0.0	0.0	3.2	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	392	0	877	0	125	0	554
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	23.3	0.0	23.3	0.0	5.3	0.0	31.1
Cycle Q Clear Time (g_c), s	0.0	23.3	0.0	23.3	0.0	5.3	0.0	31.1
Lane Grp Cap (c), veh/h	0	396	0	1230	0	572	0	521
V/C Ratio (X)	0.00	0.99	0.00	0.71	0.00	0.22	0.00	1.06
Avail Cap (c_a), veh/h	0	396	0	1230	0	572	0	521
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.76	0.00	1.00
Uniform Delay (d1), s/veh	0.0	38.1	0.0	26.0	0.0	23.5	0.0	34.5
Incr Delay (d2), s/veh	0.0	43.0	0.0	2.0	0.0	0.7	0.0	57.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	81.1	0.0	28.0	0.0	24.1	0.0	91.5
1st-Term Q (Q1), veh/ln	0.0	10.8	0.0	10.2	0.0	2.5	0.0	14.3

2nd-Term Q (Q2), veh/ln	0.0	4.7	0.0	0.3	0.0	0.1	0.0	8.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	15.5	0.0	10.6	0.0	2.6	0.0	22.6
%ile Storage Ratio (RQ%)	0.00	0.80	0.00	0.32	0.00	0.02	0.00	0.73
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	293	0	11	0	171	0	142
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	19.8	0.0	0.5	0.0	9.0	0.0	7.6
Cycle Q Clear Time (g_c), s	0.0	19.8	0.0	0.5	0.0	9.0	0.0	7.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	336	0	550	0	486	0	443
V/C Ratio (X)	0.00	0.87	0.00	0.02	0.00	0.35	0.00	0.32
Avail Cap (c_a), veh/h	0	336	0	550	0	486	0	443
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.76	0.00	1.00
Uniform Delay (d1), s/veh	0.0	36.7	0.0	19.0	0.0	24.7	0.0	26.4
Incr Delay (d2), s/veh	0.0	25.2	0.0	0.0	0.0	1.5	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	62.0	0.0	19.0	0.0	26.2	0.0	26.8
1st-Term Q (Q1), veh/ln	0.0	7.7	0.0	0.2	0.0	3.5	0.0	3.0
2nd-Term Q (Q2), veh/ln	0.0	2.4	0.0	0.0	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.1	0.0	0.2	0.0	3.7	0.0	3.0
%ile Storage Ratio (RQ%)	0.00	1.93	0.00	0.02	0.00	1.14	0.00	0.34
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	58.7							
HCM 2010 LOS	E							

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	281	807	10	100	510	131	30	361	270	280	115	157
Future Volume (veh/h)	281	807	10	100	510	131	30	361	270	280	115	157
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	305	877	11	109	554	142	33	392	293	304	125	171
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	1230	550	258	521	443	349	396	336	289	572	486
Arrive On Green	0.14	0.39	0.39	0.06	0.31	0.31	0.03	0.24	0.24	0.14	0.34	0.34
Sat Flow, veh/h	1597	3185	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Grp Volume(v), veh/h	305	877	11	109	554	142	33	392	293	304	125	171
Grp Sat Flow(s),veh/h/ln	1597	1593	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Q Serve(g_s), s	13.8	23.3	0.5	4.6	31.1	7.6	1.5	23.3	19.8	13.5	5.3	9.0
Cycle Q Clear(g_c), s	13.8	23.3	0.5	4.6	31.1	7.6	1.5	23.3	19.8	13.5	5.3	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	1230	550	258	521	443	349	396	336	289	572	486
V/C Ratio(X)	1.04	0.71	0.02	0.42	1.06	0.32	0.09	0.99	0.87	1.05	0.22	0.35
Avail Cap(c_a), veh/h	292	1230	550	259	521	443	381	396	336	289	572	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	28.3	26.0	19.0	22.6	34.5	26.4	27.5	38.1	36.7	26.0	23.5	24.7
Incr Delay (d2), s/veh	64.4	2.0	0.0	1.1	57.1	0.4	0.1	43.0	25.2	60.0	0.7	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	10.6	0.2	2.1	22.6	3.0	0.7	15.5	10.1	10.7	2.6	3.7
LnGrp Delay(d),s/veh	92.7	28.0	19.0	23.7	91.5	26.8	27.6	81.1	62.0	86.0	24.1	26.2
LnGrp LOS	F	C	B	C	F	C	C	F	E	F	C	C
Approach Vol, veh/h	1193			805			718			600		
Approach Delay, s/veh	44.4			70.9			70.8			56.1		
Approach LOS	D			E			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	28.1	10.8	43.1	7.5	38.6	18.3	35.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	23.6	6.3	38.6	5.0	32.1	13.8	31.1				
Max Q Clear Time (g_c+I1), s	15.5	25.3	6.6	25.3	3.5	11.0	15.8	33.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	7.8	0.0	4.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	58.7											
HCM 2010 LOS	E											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	60	132	20	21	80	88	700	105	70	640	49
Future Volume (vph)	208	60	132	20	21	80	88	700	105	70	640	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.897			0.881			0.980			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1671	0	1770	1641	0	1770	1825	0	1770	1842	0
Flt Permitted	0.686			0.513			0.273			0.201		
Satd. Flow (perm)	1278	1671	0	956	1641	0	509	1825	0	374	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		143			87			19			10	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		560			426			2755			1239	
Travel Time (s)		12.7			9.7			47.0			21.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	65	143	22	23	87	96	761	114	76	696	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	208	0	22	110	0	96	875	0	76	749	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		51.0	51.0		51.0	51.0	
Total Split (%)	32.0%	32.0%		32.0%	32.0%		68.0%	68.0%		68.0%	68.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		46.5	46.5		46.5	46.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	16.9	16.9		16.9	16.9		49.1	49.1		49.1	49.1	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.65	0.65		0.65	0.65	
v/c Ratio	0.79	0.43		0.10	0.25		0.29	0.73		0.31	0.62	
Control Delay	47.2	11.3		22.8	9.3		9.3	13.7		10.9	10.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.2	11.3		22.8	9.3		9.3	13.7		10.9	10.9	
LOS	D	B		C	A		A	B		B	B	
Approach Delay		30.0			11.6			13.3			10.9	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 15.4

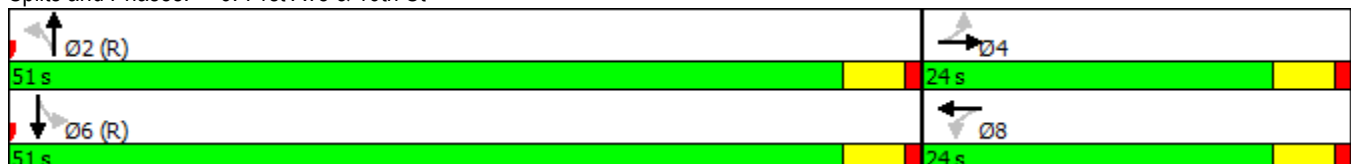
Intersection LOS: B

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

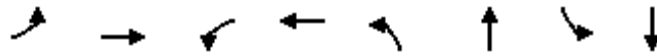
Splits and Phases: 6: 71st Ave & 16th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	60		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.897			0.881			0.980			0.989		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1671	0	1770	1641	0	1770	1825	0	1770	1842	0
Flt Permitted	0.686			0.513			0.273			0.201		
Satd. Flow (perm)	1278	1671	0	956	1641	0	509	1825	0	374	1842	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	143			87			19			10		
Link Speed (mph)	30			30			40			40		
Link Distance (ft)	560			426			2755			1239		
Travel Time (s)	12.7			9.7			47.0			21.1		

Intersection Summary

Area Type: Other



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	226	208	22	110	96	875	76	749
v/c Ratio	0.79	0.43	0.10	0.25	0.29	0.73	0.31	0.62
Control Delay	47.2	11.3	22.8	9.3	9.3	13.7	10.9	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.2	11.3	22.8	9.3	9.3	13.7	10.9	10.9
Queue Length 50th (ft)	96	24	8	8	18	245	14	186
Queue Length 95th (ft)	#188	75	25	45	46	415	43	307
Internal Link Dist (ft)		480		346		2675		1159
Turn Bay Length (ft)	60		100		100		100	
Base Capacity (vph)	332	540	248	491	333	1202	244	1210
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.39	0.09	0.22	0.29	0.73	0.31	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	60	132	20	21	80	88	700	105	70	640	49
Future Volume (veh/h)	208	60	132	20	21	80	88	700	105	70	640	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	226	65	143	22	23	87	96	761	114	76	696	53
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	353	132	291	269	87	329	357	990	148	272	1069	81
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.63	0.63	0.63	0.63	0.63	0.63
Ln Grp Delay, s/veh	32.8	0.0	24.7	27.9	0.0	22.7	17.9	0.0	11.8	24.7	0.0	11.7
Ln Grp LOS	C		C	C		C	B		B	C		B
Approach Vol, veh/h		434			132			971			825	
Approach Delay, s/veh		28.9			23.5			12.4			12.9	
Approach LOS		C			C			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			51.4		23.6		51.4		23.6			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			46.5		19.5		46.5		19.5			
Max Allow Headway (MAH), s			5.2		4.9		5.2		4.9			
Max Q Clear (g_c+I1), s			28.7		18.9		35.4		11.2			
Green Ext Time (g_e), s			11.8		0.2		8.2		1.9			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.40			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			710		1278		631		1169			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1584		519		1710		342			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			237		1142		130		1293			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment												

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	96	0	226	0	76	0	22
Grp Sat Flow (s), veh/h/ln	0	710	0	1278	0	631	0	1169
Q Serve Time (g_s), s	0.0	7.4	0.0	12.9	0.0	7.4	0.0	1.2
Cycle Q Clear Time (g_c), s	0.0	26.7	0.0	16.9	0.0	33.4	0.0	9.2
Perm LT Sat Flow (s_l), veh/h/ln	0	710	0	1278	0	631	0	1169
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	46.9	0.0	19.1	0.0	46.9	0.0	19.1
Perm LT Serve Time (g_u), s	0.0	27.6	0.0	15.1	0.0	20.9	0.0	11.1
Perm LT Q Serve Time (g_ps), s	0.0	7.4	0.0	12.9	0.0	7.4	0.0	1.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	357	0	353	0	272	0	269
V/C Ratio (X)	0.00	0.27	0.00	0.64	0.00	0.28	0.00	0.08
Avail Cap (c_a), veh/h	0	357	0	360	0	272	0	275
Upstream Filter (I)	0.00	0.33	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.3	0.0	29.1	0.0	22.2	0.0	27.7
Incr Delay (d2), s/veh	0.0	0.6	0.0	3.7	0.0	2.6	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	0.0	32.8	0.0	24.7	0.0	27.9
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	4.5	0.0	1.3	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.5	0.0	4.9	0.0	1.5	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.38	0.00	2.07	0.00	0.38	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	875	0	208	0	749	0	110
Grp Sat Flow (s), veh/h/ln	0	1821	0	1661	0	1840	0	1635
Q Serve Time (g_s), s	0.0	26.0	0.0	8.0	0.0	19.3	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	26.0	0.0	8.0	0.0	19.3	0.0	4.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.13	0.00	0.69	0.00	0.07	0.00	0.79
Lane Grp Cap (c), veh/h	0	1139	0	423	0	1150	0	416
V/C Ratio (X)	0.00	0.77	0.00	0.49	0.00	0.65	0.00	0.26
Avail Cap (c_a), veh/h	0	1139	0	432	0	1150	0	425
Upstream Filter (I)	0.00	0.33	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.1	0.0	23.8	0.0	8.9	0.0	22.3
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.9	0.0	2.9	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	24.7	0.0	11.7	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	12.9	0.0	3.6	0.0	9.6	0.0	1.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	13.4	0.0	3.7	0.0	10.5	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.20	0.00	0.23	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	60	132	20	21	80	88	700	105	70	640	49
Future Volume (veh/h)	208	60	132	20	21	80	88	700	105	70	640	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	226	65	143	22	23	87	96	761	114	76	696	53
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	132	291	269	87	329	357	990	148	272	1069	81
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1278	519	1142	1169	342	1293	710	1584	237	631	1710	130
Grp Volume(v), veh/h	226	0	208	22	0	110	96	0	875	76	0	749
Grp Sat Flow(s),veh/h/ln	1278	0	1661	1169	0	1635	710	0	1821	631	0	1840
Q Serve(g_s), s	12.9	0.0	8.0	1.2	0.0	4.0	7.4	0.0	26.0	7.4	0.0	19.3
Cycle Q Clear(g_c), s	16.9	0.0	8.0	9.2	0.0	4.0	26.7	0.0	26.0	33.4	0.0	19.3
Prop In Lane	1.00		0.69	1.00		0.79	1.00		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	353	0	423	269	0	416	357	0	1139	272	0	1150
V/C Ratio(X)	0.64	0.00	0.49	0.08	0.00	0.26	0.27	0.00	0.77	0.28	0.00	0.65
Avail Cap(c_a), veh/h	360	0	432	275	0	425	357	0	1139	272	0	1150
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.33	0.00	0.33	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	23.8	27.7	0.0	22.3	17.3	0.0	10.1	22.2	0.0	8.9
Incr Delay (d2), s/veh	3.7	0.0	0.9	0.1	0.0	0.3	0.6	0.0	1.7	2.6	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	3.7	0.4	0.0	1.8	1.5	0.0	13.4	1.5	0.0	10.5
LnGrp Delay(d),s/veh	32.8	0.0	24.7	27.9	0.0	22.7	17.9	0.0	11.8	24.7	0.0	11.7
LnGrp LOS	C		C	C		C	B		B	C		B
Approach Vol, veh/h		434			132			971			825	
Approach Delay, s/veh		28.9			23.5			12.4			12.9	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.4		23.6		51.4		23.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		46.5		19.5		46.5		19.5				
Max Q Clear Time (g_c+I1), s		28.7		18.9		35.4		11.2				
Green Ext Time (p_c), s		11.8		0.2		8.2		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			16.3									
HCM 2010 LOS			B									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1037	16	70	517	25	28	0	169	55	0	59
Future Volume (vph)	24	1037	16	70	517	25	28	0	169	55	0	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1127	17	76	562	27	30	0	184	60	0	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1127	17	76	562	27	30	184	0	60	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	59.7%											
Analysis Period (min)	15											
	ICU Level of Service B											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Intersection Summary												
Area Type:	Other											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	1443	256	210	1168	218	240	684	363	343	390	242
Future Volume (vph)	162	1443	256	210	1168	218	240	684	363	343	390	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.082			0.082			0.159			0.129		
Satd. Flow (perm)	153	3539	1583	153	3539	1583	296	3539	1583	240	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			254			237			157			169
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			1586			546	
Travel Time (s)		13.8			17.1			27.0			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	176	1568	278	228	1270	237	261	743	395	373	424	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	1568	278	228	1270	237	261	743	395	373	424	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	13.6	53.0	53.0	14.0	53.4	53.4	17.4	31.0	31.0	22.0	35.6	35.6
Total Split (%)	11.3%	44.2%	44.2%	11.7%	44.5%	44.5%	14.5%	25.8%	25.8%	18.3%	29.7%	29.7%
Maximum Green (s)	9.1	48.5	48.5	9.5	48.9	48.9	12.9	26.5	26.5	17.5	31.1	31.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	57.6	48.5	48.5	58.4	48.9	48.9	39.4	26.5	26.5	48.5	31.1	31.1
Actuated g/C Ratio	0.48	0.40	0.40	0.49	0.41	0.41	0.33	0.22	0.22	0.40	0.26	0.26
v/c Ratio	0.90	1.10	0.35	1.13	0.88	0.30	1.02	0.95	0.84	1.17	0.88	0.49
Control Delay	69.7	89.4	5.2	131.3	41.3	3.9	94.5	68.7	43.5	134.7	63.3	17.0
Queue Delay	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 Delay	69.7	89.4	5.2	131.3	41.3	3.9	94.5	68.7	43.5	134.7	63.3	17.0
LOS	E	F	A	F	D	A	F	E	D	F	E	B
Approach Delay		76.1			48.1			66.4			76.9	
Approach LOS		E			D			E			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 66.2

Intersection LOS: E

Intersection Capacity Utilization 104.4%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St

			
Ø1	Ø2 (R)	Ø3	Ø4
22 s	31 s	14 s	53 s
			
Ø5	Ø6 (R)	Ø7	Ø8
17.4 s	35.6 s	13.6 s	53.4 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.850			0.850			0.850			0.850		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.082			0.082			0.159			0.129		
Satd. Flow (perm)	153	3539	1583	153	3539	1583	296	3539	1583	240	1863	1583
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	254			237			157					
Link Speed (mph)	55			55			40			40		
Link Distance (ft)	1117			1382			1586			546		
Travel Time (s)	13.8			17.1			27.0			9.3		

Intersection Summary

Area Type: Other

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	176	1568	278	228	1270	237	261	743	395	373	424	263
v/c Ratio	0.90	1.10	0.35	1.13	0.88	0.30	1.02	0.95	0.84	1.17	0.88	0.49
Control Delay	69.7	89.4	5.2	131.3	41.3	3.9	94.5	68.7	43.5	134.7	63.3	17.0
Queue Delay	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 Delay	69.7	89.4	5.2	131.3	41.3	3.9	94.5	68.7	43.5	134.7	63.3	17.0
Queue Length 50th (ft)	85	~723	11	~153	471	0	~160	301	184	~293	316	58
Queue Length 95th (ft)	#221	#863	65	#317	572	49	#332	#423	#352	#488	#496	140
Internal Link Dist (ft)		1037			1302			1506			466	
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	196	1430	791	202	1442	785	255	781	471	320	482	535
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	1.10	0.35	1.13	0.88	0.30	1.02	0.95	0.84	1.17	0.88	0.49

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	1443	256	210	1168	218	240	684	363	343	390	242
Future Volume (veh/h)	162	1443	256	210	1168	218	240	684	363	343	390	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	176	1568	278	228	1270	237	261	743	395	373	424	263
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	219	1430	640	200	1449	648	281	782	350	326	483	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.40	0.40	0.08	0.41	0.41	0.11	0.22	0.22	0.15	0.26	0.26
Ln Grp Delay, s/veh	46.2	90.4	26.3	140.7	39.0	25.0	70.6	68.3	134.8	129.8	62.4	47.0
Ln Grp LOS	D	F	C	F	D	C	E	E	F	F	E	D
Approach Vol, veh/h		2022			1735			1399			1060	
Approach Delay, s/veh		77.7			50.5			87.5			82.3	
Approach LOS		E			D			F			F	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	22.0	31.0	14.0	53.0	17.4	35.6	13.4	53.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	17.5	26.5	9.5	48.5	12.9	31.1	9.1	48.9				
Max Allow Headway (MAH), s	3.7	4.6	3.6	4.6	3.7	4.6	3.6	4.6				
Max Q Clear (g_c+I1), s	19.5	28.5	11.5	50.5	14.9	28.2	8.9	41.7				
Green Ext Time (g_e), s	0.0	0.0	0.0	0.0	0.0	2.3	0.0	6.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.98				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1774		1774		1774		1774					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3539		3539		1863		3539				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1583		1583		1583		1583				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	373	0	228	0	261	0	176	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	17.5	0.0	9.5	0.0	12.9	0.0	6.9	0.0
Cycle Q Clear Time (g_c), s	17.5	0.0	9.5	0.0	12.9	0.0	6.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	492	0	249	0	752	0	346	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	28.5	0.0	48.5	0.0	26.5	0.0	48.5	0.0
Perm LT Serve Time (g_u), s	1.7	0.0	0.0	0.0	4.9	0.0	9.5	0.0
Perm LT Q Serve Time (g_ps), s	1.7	0.0	0.0	0.0	4.9	0.0	9.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	326	0	200	0	281	0	219	0
V/C Ratio (X)	1.15	0.00	1.14	0.00	0.93	0.00	0.81	0.00
Avail Cap (c_a), veh/h	326	0	200	0	281	0	222	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.3	0.0	35.3	0.0	35.6	0.0	27.2	0.0
Incr Delay (d2), s/veh	95.5	0.0	105.5	0.0	35.0	0.0	18.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	129.8	0.0	140.7	0.0	70.6	0.0	46.2	0.0
1st-Term Q (Q1), veh/ln	10.8	0.0	6.6	0.0	6.7	0.0	3.3	0.0
2nd-Term Q (Q2), veh/ln	8.6	0.0	5.9	0.0	2.7	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	19.4	0.0	12.5	0.0	9.4	0.0	4.5	0.0
%ile Storage Ratio (RQ%)	1.70	0.00	0.55	0.00	1.04	0.00	0.22	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	11.9	0.0	6.9	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	743	0	1568	0	424	0	1270
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	24.8	0.0	48.5	0.0	26.2	0.0	39.7
Cycle Q Clear Time (g_c), s	0.0	24.8	0.0	48.5	0.0	26.2	0.0	39.7
Lane Grp Cap (c), veh/h	0	782	0	1430	0	483	0	1449
V/C Ratio (X)	0.00	0.95	0.00	1.10	0.00	0.88	0.00	0.88
Avail Cap (c_a), veh/h	0	782	0	1430	0	483	0	1449
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	46.1	0.0	35.8	0.0	42.6	0.0	32.6
Incr Delay (d2), s/veh	0.0	22.2	0.0	54.6	0.0	19.8	0.0	6.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	68.3	0.0	90.4	0.0	62.4	0.0	39.0
1st-Term Q (Q1), veh/ln	0.0	12.2	0.0	23.6	0.0	13.4	0.0	19.4

2nd-Term Q (Q2), veh/ln	0.0	2.4	0.0	10.9	0.0	2.7	0.0	1.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	14.6	0.0	34.5	0.0	16.1	0.0	20.7
%ile Storage Ratio (RQ%)	0.00	0.25	0.00	0.82	0.00	0.84	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	34.4	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	395	0	278	0	263	0	237
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	26.5	0.0	15.2	0.0	17.7	0.0	12.5
Cycle Q Clear Time (g_c), s	0.0	26.5	0.0	15.2	0.0	17.7	0.0	12.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	350	0	640	0	410	0	648
V/C Ratio (X)	0.00	1.13	0.00	0.43	0.00	0.64	0.00	0.37
Avail Cap (c_a), veh/h	0	350	0	640	0	410	0	648
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	46.8	0.0	25.8	0.0	39.5	0.0	24.6
Incr Delay (d2), s/veh	0.0	88.1	0.0	0.5	0.0	7.5	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	134.8	0.0	26.3	0.0	47.0	0.0	25.0
1st-Term Q (Q1), veh/ln	0.0	11.6	0.0	6.6	0.0	7.7	0.0	5.5
2nd-Term Q (Q2), veh/ln	0.0	8.6	0.0	0.1	0.0	0.9	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	20.1	0.0	6.7	0.0	8.6	0.0	5.5
%ile Storage Ratio (RQ%)	0.00	3.19	0.00	0.49	0.00	1.15	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

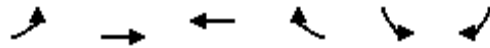
Intersection Summary

HCM 2010 Ctrl Delay	73.1
HCM 2010 LOS	E

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	1443	256	210	1168	218	240	684	363	343	390	242
Future Volume (veh/h)	162	1443	256	210	1168	218	240	684	363	343	390	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	176	1568	278	228	1270	237	261	743	395	373	424	263
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1430	640	200	1449	648	281	782	350	326	483	410
Arrive On Green	0.07	0.40	0.40	0.08	0.41	0.41	0.11	0.22	0.22	0.15	0.26	0.26
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	176	1568	278	228	1270	237	261	743	395	373	424	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	6.9	48.5	15.2	9.5	39.7	12.5	12.9	24.8	26.5	17.5	26.2	17.7
Cycle Q Clear(g_c), s	6.9	48.5	15.2	9.5	39.7	12.5	12.9	24.8	26.5	17.5	26.2	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	1430	640	200	1449	648	281	782	350	326	483	410
V/C Ratio(X)	0.81	1.10	0.43	1.14	0.88	0.37	0.93	0.95	1.13	1.15	0.88	0.64
Avail Cap(c_a), veh/h	222	1430	640	200	1449	648	281	782	350	326	483	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	35.8	25.8	35.3	32.6	24.6	35.6	46.1	46.8	34.3	42.6	39.5
Incr Delay (d2), s/veh	18.9	54.6	0.5	105.5	6.4	0.3	35.0	22.2	88.1	95.5	19.8	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	34.5	6.8	12.5	20.7	5.5	5.0	14.6	20.2	19.4	16.1	8.6
LnGrp Delay(d),s/veh	46.2	90.4	26.3	140.7	39.0	25.0	70.6	68.3	134.8	129.8	62.4	47.0
LnGrp LOS	D	F	C	F	D	C	E	E	F	F	E	D
Approach Vol, veh/h	2022				1735				1399			
Approach Delay, s/veh	77.7				50.5				87.5			
Approach LOS	E				D				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	31.0	14.0	53.0	17.4	35.6	13.4	53.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	17.5	26.5	9.5	48.5	12.9	31.1	9.1	48.9				
Max Q Clear Time (g_c+I1), s	19.5	28.5	11.5	50.5	14.9	28.2	8.9	41.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.3	0.0	6.8				
Intersection Summary												
HCM 2010 Ctrl Delay	73.1											
HCM 2010 LOS	E											

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	1287	714	46
Future Volume (vph)	0	60	0	1287	714	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.865			0.992	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	1848	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	1848	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	340			1239	1586	
Travel Time (s)	9.3			28.2	36.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	65	0	1399	776	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	65	0	1399	826	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.7%			ICU Level of Service A		
Analysis Period (min)	15					

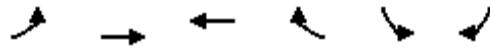
						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt		0.865			0.992	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	1848	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	1848	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	340			1239	1586	
Travel Time (s)	9.3			28.2	36.0	
Intersection Summary						
Area Type:	Other					



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	170	125	33	40	0
Future Volume (vph)	20	170	125	33	40	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.972				
Flt Protected		0.995			0.950	
Satd. Flow (prot)	0	1853	1811	0	1770	0
Flt Permitted		0.995			0.950	
Satd. Flow (perm)	0	1853	1811	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		531	560		497	
Travel Time (s)		12.1	12.7		11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	185	136	36	43	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	207	172	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Yield	Yield		Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	32.0%
Analysis Period (min)	15
	ICU Level of Service A



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.972			
Flt Protected		0.995			0.950	
Satd. Flow (prot)	0	1853	1811	0	1770	0
Flt Permitted		0.995			0.950	
Satd. Flow (perm)	0	1853	1811	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		531	560		497	
Travel Time (s)		12.1	12.7		11.3	

Intersection Summary

Area Type: Other

Intersection												
Int Delay, s/veh	10.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	1037	16	70	517	25	28	0	169	55	0	59
Future Vol, veh/h	24	1037	16	70	517	25	28	0	169	55	0	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	1127	17	76	562	27	30	0	184	60	0	64

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	589	0	0	1144	0	0	1612	1920	564	1330	1910	281
Stage 1	-	-	-	-	-	-	1179	1179	-	714	714	-
Stage 2	-	-	-	-	-	-	433	741	-	616	1196	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	982	-	-	606	-	-	69	66	469	113	67	716
Stage 1	-	-	-	-	-	-	202	262	-	388	433	-
Stage 2	-	-	-	-	-	-	571	421	-	445	258	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	982	-	-	606	-	-	56	56	469	61	57	716
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	56	-	61	57	-
Stage 1	-	-	-	-	-	-	197	255	-	378	379	-
Stage 2	-	-	-	-	-	-	455	368	-	264	251	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1.3			33.3			112		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	56	469	982	-	-	606	-	-	61	716
HCM Lane V/C Ratio	0.543	0.392	0.027	-	-	0.126	-	-	0.98	0.09
HCM Control Delay (s)	128.7	17.5	8.8	-	-	11.8	-	-	220.9	10.5
HCM Lane LOS	F	C	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	2.1	1.8	0.1	-	-	0.4	-	-	4.7	0.3

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑	
Traffic Vol, veh/h	0	60	0	1287	714	46
Future Vol, veh/h	0	60	0	1287	714	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	65	0	1399	776	50

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 801	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.23	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.319	- -	- -
Pot Cap-1 Maneuver	0 384	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 384	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 384	- -	- -
HCM Lane V/C Ratio	- 0.17	- -	- -
HCM Control Delay (s)	- 16.3	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 0.6	- -	- -

Intersection			
Intersection Delay, s/veh	7.5		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	139	511	37
Demand Flow Rate, veh/h	142	521	38
Vehicles Circulating, veh/h	38	14	469
Vehicles Exiting, veh/h	469	165	66
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.5	8.5	5.8
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	142	521	38
Cap Entry Lane, veh/h	1088	1114	707
Entry HV Adj Factor	0.982	0.980	0.974
Flow Entry, veh/h	139	511	37
Cap Entry, veh/h	1069	1092	688
V/C Ratio	0.131	0.468	0.054
Control Delay, s/veh	4.5	8.5	5.8
LOS	A	A	A
95th %tile Queue, veh	0	3	0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	680	10	145	760	227	35	272	135	233	168	228
Future Volume (vph)	297	680	10	145	760	227	35	272	135	233	168	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		240	250		230	215		133	200		83
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3185	1425	1593	1676	1425	1593	1676	1425	1593	1676	1425
Flt Permitted	0.066			0.329			0.642			0.182		
Satd. Flow (perm)	111	3185	1425	552	1676	1425	1076	1676	1425	305	1676	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			164			164			217
Link Speed (mph)		40			40			40			35	
Link Distance (ft)		917			832			550			2755	
Travel Time (s)		15.6			14.2			9.4			53.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	323	739	11	158	826	247	38	296	147	253	183	248
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	739	11	158	826	247	38	296	147	253	183	248
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

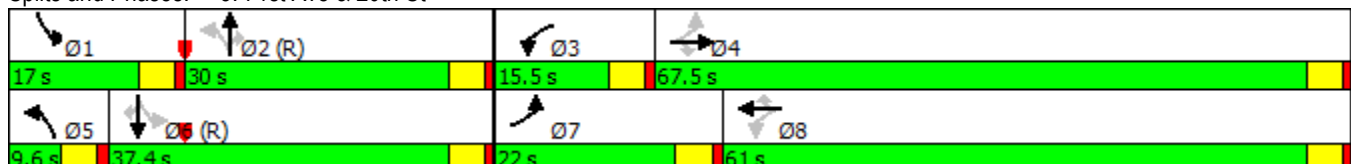
Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	22.0	67.5	67.5	15.5	61.0	61.0	9.6	30.0	30.0	17.0	37.4	37.4
Total Split (%)	16.9%	51.9%	51.9%	11.9%	46.9%	46.9%	7.4%	23.1%	23.1%	13.1%	28.8%	28.8%
Maximum Green (s)	17.5	63.0	63.0	11.0	56.5	56.5	5.1	25.5	25.5	12.5	32.9	32.9
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	78.5	63.9	63.9	66.6	56.5	56.5	30.6	25.5	25.5	42.5	34.8	34.8
Actuated g/C Ratio	0.60	0.49	0.49	0.51	0.43	0.43	0.24	0.20	0.20	0.33	0.27	0.27
v/c Ratio	1.21	0.47	0.01	0.44	1.13	0.35	0.14	0.90	0.36	1.13	0.41	0.46
Control Delay	160.5	23.3	0.0	16.0	111.8	9.6	32.2	81.5	7.3	136.1	43.3	10.6
Queue Delay	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 Delay	160.5	23.3	0.0	16.0	111.8	9.6	32.2	81.5	7.3	136.1	43.3	10.6
LOS	F	C	A	B	F	A	C	F	A	F	D	B
Approach Delay		64.4			79.0			54.9			65.8	
Approach LOS		E			E			D			E	

Intersection Summary

Area Type: CBD
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 68.5
 Intersection LOS: E
 Intersection Capacity Utilization 108.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 3: 71st Ave & 20th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	323	739	11	158	826	247	38	296	147	253	183	248
v/c Ratio	1.21	0.47	0.01	0.44	1.13	0.35	0.14	0.90	0.36	1.13	0.41	0.46
Control Delay	160.5	23.3	0.0	16.0	111.8	9.6	32.2	81.5	7.3	136.1	43.3	10.6
Queue Delay	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 Delay	160.5	23.3	0.0	16.0	111.8	9.6	32.2	81.5	7.3	136.1	43.3	10.6
Queue Length 50th (ft)	~287	214	0	55	~809	41	22	246	0	~184	130	20
Queue Length 95th (ft)	#479	270	0	89	#1057	103	49	#414	45	#361	204	96
Internal Link Dist (ft)		837			752			470			2675	
Turn Bay Length (ft)	240		240	250		230	215		133	200		83
Base Capacity (vph)	266	1564	764	374	728	712	273	328	411	223	449	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.21	0.47	0.01	0.42	1.13	0.35	0.14	0.90	0.36	1.13	0.41	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	680	10	145	760	227	35	272	135	233	168	228
Future Volume (veh/h)	297	680	10	145	760	227	35	272	135	233	168	228
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	323	739	11	158	826	247	38	296	147	253	183	248
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	270	1590	711	389	729	619	250	329	280	229	442	376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.50	0.50	0.07	0.43	0.43	0.03	0.20	0.20	0.10	0.26	0.26
Ln Grp Delay, s/veh	161.4	21.4	16.4	19.0	113.3	25.6	40.3	80.7	53.8	127.4	41.9	50.1
Ln Grp LOS	F	C	B	B	F	C	D	F	D	F	D	D
Approach Vol, veh/h		1073			1231			481			684	
Approach Delay, s/veh		63.5			83.6			69.3			76.5	
Approach LOS		E			F			E			E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	17.0	30.0	13.6	69.4	8.2	38.8	22.0	61.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	12.5	25.5	11.0	63.0	5.1	32.9	17.5	56.5				
Max Allow Headway (MAH), s	3.8	4.6	3.7	4.9	3.7	4.6	3.7	4.9				
Max Q Clear (g_c+I1), s	14.5	24.4	9.1	21.7	4.5	22.2	19.5	58.5				
Green Ext Time (g_e), s	0.0	0.5	0.1	16.7	0.0	3.1	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	0.75	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.20	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1597		1597		1597		1597					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		1676		3185		1676		1676				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1425		1425		1425		1425				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)					

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	253	0	158	0	38	0	323	0
Grp Sat Flow (s), veh/h/ln	1597	0	1597	0	1597	0	1597	0
Q Serve Time (g_s), s	12.5	0.0	7.1	0.0	2.5	0.0	17.5	0.0
Cycle Q Clear Time (g_c), s	12.5	0.0	7.1	0.0	2.5	0.0	17.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	848	0	638	0	858	0	471	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	27.5	0.0	56.5	0.0	25.5	0.0	58.5	0.0
Perm LT Serve Time (g_u), s	3.1	0.0	45.2	0.0	22.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.1	0.0	3.7	0.0	0.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	229	0	389	0	250	0	270	0
V/C Ratio (X)	1.10	0.00	0.41	0.00	0.15	0.00	1.19	0.00
Avail Cap (c_a), veh/h	229	0	413	0	267	0	270	0
Upstream Filter (I)	0.83	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	42.2	0.0	18.3	0.0	40.0	0.0	43.4	0.0
Incr Delay (d2), s/veh	85.2	0.0	0.7	0.0	0.3	0.0	118.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	127.4	0.0	19.0	0.0	40.3	0.0	161.4	0.0
1st-Term Q (Q1), veh/ln	2.7	0.0	3.1	0.0	1.1	0.0	9.7	0.0
2nd-Term Q (Q2), veh/ln	5.4	0.0	0.1	0.0	0.0	0.0	8.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	8.1	0.0	3.1	0.0	1.1	0.0	18.5	0.0
%ile Storage Ratio (RQ%)	1.03	0.00	0.32	0.00	0.13	0.00	1.96	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	6.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	296	0	739	0	183	0	826
Grp Sat Flow (s), veh/h/ln	0	1676	0	1593	0	1676	0	1676
Q Serve Time (g_s), s	0.0	22.4	0.0	19.7	0.0	11.7	0.0	56.5
Cycle Q Clear Time (g_c), s	0.0	22.4	0.0	19.7	0.0	11.7	0.0	56.5
Lane Grp Cap (c), veh/h	0	329	0	1590	0	442	0	729
V/C Ratio (X)	0.00	0.90	0.00	0.46	0.00	0.41	0.00	1.13
Avail Cap (c_a), veh/h	0	329	0	1590	0	442	0	729
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.83	0.00	1.00
Uniform Delay (d1), s/veh	0.0	51.0	0.0	21.2	0.0	39.6	0.0	36.8
Incr Delay (d2), s/veh	0.0	29.7	0.0	0.2	0.0	2.4	0.0	76.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	80.7	0.0	21.4	0.0	41.9	0.0	113.3
1st-Term Q (Q1), veh/ln	0.0	10.4	0.0	8.6	0.0	5.4	0.0	26.1

2nd-Term Q (Q2), veh/ln	0.0	2.7	0.0	0.0	0.0	0.3	0.0	15.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	13.1	0.0	8.7	0.0	5.7	0.0	41.6
%ile Storage Ratio (RQ%)	0.00	0.67	0.00	0.26	0.00	0.05	0.00	1.35
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.3
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	147	0	11	0	248	0	247
Grp Sat Flow (s), veh/h/ln	0	1425	0	1425	0	1425	0	1425
Q Serve Time (g_s), s	0.0	12.0	0.0	0.5	0.0	20.2	0.0	15.4
Cycle Q Clear Time (g_c), s	0.0	12.0	0.0	0.5	0.0	20.2	0.0	15.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	280	0	711	0	376	0	619
V/C Ratio (X)	0.00	0.53	0.00	0.02	0.00	0.66	0.00	0.40
Avail Cap (c_a), veh/h	0	280	0	711	0	376	0	619
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.83	0.00	1.00
Uniform Delay (d1), s/veh	0.0	46.8	0.0	16.4	0.0	42.7	0.0	25.1
Incr Delay (d2), s/veh	0.0	6.9	0.0	0.0	0.0	7.4	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.8	0.0	16.4	0.0	50.1	0.0	25.6
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	0.2	0.0	7.9	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.8	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	0.2	0.0	8.7	0.0	6.1
%ile Storage Ratio (RQ%)	0.00	1.01	0.00	0.02	0.00	2.66	0.00	0.67
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay	74.0							
HCM 2010 LOS	E							

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	680	10	145	760	227	35	272	135	233	168	228
Future Volume (veh/h)	297	680	10	145	760	227	35	272	135	233	168	228
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	323	739	11	158	826	247	38	296	147	253	183	248
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	1590	711	389	729	619	250	329	280	229	442	376
Arrive On Green	0.13	0.50	0.50	0.07	0.43	0.43	0.03	0.20	0.20	0.10	0.26	0.26
Sat Flow, veh/h	1597	3185	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Grp Volume(v), veh/h	323	739	11	158	826	247	38	296	147	253	183	248
Grp Sat Flow(s),veh/h/ln	1597	1593	1425	1597	1676	1425	1597	1676	1425	1597	1676	1425
Q Serve(g_s), s	17.5	19.7	0.5	7.1	56.5	15.4	2.5	22.4	12.0	12.5	11.7	20.2
Cycle Q Clear(g_c), s	17.5	19.7	0.5	7.1	56.5	15.4	2.5	22.4	12.0	12.5	11.7	20.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	1590	711	389	729	619	250	329	280	229	442	376
V/C Ratio(X)	1.19	0.46	0.02	0.41	1.13	0.40	0.15	0.90	0.53	1.10	0.41	0.66
Avail Cap(c_a), veh/h	270	1590	711	413	729	619	267	329	280	229	442	376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	43.4	21.2	16.4	18.3	36.8	25.1	40.0	51.0	46.8	42.2	39.6	42.7
Incr Delay (d2), s/veh	118.0	0.2	0.0	0.7	76.6	0.4	0.3	29.7	6.9	85.2	2.4	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.5	8.7	0.2	3.1	41.6	6.1	1.1	13.1	5.3	11.8	5.7	8.7
LnGrp Delay(d),s/veh	161.4	21.4	16.4	19.0	113.3	25.6	40.3	80.7	53.8	127.4	41.9	50.1
LnGrp LOS	F	C	B	B	F	C	D	F	D	F	D	D
Approach Vol, veh/h	1073				1231				481			
Approach Delay, s/veh	63.5				83.6				69.3			
Approach LOS	E				F				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	30.0	13.6	69.4	8.2	38.8	22.0	61.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	25.5	11.0	63.0	5.1	32.9	17.5	56.5				
Max Q Clear Time (g_c+I1), s	14.5	24.4	9.1	21.7	4.5	22.2	19.5	58.5				
Green Ext Time (p_c), s	0.0	0.5	0.1	16.7	0.0	3.1	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	74.0											
HCM 2010 LOS	E											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	43	144	25	67	49	271	500	35	58	500	132
Future Volume (vph)	150	43	144	25	67	49	271	500	35	58	500	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	60		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.885			0.937			0.990			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1649	0	1770	1745	0	1770	1844	0	1770	1805	0
Flt Permitted	0.672			0.483			0.328			0.390		
Satd. Flow (perm)	1252	1649	0	900	1745	0	611	1844	0	726	1805	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		157			46			9			35	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		560			426			2755			1239	
Travel Time (s)		12.7			9.7			47.0			21.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	47	157	27	73	53	295	543	38	63	543	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	204	0	27	126	0	295	581	0	63	686	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

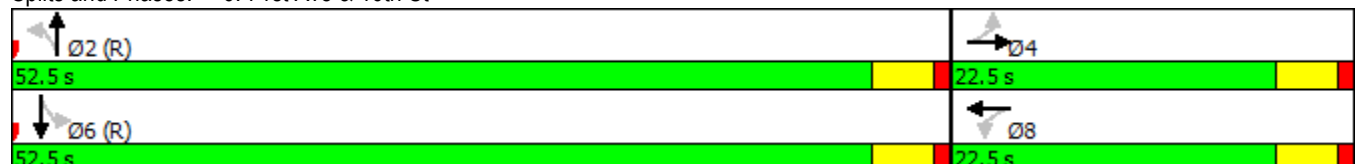
Synchro Report

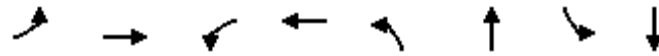
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		52.5	52.5		52.5	52.5	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		48.0	48.0		48.0	48.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	14.1	14.1		14.1	14.1		51.9	51.9		51.9	51.9	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.69	0.69		0.69	0.69	
v/c Ratio	0.69	0.47		0.16	0.34		0.70	0.45		0.13	0.55	
Control Delay	43.3	11.2		25.9	18.9		20.3	7.2		5.6	8.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.3	11.2		25.9	18.9		20.3	7.2		5.6	8.1	
LOS	D	B		C	B		C	A		A	A	
Approach Delay		25.4			20.2			11.6			7.9	
Approach LOS		C			C			B			A	

Intersection Summary

Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: 71st Ave & 16th St





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	163	204	27	126	295	581	63	686
v/c Ratio	0.69	0.47	0.16	0.34	0.70	0.45	0.13	0.55
Control Delay	43.3	11.2	25.9	18.9	20.3	7.2	5.6	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	11.2	25.9	18.9	20.3	7.2	5.6	8.1
Queue Length 50th (ft)	71	18	11	32	71	103	9	128
Queue Length 95th (ft)	127	68	30	72	#243	190	25	241
Internal Link Dist (ft)		480		346		2675		1159
Turn Bay Length (ft)	60		100		100		100	
Base Capacity (vph)	300	515	216	453	422	1277	501	1258
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.40	0.13	0.28	0.70	0.45	0.13	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	43	144	25	67	49	271	500	35	58	500	132
Future Volume (veh/h)	150	43	144	25	67	49	271	500	35	58	500	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	163	47	157	27	73	53	295	543	38	63	543	143
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	297	83	278	225	222	161	434	1135	79	513	938	247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.66	0.66	0.66	0.66	0.66	0.66
Ln Grp Delay, s/veh	32.1	0.0	27.6	30.7	0.0	25.1	22.1	0.0	6.9	10.5	0.0	9.1
Ln Grp LOS	C		C	C		C	C		A	B		A
Approach Vol, veh/h		367			153			876			749	
Approach Delay, s/veh		29.6			26.1			12.0			9.2	
Approach LOS		C			C			B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			54.0		21.0		54.0		21.0			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			48.0		18.0		48.0		18.0			
Max Allow Headway (MAH), s			5.2		5.0		5.2		5.0			
Max Q Clear (g_c+I1), s			44.4		16.0		17.8		11.9			
Green Ext Time (g_e), s			2.8		0.6		13.8		1.4			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.72			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			753		1260		830		1173			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1721		378		1422		1005			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			120		1262		375		729			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment												

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	295	0	163	0	63	0	27
Grp Sat Flow (s), veh/h/ln	0	753	0	1260	0	830	0	1173
Q Serve Time (g_s), s	0.0	26.6	0.0	9.4	0.0	3.1	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	42.4	0.0	14.0	0.0	14.8	0.0	9.9
Perm LT Sat Flow (s_l), veh/h/ln	0	753	0	1260	0	830	0	1173
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	49.5	0.0	16.5	0.0	49.5	0.0	16.5
Perm LT Serve Time (g_u), s	0.0	33.7	0.0	12.0	0.0	37.7	0.0	8.2
Perm LT Q Serve Time (g_ps), s	0.0	26.6	0.0	9.4	0.0	3.1	0.0	1.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	434	0	297	0	513	0	225
V/C Ratio (X)	0.00	0.68	0.00	0.55	0.00	0.12	0.00	0.12
Avail Cap (c_a), veh/h	0	434	0	321	0	513	0	248
Upstream Filter (I)	0.00	0.39	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.7	0.0	30.4	0.0	10.0	0.0	30.4
Incr Delay (d2), s/veh	0.0	3.4	0.0	1.7	0.0	0.5	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.1	0.0	32.1	0.0	10.5	0.0	30.7
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	3.3	0.0	0.7	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.9	0.0	3.4	0.0	0.8	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	1.50	0.00	1.44	0.00	0.20	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	581	0	204	0	686	0	126
Grp Sat Flow (s), veh/h/ln	0	1841	0	1640	0	1797	0	1734
Q Serve Time (g_s), s	0.0	11.8	0.0	8.3	0.0	15.8	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	11.8	0.0	8.3	0.0	15.8	0.0	4.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.77	0.00	0.21	0.00	0.42
Lane Grp Cap (c), veh/h	0	1214	0	362	0	1185	0	382
V/C Ratio (X)	0.00	0.48	0.00	0.56	0.00	0.58	0.00	0.33
Avail Cap (c_a), veh/h	0	1214	0	394	0	1185	0	416
Upstream Filter (I)	0.00	0.39	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.4	0.0	26.0	0.0	7.0	0.0	24.6
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.6	0.0	2.1	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.9	0.0	27.6	0.0	9.1	0.0	25.1
1st-Term Q (Q1), veh/ln	0.0	5.8	0.0	3.7	0.0	7.6	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.7	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.0	0.0	3.9	0.0	8.3	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.21	0.00	0.18	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	43	144	25	67	49	271	500	35	58	500	132
Future Volume (veh/h)	150	43	144	25	67	49	271	500	35	58	500	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	163	47	157	27	73	53	295	543	38	63	543	143
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	83	278	225	222	161	434	1135	79	513	938	247
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1260	378	1262	1173	1005	729	753	1721	120	830	1422	375
Grp Volume(v), veh/h	163	0	204	27	0	126	295	0	581	63	0	686
Grp Sat Flow(s),veh/h/ln	1260	0	1640	1173	0	1734	753	0	1841	830	0	1797
Q Serve(g_s), s	9.4	0.0	8.3	1.6	0.0	4.6	26.6	0.0	11.8	3.1	0.0	15.8
Cycle Q Clear(g_c), s	14.0	0.0	8.3	9.9	0.0	4.6	42.4	0.0	11.8	14.8	0.0	15.8
Prop In Lane	1.00		0.77	1.00		0.42	1.00		0.07	1.00		0.21
Lane Grp Cap(c), veh/h	297	0	362	225	0	382	434	0	1214	513	0	1185
V/C Ratio(X)	0.55	0.00	0.56	0.12	0.00	0.33	0.68	0.00	0.48	0.12	0.00	0.58
Avail Cap(c_a), veh/h	321	0	394	248	0	416	434	0	1214	513	0	1185
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.39	0.00	0.39	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	26.0	30.4	0.0	24.6	18.7	0.0	6.4	10.0	0.0	7.0
Incr Delay (d2), s/veh	1.7	0.0	1.6	0.2	0.0	0.5	3.4	0.0	0.5	0.5	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	3.9	0.5	0.0	2.3	5.9	0.0	6.0	0.8	0.0	8.3
LnGrp Delay(d),s/veh	32.1	0.0	27.6	30.7	0.0	25.1	22.1	0.0	6.9	10.5	0.0	9.1
LnGrp LOS	C		C	C		C	C		A	B		A
Approach Vol, veh/h	367			153			876			749		
Approach Delay, s/veh	29.6			26.1			12.0			9.2		
Approach LOS	C			C			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	54.0		21.0		54.0		21.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	48.0		18.0		48.0		18.0					
Max Q Clear Time (g_c+l1), s	44.4		16.0		17.8		11.9					
Green Ext Time (p_c), s	2.8		0.6		13.8		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay	15.0											
HCM 2010 LOS	B											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	759	40	96	836	59	21	0	75	32	0	37
Future Volume (vph)	58	759	40	96	836	59	21	0	75	32	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		150	120		160	85		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1583	0	1770	1583	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		638			917			299			646	
Travel Time (s)		14.5			20.8			8.2			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	825	43	104	909	64	23	0	82	35	0	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	825	43	104	909	64	23	82	0	35	40	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	1584	317	292	1332	85	399	261	279	134	212	176
Future Volume (vph)	106	1584	317	292	1332	85	399	261	279	134	212	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	510		350	580		580	230		160	290		190
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.072			0.067			0.209			0.581		
Satd. Flow (perm)	134	3539	1583	125	3539	1583	389	3539	1583	1082	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			275			126			202			164
Link Speed (mph)		55			55			40			40	
Link Distance (ft)		1117			1382			1586			546	
Travel Time (s)		13.8			17.1			27.0			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	113	1685	337	311	1417	90	424	278	297	143	226	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	1685	337	311	1417	90	424	278	297	143	226	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
 Sean Kellar, PE, PTOE

Synchro Report

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	13.2	60.0	60.0	20.0	66.8	66.8	26.0	36.8	36.8	13.2	24.0	24.0
Total Split (%)	10.2%	46.2%	46.2%	15.4%	51.4%	51.4%	20.0%	28.3%	28.3%	10.2%	18.5%	18.5%
Maximum Green (s)	8.7	55.5	55.5	15.5	62.3	62.3	21.5	32.3	32.3	8.7	19.5	19.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	63.8	55.5	55.5	75.5	62.7	62.7	45.5	32.3	32.3	28.2	19.5	19.5
Actuated g/C Ratio	0.49	0.43	0.43	0.58	0.48	0.48	0.35	0.25	0.25	0.22	0.15	0.15
v/c Ratio	0.67	1.12	0.40	1.16	0.83	0.11	1.16	0.32	0.54	0.51	0.81	0.50
Control Delay	42.3	97.3	6.7	140.3	34.5	1.4	133.5	41.0	17.7	39.8	75.8	15.3
Queue Delay	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 Delay	42.3	97.3	6.7	140.3	34.5	1.4	133.5	41.0	17.7	39.8	75.8	15.3
LOS	D	F	A	F	C	A	F	D	B	D	E	B
Approach Delay		80.1			50.9			73.3			46.2	
Approach LOS		F			D			E			D	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 65.8

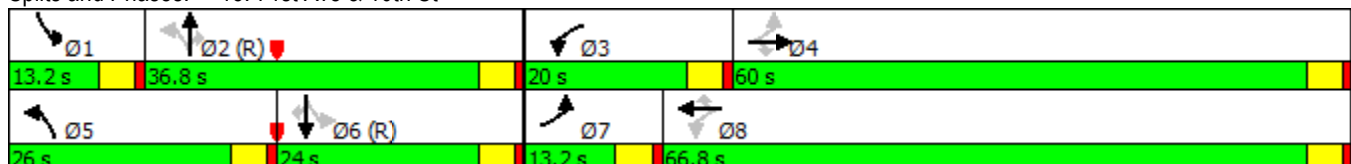
Intersection LOS: E

Intersection Capacity Utilization 108.2%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 13: 71st Ave & 10th St



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	1685	337	311	1417	90	424	278	297	143	226	187
v/c Ratio	0.67	1.12	0.40	1.16	0.83	0.11	1.16	0.32	0.54	0.51	0.81	0.50
Control Delay	42.3	97.3	6.7	140.3	34.5	1.4	133.5	41.0	17.7	39.8	75.8	15.3
Queue Delay	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 Delay	42.3	97.3	6.7	140.3	34.5	1.4	133.5	41.0	17.7	39.8	75.8	15.3
Queue Length 50th (ft)	41	~856	31	~258	533	0	~360	101	64	85	187	17
Queue Length 95th (ft)	#119	#995	98	#449	636	13	#570	142	159	139	#316	89
Internal Link Dist (ft)		1037			1302			1506			466	
Turn Bay Length (ft)	510		350	580		580	230		160	290		190
Base Capacity (vph)	175	1510	833	268	1707	829	364	880	545	280	279	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	1.12	0.40	1.16	0.83	0.11	1.16	0.32	0.54	0.51	0.81	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1584	317	292	1332	85	399	261	279	134	212	176
Future Volume (veh/h)	106	1584	317	292	1332	85	399	261	279	134	212	176
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	1685	337	311	1417	90	424	278	297	143	226	187
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	200	1511	676	267	1755	785	380	879	393	299	279	237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.43	0.43	0.12	0.50	0.50	0.17	0.25	0.25	0.07	0.15	0.15
Ln Grp Delay, s/veh	28.4	98.8	27.7	151.1	30.5	17.6	120.9	40.8	57.8	44.5	75.2	75.9
Ln Grp LOS	C	F	C	F	C	B	F	D	E	D	E	E
Approach Vol, veh/h		2135			1818			999			556	
Approach Delay, s/veh		83.8			50.5			79.8			67.6	
Approach LOS		F			D			E			E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		13.2	36.8	20.0	60.0	26.0	24.0	11.1	68.9			
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Max Green (Gmax), s		8.7	32.3	15.5	55.5	21.5	19.5	8.7	62.3			
Max Allow Headway (MAH), s		3.7	4.5	3.6	4.6	3.7	4.5	3.6	4.6			
Max Q Clear (g_c+I1), s		10.7	24.6	17.5	57.5	23.5	17.3	6.6	45.8			
Green Ext Time (g_e), s		0.0	2.9	0.0	0.0	0.0	1.1	0.0	15.3			
Prob of Phs Call (p_c)		0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.92			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1774		1774		1774		1774				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3539		3539		1863		3539			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1583		1583		1583		1583			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)				

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	143	0	311	0	424	0	113	0
Grp Sat Flow (s), veh/h/ln	1774	0	1774	0	1774	0	1774	0
Q Serve Time (g_s), s	8.7	0.0	15.5	0.0	21.5	0.0	4.6	0.0
Cycle Q Clear Time (g_c), s	8.7	0.0	15.5	0.0	21.5	0.0	4.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	835	0	210	0	969	0	346	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.5	0.0	57.5	0.0	21.5	0.0	55.5	0.0
Perm LT Serve Time (g_u), s	19.5	0.0	0.0	0.0	4.2	0.0	20.7	0.0
Perm LT Q Serve Time (g_ps), s	0.5	0.0	0.0	0.0	4.2	0.0	16.9	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	299	0	267	0	380	0	200	0
V/C Ratio (X)	0.48	0.00	1.17	0.00	1.11	0.00	0.57	0.00
Avail Cap (c_a), veh/h	299	0	267	0	380	0	229	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	43.4	0.0	43.8	0.0	39.9	0.0	25.9	0.0
Incr Delay (d2), s/veh	1.2	0.0	107.3	0.0	80.9	0.0	2.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.5	0.0	151.1	0.0	120.9	0.0	28.4	0.0
1st-Term Q (Q1), veh/ln	0.1	0.0	9.6	0.0	3.1	0.0	2.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	8.0	0.0	8.5	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	17.5	0.0	11.6	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.77	0.00	1.29	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	11.0	0.0	10.9	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	1	0	2
Grp Vol (v), veh/h	0	278	0	1685	0	226	0	1417
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	0	1863	0	1770
Q Serve Time (g_s), s	0.0	8.3	0.0	55.5	0.0	15.3	0.0	43.8
Cycle Q Clear Time (g_c), s	0.0	8.3	0.0	55.5	0.0	15.3	0.0	43.8
Lane Grp Cap (c), veh/h	0	879	0	1511	0	279	0	1755
V/C Ratio (X)	0.00	0.32	0.00	1.12	0.00	0.81	0.00	0.81
Avail Cap (c_a), veh/h	0	879	0	1511	0	279	0	1755
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.8	0.0	37.3	0.0	53.4	0.0	27.6
Incr Delay (d2), s/veh	0.0	0.9	0.0	61.5	0.0	21.8	0.0	2.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.8	0.0	98.8	0.0	75.2	0.0	30.5
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	27.1	0.0	7.8	0.0	21.3

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	12.9	0.0	1.7	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	40.0	0.0	9.5	0.0	22.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.95	0.00	0.50	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	43.5	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

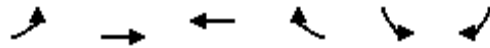
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	297	0	337	0	187	0	90
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	22.6	0.0	20.1	0.0	14.8	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	22.6	0.0	20.1	0.0	14.8	0.0	4.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	393	0	676	0	237	0	785
V/C Ratio (X)	0.00	0.75	0.00	0.50	0.00	0.79	0.00	0.11
Avail Cap (c_a), veh/h	0	393	0	676	0	237	0	785
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.2	0.0	27.1	0.0	53.3	0.0	17.5
Incr Delay (d2), s/veh	0.0	12.6	0.0	0.6	0.0	22.7	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	57.8	0.0	27.7	0.0	75.9	0.0	17.6
1st-Term Q (Q1), veh/ln	0.0	9.9	0.0	8.8	0.0	6.5	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	1.4	0.0	0.1	0.0	1.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	11.3	0.0	8.9	0.0	8.0	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	1.79	0.00	0.64	0.00	1.06	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	70.5
HCM 2010 LOS	E

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1584	317	292	1332	85	399	261	279	134	212	176
Future Volume (veh/h)	106	1584	317	292	1332	85	399	261	279	134	212	176
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	1685	337	311	1417	90	424	278	297	143	226	187
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	1511	676	267	1755	785	380	879	393	299	279	237
Arrive On Green	0.05	0.43	0.43	0.12	0.50	0.50	0.17	0.25	0.25	0.07	0.15	0.15
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	113	1685	337	311	1417	90	424	278	297	143	226	187
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	4.6	55.5	20.1	15.5	43.8	4.0	21.5	8.3	22.6	8.7	15.3	14.8
Cycle Q Clear(g_c), s	4.6	55.5	20.1	15.5	43.8	4.0	21.5	8.3	22.6	8.7	15.3	14.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	200	1511	676	267	1755	785	380	879	393	299	279	237
V/C Ratio(X)	0.57	1.12	0.50	1.17	0.81	0.11	1.11	0.32	0.75	0.48	0.81	0.79
Avail Cap(c_a), veh/h	229	1511	676	267	1755	785	380	879	393	299	279	237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	37.3	27.1	43.8	27.6	17.5	39.9	39.8	45.2	43.4	53.4	53.3
Incr Delay (d2), s/veh	2.5	61.5	0.6	107.3	2.9	0.1	80.9	0.9	12.6	1.2	21.8	22.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	40.0	8.9	17.5	22.0	1.7	11.6	4.2	11.3	0.2	9.5	8.0
LnGrp Delay(d),s/veh	28.4	98.8	27.7	151.1	30.5	17.6	120.9	40.8	57.8	44.5	75.2	75.9
LnGrp LOS	C	F	C	F	C	B	F	D	E	D	E	E
Approach Vol, veh/h	2135				1818				999		556	
Approach Delay, s/veh	83.8				50.5				79.8		67.6	
Approach LOS	F				D				E		E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	36.8	20.0	60.0	26.0	24.0	11.1	68.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.7	32.3	15.5	55.5	21.5	19.5	8.7	62.3				
Max Q Clear Time (g_c+I1), s	10.7	24.6	17.5	57.5	23.5	17.3	6.6	45.8				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	0.0	1.1	0.0	15.3				
Intersection Summary												
HCM 2010 Ctrl Delay	70.5											
HCM 2010 LOS	E											

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	45	0	939	1729	132
Future Volume (vph)	0	45	0	939	1729	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.865			0.990	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	1844	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	1844	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	340			1239	1586	
Travel Time (s)	9.3			28.2	36.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	49	0	1021	1879	143
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	49	0	1021	2022	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	109.0%			ICU Level of Service H		
Analysis Period (min)	15					



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Volume (vph)	13	115	423	47	34	0
Future Volume (vph)	13	115	423	47	34	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.987			
Flt Protected		0.995			0.950	
Satd. Flow (prot)	0	1853	1839	0	1770	0
Flt Permitted		0.995			0.950	
Satd. Flow (perm)	0	1853	1839	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		531	560		497	
Travel Time (s)		12.1	12.7		11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	125	460	51	37	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	139	511	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Yield	Yield		Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	35.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	759	40	96	836	59	21	0	75	32	0	37
Future Vol, veh/h	58	759	40	96	836	59	21	0	75	32	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	150	120	-	160	85	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	825	43	104	909	64	23	0	82	35	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	973	0	0	868	0	0	1614	2132	413	1656	2111	455
Stage 1	-	-	-	-	-	-	951	951	-	1117	1117	-
Stage 2	-	-	-	-	-	-	663	1181	-	539	994	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	704	-	-	772	-	-	69	49	588	64	50	552
Stage 1	-	-	-	-	-	-	279	336	-	221	281	-
Stage 2	-	-	-	-	-	-	417	262	-	494	321	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	704	-	-	772	-	-	54	39	588	46	39	552
Mov Cap-2 Maneuver	-	-	-	-	-	-	54	39	-	46	39	-
Stage 1	-	-	-	-	-	-	254	306	-	201	243	-
Stage 2	-	-	-	-	-	-	335	227	-	387	292	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	34.3	99.5
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	54	588	704	-	-	772	-	-	46	552
HCM Lane V/C Ratio	0.423	0.139	0.09	-	-	0.135	-	-	0.756	0.073
HCM Control Delay (s)	113.7	12.1	10.6	-	-	10.4	-	-	200.6	12
HCM Lane LOS	F	B	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.6	0.5	0.3	-	-	0.5	-	-	3	0.2

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗	
Traffic Vol, veh/h	0	45	0	939	1729	132
Future Vol, veh/h	0	45	0	939	1729	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	49	0	1021	1879	143
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	- 1951	-	0	-	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	- 6.23	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	- 3.319	-	-	-	-	-
Pot Cap-1 Maneuver	0 80	0	-	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	- 80	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	104.1	0	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	80	-	-		
HCM Lane V/C Ratio	-	0.611	-	-		
HCM Control Delay (s)	-	104.1	-	-		
HCM Lane LOS	-	F	-	-		
HCM 95th %tile Q(veh)	-	2.8	-	-		

Sean Kellar, PE, PTOE

Principal Engineer

Education

B.S., Civil Engineering, Arizona State University – Tempe, AZ

Registration

Colorado, Professional Engineer (PE)
Wyoming, Professional Engineer (PE)
Idaho, Professional Engineer (PE)
Arizona, Professional Engineer (PE)
Kansas, Professional Engineer (PE)
Missouri, Professional Engineer (PE)
Professional Traffic Operations Engineer (PTOE)

Professional Memberships

Institute of Transportation Engineers (ITE)

Industry Tenure

23 Years

Sean's wide range of expertise includes: transportation planning, traffic modeling roadway design, bike and pedestrian facilities, traffic impact studies, traffic signal warrant analysis, parking studies, corridor planning and access management. Sean's experience in both the private and public sectors; passion for safety and excellence; and strong communication and collaboration skills can bring great value to any project. Prior to starting Kellar Engineering, Sean was employed at the Missouri Department of Transportation (MoDOT) as the District Traffic Engineer for the Kansas City District. Sean also worked for the City of Loveland, CO for over 10 years as a Senior Civil Engineer supervising a division of transportation/traffic engineers. While at the City of Loveland, Sean managed several capital improvement projects, presented several projects to the City Council and Planning Commission in public hearings, and managed the revisions to the City's Street Standards. Sean is also proficient in Highway Capacity Software, Synchro, PT Vissim, Rodel, GIS, and AutoCAD.



WORK EXPERIENCE:

Kellar Engineering, Principal Engineer/President – January 2016 – Present

Missouri Department of Transportation, District Traffic Engineer, Kansas City District – June 2015 – January 2016

City of Loveland, Colorado, Senior Civil Engineer, Public Works Department – February 2005 – June 2015

Kirkham Michael Consulting Engineers, Project Manager - February 2004 – February 2005

Dibble and Associates Consulting Engineers, Project Engineer – August 1999 – February 2004

Michael Franke

From: Deb Contreras <debcon57@gmail.com>
Sent: Friday, October 13, 2023 8:52 AM
To: Michael Franke
Subject: Triple Creek PUD

You don't often get email from debcon57@gmail.com. [Learn why this is important](#)

Hello, my name is Rudolf Daudert and I live at 7111 W. 12th St. I received the info about this PUD and just wanted to state I am not in agreement with it.

We live just off of 71st Ave and we can hardly get out of our subdivision now. We call it 71st Ave Raceway with all the speeders on the street.

A PUD will only add to this situation and it will be even more dangerous with more traffic in this area. Greeley traffic is becoming heavier and with the increased building of multifamily homes and commercial buildings it is only going to get worse.

I am not for this PUD and I am letting you know by email to go on record.

Sincerely

Rudolf Daudert

Michael Franke

From: Dianne Allen <dianne.r.allen@gmail.com>
Sent: Tuesday, October 17, 2023 1:12 PM
To: Michael Franke
Subject: Triple Creek Development, Case Number: PUD2023-0002

You don't often get email from dianne.r.allen@gmail.com. [Learn why this is important](#)

Dear Mr. Franke,

We are writing to respectfully disagree with the scope of the development proposed west of 71st Avenue. 71st Avenue is such a highly traveled area that the additional traffic this project will bring will be detrimental to the area. It is already difficult to turn left onto 71st during certain times of the day, and with only two ways out of the Knaus subdivision, this will exacerbate an already difficult situation. Our area is plagued by traffic noise from the north and east as well. This will make it much worse.

The idea of additional park space is appealing, though, because the area around the Sheep Draw Trail has an abundance of wildlife. These animals would have their habitats destroyed by additional development of the area, so it should remain as natural as possible.

Thank you so much for taking these concerns into consideration before attempting this project.

Sincerely,

Dan and Dianne Allen
7110 W 11th Street Pl
Greeley, CO 80634

Michael Franke

From: rebern@comcast.net
Sent: Saturday, October 14, 2023 2:43 PM
To: Michael Franke
Subject: Planned Unit development

You don't often get email from rebern@comcast.net. [Learn why this is important](#)

PLEASE! No multi-family in this new area west of 71st. ave. It's bad enough more building going on in Greeley, too bad you don't consider the citizens already living here. Now you want to stack everyone on top of each other. I know, you don't care, you don't live here.

Comments for consideration case# PUD2023-0002

To whom this may concern,

We should all be concerned about the amount of affordable housing that is available, but we also need to be concerned about the amount of open space we are taking away from the natural areas. The city of Greeley cannot boast about keeping Greeley's natural areas and keeping the ecosystems intact if they go ahead with this project. I have yet to see any road impact studies on this area let alone any ecosystems studies. Last year when we took our Webelos scouts on their walkabout hike, we used the trail around the natural area in question. If there had been any more housing near the trail, it would have taken away from their experience. Some of the kids' families cannot afford to take them to the mountains to hike, so knowing we have something close that we can utilize is precious to all of us.

Let's also get into the same discussion for road congestion already along 71st avenue because there are so many schools that already rely on 71st avenue. Back in 2018 when the roads were being worked on for the bridge on 71st avenue, it was bad enough then to have 4 lanes instead of 2 lanes. The last impact study done by the city of Greeley was back in 2019 of 71st avenue, which was site ID #115 which spanned from 10th street to 20th street and in that time, they found that 8,400 cars used that span of road every day. That study was done 5 years ago, we should at least get a new study done to show where the traffic level is now. The area in question, you would have to add in additional stress to the already congested roads not to mention the people who live in the 2 houses west of 71st avenue and west 16th street will have an issue with getting in and out from their homes making it a huge inconvenience.

There is also a crosswalk on 71st avenue and west 12th street that no one stops for. Adding in additional traffic will halt families from being able to use the natural areas east of 71st avenue.

There is also a water issue that will heavily impact this area if it were to be constructed on. I have yet to see a new study done by an engineer and from FEMA to show where water will drain properly and where the flooding waters that currently market this area are going to go. The flood maps show drainage to where the project in question will be started. I realize that they can levy the issue, but the runoff from the already established houses must go somewhere. So, if this project were to go ahead, this neighborhood would be a nightmare for anyone living around it and we will end up wasting even more taxpayer money on fixing roads and water drainage.

Thank you, Laura Walker

City of Greeley, Colorado
PLANNING COMMISSION PROCEEDINGS
October 24, 2023

Video Recording of the Meeting can be found at:

<https://www.youtube.com/live/Jz55Uyf6gmA?si=umolqwUAVGmSdzjS>

1. Call to Order

Vice Chair Briscoe called the meeting to order at 1:15 PM.

2. Roll Call

The hearing clerk called the roll.

PRESENT

Commissioner Louisa Andersen
Commissioner Erik Briscoe
Commissioner Jeff Carlson
Commissioner Brian Franzen
Commissioner Christian Schulte

ABSENT

Chair Justin Yeater
Commissioner Larry Modlin

3. Approval of Agenda

Brian McBroom, Community Development Director asked the Commission to consider adding one recommended change to the agenda, adding a new "item 7", for the Commission to consider a request from staff to cancel the November 14, 2023, Planning Commission meeting.

Seeing no objection from the Commission, the agenda was approved as amended.

4. Approval of October 10, 2023, Planning Commission Minutes.

Commissioner Franzen moved to approve the minutes dated October 10, 2023. Commissioner Andersen seconded the motion.

Motion carried 5-0.

5. A public hearing to consider a Planned Unit Development request for commercial, mixed use, multi-family, single-family, and parks on approximately 72.5 acres of land located west of 71st. Avenue, 1/3 mile south of 10th Street, and 1/4 mile north of 20th Street (Case Number PUD2023-0002, Triple Creek PUD).

Vice-Chair Briscoe asked if anyone on the Commission or in the audience would like to see a presentation on the item. Members of the audience requested to see the presentation.

Michael Franke, Planner II began the presentation, introducing the item and providing background information on the site as well as the current Zoning and Land Uses surrounding the site. Continuing his presentation by sharing maps from the PUD, that show the 4 Planning Areas that are proposed.

Mr. Franke stated that the proposal was reviewed against the approval criteria of Section 24-204(b) (Rezone) and Section 24-205(c) (PUD). The proposal is consistent with the criteria as outlined in the summary. Proper noticing requirements were met including, 440 notice letters were sent to property owners and tenants within 1,000' of the subject site, two signs were posted on the property for notice of this public hearing and a web notice was posted to the city of Greeley's website. Staff have received 4 emails expressing concerns about the application. 3 emails regarding traffic impacts on 71st Avenue and 1 email concerning multifamily development. Details can be found in the attached part of the report you received.

Staff finds that the proposal complies with Section 24-204(b) and Section 24-205(c) of the Development Code and recommends approval. Mr. Franke concluded his presentation and offered to answer any questions the Commission had.

Commissioner Carlson verified that the existing zoning on the site is R-L (Residential Low-Density), Mr. Franke confirmed. Commissioner Carlson asked if Mr. Franke knew what the time for the oil and gas development on the site. Mr. Franke did not know the exact timeframe but did know it was in years to come.

Vice Chair Briscoe stated that if the applicant was in attendance and wished to speak, they could do so at this time.

The applicant Adam Fraiser from Richmark came to the podium to share a presentation. Mr. Fraiser began by sharing his firm's history on this project. He shared the goals of the PUD as well as conceptual plans for the proposed development and included that 18% of the development is dedicated to parks and includes trail connections, parks and open space in addition to streets and roadways designed to create a sense of community. Mr. Fraiser concluded his presentation, letting the Commission know that he and his team were available to answer any questions that the Commission may have for him.

Commissioner Andersen asked if the parking spaces shown in the deviation (on required parking spaces for multi-family uses) that Mr. Fraiser shared were a minor or a major deviation. Mr. Fraiser responded by sharing examples of the same deviation that has been used in other projects in Greeley, and that it has not been an issue. Discussion regarding parking in relation to both residential and commercial uses continued between Mr. Fraiser and the Commission including where the parking sections are in the PUD document.

Commissioner Carlson asked about the daily trips that will be generated (reported in the traffic impact study) and asked how the amount of increased traffic will be handled on 71st Avenue. Mr. Fraiser shared that his team used conservative numbers for the study and asked Sean Keller of Keller Engineering (Traffic Engineering Consultant) to answer this question more in detail and he explained different roadway classifications as well as how the levels of service are determined based on the daily traffic counts for each intersection. Discussion continued between Mr. Fraiser and the Commission regarding the access points for the development.

With no additional questions for staff, Vice-Chair Briscoe opened the Public Hearing at 1:49 p.m.

Mary Lynn Thompson, 7413 18th Street, Greeley. She shared that her home is directly south of the proposed project. She would like to compliment the developer; it is a beautiful plan, and she does see a lot of positive things there. She shared that the notice for this meeting was the first notification they received, and they would like to have a Neighborhood Meeting. She has a lot of concerns regarding traffic.

Bob Kiphart 7619 West 19th Street and owns a property at 1102 76th Avenue. He has properties on each side of the proposed development. He is a board member of the Mountain Vista HOA. He does have some traffic concerns and he would like to have the developer meet with the HOA board to be able to relay information to the residents and work out any potential issues.

Shawna Brown, 1731 71st Avenue. Her house is the big house where 16th Street will go through their property and this project probably impacts her household much more than most. They are all for this development, she understands that may upset many of her neighbors, but this development probably affects them more than most. She just wanted to share her point of view as someone who is directly impacted and is in support of the development.

Vice-Chair Briscoe Closed the Public Hearing at 1:57 p.m. and asked staff to return to the podium to answer a few questions that were raised in the Public Hearing. Mr. Franke returned to the podium. Brief discussion was had regarding how it is determined if a Neighborhood meeting is needed for a proposed project.

Without further discussion or questions of staff, Vice-Chair Briscoe asked for a motion from the Commission.

Commissioner Andersen moved, based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval. Commissioner Franzen seconded the motion.

Motion Carried 5-0.

6. A public hearing to consider a request for approval of a preliminary subdivision of 9.99 acres of land into two (2) mixed use lots and dedication of right-of-way located at the northwest corner of Centerplace Drive and 38th Avenue (Case Number SUB2023-0012, Greeley West Mixed Use Subdivision).

Vice-Chair asked the Commission and audience if anyone would like to hear the presentation. Seeing no one and with no questions for staff, he opened the Public Hearing at 2:02 p.m.

Seeing no one to speak, Vice-Chair Briscoe Closed the Public Hearing at 2:02 p.m.

Commissioner Carlson moved, based on the application received and the preceding analysis, the Planning Commission finds that the preliminary subdivision is in compliance with Section 24-203(b)(1) of the Development Code and therefore approves the subdivision. Commissioner Franzen seconded the motion.

With no further discussion, Vice-Chair Briscoe called for the vote.

Motion Carried 5-0.

7. (Added Item) Request to the Commission by staff to cancel the November 14, 2023, Planning Commission meeting.

Commissioner Franzen moved to approve cancellation of the November 14, 2023, regular meeting of the Planning Commission. Commissioner Schulte seconded the motion.

Motion Carried 5-0.

8. Staff Report

Brian McBroom, Community Development Director introduced new staff members to the Commission. Margret Chiniquy is new a new Administrative Specialist and Max Meyer is the new Community Development Intern.

9. Adjournment

With no further business before the Commission, Vice-Chair Briscoe adjourned the meeting at 2:06 PM.

Justin Yeater, Chair

Don Threewitt, Interim Deputy Community Development Director



Council Agenda Summary

December 5, 2023

Key Staff Contact: Heidi Leatherwood, City Clerk, Sarah Jacobsen, Deputy City Clerk

Title:

Introduction and first reading of an ordinance reauthorizing the Human Relations Commission, Judicial Review Board, the Museum Board and the Parks and Recreation Advisory Board for a period of three years

Summary:

Each year, boards/commissions are scheduled to be reviewed by the Council to determine if their primary purpose has been fulfilled and if they should be reauthorized to continue serving in this selected capacity. This option to review boards and commissions was made by charter amendment from the registered electors of the City of Greeley back in 2001. Since then, a schedule was created to review the various boards.

During the last few years, there has not been a process for reviewing selected boards and commissions.

In response, the City Clerk's department created a questionnaire to be completed and a preliminary process for each board to report back on their impact on the community, meeting of their goals, and if they participated/sponsored any engagement events.

At the November 28 Work Session, Council reviewed the following boards.

- Human Relations Commission,
- Judicial Review Board,
- Museum Board, and
- Parks and Recreation Advisory Board.

The City Charter §2-8 states that, "Any Board or Commission not specifically created by this Charter shall be subject to periodic review by the Council every three (3) years after the date of its creation. After review, the Council may reauthorize the Board or Commission's authority or allow the Board or Commission to lapse by a majority vote of the entire Council. In accordance with this provision and past practice, this item proposes the reauthorization of the following boards to continue for a period of three years."

In 2024, the following boards will be reviewed:

- Construction Trades Advisory & Appeals Board,
- Greeley Art Commission,
- Greeley/Weld Housing Authority,
- Union Colony Civic Center, and
- Zoning Board of Appeals.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	No

Legal Issues:

Consideration of this matter is a legislative process which includes the following public hearing steps:

- 1) City staff presentation (if requested)
- 2) Council questions of staff
- 3) Public input (hearing opened, testimony - up to three minutes per person, hearing closed)
- 4) Council discussion
- 5) Council decision

Other issues and Considerations:

Strategic Focus Area:



Business Growth



Community Vitality



High-Performance Government



Housing For All



Infrastructure and Mobility



Quality of Life



Safe and Secure Communities

Decision Options:

- 1) Introduce the ordinance as presented; or
- 2) Amend the ordinance and introduce as amended; or
- 3) Deny the ordinance; or
- 4) Continue consideration of the ordinance to a date certain.

Council's Recommended Action:

A motion to introduce the ordinance and schedule the public hearing and second reading for December 19, 2023.

Attachments:

1. Ord 56, 2023

CITY OF GREELEY, COLORADO
ORDINANCE NO. 56, 2023

**AN ORDINANCE REAUTHORIZING THE HUMAN RELATIONS COMMISSION, JUDICIAL
REVIEW BOARD, THE MUSEUM BOARD AND THE PARKS AND RECREATION
ADVISORY BOARD FOR THREE YEARS**

WHEREAS, in November 2001, Greeley voters approved an amendment to the Home Rule Charter, in Section 2-8 Appointive Boards and Commissions, to require that City Council review its advisory groups every three years to determine whether the board or commission continues to serve the purpose for which it was created and decide whether or not to authorize its continuance; and

WHEREAS, Ordinance No. 59, 2002, was adopted by City Council October 15, 2002, to implement this Charter amendment and thereby created a triennial review schedule for appointive boards and commissions; and

WHEREAS, the following boards were reviewed by the City Council at the November 28, 2023 Work Session and consensus was given that the boards provided information and data showing that they should continue to serve the purpose for which they were created; and

**NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF GREELEY,
COLORADO:**

Section 1. The following groups are hereby re-authorized for a period of three years from January 1, 2024, to expire December 31, 2026:

- 1) Human Relations Commission
- 2) Judicial Review Board
- 3) Museum Board
- 4) Parks and Recreation Advisory Board

Section 2. This ordinance shall become effective five days after its final publication as provided by the Greeley City Charter.

PASSED AND ADOPTED, SIGNED AND APPROVED ON THIS ____ DAY OF _____, 20__.

ATTEST

THE CITY OF GREELEY, COLORADO

By: _____
City Clerk

By: _____
Mayor



Council Agenda Summary

Title:

Pulled Consent Agenda Items

Summary:

Pulled Consent Agenda items will be considered in the order they appeared on the consent agenda.



Council Agenda Summary

December 5, 2023

Key Staff Contact: Brian McBroom, Community Development Director, Michael Franke, Planning Technician

Title:

Public hearing and second reading of an ordinance changing the official zoning map of the City of Greeley, Colorado from HA - Holding Agriculture to RE - Residential Estate zoning changing the underlying land use designations for approximately 11.2 acres of property located on the parcel located east of North 47th Avenue and north of O Street, addressed 2118 North 47th Avenue

Summary:

The City Council is considering an ordinance changing the official zoning map of the City of Greeley, Colorado to rezone 11.2 acres of land located at 2118 North 47th Avenue from Holding Agriculture (H-A) to Residential Estate (R-E) zoning. Rezoning the property from H-A to R-E will allow for greater development options and use of the land. The property owner desires to construct a new single family home for their family on the property and subdivide the current property into two lots. The rezone is necessary because the current H-A zoning only allows land to be subdivided if the new lots will result in an area of 40 or more acres.

The project did meet the public notice requirements set in the Development Code. Using a 1,000' buffer, mailed notices were sent to property owners and current residents on September 8, 2023. A total of 24 notice letters were mailed out. Signs for notice of public hearing have been posted at the subject site on September 11, 2023. A notice was also posted to the City of Greeley website for notice of a public hearing for the project. No opposition/support was received from the public regarding the rezone.

On September 26, 2023, at a public hearing, the Planning Commission unanimously voted to recommend approval to City Council.

The City Council is tasked with making a motion on the ordinance. The recommended motion for City Council is to adopt the ordinance and publish it with reference to title only.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	NA

Legal Issues:

Consideration of this matter is a quasi-judicial process which includes the following public hearing steps:

- 1) City staff presentation
- 2) Council questions of staff
- 3) Applicant presentation

- 4) Council questions of applicant
- 5) Public input (hearing opened, testimony - up to three minutes per person, hearing closed)
- 6) Rebuttal, if requested
- 7) Council discussion
- 8) Council decision

Other issues and Considerations:

None

Strategic Focus Area:



Community Vitality

Decision Options:

- 1) Adopt the ordinance as presented; or
- 2) Amend the ordinance and adopt as amended; or
- 3) Deny the ordinance; or
- 4) Continue consideration of the ordinance to a date certain.

Council's Recommended Action:

A motion to adopt the ordinance and publish with reference to title only.

Attachments:

1. Ord 53, 2023 with Exhibit A
2. Planning Commission Summary
3. PC Summary Attachment A
4. PC Summary Attachment B
5. PC Summary Attachment C
6. PC Summary Attachment D
7. PC Summary Attachment E
8. Planning Commission Minutes
9. Staff Presentation

CITY OF GREELEY, COLORADO
ORDINANCE NO. 53, 2023
CASE NO. ZON2022-0023

AN ORDINANCE CHANGING THE OFFICIAL ZONING MAP OF THE CITY OF GREELEY, COLORADO, FROM H-A (HOLDING AGRICULTURE) TO R-E (RESIDENTIAL ESTATE) CHANGING THE UNDERLYING LAND USE DESIGNATIONS FOR APPROXIMATELY 11.2 ACRES OF PROPERTY LOCATED AT 2118 N. 47TH AVENUE.

BE IT ORDAINED BY THE CITY COUNCIL OF GREELEY, COLORADO:

Section 1. The following described property located in the City of Greeley is hereby changed from H-A (HOLDING AGRICULTURE) TO R-E (RESIDENTIAL ESTATE) in the City of Greeley, County of Weld, State of Colorado:

Legal Description

See Appendix A, attached hereto and incorporated herein.

Section 2. The boundaries of the pertinent zoning districts as shown on the official zoning map are hereby changed so as to accomplish the above-described zoning changes, and the Mayor and City Clerk are hereby authorized and directed to sign and attest an entry which shall be made on the official zoning map to reflect this change.

Section 3. This ordinance shall become effective five (5) days after its final publication as provided by the Greeley City Charter.

PASSED AND ADOPTED, SIGNED AND APPROVED, THIS ____ DAY OF _____, 2023.

ATTEST:

THE CITY OF GREELEY, COLORADO

By: _____
City Clerk

By: _____
Mayor

APPENDIX A
**AN ORDINANCE CHANGING THE OFFICIAL ZONING MAP OF THE CITY OF
GREELEY, COLORADO, FROM H-A (HOLDING AGRICULTURE) TO R-E
(RESIDENTIAL ESTATE) CHANGING THE UNDERLYING LAND USE
DESIGNATIONS FOR APPROXIMATELY 11.2 ACRES OF PROPERTY LOCATED
AT 2118 N. 47TH AVENUE.**

LEGAL DESCRIPTION FOR REZONING AREA

A PARCEL OF LAND LOCATED IN THE SW1/4 OF SECTION 26, T6N, R66W, OF THE 6th P.M., COUNTY OF WELD, STATE OF COLORADO, AS DESCRIBED AS LOT 1, BLOCK 2 OF THE PAYNE SUBDIVISION TO THE CITY OF GREELEY, COLORADO, AND A PORTION OF NORTH 47TH/ AVENUE, CITY OF GREELEY, COLORADO, DESCRIBED AS FOLLOWS:

BEGINNING AT THE WEST QUARTER CORNER OF SAID SECTION 26, FROM WHICH THE SOUTHWEST CORNER OF SAID SECTION 26 BEARS S0°57'55"W, THENCE N89°41'13"E, 1341.32 FEET ALONG THE NORTH LINE OF THE SW1/4 OF SAID SECTION 26 TO THE WEST CENTER 16th CORNER OF SAID SECTION 26;

THENCE S0°01'48"E, 637.40 FEET;

THENCE S89°58'14"W, 15.50 FEET;

THENCE N35°42'29"W, 60.09 FEET;

THENCE N44°27'20"W, 83.45 FEET;

THENCE N48°10'45"W, 167.64 FEET;

THENCE N43°56'47"W, 75.78 FEET;

THENCE N39°46'35"W, 48.57 FEET;

THENCE N30°22'21"W, 30.29 FEET;

THENCE S70°24'02"W, 580.54 FEET TO THE CENTERLINE OF RIGHT-OF-WAY OF SAID NORTH 47th AVENUE;

THENCE N44°40'14"W, 657.33 FEET ALONG THE CENTERLINE OF RIGHT-OF-WAY OF SAID NORTH 47th AVENUE TO THE WEST LINE OF THE SW1/4 OF SAID SECTION 26;

THENCE N0°57'55"E, 19.19 FEET ALONG THE WEST LINE OF THE SW1/4 OF SAID SECTION 26 TO THE TRUE POINT OF BEGINNING.

AREA BEING REZONED = 11.278 ACRES MORE OR LESS

AREA OF LOT 1, BLOCK 2 = 10.801 ACRES, MORE OR LESS.

PLANNING COMMISSION SUMMARY

ITEMS: Rezone property from H-A (Holding Agriculture) to R-E (Residential Estate) zoning district

FILE NUMBER: ZON2022-0023

PROJECT: 2118 N. 47th Avenue Rezone H-A to R-E

LOCATION: 2118 N. 47th Avenue. East of N. 47th Avenue, and approximately ½ mile north of O Street.

APPLICANT: Kevin Gray (Property Owner) and Loren Shanks (Uintah Group)

CASE PLANNER: Michael Franke, Planner II

PLANNING COMMISSION HEARING DATE: September 26, 2023

PLANNING COMMISSION FUNCTION:

The Planning Commission shall consider the staff report, along with testimony and comments made by the applicant and the public and shall then make a recommendation to the City Council regarding the application in the form of a finding based on the review criteria in Section 24-204 of the Development Code.

EXECUTIVE SUMMARY

The City of Greeley is considering a request from property owner Kevin Gray to rezone 11.2 acres of land located at 2118 N. 47th Avenue from H-A (Holding Agriculture) to R-E (Residential Estate) zoning district.

A. REQUEST

The applicant is requesting approval of a rezone (see Attachment C).

B. STAFF RECOMMENDATION

Approval

C. LOCATION

Abutting Zoning:

North: R-E (Residential Estate) and I-M (Industrial Medium Intensity).

South: H-A (Holding Agriculture).

East: H-A (Holding Agriculture).

West: H-A (Holding Agriculture).

Surrounding Land Uses:

North: Residential and Farmland.

South: Residential and Farmland.

East: Residential and Farmland.

West: Residential and Farmland.

Site Characteristics:

The site consists of a single-family house, accessory structures for agriculture, and farmland. The property is relatively flat land and an existing ditch that runs from northwest to southeast near the east-central portion of the property. The ditch has a 30' access easement that will remain. Overall, the site has characteristics of standard farmland with a single-family home abutting N. 47th Avenue.

D. BACKGROUND

The subject site was annexed into the City of Greeley in 1982 as part of the North Poudre Third Annexation (1893287). The land has remained as a single-family residence with farmland since the time of annexation. In 2001, the land was subdivided and became Lot 1 of Block 2 of the Payne Subdivision (2838290). The intention of the current rezone request is to provide adequate zoning to subdivide the current property into three lots to keep the existing single-family home on future Lot 1A and build a new single-family home on future Lot 1B. The rezone is required because the current H-A zoning only allows land to be subdivided if the new lots will result in 40+ acres in area. The subdivision is required because the City Development Code only allows one single-family detached home per lot. Rezoning and subdividing the land will allow the applicant to avoid demolishing their existing house while building a new single-family home on the property.

E. APPROVAL CRITERIA

Development Code Section 24-204 Rezoning Criteria

The review criteria found in Section 24-204(b) of the Development Code shall be used to evaluate the zoning amendment application.

1. The proposal is in accordance with the goals and objectives of the Comprehensive Plan and any other plan, policy or guidance adopted pursuant to that plan.

The Imagine Greeley Comprehensive Plan's Land Use Guidance Map designates the subject property as a "Urban Reserve". The Urban Reserve is designated for areas of land within the Long Range Expected Growth area (LREGA) that are typically rural with little to no existing development. No specific development plans or designated uses are stated for Urban Reserve due to the broadness of development potential the area has. Specific development areas will be assigned as the city develops north of O Street. The Urban Reserve areas supported a variety of development, including a mixture of residential housing uses, commercial uses, and industrial uses. Most of the Urban Reserve land has H-A zoning and will require rezoning for development in the future. Rezoning this land allows a wider variety of permitted lower density uses (single-family detached residential) and aligns with the intent of the comprehensive plan for this area of the city.

Goal HO-2: Encourage a broad diversity of housing options.

Objective HO-2.1 Diversity in New Development - Encourage a variety of housing types, sizes, styles, and price-points of housing units within new residential projects or subdivisions. Ensure that Greeley has neighborhoods and/or development sites available and attractive to its desired workforce, including higher-end housing for executives and other high-paid workers.

Objective HO-2.2 Rental Housing - Foster the development of attractive, safe, and well-maintained rental properties for those who do not qualify for or desire to own property.

Staff Comment: This proposal is in accordance with Housing Goal 2 of the Imagine Greeley Comprehensive Plan, “Encourage a broad diversity of housing options.” Ultimate approval of this rezoning request would enable construction of single-family homes, either for rent or purchase, which broadens the diversity of housing types within Greeley. The current zoning would not allow for any new development.

The proposal complies with this criterion.

Additionally, the following specific goals and objectives of the Imagine Greeley Comprehensive Plan support the proposed rezone:

Growth and City Form:

- GC-1.2 Form of Growth: Encourage compact urban form over sprawl development.
- GC-2.1 Land Use Guidance Map: Maintain a land use guidance map as a guide for land use, zoning, and development within the City of Greeley and its Long Range Expected Growth Area (LREGA).
- CG-2.2 Jobs/Housing Balance: Support zoning and development patterns that expand opportunities for people who live in Greeley to also work in Greeley (and vice-versa).
- GC-4.3 Infill Compatibility: Promote the use of site design and building architecture that is sympathetic to the surrounding area and enhances the desirable character and form of the neighborhood or area.

Housing:

- HO-1.6 Universal Design and Visitability: Encourage the development of new housing units that incorporate design elements to accommodate the specific needs of the elderly and others who might have limited mobility.

2. The proposal can fulfill the intent of the zoning district considering the relationship to surrounding areas.

Staff Comment: The R-E district is intended for very low-density residential living with detached houses on larger lots or in rural patterns. The district permits limited institutional uses and less intense rural uses that are compatible with low density living. Due to the dispersed development intensity, this

area receives lower levels of infrastructure and public service and should have limited application unless mixed with an overall pattern of housing options. The proposed rezone would allow for further development of low-intensity residential types, low intensity civic uses (Assembly, Golf Course, school), and farming. The intension of the rezone is to be able to subdivide the property into three lots and build a new single-family home on one of the new lots. This directly aligns with the intent of the R-E zoning district as development will remain low-intensity residential while maintaining rural characteristics. The surrounding land uses are rural single-family residential and farmland, so the rezone of this land to build a new single-family home directly aligns with surrounding land uses and creates no impact on adjacent properties.

The proposal complies with this criterion.

3. Whether the area changed, or is it changing to such a degree that it is in the public interest to rezone the subject property to encourage development or redevelopment of the area

Staff Comment: Development within this area has been residential. This area of the city is primarily rural and has remained stagnant with new development since annexation for the most part. Development is slowly making its way towards this area of the city with the primary uses being residential estate housing. The Svetlov Subdivision is directly to the north of the subject property. The Svetlov Subdivision contains residential estate development in the form of single-family detached houses on large lots with farming activity. This rezone would align with the intensions and development of the Svetlov Subdivision, making development patterns in the area more consistent with current land uses and potential future land uses. The property is currently zoned H-A, so any development of this property in the future would need to go through a rezone for development. This rezone to R-E complements the changes in this area of the city and is within the public interest to rezone to R-E zoning to ensure any future development will not negatively impact the surrounding properties and land uses. Planning staff concludes that it is in the public's interest to rezone the subject site to allow for residential estate format housing options, while maintaining the rural and farming characteristics of the area.

The proposal complies with this criterion.

4. Whether the existing zoning been in place for a substantial time without development, and if this indicates the existing zoning is inappropriate given development trends in the vicinity.

Staff Comment: The existing zoning has been in place since 1982, with no development occurring on site since the establishment of zoning at the time of annexation. The existing zoning of H-A is not necessarily inappropriate for the area since much of the surrounding land is farmland with single-family houses zoned H-A. However, the H-A zoning is inappropriate because it limits the uses and land area of properties. Changing the zoning to R-E maintains the rural characteristics of the land, restricts permitted uses to very low-intensity residential, limited civic/institutional uses, and farmland. As mentioned in previous sections, most of the land to the north of the subject site is already zoned R-E and has single-family residential with farmland, which is what the applicant is proposing for this rezone. The surrounding area to the north is anticipated to be developed into large estate lots with single-family detached housing. This rezone would continue that development pattern, apart from only developing one single-family detached structure, rather than an estate neighborhood. Rezoning the site would provide better development options to be cohesive with uses in the surrounding areas of the subject site.

The proposal complies with this criterion.

5. The proposed zoning will enable development in character with existing or anticipated development in the area considering the design of streets, civic spaces and other open space; the pattern, scale and format of buildings and sites; and the compatibility and transitions with other complimentary uses and development.

Staff Comment: The proposed rezoning would provide development options complimentary to the surrounding zoning and existing uses by continuing the consistency of residential and rural character in the area. Rezoning would enable a more complete residential property with farmland availability and appropriate transition from Greeley to Weld County to the north.

The proposal complies with this criterion.

6. The City or other agencies have the ability to provide services or facilities that may be necessary for anticipated uses in the proposed district.

Staff Comment: The subject site is served by the City of Greeley and North Weld Water. Any proposed development or redevelopment of the site would be reviewed for compliance with City standards and subject to infrastructure improvements required at that time. Additional information regarding City services can be found in this report in Sections F, G, and H.

The proposal complies with this criterion.

- 7. The change will serve a community need, provide an amenity or accommodate development that is not possible under the current zoning or that was not anticipated at the time of the initial zoning of the property, making the proposed zoning more appropriate than the current zoning.**

Staff Comment: The current zoning has existed since 1982 without successful development. The proposed rezoning would allow more development options if the site were rezoned to R-E, allowing for more flexibility in single-family detached estate housing, making the rezone more appropriate than the current zoning district. The current H-A zoning only allows new lots of 40+ acres to be created and the Development Code only permits one single-family detach home per lot. Changing the zoning to R-E allows the applicant to subdivide his current property into three different lots. Creating the three different lots allows the applicant to build a new single-family detached house on their property while being able to keep (not demolish) their current single-family detached house which holds great historic and sentimental value to the applicant. The applicant's proposal would be impossible under the current H-A zoning district, so R-E zoning is the most appropriate given the applicant proposal and surrounding zoning and land use conditions.

The proposal complies with this criterion.

- 8. Any reasonably anticipated negative impacts on the area or adjacent property either are mitigated by sound planning, design and engineering practices or are outweighed by broader public benefits to the surrounding community.**

Staff Comment: Any reasonably anticipated negative impacts on this area resulting from this rezoning would be mitigated as part of the development review process by the consistent enforcement of Municipal Code and Development Code requirements regarding landscaping buffers, architectural features, setbacks, and other relevant codes and policies. All supplemental documentation for development of the subject site has been submitted with the corresponding minor subdivision (SUB2022-0030) to the city. All professional staff and advisory review bodies have been assigned to corresponding development cases as appropriate.

The proposal complies with this criterion.

- 9. The recommendations of professional staff or advisory review bodies.**

Staff Comment: City staff recommends approval of this rezoning request.

F. SITE CHARACTERISTICS

1. SUBDIVISION HISTORY

The property was originally platted as Lot 1 of Block 2 part of the Payne Subdivision, recorded in 2001. The applicant currently has a minor subdivision case (SUB2022-0030) under review with the City to subdivide Lot 1 into three different lots: Lot 1A, Lot 1B, and Lot 1C. The purpose of the subdivision is to keep the existing single-family home the applicant currently lives in on proposed Lot 1A and build a new single-family home on the proposed Lot 1B. Minor subdivisions are reviewed and approved administratively by City staff.

2. HAZARDS

Staff is unaware of any potential hazards that presently exist on the subject site.

3. WILDLIFE

The subject site is not located in an area of ecological significance according to the City of Greeley Area of Ecological Significance Map. The Colorado District of Wildlife Department conducted a full review of the proposed 2118 N. 47th Avenue rezone and accepted the review as proposed. There are no known impacts that would occur to wildlife if the site were rezoned.

4. FLOODPLAIN

The proposed rezone is not located within the floodplain or floodway.

5. DRAINAGE AND EROSION

This rezone will not affect the existing drainage for the site. Any proposed development of the site would require the documentation and review by City staff of all drainage, detention, water quality, and erosion mitigation as a condition of the development of the site.

6. TRANSPORTATION

The City's Public Works and Engineering Development Review staff have reviewed the traffic impact analysis with the proposed concept plan and found that additional traffic would not create a significant impact on existing roadway systems. No additional improvements were warranted based on projected traffic.

G. SERVICES

1. WATER

Current water services are provided by North Weld County Water District (NWCWD). Until the area is transitioned to City of Greeley water service all changes and additions to water services must be approved by NWCWD. Additionally, any proposed construction on these parcels must be in compliance with all City of Greeley Criteria as a condition of acceptance, including waterline construction, services, meters, etc.

2. SANITARY SEWER

This property is not currently served by or adjacent to City of Greeley sewer infrastructure. Therefore, septic systems would be allowed for single family residences. Septic permits would be reviewed and issued by Weld County in accordance with county standards and regulations.

3. EMERGENCY SERVICES

Emergency services are available and can adequately serve the subject property.

4. PARKS/OPEN SPACES

No public parks or public open space areas are proposed with this request and the request would not create any private parks or open space. The proposed rezone will have little to no impact on parks or open space in the community due to the request being for building a single-family home on the owner's property. Open space requirements for R-E lots will be met.

5. SCHOOLS

No schools are proposed or located within the site.

H. NEIGHBORHOOD IMPACTS

1. VISUAL

No visual impacts are anticipated with the rezone request. Any development plan application for the property would be reviewed for compliance with the City's Development Code requirements regarding visual impacts.

2. NOISE

No noise impacts are anticipated with the rezone request. Any potential noise created by future development will be regulated by the Municipal Code.

I. PUBLIC NOTICE AND COMMENT

Neighborhood notices for this meeting were mailed to surrounding property owners on September 8th, 2023, per Development Code requirements. A total of 24 notice letters were mailed out to surrounding property owners and tenants within 1,000 feet of the subject site. A sign was also posted on the site on September 11th, 2023. No opposition from the public was received regarding the rezone from H-A to R-E.

J. MINERAL ESTATE OWNER NOTIFICATION

Mineral notice is not required for a rezone request.

K. PLANNING COMMISSION RECOMMENDED MOTION

Approval -

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezone from H-A (Holding Agriculture) and zoning district to R-E (Residential Estate) zoning district meets the Development Code criteria, Sections 24-204 and therefore, recommends approval of the rezone to City Council.

Denial-

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezone from H-A (Holding Agriculture) zoning district to R-E (Residential Estate) zoning district does not meet the Development Code criteria, Sections 24-204 and therefore, recommends denial of the rezone to City Council.

ATTACHMENTS

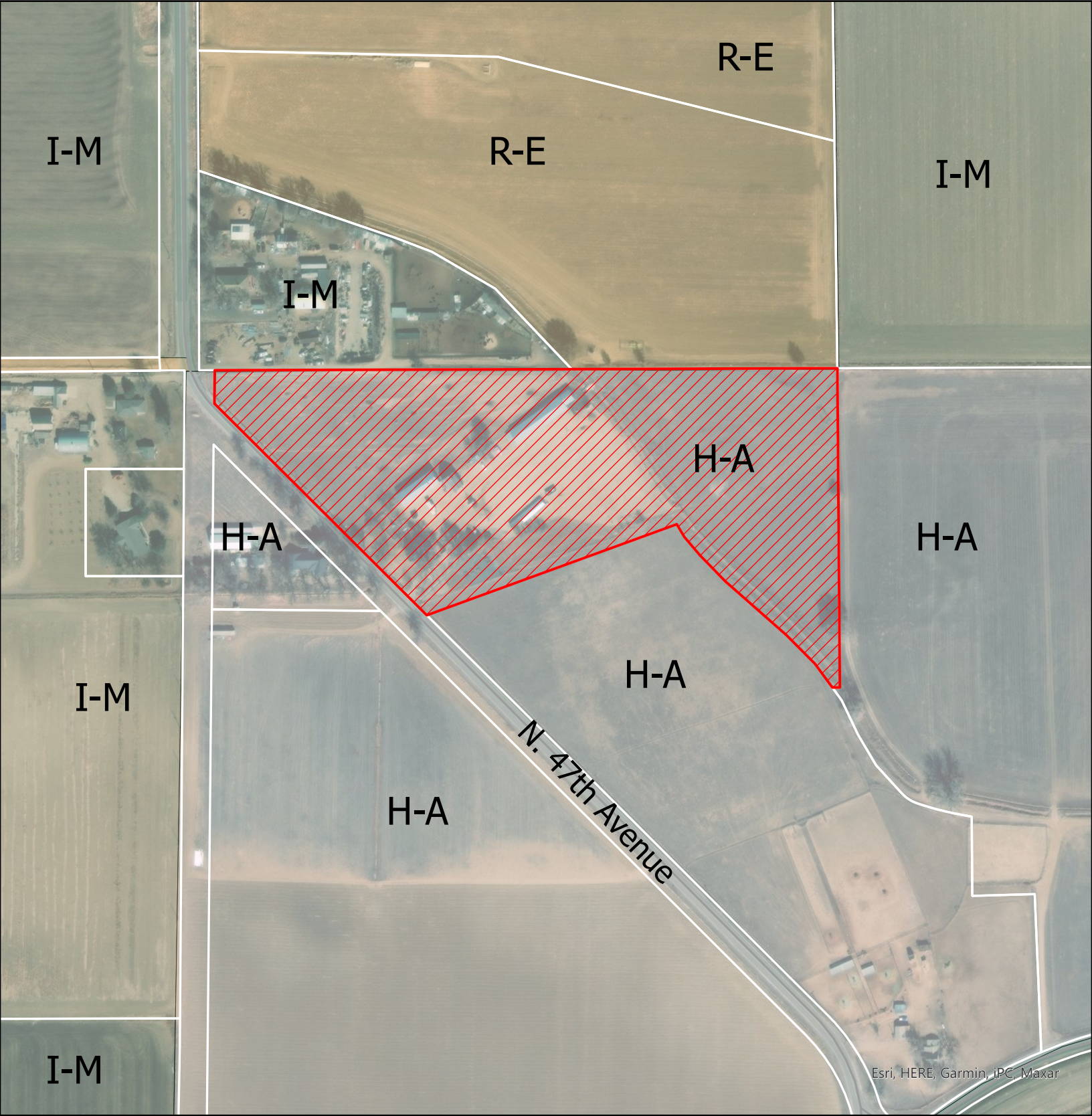
Attachment A – Zoning & Vicinity Map

Attachment B – Project Narrative

Attachment C – Rezone Boundary

Attachment D – Notification Boundary Map

Attachment E – Rezone Plan Details



Legend

- | | | | |
|---------------------------------|-----------------------------------|----------------------------------|-------------------------------|
| Conservation District (C-D) | Industrial Low Intensity (I-L) | Residential Estate (R-E) | Residential Mobile Home (RMH) |
| Commercial Low Intensity (C-L) | Industrial Medium Intensity (I-M) | Residential Low Density (R-L) | Subject Site Greeley Parcels |
| Commercial High Intensity (C-H) | Industrial High Intensity (I-H) | Residential Medium Density (R-M) | |
| Holding Agriculture (H-A) | Planned Unit Development (PUD) | Residential High Density (R-H) | |



PROJECT NARRATIVE

Rezone and Replat - 2118 N. 47th Ave, Greeley CO 80631

Applicant: Kevin Gray - sole property owner of 2118 N. 47th Ave in Greeley, Lot 1, Block 2, Payne Subdivision, containing 10.801 Acres. This property is currently zoned Ag Holding (A-H)

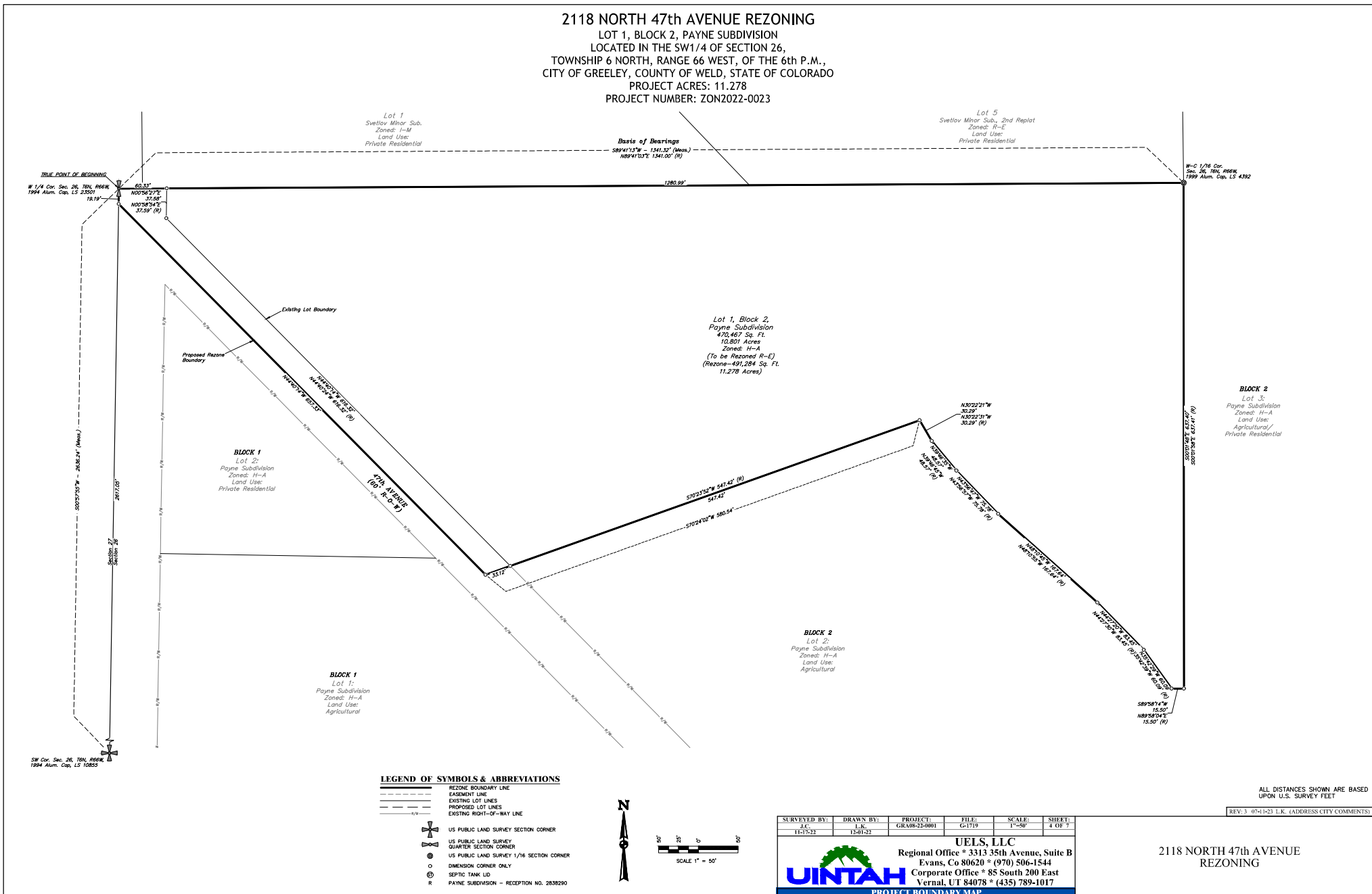
Based on the pre-application meeting with the Planning Department on November 10th, the goals and aspirations for the property are as follows:

- 1) The first goal is to build a new single-family residence on the property.
- 2) Secondly, Applicant desires to keep the existing home on the property.
 - a. Reasons for this are the following:
 - i. Applicant needs to live in the current home during the construction of the new home.
 - ii. Applicant is the only family that has lived in the home outside of the original homestead family, it is very important to Applicant to honor that family by maintaining the home. In addition, the home was built in the 1870's so we value the historical significance.
 - iii. The home is in good condition and Applicant feels that it would be a waste to remove it.
- 3) Applicant's proposal is to rezone the property to Residential - Estate (R-E) while congruently replatting the current Lot 1 into 3 lots, one for the existing home, one for the new home and an additional lot on our north pasture.

Applicant understands that under the current zoning, the current house would not be allowed, and therefore Applicant agrees that in the event the rezoning process is not approved prior to the new house being completed that a Certificate of Occupancy for the new home will not be issued unless the existing home is removed.

Applicant is confident that they can achieve the rezone, the replat and build the new home with in the given time frames. Applicant is also confident that the overall project will meet the guidelines of the City and improve the overall area.

Attachment C - Rezone Boundary





Esri, HERE, Garmin, iPC, Maxar

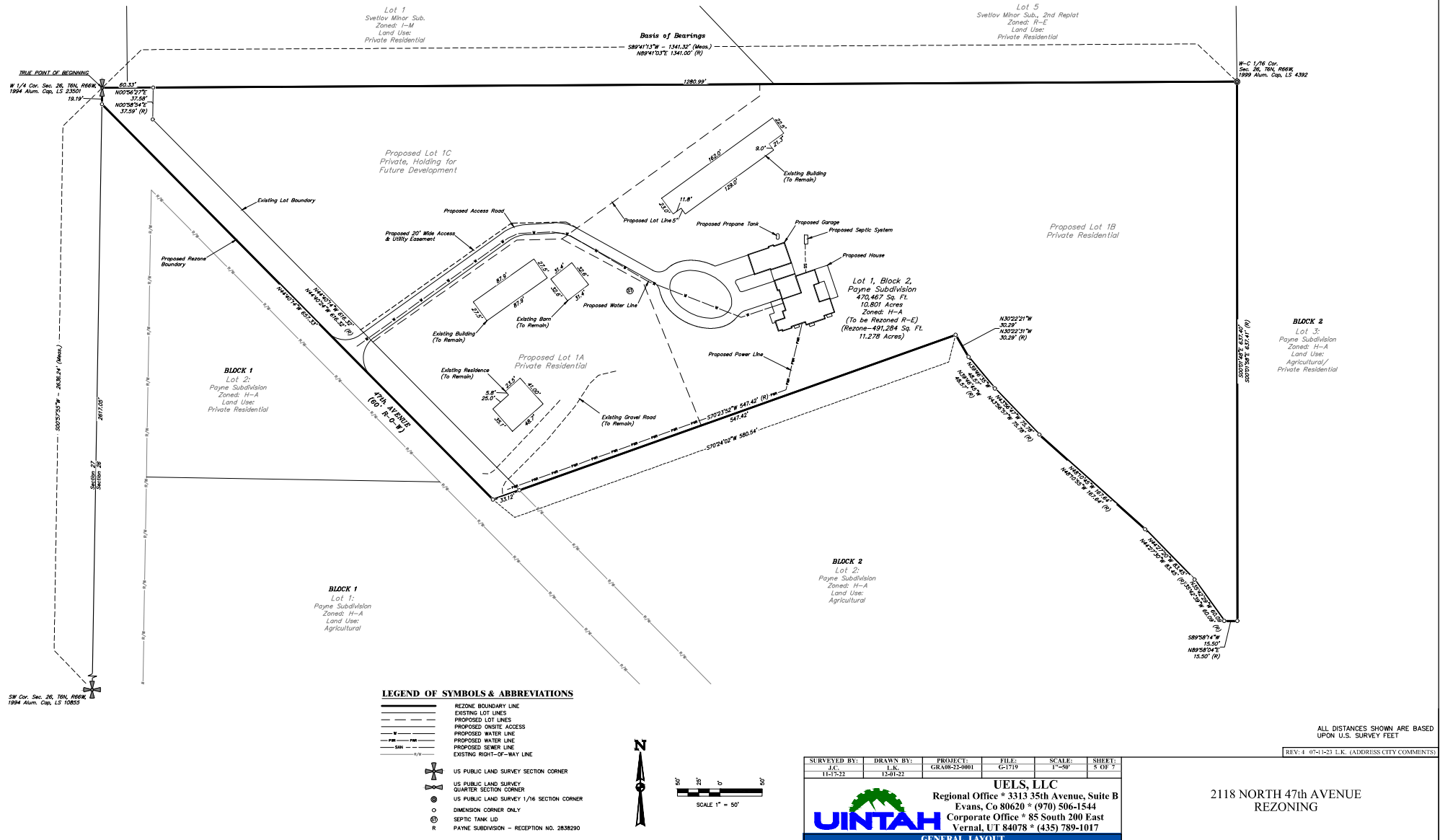
Legend

-  Subject Site
-  Greeley Parcels
-  Mailed Notice Properties
-  1000' Buffer



Attachment E - Rezone Plan Details

2118 NORTH 47th AVENUE REZONING
LOT 1, BLOCK 2, SWAY SUBDIVISION
LOCATED IN THE SW1/4 OF SECTION 26,
TOWNSHIP 6 NORTH, RANGE 66 WEST, OF THE 6th P.M.,
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
PROJECT ACRES: 11.278
PROJECT NUMBER: ZON2022-0023



City of Greeley, Colorado
PLANNING COMMISSION PROCEEDINGS
September 26, 2023

Video Recording of the Meeting can be found at:

<https://www.youtube.com/live/DjW4lGGcDRU?si=ipGHW4qjAD5SdfYD>

1. Call to Order

Chair Yeater called the meeting to order at 1:15 PM.

2. Roll Call

The hearing clerk called the roll.

PRESENT

Chair Justin Yeater
Commissioner Louisa Andersen
Commissioner Briscoe
Commissioner Brian Franzen
Commissioner Larry Modlin
Commissioner Christian Schulte

ABSENT

Commissioner Jeff Carlson

3. Approval of Agenda

No additions or changes

4. Approval of September 12, 2023, Minutes

Commissioner Andersen moved to approve the minutes dated September 12, 2023. Commissioner Franzen seconded the motion. Motion carried 6-0.

5. A public hearing to consider a request to rezone approximately 11.2 acres located at 2118 N. 47th Avenue from Holding Agriculture (H-A) to Residential Estate (R-E). (ZON2022-0023).

Chair Yeater introduced the item, asking if the commission or anyone in attendance wished to see a presentation, seeing none the Public Hearing opened at 1:19 p.m.

Elmar Oestman, lives across from the location of this request. The applicant has eight percent of his irrigation well located in the parcel under consideration for this rezoning. He wants to know what the applicant plans to do on the parcel. Chair Yeater commented that the commission is present regarding the rezoning and that the information is in the packet and if the applicant wishes to speak, they can. He let Mr. Oestman know that he is welcome to share any opinion or feelings he has about the case. Mr. Oestman responded, sharing that he would be against approval of this right now.

Seeing no further requests for public comment, Chair Yeater stated if the applicant wished to speak in rebuttal they could at this time.

Owen Shanks with Uinta Surveying, 3313 35th Avenue Suite B, Evans, Colorado. Shared that the applicant was unable to attend the hearing due to being out of town, but he was present on his behalf. To address the concern, the applicant wanted to build a new house on the back portion of the property, he wanted to subdivide it into three separate lots and now is proposing two separate lots due to ongoing issues regarding water service with the city. He shared that is the purpose of the rezone and to build accordingly if approved. New versions of the plats reflecting this are being created now. The applicant does not have any plans to develop any additional units, that is not their intent.

With no further public comment or further questions for the applicant, Chair Yeater closed the Public Hearing at 1:21 p.m.

Chair Yeater turned the item to the commission for action. Commissioner Andersen motioned, based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezone from H-A (Holding Agriculture) zoning district to R-E (Residential Estate) zoning district meets the Development Code criteria, Sections 24-204 and therefore, recommends approval of the rezone to City Council. Commissioner Briscoe seconded the motion.

Chair Yeater asked the commission if there was any needed discussion on the matter. Commissioner Andersen asked what the minimum acreage for the R-E zone district was. Michael Franke, Planner II responded that the minimum lot size for the proposed zone district is 13,000 square feet.

With no further discussion, Chair Yeater called for the vote.

Motion Carried 6-0.

6. A Public Hearing to consider a Planned Unit Development (PUD) request to rezone approximately 42.64 acres of property located at 10494, 10800, and 10892 Hwy 257 Spur from R-L (Residential Low Density), PUD (Planned Unit Development), and C-H (Commercial High Intensity) to PUD (Planned Unit Development). (Project: PUD2023-0005)

Chair Yeater introduced the item, asking if the commission or anyone in attendance wished to see a presentation.

Commissioner Schulte stated he did not need to see the presentation but did have a question for staff. He wanted to know if one of the properties included in the proposed rezone had been the subject in a previous case that was presented to the commission before and commented he recalled that it was approved with a condition that the exterior wall be taller than originally submitted and he would like to know if that was still a factor.

Meg Oren, Planner III responded parcel Commissioner Schulte indicated, is what is essentially the “middle parcel” in this rezone, and it is remaining the same, it is not changing. The buffering standard or the wall itself is not changing at all. She included that the eastern parcel is going to match the buffering standard and landscape standards as well.

Chair Yeater commented that he recalled that the previous case mentioned, required an additional motion to make sure the wall met the expectation of the Planning Commission, he asked Ms. Oren what review procedure would be in place to make sure that it happens. Ms. Oren responded that any development that occurs in the PUD, the code standards, set back and landscape standards have already been determined by the proposed PUD and any development that comes in will have to meet

those standards. Chair Yeater shared that he recalled that entirety of the wall had to be constructed with stone material and he asked if the additional parcels would be required to have the same stone wall construction around the entirety of the property. Ms. Oren responded that they would not all necessarily be required to have the wall because the PUD itself does not require the wall, but it does require a larger setback than what would usually be required in similar zone districts.

With no further questions for staff, Chair Yeater asked if anyone in attendance would like to see a presentation or if the applicant was present and wished to speak. Seeing none, he opened the Public Hearing at 1:26. No requests to speak were made and Chair Yeater closed the Public Hearing at 1:26 p.m. and turned the request back to the commission for action.

Commissioner Andersen motioned, based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval. Commissioner Franzen seconded the motion.

Chair Yeater asked if the commission had any comments. Commissioner Schulte shared, he had the same concern that was expressed previously with the parcel including the wall and that the visual appeal of the area because it's kind of the gateway into Greeley from the highway and that the standards needed to be maintained.

Chair Yeater agreed with Commissioner Schulte and added that he appreciates the land use and need of the PUD however, he struggles with the lack of opportunity for the commission to review the Site Plan given the significance of the location being an entry point corridor. He will not support it in the current motion and does not want to take away from the applicants need to develop the parcel but he feels it needs to have a higher level of scrutiny as well as give the city the opportunity to vet the idea from a minimum to understand that the public is going to need to be able to take a look at it and have the chance to comment on it. He hopes the commission will consider amending the current motion to include some sort of review process for the site plan.

Commissioner Andersen asked if it was possible for the commission to ask for additional review after they have already made an approval and Brian McBroom, Community Development Director clarified the question to be, is it allowed for the commission to amend the motion to include that Planning Commission would get have to review and approve the site plan? Chair Yeater responded that was correct and it could be the Planning Commission or both Planning Commission and City Council. Mr. McBroom stated that this was perhaps more of a legal question, but he would suggest that if it is important to the commission that they should include it in their motion.

Chair Yeater spoke to the commissioners and stated he did not see it being very different than when they required the wall to be in place and that they are simply asking for an opportunity to review what is submitted for the Site Plan to ensure the intent for the original approval is upheld carries through the development of the remaining parcels in this PUD. Commissioner Andersen agreed that she felt it was a reasonable amendment to the motion.

Chair Yeater continued, reminding the commission that there was a motion that had already been proposed and it would be his wish that it is not approved but for a revised motion to be proposed that includes the discussed components.

Mr. McBroom stated that the commission could also have a subsequent motion to amend the motion.

Chair Yeater stated that he was content with having a motion to amend the current motion and

Commissioner Andersen agreed.

Commissioner Franzen moved that they move to amend the original motion to include adding Site Plan review and approval by Planning Commission and City Council. Commissioner Modlin seconded the amended motion. No further comment the commission voted. Motion carried 6-0.

Commissioner Andersen moved based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and with the amendment that Site Plan review would be remanded to both Planning Commission and City Council for approval prior to its passing and would therefore recommends City Council approval. Commissioner Schulte seconded the motion.

Motion Carried 6-0

7. A Public Hearing to consider a Use by Special Review (USR) request for a Parking Lot in the C-L (Commercial Light Intensity) Zone District West of 71st Avenue, North of 29th Street, South of Highway 34 (USR2023-0010).

Chair Yeater introduced the item and asked if the commission or anyone in attendance wished to see a presentation, or if the applicant wished to speak. seeing none the Public Hearing opened 1:32 p.m.

No one requested to speak and Chair Yeater closed the Public Hearing at 1:33 p.m. and turned the item back to the commission for action.

Commissioner Andersen moved, based on the application received and the preceding analysis, the Planning Commission finds that the proposed Use by Special Review for a Parking Lot in the C-L (Commercial Light Intensity) Zone District is consistent with the Development Code criteria of Section 24-206 (a-d), and therefore, approve the Use by Special Review as submitted. Commissioner Franzen seconded the motion.

Motion carried 6-0

8. A continuation of a public hearing (continued from September 12, 2023) to consider an application to rezone a property 11.08 acres in size from Residential Low Density (RL) to a Planned Unit Development (PUD). The PUD would allow various Residential and Institutional uses with specific zoning standards (PUD2022-0007).

Chair Yeater introduced the item. Re-opening the Public Hearing at 1:34 p.m. and asking the applicant if they wished to speak.

Ian Percey, 2130 62nd Avenue Court, Greeley. He began by sharing in the previous meeting they had asked for continuance. He would like to discuss the plans for this project and include that he does have a presentation for the project he hopes to share. The intent is to build a high-quality senior living facility with continual care, assisted living, memory care and 12 cottages that would be adjacent to Cambridge Glen.

Mr. Percey stated that his team has conducted a neighborhood meeting and heard concerns regarding both traffic and the density of the project. Since the neighborhood meeting after hearing the concerns, his team has updated the plans to limit the number of units that can be included as well as making the units adjacent to Cambridge Glen only single-story units and no more than two

story units on the remaining portions of the site. They have done a lot of work determining what the facility will look like and what it will bring to the community, including the traffic impacts. They have worked with the city on creating traffic calming and have determined that they will install a median to be constructed in the center line of 47th Avenue to calm traffic. This is a great use for this site, they will build with high quality. The proposed use is a good use for this infill location, and it will bring great benefits to the city and community. The proposed use meets the criteria for a PUD and the city staff has recommended its approval.

Mr. Percey addressed questions that had been raised from public comment on the project. One of the questions was related to the service and loading area for the facility. Using the Site Massing Study included in his presentation, he indicated that the loading and service area would be on the lower drive, in the area with the cottages and that between the 4th and 5th cottages there is an access road into the facility. Around this same area, there would be an enclosed section for trash.

Continuing, Mr. Percey addressed the concern related to the parking area near the end of the row of cottages. He stated that there are about 5 parking spaces closest to Cambridge Glen and that there are 6 on the other side. He shared they will be well landscaped and have a good buffering. All lighting will be cut off lighting on the site.

Another concern they heard was regarding the emergency access route that goes around the back of the building. It will be a different surface and not the regular asphalt surface. It will also include breakaway barriers and access will be limited to emergency services.

Mr. Percey added that there were questions and concerns regarding mitigation of dust during construction and shared that the contractor would be required to follow all city standards for dust mitigation. They will complete the dirt work as quickly as possible and get the asphalt installed as soon as they can to help alleviate this concern as well.

Mr. Percey thanked the commission for their time and let them know he is available for any questions. Chair Yeater commented that many of the concerns the commission heard revolved around traffic. He stated that the applicant mentioned meeting with the city and installing the median on 47th Avenue to calm traffic and asked if they had any other methods that were considered for calming traffic, more specifically, an acceleration/deceleration lane and inquired if this is something that was investigated. Mr. Percey replied that it was initially considered but after meeting with the city, the preferred approach is the median and that is what they have agreed to. He included it is about 300 feet of median.

Commissioner Schulte asked if the connection from the parcel to 47th Avenue is going to be in about the same place that the current driveway is now. Mr. Percey responded by indicating that it is very close, not the same place but still very close.

With no further questions for the applicant Chair Yeater continued, moving forward to public comment.

Randy Bussey, 4510 West 14th Street, Greeley. Stated that he discussed this with some civil engineers and regarding a flow analysis on an 8" stub, that comes from Cambridge Glen into the area for this development. They have not seen a flow analysis and do not know if it was for 150, 200, or 250 units and they do not know if a lift is going to be required to go towards the south into his area (only considering the sewer). He asked if someone present could speak to the flow analysis for the sewer.

Craig McWhirter, 4517 West 14th Street, Greeley. Shared that the questions that Mr. Percey was

commenting on were the ones he had and included that he was satisfied with his response.

Amy Croissant, 4718 West 13th Street, Greeley. She shared that she and her husband moved to Greeley two years ago, they had sought out a home in a low-density area and thought that where they moved was the perfect spot. They are not the only ones in their neighborhood that are concerned about the various residential and institutional uses related to how much traffic it will bring to the neighborhood. As well as how it will devalue their property. She shared that she feels the traffic is already horrendous during certain times of the day on 47th Avenue and there needs to be an independent study on this and how many vehicles are using this roadway already. She is not for high rise or a business in the neighborhood. It is not characteristic for their neighborhood or the Country Club or the type of people who have bought houses in here for the quietness of it. She is not in support of this, and it does not fit their neighborhood and she would like it to be kept residential, low-density and she would like an independent study done on the traffic at this present time.

Claudia Susman, 1100 48th Avenue, Greeley. She lives in Hilltop, just around the corner from the previous speaker. Several years ago, two lots were sold in Hilltop that should not have been made into lots. It closed off their access to 10th Street and now they have to make a right turn only, which means to access 10th Street they now have to go down to 13th Street and try to make a left hand turn on a blind hill and if this development is allowed it will increase the traffic coming north bound and make it even harder for those in Hilltop to access 10th Street. Her other question regarding if the city was going to gain revenue by changing the zoning, is there money in their pockets by changing the zoning?

Sue Mantell, 4503 West 14th Street, Greeley. She believed she heard that they were going to place a median on 47th Avenue. She would like to know how it will be placed because 47th Avenue is currently 4 lanes, and she does not understand where there would be room to place the median. She would like clarification on that.

With no further public comment, Chair Yeater closed the Public Hearing at 1:48 p.m. and asked a representative from the city, regarding traffic come to the podium.

Thomas Gilbert, Engineering Development Review came to the podium. Chair Yeater commented that there have been a lot of questions raised regarding traffic and asked Mr. Gilbert to provide clarification on what the city and the applicant have done to address the traffic concerns.

Mr. Gilbert responded, sharing that he looked at this project with CDOT (Colorado Department of Transportation) and Water & Sewer. When they were reviewing this project for the rezone it included conceptual ideas about traffic, water, and sewer. There will be subdivision and a site plan review that will have to meet city criteria before this project is completed. To address traffic concerns, the first thing to address is the deceleration lane, he indicated it was reviewed and it was not warranted so it was not added. He continued, there has been a lot of talk about the traffic in the area and that he was able to speak with the traffic engineer for the city. He shared with Mr. Gilbert that in 2018 traffic volumes on 47th Avenue in this area averaged 19,202 trips daily. These counts are like other major streets in this area such as 35th Avenue. It was within what is considered reasonable traffic. If you factor in a 2% growth rate for traffic, it means that currently the estimated traffic count is about 21,200 vehicles per day. In October of this year there is another traffic count scheduled for this corridor. The other questions that have come up regarding traffic are around the median that this development will install on 47th Avenue. He shared that this is not proposed to be a very wide landscaped median but a median that is the height of a curb and is about 4 feet wide. It will be in the middle of the roadway, and it will not impact the current width of 47th Avenue. Chair Yeater asked for clarification on the acceleration/deceleration lane and if it would require a higher level of traffic

for those kinds of structures to be in place. Mr. Gilbert commented that for a deceleration lane it has to do with how many right turns are being made and, in this case, it is just not warranted. Chair Yeater asked what in the city code would require a development to be required to install a deceleration lane. Mr. Gilbert was not familiar with what the number of right-hand turns would make it required but shared that there is a chart in the code that shows how many turns are triggers for different levels of traffic calming. He shared this will all be looked at closer during the subsequent applications for this development but for the required cursory look for this process it is not required. Discussion continued related to the upcoming traffic study that will take place in October and how the city determines intersections and roadways that need to improve to accommodate for growth. Commissioner Modlin asked if it made sense for the applicant to allocate room for those lanes for future accommodations. Mr. Gilbert responded, sharing that this case is for zoning, and they do not know the exact data for what will happen with the site and when the Subdivision application is submitted the city will make those determinations at that time. Discussion continued regarding the process of zoning, conceptual plans and how traffic counts are determined.

Chair Yeater asked for city Planning staff to come to the podium. Jeff Woeber, Planner III came to the podium. Commissioner Briscoe asked why the city suggested that this project be submitted as a PUD and not a specific rezoning. Mr. Woeber replied that in this case, the applicant was considering R-H (residential high-density) which would allow for higher density and higher maximum building heights. Staff did not feel that those factors would be appropriate for this site but by submitting this as a PUD, the number of units can be limited as well as the maximum building height. With no further questions for staff, Chair Yeater asked the applicant to step forward to speak.

Troy Sprigger, Civil Engineer, 4715 Innovation Drive, Ft. Collins, Colorado. He wanted to address the question regarding sanitary sewer. He included that they did go through intensive modeling, and it is limited to the maximum allowable density for this PUD. They have looked at the maximum capacity for the 8" line and it is at about 40% of the maximum capacity when you factor in the proposed units, and it will still be under the maximum threshold for this facility. All their studies and calculations have been submitted to the city and they are available for the public to see if they wish. With no further questions for Mr. Sprigger, Chair Yeater asked for the applicants' traffic representative to step forward.

Matt Brown, 5690 DTC Boulevard, Greenwood Village, Colorado. He is the traffic engineer for the project. He wanted to provide additional responses to the traffic questions that have been posed. Regarding the comments and concerns about the applicant obtaining an independent traffic analysis, he shared that he did prepare an independent traffic analysis for the project that was submitted and subsequently approved by the city. In response to the deceleration lane, the threshold for this type of project and roadway in the city of Greeley is 50 vehicles per hour. The study shows that there would be 32 vehicles per hour for this project. Chair Yeater asked what model is used to determine that there would be 32 vehicles per hour. Mr. Brown reported that it is based on 200 dwelling units with 120 living units attached, 24 independent living units detached and 66 memory care/assisted living units or beds. He shared that the numbers are based on number of dwelling units not the number of employees and based on imperial studies done across the country that determine how these rates are applied to the project and that it is all built into the calculations provided. In response to northbound traffic and access at Hilltop, providing perspective based on their counts there were 646 vehicles on the northbound in the afternoon peak hour and this development would add 29 vehicles to that count, it is a very small percentage increase. Neither the morning nor the afternoon traffic counts for this development trigger acceleration or deceleration lanes. Discussion continued relating to future growth and relation to this site. Chair Yeater asked what his experience indicates that the median in 47th Avenue will achieve. Mr. Brown shared that the median will absolutely limit the traffic at the driveway to right in and right out, there will not be an opportunity

to turn left out of the development and it may potentially reduce speeds along 47th avenue slightly. Chair Yeater asked if the acceleration/deceleration lane was the deciding factor for this application to be approved, would the applicant proceed, and Mr. Brown replied that it appeared they would be willing. Commissioner Schulte asked for clarification on the counts used to determine the number of vehicles related to the facility employees and if they were granular enough to capture the number of employee vehicles because of the nature of the facility and if the numbers equaled out because of the residents who would have vehicles versus the employees that would. Mr. Brown confirmed this to be accurate because each different unit type has vehicles count attached to it based on the empirical studies previously mentioned.

With no further questions, Chair Yeater turned the item back to the commission for action. Commissioner Andersen moved based on the application received and the preceding analysis, the Planning Commission finds that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval. Commissioner Schulte seconded the motion.

Commissioner Briscoe stated that he struggles with the PUD portion of this application. He does not feel this is the appropriate application for this site. He can appreciate what the applicant is trying to achieve, he just does not feel that a site this small is relevant to the PUD application. Additionally, with the traffic issues and secondary entrance, he thinks that there are some issues with this, and he will probably not support this application for those reasons.

Commissioner Schulte commented that thinks that they have seen more PUD applications since the code was changed but in this case, he sees the advantage to utilizing it because if it were to be zoned as R-H, in the future would allow for much higher density than this PUD would allow for. He is willing to support it on that basis, he does have traffic concerns but those would be addressed in subsequent applications. Based on this application for PUD he would be in support of the motion.

Chair Yeater shared that he appreciates what the applicant is trying to do with this request. He supports it on its face value based on the PUD, limiting the height of the structures. He feels the applicant is doing everything they can to address the concerns of the property owners nearby and develop this piece of property. He sees the challenges with the PUD in that this is conceptual, and it does not give everyone an opportunity to see what will be built as well as the traffic concerns. He supports conceptually what this project is but would also like to see the city really look at the traffic issues. He would like to hear any suggestions on the best way to get this project approved but also address the concerns that have been raised.

Commissioner Andersen commented that she likes the idea of this project, and it is needed in the community. She is also highly concerned about rezoning with this intent in mind and if something were to happen and the project was not developed this parcel is going to be zoned with these specifications.

Commissioner Franzen agreed with Commissioner Andersen's comments. He thinks it is a great use for the property and it has been vacant for years but does feel that they need to take a deeper look at it.

Chair Yeater asked staff for any suggestions on how to amend this or the best path to proceed with. Brian McBroom replied that the commission is doing a good job identifying the key issues. He shared that the commission does have some ability, such as in the previous case to add conditions to their recommendations and in respect to concerns about the commission not having another opportunity to review the project as it progresses, on advantage to the PUD verses a R-H zoning is that there is a

certain amount of specificity that they would normally not have. Discussion continued to include what is required procedurally when an application is recommended for approval and when it is not recommended for approval as well as what components are covered under the City's Site Plan review.

Chair Yeater called for the motion currently proposed.

Motion Denied 1-5

Commissioner Andersen moved based on the application received and the preceding analysis, the Planning Commission that the proposed rezoning and Planned Unit Development is in compliance with Sections 24-204(b) and 24-205(c) of the Development Code and therefore recommends City Council approval with the condition that the Site Plan and Traffic Plan are reviewed and approved by Planning Commission and City Council. Commissioner Schulte seconded the motion.

Second motion Andersen, Seconded: Schulte 6-0

9. Staff Report

Brian McBroom shared thanks to Commissioner's Briscoe and Modlin for the discussions they had this morning, and he looks forward to ones in the future.

He continued sharing the City is in the final stages of the budget process for 2024 and the City Manager's office is recommending additional funds in the budget for additional sub-area plans in 2024. West Greeley would be one of the areas included as well as parts of the North side of Greeley. Related to his discussions with Commissioners Modlin and Briscoe were joint work sessions with the City Council regarding sub area planning.

There have been several issues including traffic, PUD's and the 2024 work plan that would translate into great work session discussions. Chair Yeater and Commissioner Modlin agreed.

10. Adjournment

With no further business before the Commission, Chair Yeater adjourned the meeting at 2:36 PM.

DocuSigned by:

Justin Yeater

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DocuSigned by:

Don Threewitt

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Don Threewitt, Community Development Deputy Director



2118 North 47th Avenue Rezone ZON2022-0023

Brian McBroom, Community Development Director
Michael Franke, Planner II
City Council Meeting
December 5, 2023



Agenda



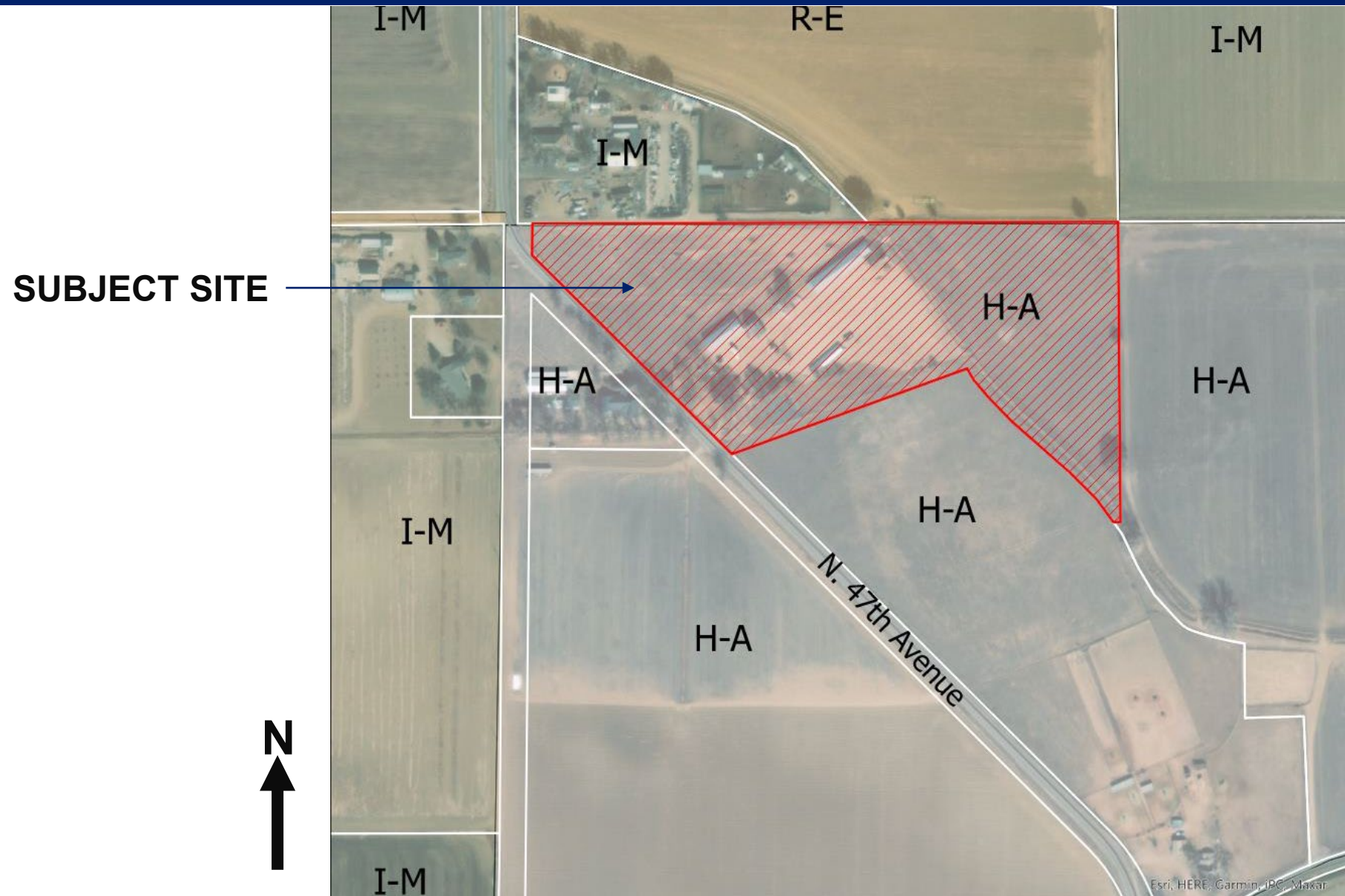
- Request:
 - Rezone 11.2 acres from H-A (Holding Agriculture) to R-E (Residential Estate)
- Background:
 - North Poudre Third Annexation (1982)
 - Established today under the Payne Subdivision (Lot 1, Block 2) (2001)
- City Council Action: Request for Approval

Location

SUBJECT SITE



Location



Land Uses Comparison

Holding Agriculture

- Single-family Dwelling (40+ac Lot)
- Established Residential
- Farming
- Lodging – Short Term Rental
- Animal Care – Stables (> 5 boarded animals) (Special Review)
- Utilities – Lines over 33 KVA, overhead (Special Review)

Residential Estate - Proposed

- Single-family Dwelling (13K+ SF Lot)
- Established Residential
- Farming
- Lodging – Short Term Rental
- Residential Care – Group Home
- Assembly (up to 499 people)
- Golf Course & Country Club (no lights)
- Schools
- Utilities – Limited (towers under heights permitted by zoning and accessory structures and cabinets)

Considerations

Approval Criteria

- ✓ Rezoning Criteria, 24-204(b)

Notification

- 24 notice letters
- 1,000 ft notice boundary
- Signs posted on the property
- Web notice
- No objection

Recommendation

- Staff recommends approval of the Rezone.
- Planning Commission recommended approval to City Council on September 26, 2023

Recommended Motion



Rezoning Criteria, Section 24-204(b)

- Approval

Based on the application received and the preceding analysis, the City Council finds that the proposed rezone from H-A (Holding Agriculture) and zoning district to R-E (Residential Estate) zoning district **meets** the Development Code criteria, Section 24-204, and therefore, **approves** the rezone case.

Thank you



Alternative Motion



Rezoning Criteria, Section 24-204(b)

- Denial

Based on the application received and the preceding analysis, the City Council finds that the proposed rezone from H-A (Holding Agriculture) zoning district to R-E (Residential Estate) zoning district **does not meet** the Development Code criteria, Section 24-204, and therefore, recommends **denies** the rezone case.

Review Criteria



Rezone Criteria – Section 24-204(b)

1)	The proposal is in <u>accordance</u> with the <u>goals and objectives</u> of the <u>Comprehensive Plan</u> and any other plan, policy, or guidance adopted pursuant to that plan • <i>Comprehensive Plan HO-2.1 (Diversity in New Development)</i> • <i>Comprehensive Plan HO- 2.2 (Rental Housing)</i> • <i>In addition- GC-1.2, GC-2.1, GC-4.3, HO-1.6 (Form of Growth, Land Use Guidance Map, Infill Compatibility, and Universal Design and Visitability)</i>
2)	The proposal can <u>fulfill the intent</u> of the <u>zoning district</u> considering the relationship to the surrounding areas • <i>Rezoning would allow for development of single-family estate homes with other low intensity uses that are compatible with the existing surrounding land uses. The proposal to develop a new single-family estate home on the site aligns directly with the intent of the R-E zoning district</i>
3)	The <u>area changed</u> or is it changing to such a degree that it is in the public interest to rezone the subject property to <u>encourage development or redevelopment</u> of the area? • <i>Surrounding area has been primarily single-family detached homes with farmland</i> • <i>Current zoning allows limited future development options and is intended to be rezoned</i> • <i>Rezoning allows for more development options that align with existing development</i>

Review Criteria



Rezone Criteria – Section 24-204(b)

- | | |
|----|--|
| 4) | <p>The existing zoning has been in place for a substantial time without development, and if this indicates the <u>existing zoning is inappropriate given development trends</u> in the vicinity</p> <ul style="list-style-type: none"><i>Current zoning and use has been in place since 1980s</i><i>No development since annexation and establishment of zoning</i><i>Current zoning is meant to be temporary upon annexation and intended to be changed when development is proposed</i><i>Rezoning to R-E would allow for more development options and lot configurations without impact</i> |
| 5) | <p>The <u>proposed zoning will enable development in character with existing or anticipated development</u> in the area considering the design of streets, civic spaces, and other open space; the pattern, scale and format of buildings and site; and the compatibility and transitions with other complimentary uses and development</p> <ul style="list-style-type: none"><i>Would provide complimentary development to surrounding land uses</i><i>This would be a reasonable transition of zoning</i><i>Any new development application would be reviewed for compliance with the City's Development Code</i> |

Review Criteria



Rezone Criteria – Section 24-204(b)

- | | |
|----|---|
| 6) | <p>The City or other agencies have the <u>ability to provide services</u> or facilities that may be necessary for anticipated uses in the proposed district</p> <ul style="list-style-type: none"> <i>Greeley can provide services to the site in the future once Greeley takes over North Weld Water service. Any services to the site shall meet city standards</i> <i>City staff is working with the applicant on providing adequate services to the site</i> |
| 7) | <p>The change <u>will serve a community need</u>, provide an amenity, or <u>accommodate development</u> that is <u>not possible under the current zoning</u> or that was not anticipated at the time of the initial zoning or the property, making the proposed zoning more appropriate than the current zoning.</p> <ul style="list-style-type: none"> <i>The proposed zoning would allow for more development options</i> <i>Allows for more potential services for the community not possible under current zoning</i> |
| 8) | <p>Any reasonable anticipated negative <u>impacts</u> on the area or adjacent property either <u>are mitigated</u> by sound planning, design and engineering practices or are outweighed by broader public benefits to the surrounding community</p> <ul style="list-style-type: none"> <i>Any impacts resulting from the rezone would be mitigated as part of the development review process. No impacts are anticipated with the rezone proposal, minor subdivision, or single-family home</i> <i>All professional staff and advisory review bodies have been assigned to corresponding development</i> |

Review Criteria

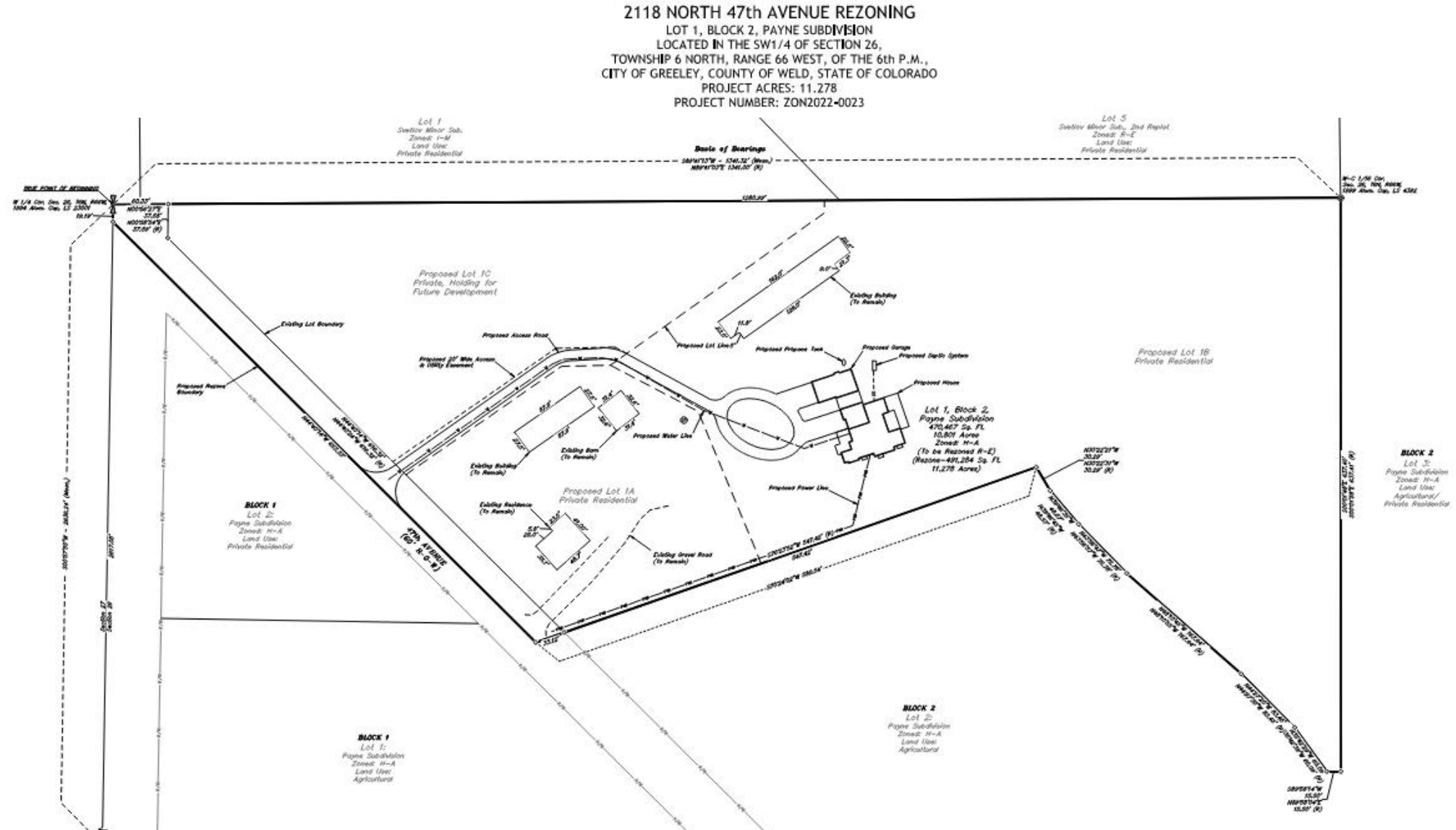


Rezone Criteria – Section 24-204(b)

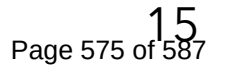
- | | |
|----|---|
| 9) | The <u>recommendations</u> of professional staff or advisory review bodies |
| | <ul style="list-style-type: none">• <i>Staff recommends approval of this rezoning request</i> |

2118 N. 47th Ave Rezone Details

Attachment E - Rezone Plan Details



PAYNE SUBDIVISION, FIRST REPLAT
BEING A REPLAT OF LOT 1, BLOCK 2, PAYNE SUBDIVISION
LOCATED IN THE SW1/4 OF SECTION 26, TOWNSHIP 6 NORTH, RANGE 66 WEST, OF THE 6th P.M.,
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
PROJECT ACRES: 10.801
PROJECT NUMBER: SUB2022-0030





Council Agenda Summary

December 5, 2023

Key Staff Contact: Heidi Leatherwood, City Clerk

Title:

Appointments to Boards & Commissions

Summary:

Council appointment is needed to the above-mentioned Boards and Commissions due to vacancies and term expirations. City staff continues to actively recruit to fill all other vacant positions.

Fiscal Impact:

Does this item create a fiscal impact on the City of Greeley?	No
Is there grant funding for this item?	No

Legal Issues:

The City Attorney's Office reviewed the applications and advised of potential conflicts of interest.

It should be noted that there is a possibility that the applicants currently serve as a volunteer on a board or commission besides the one they are applying to. It is also important to point out to the applicants that there are always potential conflicts that exist with business and investments, current jobs or relatives and family members coming before the Board or Commission.

Should such conflicts arise, the Board or Commission member simply recuses themselves from that particular item. Such a potential conflict does not preclude anyone from serving on a Board or Commission in general, just that particular agenda item.

Other issues and Considerations:

None.

Strategic Focus Area:



Community Vitality

Decision Options:

- 1) Appoint or reappoint the individuals to serve on an applicable board or commission
- 2) Direct staff to re-advertise applicable vacancy

Council's Recommended Action:

No motion is necessary. The City Council's Policies and Protocol authorize appointment of Board and

Commission members by written ballot, which can be used in lieu of a motion or voice vote for individual or multiple appointments. This policy was adopted by Council as a time-savings measure. Accordingly, a ballot is attached for Council's use in making appointments. Candidates receiving a majority vote (at least 4 votes) are appointed with no further action needed by Council.

Attachments:

1. Transmittal Summary Signed
2. Sample Ballot

Boards & Commissions Transmittal

November 22, 2023

Key Staff Contact: Allie Powell, Senior Assistant City Clerk, 350-9746

Interview Date

November 27, 2023

Council Interview Team

Councilmembers Butler & Payton

Council Appointment Date

December 5, 2023

Boards and Commissions Being Interviewed

- **Citizen Budget Advisory Committee**
- **Greeley Art Commission**
- **Greeley Urban Renewal Authority**
- **Historic Preservation Commission**
- **Parks & Recreation Advisory Committee**

Council's Recruitment and Qualifications Policy

General recruitment efforts shall be made with special measures being taken to balance ward representation and attract minority and special population applicants. Generally, volunteers will be limited to serving on one board or commission at a time. (14.2. (c)(2) City Council, Policies and Protocol)

Demographic information of existing board members and any specialty requirements are contained within the attached Membership Rosters.

Legal Issues

The City Attorney's Office reviewed the applications and the attached memorandum addresses any potential conflicts of interest.

It should be noted that there is a possibility that the applicants currently serve as a volunteer on a board or commission besides the one they are applying to. It is also important to point out to the applicants that there are always potential conflicts that exist with business and investments, current jobs or relatives and family members coming before the Board or Commission.

Should such conflicts arise, the Board or Commission member simply excuses themselves from that particular item but such a potential conflict does not preclude anyone from serving on a Board or Commission in general, just that particular agenda item.

Applicable Council Goal or Objective

Infrastructure & Growth – Establish the capital & human infrastructure to support & maintain a safe, competitive, appealing, and dynamic community.

Decision Options

1. Recommend candidates for appointment; or
2. Direct staff to re-advertise applicable vacancy.

Attachments

1. Interview Schedule
2. Conflict Memorandum from City Attorney's Office
3. Sample Ballot
4. Membership Rosters from above mentioned Boards and Commissions
5. Applications of those being considered for interview and/or considered for appointment

Transmittal reviewed by:  Raymond Lee, City Manager  Heidi Leatherwood, City Clerk



Applicants for the boards and/or commissions listed below are in alphabetical order
and recommendations from the interview team are shown in bold.

***** BALLOT *****

Citizen Budget Advisory Committee	
<i>1 Position: 3 Year Term</i>	
☐	Josee Giberson
☐	(Recruit for Additional Applicants)

Greeley Art Commission (Designer/Architect)	
<i>1 Position: 3 Year Term</i>	
☐	Thomas DeVore (I)
☐	(Recruit for Additional Applicants)

Greeley Art Commission (General)	
<i>1 Position: 3 Year Term</i>	
☐	Michael Haren
☐	Valerie Leal-Whitehead
☐	(Recruit for Additional Applicants)

Historic Preservation Commission	
<i>1 Position: 3 Year Term</i>	
☐	Doran Azari
☐	(Recruit for Additional Applicants)

Greeley Urban Renewal Authority	
<i>2 Positions: 3 Year Term</i>	
☐	Christopher Leffler (I)
☐	Heather Utrata (I)
☐	Michael Bond
☐	Ron Kingsford
☐	(Recruit for Additional Applicants)

Parks & Recreation Advisory Board	
<i>1 Position: 3 Year Term</i>	
☐	Michael Haren
☐	(Recruit for Additional Applicants)

(I) = Incumbent



Council Agenda Summary

Title:

Scheduling of Meetings, Other Events

Summary:

During this portion of the meeting the City Manager or City Council may review the attached Council Calendar or Planning Calendar and Schedule for City Council Meetings and Work Sessions and make any necessary changes regarding any upcoming meetings or events.

Attachments:

Council Events Calendar

Council Meeting and Work Session Schedule/Planning Calendar

December 4, 2023 - December 10, 2023

December 2023						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

January 2024						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Monday, December 4

Tuesday, December 5

6:00pm - 6:30pm City Council Meeting (R_CCS_Council Chambers - WiFi Ready; R_CCS_Council Chambers Overflow Room 103) - Council Master Calendar ↻



Wednesday, December 6

Thursday, December 7

- 7:30am - Poudre River Trail (Hall)** ↻
- 3:30pm - IG Adv. Board (Butler)** ↻
- 5:00pm - 5:30pm Annual Menorah Lighting** (9th Street Plaza, Greeley) - Council Master Calendar
- 6:00pm - 8:30pm North Front Range MPO Meeting (Olson/Payton)** ↻

Friday, December 8

Saturday, December 9

3:00pm - 3:30pm The Great Skatetacular (900 8th Avenue Greeley CO 80631 (Greeley Ice Haus)) - Council Master Calendar

Sunday, December 10

December 11, 2023 - December 17, 2023

December 2023						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

January 2024						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Monday, December 11

 **5:30pm - 8:00pm Community Workshop - Update/Feedback on State Climate Plan** (Greeley Rec Center 651 10th Ave Greeley CO 80631) - Council Master Calendar

Tuesday, December 12

 **6:00pm - City Council Work Session Meeting** (R_CCS_Council Chambers - WiFi Ready) - Council Master Calendar 



Wednesday, December 13

 **4:30pm - 5:30pm Front Range Passenger Rail Webinar** (<https://bit.ly/FRPRPublicWebinar>) - Council Master Calendar

Thursday, December 14

 **11:00am - 2:00pm Holiday Luncheon- sponsored by City Council** (Double Tree Hotel) - Council Master Calendar

Friday, December 15

Saturday, December 16

Sunday, December 17

December 18, 2023 - December 24, 2023

December 2023						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

January 2024						
Su	Mo	Tu	We	Th	Fr	Sa
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Monday, December 18

Tuesday, December 19

6:00pm - City Council Meeting (R_CCS_Council Chambers - WiFi Ready; R_CCS_Council Chambers Overflow Room 103) - Council Master Calendar ↻



Wednesday, December 20

7:30am - Visit Greeley (Butler) (902 7th Ave Greeley) ↻

2:00pm - 5:00pm Water & Sewer Board (Gates) ↻

Thursday, December 21

7:30am - 8:30am Downtown Development Authority (DeBoutez/Butler) (802 9th St #100, Greeley, CO 80631) ↻

3:30pm - 4:30pm Airport Authority (Clark/Payton) ↻

Friday, December 22

Saturday, December 23

Sunday, December 24

December 25, 2023 - December 31, 2023

December 2023						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

January 2024						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Monday, December 25

11:30am - 12:30pm Greeley Chamber of Commerce (Hall) ↻

Tuesday, December 26

6:00pm - City Council Work Session Meeting - Cancelled
(R_CCS_Council Chambers - WiFi Ready) - Council Master Calendar ↻



Wednesday, December 27

7:00am - 8:00am Upstate Colorado Economic Development
(Gates/Hall) (Upstate Colorado Conference Room) - Council Master
Calendar ↻

Thursday, December 28

Friday, December 29

Saturday, December 30

Sunday, December 31

City Council Meeting Scheduling 2023/2024			
	11/28/2023		
	This schedule is subject to change		
Date/Type	Description	Sponsor Presenter/Director or Project Manager	Placement/Time
December 05, 2023	Proclamations (16 Days of Activism Against Gender Violence)	Mayor	Intro
	Proclamation - Wreaths Across America (Mayor presents at Event)	Mayor	Intro
	Proclamation - Law Enforcement Records Personnel Week	Mayor	Intro
	Minutes Approval (Nov 28 SM, Nov 28 WS)	Heidi Leatherwood	Consent
	Appoint Councilmembers as Liaison to Boards & Committees	Heidi Leatherwood	Consent
	Consideration of a Resolution - Initiate Litigation Against Duran Excavating Inc.	Stacey Aurzada	Consent
	Consideration of a Resolution - 2023 DDA Mill Levy Certification	Robert Miller	Consent
	Consideration of a Resolution Approving the 2024 DDA Budget	Robert Miller	Consent
	Consideration of a Resolution - Ratify Clearview Library District Trustee	Heidi Leatherwood	Consent
	Consideration of a Resolution - Ratify High Plains Library District Trustees	Heidi Leatherwood	Consent
	Intro & 1st Rdg Ord - 1318 47th Ave PUD	Brian McBroom/Jeff Woeber	Consent
	Intro & 1st Rdg Ord- Triple Creek PUD	Brian McBroom/Michael Franke	Consent
	Intro & 1st Rdg Ord - Triennial Review	Heidi Leatherwood/Sarah Jacobsen	Consent
	PH & 2nd Rdg - 2118 N. 47th Ave	Brian McBroom/Michael Franke	Regular
	Boards & Commission Appointments	Heidi Leatherwood	Regular
December 12, 2023 Council Work Session	Update on Downtown Homelessness	Juliana Kitten/Adam Turk	Work Session
	Sign Regulation and Enforcement	Brian McBroom	Work Session
	Initiative 08-2023 Public Nuisance Order	Brian McBroom/Doug Marek	Work Session
December 19, 2023	Minutes- Dec 5 CC, Dec 12 WS	Heidi Leatherwood	Consent
	Consideration of a resolution to approve WEX Fuel Change Order	Paul Trombino	Consent
	Consideration of a resolution to approve Ice Haus Roof Change Order	Paul Trombino	Consent
	Consideration of a Resolution Approve the Transformational Homelessness Response Grant Award	Ashley Weesner/Juliana Kitten	Consent
	PH & 2nd Rdg - 1318 47th Ave PUD	Brian McBroom/Jeff Woeber	Regular
	PH & 2nd Rdg - Triple Creek PUD	Brian McBroom/Michael Franke	Regular
	PH & 2nd Rdg Ord - Triennial Review	Heidi Leatherwood/Sarah Jacobsen	Regular
December 26, 2024 Council Work Session	CANCELLED due to Holiday/Christmas Week		
January 02, 2024	Proclamation - Black History Month (tentative)	Mayor	Intro
	Proclamation - GFOA Certificate of Achievement - Financial Reporting (tentative)	Mayor	Intro
	Minutes- Dec 19 CC	Heidi Leatherwood	Consent
	Consideration of a Resolution- Designating posting sites for City Council meeting notices	Heidi Leatherwood	Consent
	Consideration of a Resolution - Designating Posting Sites for Boards and Commissions	Heidi Leatherwood	Consent
January 09, 2024 Council Work Session	16th Street Project Update	Paul Trombino/John Hall	Work Session
	Claims Reserve Fund	John Goodson	Work Session
	Current School District IGA Overview	Brian McBroom	Work Session
January 16, 2024			
	Minutes- Jan 2 CC, Jan 9 WS		
	Boards & Commissions Appointments	Heidi Leatherwood	Regular
January 23, 2024 Council Work Session	Private activity bond	Ashley Weesner/Juliana Kitten	Work Session
	Potential City of Greeley Polling	Kalen Myers	Work Session

City Council Meeting Scheduling 2023/2024			
	11/28/2023		
	This schedule is subject to change		
Date/Type	Description	Sponsor Presenter/Director or Project Manager	Placement/Time
February 1, 2024 - February 2, 2024 Council Retreat	Held at AIMS Welcome Center; 8 a.m. -5 p.m.	CCO/CMO	



Council Agenda Summary

Title:

Consideration of a motion authorizing the City Attorney to prepare any required resolutions, agreements, and ordinances to reflect action taken by the City Council at this meeting and any previous meetings, and authorizing the Mayor and City Clerk to sign all such resolutions, agreements, and ordinances

Council's Recommended Action:

A motion to approve the above authorizations.