Planning Commission Agenda

Regular Meeting

Tuesday October 24, 2023 at 1:15 p.m.

City Council Chambers-City Center South
1001 11th Ave, Greeley, CO 80631 Zoom
Webinar Link:
https://greeleygov.zoom.us/j/89724479443

NOTICE:

Planning Commission meetings are held on the 2nd and 4th Tuesdays of each month. Meetings are conducted in a hybrid format, with a Zoom webinar in addition to the in-person meeting in Council Chambers. Members of the public may participate in Planning Commission meetings in the manner that works best for them.

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Comment in Real Time:

Join the Zoom webinar (link above). During the public hearing, members of the public may address the Commission.

Submit Written Comments:

Email comments about any item on the agenda to cd_admin_team@greeleygov.com

Written comments can be mailed or dropped off at the Planning office at 1100 10th Street, Greeley, CO 80631. Written comments received prior to the meeting will be read into the record in real time.

Meeting agendas and minutes are available on the City's meeting portal at Greeleyco.municodemeetings.com/ For more information about this meeting or to request reasonable accommodations, contact the administrative team at 970-350-9780 or by email at cd_admin_team@greeleygov.com.

Planning Commission

October 24, 2023 at 1:15 PM
1001 11th Avenue, City Center South, Greeley, CO 80631

Agenda

1. Call to Order
2. Roll Call
3. Approval of the Agenda
4. Approval of the October 10, 2023 Planning Commission Meeting Minutes.

EXPEDITED AGENDA

The following items are routine in nature, fully described in the accompanying reports, and therefore staff summary presentations will be suspended unless requested by the Commission or member of the public in attendance at the meeting.

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).
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).

END OF EXPEDITED AGENDA

7. Staff Report
8. Adjournment

City of Greeley, Colorado
PLANNING COMMISSION PROCEEDINGS
October 10, 2023
Video Recording of the Meeting can be found at:
https://www.youtube.com/live/pBsFkOQaKb8?si=GiM5VwsLzopV9Bwq

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 Erik Briscoe
Commissioner Jeff Carlson
Commissioner Brian Franzen
Commissioner Larry Modlin
Commissioner Christian Schulte

None Absent

3. Approval of Agenda

No additions or changes.

4. Approval of September 26, 2023, Minutes

Commissioner Andersen moved to approve the minutes dated September 26, 2023, with one correction to the spelling of Commissioner Schulte's name on the first page. Commissioner Modlin seconded the motion.

Motion carried 7-0.

5. A public hearing to consider a request by Vector Development for a Preliminary/Final Subdivision approval on approximately 1.603 acres located north of Sanborn Park and east of the 35th Avenue and 20th Street intersection. (Case Number SUB2023-0001, Westlake Commons Townhomes Subdivision).

Chair Yeater introduced the item, asking if the commission or anyone in attendance wished to see a presentation, there was one request for presentation.

Meg Oren, Planner III began her presentation introducing the item as a Preliminary/Final plat on approximately 1.603 acres located north of Sanborn Park, and east of 35th Avenue and 20th Street intersection on Lot 2 of the Westlake Commons Minor Subdivision established in 2007 and includes 15 lots and 2 Outlots. The proposal includes 3, 2-story townhome buildings, each with 5 townhome lots.

The application meets the Major Subdivision criteria in section 24-203 of the Greeley Municipal Code. Proper notification was made regarding the application and staff did not receive any comment on the case. 95 notice letters were sent to property owners within 500 feet of the proposed application, signs were posted on the property, web notice was made, and mineral notification was completed. City Staff recommends approval.

With no questions for staff, Chair Yeater opened the Public Hearing at 1:21 p.m.

Ronald Moorhead lives adjacent to the property. He would like to get a copy of the layout of where any buildings will be positioned. Chair Yeater let him know that it is available online and would make sure he has that information after the meeting.

With no further public comment, Chair Yeater closed the Public Hearing at 1:22 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 Preliminary/Final Plat meets the Development Code criteria, Section 24-203 and therefore, recommends approval. Commissioner Carlson seconded the motion.

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

Motion Carried 7-0.

6. Staff Report

Brian McBroom, Community Development Director shared with the commission that the City Council has asked Community Development Staff to bring forward three topics for work sessions, they include.

- Front Yard Landscaping and Artificial Turf, this has been discussed previously and have asked to discuss the matter again (on October 24, 2023).
- On November 14th, 2023, the City Council will have a discussion on Public Nuisance. There are provisions within the code to address chronic problem properties.
- On December 12th, 2023, the City Council would like to have a discussion and presentation on the City's Sign Code. They have been receiving both positive and negative comments from the community and would like to discuss it further.

Mr. McBroom continued with an update on Brownfields and asked Don Threewitt, Interim Deputy Community Development Director to elaborate. Mr. Threewitt responded, sharing that the Brownfield area wide assessment application is being prepared for November. The staff is currently assessing establishing a steering committee that includes 3-5 members ideally for several grant cycles. He shared that staff would like to ask the Commission if any one member would be interested or if they know if any community members would be interested or willing to serve.
Mr. Threewitt continued, sharing that based on feedback from the commission, staff are looking at the PUD (Planned Unit Development) process and hopes to have updates to the Commission soon.

Chair Yeater asked Mr. Threewitt to email the steering committee information to the Commission including the time commitment.

7. Adjournment

With no further business before the Commission, Chair Yeater adjourned the meeting at 1:26 PM.

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Justin Yeater, Chair

_____

Don Threewitt, Interim Community Development Director

Planning Commission Agenda Summary

October 24, 2023
Key Staff Contact: Michael Franke, Planning Technician

Title:

Case Number PUD2023-0002, Triple Creek PUD

Summary:

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).

Recommended Action:

Approval

Attachments:

1. Planning Commission Summary
2. Vicinity/Zoning Map
3. Project Narrative
4. PUD Plan Set
5. Perimeter Treatment Landscape Plan
6. Neighborhood Notification Boundary Map
7. Statement of Commitments
8. Architecture Details
9. Traffic Impact Study
10. Public Comment
11. Staff Presentation
12. Applicant Presentation

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 exisitng 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, incompliance 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.

<u>Planned Unit Development Review Criteria, Section 24-205(c):</u>

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

Attachment A - Vicinity/Zoning Map - Triple Creek PUD

Legend

- Conservation District**
- Commercial Low Intensity
- Commercial High Intensity
- Holding Agriculture
- Industrial Low Intensity
- Industrial Medium Intensity
- Industrial High Intensity
- Planned Unit Development
- Residential Estate
- Residential Low Density
- Residential Medium Density
- Residential High Density
- Residential Mobile Home

City of Greeley Colorado

0 0.04 0.08 0.16 Miles

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.

ATTACHMENT B - PROJECT NARRATIVE

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' 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 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

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.

ATTACHMENT B - PROJECT NARRATIVE

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,

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.

ATTACHMENT B - PROJECT NARRATIVE

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

ATTACHMENT B - PROJECT NARRATIVE

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.

ATTACHMENT B - PROJECT NARRATIVE

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.

ATTACHMENT B - PROJECT NARRATIVE

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,

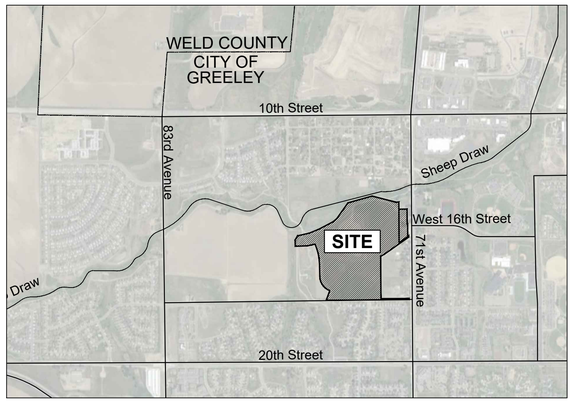
Rick Haering
Principal, LAI Design Group

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

NORTH

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) 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 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.

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

WERNSMAN ENGINEERING & LAND DEVELOPMENT

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

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PLANNER / ARCHITECT / LANDSCAPE ARCHITECT
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CIVIL ENGINEER
WERNSMAN ENGINEERING & 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
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

2.00 EXISTING CONDITIONS

LEGEND

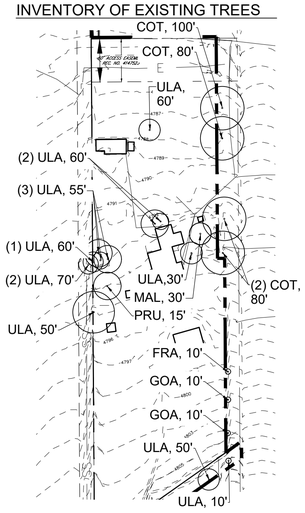
C-D	CONSERVATION DISTRICT
H-A	HOLDING AGRICULTURE
I-L	INDUSTRIAL - LOW INTENSITY
R-E	RESIDENTIAL ESTATE
R-H	RESIDENTIAL - HIGH DENSITY
R-L	RESIDENTIAL - LOW DENSITY
PUD	PLANNED UNIT DEVELOPMENT
	PRIMARY SITE ACCESS POINT
	SECONDARY SITE ACCESS POINT
ACTIVE PR	ACTIVELY PRODUCING WELL TO REMAIN
	FIRE HYDRANT
	DRAINAGE
	HIGH POINT
	LOW POINT
	200' RADIUS SETBACK OIL & GAS WELL LOCATION
	EXISTING CONTOURS
	PROPERTY BOUNDARY
	RIGHT-OF-WAY
	PLANNING AREA BOUNDARY
	EASEMENT
	SHEEP DRAW FLOWLINE

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
20' EXCLUSIVE ACCESS EASEMENT	3978801
20' SANITARY EASEMENT	4493298

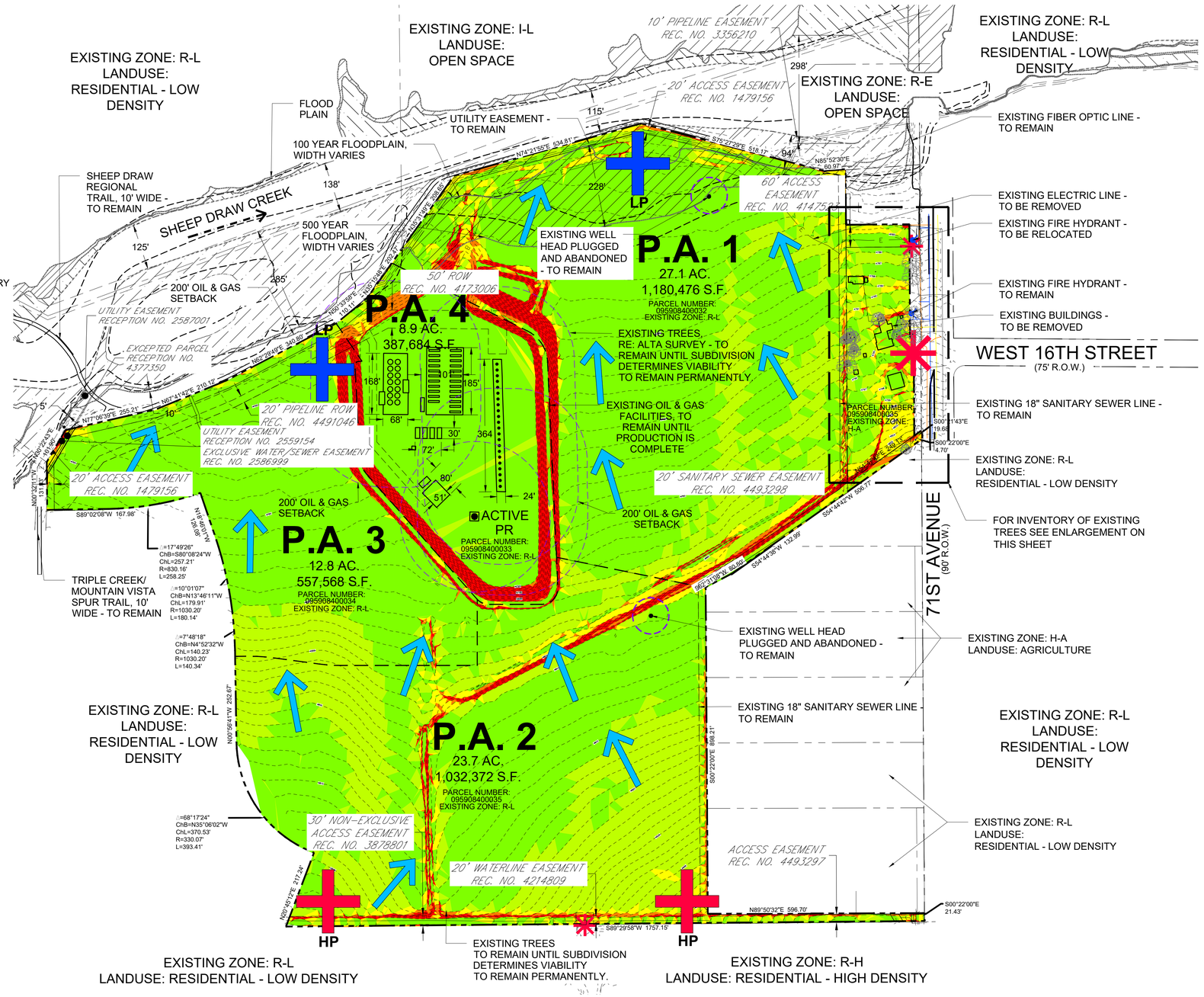
INVENTORY OF EXISTING TREES



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.



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PHONE: (970) 415-8432

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
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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

- PROPERTY BOUNDARY
- EXISTING EASEMENT
- 200' RADIUS SETBACK
- OIL & GAS EQUIPMENT

PLANNING AREA SUMMARY

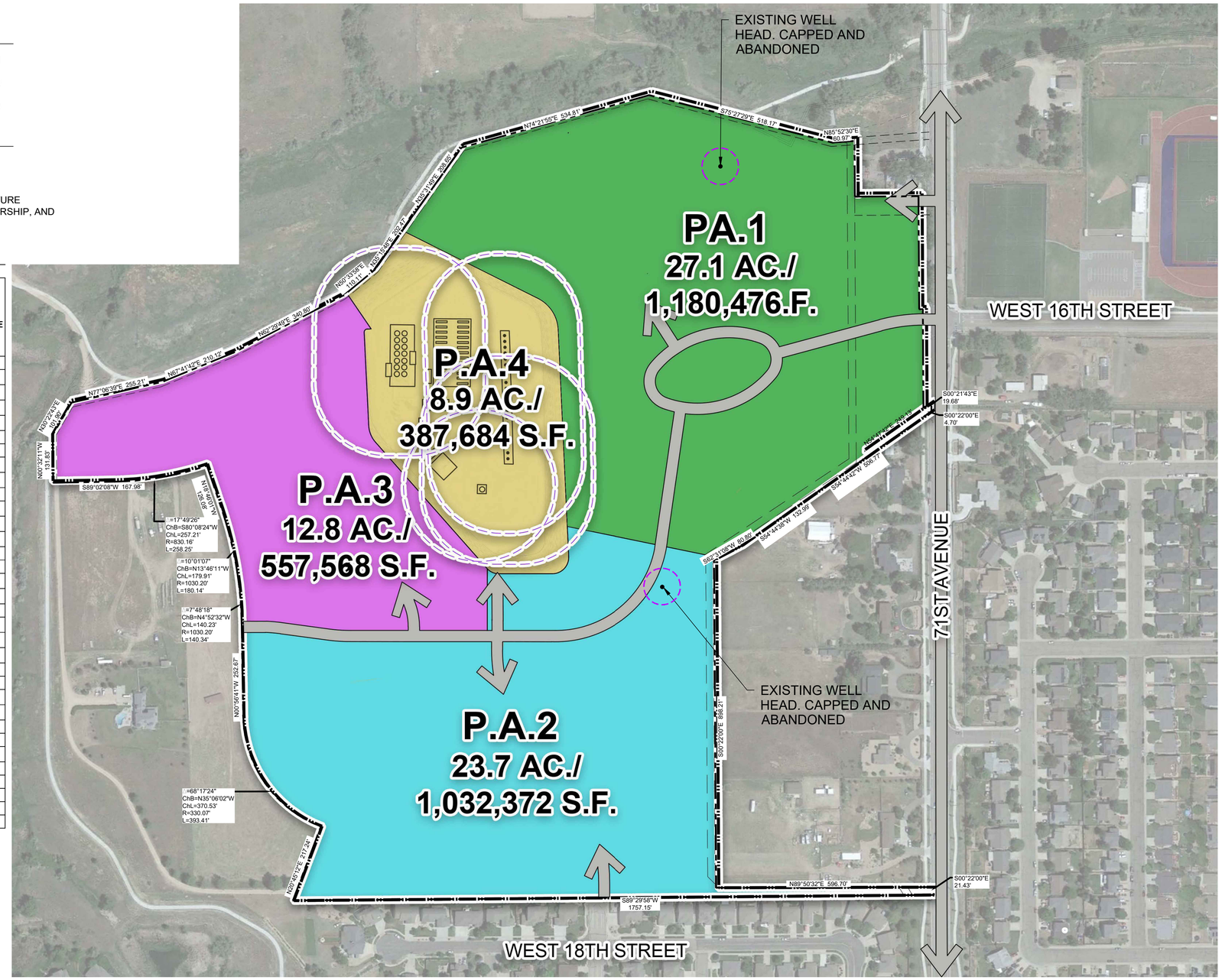
27.1 ACRES	P.A. 1	
23.7 ACRES	P.A. 2	
12.8 ACRES	P.A. 3	
8.9 ACRES	P.A. 4	
TOTAL	72.5 ACRES	

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.)	% OF ACREAGE
P.A. 1		27.1			36
	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			33
	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			17
	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]			
P.A. 4		8.9			14
	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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P.O.BOX 105
LASALLE, CO 80645

CLIENT
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5200 WEST 20TH STREET
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 North 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 North 54°44'42" West a distance of 470.20 feet;
THENCE South 62°31'08" West a distance of 80.80 feet;
THENCE South 00°22'00" East a distance of 898.21 feet;
THENCE North 89°50'32" East a distance of 626.70 feet to the East line of the Southeast Quarter of Section 8;
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.

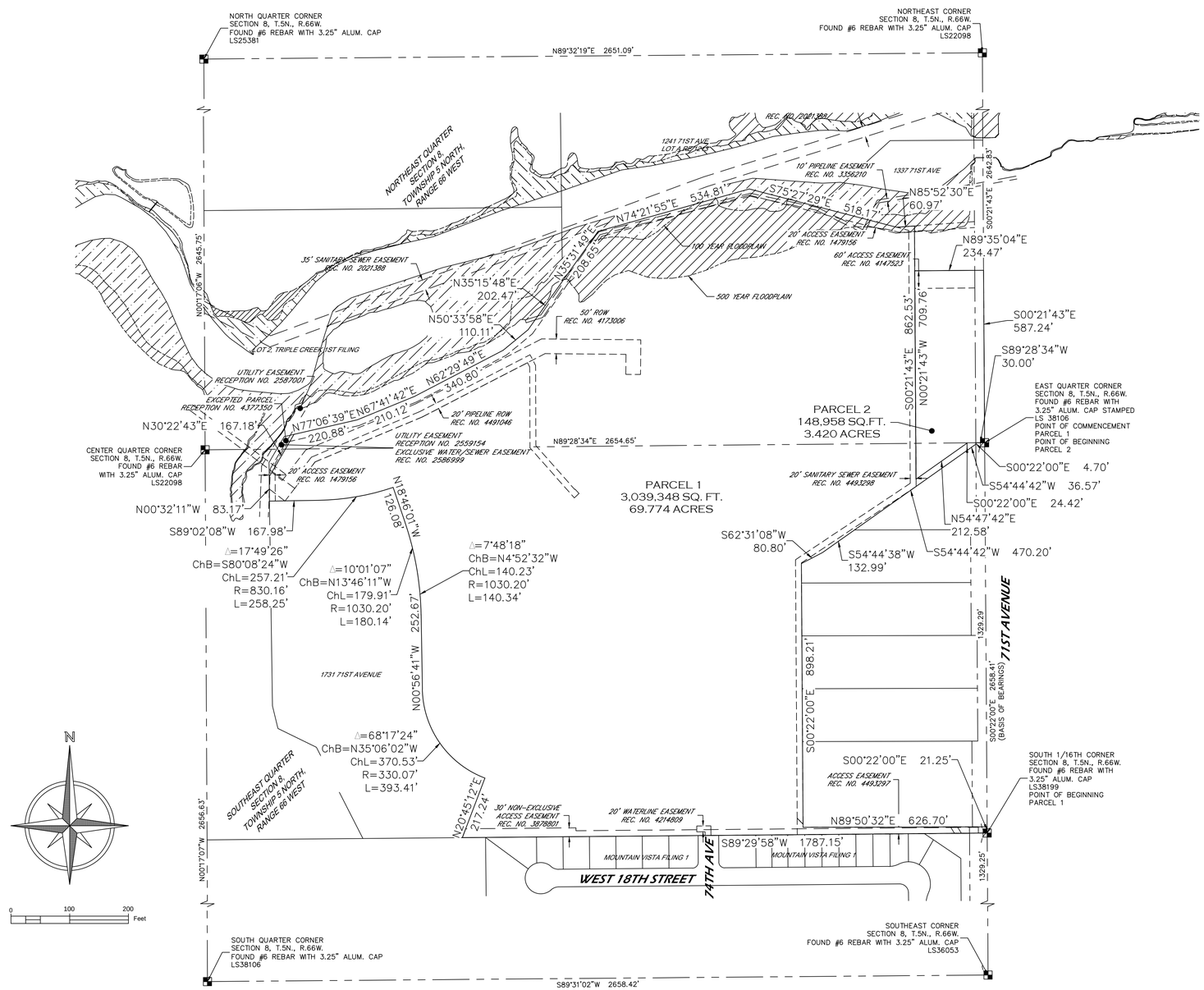
BASIS OF BEARINGS AND LINEAL UNIT DEFINITION

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)



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PHONE: (970) 415-8432

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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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
2nd SUBMITTAL	06/01/23
3rd SUBMITTAL	07/24/23
4th SUBMITTAL	09/01/23

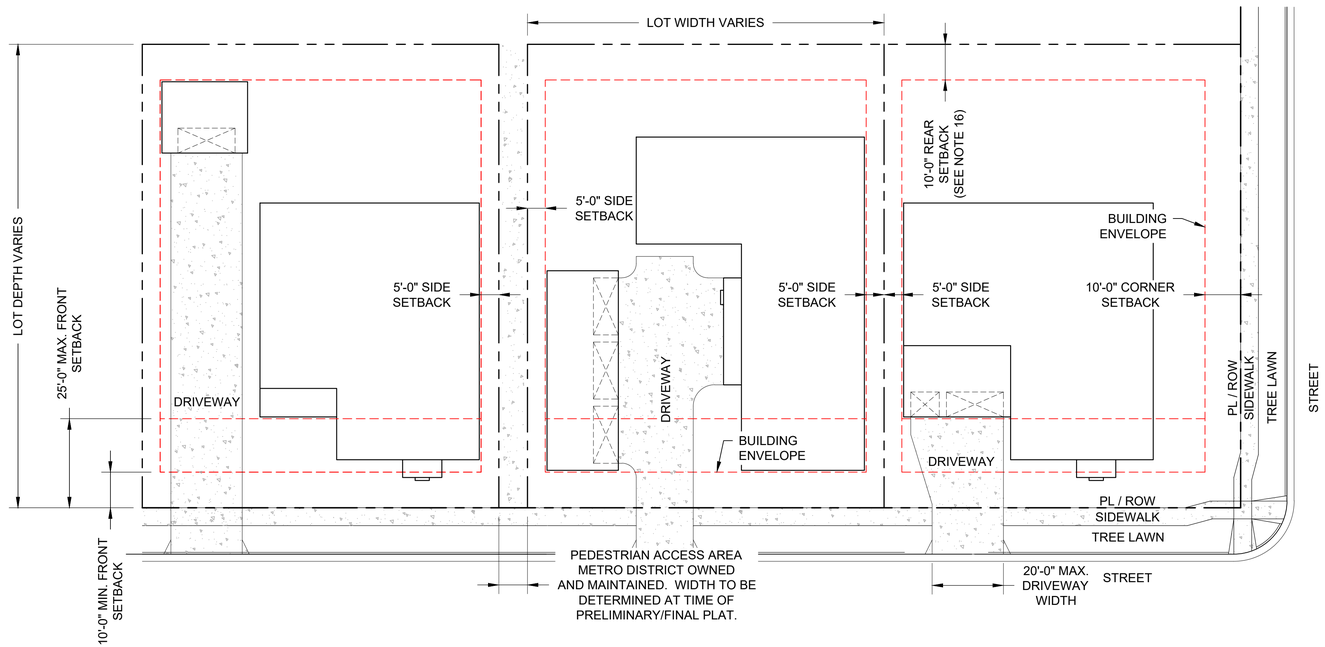
SHEET NUMBER
L3.04
SHEET 7 OF 32

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

3.05 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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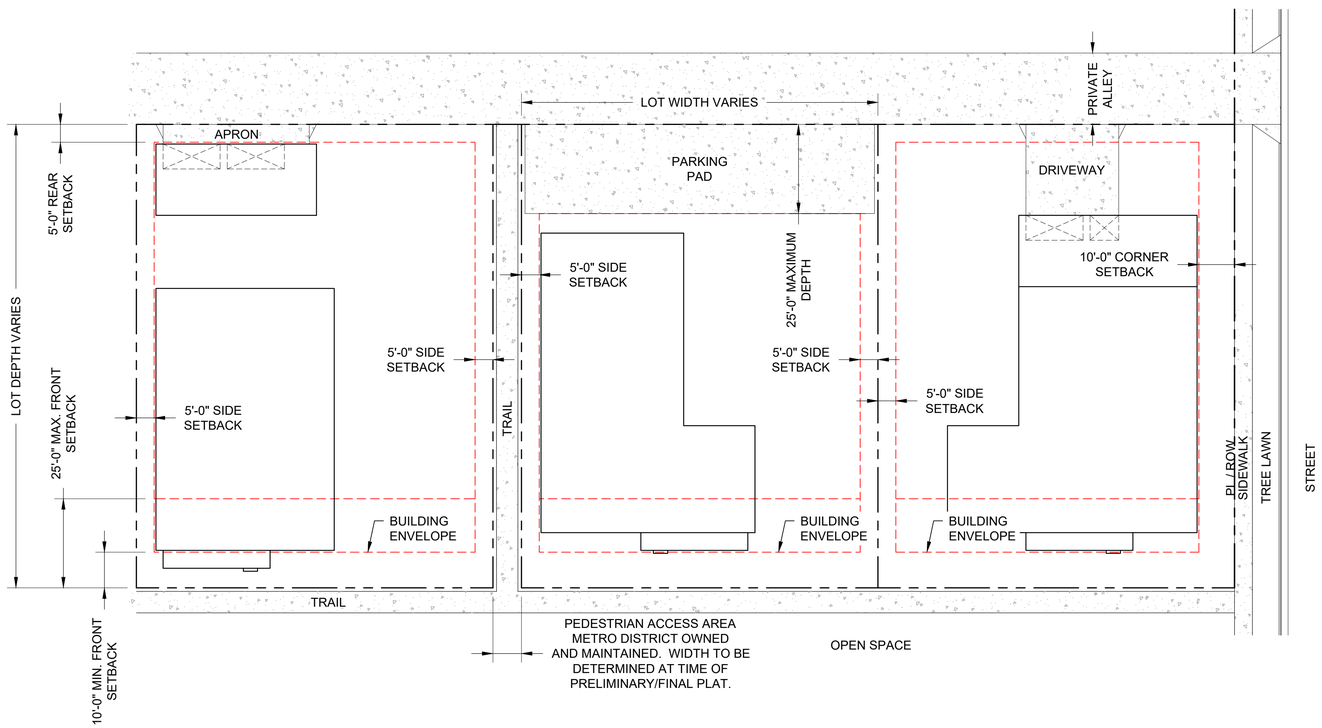
SHEET NUMBER
L3.05
SHEET 8 OF 32

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

3.06 DEVELOPMENT STANDARDS - ESTATE LOTS, ALLEY 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. ALL ESTATE LOTS THAT HAVE BOTH STREET AND ALLEY FRONTAGE, SHALL HAVE DRIVEWAYS THAT ACCESS THE ALLEY.
7. 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.
8. 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.
9. PARKING PADS SHALL BE ALLOWED IN LIEU OF, OR IN TANDEM WITH, A GARAGE. PAD DEPTH SHALL BE A MAXIMUM OF 25'.
10. 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.
11. ALL ESTATE LOTS FRONTING OR SIDING TO STREETS SHALL HAVE AT LEAST 1 TREE PER 25'.
12. 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

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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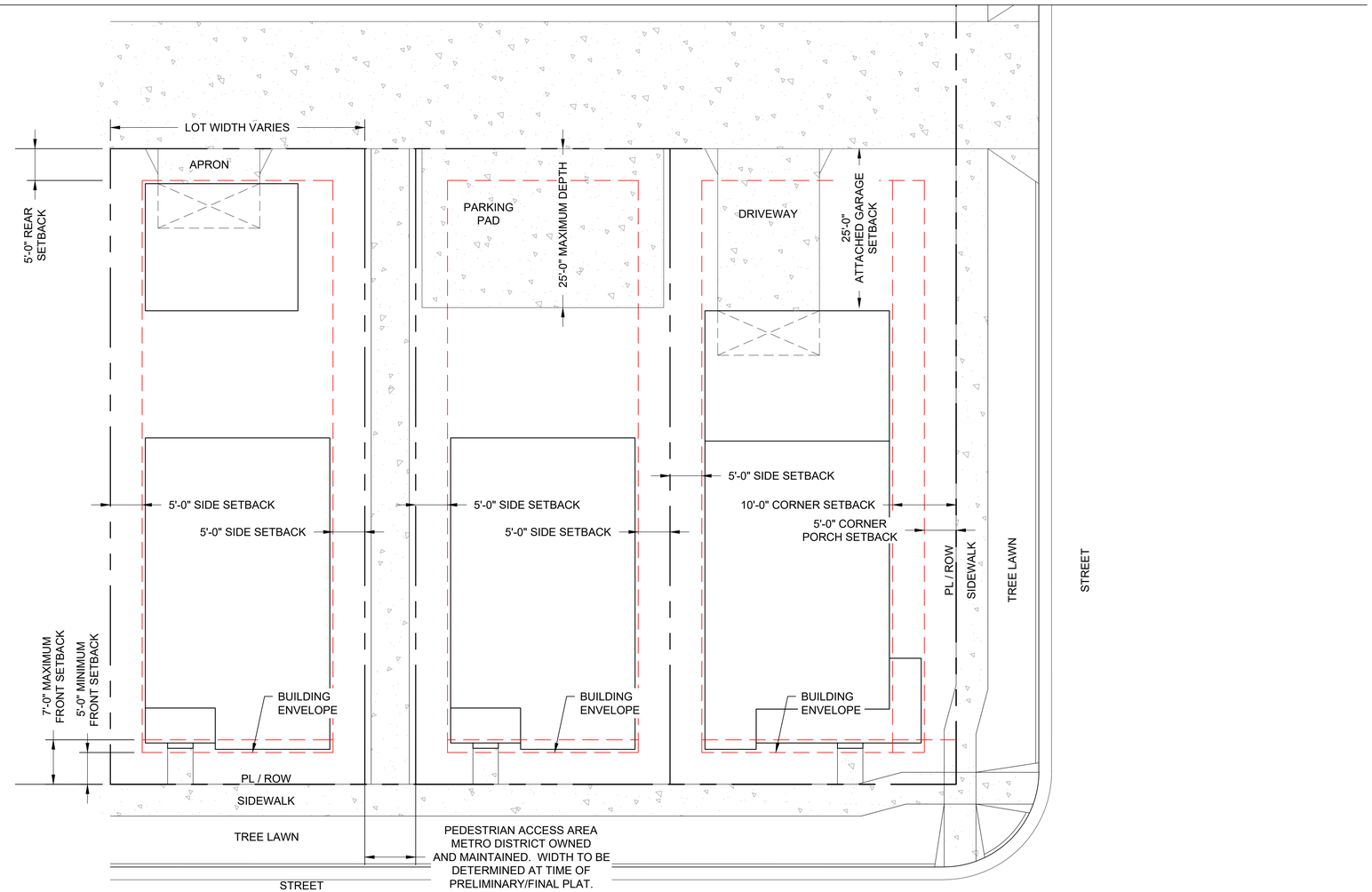
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

3.07 DEVELOPMENT STANDARDS - SINGLE FAMILY DETACHED, SMALL LOT

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. LOT WIDTH AND DEPTH CAN VARY. MINIMUM LOT SIZE SHALL BE 2,700 SQ. FT.
5. REFER TO SHEET L3.01 & L3.02 FOR SETBACKS.
6. REFER TO NOTE 1 ON SHEET L3.01 & L3.02 FOR ENCROACHMENTS.
7. 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.
8. PARKING PADS SHALL BE ALLOWED IN LIEU OF, OR IN TANDEM WITH, A GARAGE. PAD DEPTH SHALL BE A MAXIMUM OF 25'.
9. 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.
10. ALL SINGLE FAMILY SMALL 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 1 TREE PER LOT. CORNER LOTS SHALL ALSO BE REQUIRED TO HAVE 1 TREE PER 25' OF STREET FRONTAGE ON THE SIDE TREE LAWN, WITH A MINIMUM OF 1 TREES PER LOT.
11. PEDESTRIAN ACCESS AREAS WITH TRAILS WILL BE LOCATED BETWEEN SOME SINGLE FAMILY SMALL LOTS. ACCESS AREAS WILL BE OWNED AND MAINTAINED BY THE TRIPLE CREEK METRO DISTRICT.
12. 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.

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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

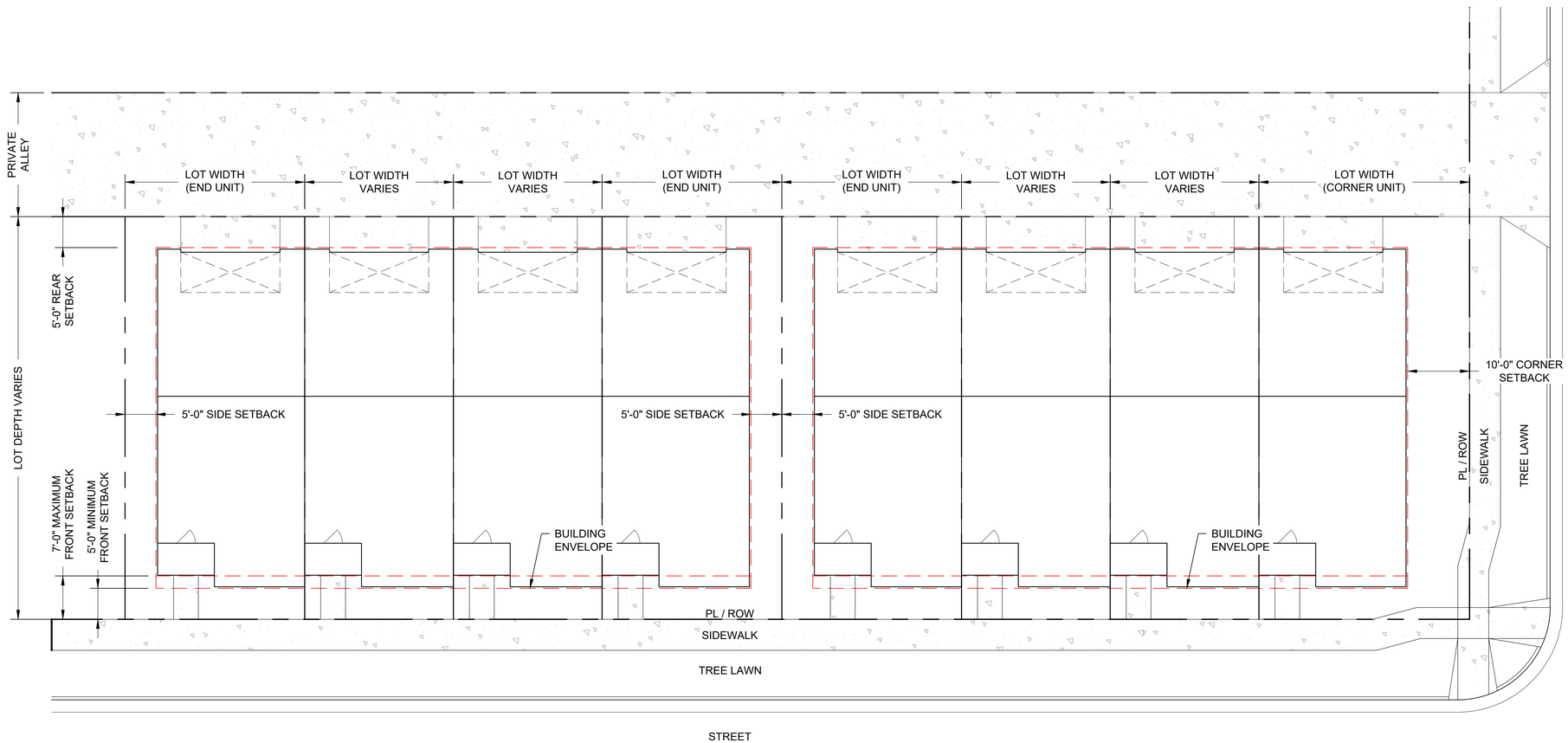
SHEET NUMBER
L3.07
SHEET 10 OF 32

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

3.08 DEVELOPMENT STANDARDS - ROW HOUSES



LEGEND

PROPERTY LINE
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. 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.
6. 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.
7. TOWNHOMES SHALL BE COMPRISED OF AT LEAST 3 UNITS, WITH NO MAXIMUM.
8. 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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4th SUBMITTAL	09/01/23

SHEET NUMBER
L3.08
SHEET 11 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
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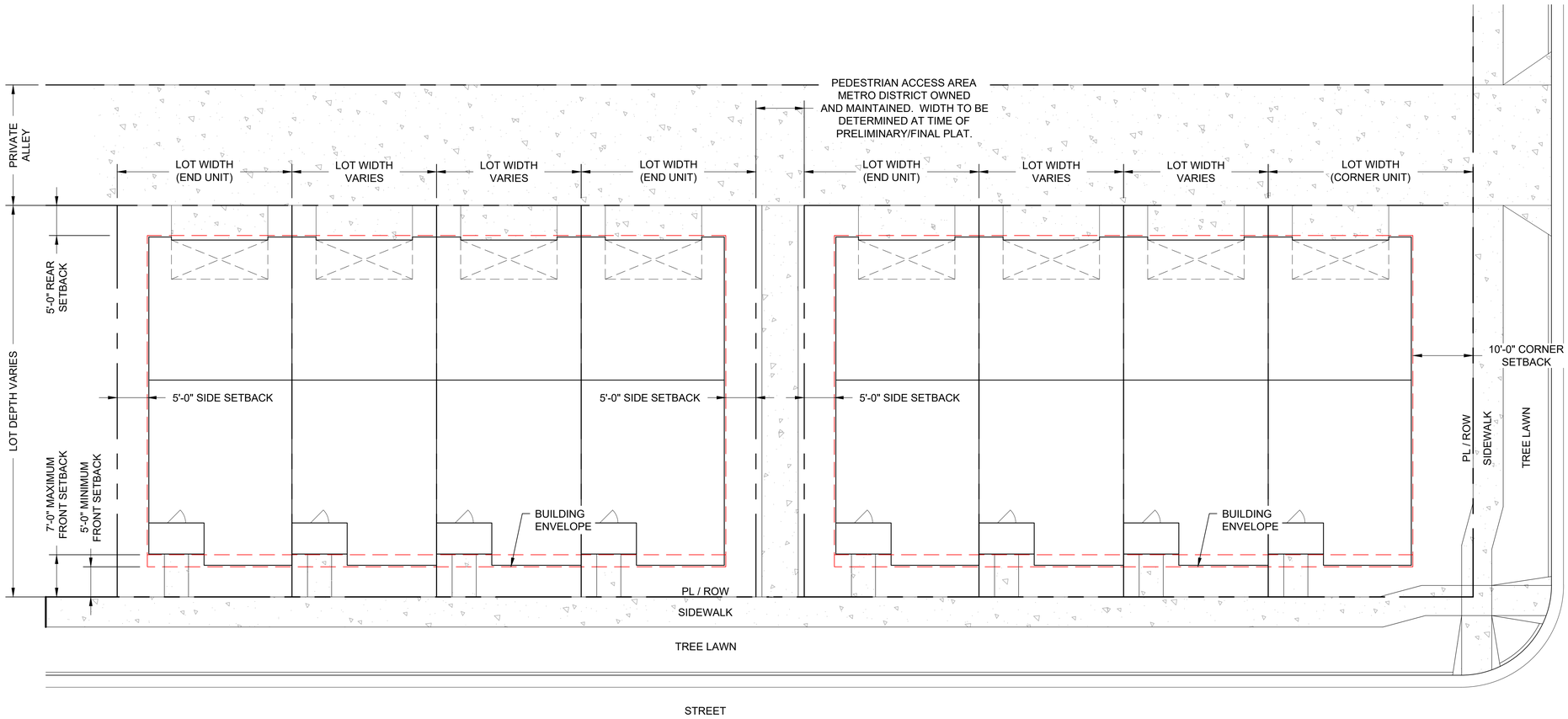
PUD2023-0002

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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SHEET NUMBER
L3.09
SHEET 12 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
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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
— x —	WESTERN BOUNDARY AT BROWN PROPERTY	SOLID FENCE OR WALL CONSISTING OF VINYL, WOOD, STONE OR OTHER SIMILAR MATERIAL

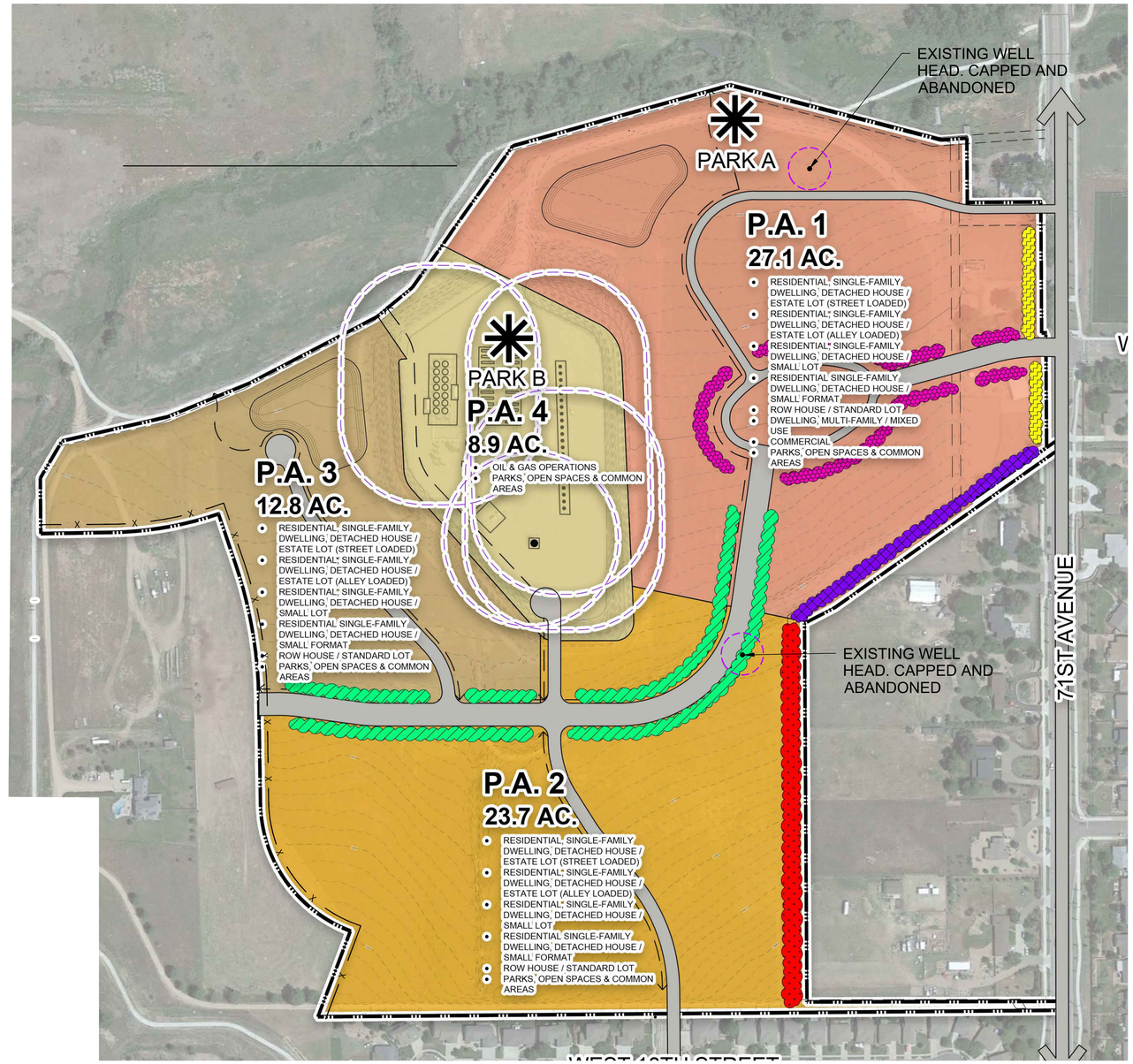
[1] DEFINITION PER CITY OF GREELEY CODE SECTION 24-802, DATED OCTOBER 1, 2021 AS AMENDED.
[2] COLLECTOR STREETS REQUIREMENTS APPLY TO EACH SIDE OF THE STREET.
[3] 71ST AVENUE STREET REQUIREMENTS APPLY TO WEST SIDE OF 71ST AVENUE.

✱ 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

1. 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.
2. LANDSCAPE DEVELOPMENT THAT REFLECTS THE PREVAILING SEMIARID CONDITIONS REINFORCES THE REGIONAL CHARACTER, CLIMATE, AND HABITAT OF THE CITY OF GREELEY AND ITS LOCAL ENVIRONMENT.
3. 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.
4. 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.
5. 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.
6. PERIMETER TREATMENT AREAS SHALL CONTAIN THE PLANT QUANTITIES INDICATED SHALL BE INCLUDED FOR EVERY 100 LINEAR FEET.
7. 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
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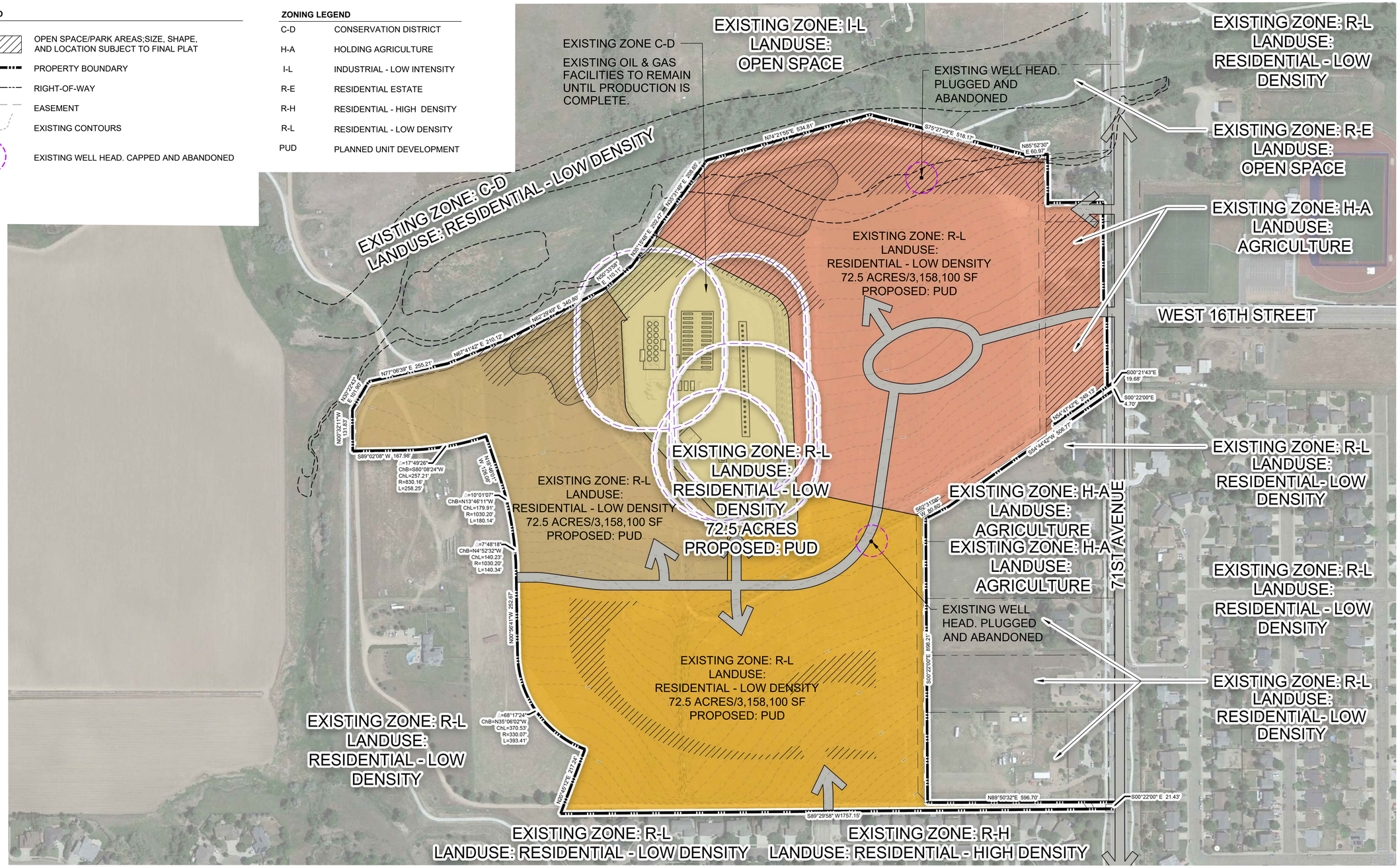
4.01 ZONING SUITABILITY

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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SHEET NUMBER
L4.01
SHEET 14 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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72.5 ACRES
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4.02 PEDESTRIAN CIRCULATION

PEDESTRIAN CIRCULATION SYSTEM

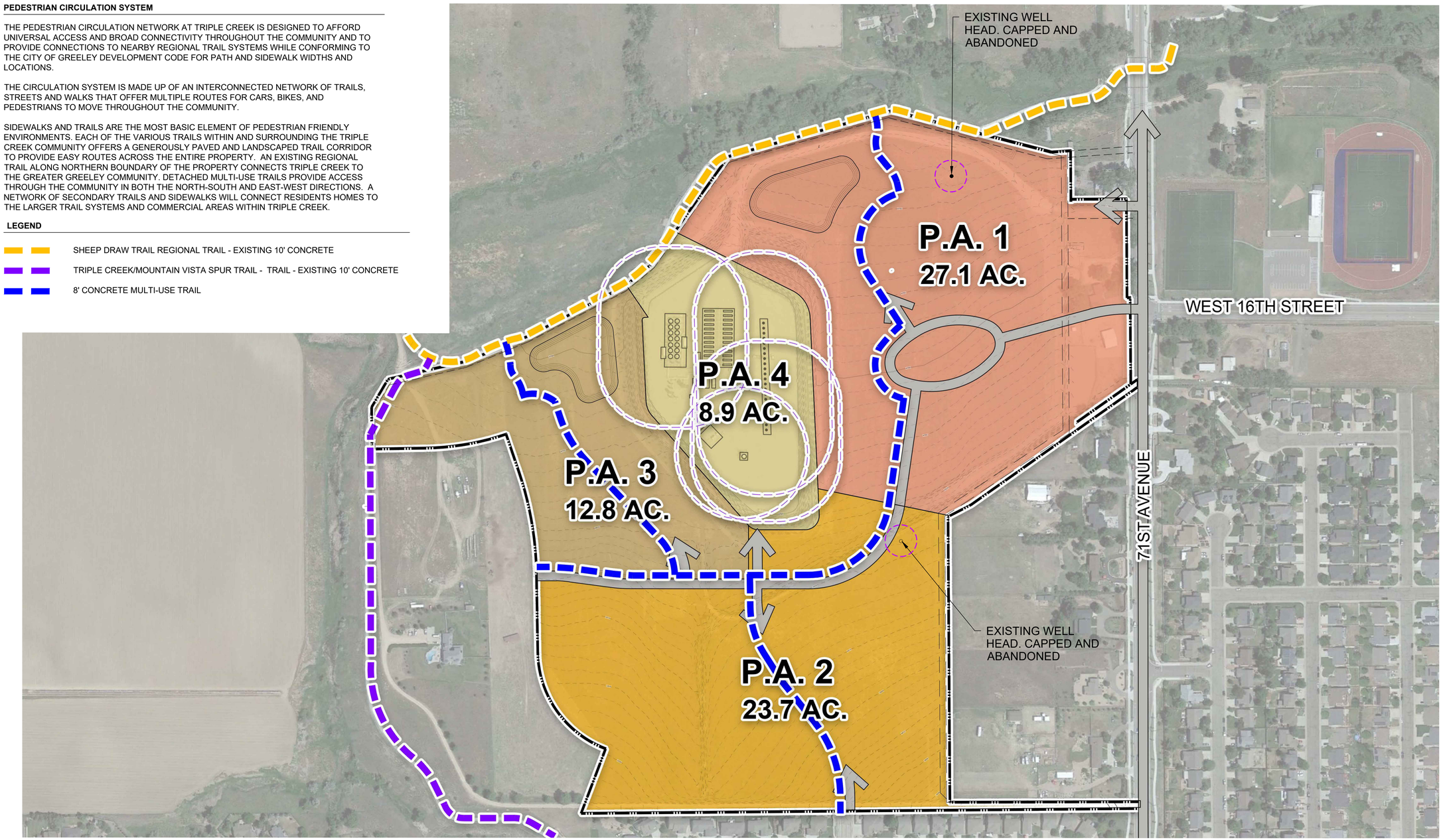
THE PEDESTRIAN CIRCULATION NETWORK AT TRIPLE CREEK IS DESIGNED TO AFFORD UNIVERSAL ACCESS AND BROAD CONNECTIVITY THROUGHOUT THE COMMUNITY AND TO PROVIDE CONNECTIONS TO NEARBY REGIONAL TRAIL SYSTEMS WHILE CONFORMING TO THE CITY OF GREELEY DEVELOPMENT CODE FOR PATH AND SIDEWALK WIDTHS AND LOCATIONS.

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



0' 150' 300'
GRAPHIC SCALE: 1" = 150'
NORTH

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L4.02
SHEET 15 OF 32

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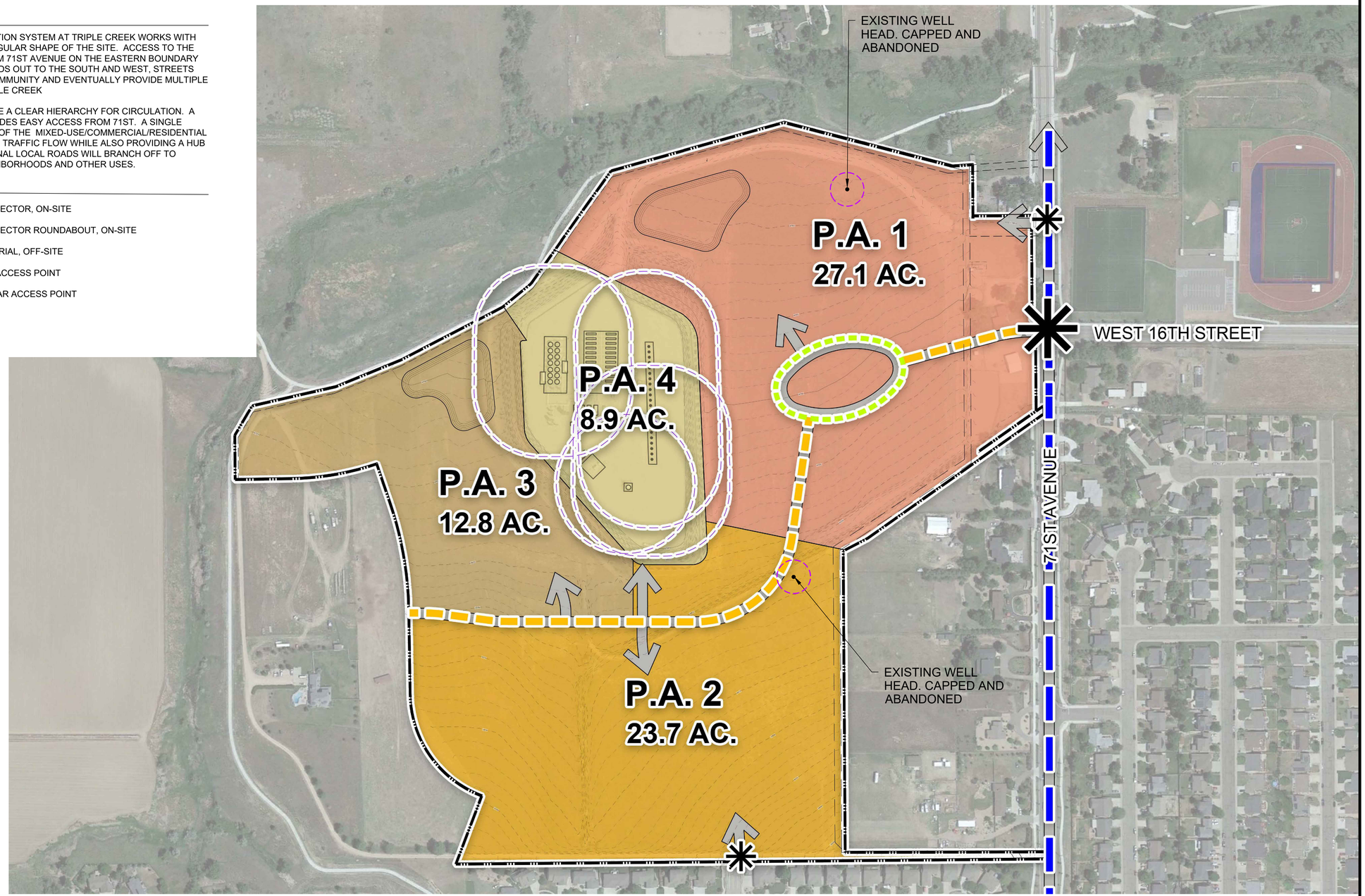
4.03 VEHICULAR CIRCULATION

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



0' 150' 300'
GRAPHIC SCALE: 1" = 150'
NORTH

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L4.03
SHEET 16 OF 32

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72.5 ACRES

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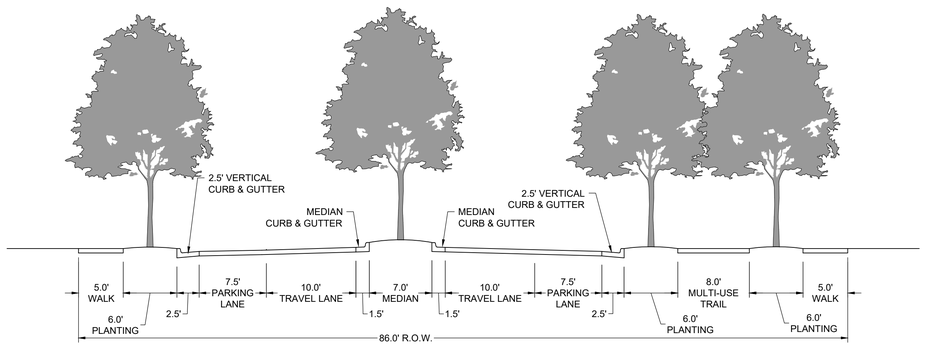
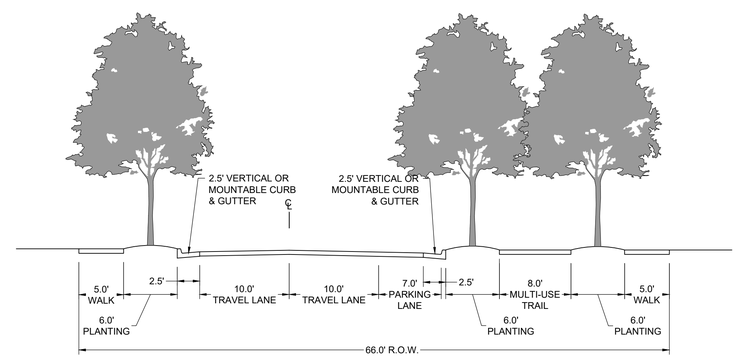
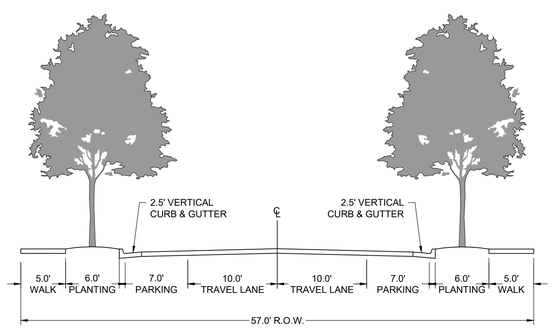
4.04 STREET SECTIONS



86' R.O.W. MINOR COLLECTOR STREET WITH MULTI-USE TRAIL



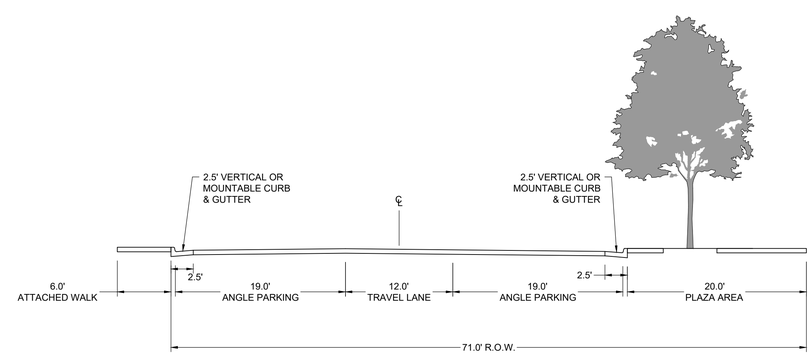
66' R.O.W. LOCAL STREET WITH MULTI-USE TRAIL



47'-81' R.O.W. LOCAL STREET

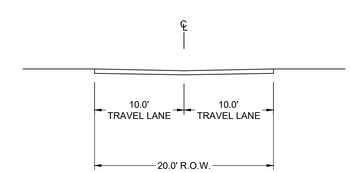
NOTES

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 VERY DEPENDING ON PARKING CONFIGURATION.



71' R.O.W. MINOR COLLECTOR ROUNDABOUT

VIEW LOOKING WITH ONE-WAY TRAFFIC



20' R.O.W. PRIVATE ALLEY

PLANNER / ARCHITECT / LANDSCAPE ARCHITECT

LAI DESIGN GROUP

88 INVERNESS CIR E, STE J-101
ENGLEWOOD, CO 80112
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CIVIL ENGINEER

WERNSMAN ENGINEERING & 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

1st SUBMITTAL	03/08/23
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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
WEST OF 6TH PRINCIPAL MERIDIAN, CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
72.5 ACRES
PUD2023-0002

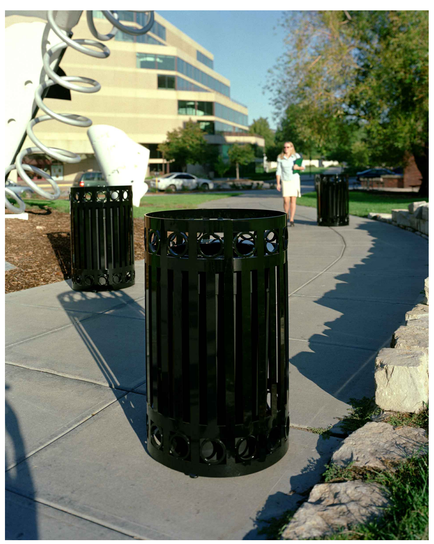
PUD DEVELOPMENT STANDARDS

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.

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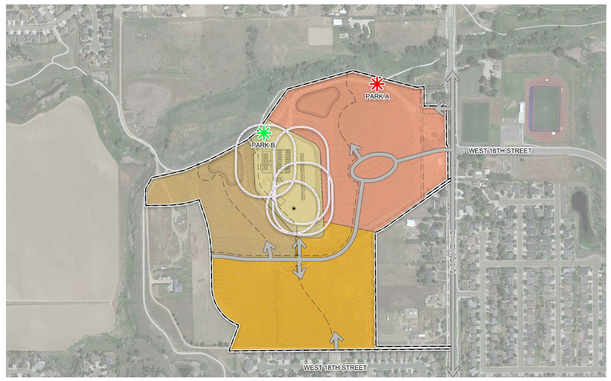
PUD2023-0002

4.06 PARKS & TRAILS VIGNETTE



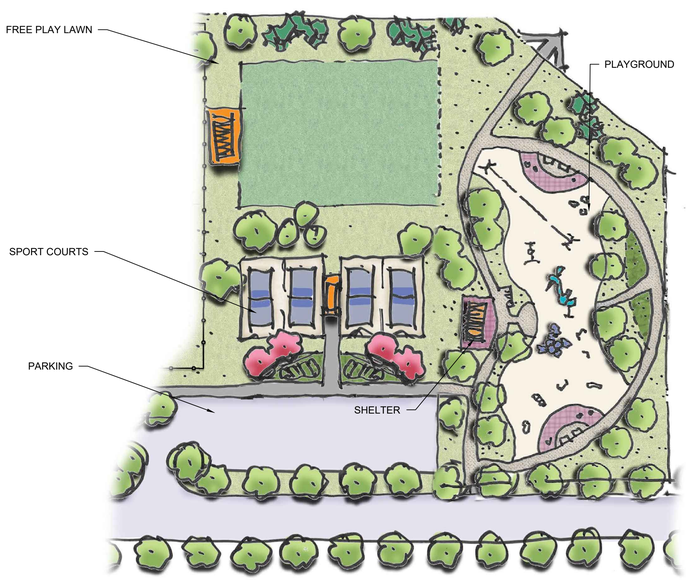
LEGEND

- 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
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.

NEIGHBORHOOD PARK DESIGN ELEMENTS

1. REQUIRED ELEMENTS

1.1. BENCHES: 2 PER FIRST $\frac{1}{2}$ ACRE AND 1 PER ADDITIONAL ACRE
1.2. BIKE RACKS: MINIMUM 4 PLUS 1 PER ACRE OVER 5 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD
1.3. DOG WASTE STATIONS: MINIMUM 1 PER 2 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD
1.4. LIGHTING PER CITY CODE
1.5. LINKS TO NEIGHBORHOOD TRAILS
1.6. MEANDERING TRAILS/PATHS - STABILIZED GRAY OR BUFF CRUSHER FINES, PER CITY SPECIFICATION SECTION02730
1.7. PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES
1.8. PLAYGROUND - 5-12 YEARS OLD: ONE FACILITY
1.9. PLAYGROUND - TOT LOT (2-5 YEARS OLD): ONE FACILITY
1.10. TRASH RECEPTACLES: MINIMUM 4 PLUS 1 PER 2 ACRES OVER 4 ACRES
1.11. TURF AREA: WELL GRADED $\frac{1}{2}$ ACRE OF TURF GRASS LAWN WITH 5-10 LARGE PARK TREES PER ACRE
1.12. SHADE SHELTER FOR PICNIC TABLES

2. OPTIONAL ELEMENTS

2.1. AMPHITHEATER
2.2. COMMUNITY CENTER
2.3. COMMUNITY GARDEN
2.4. DISC GOLF
2.5. FARMER'S MARKET FACILITY
2.6. FITNESS LOOP: 1 PER $\frac{1}{4}$ MILE INCLUDES A COMBINATION OF PHYSICAL/ACTIVE STATIONS AND ACTIVITY SIGNS
2.7. GROUP PICNIC FACILITIES: MINIMUM 4 TABLES, 6 BARBEQUES, HARD SURFACING
2.8. INTERPRETIVE SIGNAGE
2.9. NATURE TRAILS
2.10. OBSTACLE COURSE
2.11. PARKING: PER CODE
2.12. RESTROOM: PER CODE
2.13. SPORTS COURTS: TENNIS / PICKLEBALL OR BASKETBALL
2.14. SPORTS FIELDS: 1 MULTI-SPORT
2.15. WIFI
2.16. ADDITIONAL OR EXPANDED REQUIRED ELEMENTS

NEIGHBORHOOD PARK IMPLEMENTATION

- TRAILS SHALL HAVE ALL REQUIRED ELEMENTS AND (1) OPTIONAL ELEMENT.

TRAIL DESIGN ELEMENTS

1. REQUIRED ELEMENTS

1.1 BENCHES: 1 PER $\frac{1}{4}$ 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 WHERE TRAIL & PARK ARE COLOCATED)
1.5. TRASH RECEPTACLES: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)

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 WHERE TRAIL & PARK ARE COLOCATED)
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 L4.09)
2.6. LIGHTING: PER CODE
2.7. PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
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

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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY FACILITIES

PROJECT #: 221042
DRAWN BY: AH, ML
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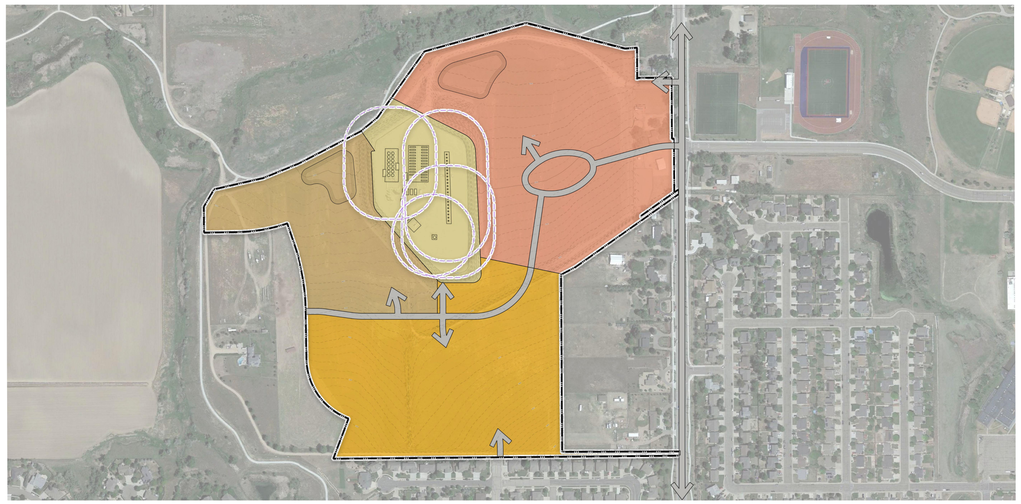
ATTACHMENT C - PUD PLAN SET

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)

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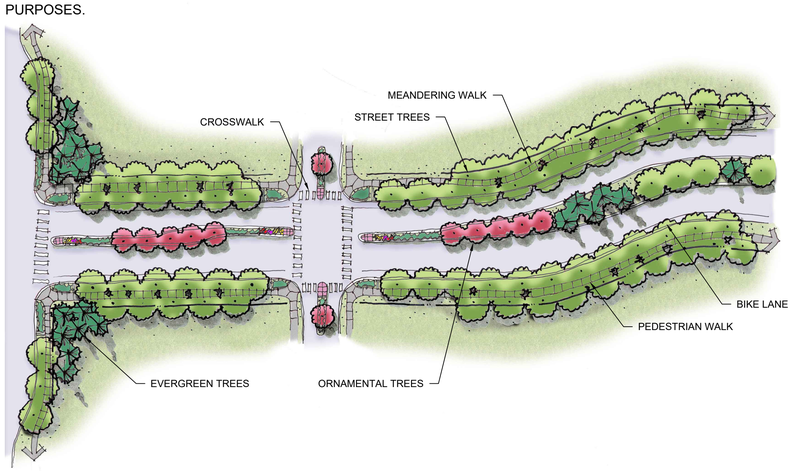
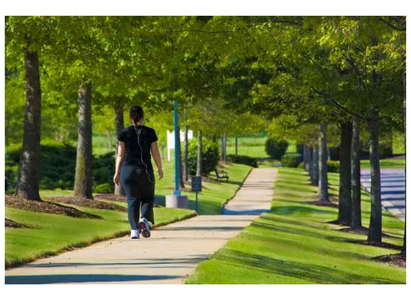


CONCEPTUAL DESIGNS ILLUSTRATED HEREIN EXPRESS INTENT FOR PARK AND OPEN SPACE IMPROVEMENTS WITHIN THIS PUD. ACTUAL SITE DEVELOPMENT PLANS AND SPECIFIC IMPROVEMENTS SHALL COMPLY WITH THEME, DESIGN ELEMENTS AND IMPLEMENTATION REQUIREMENTS OF THE PUD. ALL IMPROVEMENTS WITHIN PLANNING AREAS SHALL BE CARRIED OUT OVER MULTIPLE PHASES AND FINAL PLATS AS DEVELOPMENT OCCURS.



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 STREETSCAPE WITH CITY OF GREELEY PLANNING APPROVAL AND MAY BE SUBSTITUTE FOR THE OPTIONAL ELEMENTS.
- STREET TREES WILL BE PROVIDED CONSISTENT WITH THE DEVELOPMENT CODE AT THE TIME OF DEVELOPMENT.

STREETSCAPE DESIGN ELEMENTS[1]

		90' MINOR COLLECTOR STREET	71' MINOR COLLECTOR STREET	66' LOCAL STREET	47'-81' LOCAL STREET
1.0	**REQUIRED ELEMENTS**				
1.1	STREET LIGHTING	X	X	X	X
1.2	PEDESTRIAN LIGHTING	X	X	X	
1.3	LANDSCAPING	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	SINGLE ROW OF STREET TREES, 4 TREES PER 100 LINEAL FEET, EA. SIDE	X	X	X	
1.9	1 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

TRAFFIC CALMING

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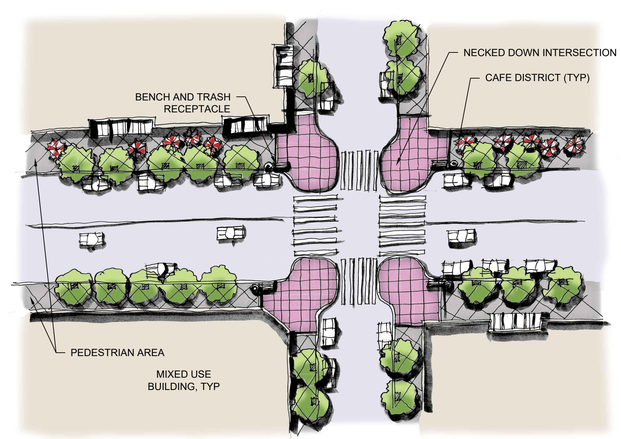

ROUNDABOUT

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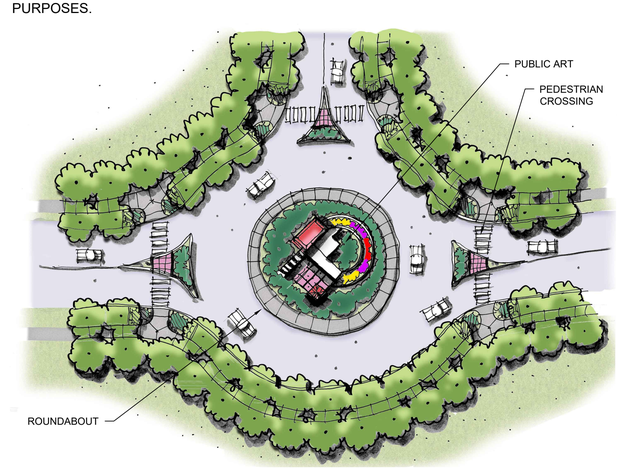

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72.5 ACRES
PUD2023-0002

4.08 DRAINAGE & DETENTION VIGNETTE

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

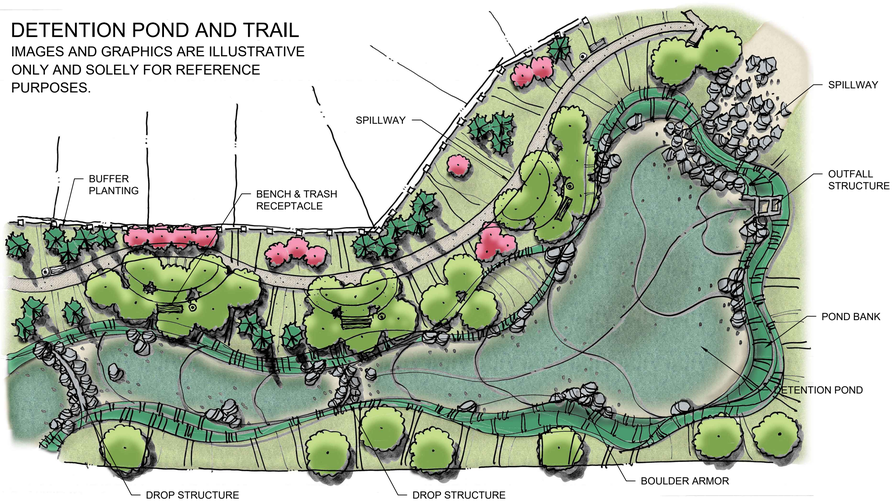
1. REQUIRED ELEMENTS

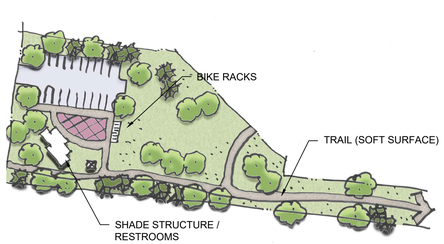
1.1 BENCHES: 1 PER $\frac{1}{4}$ MILE OF PAVED OR GRAVEL TRAIL
1.2. BIKE / HIKE TRAILS: MINIMUM 5' WIDE, CRUSHER FINES, CONCRETE, OR ASPHALT
1.3. CRUSHER FINES, CONCRETE, OR ASPHALT TRAILS
1.4. DOG WASTE STATIONS: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS PER V1.00)
1.5. TRASH RECEPTACLES: MINIMUM 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

DETENTION POND AND TRAIL
IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR REFERENCE PURPOSES.





TRAILHEAD
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3rd SUBMITTAL	07/24/23
4th SUBMITTAL	09/01/23

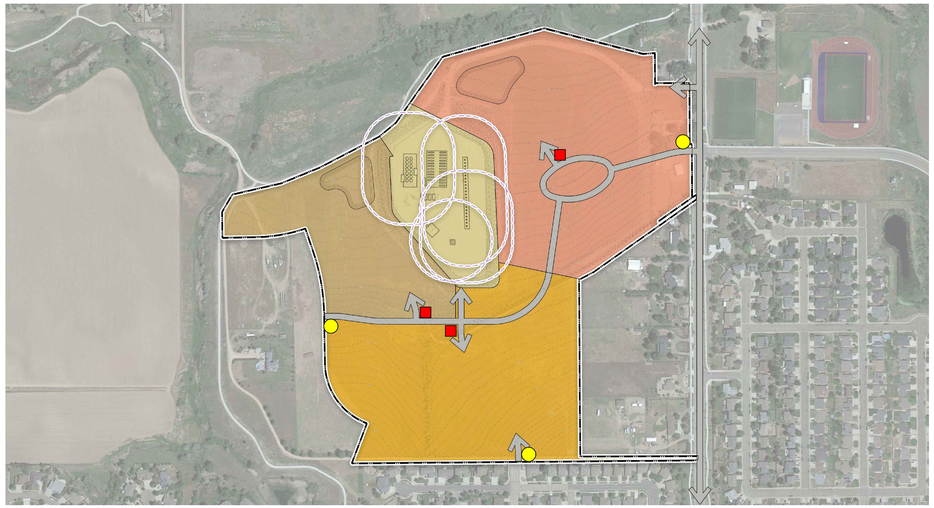
SHEET NUMBER
L4.08
SHEET 21 OF 32

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 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.

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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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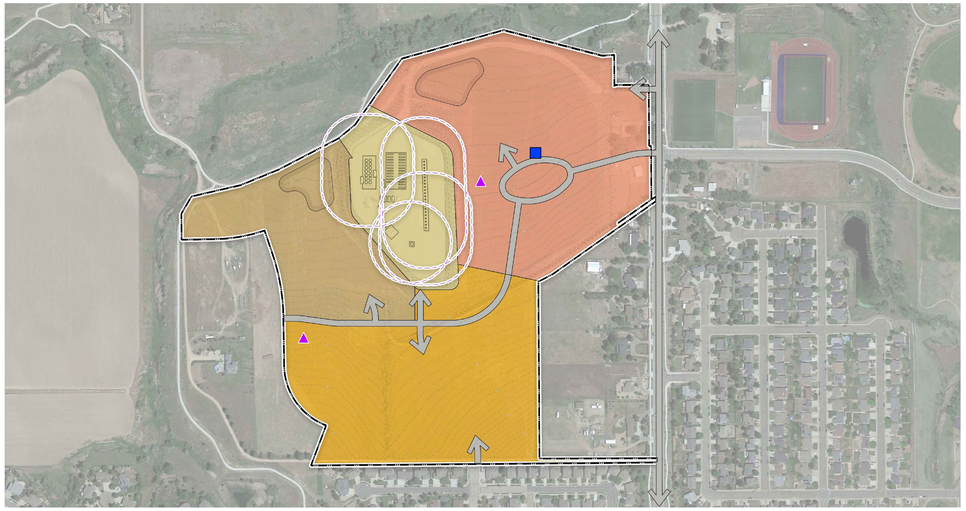
SHEET 22 OF 32

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

4.10 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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TRIPLE CREEK P.U.D.
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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

PUD DEVELOPMENT STANDARDS

5.0 STATEMENT OF COMMITMENTS

DEVELOPMENT COMMITMENTS					
CONCEPTUAL PHASING 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 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 #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL	03/08/23
2nd SUBMITTAL	06/01/23
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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
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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 24-603 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 PRARIE 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 - SFD ESTATE LOT

EXAMPLE - SFD SMALL LOT

EXAMPLE - TOWNHOME

EXAMPLE - TOWNHOME

EXAMPLE - SFD COTTAGE

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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CLIENT
TRIPLE CREEK DEVELOPMENT, LLC
5200 WEST 20TH STREET
GREELEY, CO 80634
PHONE: (970) 415-8432

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
L6.00
SHEET 25 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

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.

HORIZONTAL PANELS | VERTICAL PANELS | TRADITIONAL LAP | DUTCH LAP

BOARD & BATTEN | BEADED | SHAKES | SCALLOPS

SAMPLE SIDING STYLES

SAMPLE MASONRY AND STONE

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.

PLANNER / ARCHITECT / LANDSCAPE ARCHITECT
LAI DESIGN GROUP
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SHEET 26 OF 32

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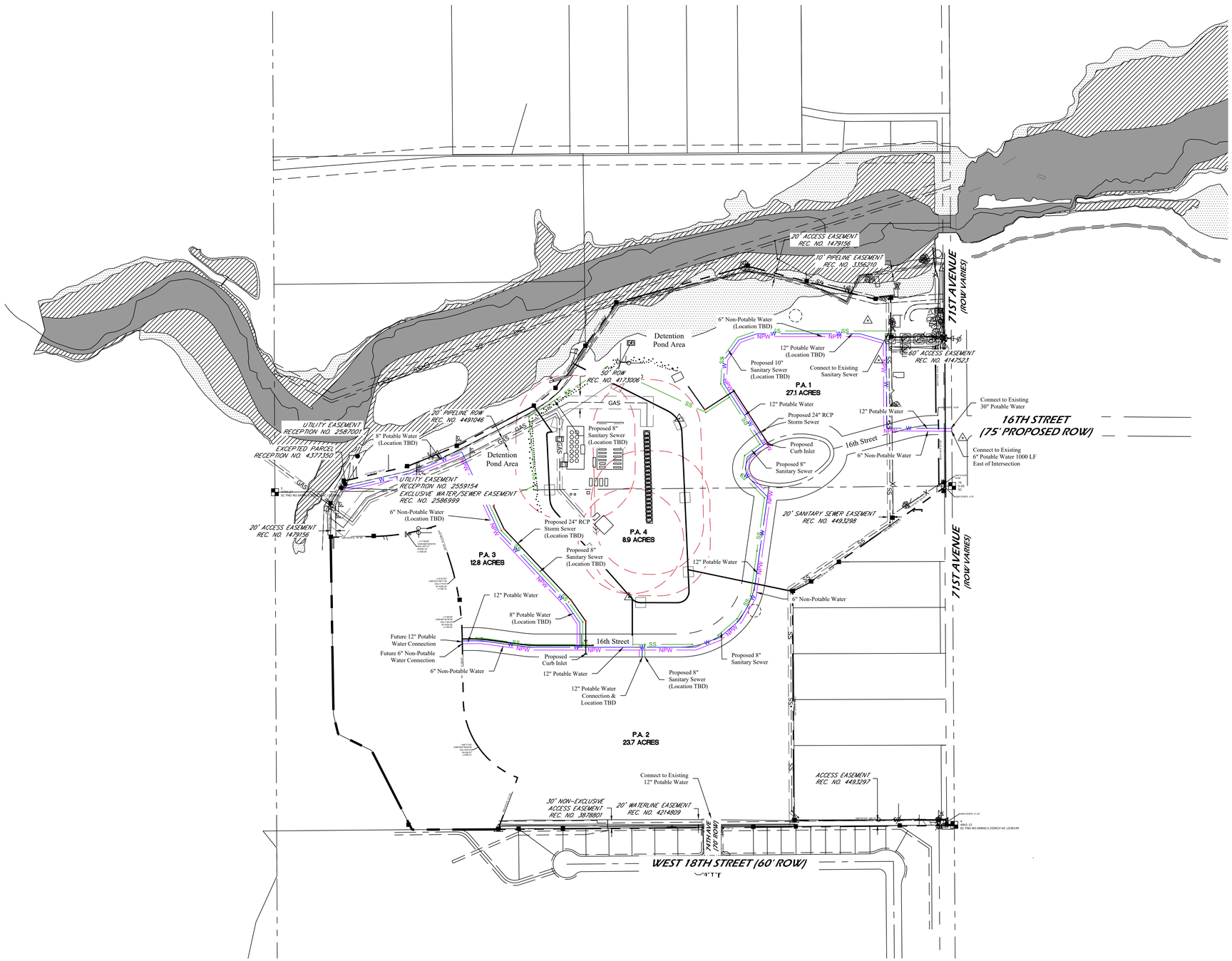
PUD 2023-0002



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TRIPLE CREEK P.U.D.
GREELEY, CO
OVERALL UTILITY PLAN

PROJECT #:	221042
DRAWN BY:	AH
CHECKED BY:	ML

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4TH SUBMITTAL	9-1-2023

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ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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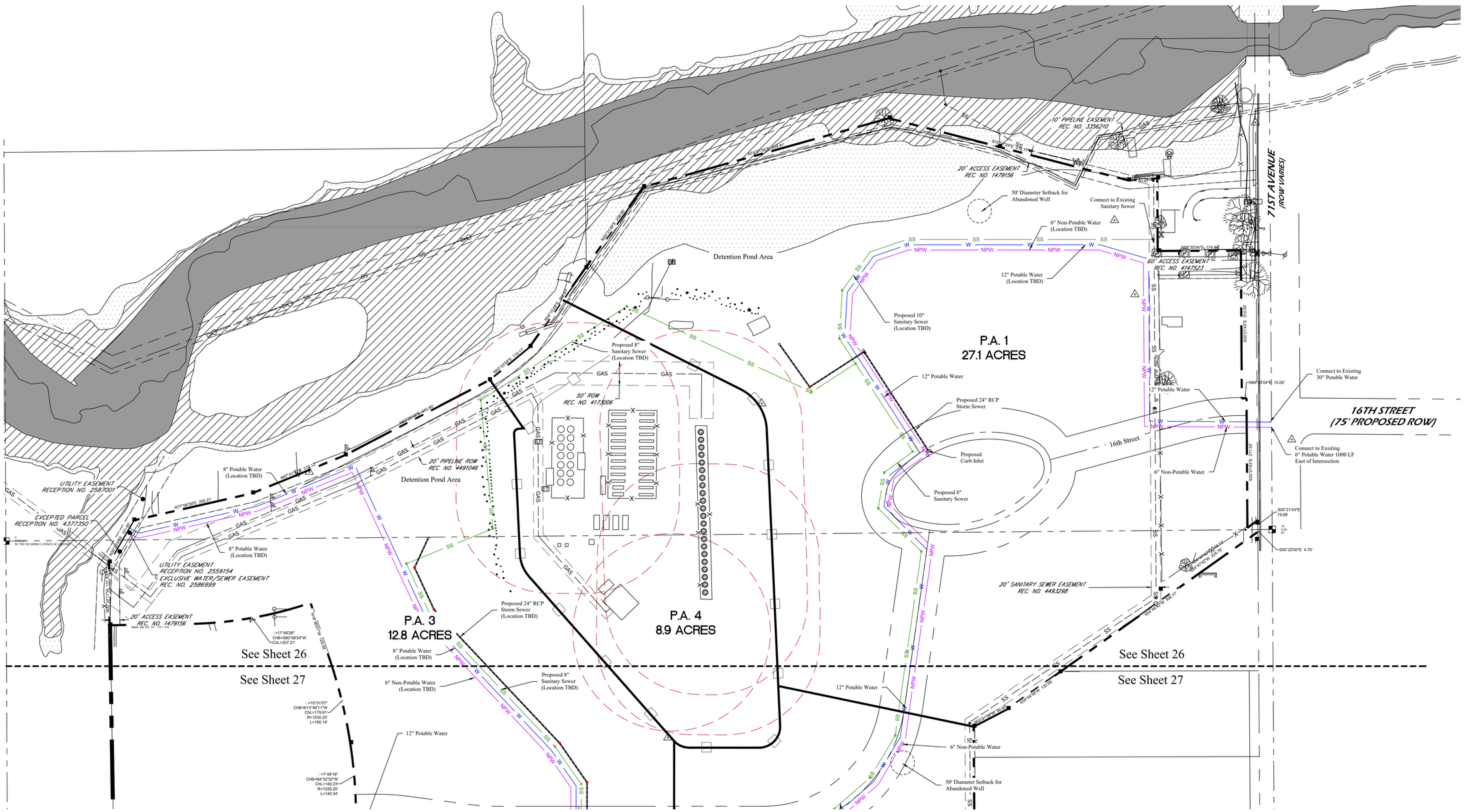

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TRIPLE CREEK P.U.D.
GREELEY, CO

UTILITY PLAN - NORTH

PROJECT #:	221042
DRAWN BY:	AH
CHECKED BY:	ML

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TRIPLE CREEK P.U.D.

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RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
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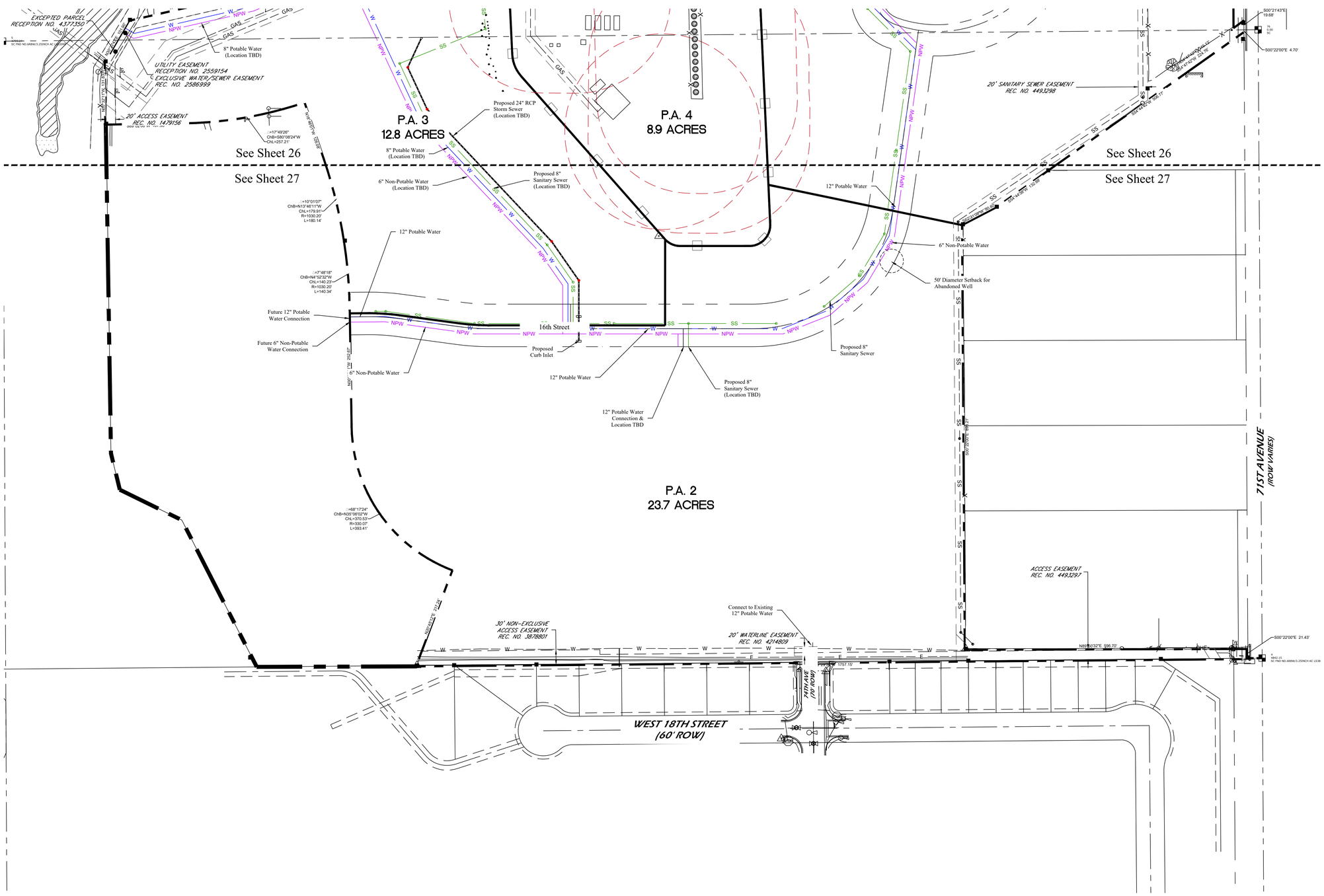

PLANNER / ARCHITECT / LANDSCAPE ARCHITECT

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TRIPLE CREEK P.U.D.
GREELEY, CO
UTILITY PLAN - SOUTH

PROJECT #:	221042
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TRIPLE CREEK P.U.D.

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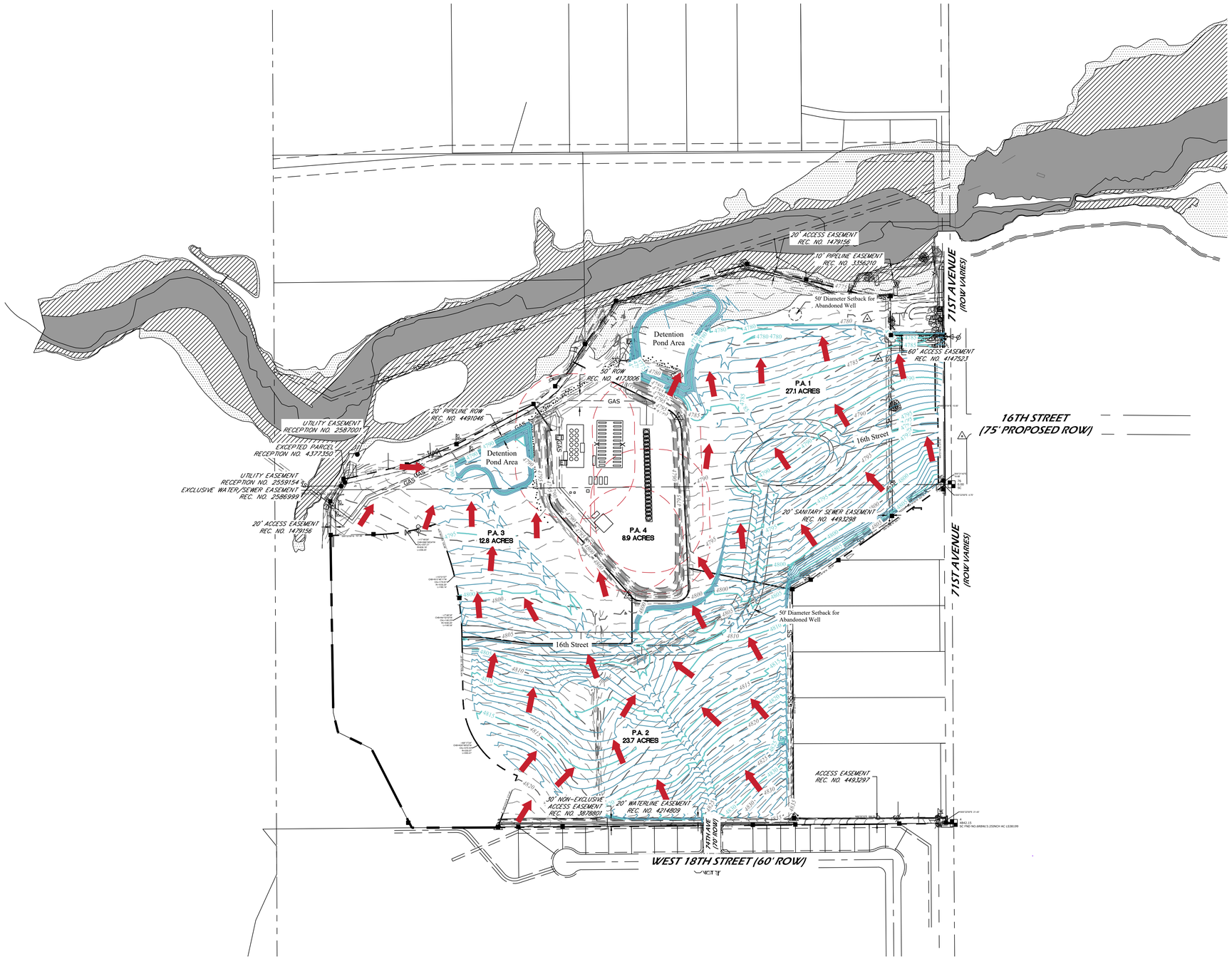

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TRIPLE CREEK P.U.D.
GREELEY, CO
OVERALL GRADING PLAN

PROJECT #:	221042
DRAWN BY:	AH
CHECKED BY:	ML

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ATTACHMENT C - PUD PLAN SET

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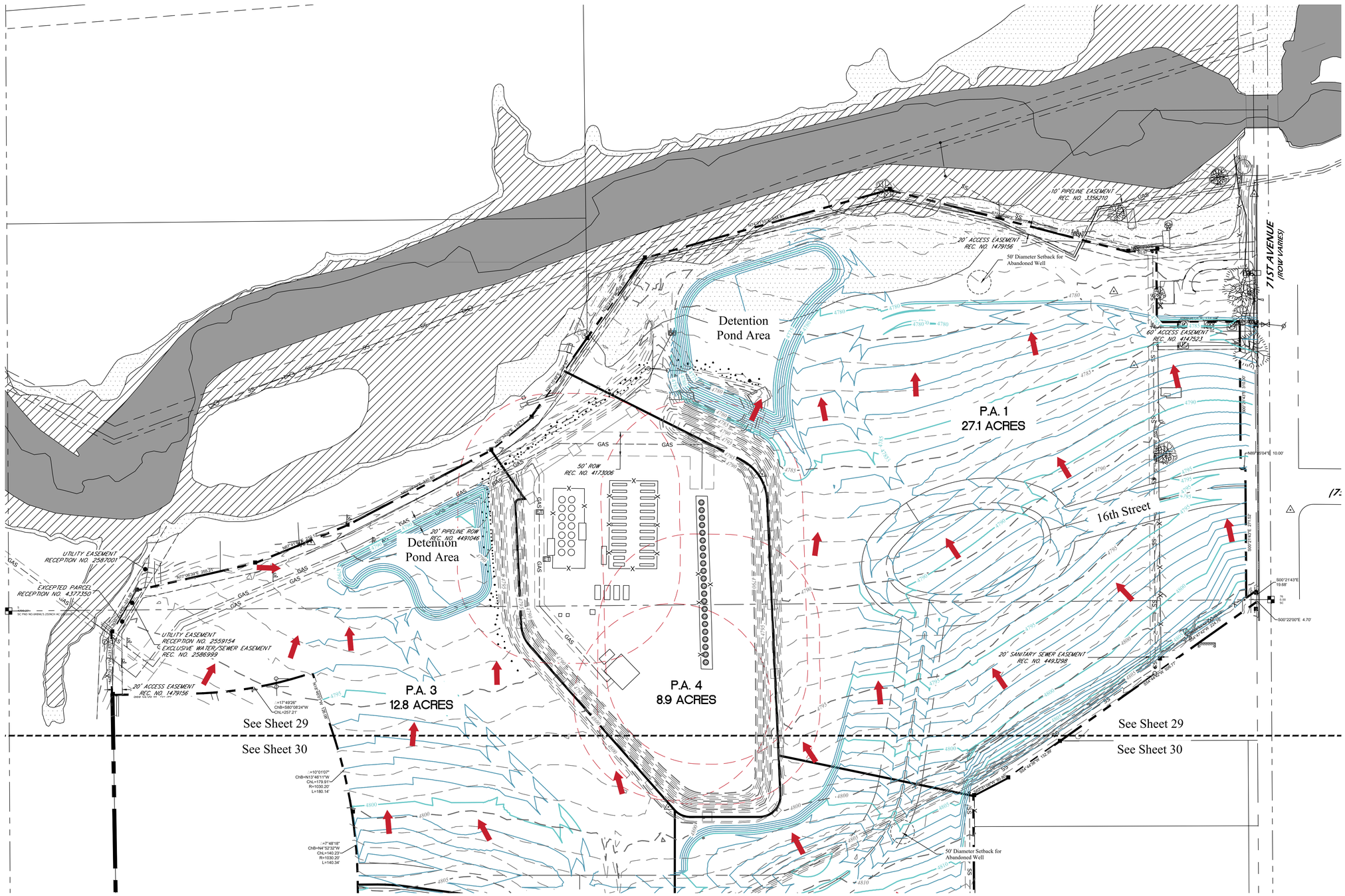

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TRIPLE CREEK P.U.D.
GREELEY, CO
GRADING PLAN - NORTH

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DRAWN BY:	AH
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31 OF 32

ATTACHMENT C - PUD PLAN SET

TRIPLE CREEK P.U.D.

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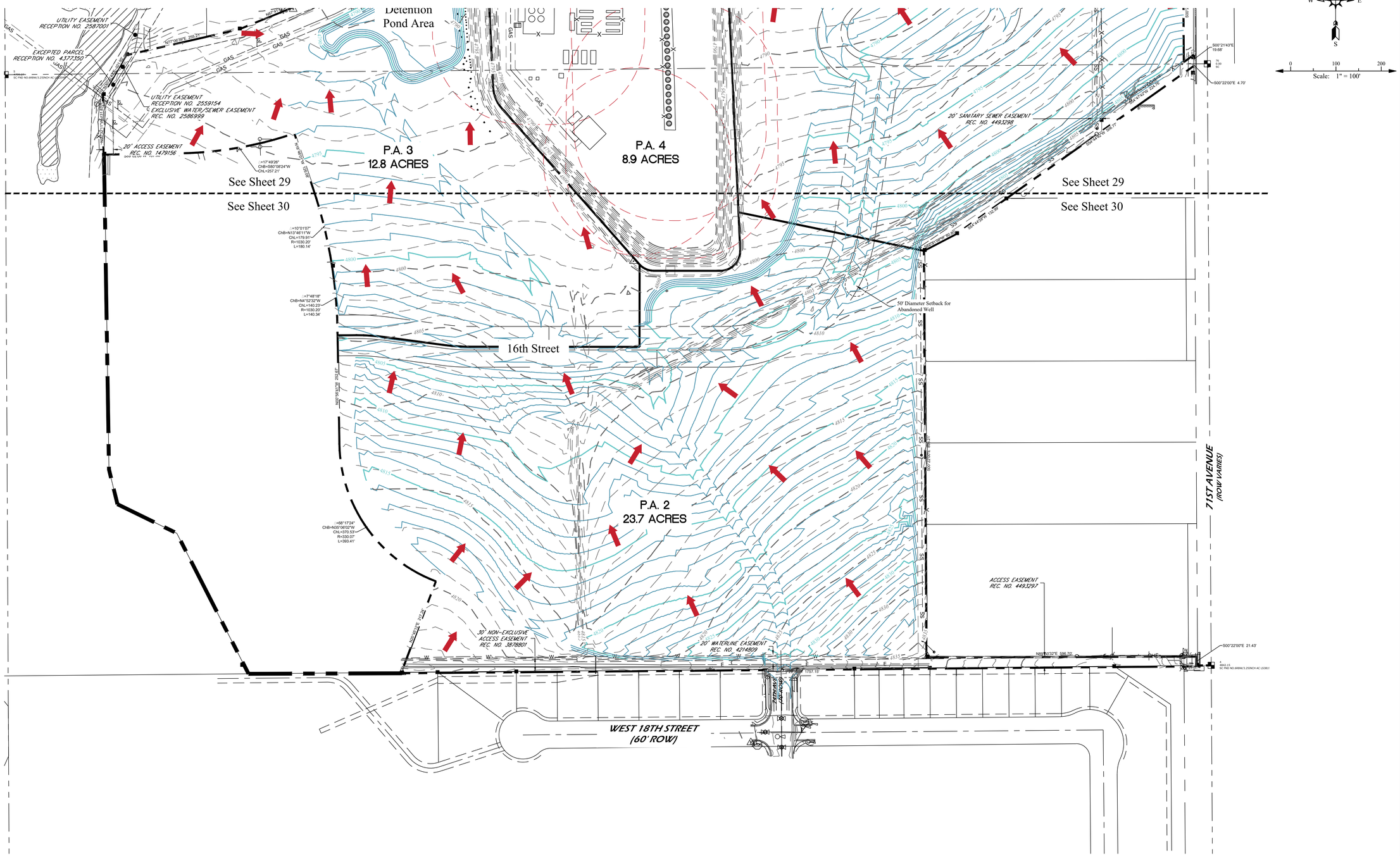

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TRIPLE CREEK P.U.D.
GREELEY, CO
GRADING PLAN - SOUTH

PROJECT #:	221042
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CHECKED BY:	ML

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4TH SUBMITTAL	9-1-2023

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32 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 & 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
— x —	WESTERN BOUNDARY AT BROWN PROPERTY	SOLID FENCE OR WALL CONSISTING OF VINYL, WOOD, STONE OR OTHER SIMILAR MATERIAL

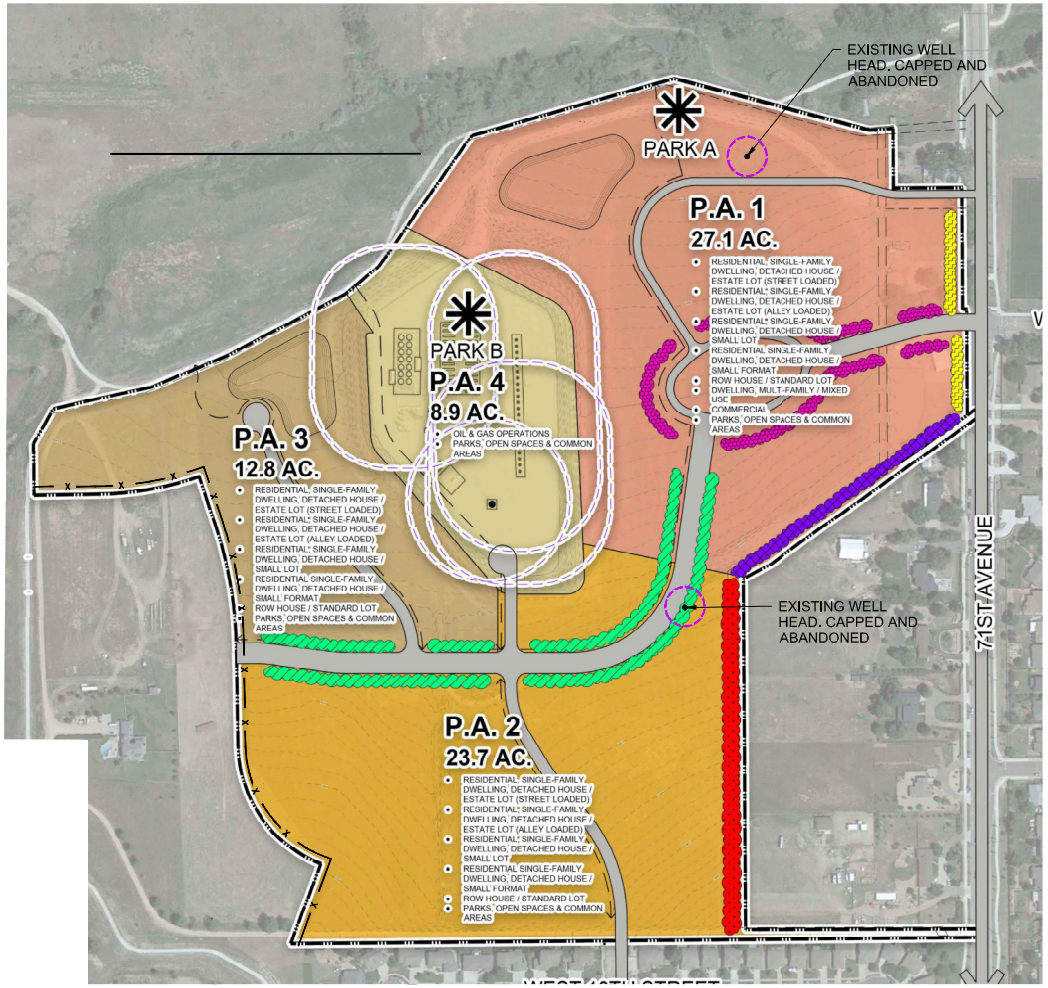
[1] DEFINITION PER CITY OF GREELEY CODE SECTION 24-802, DATED OCTOBER 1, 2021 AS AMENDED.
[2] COLLECTOR STREETS REQUIREMENTS APPLY TO EACH SIDE OF THE STREET.
[3] 71ST AVENUE STREET REQUIREMENTS APPLY TO WEST SIDE OF 71ST AVENUE.

✱ 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

1. 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.
2. LANDSCAPE DEVELOPMENT THAT REFLECTS THE PREVAILING SEMIARID CONDITIONS REINFORCES THE REGIONAL CHARACTER, CLIMATE, AND HABITAT OF THE CITY OF GREELEY AND ITS LOCAL ENVIRONMENT.
3. 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.
4. 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.
5. 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.
6. PERIMETER TREATMENT AREAS SHALL CONTAIN THE PLANT QUANTITIES INDICATED SHALL BE INCLUDED FOR EVERY 100 LINEAR FEET.
7. 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 #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

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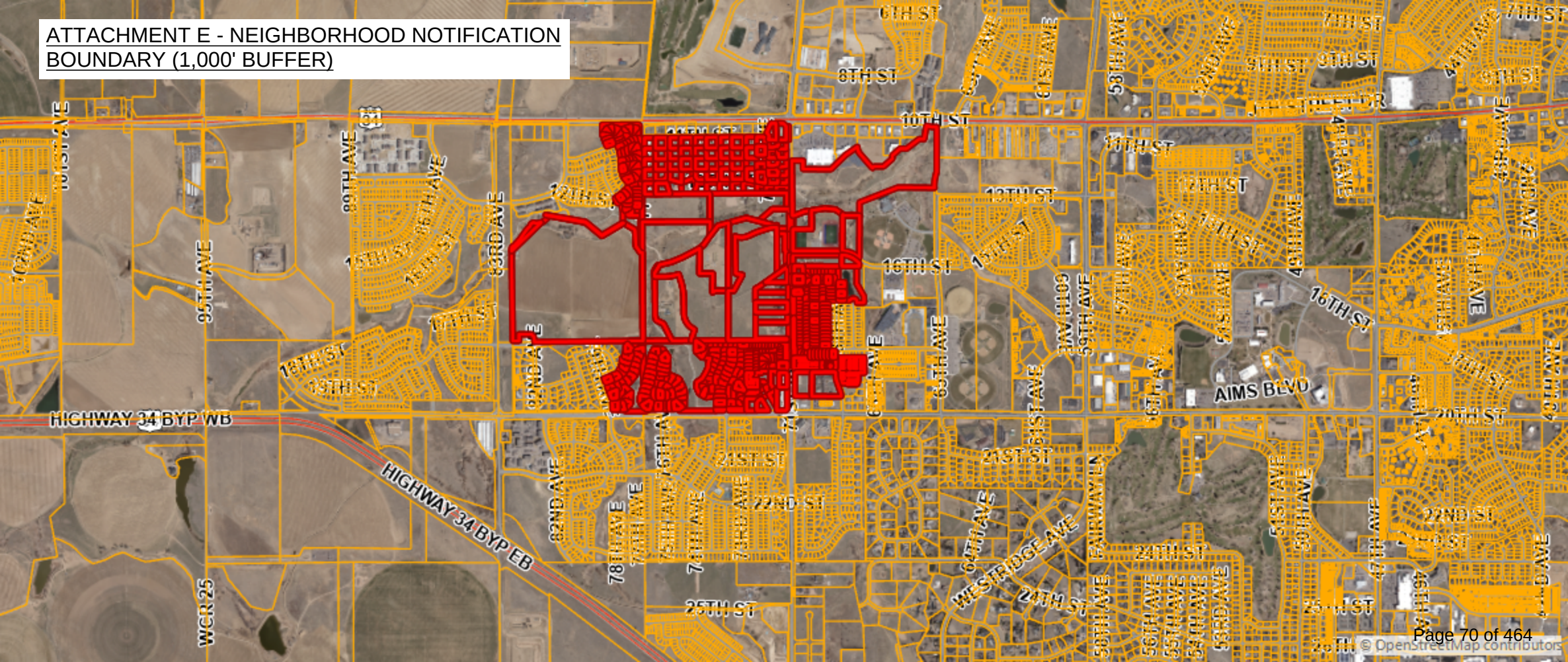
L4.00
SHEET 13 OF 32

ATTACHMENT E - NEIGHBORHOOD NOTIFICATION BOUNDARY (1,000' BUFFER)



ATTACHMENT F - STATEMENT OF COMMITMENTS

TRIPLE CREEK P.U.D.

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72.5 ACRES
PUD2023-0002

PUD DEVELOPMENT STANDARDS

5.0 STATEMENT OF COMMITMENTS

DEVELOPMENT COMMITMENTS					
CONCEPTUAL PHASING 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 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 #: 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
L5.00
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

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 PRARIE 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 - SFD ESTATE LOT

EXAMPLE - SFD SMALL LOT

EXAMPLE - TOWNHOME

EXAMPLE - TOWNHOME

EXAMPLE - SFD COTTAGE

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 #:	221042
DRAWN BY:	AH, ML
CHECKED BY:	RH

ISSUE RECORD

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3rd SUBMITTAL	07/24/23
4th SUBMITTAL	09/01/23

SHEET NUMBER
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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

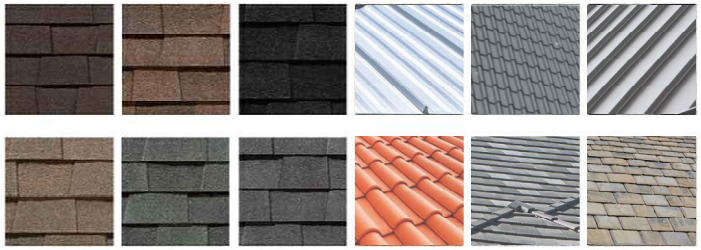
THESE DESIGN EXAMPLES SERVE AS A NON-INCLUSIVE GUIDE FOR DESIGN OF ALL ELEMENTS THROUGHOUT THE TRIPLE CREEK DEVELOPMENT AND PROMOTE CONSISTENCY AND QUALITY IN MATERIALS AND FORM IN ALL ASPECTS OF THE COMMUNITY. THROUGH CONSISTENCY IN DESIGN, THE ATMOSPHERE OF AN ESTABLISHED COMMUNITY CAN BE REACHED. 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

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PROJECT #: 221042
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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:

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PROFESSIONAL ENGINEER

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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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.

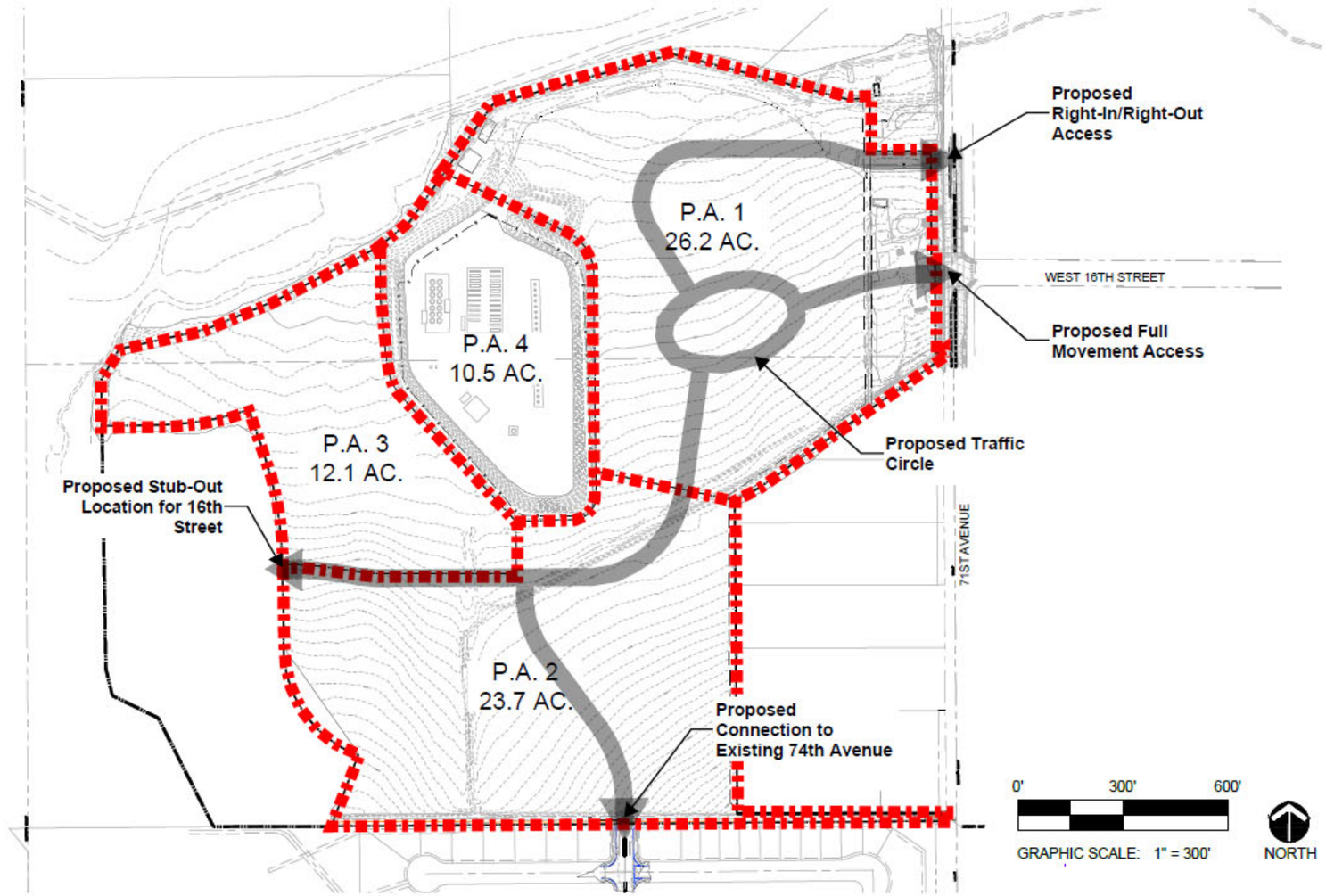
2.1 Recent Traffic Volumes

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



LAI DESIGN GROUP
Designers who think Like Developers

Triple Creek - Planning Areas
Greeley, Colorado
November 7, 2022 • Project #221042

www.LAIdesigngroup.com
303.734.1777 - Corporate

Architecture ■ Planning & Entitlements ■ Visual Media ■ Landscape Architecture ■ Real Estate Advisory

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.

Table 1: Trip Generation (ITE Trip Generation, 11th Edition) – ***Triple Creek Subdivision***

ITE Code	Land Area	Land Use		Average Daily Trips		AM Peak Hour Trips						PM Peak Hour Trips					
			Size	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

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		Average Daily Trips		AM Peak Hour Trips						PM Peak Hour Trips					
			Size	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

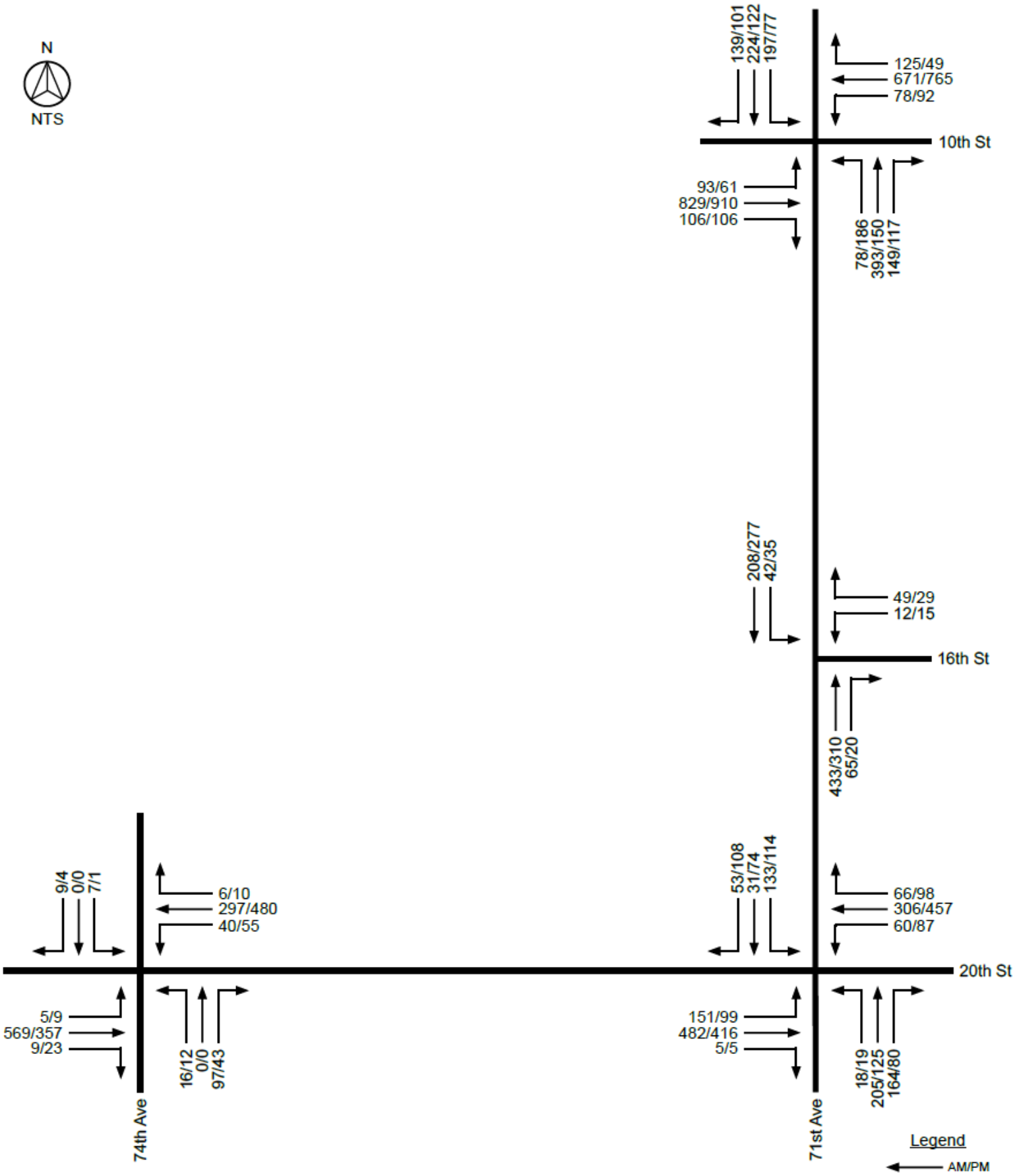


Figure 4: 2025 Background Traffic

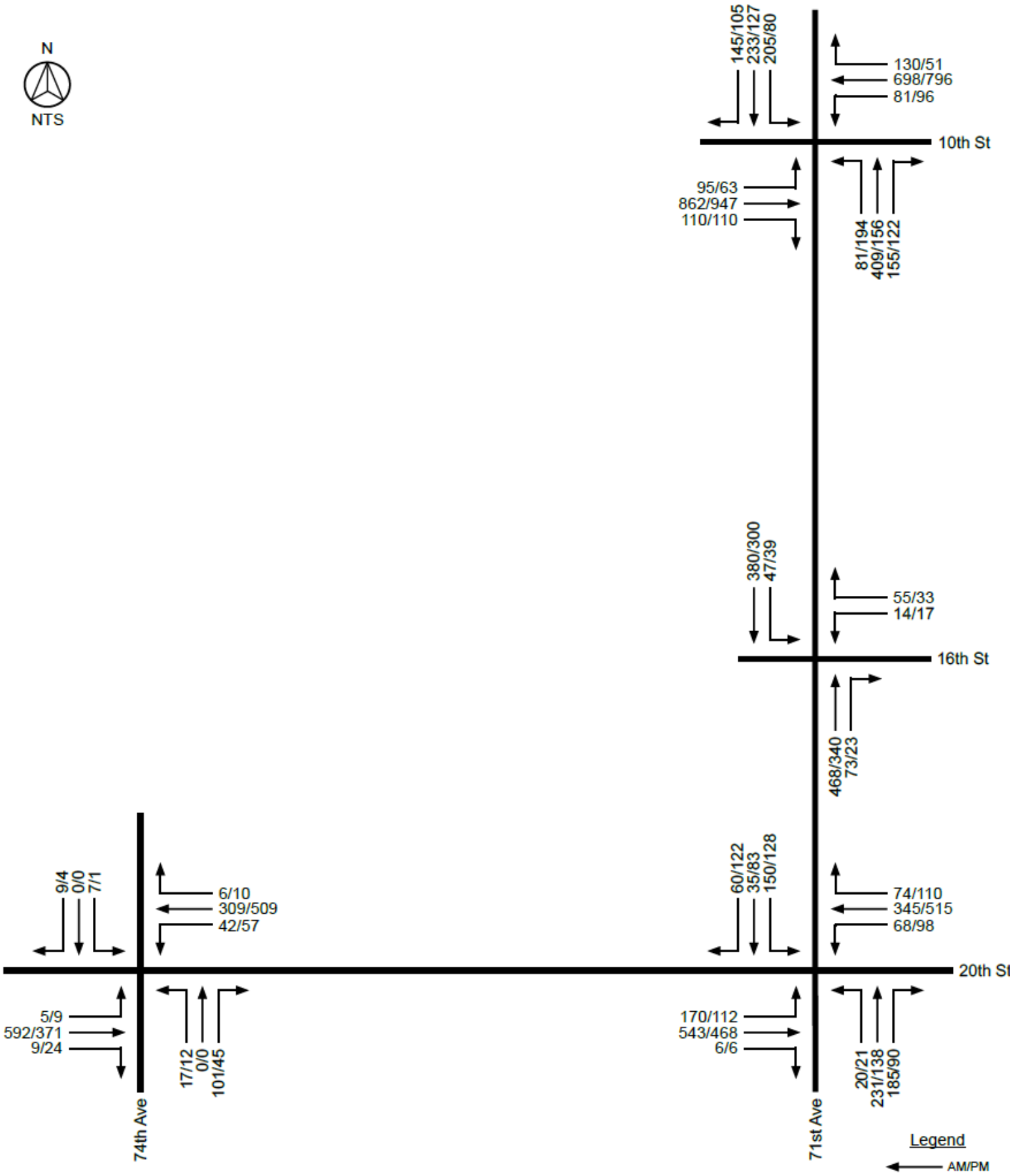


Figure 5: 2045 Background Traffic

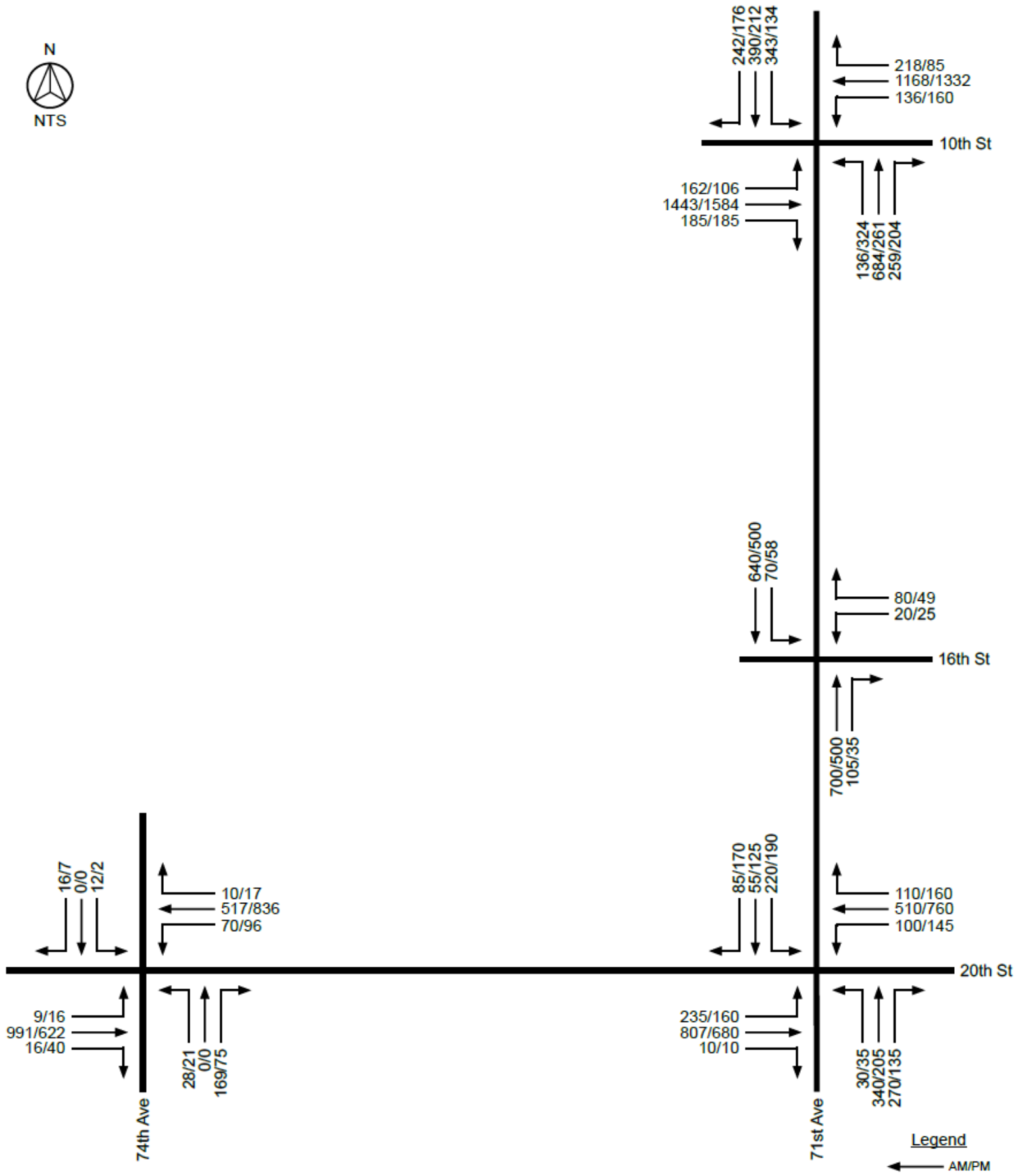


Figure 6: Trip Distribution

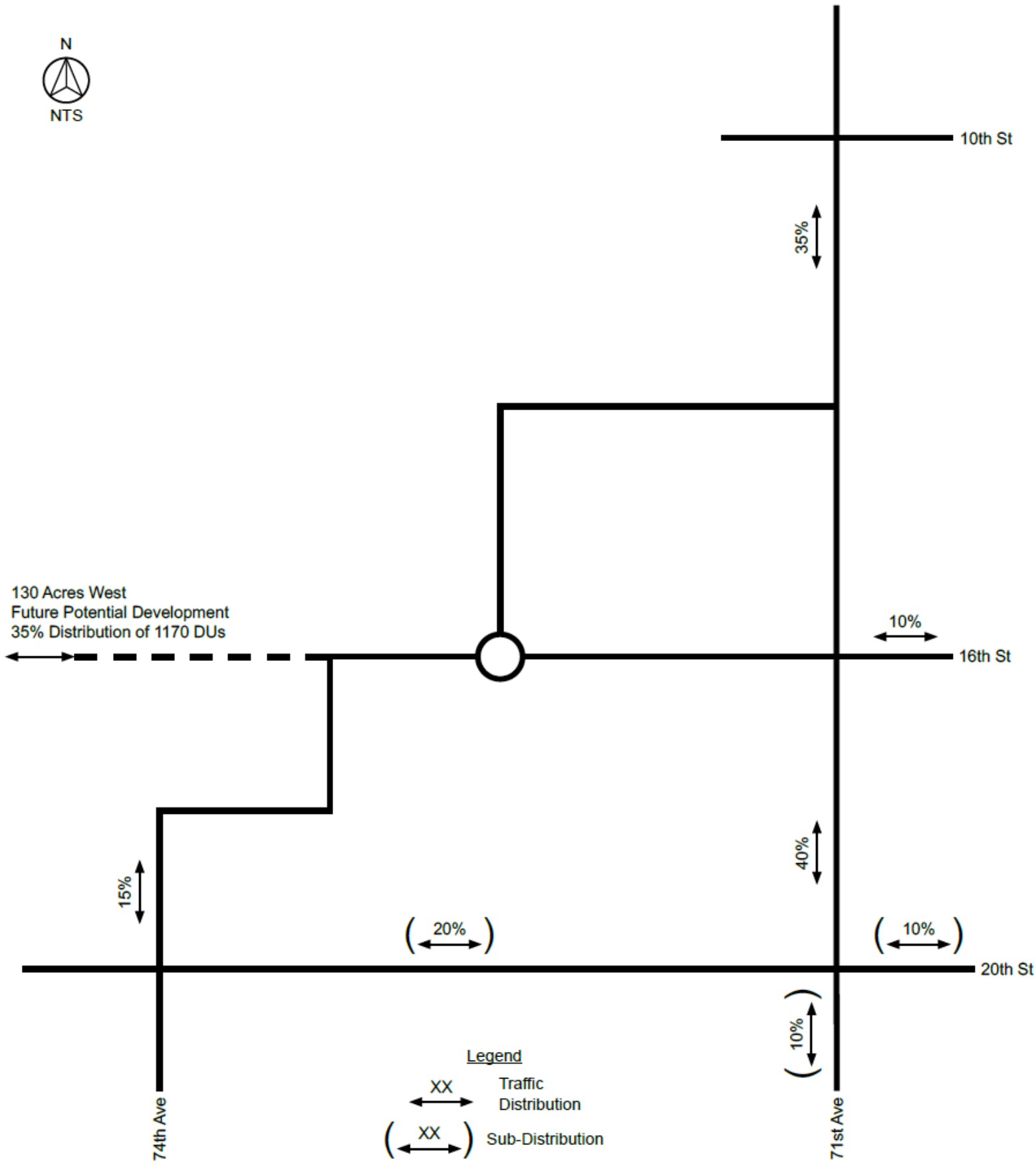


Figure 7: Site Generated Peak Hour Traffic

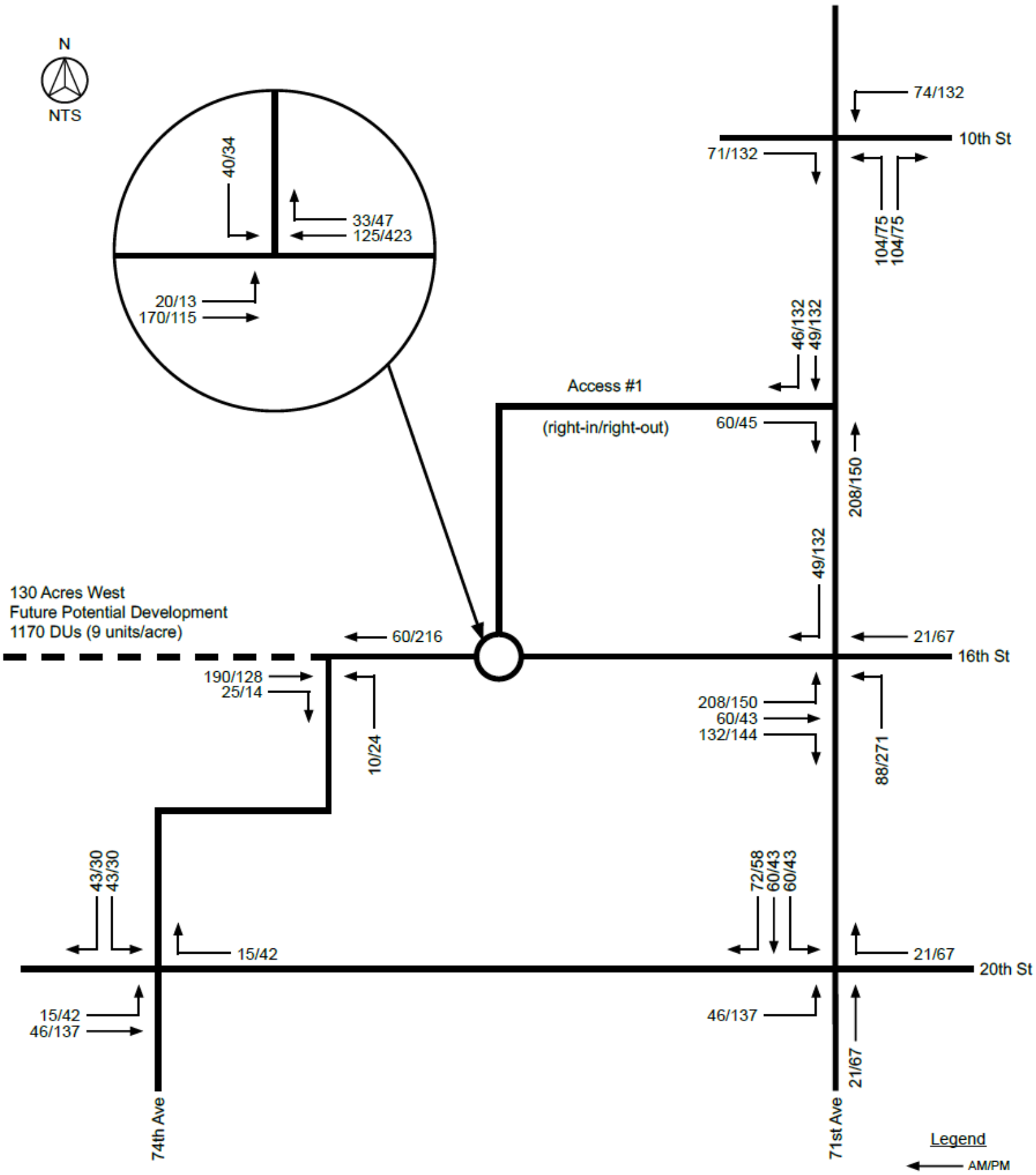


Figure 8: 2025 Short Range Total Traffic

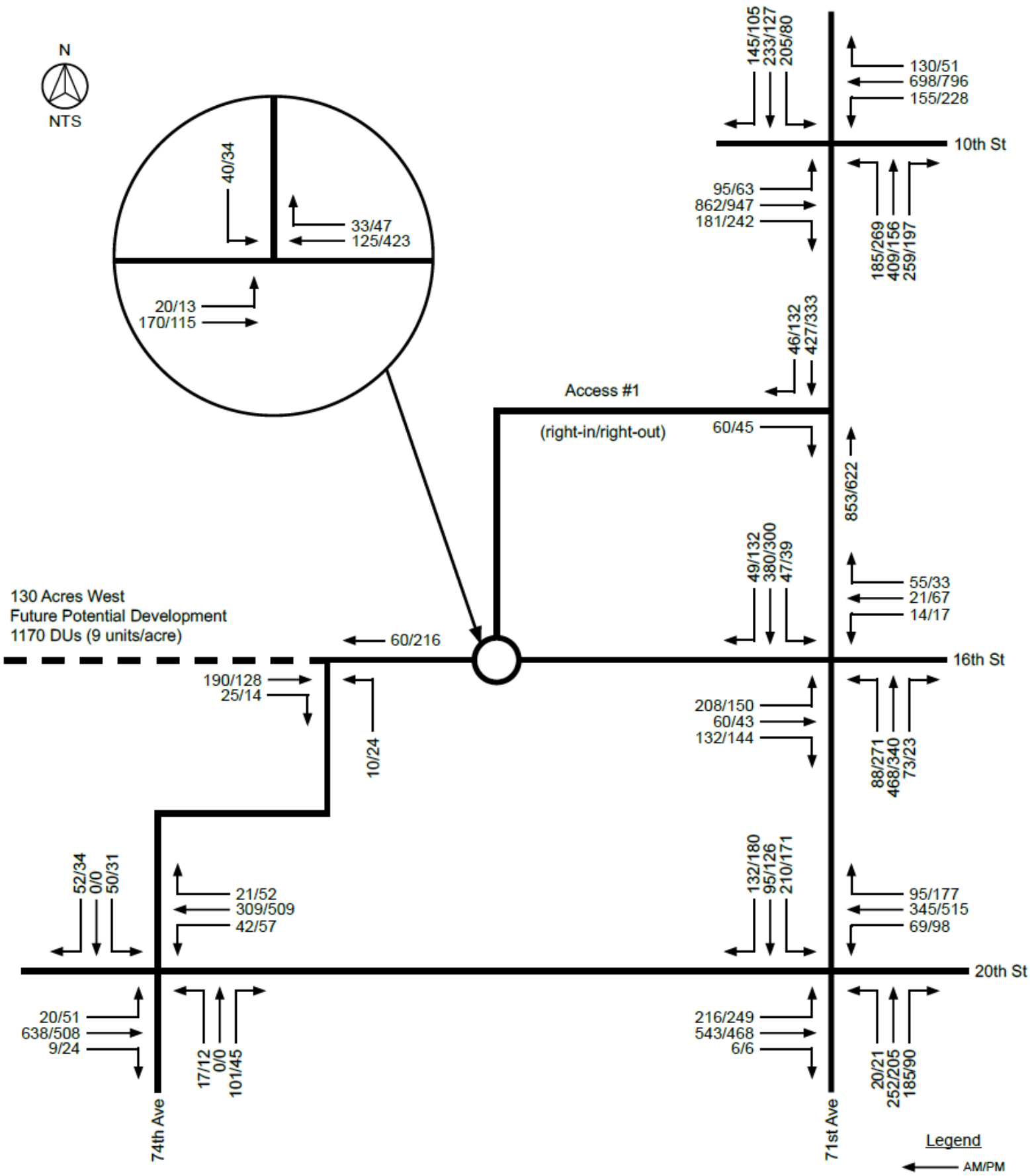


Figure 8: 2025 Short Range Total Traffic (continued…)

2025 Short Total AM Peak Hour

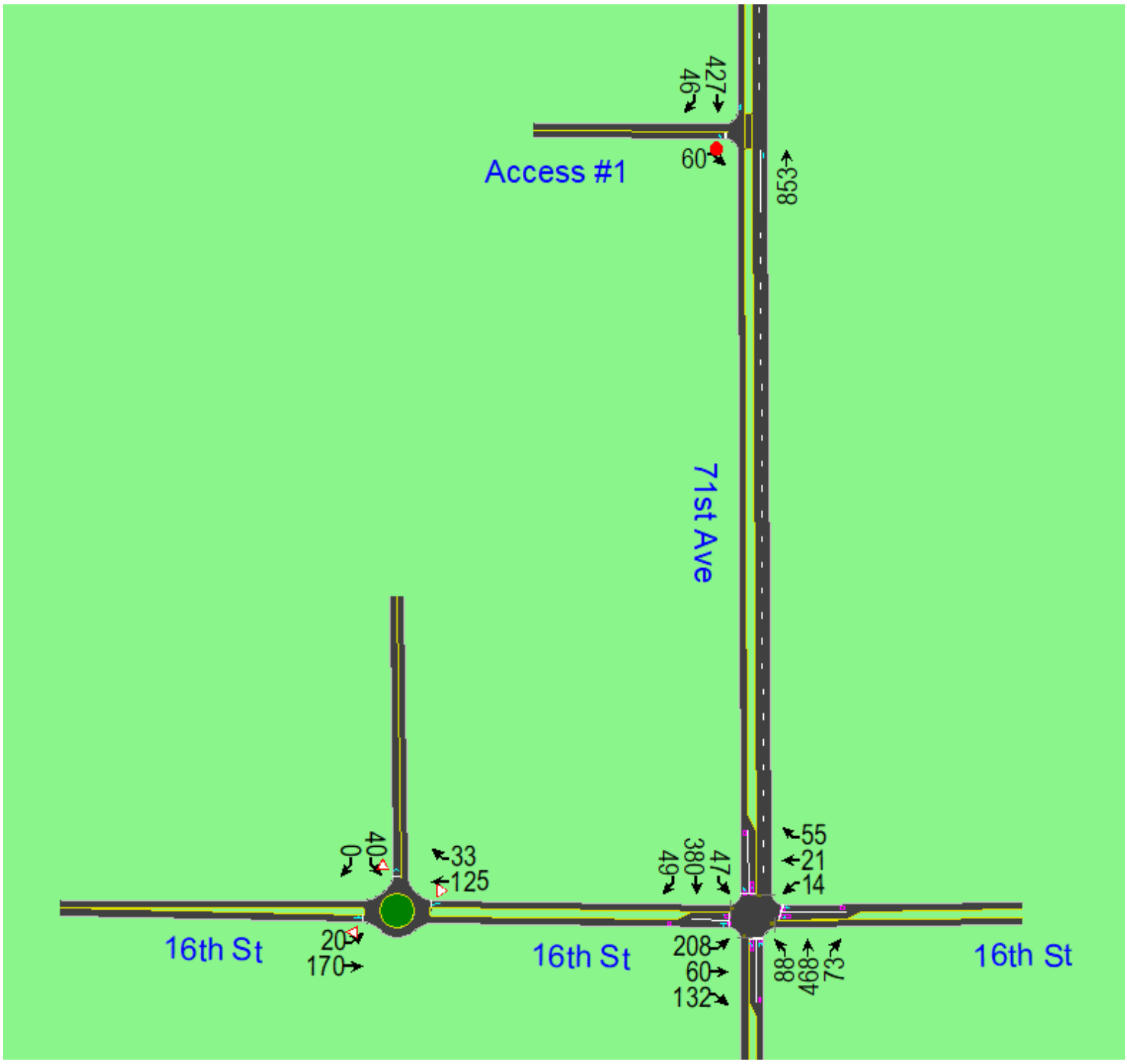


Figure 8: 2025 Short Range Total Traffic (continued…)

2025 Short Total AM Peak Hour

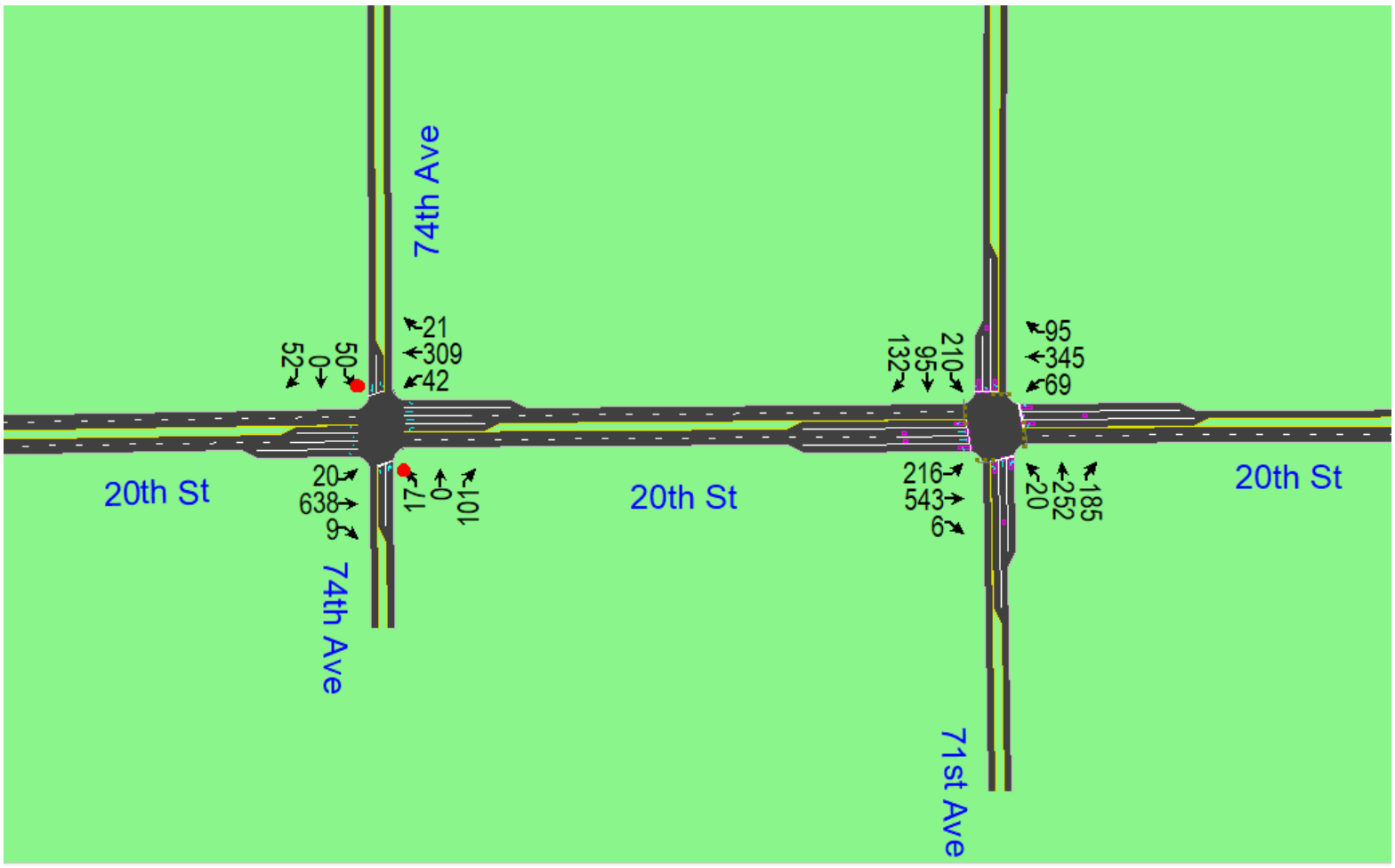


Figure 8: 2025 Short Range Total Traffic (continued…)

2025 Short Total PM Peak Hour

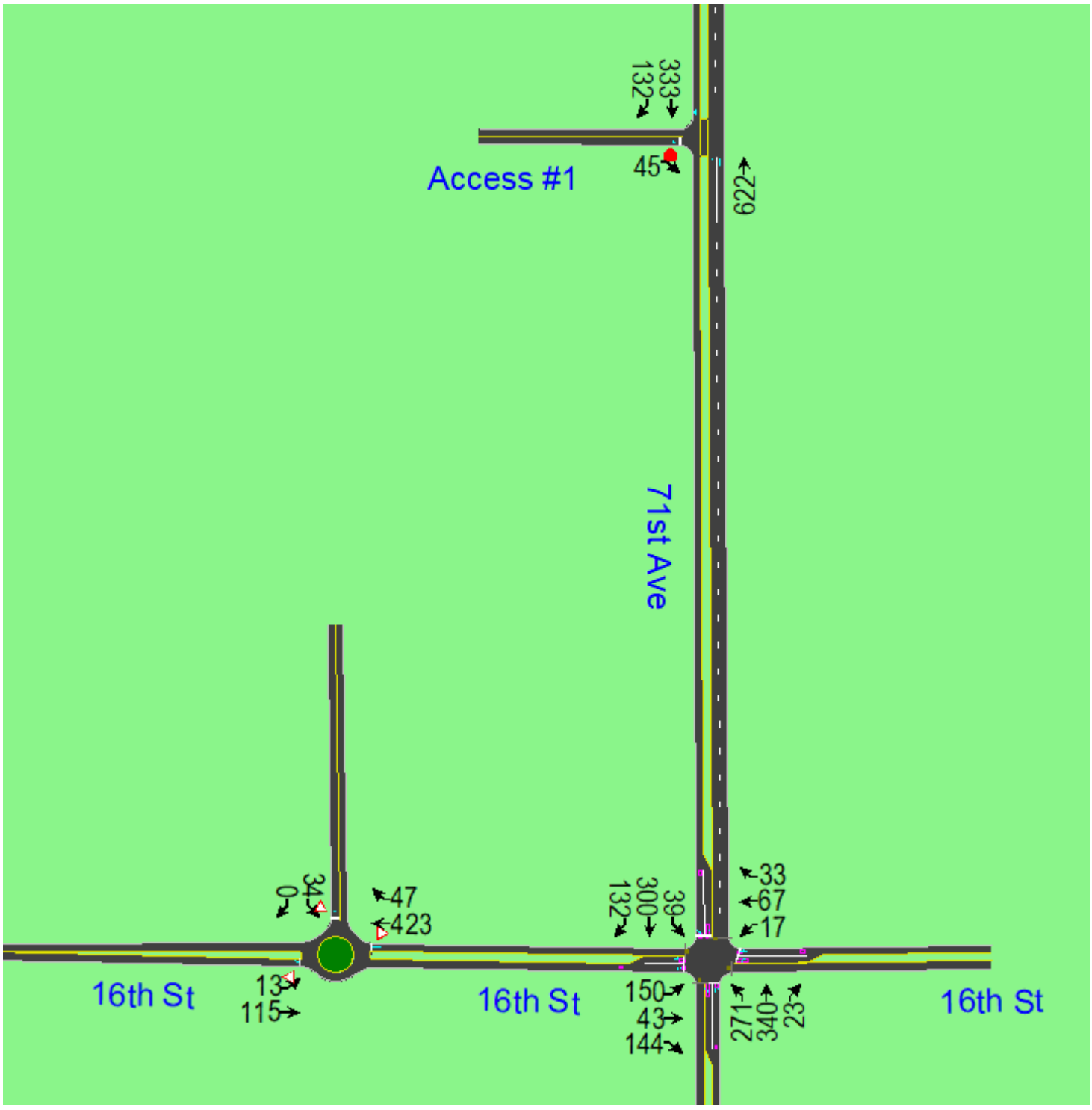


Figure 8: 2025 Short Range Total Traffic (continued…)

2025 Short Total PM Peak Hour

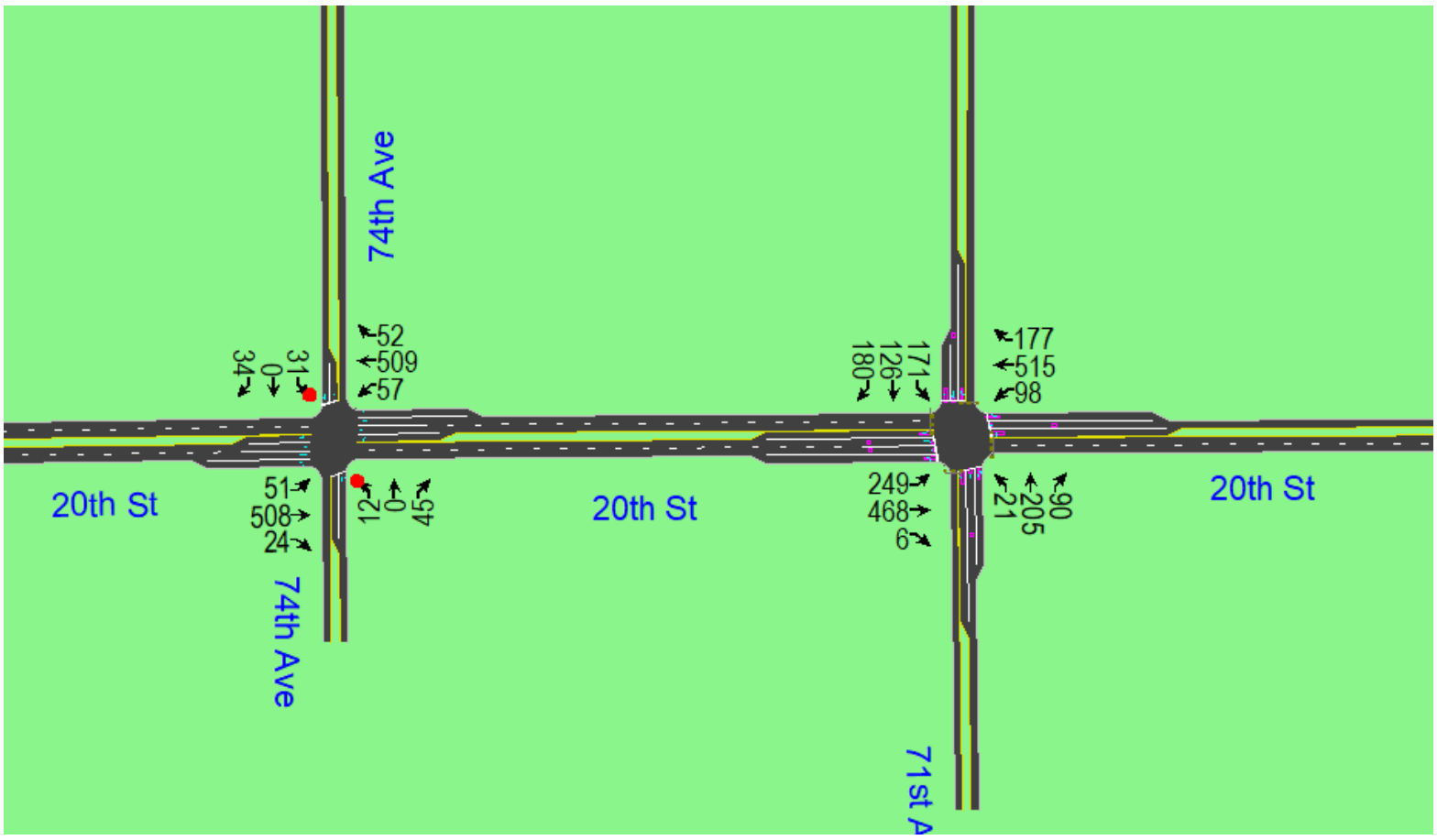


Figure 9: 2045 Long Range Total Traffic

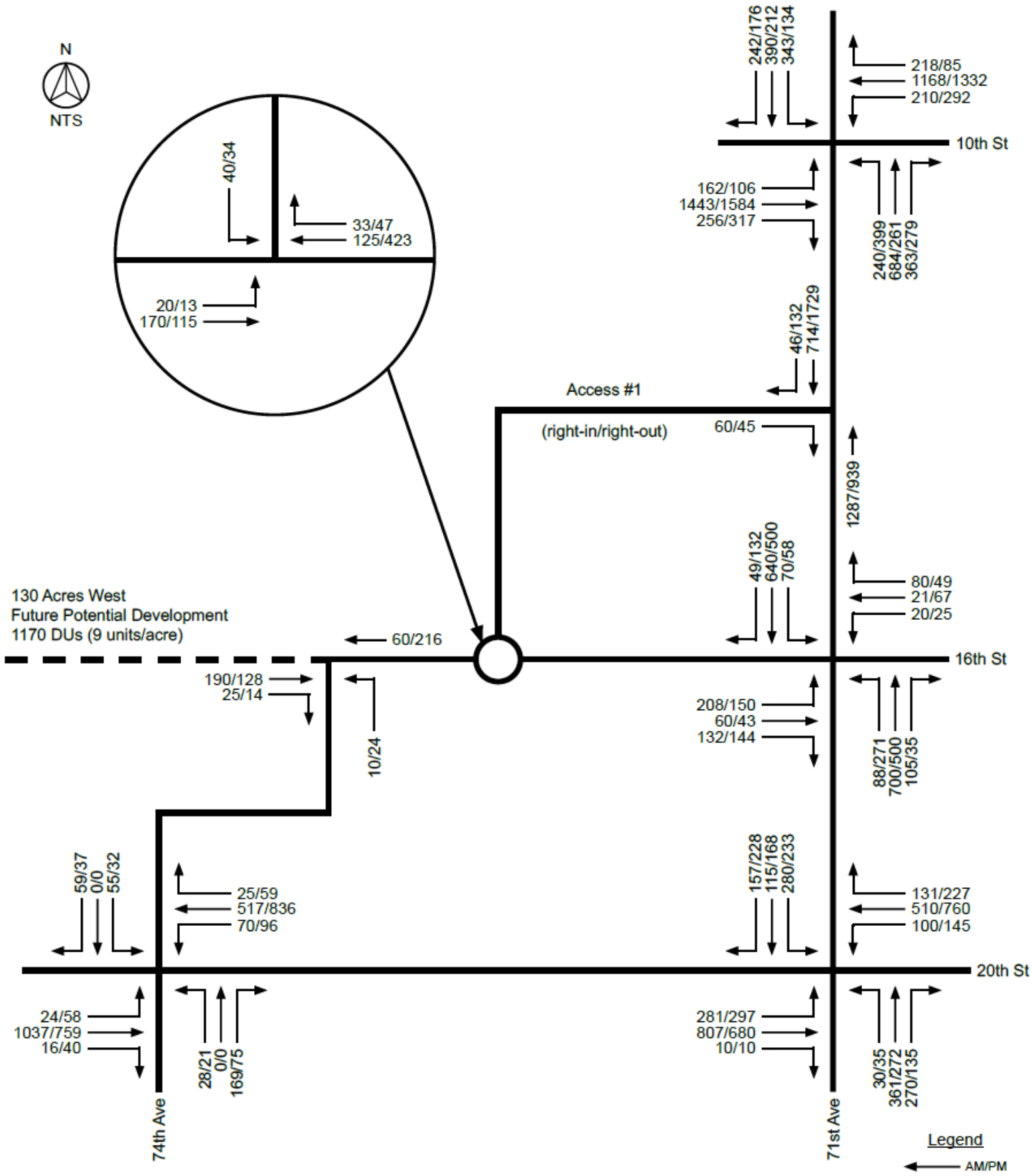


Figure 9: 2045 Long Range Total Traffic (continued…)

2045 Long Total AM Peak Hour

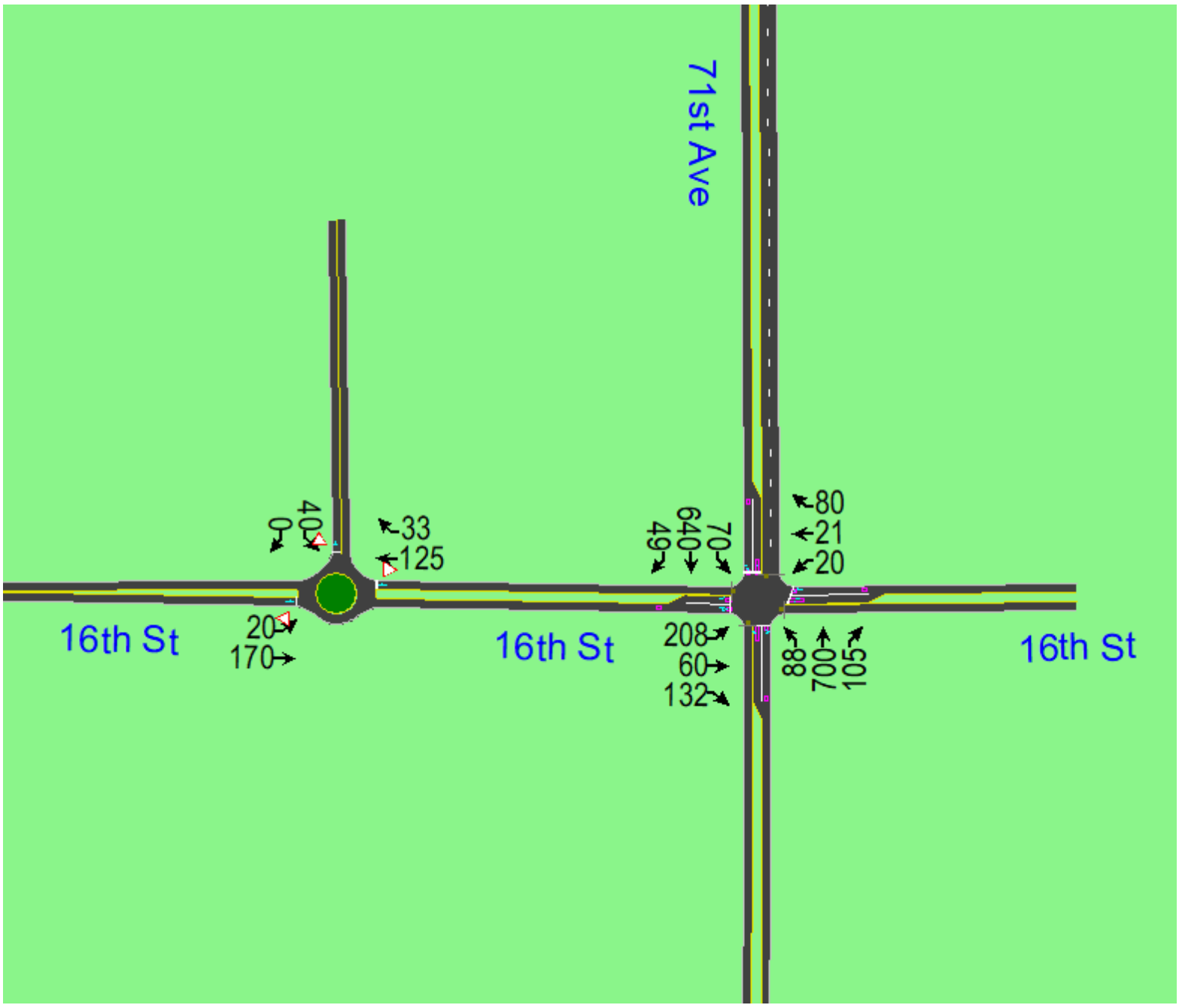


Figure 9: 2045 Long Range Total Traffic (continued…)

2045 Long Total AM Peak Hour

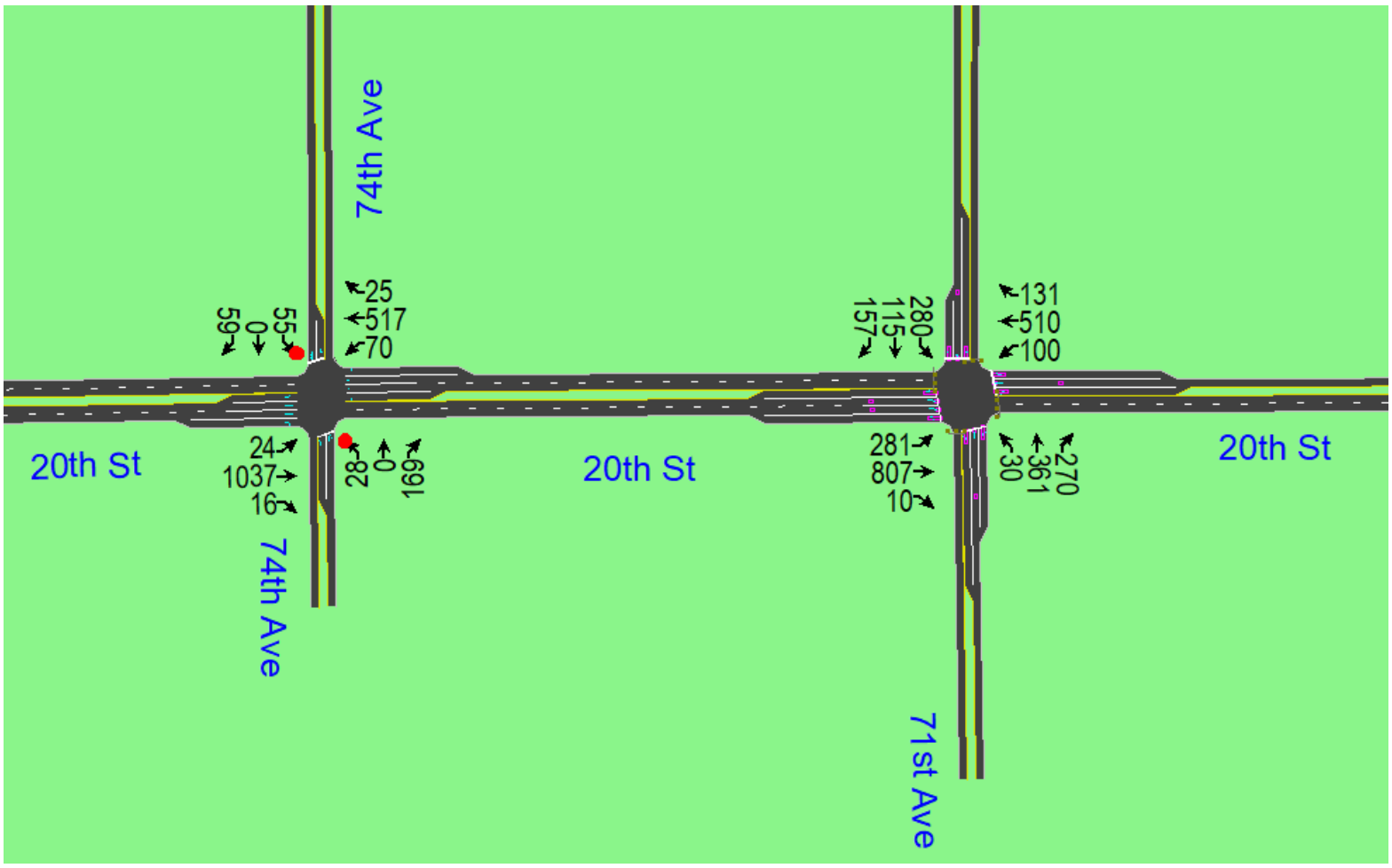


Figure 9: 2045 Long Range Total Traffic (continued…)

2045 Long Total PM Peak Hour

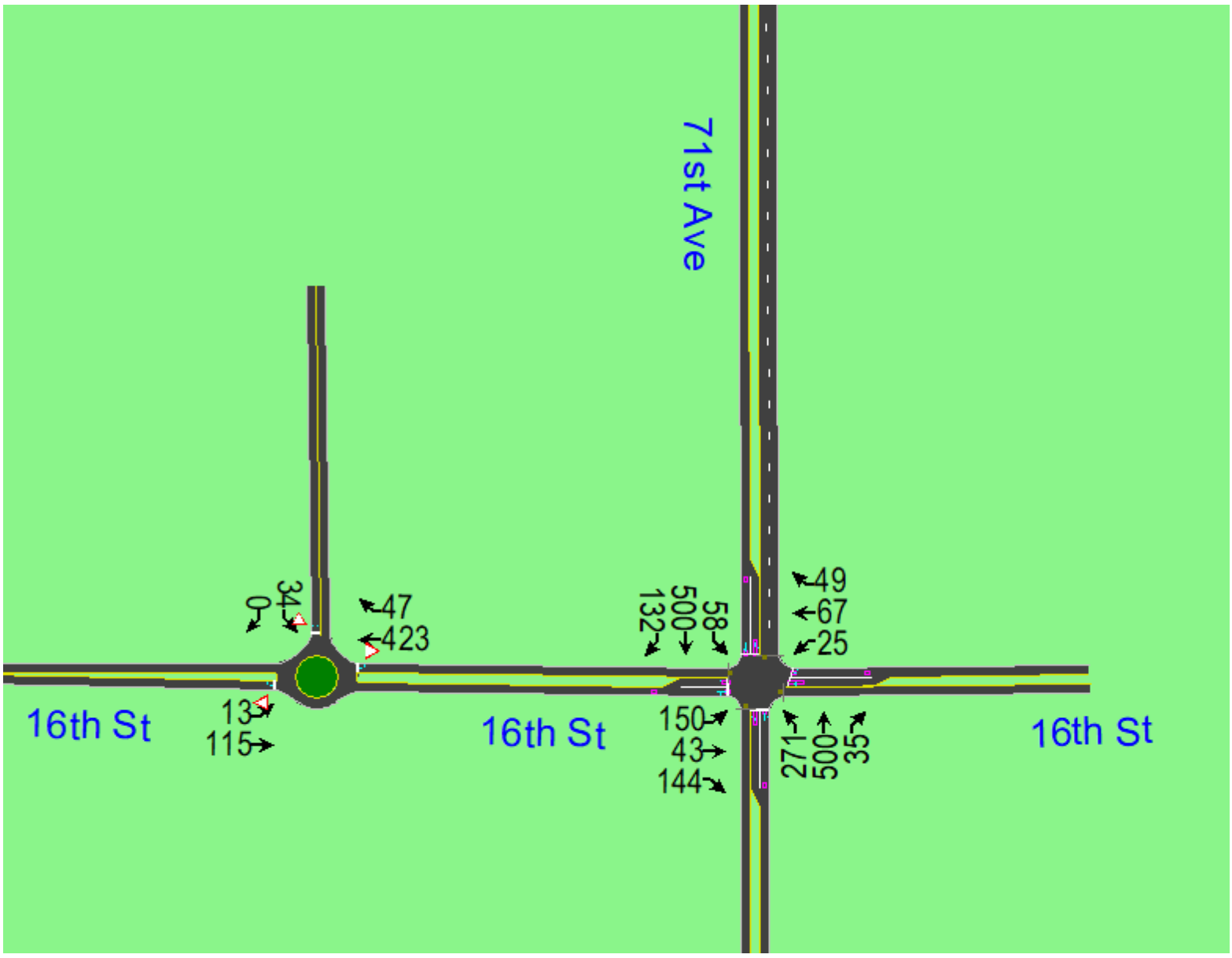
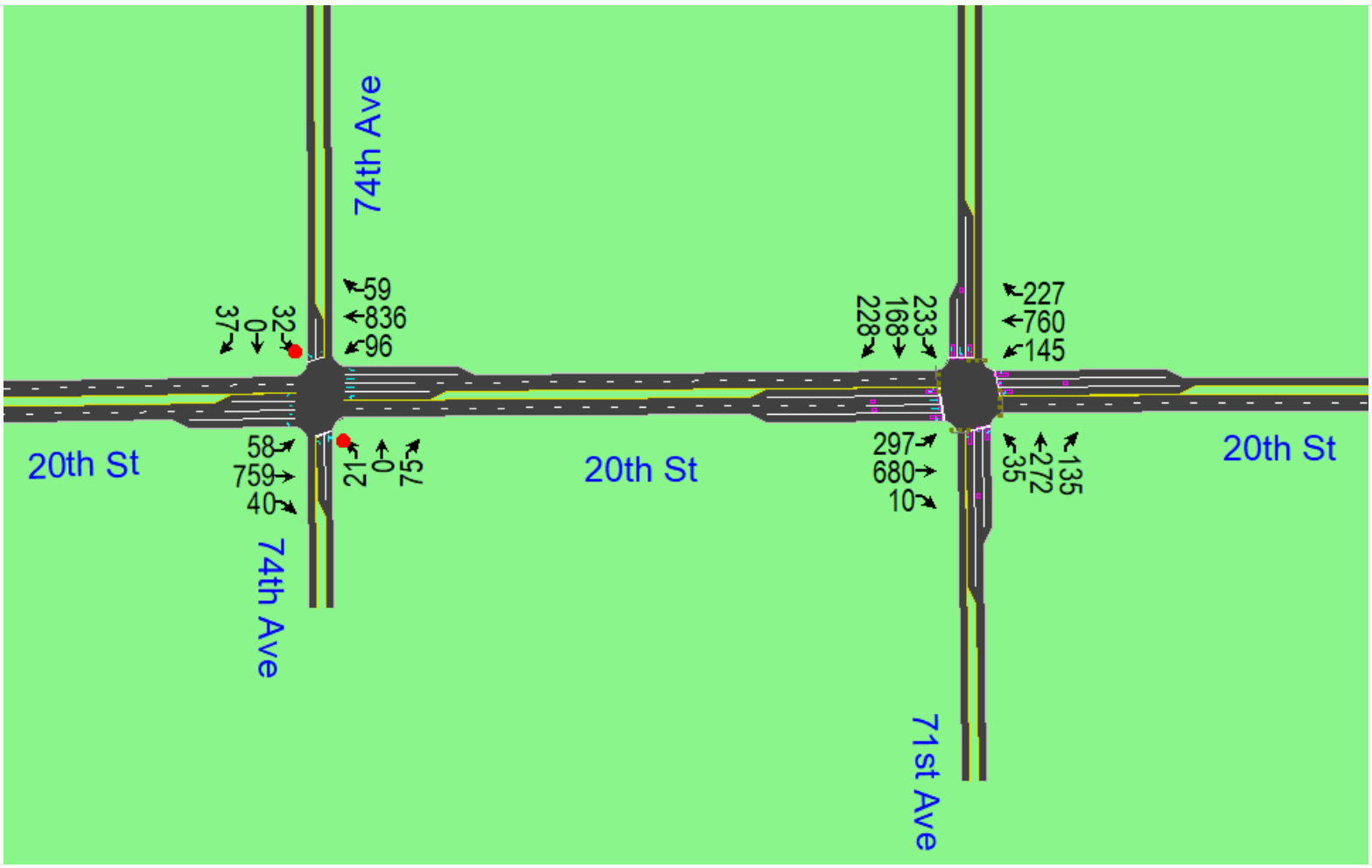


Figure 9: 2045 Long Range Total Traffic (continued…)

2045 Long Total PM Peak Hour



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

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.

Table 2: Recent Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/20th 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
71st Avenue/16th 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

Table 2: Recent Peak Hour Operations (continued…)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/10th 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
74th Avenue/20th 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

Table 3: 2025 Background Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/20th 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
71st Avenue/16th 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

Table 3: 2025 Background Peak Hour Operations (continued…)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/10th 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
74th Avenue/20th 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

Table 4: 2045 Background Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/20th 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
71st Avenue/16th 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

Table 4: 2045 Background Peak Hour Operations (continued…)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/10th 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
74th Avenue/20th 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

Table 5: 2025 Short Range Total Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/20th 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
71st 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

Table 5: 2025 Short Range Total Peak Hour Operations (continued…)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/10th 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
74th Avenue/20th 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

Table 5: 2025 Short Range Total Peak Hour Operations (continued…)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
16th 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
71st Avenue/16th 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

Table 6: 2045 Long Range Total Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/20th 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
71st 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

Table 6: 2045 Long Range Total Peak Hour Operations (continued…)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
71st Avenue/10th 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
74th Avenue/20th 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)

Table 6: 2045 Long Range Total Peak Hour Operations (continued…)

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
16th 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
71st Avenue/16th 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

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 be 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.

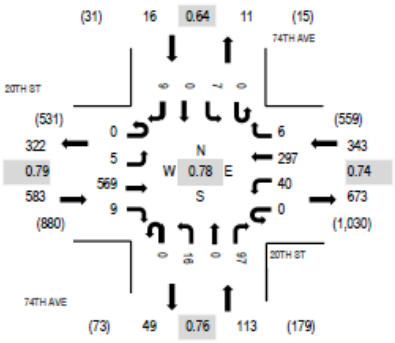
APPENDICES:

Appendix A: Traffic Counts

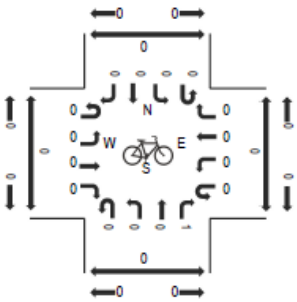
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

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

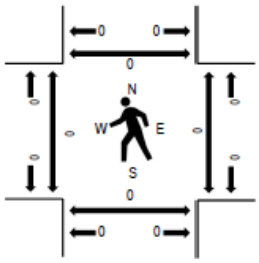
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

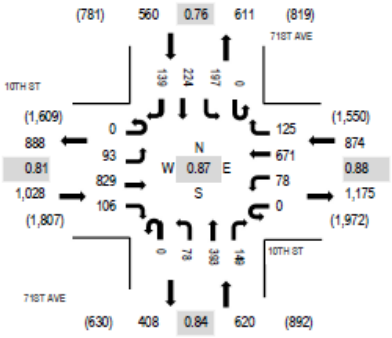
Traffic Counts - Motorized Vehicles

Interval Start Time	20TH ST Eastbound U-Turn	Left	Thru	Right	20TH ST Westbound U-Turn	Left	Thru	Right	74TH AVE Northbound U-Turn	Left	Thru	Right	74TH AVE Southbound U-Turn	Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings 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

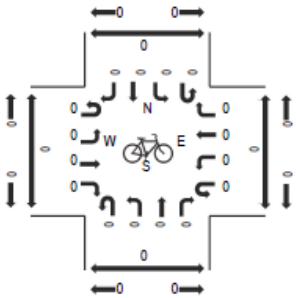
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

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

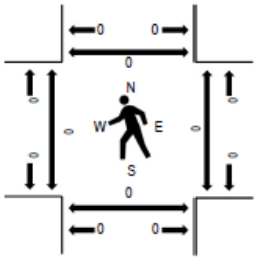
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

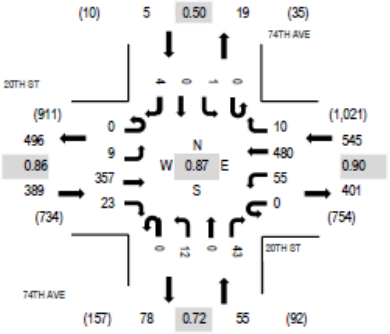
Traffic Counts - Motorized Vehicles

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

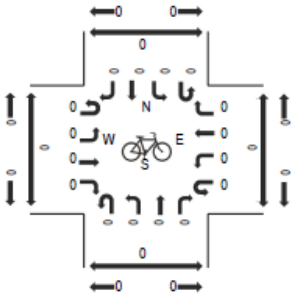
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

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

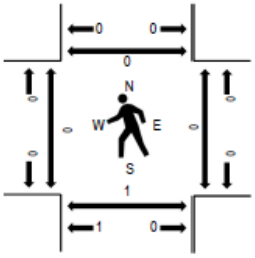
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

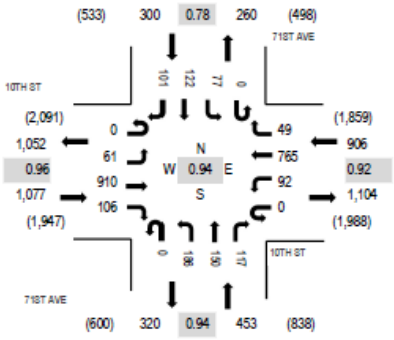
Traffic Counts - Motorized Vehicles

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

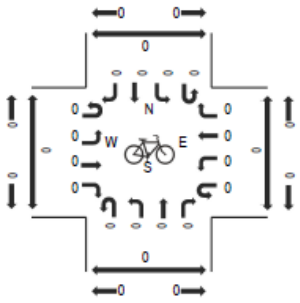
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

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

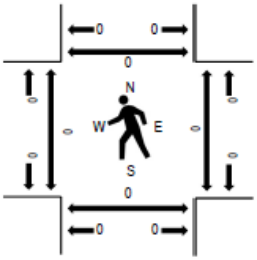
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



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

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	19	84	16	119	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	19	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

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

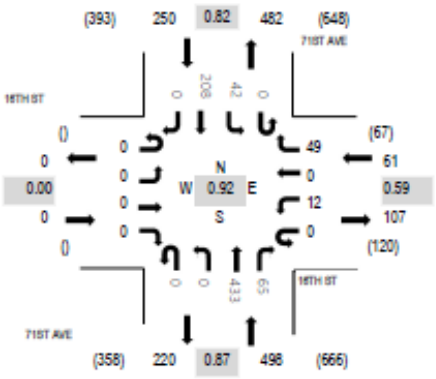
AM		PM		Notes:	Contact Info
Date:	5/2/2019	Date:	5/2/2019		Shawn Fetzer, P.E.
Time:	7:00 - 9:00	Time:	4:00 - 6:00		1768 Twin Lakes Cir, Loveland, Co 80538
Day:	Tuesday	Day:	Tuesday		Email - Sfetzer@fetzerengineering.com
Observer:	SKF (Video)	Observer:	SKF (Video)		Phone - 970-702-4884

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

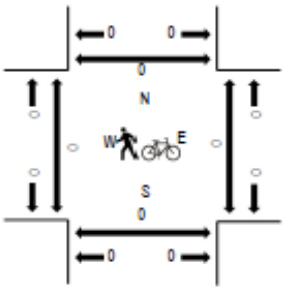
Location: 34 71ST AVE & 16TH ST AM
Date: Thursday, April 4, 2019
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

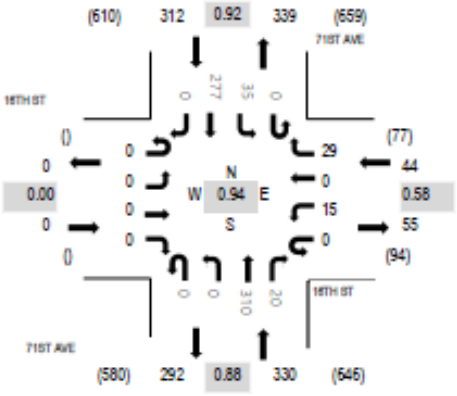
Interval Start Time	16TH ST Eastbound				16TH ST Westbound				71ST AVE Northbound				71ST AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	5	0	21	0	0	74	45	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

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

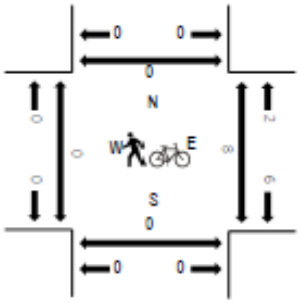
Location: 34 71ST AVE & 16TH ST PM
Date: Thursday, April 4, 2019
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

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

Appendix B: TIS Base Assumption Form

Transportation Impact Study
Base Assumption Form

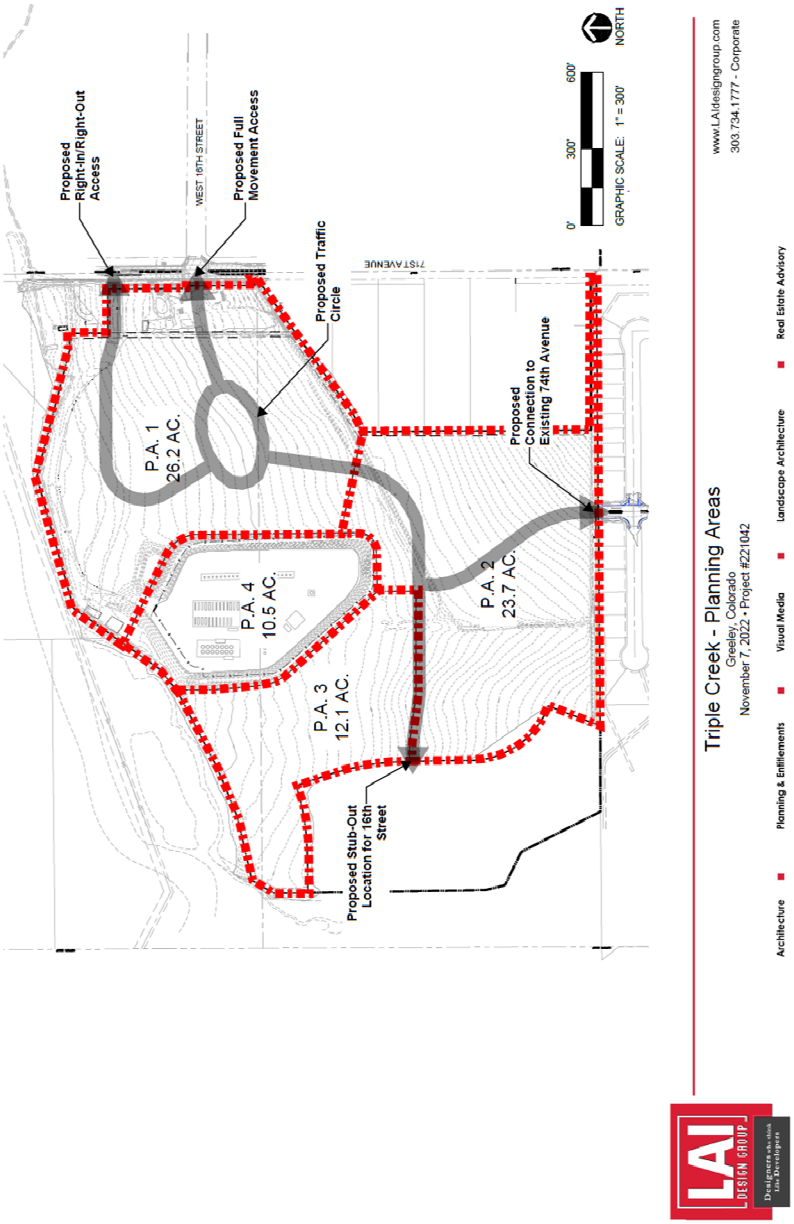
Project Information			
Project Name:	Triple Creek Subdivision		
Project Location:	West of 71st Avenue, North of 18th Street, Greeley		
TIS Assumptions			
Type of Study	**Memo**	**Intermediate**	**Full** Yes
Study Area Boundaries	**North** 16th Street	**South** 20th Street	
	East 71st Ave	**West** 74th 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

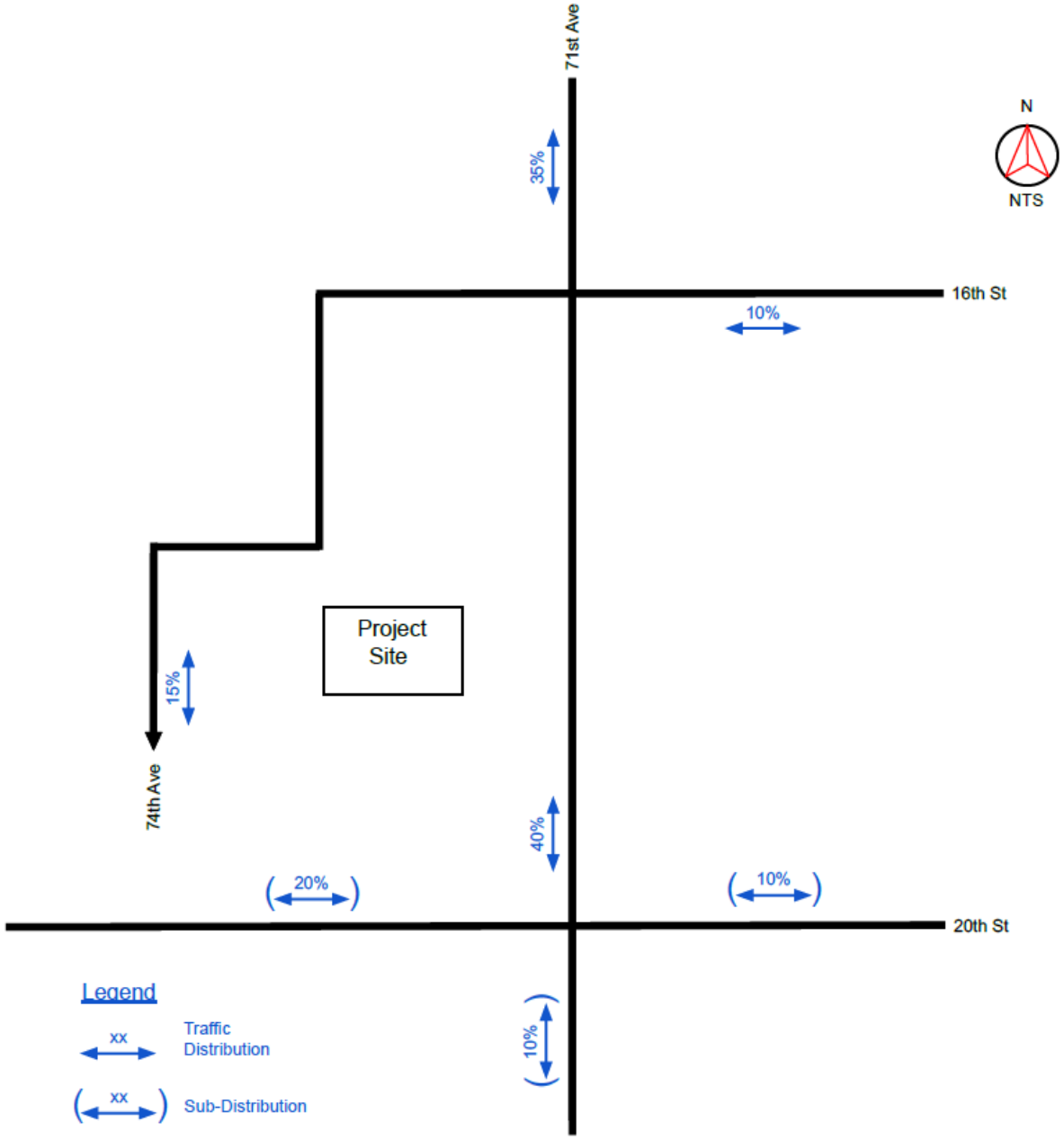
Traffic Engineer. Sean Kellar, PE, PTOE

Greeley Traffic Engineer Steven Younkin, PE, PTOE, RSP1 - 12/28/2022

ATTACHMENT H - TRAFFIC IMPACT STUDY



Trip Distribution



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

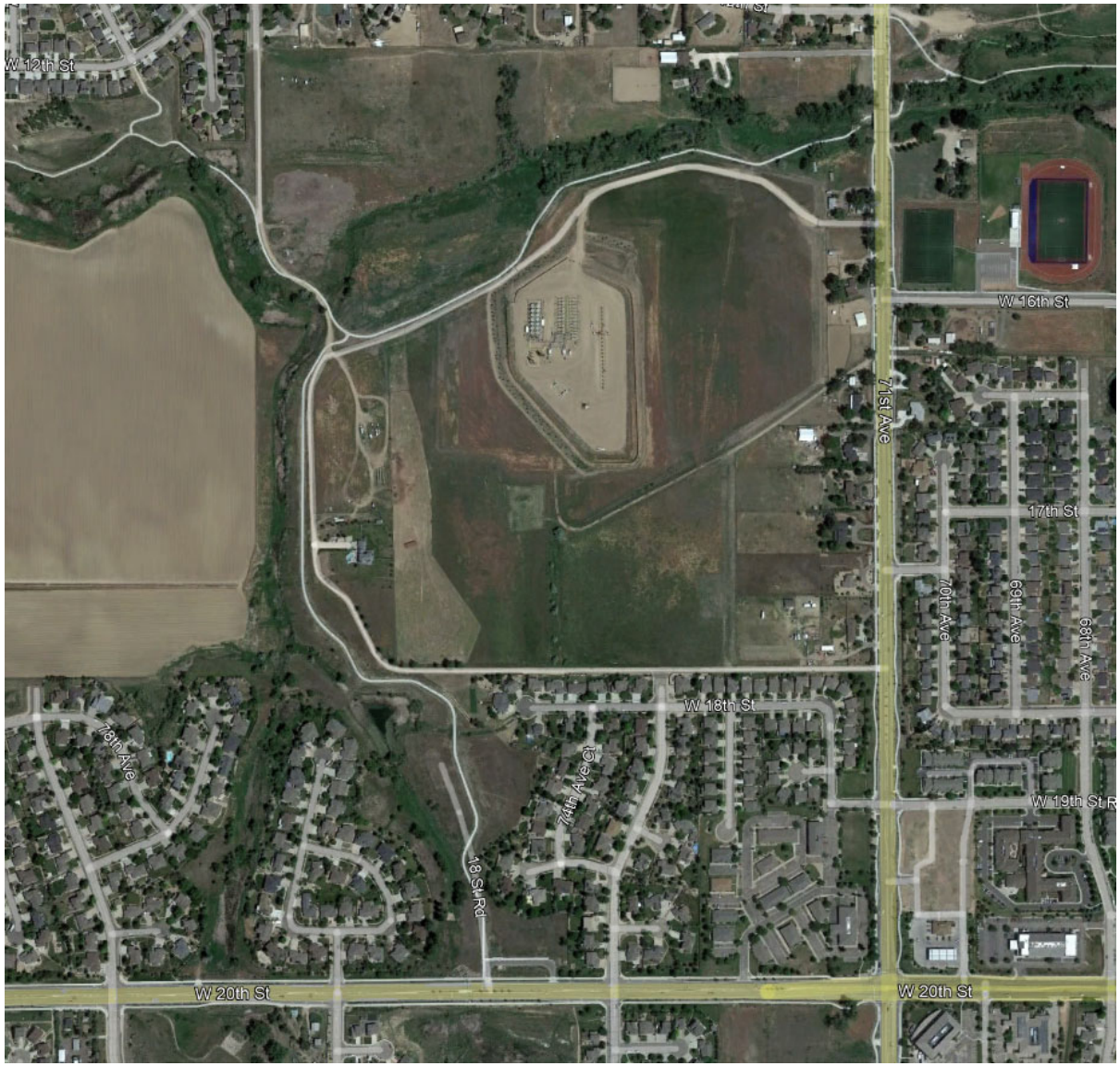
Intersection Component	Major Intersection[1]	Minor Intersection[2]
Overall (City Limits)	LOS C	LOS C
Overall (LREGA)[3]	LOS D	LOS C
Any Leg	LOS D	LOS E
Any Movement	LOS E	LOS F

[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



20th Street and 71st Ave Looking East

20th Street and 71st Ave Looking East

20th Street and 71st Ave Looking North

20th Street and 71st Ave Looking North

20th Street and 71st Ave Looking South

20th Street and 71st Ave Looking South

20th Street and 71st Ave Looking West

Appendix E: Pages from Greeley Transportation Plan

Figure 4-1: Master Street Plan Map

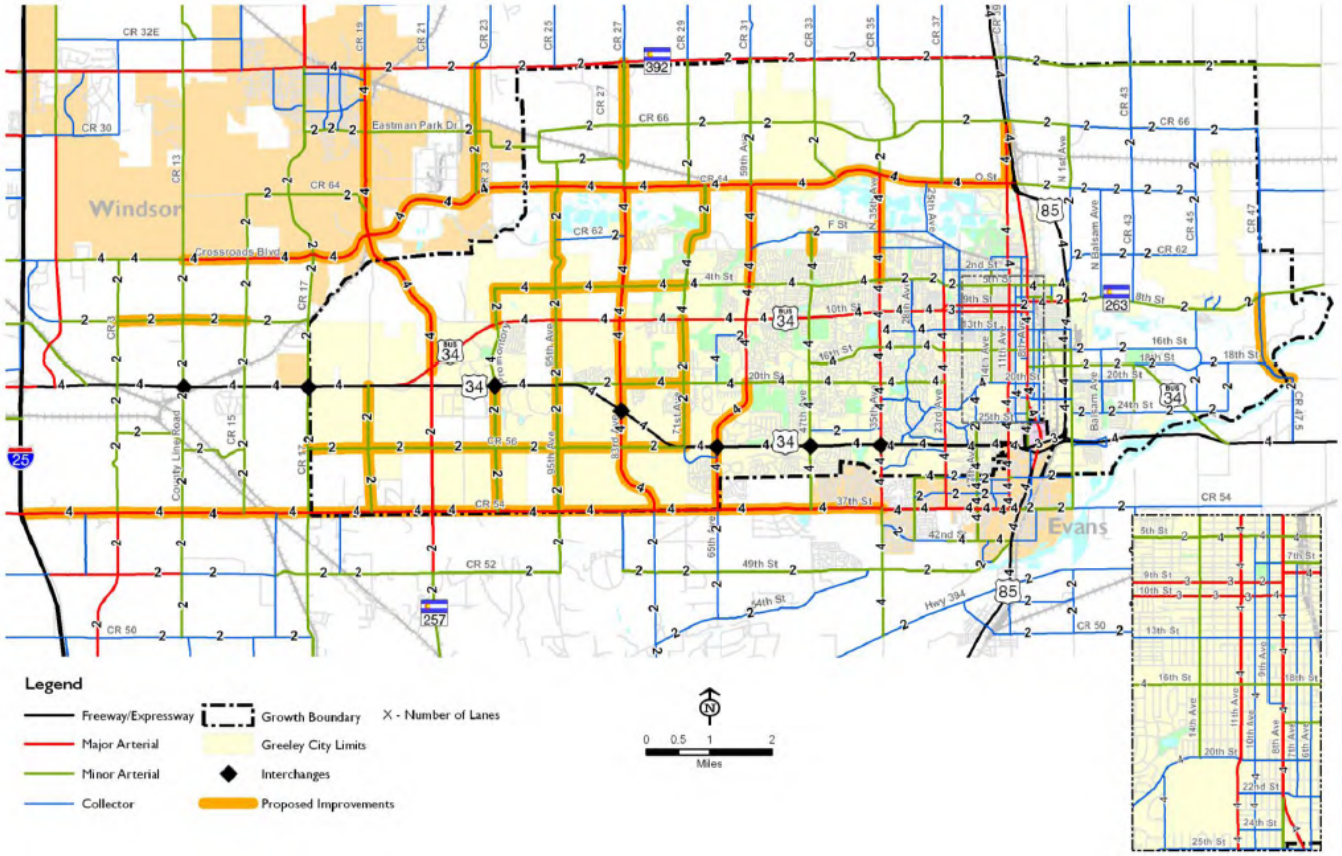
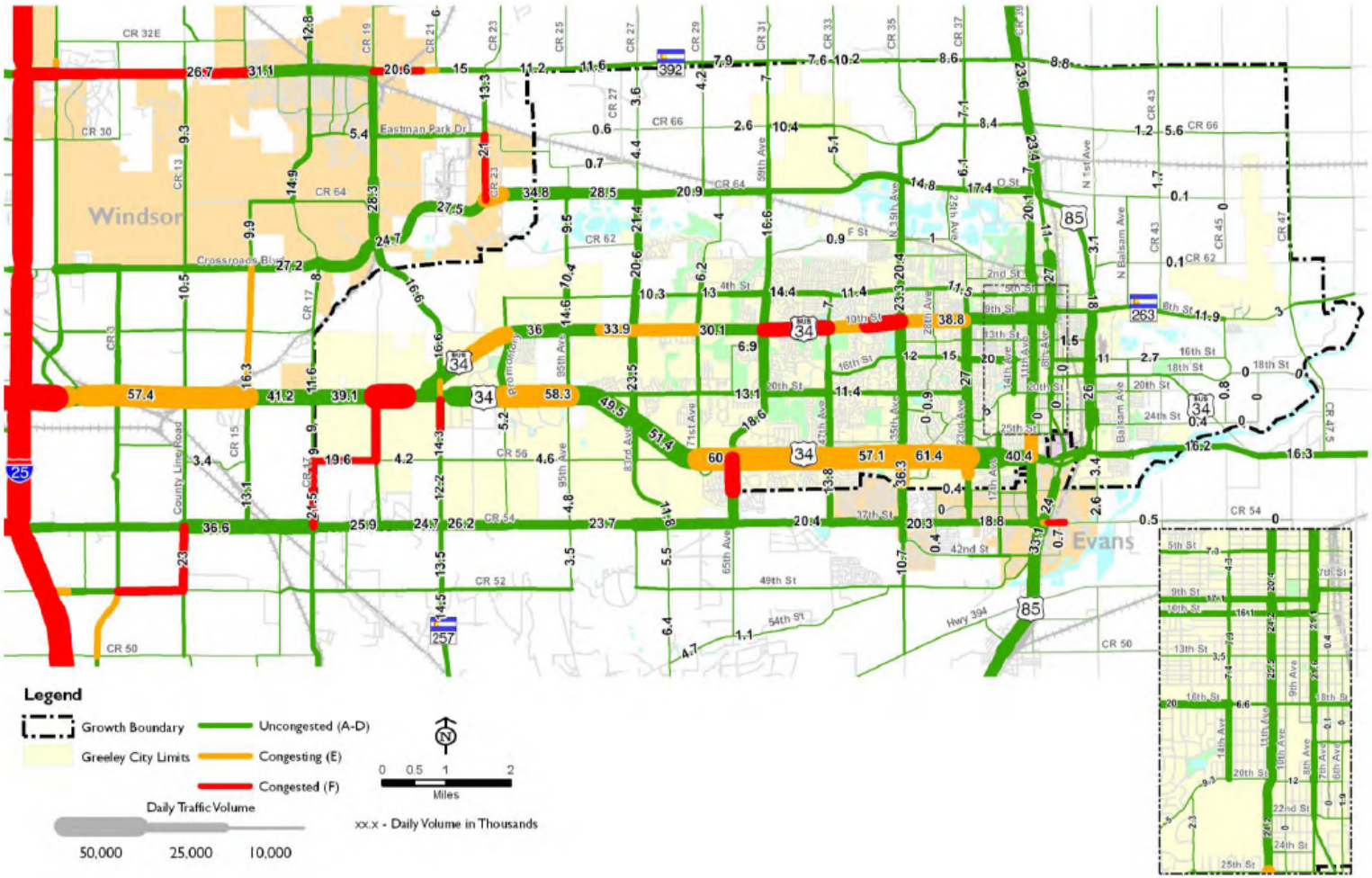


Figure 4-3: 2035 Forecast Daily Traffic Volumes



ATTACHMENT H - TRAFFIC IMPACT STUDY

Appendix F: HCM Calculations (Synchro)

Recent AM Peak Hour
3: 71st Ave & 20th 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)	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

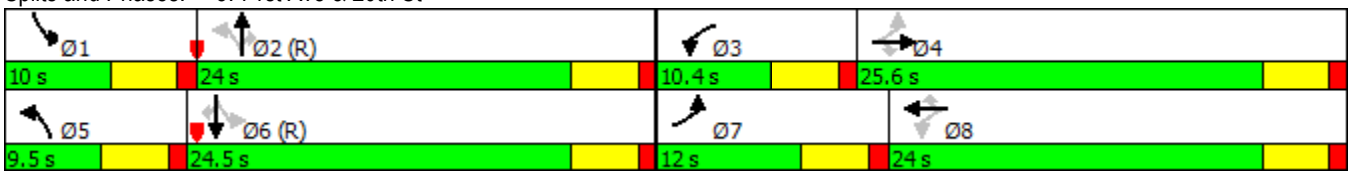
3: 71st Ave & 20th St

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 Effct 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

Recent AM Peak Hour
6: 71st Ave & 16th St

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	

Recent AM Peak Hour
6: 71st Ave & 16th St

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 Effct 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 LOS: A
Intersection Capacity Utilization 46.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: 71st Ave & 16th St

Recent AM Peak Hour
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

Recent AM Peak Hour
9: 74th Ave & 20th St

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	

Recent AM Peak Hour
13: 71st Ave & 10th St

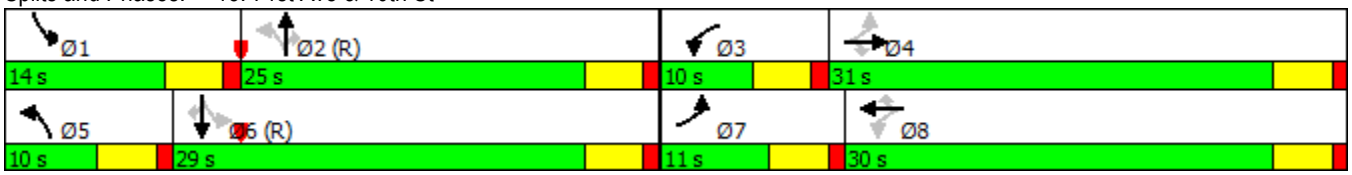
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	829	106	78	671	125	78	393	149	197	224	139
Future Volume (vph)	93	829	106	78	671	125	78	393	149	197	224	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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

Recent AM Peak Hour
13: 71st Ave & 10th St

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 Effct 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



Recent AM Peak Hour
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

Recent PM Peak Hour
3: 71st Ave & 20th St

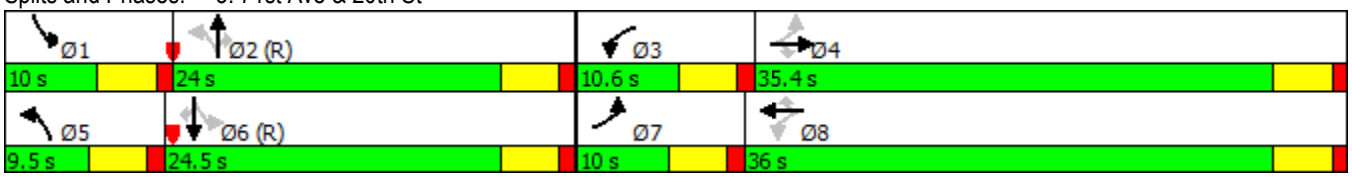
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	416	5	87	457	98	19	125	80	114	74	108
Future Volume (vph)	99	416	5	87	457	98	19	125	80	114	74	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (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

Recent PM Peak Hour
3: 71st Ave & 20th St

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 Effct 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



Recent PM Peak Hour
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

Recent PM Peak Hour
6: 71st Ave & 16th St

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	

Recent PM Peak Hour
6: 71st Ave & 16th St

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 LOS: A
Intersection Capacity Utilization 37.1%	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)	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

Recent PM Peak Hour
9: 74th Ave & 20th St

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%	ICU Level of Service A
Analysis Period (min) 15	

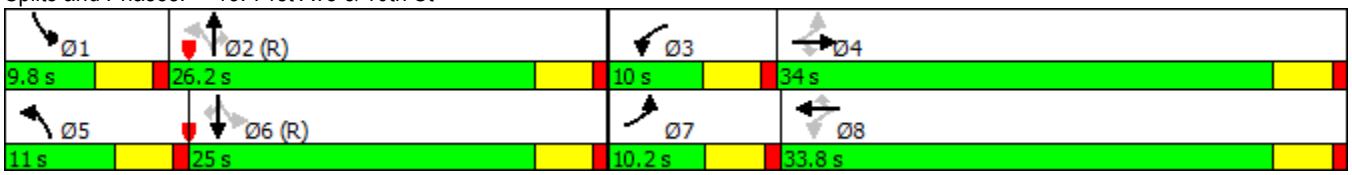
Recent PM Peak Hour
13: 71st Ave & 10th St

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

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 Effct 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



Recent PM Peak Hour
18: 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

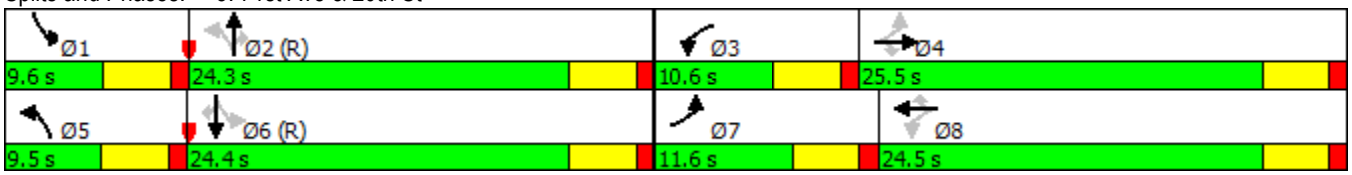
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	266	815	1031	-	-	1142	-	-	225	738
HCM Lane V/C Ratio	0.049	0.057	0.009	-	-	0.052	-	-	0.005	0.006
HCM Control Delay (s)	19.2	9.7	8.5	-	-	8.3	-	-	21.1	9.9
HCM Lane LOS	C	A	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.2	0.2	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

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 Effct 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 Effct 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%	ICU Level of Service A
Analysis Period (min) 15	

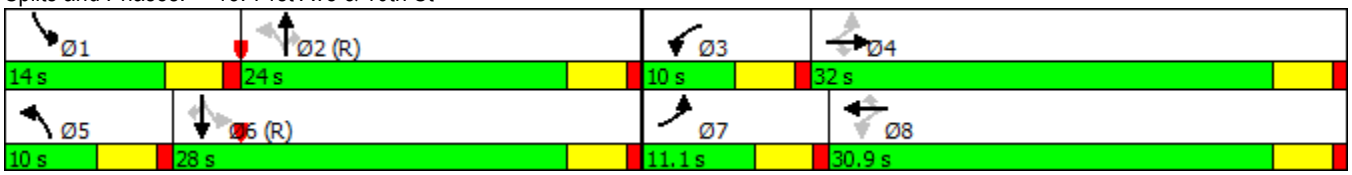
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	862	110	81	698	130	81	409	155	205	233	145
Future Volume (vph)	95	862	110	81	698	130	81	409	155	205	233	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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

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 Effct 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

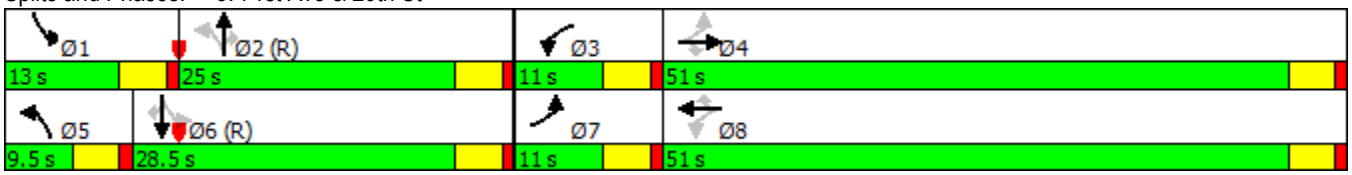
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	216	674	1213	-	-	930	-	-	237	847
HCM Lane V/C Ratio	0.086	0.163	0.004	-	-	0.049	-	-	0.032	0.012
HCM Control Delay (s)	23.2	11.4	8	-	-	9.1	-	-	20.7	9.3
HCM Lane LOS	C	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.3	0.6	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

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 Effct 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	

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 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	0.30		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%	ICU Level of Service A
Analysis Period (min) 15	

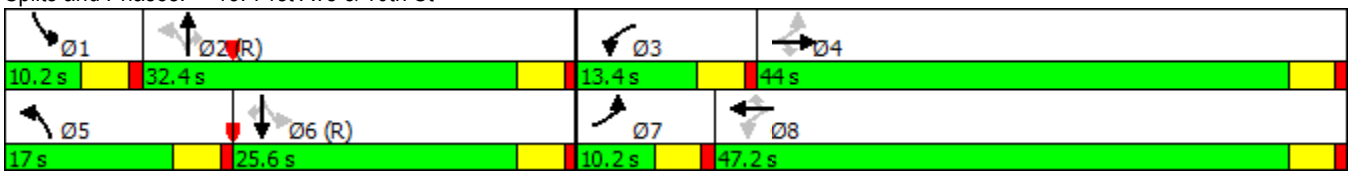
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	947	110	96	796	51	194	156	122	80	127	105
Future Volume (vph)	63	947	110	96	796	51	194	156	122	80	127	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage 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

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 Effct 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

2025 Short Range Total AM Peak Hour
3: 71st Ave & 20th St

Kellar Engineering LLC
03/06/2023

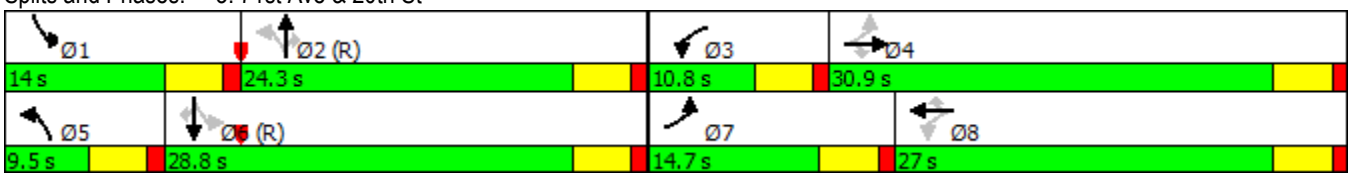
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	543	6	69	345	95	20	252	185	210	95	132
Future Volume (vph)	216	543	6	69	345	95	20	252	185	210	95	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage 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

2025 Short Range Total AM Peak Hour
3: 71st Ave & 20th St

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 Effct 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%			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	0.223			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	

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						

2025 Short Range Total AM Peak Hour
3: 71st Ave & 20th St

Kellar Engineering LLC
03/06/2023

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

2023 Short Range Total AM Peak Hour
6: 71st Ave & 16th 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)	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		

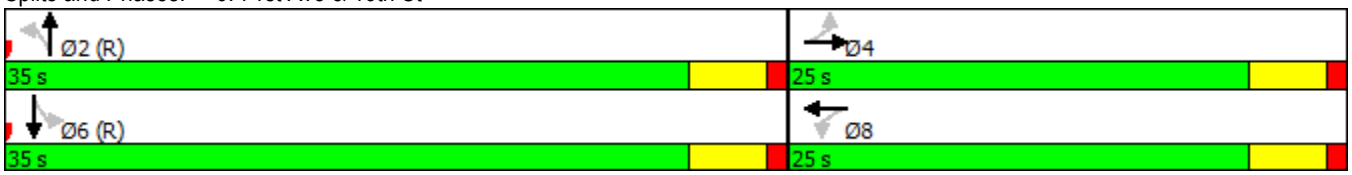
2025 Short Range Total AM Peak Hour
6: 71st Ave & 16th St

Kellar Engineering LLC
03/06/2023

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 Effct 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

2023 Short Range Total AM Peak Hour
6: 71st Ave & 16th St

Kellar Engineering LLC
03/06/2023

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						

2023 Short Range Total AM Peak Hour
6: 71st Ave & 16th St

Kellar Engineering LLC
03/06/2023

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

2025 Short Range Total AM Peak Hour
18: 71st 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)	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

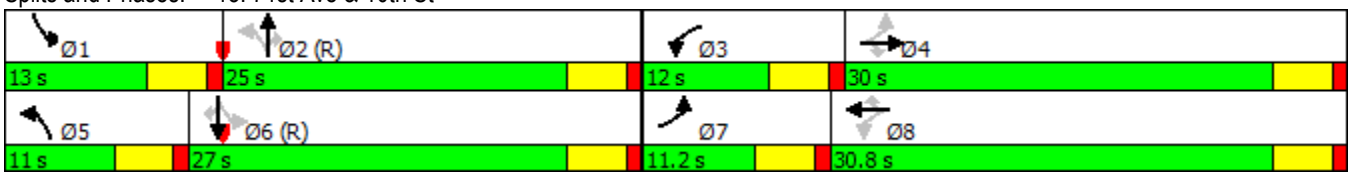
2025 Short Range Total AM Peak Hour
13: 71st Ave & 10th St

Kellar Engineering LLC
03/06/2023

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			466	
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						

2025 Short Range Total AM Peak Hour
18: 71st Ave & 10th St

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			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
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	
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	
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%		ICU Level of Service A	
Analysis Period (min) 15			

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

2025 Short Range Total PM Peak Hour
3: 71st Ave & 20th St

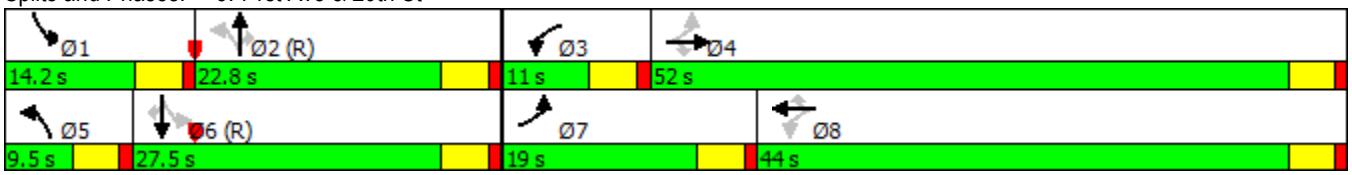
Kellar Engineering LLC
03/06/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	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

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 Effct 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						

2025 Short Range Total PM Peak Hour
3: 71st Ave & 20th St

Kellar Engineering LLC
03/06/2023

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

2025 Short Range Total PM Peak Hour
6: 71st Ave & 16th 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)	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 Effct 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.

2025 Short Range Total PM Peak Hour
6: 71st Ave & 16th St

Kellar Engineering LLC
03/06/2023

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						

2023 Short Range Total PM Peak Hour
6: 71st Ave & 16th St

Kellar Engineering LLC
03/06/2023

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	

2023 Short Range Total PM Peak Hour
18: 71st Ave & 10th St

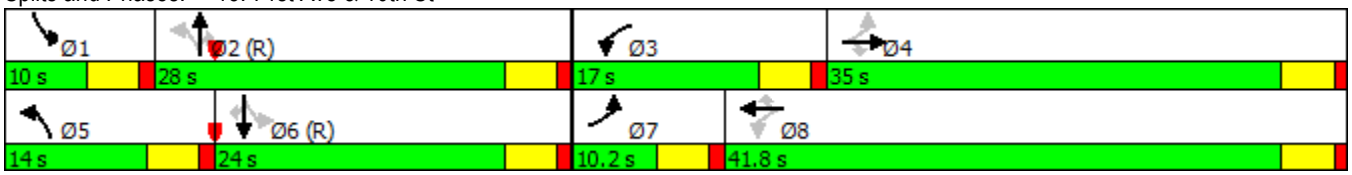
Kellar Engineering LLC
03/06/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	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 Effct 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.

2025 Short Range Total PM Peak Hour
18: 71st Ave & 10th St

Kellar Engineering LLC
03/06/2023

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%		ICU Level of Service A	
Analysis Period (min) 15			

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		

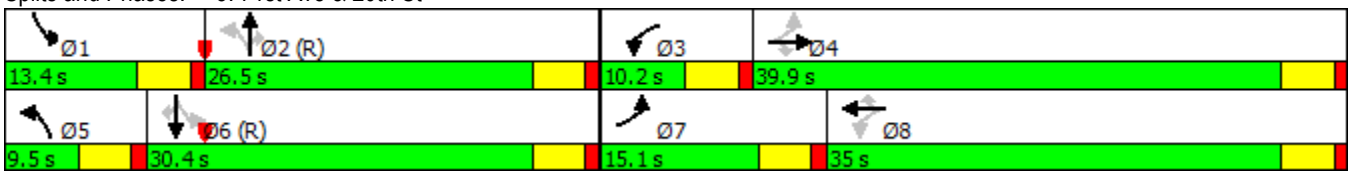
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	621	-	-
HCM Lane V/C Ratio	-	0.079	-	-
HCM Control Delay (s)	-	11.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

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

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 Effct 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			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
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	

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 Effct 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	

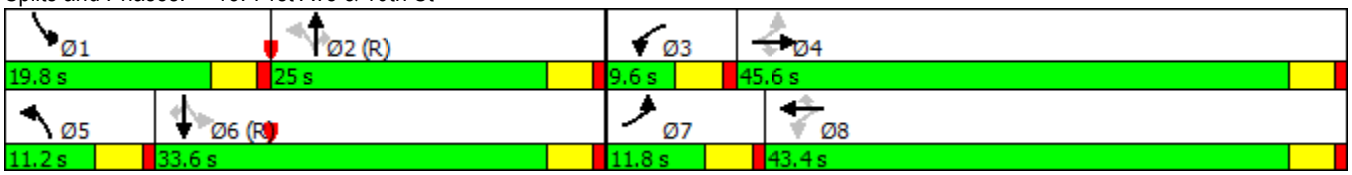
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 51.7%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	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

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 Effct 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			D	D

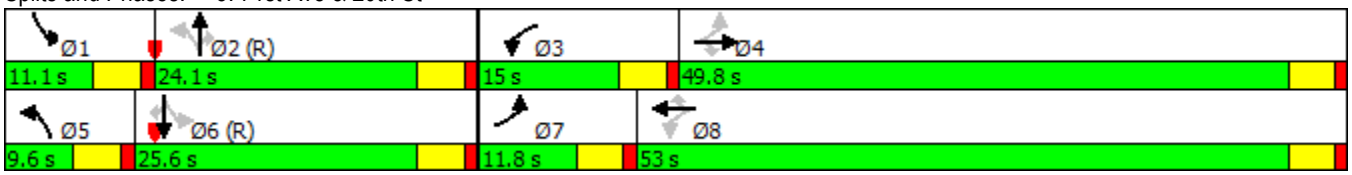
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	70	487	996	-	-	634	-	-	70	716
HCM Lane V/C Ratio	0.435	0.377	0.01	-	-	0.12	-	-	0.186	0.024
HCM Control Delay (s)	91.2	16.8	8.7	-	-	11.5	-	-	67.9	10.2
HCM Lane LOS	F	C	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.7	1.7	0	-	-	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

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 Effct 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



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 Effct 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	

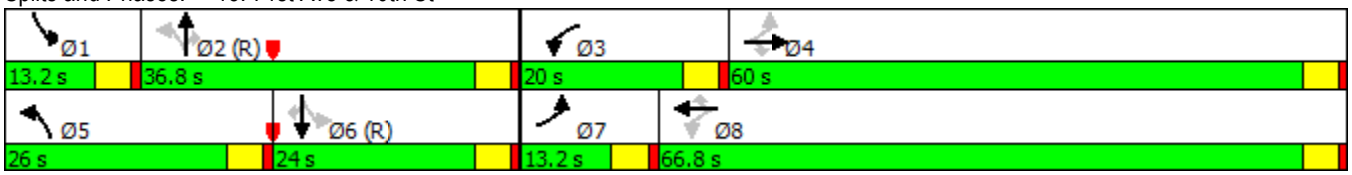
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 44.3%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	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

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 Effct 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

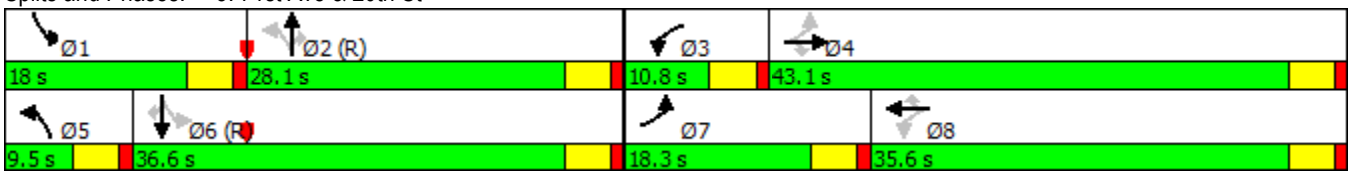
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	211	176	44
Cap Entry Lane, veh/h	1081	1105	983
Entry HV Adj Factor	0.982	0.979	0.977
Flow Entry, veh/h	207	172	43
Cap Entry, veh/h	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

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 Effct 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

2045 Long Range Total AM Peak Hour
6: 71st Ave & 16th 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)	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		

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 Effct 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%	ICU Level of Service B
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

2045 Long Range Total AM Peak Hour
18: 71st Ave & 10th St

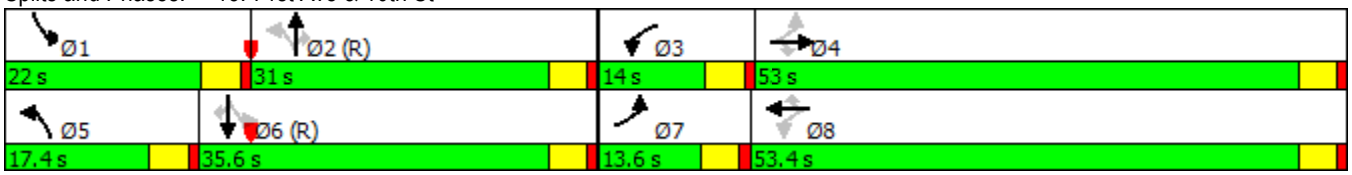
Kellar Engineering LLC
03/06/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	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

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 Effct 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



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			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	

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			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
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%		ICU Level of Service A	
Analysis Period (min) 15			

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

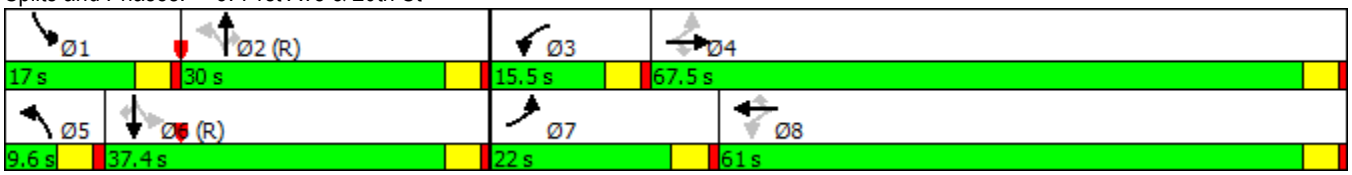
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	142	521	38
Cap Entry Lane, veh/h	1088	1114	707
Entry HV Adj Factor	0.982	0.980	0.974
Flow Entry, veh/h	139	511	37
Cap Entry, veh/h	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

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 Effct 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			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
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		

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 Effct 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+I1), 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%	ICU Level of Service A
Analysis Period (min) 15	

2045 Long Range Total PM Peak Hour
18: 71st 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)	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

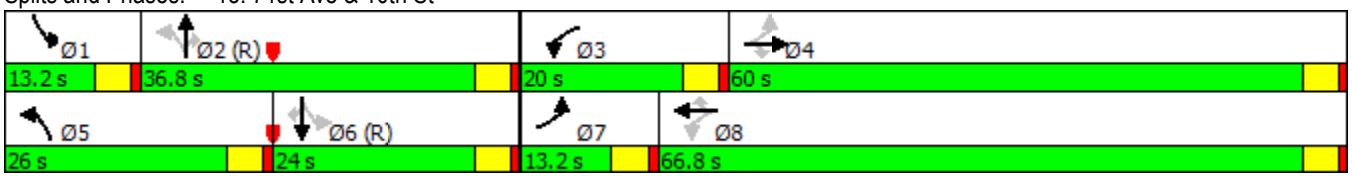
2045 Long Range Total PM Peak Hour
13: 71st Ave & 10th St

Kellar Engineering LLC
03/06/2023

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 Effct 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%		ICU Level of Service A	
Analysis Period (min) 15			

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	-	-

KELLAR ENGINEERING

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

Triple Creek PUD
PUD2023-0002

Planning Commission
October 24, 2023
Michael Franke, Planner II

Request & Site Background

- Request:
  - Establish the Triple Creek PUD on 72.5 acres located west of 71st Avenue, 1/3 mile south of 10th Street, and 1/4 mile north of 20th Street.
- Background:
  - Site annexed in 1998 (Ord. 39, 1998).
  - One oil and gas development on site, otherwise an undeveloped site.

Location

- West of 71st Avenue, 1/3 mile south of 10th Street, and 1/4 mile north of 20th Street.
- Surrounding Zoning and Land Uses:
  - North: C-D, R-L, R-E | single-family dwelling, Sheep Draw Trail, farmland
  - South: R-L, R-H | Single-family dwellings
  - East: R-L, H-A | Single-family dwellings, 71st Avenue
  - West: R-L | Farming, open space, single-family dwelling

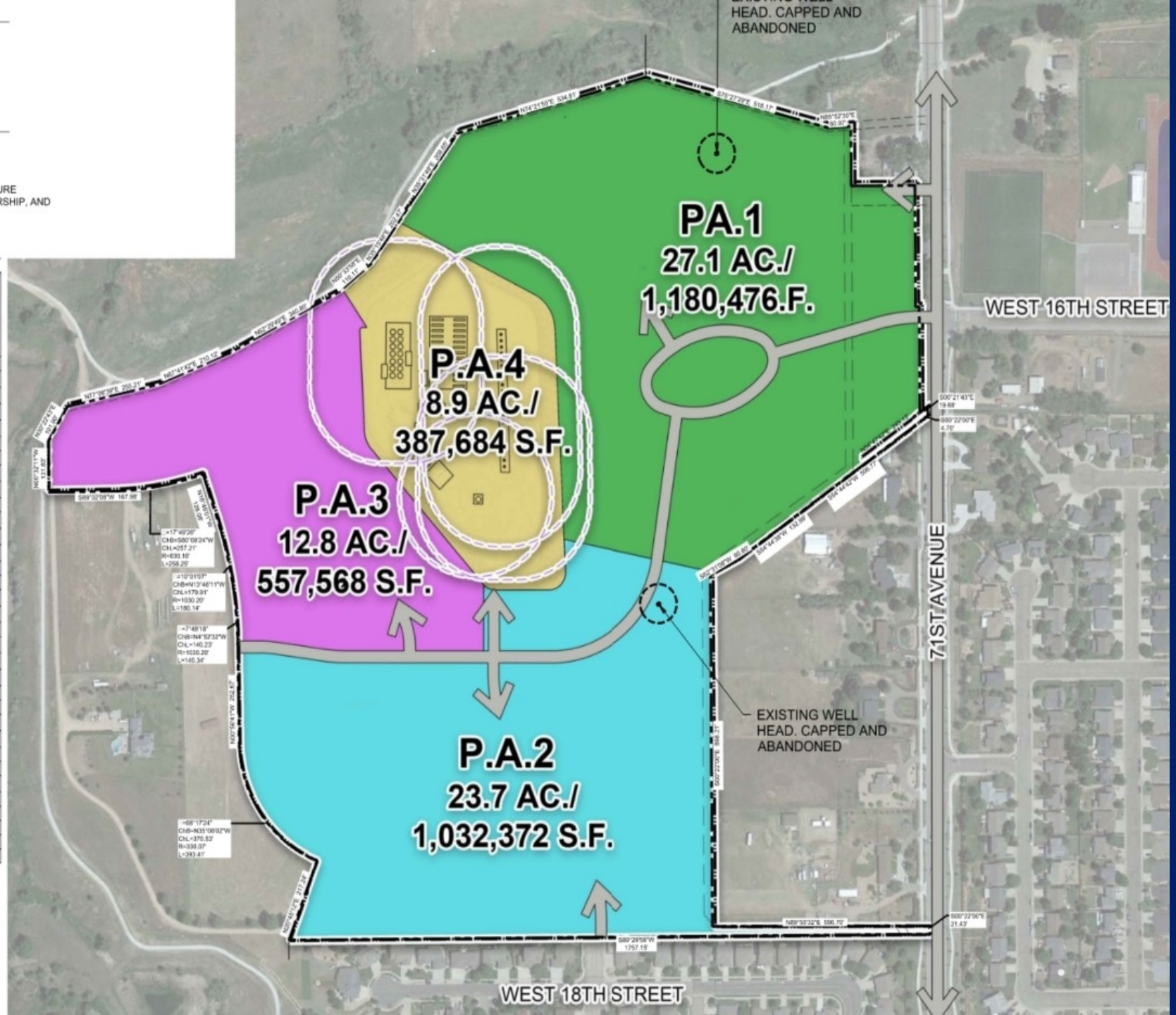
Triple Creek PUD

PLANNING AREA SUMMARY

	27.1 ACRES	P.A. 1
	23.7 ACRES	P.A. 2
	12.8 ACRES	P.A. 3
	8.9 ACRES	P.A. 4
TOTAL	72.5 ACRES	

ING THE MAJOR INFRASTRUCTURE
UCTION, MAINTENANCE, OWNERSHIP, AND

UNT OF ERCIAL / STRIAL	PLANNING AREA MAX. DENSITY (D.U./AC.)	% OF ACREAGE
		36
SF MAX.	N/A[5]	
/A	MAXIMUM OVERALL DENSITY 29.0 DU/AC	
/A		
/A		
/A		
/A		
/A	N/A	
/A	N/A	
		33
/A	MAXIMUM OVERALL DENSITY 15.0 DU/AC	
/A		
/A		
/A		
/A		
/A	N/A	
/A	N/A	
		17
/A	MAXIMUM OVERALL DENSITY 15.0 DU/AC	
/A		
/A		
/A		
/A		
/A	N/A	
		14
/A	N/A	
/A	N/A	
ICATED NEIGHBORHOOD PARK		



Considerations

Approval Criteria

- Rezoning Criteria, 24-204(b) Nine Criteria Used to Evaluate Rezoning Applications
- PUD Criteria, 24-205(c) Four Criteria Used to Evaluate PUD Applications
- The proposal is consistent with the criteria as outlined in your Summary

Notification

- 440 notice letters (1000' buffer, owners and current residents)
- Two signs posted on the property
- Web notice
- Mineral notice
- No objection/support

Recommendation

- Complies with Sections 24-204(b) and 24-205(c)
- Staff recommends approval

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.

Michael Franke

michael.franke@greeleygov.com

https://greeleygov.com/services/cd/planning-and-zoning

Thank you

Review Criteria

City of Greeley Colorado

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.**
	• *Land Use Guidance Map – Suburban Neighborhood, Neighborhood Center, Multi-Modal Corridors* • *Goal ED-1 : Promote a healthy, progressive, and competitive local economy.* • *Goal ED-2 : Promote desired economic sectors and a diverse local economy.* • *Goal ED-3 : Attract and maintain employed, skilled, and adaptable workforce.* • *Goal EH-2 : Integrate healthy living into community planning and development.* • *Goal GC-1 : Manage growth effectively.* • *Goal GC-2 : Promote a balanced mix and distribution of land uses.* • *Goal GC-3 : Promote new development, infrastructure investments, and public improvements that enhance the character of the community.* • *Goal GC-6: Maintain and enhance the character and interconnectivity of Greeley's neighborhoods.* • *Goal HO-1: Improve access to housing for all income levels, ages, and physical abilities.* • *Goal HO-2 : Encourage a broad diversity of housing options.* • *Goal NR-3: Demonstrate stewardship of the environment.* • *Goal PR-1 : Develop and maintain an inter-connected system of parks, trails, and recreational facilities.* • *Others as outlined in the staff report.*
2)	**The proposal can fulfill the intent of the zoning district considering the relationship to surrounding areas.**
	• *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.*

Review Criteria

Rezoning Review Criteria, Section 24-204(b)	
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.**
	• *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.*
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.**
	• *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.*

Review Criteria

Rezoning Review Criteria, Section 24-204(b)	
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 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.*
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.**
	• *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.*

Review Criteria

Rezoning Review Criteria, Section 24-204(b)	
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.**
	• *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.*
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.**
	• *Traffic impacts would be addressed with future improvements as outlined in the applicant's traffic impact study. No further negative impacts are anticipated.*

Review Criteria

Rezoning Review Criteria, Section 24-204(b)	
9)	**The recommendations of professional staff or advisory review bodies.**
	• *Planning staff and the Administrative Review Team recommend approval.*

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*

Review Criteria

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

Review Criteria

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

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

NORTH

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) 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 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.

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 195
LA SALLE, CO 80645
970.535.2656

TRAFFIC ENGINEER:
KELLAR ENGINEERING
4141 CENTRAL ST.
KANSAS CITY, MO 64112
970.219.1602

SHEET INDEX

SHEET NAME	SHEET NUMBER	SHEET
COVER SHEET	L1.00	1
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GRADING PLANS	G1 - G3	30-32

PLANNER / ARCHITECT / LANDSCAPE ARCHITECT
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CIVIL ENGINEER
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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
COVER SHEET

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

1st SUBMITTAL	03/08/23
2nd SUBMITTAL	08/01/23
3rd SUBMITTAL	01/24/23
4th SUBMITTAL	09/01/23
5th SUBMITTAL	10/09/23

SHEET NUMBER
L1.00
SHEET 1 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

2.00 EXISTING CONDITIONS

LEGEND

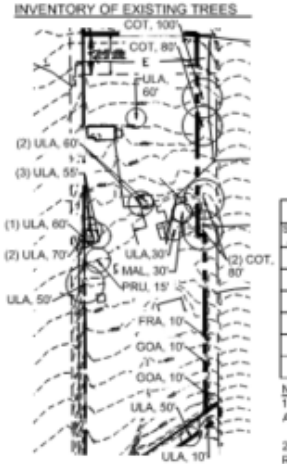
- C-D CONSERVATION DISTRICT
- H-A HOLDING AGRICULTURE
- I-L INDUSTRIAL - LOW INTENSITY
- R-E RESIDENTIAL ESTATE
- R-H RESIDENTIAL - HIGH DENSITY
- R-L RESIDENTIAL - LOW DENSITY
- PUD PLANNED UNIT DEVELOPMENT
- PRIMARY SITE ACCESS POINT
- SECONDARY SITE ACCESS POINT
- ACTIVE PR ACTIVELY PRODUCING WELL TO REMAIN
- FIRE HYDRANT
- DRAINAGE
- HIGH POINT
- LOW POINT
- 200' RADIUS SETBACK OIL & GAS WELL LOCATION
- EXISTING CONTOURS
- PROPERTY BOUNDARY
- RIGHT-OF-WAY
- PLANNING AREA BOUNDARY
- EASEMENT
- SHEEP DRAW FLOWLINE

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	3978801
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

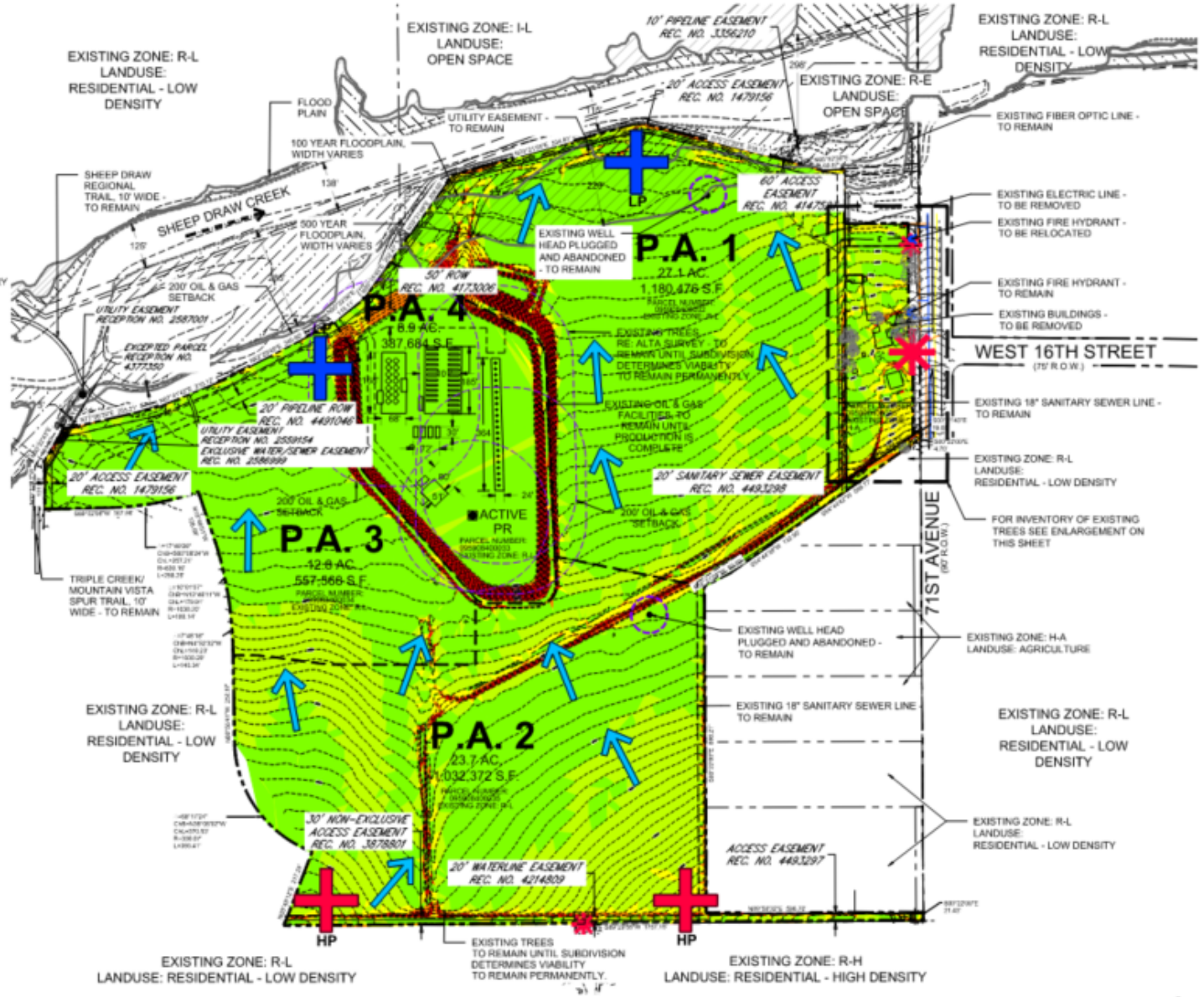
INVENTORY OF EXISTING TREES



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.



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GREELEY, CO 80634
PHONE: (970) 415-8432

TRIPLE CREEK P.U.D.
GREELEY, CO
EXISTING CONDITIONS MAP

PROJECT #:	221942
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
5th SUBMITTAL	10/09/23

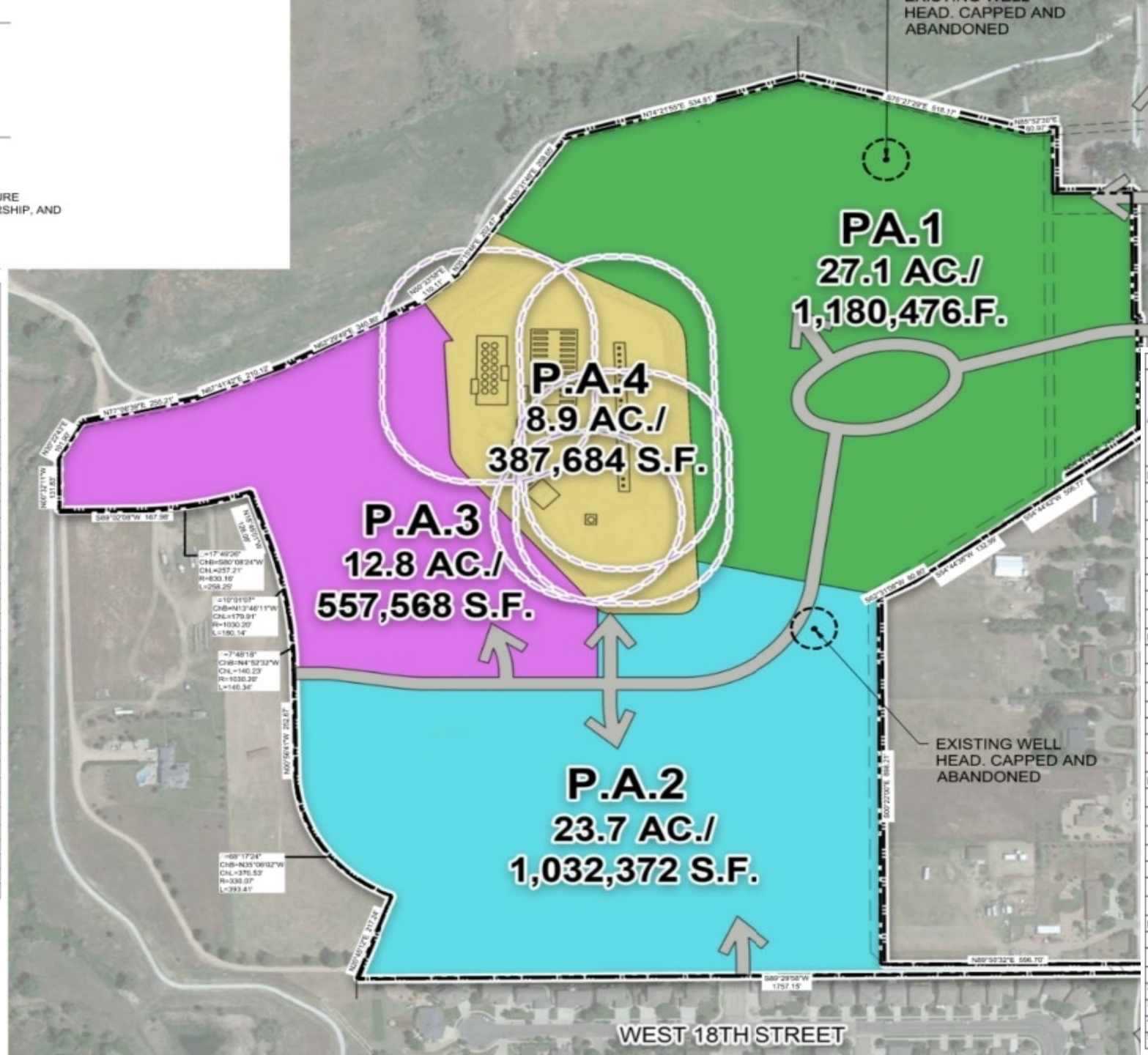
SHEET NUMBER
L2.00
SHEET 2 OF 32

PLANNING AREA SUMMARY

27.1 ACRES	P.A. 1	
23.7 ACRES	P.A. 2	
12.8 ACRES	P.A. 3	
8.9 ACRES	P.A. 4	
TOTAL	72.5 ACRES	

ING THE MAJOR INFRASTRUCTURE
UCTION, MAINTENANCE, OWNERSHIP, AND

UNT OF ERCIAL / STRIAL	PLANNING AREA MAX. DENSITY (D.U./AC.)	% OF ACREAGE
		36
SF MAX.	N/A[5]	
/A	MAXIMUM OVERALL DENSITY 29.0 DU/AC	
/A		
/A		
/A		
/A		
/A	N/A	
/A	N/A	
		33
/A	MAXIMUM OVERALL DENSITY 15.0 DU/AC	
/A		
/A		
/A		
/A		
/A	N/A	
/A	N/A	
		17
/A	MAXIMUM OVERALL DENSITY 15.0 DU/AC	
/A		
/A		
/A		
/A		
/A	N/A	
		14
/A	N/A	
/A	N/A	
ICATED NEIGHBORHOOD PARK		



SITE SUMMARY

AREA	USE	ACRES	AMOUNT OF COMMERCIAL / INDUSTRIAL	PLANNING AREA MAX. DENSITY (D.U./AC.)	% OF ACREAGE
P.A. 1		27.1			36
	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			33
	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			17
	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]			
P.A. 4		8.9			14
	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 DE
[5] SEE NON-RESIDENTIAL PUD DEVELOPMENT STANDARDS CHART ON L3.02

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	350,000 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

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

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

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.

TRIPLE CREEK P.U.D.

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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 & 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 [1]	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
— x —	WESTERN BOUNDARY AT BROWN PROPERTY	SOLID FENCE OR WALL CONSISTING OF VINYL, WOOD, STONE OR OTHER SIMILAR MATERIAL

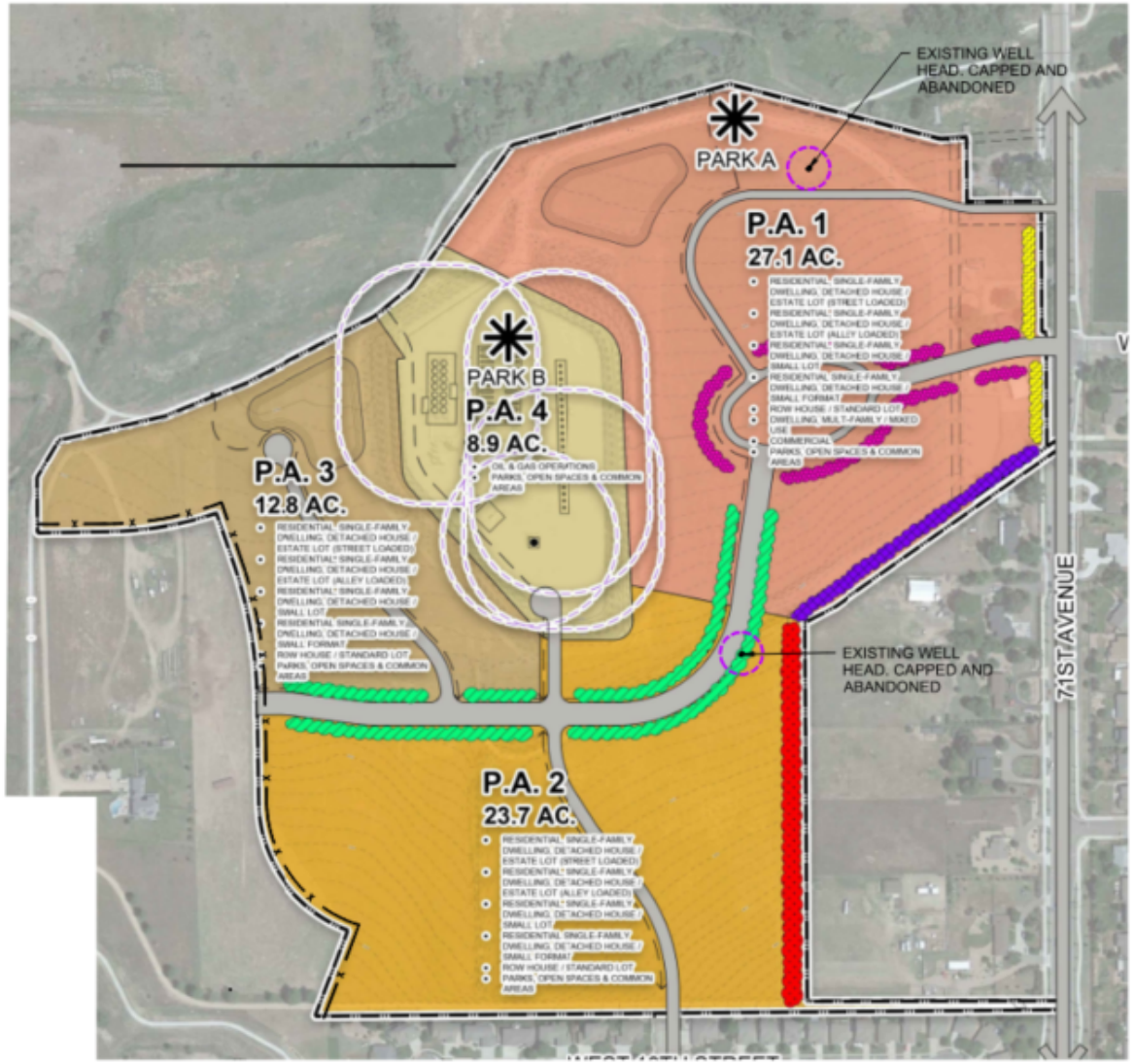
[1] DEFINITION PER CITY OF GREELEY CODE SECTION 24-802, DATED OCTOBER 1, 2021 AS AMENDED.
[2] COLLECTOR STREETS REQUIREMENTS APPLY TO EACH SIDE OF THE STREET.
[3] 71ST AVENUE STREET REQUIREMENTS APPLY TO WEST SIDE OF 71ST AVENUE.

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

1. 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.
2. LANDSCAPE DEVELOPMENT THAT REFLECTS THE PREVAILING SEMIARID CONDITIONS REINFORCES THE REGIONAL CHARACTER, CLIMATE, AND HABITAT OF THE CITY OF GREELEY AND ITS LOCAL ENVIRONMENT.
3. 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.
4. 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.
5. 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.
6. PERIMETER TREATMENT AREAS SHALL CONTAIN THE PLANT QUANTITIES INDICATED SHALL BE INCLUDED FOR EVERY 100 LINEAR FEET.
7. 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 #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

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5th SUBMITTAL	10/18/23

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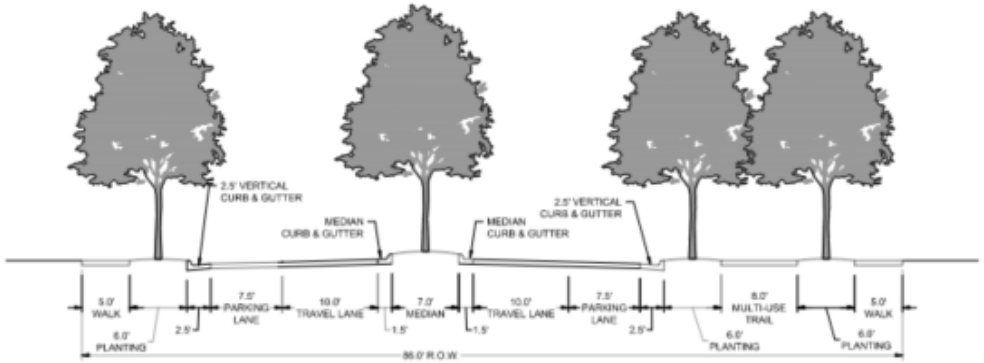
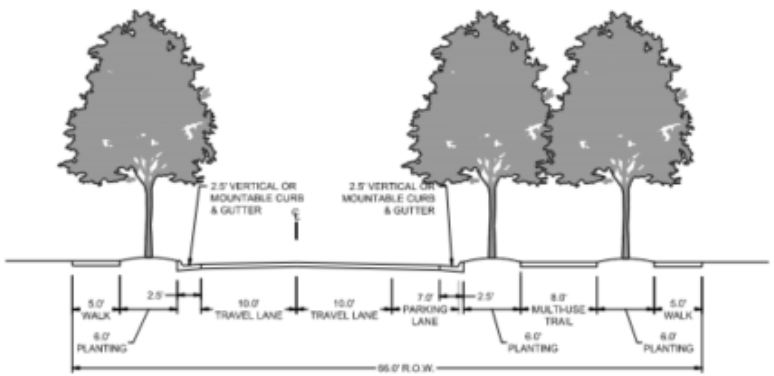
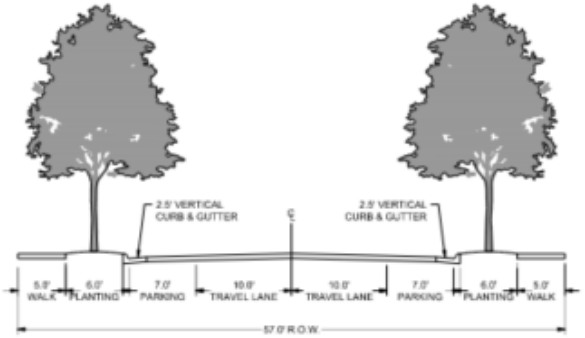


86' R.O.W. MINOR COLLECTOR STREET WITH MULTI-USE TRAIL



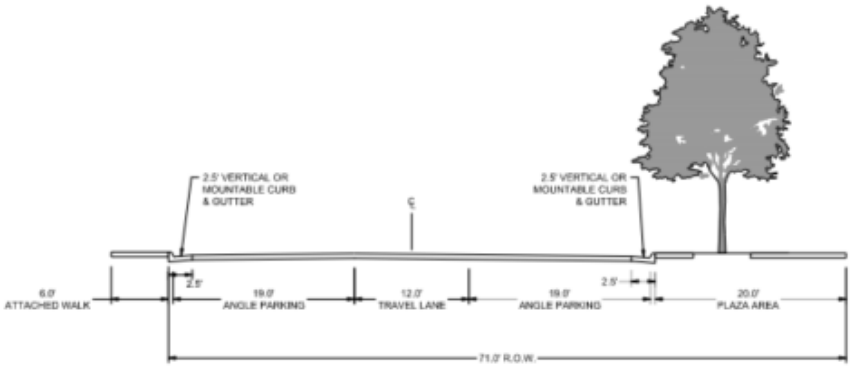
66' R.O.W. LOCAL STREET WITH MULTI-USE TRAIL



47'-81' R.O.W. LOCAL STREET

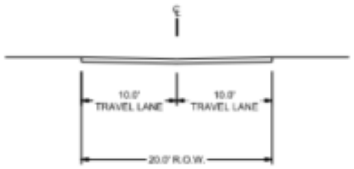
NOTES

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 VERY 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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4.02 PEDESTRIAN CIRCULATION

PEDESTRIAN CIRCULATION SYSTEM

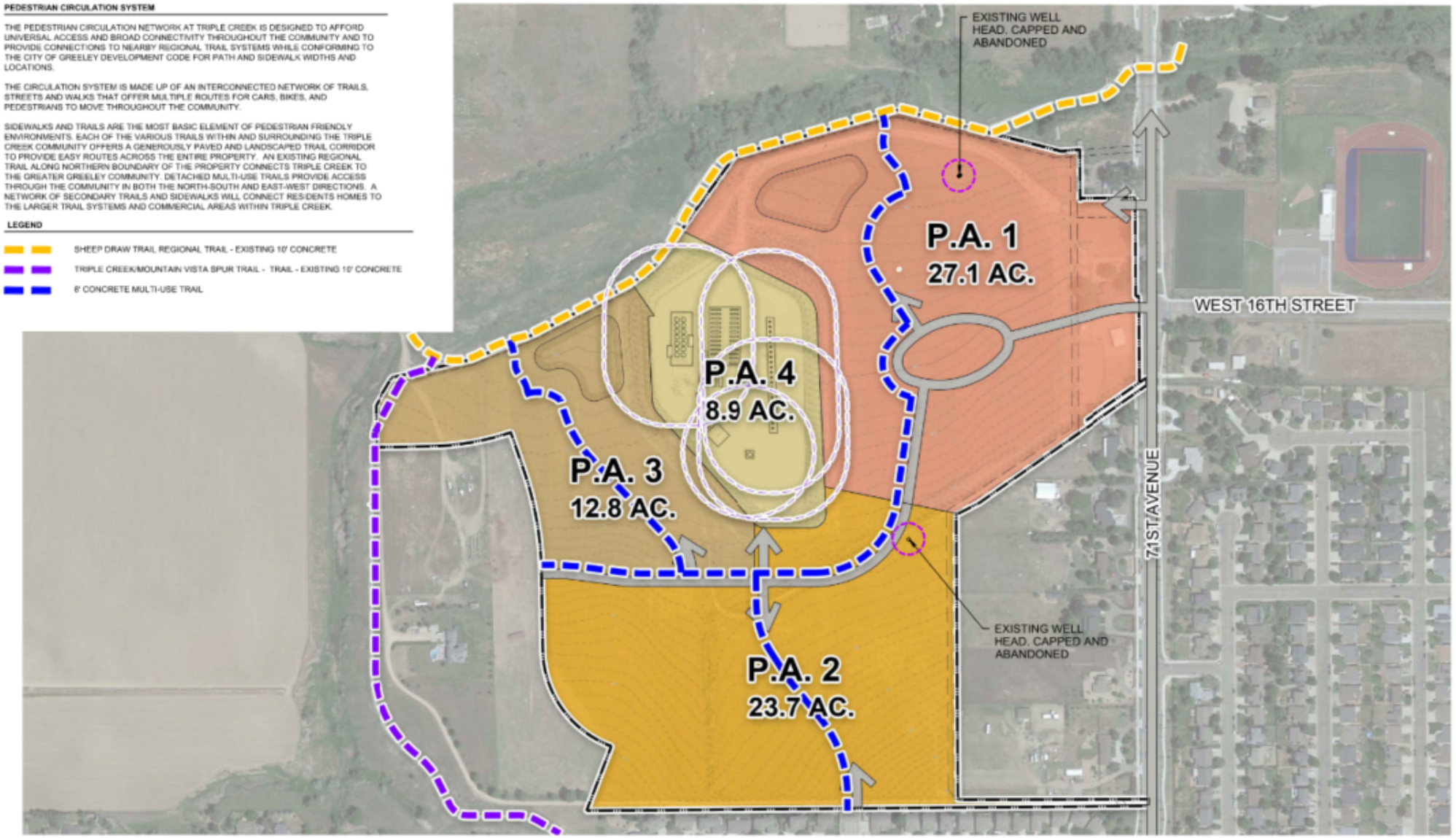
THE PEDESTRIAN CIRCULATION NETWORK AT TRIPLE CREEK IS DESIGNED TO AFFORD UNIVERSAL ACCESS AND BROAD CONNECTIVITY THROUGHOUT THE COMMUNITY AND TO PROVIDE CONNECTIONS TO NEARBY REGIONAL TRAIL SYSTEMS WHILE CONFORMING TO THE CITY OF GREELEY DEVELOPMENT CODE FOR PATH AND SIDEWALK WIDTHS AND LOCATIONS.

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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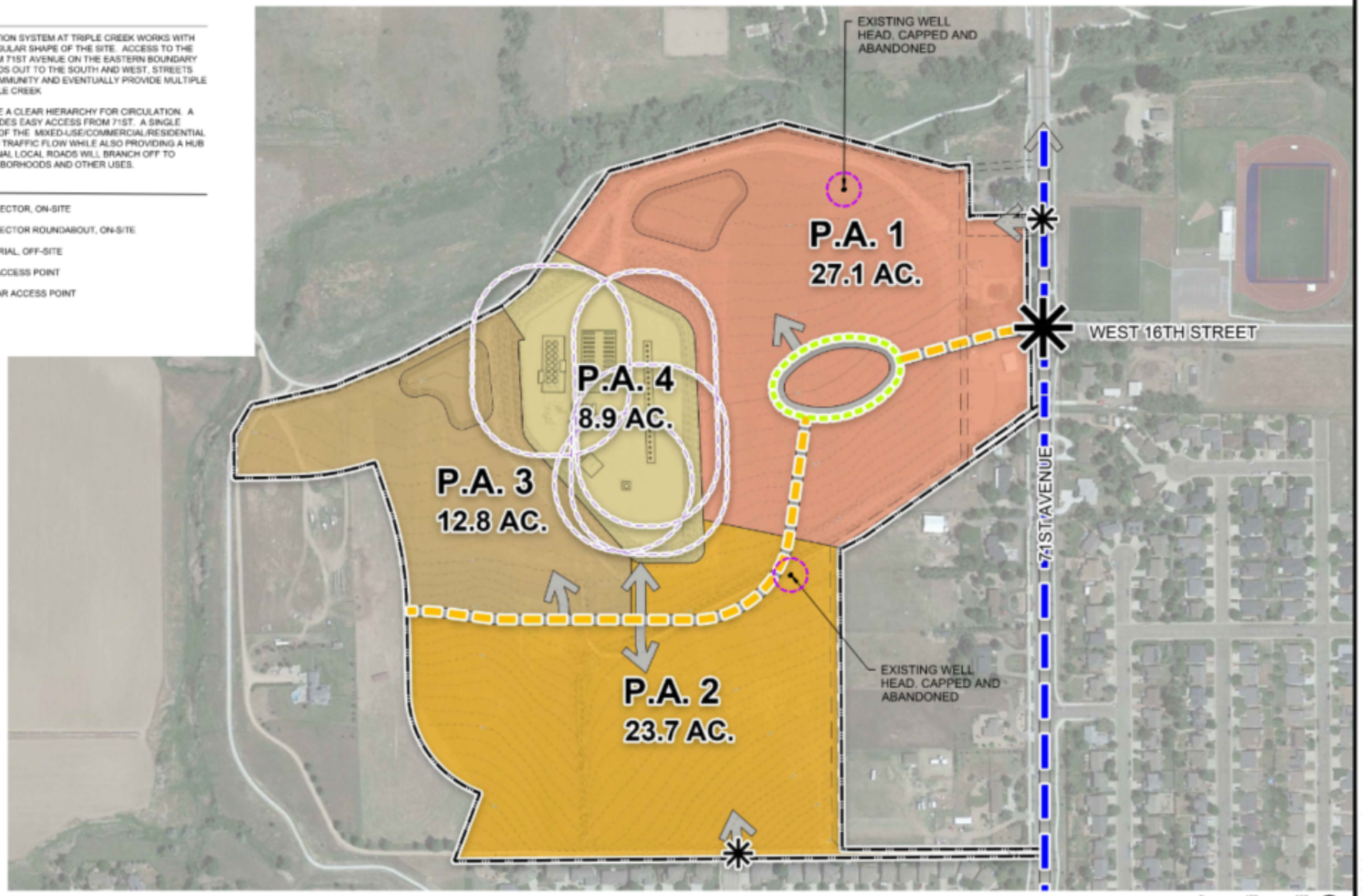
4.03 VEHICULAR CIRCULATION

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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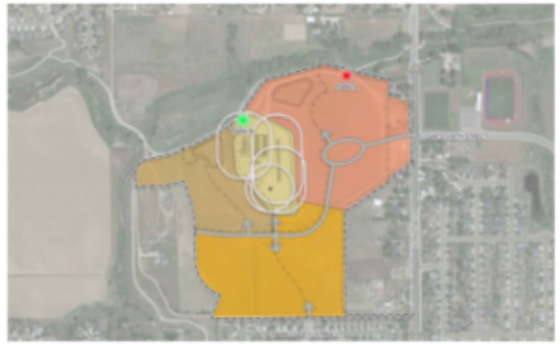
4.06 PARKS & TRAILS VIGNETTE



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

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.

NEIGHBORHOOD PARK DESIGN ELEMENTS

1. REQUIRED ELEMENTS

1.1. BENCHES: 2 PER FIRST $\frac{1}{2}$ ACRE AND 1 PER ADDITIONAL ACRE
1.2. BIKE RACKS: MINIMUM 4 PLUS 1 PER ACRE OVER 5 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD
1.3. DOG WASTE STATIONS: MINIMUM 1 PER 2 ACRES, LOCATED WITHIN 100 FEET OF ENTRANCE OR ACCESS ROAD
1.4. LIGHTING PER CITY CODE
1.5. LINKS TO NEIGHBORHOOD TRAILS
1.6. MEANDERING TRAILS/PATHS - STABILIZED GRAY OR BUFF CRUSHER FINES, PER CITY SPECIFICATION SECTION02730
1.7. PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES
1.8. PLAYGROUND - 5-12 YEARS OLD: ONE FACILITY
1.9. PLAYGROUND - TOT LOT (2-5 YEARS OLD): ONE FACILITY
1.10. TRASH RECEPTACLES: MINIMUM 4 PLUS 1 PER 2 ACRES OVER 4 ACRES
1.11. TURF AREA: WELL GRADED $\frac{1}{2}$ ACRE OF TURF GRASS LAWN WITH 5-10 LARGE PARK TREES PER ACRE
1.12. SHADE SHELTER FOR PICNIC TABLES

2. OPTIONAL ELEMENTS

2.1. AMPHITHEATER
2.2. COMMUNITY CENTER
2.3. COMMUNITY GARDEN
2.4. DISC GOLF
2.5. FARMER'S MARKET FACILITY
2.6. FITNESS LOOP: 1 PER $\frac{1}{4}$ MILE INCLUDES A COMBINATION OF PHYSICAL/ACTIVE STATIONS AND ACTIVITY SIGNS
2.7. GROUP PICNIC FACILITIES: MINIMUM 4 TABLES, 6 BARBEQUES, HARD SURFACING
2.8. INTERPRETIVE SIGNAGE
2.9. NATURE TRAILS
2.10. OBSTACLE COURSE
2.11. PARKING: PER CODE
2.12. RESTROOM: PER CODE
2.13. SPORTS COURTS: TENNIS / PICKLEBALL OR BASKETBALL
2.14. SPORTS FIELDS: 1 MULTI-SPORT
2.15. WIFI
2.16. ADDITIONAL OR EXPANDED REQUIRED ELEMENTS

NEIGHBORHOOD PARK IMPLEMENTATION

- TRAILS SHALL HAVE ALL REQUIRED ELEMENTS AND (1) OPTIONAL ELEMENT.

TRAIL DESIGN ELEMENTS

1. REQUIRED ELEMENTS

1.1 BENCHES: 1 PER $\frac{1}{4}$ 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 WHERE TRAIL & PARK ARE COLOCATED)
1.5. TRASH RECEPTACLES: MINIMUM 1 (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)

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 WHERE TRAIL & PARK ARE COLOCATED)
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 L4.09)
2.6. LIGHTING: PER CODE
2.7. PICNIC TABLES: MINIMUM 4 PLUS 1 PER ACRE OVER 4 ACRES (MAY BE SATISFIED WITH PARK REQUIREMENTS WHERE TRAIL & PARK ARE COLOCATED)
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

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4.07 STREETSCAPES VIGNETTE

BOULEVARD & PARKWAY (COLLECTOR RIGHT-OF-WAY)

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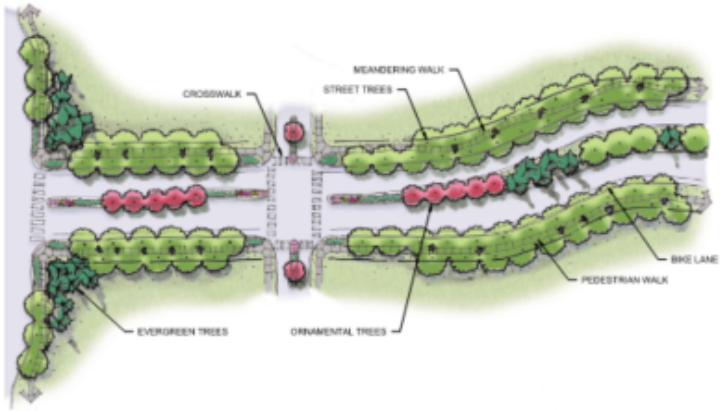

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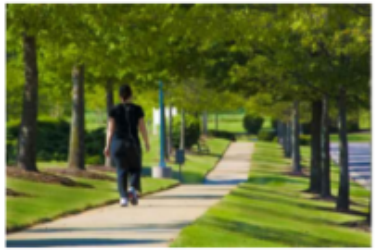

STREETSCAPE THEME

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.

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 STREETSCAPE WITH CITY OF GREELEY PLANNING APPROVAL AND MAY BE SUBSTITUTE FOR THE OPTIONAL ELEMENTS.
- STREET TREES WILL BE PROVIDED CONSISTENT WITH THE DEVELOPMENT CODE AT THE TIME OF DEVELOPMENT.

STREETSCAPE DESIGN ELEMENTS[1]

		90' MINOR COLLECTOR STREET	71' MINOR COLLECTOR STREET	66' LOCAL STREET	47'-61' LOCAL STREET
1.0	REQUIRED ELEMENTS				
1.1	STREET LIGHTING	X	X	X	X
1.2	PEDESTRIAN LIGHTING	X	X	X	
1.3	LANDSCAPING	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	SINGLE ROW OF STREET TREES, 4 TREES PER 100 LINEAL FEET, EA. SIDE	X	X	X	
1.9	1 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

TRAFFIC CALMING

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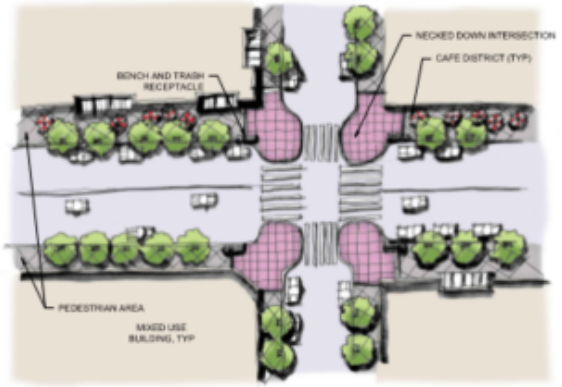

ROUNDABOUT

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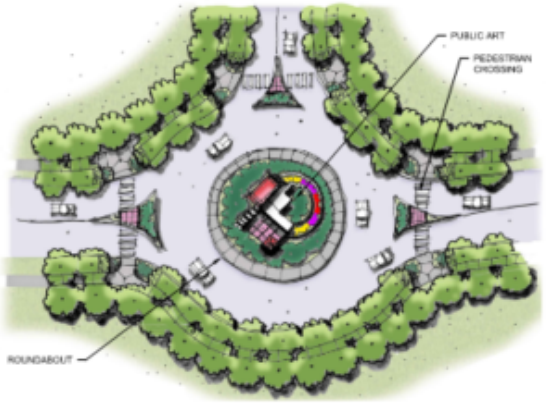

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TRIPLE CREEK P.U.D.
GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY FACILITIES

PROJECT #: 221042
DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

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5th SUBMITTAL	10/18/23

SHEET NUMBER
L4.07
SHEET 20 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

4.08 DRAINAGE & DETENTION VIGNETTE

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

DETENTION POND AND TRAIL
IMAGES AND GRAPHICS ARE ILLUSTRATIVE ONLY AND SOLELY FOR REFERENCE PURPOSES.

TRAILHEAD
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TRIPLE CREEK P.U.D.
GREELEY, CO
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DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

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SHEET NUMBER
L4.08
SHEET 21 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

4.09 MONUMENTS AND SIGNAGE VIGNETTE

LEGEND

- POTENTIAL COMMUNITY MONUMENT LOCATION
- POTENTIAL NEIGHBORHOOD MONUMENT LOCATION

MONUMENTS AND SIGNAGE THEME

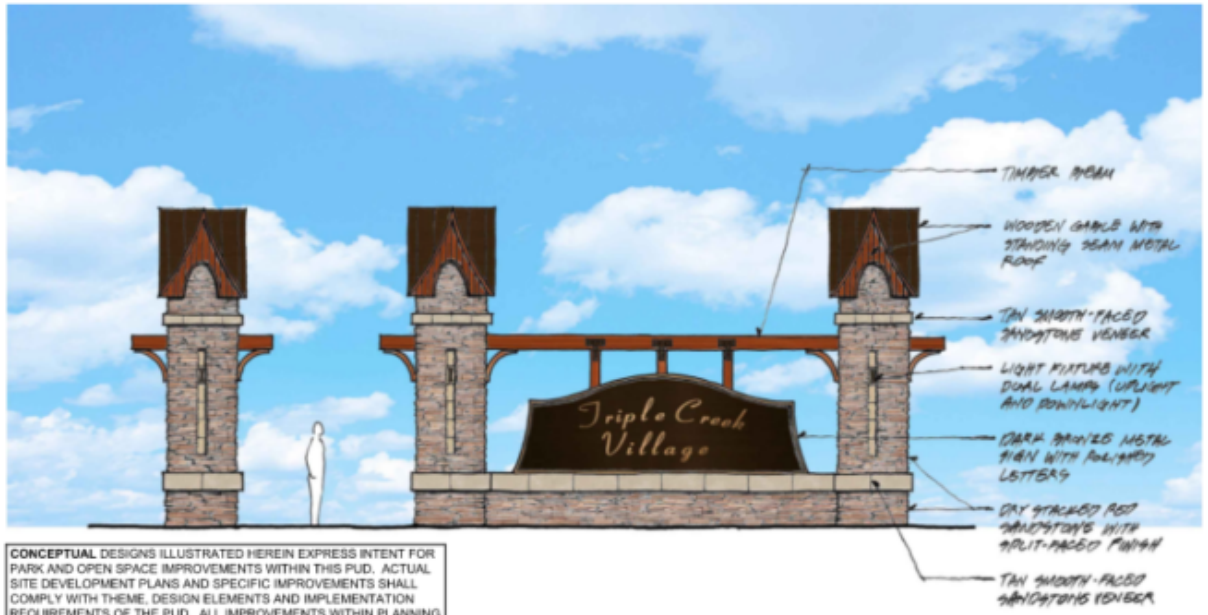
WITHIN TRIPLE CREEK, MONUMENTS AND SIGNAGE FUNCTION TO PROVIDE INFORMATION FOR NAVIGATION, LOCATION, IDENTIFICATION, EDUCATION, AND SAFETY TO RESIDENTS AND VISITORS OF TRIPLE CREEK; AND TO HELP UNIFY NEIGHBORHOODS INTO A COHESIVE COMMUNITY THROUGH CONSISTENT USE OF MATERIALS AND COLORS.

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



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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

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GREELEY, CO
DETAIL PLANS & PUBLIC COMMUNITY FACILITIES

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DRAWN BY: AH, ML
CHECKED BY: RH

ISSUE RECORD

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SHEET NUMBER
L4.09
SHEET 22 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

4.10 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.

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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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L4.10
SHEET 23 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
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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 24-603 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 PRARIE 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 - SFD ESTATE LOT

EXAMPLE - SFD SMALL LOT

EXAMPLE - TOWNHOME

EXAMPLE - TOWNHOME

EXAMPLE - SFD COTTAGE

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.

PLANNER / ARCHITECT / LANDSCAPE ARCHITECT
LAI DESIGN GROUP
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ENGLEWOOD, CO 80112
PHONE: 303.734.1777

CIVIL ENGINEER
WERNSMAN ENGINEERING & LAND DEVELOPMENT
P.O.BOX 165
LASALLE, CO 80645

CLIENT
TRIPLE CREEK DEVELOPMENT, LLC
5260 WEST 20TH STREET
GREELEY, CO 80634
PHONE: (970) 415-8432

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
5th SUBMITTAL	10/09/23

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

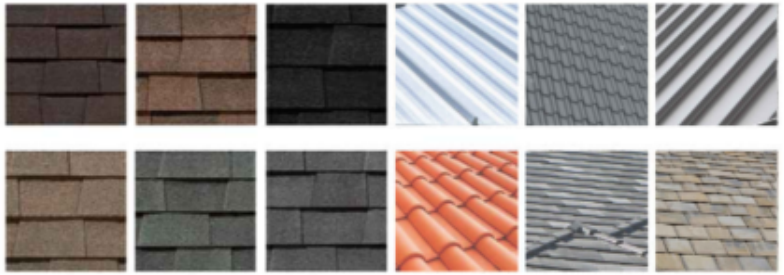
9.0 PALETTES AND FEATURES

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 SIDING STYLES



SAMPLE ARCHITECTURAL ROOF MATERIALS

SAMPLE MASONRY AND STONE

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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CLIENT
TRIPLE CREEK DEVELOPMENT, LLC
5200 WEST 20TH STREET
GREELEY, CO 80634
PHONE: (970) 415-8432

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
5th SUBMITTAL	10/06/23

SHEET NUMBER
L6.01
SHEET 26 OF 32

5.0 STATEMENT OF COMMITMENTS

DEVELOPMENT COMMITMENTS					
CONCEPTUAL PHASING 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	PROPERTY OWNER[3]	PROPERTY OWNER[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.

TRIPLE CREEK PUD

- Planning Commission Hearing
- October 24, 2023

RICHMARK

LAI DESIGN GROUP

Design for when it Matters

TRIPLE CREEK
TEAM

OWNER/DEVELOPER
Richmark Companies
5200 20th Street
Greeley, CO 80634

PLANNER / ARCHITECT
LAI Design Group
88 Inverness Cir. E., Bldg J, Suite 101
Englewood, CO 80112

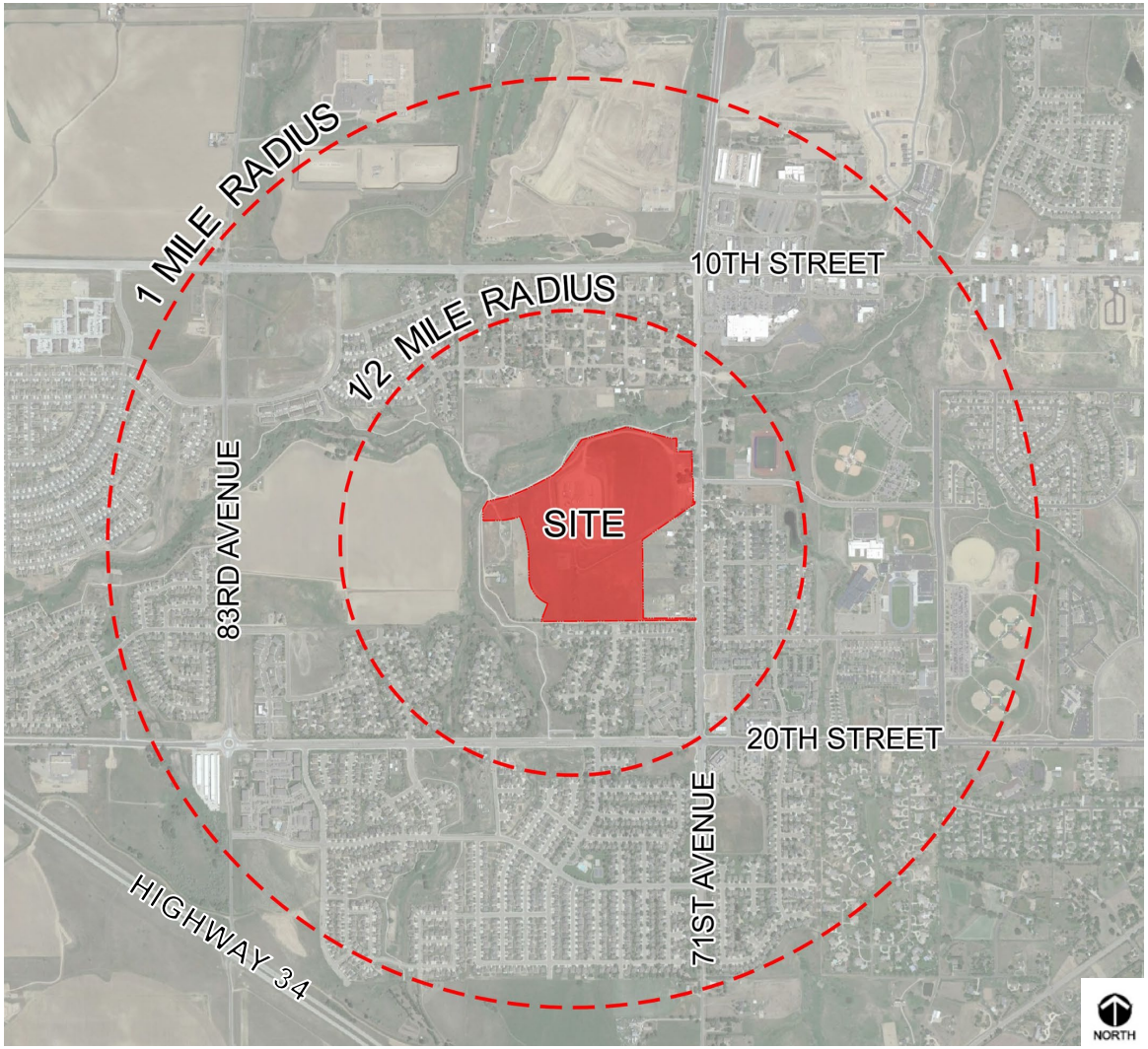
WERNSMAN
ENGINEERING AND
LAND
DEVELOPMENT LLC

CIVIL ENGINEER
Glosson Development Services, LLC
575 W. 10th Street,
Akron, CO 80720

TRAFFIC ENGINEER
Kellar Engineering
4741 Central Street
Kansas City, MO 64112

TRIPLE CREEK
VICINITY MAP

PROPERTY ACREAGE: +/- 72.5 ACRES



EXISTING ZONING = R-L

PROPOSED ZONING = PUD

OBJECTIVES:

- **CREATE A MASTER PLANNED MIXED-USE COMMUNITY**
- **CREATE A PEDESTRIAN-ORIENTED, LOW IMPACT DEVELOPMENT**
- **PRIORITIZE WALKABLE STREETS AND CONNECTIVITY TO THE REGIONAL TRAIL SYSTEM**

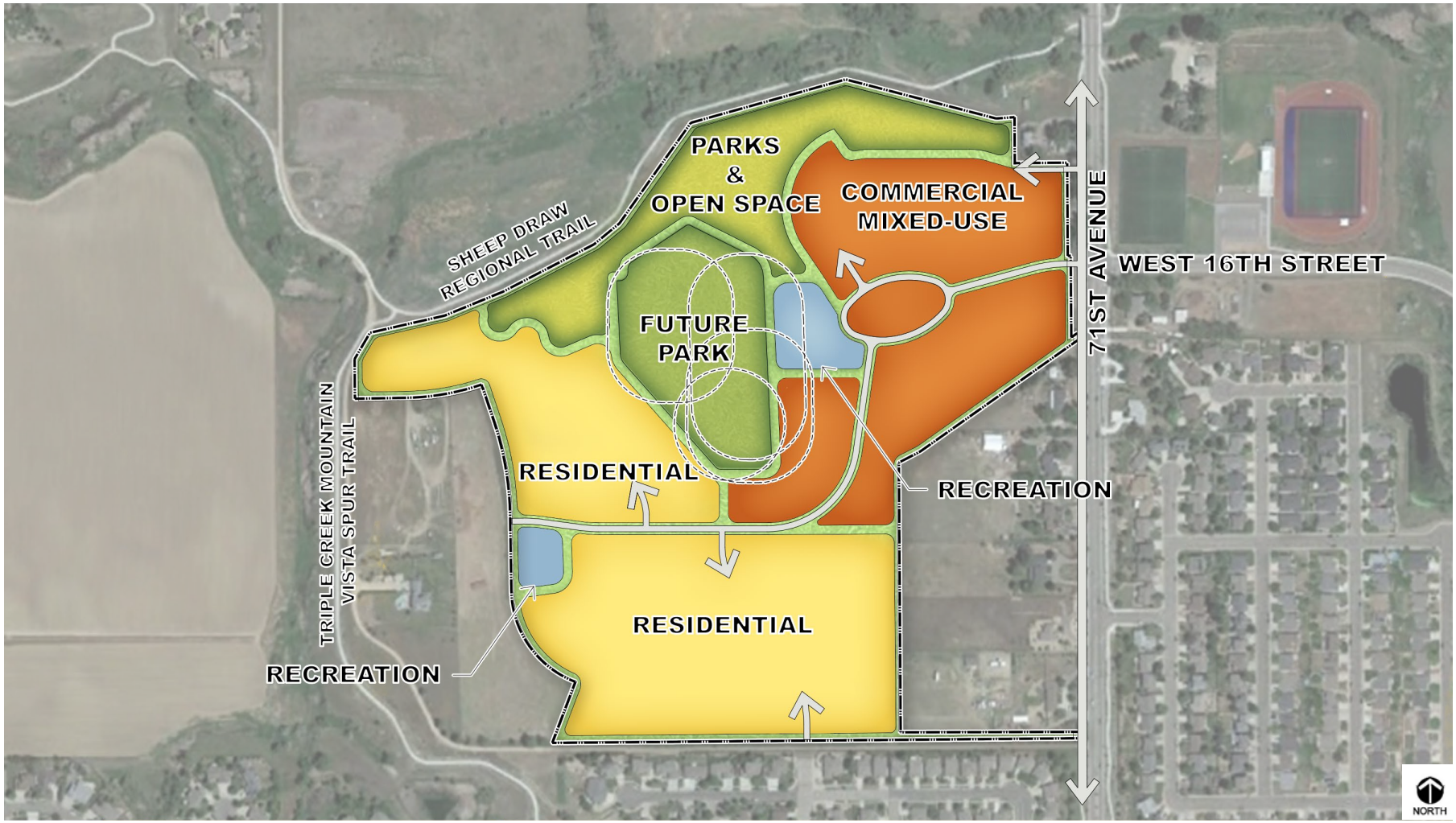
TRIPLE CREEK
EXISTING SITE CONDITIONS

LOOKING SOUTHWEST

LOOKING NORTH

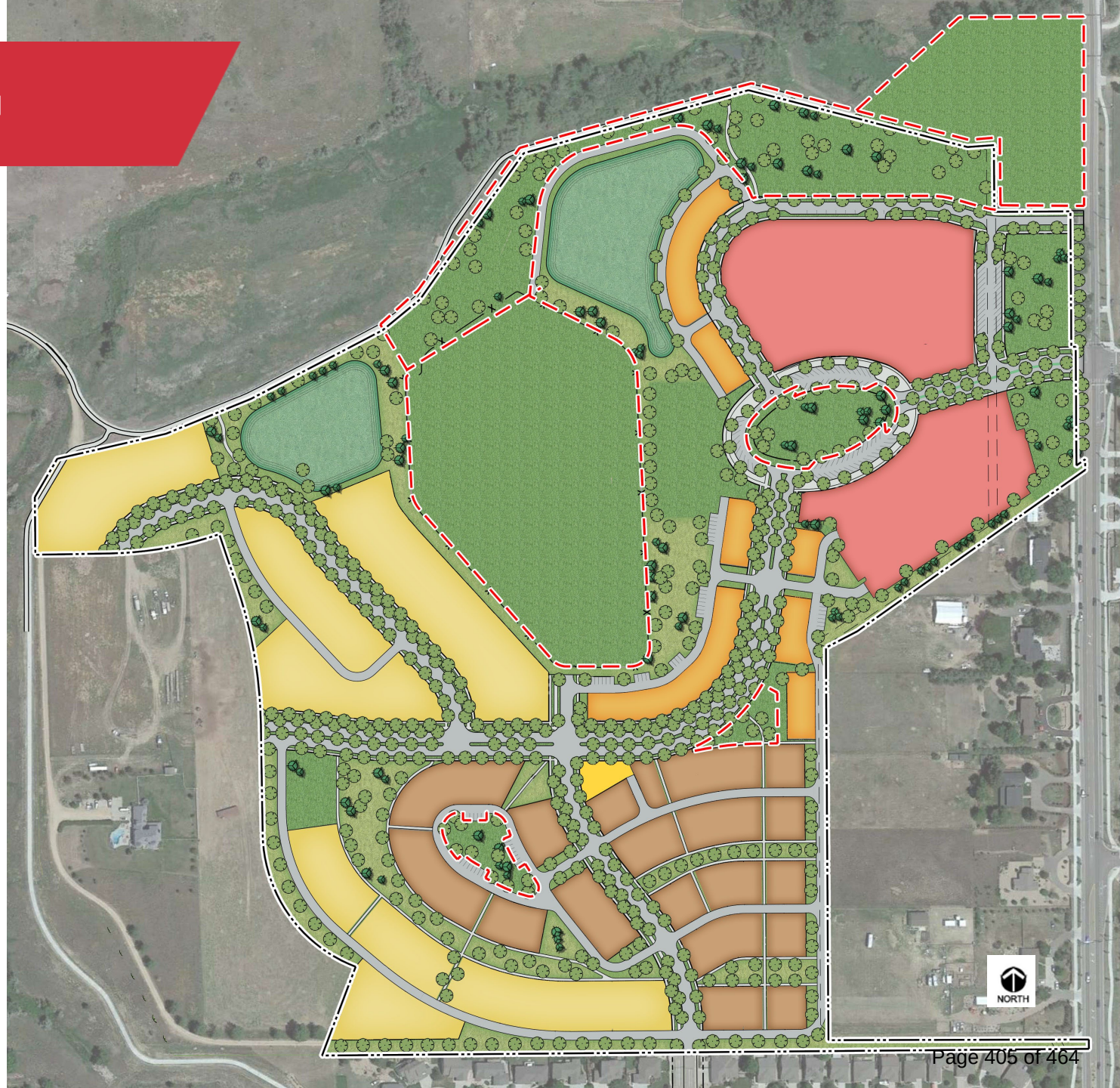
LOOKING WEST

TRIPLE CREEK
ILLUSTRATIVE LAND USE PLAN



Note : For Illustrative purposes only

TRIPLE CREEK
CONCEPTUAL PLAN



COMMUNITY FEATURES

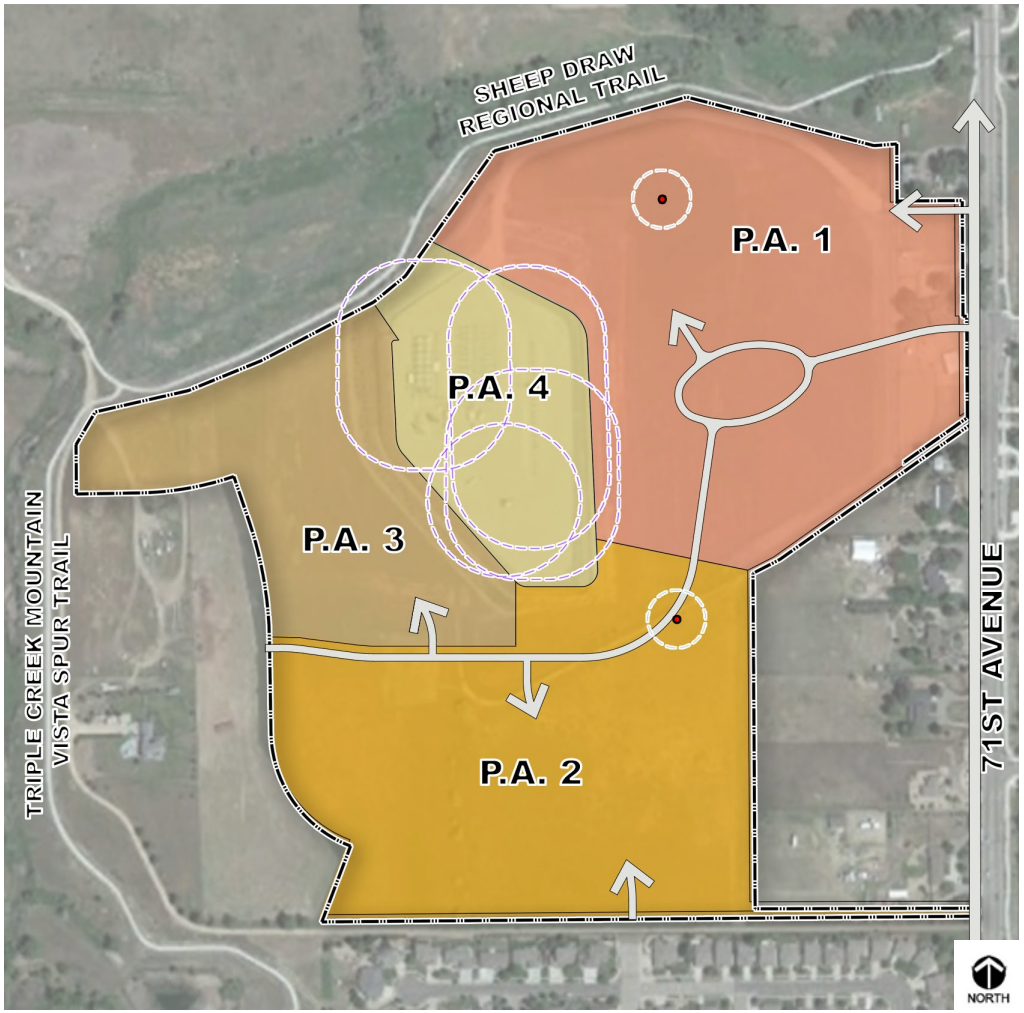
NEIGHBORHOOD PARKS
- 13.0 ACRES (18.0% OF SITE)

OPEN SPACE
- 12.2 ACRES (16.8% OF SITE)

DISTRICT NEIGHBORHOOD AMENITIES
- 2.0 ACRES (2.7% OF SITE)

MULTI-USE TRAILS
- 1.9 MILES ON SITE
- CONNECTS TO SHEEP DRAW REGIONAL TRAIL SYSTEM

TRIPLE CREEK
PROPOSED PUD PLAN

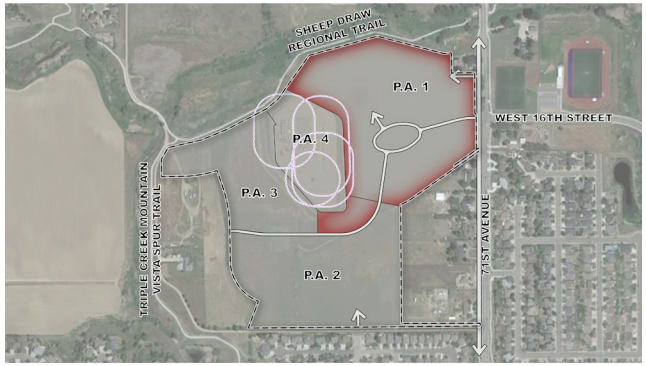


AREA	ACRES	LAND USES
PA 1	27.1	COMMERCIAL RESIDENTIAL, SFD*, ESTATE LOT RESIDENTIAL, SFD*, SMALL LOT RESIDENTIAL, SFD*, SMALL FORMAT LOT RESIDENTIAL, ROW HOUSE DWELLING RESIDENTIAL, MIXED-USE DWELLING PARKS, OPEN SPACE & COMMON AREAS OIL & GAS
PA 2	23.7	RESIDENTIAL, SFD*, ESTATE LOT RESIDENTIAL, SFD*, SMALL LOT RESIDENTIAL, SFD*, SMALL FORMAT LOT RESIDENTIAL, ROW HOUSE DWELLING RESIDENTIAL, MIXED-USE DWELLING PARKS, OPEN SPACE & COMMON AREAS OIL & GAS
PA 3	12.8	RESIDENTIAL, SFD*, ESTATE LOT RESIDENTIAL, SFD*, SMALL LOT RESIDENTIAL, SFD*, SMALL FORMAT LOT RESIDENTIAL, ROW HOUSE DWELLING RESIDENTIAL, MIXED-USE DWELLING PARKS, OPEN SPACE & COMMON AREAS OIL & GAS
PA 4	8.9	PARKS, OPEN SPACE & COMMON AREAS OIL & GAS
	72.5	PROPERTY TOTAL

*SFD = SINGLE FAMILY DWELLING

TRIPLE CREEK
LAND USES
P.A. 1

- COMMERCIAL
- SFD ESTATE LOT
- SFD SMALL LOT
- SFD SMALL FORMAT
- ROW HOUSE
- MIXED-USE DWELLING
- OIL & GAS



COMMERCIAL/MIXED-USE

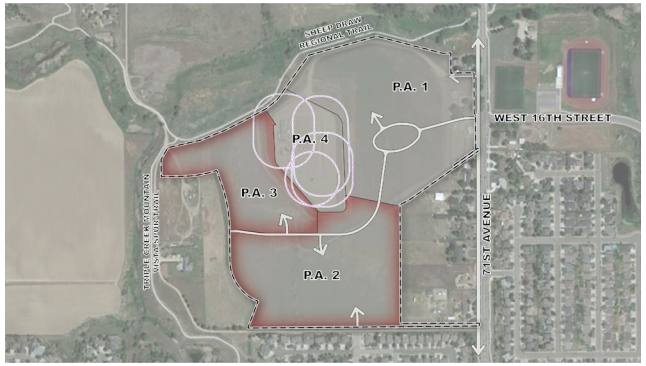
ROW HOUSE

POOL HOUSE

Note: For illustrative purposes only. Final design is subject to change.

TRIPLE CREEK
LAND USES
P.A. 2 & 3

- SFD ESTATE LOT
- SFD SMALL LOT
- SFD SMALL FORMAT
- ROW HOUSE
- OIL & GAS



SFD SMALL LOT

SFD ESTATE LOT

POOL HOUSE

ROW HOUSE

ROW HOUSE

Note: For illustrative purposes only. Final design is subject to change.

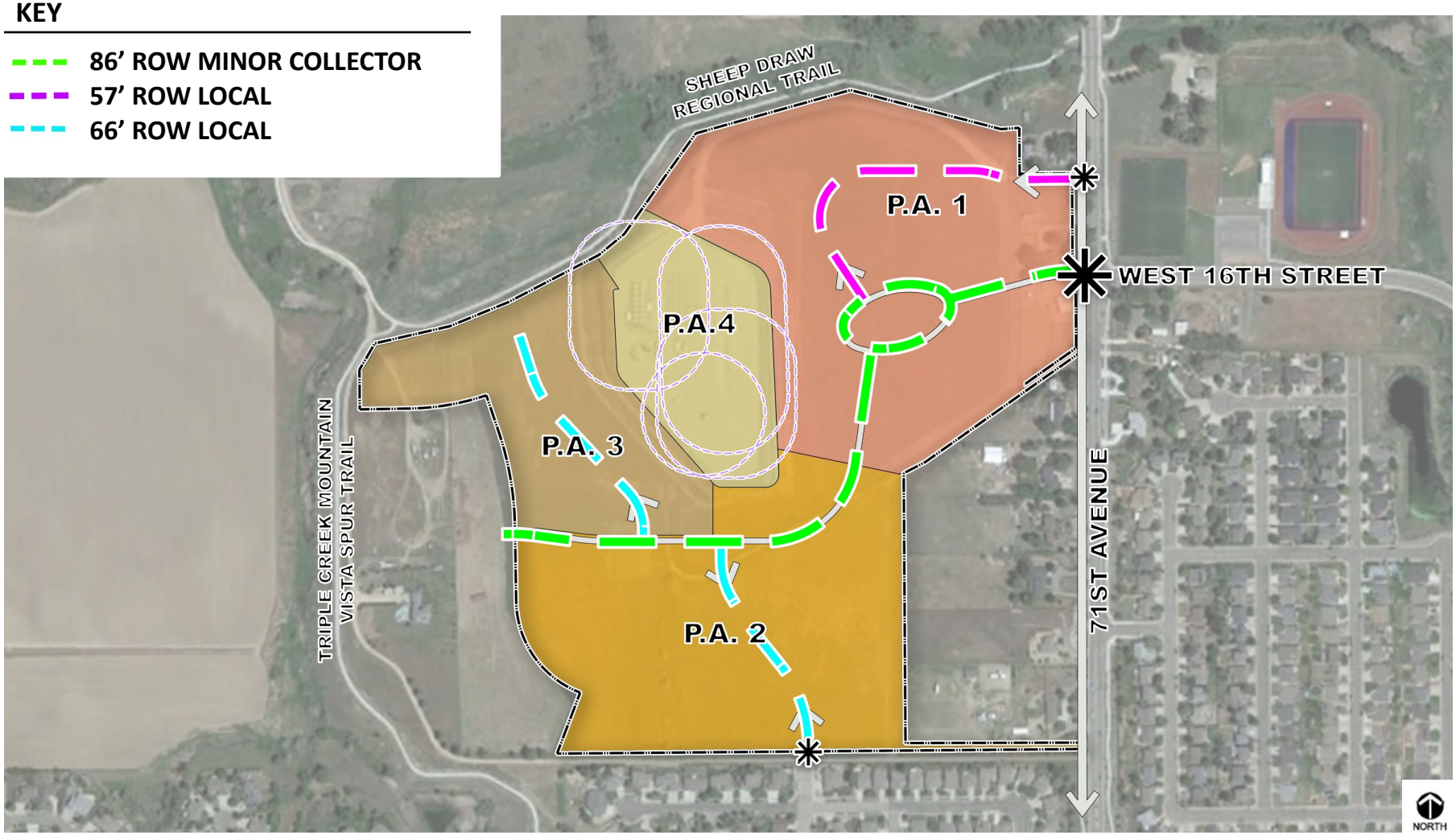
TRIPLE CREEK
VEHICULAR CIRCULATION

STREETS

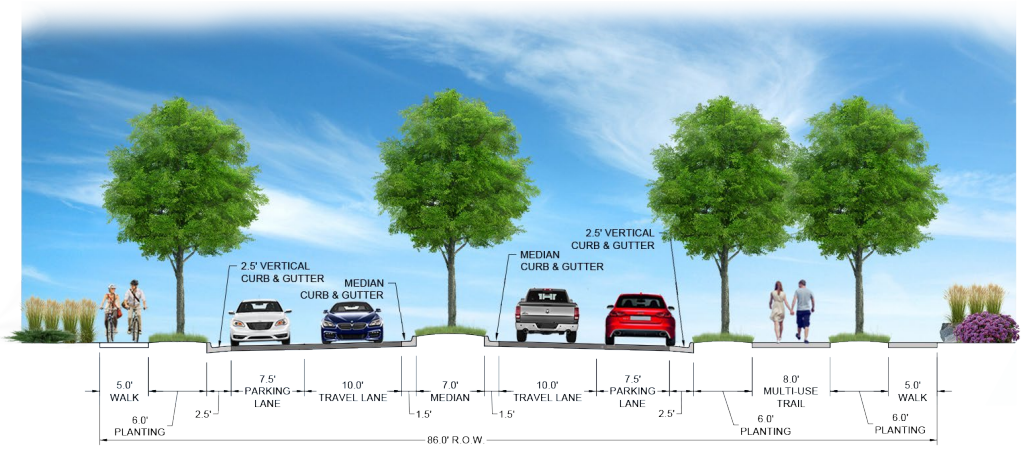
- INVITE RESIDENTS & VISITORS TO INTERACT
- EXTENSIVE SIDEWALK NETWORK
- CREATE A STRONG SENSE OF COMMUNITY
- FOSTER SOCIAL ACTIVITY

KEY

- 86’ ROW MINOR COLLECTOR
- 57’ ROW LOCAL
- 66’ ROW LOCAL

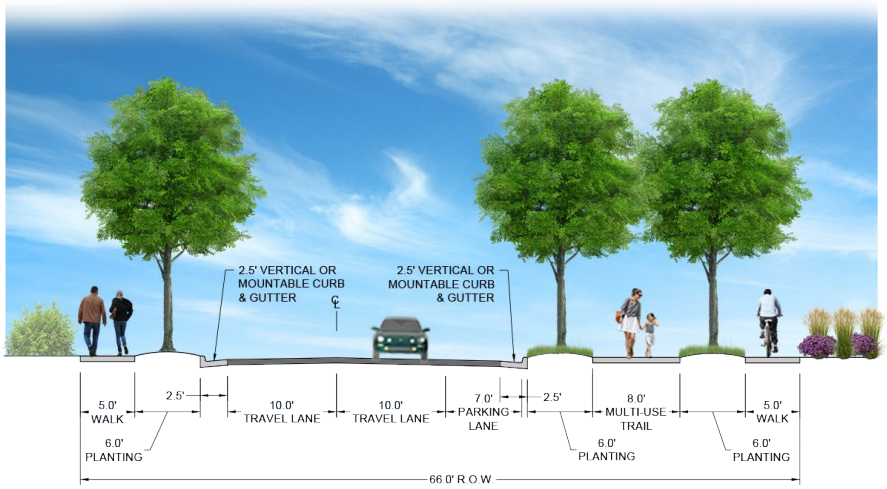


TRIPLE CREEK
STREETS



MINOR COLLECTOR ROADS WITH MULTI-USE TRAIL

- LANDSCAPE MEDIAN
- ON STREET PARKING
- DETACHED MULTI-USE TRAIL & DETACHED SIDEWALKS
- CONNECT NEIGHBORHOODS TOGETHER



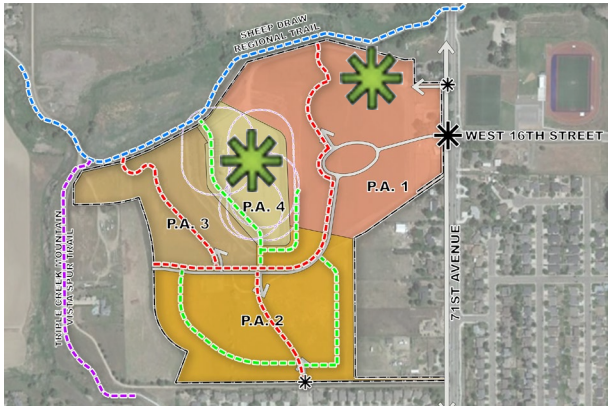
LOCAL ROADS

- ON STREET PARKING
- DETACHED MULTI-USE TRAIL & DETACHED SIDEWALKS

TRIPLE CREEK
NEIGHBORHOOD PARKS

PARKS PROPOSED – 13.0 ACRES, INCLUDING:

- **PHASE ONE 4.2-ACRE NEIGHBORHOOD PARK CONNECTED TO SHEEP DRAW REGIONAL TRAIL**
- **8.8-ACRE FUTURE NEIGHBORHOOD PARK**
- **<u>18% OF SITE DEDICATED TO PARKS</u>**



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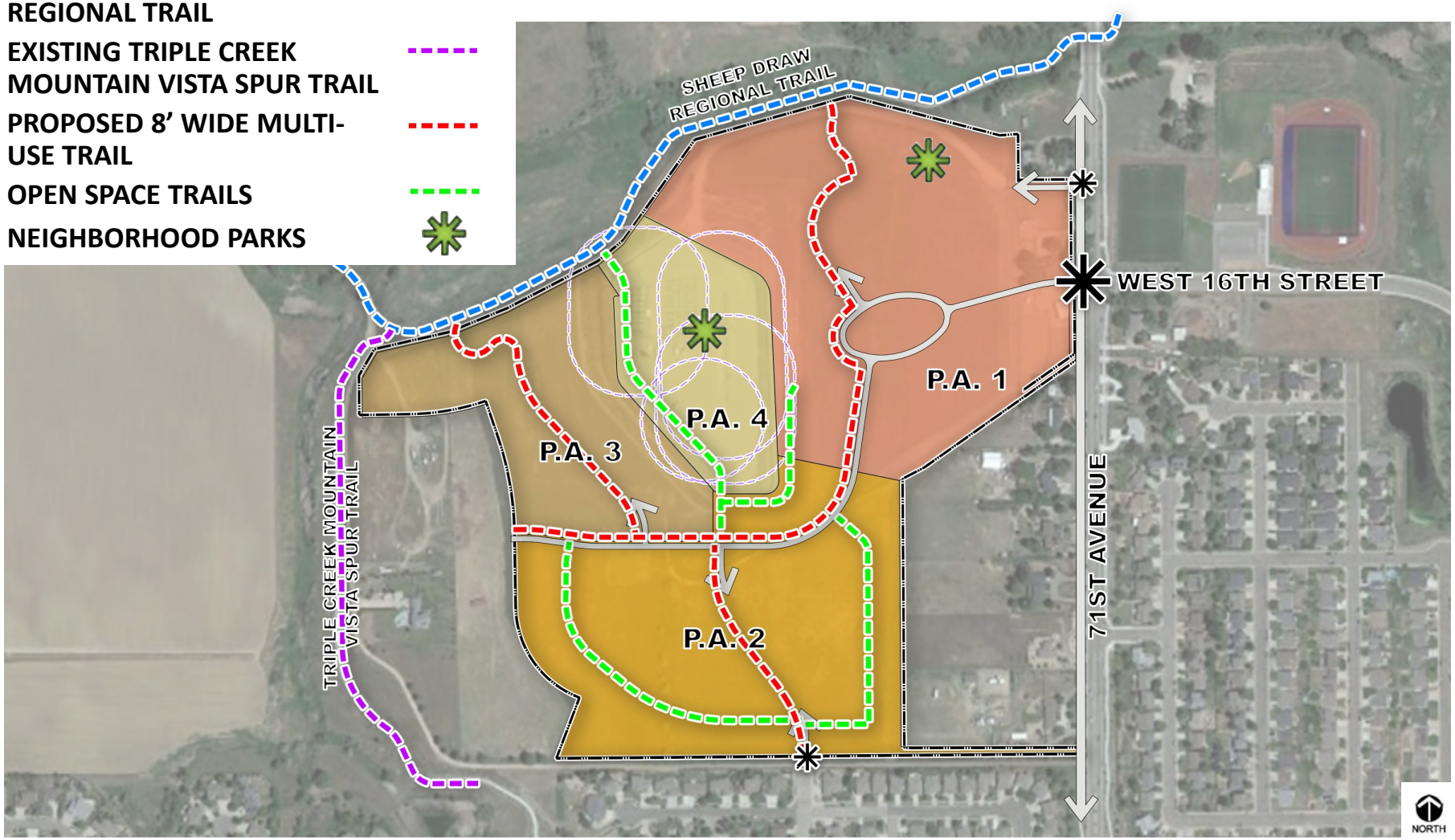
TRIPLE CREEK
CONCEPTUAL PARKS, OPEN SPACE, & TRAILS

KEY

- EXISTING SHEEP DRAW REGIONAL TRAIL
- EXISTING TRIPLE CREEK MOUNTAIN VISTA SPUR TRAIL
- PROPOSED 8' WIDE MULTI-USE TRAIL
- OPEN SPACE TRAILS
- NEIGHBORHOOD PARKS

TRAIL NETWORK	
MULTI-USE TRAILS	0.8 MILES
OPEN SPACE TRAILS	1.1 MILES
TOTAL TRAILS	1.9 MILES



TRIPLE CREEK PUD

QUESTIONS AND ANSWERS

THANK YOU

RICHMARK

LAI DESIGN GROUP

Design for when it Matters

Planning Commission Agenda Summary

October 24, 2023
Key Staff Contact: Michael Franke, Planning Technician

Title:

Case Number SUB2023-0012, Greeley West Mixed Use Subdivision

Summary:

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).

Recommended Action:

Approval

Attachments:

1. Planning Commission Summary
2. Vicinity/Zoning Map
3. Project Narrative
4. Subdivision Plat Plan Set
5. Perimeter Treatment Landscape Plan
6. Neighborhood Notification Boundary Map
7. Staff Presentation
8. Applicant Presentation

PLANNING COMMISSION SUMMARY

ITEMS: Preliminary Subdivision for 2 Mixed Use Lots and Dedication of Rights-of-Way in a PUD (Planned Unit Development) Zone District

FILE NUMBER: SUB2023-0012

PROJECT: Greeley West Mixed Use Preliminary Subdivision

LOCATION: North of Centerplace Drive, west of 38th Avenue, and east of 24th Street Road

APPLICANT: Tucker Isgrig, McWhinney Real Estate and MMF Greeley Centerplace Land, LLC, and Klara Rossouw, Ripley Design

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 motion to approve, approve with conditions, or deny the request in the form of a finding based on the review criteria in Section 24-203(b)(1) of the Development Code.

EXECUTIVE SUMMARY
The City of Greeley is considering a request for approval of a preliminary subdivision of 9.99 acres of land into two (2) mixed use lots and dedication of rights-of-way is located at the northwest corner of Centerplace Drive and 38th Avenue.

A. REQUEST
The applicant is requesting approval of a preliminary subdivision plat for the purpose of creating a mixed use development and dedication of rights-of-way.

B. STAFF RECOMMENDATION
Approval (see Section J).

C. LOCATION
The subject site is located north of Centerplace Drive, west of 38th Avenue, and east of 24th Street Road.

Current Zoning: PUD (Planned Unit Development)

Abutting Zoning:

North: PUD (Planned Unit Development)
South: MU-H (Mixed Use High Intensity)
East: PUD (Planned Unit Development)
West: C-H and R-H (Commercial High Intensity) (Residential High Intensity)

Abutting Land Use:

North: Residential – Multifamily
South: Residential – Multifamily and Vacant Commercial Land
East: Residential - Multifamily
West: Commercial and Residential – Retail and Food/Accommodation Services. Row Housing.

Site Characteristics:

The site is undeveloped land within the OTG at Centerplace PUD. The site size is approximately 9.99 acres situated between Centerplace Drive to the south, 38th Avenue to the east, and 42nd Avenue to the west. The site is surrounded by various land use types, such as multifamily, row housing, and commercial. The site has a primarily flat grade with open grassland, except for a line of trees towards the southern boundary. A plugged and abandoned oil and gas well straddles the northern property line of the subject site and the southern property line of the adjacent property to the north. The site is serviced by the City of Greeley in terms of water, sewer, police, fire, public works, etc.

D. BACKGROUND

In 1981, the subject site was annexed into the City of Greeley as part of the Grapevine Annexation (Ordinance 11:81, Rec. Num. 1849631) (Annexation Plat Rec. Num. 1849632). The subject site and surrounding areas were zoned PUD for the Centerplace development (PUD 16:00) with a variety of approved land uses including residential and commercial. As land in this area began to be subdivided for development, the subject site became Tract A of the OTG at Centerplace subdivision (rec. Num. 4368171).With this application, the applicant requests approval of a subdivision of 9.99 acres of land into two (2) mixed use lots containing 11,000 SF of commercial space, 204 multifamily units, and dedication of rights-of-way.

E. APPROVAL CRITERIA

Standards for a Preliminary Subdivision Plat:

In reaching recommendations and decisions on a preliminary subdivision plat, the Planning Commission shall apply the following standards of Section 24-203.b.1. of the current Development Code.

(a) **The application is in accordance with the Comprehensive Plan, or any other specific plan created under that plan, and in particular, the physical development patterns and design concepts of the plan.**

Staff Comment: The City's Comprehensive Plan designates this area as "Mixed Use – High Intensity," which allows for residential and commercial land use. This application conforms with the intent of the Imagine Greeley Comprehensive Plan's vision for development in this area as mixed use development.

Consistency with the Land Use Chapter of the Comprehensive Plan.
The following Comprehensive Plan goals are met with this Preliminary Plat proposal:

- EH-2.4: Land Use
  - The proposal provides walkability, improving access to basic needs and amenities provided by the adjacent commercial uses and recreation facilities.
- EH-2.5: Walkability & Bikability
  - The proposal ensures opportunity for residents to have walking, biking, and public transportation to employment, schools, shopping, parks, transit stops, and other facilities within a 10 minute safe walk of housing.
- EH-2.6: Built Environment
  - The proposal provides development 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.
- GC-1.2: Form Growth
  - The proposal encourages a compact urban form over sprawl or leap-frog development by providing development on infill land, offering mixed use building types, and utilizes densities appropriate for compact urban form development.
- GC-2.2: Jobs/Housing Balance
  - The proposal provides opportunities for work-life connection by offering mixed use residential and commercial spaces within walking distance of other housing and employment opportunities. The location and development type proposed by the subdivision encourages residents to obtain jobs within the City of Greeley.
- GC-4.3: Infill Compatibility
  - The proposed design of the development is sympathetic to the surrounding area and enhances the desirable character and form of the neighborhood or area by offering compatible materials, architectural styles, and colors as surrounding development.
- HO-2.1: Diversity in New Development
  - The proposal provides diversity from existing development within Greeley by providing a mixed use product. The development will be more obtainable for workforce populations and young professionals by providing a reasonable price point and renting options that allow flexibility from property ownership.
- NR-4.3: Landscaping and Plant Species

- Landscaping has been strategically designed to follow hydrozone guidelines according to chapter 6 of the Water Conservation Department Code and landscape planting requirements stated in chapter 8 of the Greeley Development Code.

- TM-1.4: Traffic Calming
  - The proposal promotes walkability, bikability, and use of public transportation which reduces the need for residents to utilize a personal vehicle to obtain goods and access necessary resources. Access points to the subdivision are strategically designed to limit traffic impacts on surrounding roadways.

The request complies with this criterion.

(b) The development and infrastructure is arranged in a manner to minimize impacts of geologic hazards, environmentally sensitive areas, wildlife habitat, or other natural features of the land.

Staff Comment: The proposed subdivision was designed to minimize impacts to the surrounding area. Staff is unaware of any potential hazards that presently exist on the subject site.

The request complies with this criterion.

(c) The arrangement and proposed design of streets, blocks, and open spaces meet the development and design standards of the subdivision regulations and are coordinated with existing or potential development on adjacent property.

Staff Comment: The subdivision design is consistent with the current development in the Centerplace area and design criteria stated in code. The City's Development Code regulations shall govern all arrangement of streets, blocks, lots, etc.

This request complies with this criterion.

(d) The proposed blocks and lots are capable of meeting all development and site design standards under the applicable zoning district.

Staff Comment: The design is consistent with current adjacent blocks and the Development Code criteria.

This request complies with this criterion.

(e) The application demonstrates a preliminary likelihood of being able to meet the design, construction, performance, and maintenance requirements for all required improvements.

Staff Comment: Staff has reviewed the proposal against the ability to meet design, construction, performance, and maintenance requirements of improvements for the subdivision and found the application meets such criteria as required by the Development Code and demands of the city. City staff and referral agencies have will work through final details and logistics as part of the final plat submittal if the preliminary plat is approved.

The request complies with this criterion.

(f) Any phasing is clearly indicated and demonstrates a logical and coordinated approach to development, and the timing, location, and construction of amenities is consistent throughout phases.

Staff Comment: The applicant anticipates completing all infrastructure as one phase. All proposed improvements necessary for development are consistent with timing, location, and construction of the entire development.

The request complies with this criterion.

(g) Any impacts identified by specific studies or technical reports, including a review of storm water, are mitigated with generally accepted and sound planning, engineering, and urban design solutions that reflect long-term solutions and sound fiscal investments.

Staff Comment: Staff and referral agencies have reviewed all plans and studies associated with the project and are comfortable with the applicant moving forward in providing final materials and working through remaining review processes.

The request complies with this criterion.

(h) The design does not impede the construction of anticipated or planned future public infrastructure within the area, or deter future development of adjacent property from meeting the goals and policies of the Comprehensive Plan.

Staff Comment: The proposed subdivision would not impede any anticipated future public infrastructure. The applicant is required to construct on-site and appropriate off-site utility and roadway infrastructure to serve the development. The proposed infrastructure would be available for future development in the area. Staff are not aware of any other major infrastructure projects planned for this area.

This request complies with this criterion.

(i) The recommendations of professional staff or any other referral agencies authorized to review the subdivision plan.

Staff Comment: Staff and referral agencies have reviewed all preliminary plans and studies associated with the project and are comfortable with the application as presented.

The request complies with this criterion.

F. PHYSICAL SITE CHARACTERISTICS

1. SUBDIVISION HISTORY

The subject site is part of the OTG at Centerplace subdivision, currently Tract A. The subject site is part of the Centerplace PUD (PUD 16:00) and has remained an undeveloped tract since the establishment of the Centerplace PUD in 2000. The proposal will subdivide Tract A, creating two lots (Lot 1 and Lot 2), setting up the land for development.

2. HAZARDS

Staff is unaware of any potential hazards that presently exist on the subject site.

3. WILDLIFE

This site is not located in an area identified for moderate or high wildlife impacts. The Natural Areas & Trails and Forestry Departments have reviewed the proposal for impacts to wildlife and found no concerns and are comfortable with the ability to mitigate any impacts. Overall, there are no known impacts that would occur to wildlife if the site were subdivided.

4. FLOODPLAIN

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

5. DRAINAGE AND EROSION

Increases in stormwater flows from development would be addressed with an on-site detention and water quality pond, which is designed to limit runoff to historical flows in accordance with City of Greeley and State of Colorado requirements.

Erosion control devices would be designed by the developer and reviewed by the city at time of construction to ensure that best management practices are utilized as the project progress.

6. TRANSPORTATION

The subject property would be connecting to Centerplace Drive, 38th Avenue, and 24th Street Road. The subdivision proposed to dedicate right-of-way to expand 38th Avenue for improvements and continue 24th Street Road through the site, connecting to 38th Avenue.

The property is within proximity of two GET bus stops and has access to sidewalks and trails for pedestrian traffic flow. A current traffic impact study has been submitted with the overall Greeley West Mixed Use development proposal. The traffic for this project has been reviewed by appropriate city staff.

G. SERVICES

1. WATER

The City of Greeley provides water services to the site currently. City staff has reviewed the proposal for compliance with current water infrastructure and has provided the applicant with required improvements. The applicant is proposing to construct all necessary improvements to the water system on site and connecting areas as appropriate.

2. SANITATION

The City of Greeley provides sanitation services to the site currently. City staff has reviewed the proposal for compliance with current sanitation infrastructure and has provided the applicant with required improvements. The applicant is proposing to construct all necessary improvements to the sanitation system on site and connecting areas as appropriate.

3. EMERGENCY SERVICES

The property is served by the City of Greeley Police and Fire Department. Fire State #5 is located along 47th Avenue, approximately 0.67 miles west of the subject site.

4. PARKS AND OPEN SPACES

The applicant is proposing usable open space on site in the form of three courtyard areas that meet the requirements of courtyards in the Development Code. Adequate on-site open space will be provided throughout the development, meeting the Development Code criteria. Pedestrian infrastructure will be provided to ensure connectivity with existing pedestrian infrastructure. The applicant will provide cash-in-lieu for all parkland dedication to the city.

5. SCHOOLS

The subject property is located within the Greeley Evans School District 6 (D6). The subdivision plat is not dedicating land for future school development and will be providing cash-in-lieu for school dedication.

H. NEIGHBORHOOD IMPACTS

1. VISUAL

The proposed subdivision includes a perimeter treatment plan consisting of trees and groundcover, consistent with the requirements of the Development Code. The perimeter treatment plan would help mitigate any visual impacts created by the proposed development.

2. NOISE

Any potential noise created by future development will be regulated by the Municipal Code.

I. PUBLIC NOTICE AND COMMENT

Neighborhood courtesy notices for the hearing were mailed to surrounding property owners within 1,000 feet on October 10, 2023, a total of 261 letters were mailed. Notice was published on the City's website per Development Code requirements. Two signs were posted on the site on October 10, 2023. The mineral rights notice requirements to mineral owners and lessee of interest of the property was satisfied by the applicant and mailed 30 days prior to the public hearing. No comments have been received.

J. PLANNING COMMISSION RECOMMENDED MOTIONS

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed subdivision plat is in compliance with Development Code Section 24-203(b)(1), and therefore, **approves** the preliminary subdivision plat as presented.

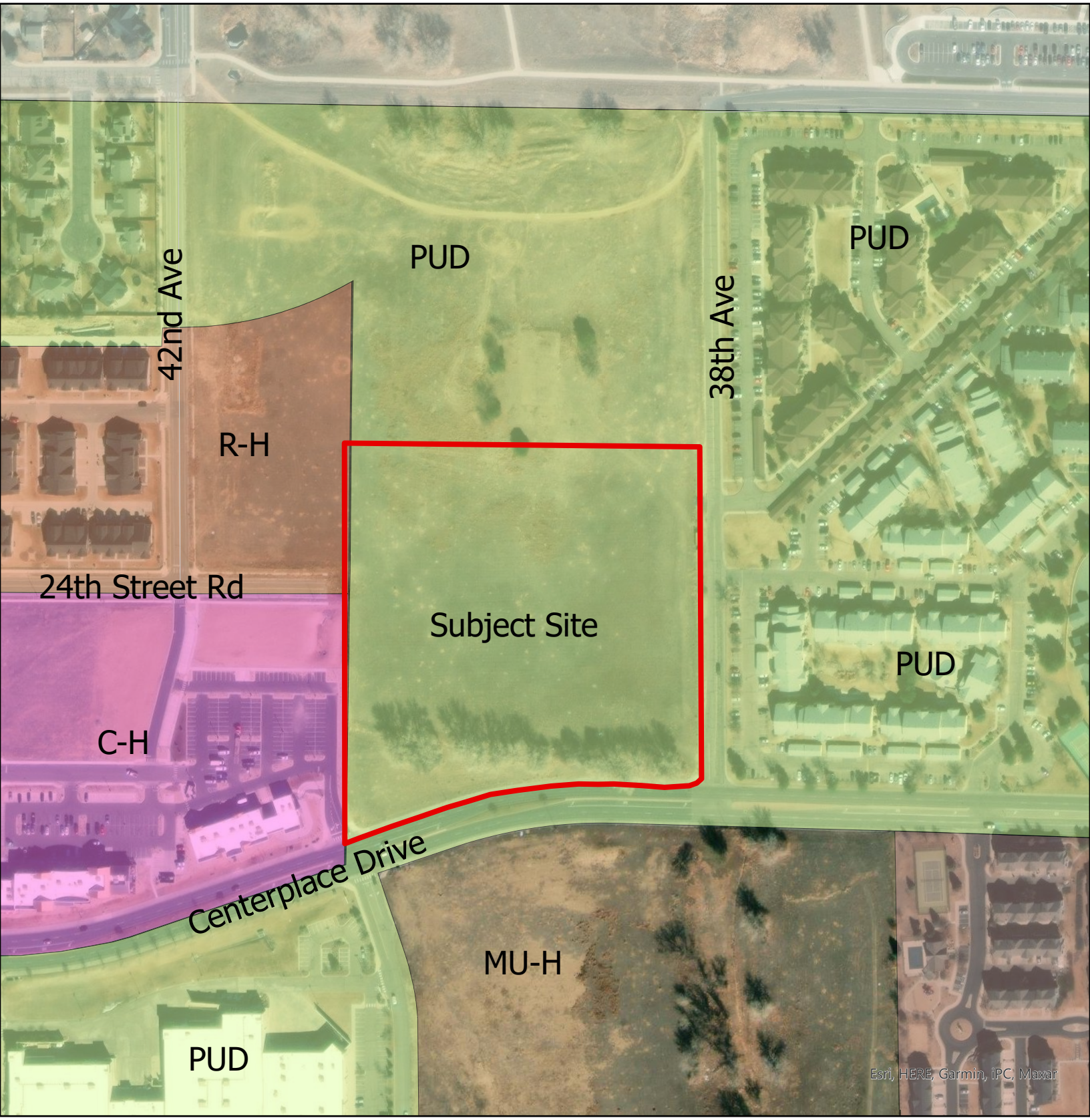
Alternative motion:

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed subdivision plat is not in compliance with Development Code Section 24-203(b)(1), and therefore, **denies** the preliminary subdivision plat.

ATTACHMENTS

Attachment A – Vicinity/Zoning Map
Attachment B – Project Narrative
Attachment C – Plat
Attachment D – Preliminary Landscape Plan
Attachment E – Notice Boundary

Attachment A - Vicinity/Zoning Map - Greeley West Mixed Use Subdivision



Legend

- Conservation District**
- Commercial Low Intensity
- Commercial High Intensity
- Holding Agriculture
- Industrial Low Intensity
- Industrial Medium Intensity
- Industrial High Intensity
- Planned Unit Development
- Residential Estate
- Residential Low Density
- Residential Medium Density
- Residential High Density
- Residential Mobile Home

City of Greeley Colorado

0 0.03 0.05 0.1 Miles

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LANDSCAPE ARCHITECTURE, LAND PLANNING

Greeley West Mixed-Use

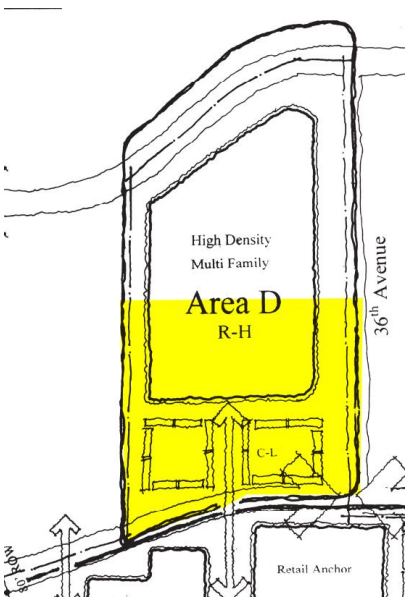
Narrative – June 2nd, 2023

Revised 7/28/2023

Introduction

McWhinney is a comprehensive real estate development, investment and management firm that got its start in Northern Colorado and has now grown to serve Denver, Omaha, Portland and southern California. With decades of experience in multifamily development, McWhinney is excited to continue bringing their expertise and brand to the Greeley market.

McWhinney (from here on referred to as the applicant) is proposing to create a mixed-use development on Tract A of the OTG at Centerplace Subdivision. The site is roughly ten acres of vacant land located north of Centerplace Drive, west of 38th Avenue and south of the recently approved Greeley West Multifamily development. While that development was rezoned to create a new PUD, Tract A was excluded from that proposal and is still governed by the Centerplace Of Greeley Concept/Preliminary PUD approved in 2000. This Tract represents roughly half of the Area D planning area represented on that Preliminary PUD (shown below). Area D originally planned for a mix of R-H and C-L uses in this area, with the commercial uses fronting Centerplace Drive.



Proposed PUD Zoning/Use Chart:

PUD Planning Area	Proposed Zoning	Proposed Uses
Area A	C-H	All uses allowed with the restrictions identified below.
Area B	C-H	All uses allowed; Restrictions shall be determined at a later date.
Area C	C-H	All uses allowed; Restrictions shall be determined at a later date.
Area D	C-L and R-H	All uses allowed; Restrictions shall be determined at a later date.

The applicant is requesting concurrent reviews of multiple applications: a Minor PUD Amendment, a Preliminary Plat, and a Site Plan Review. The purpose of the Minor PUD Amendment is to update the allowed uses on the established PUD to reflect a mixed-use development pattern. The purpose of the

Preliminary Plat is to dedicate the right-of-way for 24th Street Road and a portion of 38th Avenue, as well as to create two developable lots. The purpose of the Site Plan Review is to design and entitle a mixed-use development.

Land Use

The applicant is proposing a mixed-use development on Tract A which mimics the development pattern envisioned by the Centerplace of Greeley Preliminary PUD and the Mixed-Use High Intensity designation shown on the Land Use Guidance Map in the Imagine Greeley Comprehensive Plan. It is the applicant's vision to develop higher density housing and additional commercial uses within an established commercial corridor in order to provide an opportunity for people to live where they work, shop and play. This will in-turn increase the vitality of the commercial uses already present. The proposal includes 204 dwelling units, a clubhouse, and approximately 11,000 square feet of commercial space. Per plans, a resturant use is anticipated, although a wide variety of commercial uses can be accomodated on the first floor of the mixed-use building. The commercial uses are located along Centerplace Drive with the residential multifamily to the north.

Minor PUD Amendment

As part of the overall development review process, a Minor Amendment to the Existing PUD is prepared and submitted. The amendment proposed will add Mixed-Use High Intensity to the "Use Chart", thereby allowing both a residential- and mixed-use dwellings. The proposal aligns with the orginal intent of the Centerplace PUD by guaranteeing that a commercial use will exist along Centerplace Drive, but also allows the addition of a residential component to the plan. It is also worth noting that only the uses along the arterial are being modified, while the remainder of Tract A will remain Residential High Intensity (R-H). Within the Mixed-Use High Intensity framework, the applicant is proposing to Through previous conversations with City Staff, the addition of this use is viewed as a "minor" change to the existing PUD and can therefore remain as an administratively approved amendment.

Site Plan

Tract A is proposed to be divided into two parcels (Lot 1 and Lot 2) bisected by a sixty-foot-wide right-of-way dedication for 24th Street Road. Lot 1 describes the parcel north of 42nd Street Road and Lot 2 describes the parcel south of 24th Street Road. Lot 1 proposes three multifamily buildings totaling 84 dwellings, parking for those dwellings and guests, water quality treatment and a private courtyard amenity area. Lot 2 proposes three multifamily buildings totaling 120 dwellings, parking for those dwellings and guests, a clubhouse amenity building that activates the south east corner of the lot, and a mixed-use buidling anchoring the lot on the south west corner.

All buildings are planned to front adjacent rights-of-way to the extent feasible. Outdoor amentiy areas are dispersed throughout the site and will be designed to fit the character of the development and create a sense of place. Pedestrian connectivity has been carefully designed to allow residents to safely

travel from Lot 1, through Lot 2, south towards Centerplace. Adequate bicycle parking is provided with a covered alternatives located next to several of the residential buildings.
24th Street Road is proposed to extend east towards 38th Avenue and to align with an existing private drive serving Creekstone Apartments east of 38th Avenue. On street parking is proposed along 24th with pedestrian crosswalks to connect between Lot 1 and 2 safely. Lot 1 is accessed by two private drives off 24th which create a loop through the development. Parking is tucked behind the multifamily buildings, allowing the residences to front the public road and a private courtyard on the west side of the property. The eastern drive aligns across 24th to provide access to Lot 2 to the south as it heads west to connect to the existing commercial development. As part of the Centerplace Preliminary PUD, a shared access has been planned with the existing commercial development to the west to Centerplace Drive. Similarly, a right-in/right-out is proposed mid-block along Centerplace Drive, as originally envisioned in the Preliminary PUD. Overall, the proposal will require 345 parking spaces between the two lots, and 392 have been provided. A full breakdown of the parking calculations are provided on the cover page and a justification for the Transit Credit reduction is outlined at the end of the narrative.

Pedestrian circulation is a crucial component of the overall site design. Several pedestrian spines have been incoporated into the plans to promote connectivity and overall safety of the residents and commercial users. Specifically, connections and movement between Lots 1 and 2 are encouraged, and conenctions between 38th and the existing commercial are considered.

Landscape

Street trees are proposed along 38th Avenue and 24th Street Road. A ten-foot-wide landscape buffer is proposed on the western boundary of both lots, as well as the northern and western boundaries of Lot 1. A 15' foot buffer is also proposed along Centerplace Drive and it provided in the design. The drive entrances, pedestrian spines and amenity areas are proposed to be highlighted and accented with ornamental trees and plantings to aid in providing a pedestrian sense of scale to the development. Special attention will be given to the landscape activation along Centerplace to help anchor the future commercial uses. The landsacpe plan attached is designed to show locations of shrub beds and the amount of required shrubs, however does not show individual plant locations or species. This will be provided on the second round of review, once any potential site changing comments have been addressed.

Architecture

The architecture of this site is designed with full four-sided architectural design in mind. The proposal includes three different three-story building types, one of which contains commercial space as the entire first floor along the southwest corner of our site along Centerplace Drive. This commercial corner furthers the commercial and pedestrian activation along this street frontage already established to the west of this site. At the southeast corner of the site, we have located our amenity and leasing building which also adds more activation to the commercial frontage along Centerplace. All buildings will be built, owned, and maintained as multifamily products and will not have individual fee simple lots. Each building will have a similar architectural style that will complement each other and work together as a

cohesive site plan. The buildings have entries located along the drives and parking areas in most areas to increase ease of access from the walk system throughout. Most of the unit plans have balconies to create a varied exterior wall plane and aid in articulation along each façade as well as offering outdoor space for most residents.

Utilities and Drainage

The project plans to provide a watermain through the project site comprised of a large loop running in the outer drive aisles. The loop will be an 8" main. Domestic water meters, fire lines and fire hydrants will all pull from this loop. Two connections for the water loop will be provided. The first connection is currently planned to be taken from an existing 12" water main at the northeast corner of the project site that was stubbed as part of the first phase of Centerplace. Our second point of connection with be to an existing 8" stub in 24th Street.

Sewer service will be taken from one primary connection located at the northeast corner of the site, where a connection will be made to a stub that was constructed as part of the first phase of Centerplace. An 8" main will be routed through the site to provide service to the various buildings. There is a possibility that the two buildings in the southeast corner of the site will have their services connected to the sewer main being constructed along the east side of the project. We are currently working with the developer of that line to see if those connections could be included while the line is being built. In addition to the typical residential services, the mixed-use building at the southwest corner of the site will have restaurant uses and a grease trap will be provided for those units.

Stormwater flows will be conveyed primarily along drive aisles and move from the southwest to the northeast. Stormwater will be conveyed to a water quality pond located on the east side of the project. This rain garden will provide water quality treatment for the site. Flows from the water quality pond will be conveyed north of the Greeley West Park using the existing storm drain along the east side of the project. No detention is planned for the site as it is accounted for in the Greeley West Park.

Preliminary Plat

A preliminary plat is required as part of the overall development review process. The plat will track in paralell with the Site Plan and PUD Amendment and will be subject to a Planning Commission Hearing before proceeding to a Final Plat Application.

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LANDSCAPE ARCHITECTURE, LAND PLANNING

Alternative Parking Plan Request

The applicant is seeking a reduction in parking required per Development Code Section 24-703C. Per code, seven (7) different strategies are provided that allows for a reduction in parking spaces. Of those, the applicant is requesting an alternative plan utilizing the Transit Credit, outlined in the code as follows:

> *Transit Credit. The Director may reduce the parking requirement up to 25 percent for any development within 1,320 feet of a transit stop. In making a determination on the eligibility for and amount of the credit, the Director may consider the nature of the use, the likelihood that it generates transit trip origins and destinations, and the level of transit service at the stop.*

This site is well-positioned within the the Centerplace transit corridor and commercial center. The Greely-Evans Transit (GET) has six bus stops along Centerplace Drive, and as existing, there are two transit stops directly adjacent to the site:

Another stop is located within ~1,210 ft of the Site to the west along Centerplace Drive.
In addition to the access to public transit it is important to note that Greeley envisions Centerplace Drive has becoming an activated mixed-use urban area – the close proximity of housing to commercial and retail uses, allows residents to commute from their home to nearby shopping, restaurants, bars, employment opportunities and other services.

By applying the transit credit, the required vehicular parking can be reduced from 460 spaces (by 25%) to 345 required spaces. A more complete breakdown of parking proposed on site is provided within the Site Data of the Cover Sheet.

Parking Required	Parking Provided
460 spaces	
Parking Required w/ Reduction Strategies	
345 spaces	392 spaces

In additional consideration of the site characteristics, the PUD envisioned that a shared parking plan with commercial uses to the west of Centerplace Drive would be possible, given the inverse relationship between peak traffic and parking times. Adequate bicycle parking is also dispersed throughout the site, and ample on-street parking is available along 24th street.

It is also noted that another three (3) parking reduction strategies could apply to this property *((3) On-street Parking Credit, (4) Bicycle Parking Credit, and (7) Shared Parking Credit*), and if those were applied, the parking requirement could be further reduced. At this time the applicant is not seeking a reduction based on those credits.

Alternative Compliance Landscape Perimeter Treatment Request

The applicant is requesting an alternative compliance plan for the perimeter treatments on the north and east boundaries. The applicant is not able to meet the vegetation requirement by the letter of the code due to utility and easement constraints, but wishes to provide a plan that equally meets the intent of the code. Per the criteria noted in 24-803(e), the following are met:

1. As part of the overall drainage design a naturalized water quality pond is located along the east boundary at the intersection of 24th Street and 38th Avenue. The pond is designed to be enhanced with a suitable native seed mix, undulating slopes, and a small, activated gathering space for residents to enjoy the feature.
2. Special attention is given to the streetscape design along 24th Street to both enhance the visual aesthetic but also provide a unique pedestrian experience. The property boundary along 38th Avenue and Centerplace Avenue also features enhanced landscaping. A variety of ornamental trees, shrubs, perennials, and ornamental grasses are planned to be arranged in a formal manner that tie closely into the design of Phase 1 to the north. Overall, this helps to create a unique sense of identity for development.
3. The number of trees that are required along the perimeters to the north and east will be accounted for elsewhere on the site. Those will be clearly identified on the plan in the Site Plan Review Submittal.

In summary, the plan presented creates a visually attractive streetscape and site design with ample opportunities to activate and enhance the pedestrian experience. As such the intent of the code is met, and no adverse conditions are created. Please note that full planting details are provided in the Site Plan Review Set.

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LANDSCAPE ARCHITECTURE, LAND PLANNING

Imagine Greeley Comprehensive Plan

The Imagine Greeley Land Use Guidance Map has this area designated as employment, industrial and commercial on the Land Use Guidance Map. Within the definition of this land use is the following: *"In certain instances, residential uses are supported but only where the adjacent employment or industrial use is compatible and would not negatively impact residents' quality of life or safety."* Within walking or bicycling distance from the site are several retail opportunities and restaurant spaces (Centerplace Mall) to the west, multifamily to the north, multifamily and services to the east and Highway 34 one block to the south. Multifamily is a great complement to retail. By utilizing this property for high density residential purposes, while maintaining an activated commercial frontage along Centerplace, an opportunity is created to complement existing commercial/ retail with an immediate 24/7 population of people that would utilize the proximity for everyday use. The proposed residential site plan area will not be negatively impacted by the adjacent land uses, rather will support, and promote an easily walkable live- work-play community.

The site plan also supports the following Imagine Greeley objectives: *EH-2.4 Land Use, EH-2.5 Walkability & Bikability, EH-2.6 Built Environment, GC-1.2 Form of Growth, GC-2.1 Land Use Guidance Map, GC-2.2 Jobs/Housing Balance, GC-2.3 Pedestrian and Bicycle-Oriented Development, GC-4.3 Infill Compatibility, HO-2.1 Diversity in New Development, NR-2.7 Stormwater Management, NR-4.3 Landscaping and Plant Species, TM-1.2 Pedestrian Movements, TM-1.4 Traffic Calming*

ATTACHMENT C - PLAT

WEST GREELEY MIXED-USE SUBDIVISION

BEING A REPLAT OF TRACT A, OTG AT CENTERPLACE
LOCATED IN THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 5 NORTH, RANGE 66 WEST OF THE 6TH P.M.
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
9.99 ACRES TWO LOTS
CENTERPLACE PLANNED UNIT DEVELOPMENT: PUD2023-0007
PROJECT NUMBER: SUB2023-0012

DEDICATION STATEMENT:

MMF Greeley Centerplace Land, LLC, being the sole owner(s) in fee of,

Tract A, OTG at Centerplace, City of Greeley, County of Weld, State of Colorado, according to the plat thereof recorded September 15, 2014 as Reception No. 4045666 and re-recorded September 29, 2014 as Reception No. 4049466, of the Weld County, Colorado Records.

Said described parcel of land contains a total of 435,244 square feet, or 9.99 acres, more or less (±).

Additionally being described, per City of Greeley condition of approval requirement, by metes and bounds as follows:

Considering the North line of Tract A, OTG at Centerplace as recorded September 15, 2014 as Reception No. 4045666 and re-recorded September 29, 2014 as Reception No. 4049466 of the Weld County, Colorado Records, as bearing South 89° 30' 34" East, an assumed bearing, with all other bearings contained herein relative thereto;

BEGINNING at the Northwest corner of Tract A, OTG at Centerplace, said corner being monumented by a found #4 rebar with a yellow plastic cap stamped LS 33642, THENCE South 89° 30' 34" East along the Northerly line of said Tract A, OTG at Centerplace a distance of 650.40 feet to the Northeast corner of said Tract A, OTG at Centerplace, being monumented by a found #4 rebar with a yellow plastic cap stamped LS 38106;
THENCE South 00° 15' 29" East along the Easterly line of said Tract A, OTG at Centerplace a distance of 604.72 feet to the Easterly most, Southeast corner of said Tract A, OTG at Centerplace, being monumented by a found #4 rebar with a yellow plastic cap stamped LS 38106;
THENCE along the arc of a curve concave to the Northwest a distance of 48.39 feet, said curve has a Radius of 30.00 feet, a Delta of 92° 25' 29" and is subtended by a Chord bearing South 45° 57' 15" West a distance of 43.31 feet to the Southerly most, Southeast corner of said Tract A, OTG at Centerplace, being monumented by a found #4 rebar with a yellow plastic cap stamped LS 38106;
The following three (3) courses and distances are along the Southerly lines of said Tract A, OTG at Centerplace;
THENCE North 87° 50' 00" West a distance of 128.42 feet to a found #4 rebar with a yellow plastic cap stamped LS 38106;
THENCE along the arc of a curve concave to the Southeast a distance of 333.30 feet, said curve has a Radius of 945.00 feet, a Delta of 20° 12' 30" and is subtended by a Chord bearing South 82° 03' 45" West a distance of 331.58 feet to a found #4 rebar with a yellow plastic cap stamped LS 38106;
THENCE South 71° 57' 30" West a distance of 191.71 feet to the Southwest corner of said Tract A, OTG at Centerplace, being monumented by a found #4 rebar with a yellow plastic cap stamped LS 38106;
THENCE North 01° 19' 06" East along the Westerly line of said Tract A, OTG at Centerplace a distance of 740.90 feet to the Northwest corner of said Tract A, OTG at Centerplace, being monumented by a found #4 rebar with a yellow plastic cap stamped LS 33642, and to the POINT OF BEGINNING.

shown on the attached map as embraced within the heavy exterior lines thereon, has subdivided the same into lots and blocks as shown on the attached map; and does hereby set aside said portion or tract of land and designate the same WEST GREELEY MIXED-USE SUBDIVISION to the City of Greeley, Weld County, Colorado; and does dedicate to the public, the streets and all easements over and across said lots at locations shown on said map; and does further certify that the width of said streets, dimensions of the lots, blocks, or building envelopes and the names and numbers thereof are correctly designated upon said map.

By:_____
Authorized Signor for MMF Greeley Conterplace Land, LLC.

STATE OF_____)
) ss.
COUNTY OF_____)

The foregoing instrument was acknowledged before me this ____ day of _____, 20__, by _____, as _____ of _____.

Witness my hand and official seal.

My commission expires:_____

(S E A L)

_____
Notary Public

LAND SURVEYOR NOTES:

1) This survey does not constitute a title search by Northern Engineering to determine ownership or easements of record. Northern Engineering relied upon Land Title Guarantee Company, Commitment Order No: ABD25168565.20, dated May 17, 2023 at 5:00 p.m. to aid in Easement and Ownership research.

2) The subject property is in "Zone X", "areas of minimal flood hazard" per FEMA Flood Map 08123C1540E revised January 20, 2016.

3) Basis of Bearings is the Southerly line of Greeley West Multifamily Subdivision as shown on the Plat thereof recorded on December 13, 2021 as Reception No. 4784524 of the Records of Weld County, as bearing South 89° 30' 34" East and monumented on the West end by a #4 rebar with a yellow plastic cap stamped "LS 33642" and on the East end by a #4 rebar with a yellow plastic cap stamped "LS 38106."

4) CENTERPLACE II RE-SUBDIVISION contains 435,244 square feet, or 9.99 acres, more or less.

5) The lineal unit of measure for this survey is U.S. Survey Feet.

6) The intent of this plat is to Replat Tract A, OTG at Centerplace, to dedicate additional Easements to the City of Greeley, to depict an Easement Vacation within the bounds of said Tract A, OTG at Centerplace, as shown within this mapping, as well as to dedicate Public Right of Way. This plat proposes to create 2 Lots and 1 Parcel for Public Right of Way Dedication.

7) Any common open space areas and/or recreational facilities (if any) that fall outside of a developable lot/tract will be the responsibility of the MMF Greeley Centerplace Land, LLC.

8) All improvement and development obligations, shall be set forth in a separate agreement signed by the property owner seeking development approval for a lot. Nothing herein shall impose any development or improvement obligations upon Applicant, pursuant to this plat.

9) All previous lot lines and easements as shown and dedicated by OTG at Centerplace, recorded at reception number 4045666 at the Weld County Clerk and Recorder which are located within the boundary lines of this plat are hereby vacated upon recordation of this plat and dedicated as shown hereon.

10) A copy of the title commitment and the documents contained therein were provided to the owner, client and attorney listed hereon for their use and review.

11) Not all documents listed in the title commitment are plottable or definable by their terms. All easements that are definable by their descriptions are shown hereon with sufficient data to establish their position. Owner, Client and others should refer to the title commitment and those documents listed therein for a true understanding of all rights of way, easements, encumbrances, interests and title of record concerning the subject property.

12) Easements and other record documents shown or noted hereon were examined as to location and purpose and were not examined as to restrictions, exclusions, conditions, obligations, terms, or as to the right to grant the same.

13) The word "State", "certify" or "certification" as shown and used hereon is an expression of professional opinion regarding the facts of the survey, and does not constitute a warranty or guaranty, expressed or implied. DORA Bylaws and Rules (4 CCR 730-1).

14) Northern Engineering or the Professional Land Surveyor listed hereon, does not have the expertise to address mineral rights, and recommends the owner retain an expert to address these matters. Northern Engineering or the Professional Land Surveyor listed heron assumes no responsibility for the mineral rights upon the subject property.

15) Adjacent property owner information per the Weld County Property Portal.

LAND SURVEYOR NOTES (CONTINUED):

16) Per CRS 38-51-105 (3)(a), (3)(b), (4)(b), (4)(c), & 5, the Developer/Owner of the subdivision plat has the requirement of providing monumentation of the interior corners created by this platting procedure within one year of the effective date of a sales contract. The Surveyor of record of said subdivision plat has only the required responsibility of providing for the on the ground monumentation of the external boundary of the subdivision plat.

17) Standard notes as requested by the City of Greeley and listed hereon are being required as a condition of approval by the City of Greeley. The notes, as listed hereon, were provided to Northern Engineering by the City of Greeley.

18) It is unlawful under Colorado Revised Statutes Title 18. Criminal Code § 18-4-508 to knowingly disturb, deface, remove, or destroy a land survey monument or accessory.

19) A current tile commitment will be provided to the surveyor prior to final submittal. * This note will be removed prior to finalizing survey.

20) This survey is a draft only. Monuments have not been set or upgraded. Monuments will be set and or upgraded prior to plat finalizing and recording. * This note will be removed prior to finalizing survey.

SURVEYOR'S NOTE REGARDING CITY OF GREELEY METES AND BOUNDS DESCRIPTION REQUIREMENT:

Effective October of 2021, as a condition of approval of subdivision plats, the City of Greeley has enacted a regulation requiring a metes and bounds description, inclusive of called-for monumentation, be additionally recited along with the legal and previously approved nomenclature for a subdivided parcel(s) of land. The City of Greeley could not or would not give a reasonable explanation as to what the intended benefit or advantage to the public's health, safety, or welfare was by installing this requirement into their subdivision regulations. The additionally required metes and bounds description around the perimeter of this subdivision boundary should not be utilized for any purpose. The parcels being created by this replat process of Tract A, OTG at Centerplace, upon execution and recordation, will be legally titled as "LOT 1, WEST GREELEY MIXED-USE SUBDIVISION" AND "LOT 2, WEST GREELEY MIXED-USE SUBDIVISION. This is the only property description format nomenclature to be utilized in the creation of legal documents related to this legally subdivided parcel of land. A metes and bounds description is not a proper method of description after a formally approved subdivision name has been assigned to a parcel of land.

End users of this plat should also be aware that there is a great possibility that a large percentage of the called for monuments within the body of this required metes and bounds property description are subject to being obliterated in the course of infrastructure and site construction activities.

STANDARD NOTES AS REQUIRED BY THE CITY OF GREELEY:

a. Street maintenance. It is mutually understood and agreed that the dedicated roadways shown on this plat will not be maintained by the City until and unless the streets are constructed in accordance with the subdivision regulations in effect at the date construction plans are approved, and provided that construction of said roadway(s) is started within one (1) year of the construction plan approval. The owner(s), developer(s) and/or subdividers, their successors and/or assigns in interest, shall be responsible for street maintenance until such time as the City accepts the responsibility for maintenance as stated above.

b. Drives, parking areas and utility easements maintenance. The owners of this subdivision, their successors and/or assigns in interest, the adjacent property owner(s), homeowners' association or other entity other than the City is responsible for maintenance and upkeep of any and all drives, parking areas and easements (cross-access easements, drainage easements, etc.)

c. Drainage maintenance. The property owner shall be responsible for maintenance of all drainage facilities installed in accordance with City of Greeley standards and the accepted construction plans. Requirements include, but are not limited to, maintaining the specified stormwater detention/retention volumes, maintaining outlet structures, flow restriction devices and facilities needed to convey flow to said basins. The city shall have the right to enter properties to inspect said facilities at any time. If these facilities are not property maintained, the city shall notify the property owner in writing and shall inform the owner that corrective action by the owner shall be required within ten working days of receipt of notification by the city, unless an emergency exists, in which case corrective action shall be taken immediately upon receipt of notification by the city. If the owner fails to take corrective action within ten working days, the city may provide the necessary maintenance and assess the maintenance cost to the owner of the property.

d. Drainage liability. The City does not assume any liability for drainage facilities improperly designed or constructed. The City reviews drainage plans but cannot, on behalf of any applicant, owner or developer, guarantee that final drainage design review and approval by the City will relieve said person, his successors and assigns, from liability due to improper design. City approval of a final plat does not imply approval of the drainage design within that plat.

e. Landscape maintenance. The owners of this subdivision, their successors and/or assigns in interest, the adjacent property owner(s), homeowners' association or entity other than the City is responsible for maintenance and upkeep of perimeter fencing or walls, landscaping and landscaped areas and sidewalks between the property line and any paved roadways. The owners of this subdivision, their successors and/or assigns in interest or an entity other than the City, agree to the responsibility of maintaining all other open space areas associated with this development.

f. Sight distance. The clear vision zone of a corner lot, as determined by Section 24-1265(c)(4) of the Development Code, shall be free from shrubs, ground covers, berms, fences, signs, structures, parked vehicles or other materials or items greater than thirty-six (36) inches in height from the street level.

g. Public safety. Access, whether for emergency or nonemergency purposes, is granted over and across all access ways for police, fire and emergency vehicles. If any or all of the access ways in this subdivision are private, the homeowners' association will be responsible for ensuring that such access ways are passable, at all times, for police, fire and emergency vehicles.

h. Drainage master plan. The policy of the City requires that all new development and redevelopment shall participate in the required drainage improvements as set forth below:
1)Design and construct the local drainage system as defined by the final drainage report and plan and the storm water management plat.
2)Design and construct the connection of the subdivision drainage system to a drainage way of established conveyance capacity, such as a master planned outfall storm sewer or master planned major drainage way. The City will require that the connection of the minor and major systems provide capacity to convey only those flows (including offsite flows) leaving the specific development site. To minimize overall capital costs, the City encourages adjacent developments to join in designing and constructing connection systems. Also, the City may choose to participate with a developer in the design and construction of the connection system.
3)Equitable participation in the design and construction of the major drainage way system that serves the development as defined by adopted master drainage way plans or as required by the City and designed in the final drainage report and the storm water management plan.

i. Maintenance easements. A maintenance easement is required for developments with zero side setbacks, if one (1) structure is built on the lot line. In order to maintain the structure with the zero side setback, a maintenance easement may be required on the adjacent lot to enable maintenance to be performed on said structure from the adjoining property. Each lot owner agrees to allow adjacent lot owners access across their lot, within five (5) feet of the common lot line, as may be needed to maintain and repair the adjacent owner's principal structure. Each adjacent owner agrees to repair any damage which may be caused to the lot owner's property from the adjacent owner's use of this maintenance easement and to take all necessary steps to avoid causing such damage.

j. Street lighting. All lots are subject to and bound by tariffs which are now and may in the future be filed with the Public Utilities Commission of the State of Colorado relating to street lighting in this subdivision, together with rates, rules and regulations therein provided and subject to all future amendments and changes thereto. The owners or their successors and/or assigns in interest, shall pay, as billed, a portion of the cost of public street lighting in the subdivision in accordance to applicable rates, rules and regulations, including future amendments and changes on file with the Public Utilities Commission.

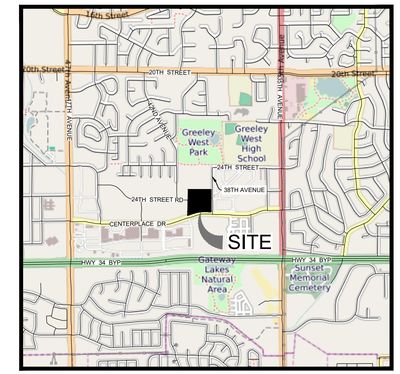
k. Water or sewer main easements. There shall be no permanent structures, fences, detention ponds, landscaping (plantings or berms) greater than three (3) feet tall mature growth, or other encumbrances located in water or sewer main easements.

l. Water or sewer mains in private roads or easements. For public water and sewer mains located in private roads or easements, future repair of paving or other improved surfaces subsequent to the repair of a water or sewer main shall be the responsibility of the homeowners' or condominium association. The Water and Sewer Department will safely backfill the trench to the surface, but not rebuild any surface improvements.

DEVELOPER/APPLICANT
MMF Greeley Centerplace Land, LLC
2725 Rocky Mountain Ave Suite 200
Loveland, Colorado 80538
(303) 745-0024

SITE ENGINEER
Kimley-Horn and Associates, Inc.
Andy Reese
3801 Automation Way Suite 210
Fort Collins, Colorado 80525
(970) 852-6858

SURVEYOR
Northern Engineering Services, Inc.
Matt E. Lockwood, PLS
301 N Howes St #100
Fort Collins, Colorado 80521
(970) 221-4158



VICINITY MAP
1" = 2000'

LEGEND

- PLAT BOUNDARY LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- ROAD CENTERLINE
- EXISTING EASEMENT LINE
- VACATED EASEMENT LINE
- PROPOSED EASEMENT LINE
- LOT LINE
- APPROVAL DOCUMENT PARCEL
- SIGHT TRIANGLE
- S — PROPOSED SANITARY SEWER LINE
- PROPOSED STORM SEWER LINE
- W — PROPOSED WATER LINE
- F — PROPOSED WATER LINE (FIRE)
- IRR — PROPOSED IRRIGATION LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 4835 — PROPOSED MAJOR CONTOUR
- 4836 — PROPOSED MINOR CONTOUR
- EXISTING FIRE HYDRANT
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STORM SEWER MANHOLE
- OIL AND GAS WELL AS DESCRIBED
- FOUND PROPERTY CORNER MONUMENT AS DESCRIBED
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- PROPOSED STORM SEWER INLET
- PROPOSED STORM SEWER OUTLET
- PROPOSED FLARED END SECTION
- PROPOSED FIRE HYDRANT
- PROPOSED WATER METER
- PROPOSED WATER LINE STRUCTURE

DEVELOPMENT REVIEW MANAGER

CONSTRUCTION MUST BE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSIONS, OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.

_____ _____
Development Review Manager Date

COMMUNITY DEVELOPMENT DIRECTOR

_____ _____
Director of Community Development Date

CITY OF GREELEY FIRE MARSHAL

_____ _____
City of Greeley Fire Marshal Date

SURVEYING CERTIFICATE

I, Matt Elliott Lockwood, a Registered Professional Land Surveyor in the State of Colorado, do hereby certify that I prepared this plat from an actual and accurate survey of the land, including all existing rights-of-way easements and that the corner monuments shown thereon were properly placed under my supervision, in accordance with the regulations of the State of Colorado.

DRAFT
PRELIMINARY - NOT FOR CONSTRUCTION, RECORDING PURPOSES, OR IMPLEMENTATION
08-23-2023

Matt Elliott Lockwood
Colorado Registered Professional Land Surveyor No. 38516
For and on behalf of Northern Engineering Services, Inc.

NOTICE:
According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years after the date of the certificate shown hereon.

SECTION: 14
TOWNSHIP: 5 N
RANGE: 66 W of the 6th PM

NORTHERN ENGINEERING
SURVEY | MUNICIPAL | LAND DEVELOPMENT
FORT COLLINS | GREELEY 970.221.4158 NORTHERNENGINEERING.COM

DATE: 08/23/2023
SCALE: AS SHOWN
REVIEWED BY: M. LOCKWOOD
PROJECT: 1082-002
CLIENT: KIMLEY-HORN
DRAWN BY: S. PAQUIN

WEST GREELEY MIXED-USE SUBDIVISION
TRACT A, OTG AT CENTERPLACE
CITY OF GREELEY, STATE OF COLORADO

Sheet 1 Of 2 Sheets

ATTACHMENT C - PLAT

WEST GREELEY MIXED-USE SUBDIVISION

BEING A REPLAT OF TRACT A, OTG AT CENTERPLACE
LOCATED IN THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 5 NORTH, RANGE 66 WEST OF THE 6TH P.M.
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
9.99 ACRES TWO LOTS
CENTERPLACE PLANNED UNIT DEVELOPMENT: PUD2023-0007
PROJECT NUMBER: SUB2023-0012

LAND USE SUMMARY CHART					
PARCEL	AREA				PERCENT
LOT 1	151,287	S.F.	3.47	AC.	34.76%
LOT 2	236,750	S.F.	5.44	AC.	54.39%
ROW	47,207	S.F.	1.08	AC.	10.85%
TOTAL	435,244	S.F.	9.99	AC.	100.00%

Easement Table			
Easement Type	Use	Easement Grant To	Surface Maintenance
Access Easement	Public and emergency access	City of Greeley	Property Owner
Utility Easement	Installing, operating, and maintaining dry utility lines	City of Greeley or Utility Provider	Property Owner
Water & Sewer Easement	Placement and maintenance of City of Greeley water and sewer utility	City of Greeley	Property Owner

CURVE TABLE

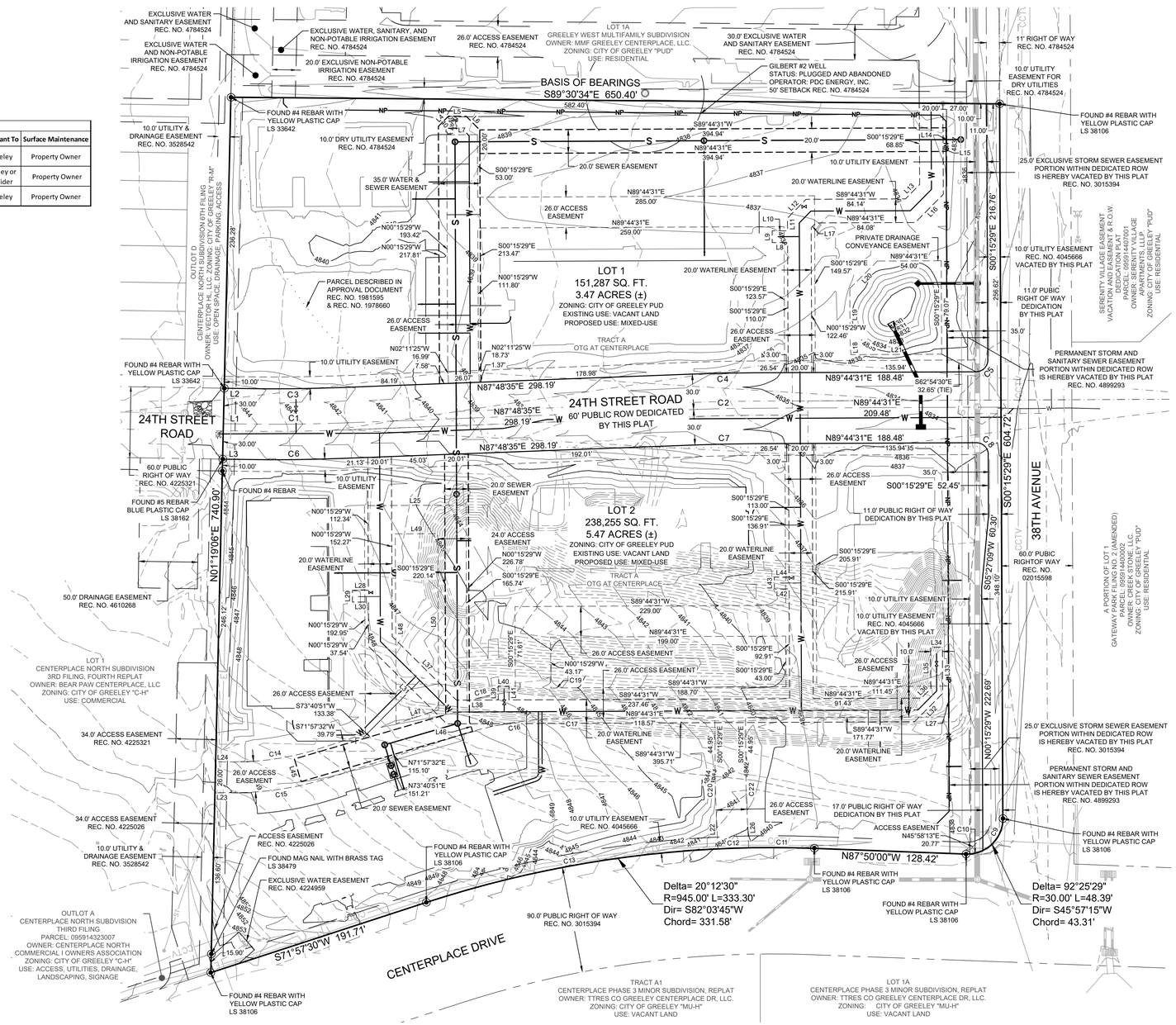
CURVE	DELTA	RADIUS	LENGTH	BEARING	CHORD
C1	3°06'34"	1500.00'	81.40'	N89°21'52"E	81.39'
C2	1°55'56"	1500.00'	50.58'	N88°46'33"E	50.58'
C3	3°06'34"	1470.00'	79.77'	N89°21'52"E	79.76'
C4	1°55'56"	1530.00'	51.59'	N88°46'33"E	51.59'
C5	90°00'00"	10.00'	15.71'	S44°44'31"W	14.14'
C6	3°06'34"	1530.00'	83.03'	N89°21'52"E	83.02'
C7	1°55'56"	1470.00'	49.57'	N88°46'33"E	49.57'
C8	90°00'00"	10.00'	15.71'	S45°15'29"E	14.14'
C9	64°19'14"	30.00'	33.68'	S31°54'08"W	31.94'
C10	28°06'15"	30.00'	14.72'	S78°06'52"W	14.57'
C11	3°22'05"	945.00'	55.55'	N89°31'03"W	55.54'
C12	1°34'36"	945.00'	26.00'	S88°00'37"W	26.00'
C13	15°15'49"	945.00'	251.75'	S79°35'24"W	251.01'
C14	18°53'11"	237.00'	78.12'	S81°24'07"W	77.77'
C15	18°53'11"	263.00'	86.69'	N81°24'07"E	86.30'
C16	18°45'46"	287.00'	93.98'	N81°20'25"E	93.56'
C17	0°58'47"	287.00'	4.91'	N89°15'07"E	4.91'
C18	7°39'26"	313.00'	41.83'	S78°30'55"W	41.80'
C19	1°53'10"	313.00'	10.30'	S88°47'56"W	10.30'

LINE TABLE

LINE	LENGTH	BEARING
L1	18.49'	S89° 04' 51"E
L2	18.28'	S89° 04' 51"E
L3	18.70'	N89° 04' 51"W
L4	12.02'	N44° 44' 31"E
L5	15.14'	S89° 40' 31"W
L6	16.16'	S44° 54' 07"E
L7	26.00'	N89° 44' 31"E
L8	13.00'	N89° 44' 31"E
L9	10.00'	S00° 15' 29"E
L10	13.00'	S89° 44' 31"W
L11	10.61'	S00° 15' 29"E
L12	22.35'	S44° 25' 35"W
L13	17.09'	S44° 44' 31"W
L14	20.00'	N00° 15' 29"W
L15	76.88'	N00° 15' 29"W
L16	33.66'	N44° 44' 31"E
L17	5.78'	N44° 25' 35"E
L18	11.24'	N03° 30' 32"W
L19	44.88'	N00° 15' 29"W
L20	32.82'	N45° 19' 35"E
L21	76.81'	S89° 44' 31"W
L22	33.28'	S02° 44' 58"E
L23	12.25'	S89° 09' 17"E
L24	12.04'	N89° 09' 17"W
L25	86.00'	N89° 44' 31"E

LINE TABLE

LINE	LENGTH	BEARING
L26	33.62'	S02° 44' 58"E
L27	26.00'	S00° 15' 29"E
L28	13.50'	N89° 44' 31"E
L29	10.00'	N00° 15' 29"W
L30	13.50'	S89° 44' 31"W
L31	93.14'	N45° 15' 29"W
L32	33.80'	S44° 44' 31"W
L33	39.00'	S00° 15' 29"E
L34	10.00'	N89° 44' 31"E
L35	34.86'	N00° 15' 29"W
L36	11.37'	N44° 44' 31"E
L37	76.57'	N45° 15' 29"W
L38	35.36'	N89° 44' 31"E
L39	11.58'	S00° 15' 29"E
L40	9.04'	N89° 46' 52"W
L41	11.50'	N00° 15' 29"W
L42	12.50'	N89° 44' 31"E
L43	10.00'	S00° 15' 29"E
L44	12.50'	S89° 44' 31"W
L45	20.00'	S16° 19' 09"E
L46	8.74'	N18° 02' 28"W
L47	37.81'	S71° 57' 32"W
L48	160.62'	N00° 15' 29"W
L49	36.00'	N89° 44' 31"E
L50	149.07'	S00° 15' 29"E



NORTH

50 0 50 100 150 Feet
(IN U.S. SURVEY FEET)
1 inch = 50 ft.

LEGEND

- PLAT BOUNDARY LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- ROAD CENTERLINE
- EXISTING EASEMENT LINE
- VACATED EASEMENT LINE
- PROPOSED EASEMENT LINE
- LOT LINE
- APPROVAL DOCUMENT PARCEL
- SIGHT TRIANGLE
- PROPOSED SANITARY SEWER LINE
- PROPOSED STORM SEWER LINE
- PROPOSED WATER LINE
- PROPOSED WATER LINE (FIRE)
- PROPOSED IRRIGATION LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING FIRE HYDRANT
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STORM SEWER MANHOLE
- OIL AND GAS WELL AS DESCRIBED
- FOUND PROPERTY CORNER MONUMENT AS DESCRIBED
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- PROPOSED STORM SEWER INLET
- PROPOSED STORM SEWER OUTLET
- PROPOSED FLARED END SECTION
- PROPOSED FIRE HYDRANT
- PROPOSED WATER METER
- PROPOSED WATER LINE STRUCTURE

DRAFT
PRELIMINARY - NOT FOR CONSTRUCTION, RECORDING PURPOSES, OR IMPLEMENTATION
08-23-2023

PRELIMINARY
Matt Elliott Lockwood
Colorado Registered Professional Land Surveyor No. 38316
For and on behalf of Northern Engineering Services, Inc.

NOTICE:
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SECTION: 14
TOWNSHIP: 5 N
RANGE: 66 W of the 6th PM

NORTHERN ENGINEERING
SURVEY | MUNICIPAL | LAND DEVELOPMENT
FORT COLLINS | GREELEY 970.221.4158 NORTHERNENGINEERING.COM

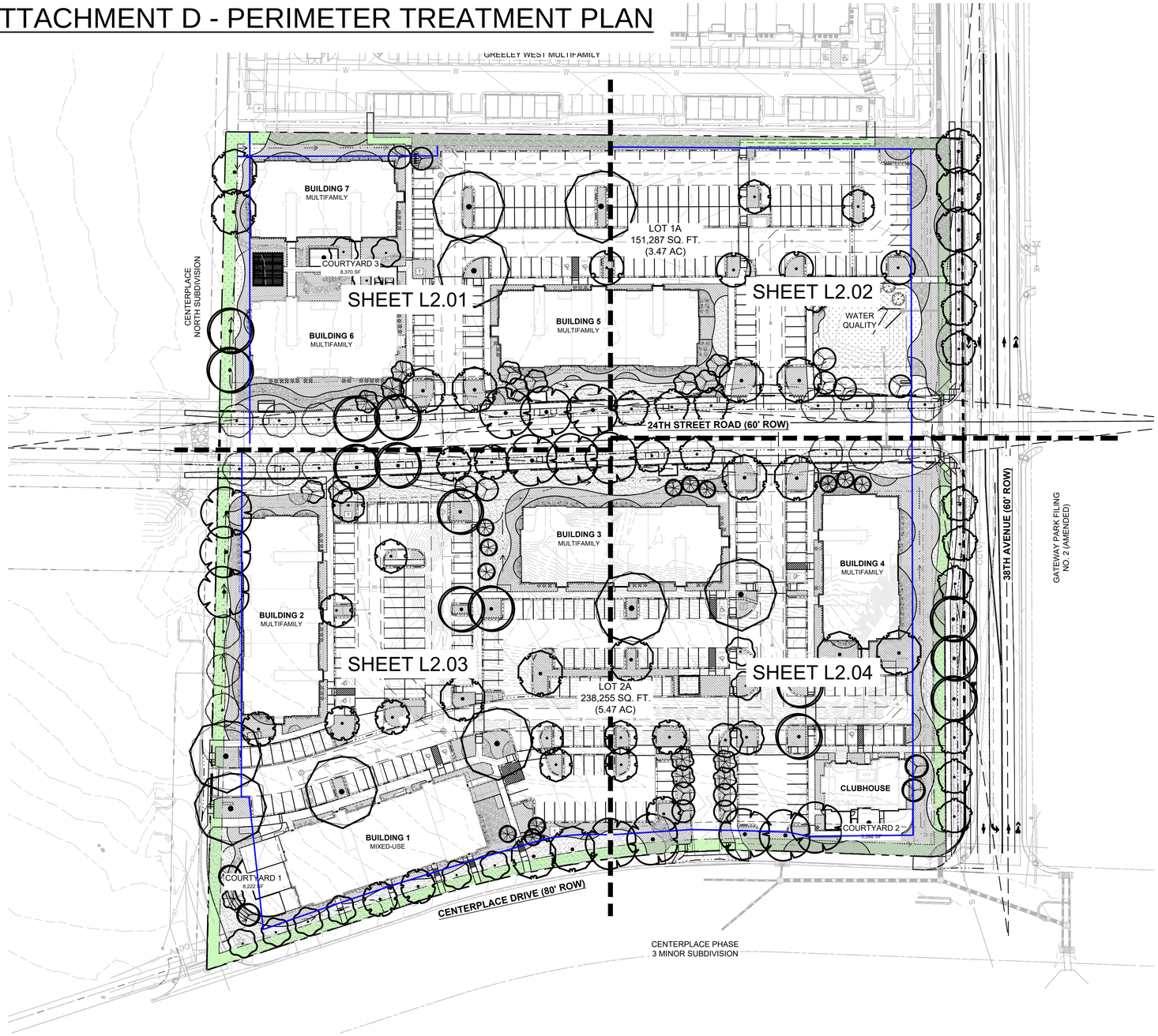
DATE: 08/23/2023
SCALE: 1" = 50'
REVIEWED BY: M. LOCKWOOD
PROJECT: 1082-002
CLIENT: KULCZ-HORN
DRAWN BY: S. PAQUIN

WEST GREELEY MIXED-USE SUBDIVISION
TRACT A, OTG AT CENTERPLACE
CITY OF GREELEY, STATE OF COLORADO

Sheet
2
Of 2 Sheets

ATTACHMENT D - PERIMETER TREATMENT PLAN

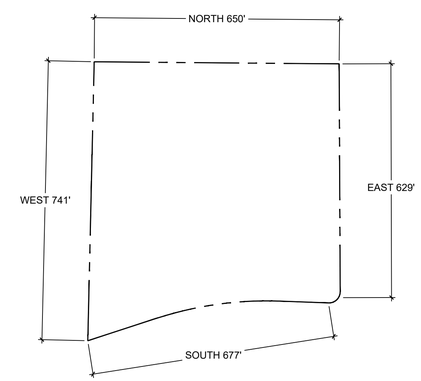
GREELEY WEST MIXED-USE SITE PLAN REVIEW
TRACT A, OTG AT CENTERPLACE REPLAT
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
9.99 ACRES
PROJECT NUMBER: SUB2023-0012



LEGEND

- PROJECT BOUNDARY
- RIGHT OF WAY
- FIBER OPTIC UTILITY
- GAS UTILITY
- STORM DRAIN UTILITY
- SANITARY SEWER UTILITY
- TELEPHONE UTILITY
- UNDERGROUND ELECTRIC UTILITY
- MATCHLINES
- PERIMETER TREATMENT PROVIDED
- STEEL EDGER
- ELECTRIC BOX
- ELECTRIC VAULT
- TELEPHONE PEDESTAL
- EXISTING SIGN
- INLET GRATE
- GAS METER
- FIRE HYDRANT
- STREET LIGHT
- TRANSFORMER
- A/C CONDENSER UNITS
- 5 BICYCLE RACKS, 1 RACK = 2 SPACES

SYMBOL	02 LANDSCAPE MATERIAL DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE SEED 1
	LANDSCAPE PERIMETER TREATMENT AREA REQUIRED
	CANOPY TREE -
	EVERGREEN TREE -
	ORNAMENTAL TREE -
	LARGE SHRUB
	EXISTING TREES TO REMAIN



GREELEY WEST MIXED-USE

PRELIMINARY PLAT

FORT COLLINS, CO

PREPARED BY:

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

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p. 970.852.6858

NORTH
0 25 50 100
SCALE: 1"=50'-0"
ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
2	PRELIM PLAT RD 2	08.25.2023

REVISIONS

No.	DESCRIPTION	DATE

OVERALL LANDSCAPE PLAN

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

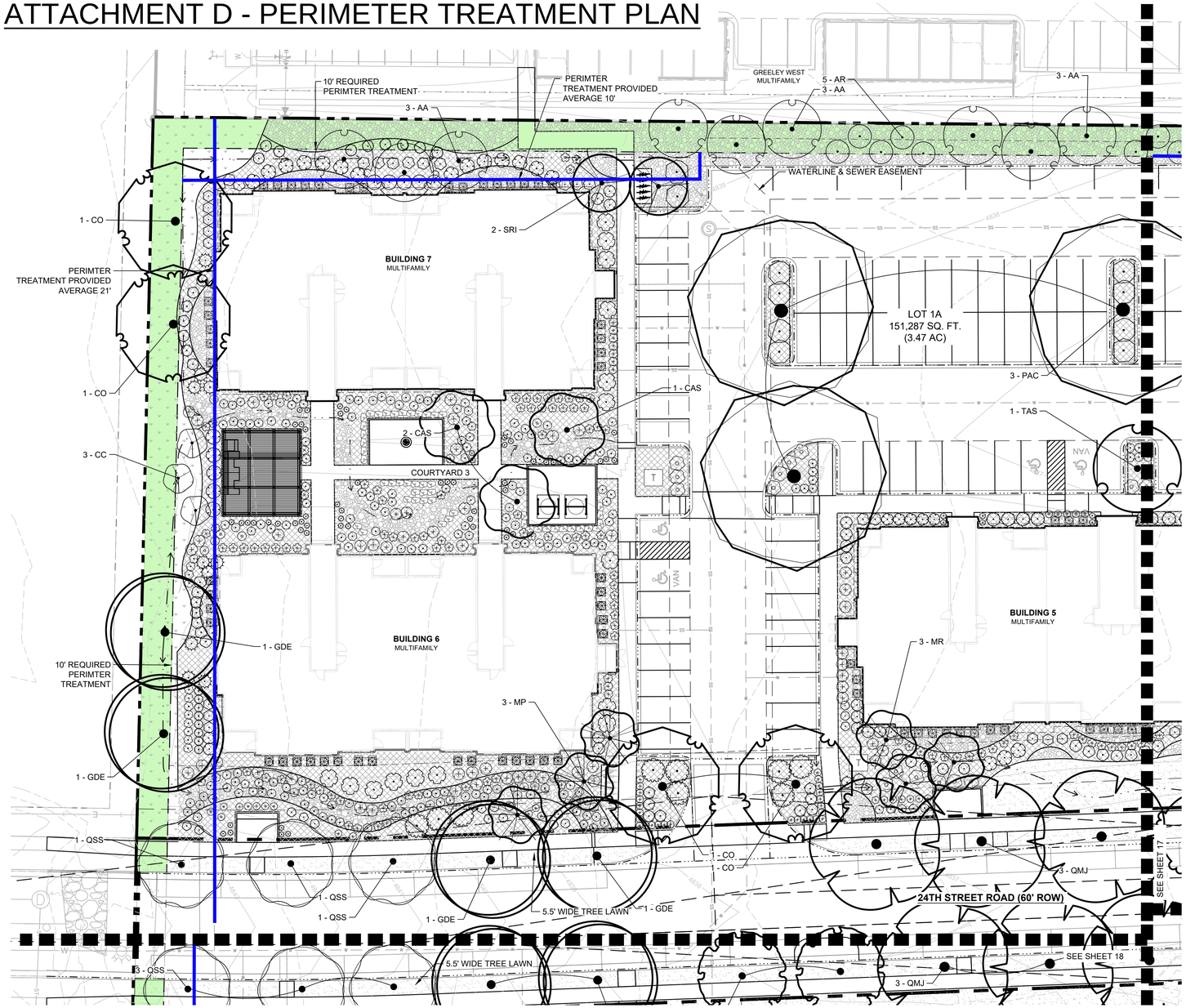
PROJECT No.:	R22-025
DRAWN BY:	LO, HJ
REVIEWED BY:	KR

DRAWING NUMBER:

L1.01

Plotted By: Kendra Berg **Layout:** OVERALL LANDSCAPE PLAN **Printed On:** 8/25/2023 12:11 PM **File Name:** Landscape Plan.dwg

ATTACHMENT D - PERIMETER TREATMENT PLAN



GREELEY WEST MIXED-USE SITE PLAN REVIEW
TRACT A, OTG AT CENTERPLACE REPLAT
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
9.99 ACRES
PROJECT NUMBER: SUB2023-0012

LEGEND

- PROJECT BOUNDARY
- RIGHT OF WAY
- FIBER OPTIC UTILITY
- GAS UTILITY
- STORM DRAIN UTILITY
- SANITARY SEWER UTILITY
- TELEPHONE UTILITY
- UNDERGROUND ELECTRIC UTILITY
- MATCHLINES
- PERIMETER TREATMENT PROVIDED
- STEEL EDGER
- ELECTRIC BOX
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- GAS METER
- FIRE HYDRANT
- STREET LIGHT
- TRANSFORMER
- A/C CONDENSER UNITS
- 5 BICYCLE RACKS, 1 RACK = 2 SPACES

SYMBOL	02 LANDSCAPE MATERIAL DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE SEED 1
	LANDSCAPE PERIMETER TREATMENT AREA REQUIRED
	CANOPY TREE -
	EVERGREEN TREE -
	ORNAMENTAL TREE -
	LARGE SHRUB
	EXISTING TREES TO REMAIN

PERIMETER PLANTING SCHEDULE

CANOPY TREES	COMMON NAME
CAS	HEARTLAND WESTERN CATALPA
CO	COMMON HACKBERRY
CCO	TURKISH FILBERT
GAS	SHADEMASTER HONEY LOCUST
GDE	ESPRESSO KENTUCKY COFFEE TREE
PAC	BLOODGOOD LONDON PLANETREE
QMJ	URBAN PINNACLE BUR OAK
QSS	SHUMARD RED OAK

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MP	PRAIRIE ROSE CRABAPPLE
SRI	IVORY SILK JAPANESE TREE LILAC

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GREELEY WEST MIXED-USE

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ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
2	PRELIM PLAT RD 2	08.25.2023

REVISIONS

No.	DESCRIPTION	DATE

LANDSCAPE PLAN ENLARGEMENT

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R22-025
DRAWN BY:	LO, HJ
REVIEWED BY:	KR

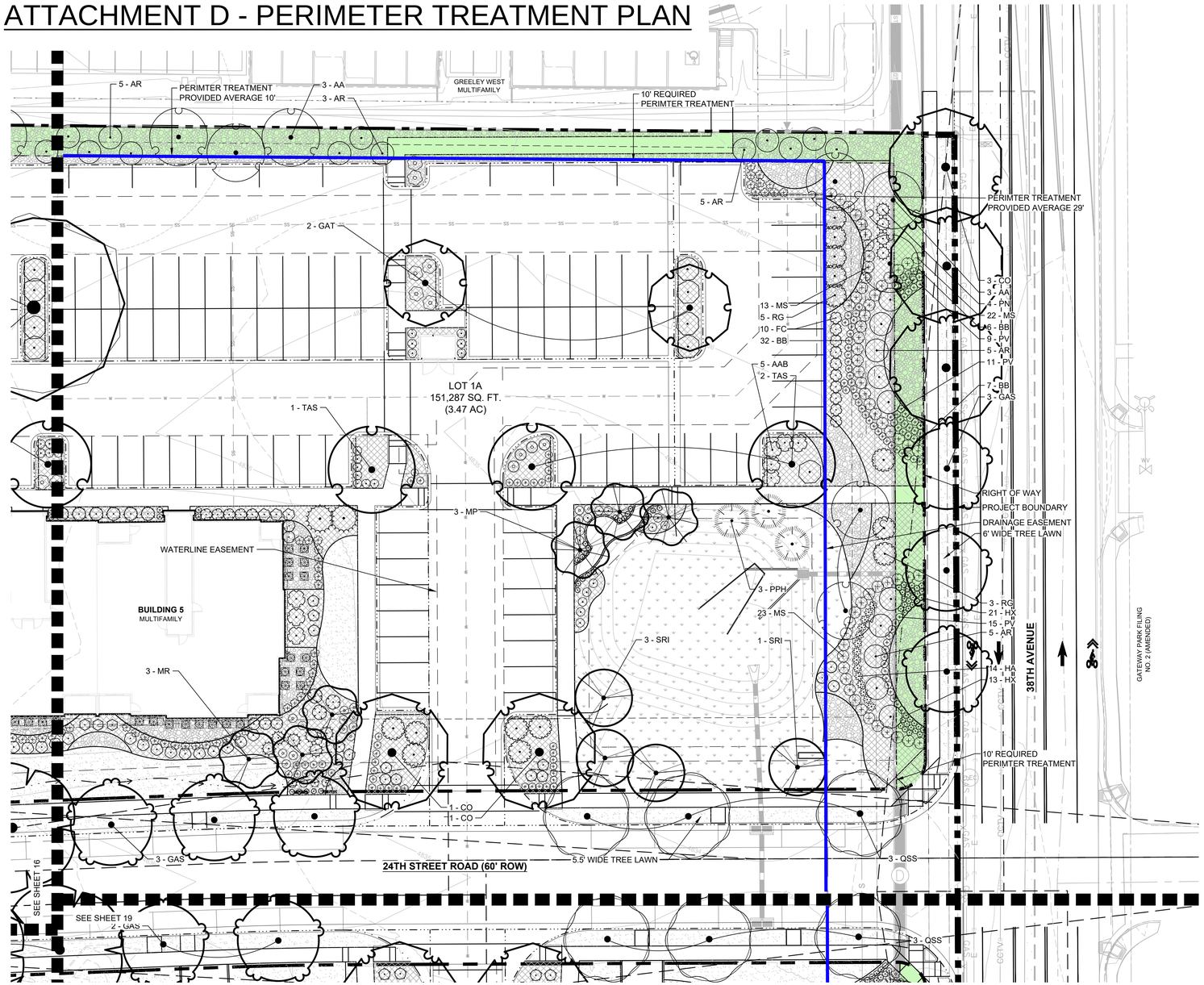
DRAWING NUMBER:

L2.01

Plotted By: Kendra Berg **Layout:** LANDSCAPE PLAN ENLARGEMENT **Printed On:** 8/25/2023 12:12 PM **File Name:** Landscape Plan.dwg

ATTACHMENT D - PERIMETER TREATMENT PLAN

GREELEY WEST MIXED-USE SITE PLAN REVIEW
TRACT A, OTG AT CENTERPLACE REPLAT
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
9.99 ACRES
PROJECT NUMBER: SUB2023-0012



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GREELEY WEST
MIXED-USE

PRELIMINARY PLAT

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ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
2	PRELIM PLAT RD 2	08.25.2023

REVISIONS

No.	DESCRIPTION	DATE

LANDSCAPE PLAN ENLARGEMENT

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R22-025
DRAWN BY:	LO, HJ
REVIEWED BY:	KR

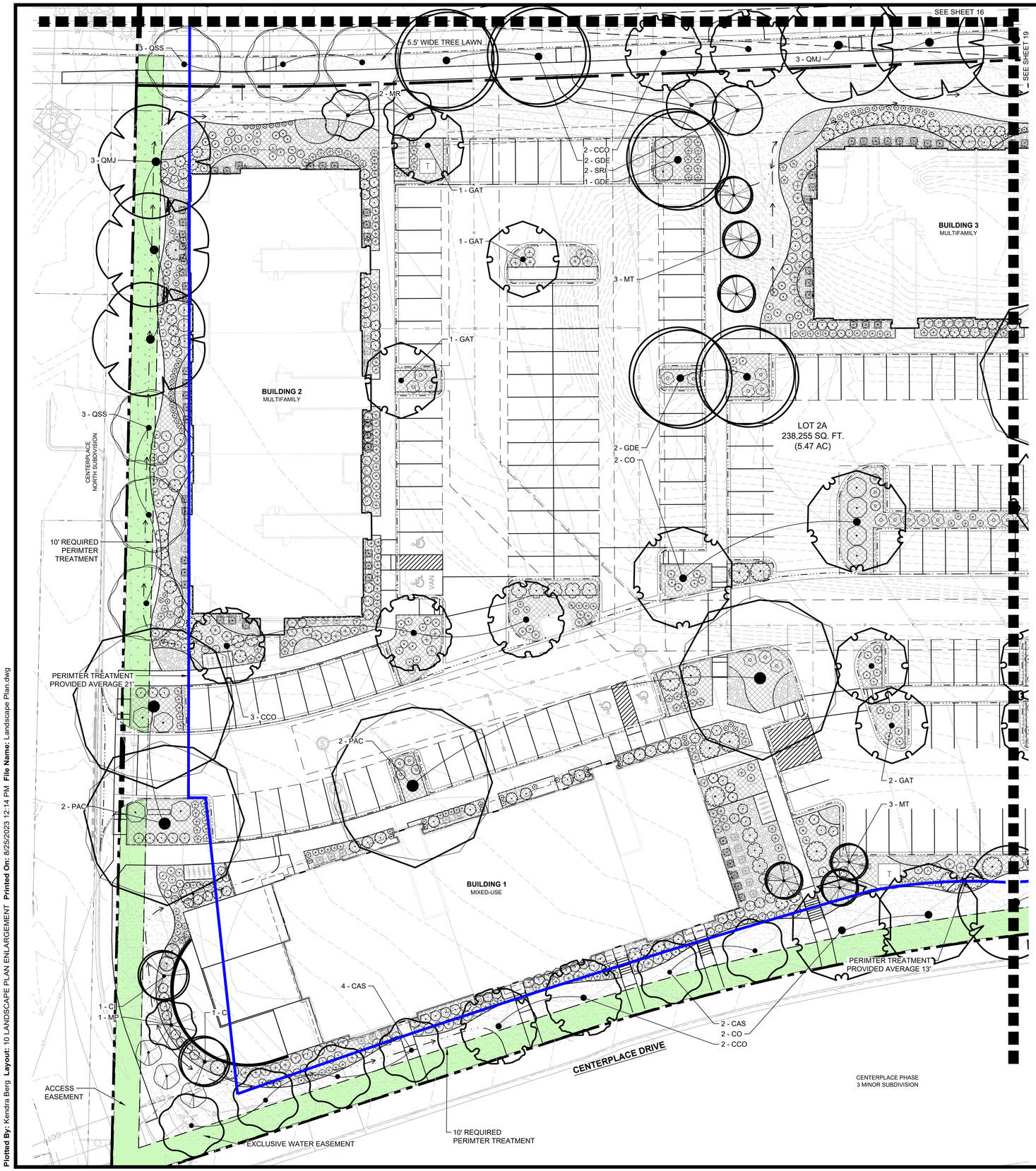
DRAWING NUMBER:

L2.02

Plotted By: Kendra Berg **Layout:** 9 LANDSCAPE PLAN ENLARGEMENT **Printed On:** 8/25/2023 12:13 PM **File Name:** Landscape Plan.dwg

ATTACHMENT D - PERIMETER TREATMENT PLAN

CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
9.99 ACRES
PROJECT NUMBER: SUB2023-0012



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MIXED-USE

PRELIMINARY PLAT

FORT COLLINS, CO

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SCALE: 1"=20'-0"
ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
2	PRELIM PLAT RD 2	08.25.2023

REVISIONS

No.	DESCRIPTION	DATE

LANDSCAPE PLAN ENLARGEMENT

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R22-025
DRAWN BY:	LO, HJ
REVIEWED BY:	KR

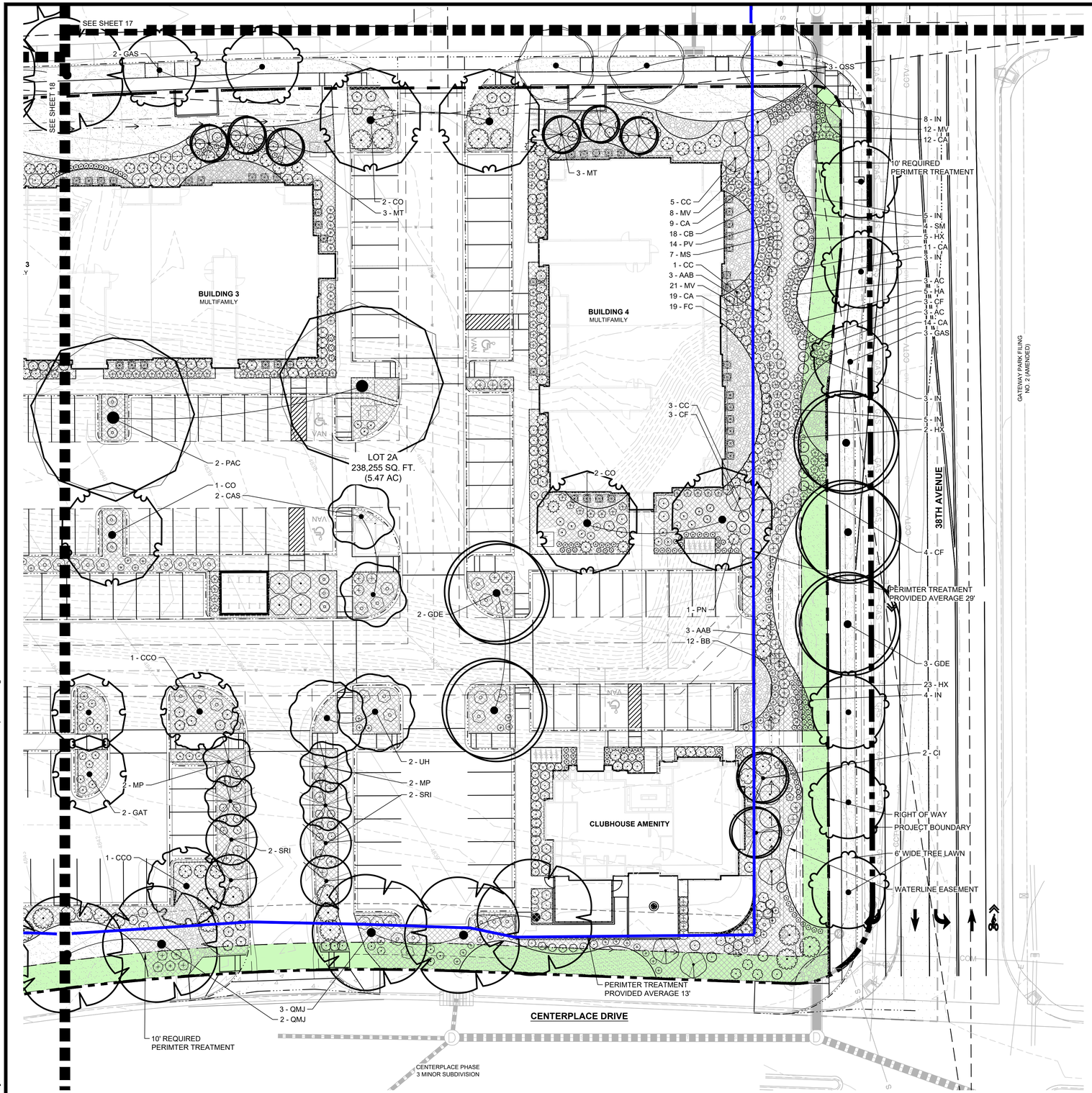
DRAWING NUMBER:

L2.03

Plotted By: Kendra Berg **Layout:** 10 LANDSCAPE PLAN ENLARGEMENT **Printed On:** 8/25/2023 12:14 PM **File Name:** Landscape Plan.dwg

ATTACHMENT D - PERIMETER TREATMENT PLAN

CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
9.99 ACRES
PROJECT NUMBER: SUB2023-0012



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REVISIONS

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LANDSCAPE PLAN ENLARGEMENT

SEAL:

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PROJECT No.:	R22-025
DRAWN BY:	LO, HJ
REVIEWED BY:	KR

DRAWING NUMBER:

L2.04

Plotted By: Kendra Berg **Layout:** 11 LANDSCAPE PLAN ENLARGEMENT **Printed On:** 8/25/2023 12:15 PM **File Name:** Landscape Plan.dwg

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PERIMETER LANDSCAPE TYPE

BOUNDARY	ADJACENT ZONE	ADJACENT USE	PERIMETER TYPE	PERIMETER WIDTH
NORTH	RH	RESIDENTIAL HIGH INTENSITY	TYPE 2	10'-0"
EAST		PUD	TYPE 2	10'-0"
SOUTH	COLLECTOR ROAD	COLLECTOR ROAD	TYPE 2	10'-0"
WEST	R-M/C-H	RESIDENTIAL MEDIUM DENSITY / COMMERCIAL HIGH INTENSITY	TYPE 2	10'-0"

PLANT REQUIREMENTS: PARKING

		PER 5 PARKING SPACES		PLANTINGS REQUIRED	PLANTINGS PROVIDED	DIFFERENCE
PARKING SPACES	424	1	SHADE TREE*	85	48	-15
			ORNAMENTAL TREES		40	
			EVERGREEN TREES		3	
		PER 25' OF PARKING LOT EDGE**		PLANTINGS REQUIRED	PLANTINGS PROVIDED	DIFFERENCE
LINEAR FEET OF PARKING LOT EDGE	1035	4	SHRUBS****	166	166	0
			ORNAMENTAL GRASSES & PERENNIALS***		0	

* ORNAMENTAL AND EVERGREEN TREES MAY BE SUBSTITUTED FOR SHADE TREES AT A RATE OF 2 FOR 1 FOR UP TO 50% OF THE REQUIREMENT.
** PARKING LOT EDGE CALCULATION BASED ON LINEAR FEET OF BACK-OF-CURB ADJACENT TO PARKING BAYS.
*** 3 ORNAMENTAL GRASSES OR LARGE PERENNIALS MAY BE SUBSTITUTED FOR EACH SHRUB UP TO 50% OF THE REQUIREMENT.
**** PLANTING BED DETAIL SHALL BE PROVIDED ON 2ND ROUND OF REVIEW.

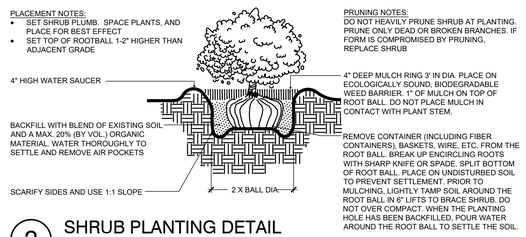
TYPE II PERIMETER LANDSCAPE REQUIREMENTS

BOUNDARY	REQUIRED WIDTH (LF)	PROVIDED WIDTH (LF)	PROVIDED LENGTH (LF)	REQUIREMENT (PER 100 L.F.)		PLANTINGS REQUIRED	PLANTINGS PROVIDED	DIFFERENCE	SHRUBS PROVIDED
NORTH	10	10	650	2	SHADE TREES	13	0	-13	41
				NA	ORNAMENTAL TREES		0		
				NA	EVERGREEN TREES		0		
EAST	10	29	629	2	SHADE TREES	13	0	-13	141
				NA	ORNAMENTAL TREES		0		
				NA	EVERGREEN TREE		0		
SOUTH	10	13	677	2	SHADE TREES	14	14	0	
				NA	ORNAMENTAL TREES		3		
				NA	EVERGREEN TREES		0		
WEST	10	21	741	2	SHADE TREES	15	14	-1	
				NA	ORNAMENTAL TREES		3		
				NA	EVERGREEN TREE		0		

*ORNAMENTAL TREES MAY BE SUBSTITUTED FOR SHADE TREES AT A RATE OF 1 TO 1 IF BUILDINGS ARE SETBACK LESS THAN 25'.

PLANTING NOTES

1. ALL PLANT MATERIAL SHALL MEET SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) FOR NUMBER ONE GRADE. ALL TREES SHALL BE BALLED AND BURLAPPED OR EQUIVALENT.
2. LANDSCAPING SHALL BE INSTALLED OR SECURED WITH A LETTER OF CREDIT, ESCROW, OR PERFORMANCE BOND FOR 125% OF THE VALUE OF THE LANDSCAPING PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
3. LANDSCAPING WITHIN PUBLIC RIGHT-OF-WAYS AND COMMON OPEN SPACE AREAS SHALL BE INSTALLED BY THE DEVELOPER AND MAINTAINED BY A HOME OWNER'S ASSOCIATION.
4. DEVELOPER SHALL ENSURE THAT THE LANDSCAPE PLAN IS COORDINATED WITH THE PLANS DONE BY OTHER CONSULTANTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, OR OTHER CONSTRUCTION DOES NOT CONFLICT NOR PRECLUDE INSTALLATION AND MAINTENANCE OF LANDSCAPE ELEMENTS ON THIS PLAN.
5. ALL LANDSCAPE AREAS WITHIN THE SITE SHALL BE IRRIGATED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. AN IRRIGATION PLAN WILL BE REQUIRED PRIOR TO ISSUANCE OF A BUILDING PERMIT.
6. ALL TURF EXCEPT NATIVE SEED AREAS TO BE IRRIGATED WITH AN AUTOMATIC POP-UP IRRIGATION SYSTEM. ALL SHRUB BEDS AND TREES IN NATIVE SEED AREAS ARE TO BE IRRIGATED WITH AN AUTOMATIC DRIP (TRICKLE) IRRIGATION SYSTEM. THE IRRIGATION SYSTEM IS TO BE ADJUSTED TO MEET THE WATER REQUIREMENTS OF THE INDIVIDUAL PLANT MATERIAL. ONLY DRIP IRRIGATION OR STRIP PATTERN ROTARY NOZZLES SHALL BE USED TO IRRIGATE STRIPS ELEVEN (11) FEET WIDE OR LESS. SPRAY AND ROTOR IRRIGATION IS STRICTLY PROHIBITED IN THESE AREAS. PARKING LOT MEDIANS AND ISLANDS THAT ARE SURROUNDED BY PAVEMENT SHALL BE LOCATED ON SEPARATE ZONES FROM OTHER LANDSCAPE AREAS.
7. AVOID CUTTING SURFACE ROOTS OF EXISTING TREES WHEREVER POSSIBLE. SIDEWALKS AND PAVING LEVELS SHOULD BE CONTOURED SUFFICIENTLY TO AVOID SUCH CUTTINGS.
8. ROOT CUTS FROM EXCAVATION SHOULD BE DONE RAPIDLY. SMOOTH FLUSH CUTS SHOULD BE MADE. BACKFILL BEFORE THE ROOTS HAVE A CHANCE TO DRY OUT AND WATER THE TREE IMMEDIATELY.
9. EXISTING TREES MARKED FOR PROTECTION AND PRESERVATION SHALL NOT BE REMOVED.
10. HEAVY EQUIPMENT SHOULD NOT BE ALLOWED TO COMPACT OVER THE SOIL OVER THE ROOT ZONE OF EXISTING TREES.
11. PRIOR TO CONSTRUCTION, ALL PROTECTED TREES SHALL HAVE ORANGE PROTECTION BARRIER FENCING ERECTED, WHICH AS A MINIMUM ARE SUPPORTED BY 1" X 1" OR SIMILAR STURDY STOCK , FOR SHIELDING OF PROTECTED TREES, NO CLOSER THAN SIX (6) FEET FROM THE TRUNK OR ONE AND ONE HALF (1-1/2) OF THE DRIP LINE, WHICH EVER IS GREATER. WITHIN THIS PROTECTION ZONE THERE SHALL BE NO MOVEMENT OF EQUIPMENT OR STORAGE OF EQUIPMENT MATERIALS, DEBRIS, FILL OR CUT UNLESS APPROVED BY THE CITY FORESTER.
12. ALL SHRUB BEDS TO BE MULCHED WITH ROCK MULCH, NO MORE THAN 25% WILL BE EXPOSED AT MATURITY. RE: 2.03 SOIL AMENDMENTS / FERTILIZERS / MULCHES ON SHEET L3.0. ROCK MULCH SHALL BE SMALLER THAN ONE AND ONE HALF INCH (1.5) IN DIAMETER AND HAVE A MINIMUM DEPTH OF THREE (3) INCHES.
13. EDGING BETWEEN GRASS AND SHRUB BEDS SHALL SPADE CUT.
14. IRRIGATED TURF TO BE SODDED OR SEEDED WITH KENTUCKY BLUEGRASS.
15. TOPSOIL TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
16. SOIL AMENDMENTS. PRIOR TO INSTALLATION OF PLANT MATERIALS, AREAS THAT HAVE BEEN COMPACTED OR DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE THOROUGHLY LOOSENED. ORGANIC AMENDMENTS SUCH AS COMPOST, PEAT, OR AGED MANURE SHALL BE THOROUGHLY INCORPORATED AT A RATE OF AT LEAST THREE (3) CUBIC YARDS OF AMENDMENT PER 1,000 SQUARE FEET OF LANDSCAPE AREA.
   - 16.1. A MINIMUM OF FOUR (4) CUBIC YARDS OF COMPOST PER 1,000 SQUARE FEET OF AREA SHALL BE USED FOR NON-NATIVE COOL SEASON TURF. VERIFICATION DOCUMENTATION AND RECEIPTS MUST BE SUBMITTED TO GREELEY WATER AND SEWER DEPARTMENT, WATER CONSERVATION PROGRAM PRIOR TO PLANT INSTALLATION AND MUST REFLECT APPROVED VOLUME, METHOD OF TILLING, AND TYPE OF SOIL AMENDMENT.
   - 16.2. A LAWN WATERING VARIANCE IS REQUIRED. PROOF OF COMPOST AND SEED OR SOD INSTALLED MUST BE SUBMITTED. APPLICATION INFORMATION AND SUBMISSION IS MANAGED BY GREELEY WATER CONSERVATION https://greeleygov.com/services/ws/conservation/new-lawn-variancewateringrestrictions"
17. TOTAL IRRIGATED LANDSCAPED AREA: 229,280 S.F.
18. TREE AND SHRUB PLANTING PITS SHALL BE BACKFILLED WITH THE FOLLOWING MIX:
   - 18.1. 80% ON-SITE TOPSOIL BY VOLUME.
   - 18.2. 20% PEAT MOSS BY VOLUME.
   - 18.3. FIVE (5) POUNDS BONE MEAL PER CUBIC YARD OF BACKFILL.
19. IF ANY TRANSFORMERS, GROUND MOUNTED HVAC UNITS, UTILITY PEDESTALS, AND SIMILAR FEATURES ARE NOT SHOWN ON THE SITE PLAN, ADDITIONAL LANDSCAPING AND SCREENING MAY BE REQUIRED BASED ON FIELD CONDITIONS DURING THE SITE INSPECTION PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY, OR FINAL INSPECTION, AS APPLICABLE.

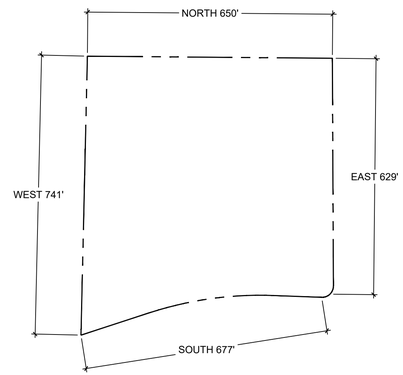


2 SHRUB PLANTING DETAIL
SCALE: NTS
OP-CE-03

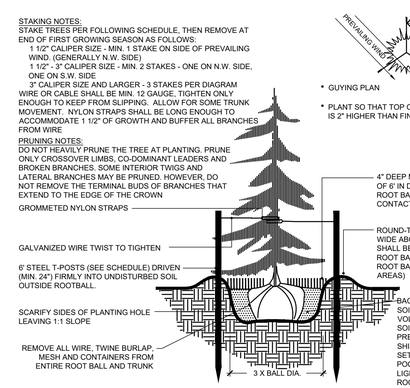
NATIVE SEED MIXES

NATIVE SEED MIX	
SPECIES	SEEDED RATE LBS./ACRE (DRILLED)
WILDFLOWERS	
PLAINS COREOSIS / COREPSIS TINCTORIA	0.17
PURPLE PRAIRIE CLOVER / DALEA PURPUREA	0.81
INDIAN BLANKET FLOWER / GAILARDIA ARISTATA	1.85
ROCKY MTN. PENSTEMON / PENSTEMON STRICTUS	0.35
MEXICAN HAT / RATIBIDA COLUMNIFERA	0.20
GRASSES	
INDIAN RICEGRASS / ACHNATHERUM HYMENOIDES	1.13
SIDEOATS GRAMA / BOUTELOUA CURTIPENDULA	1.15
BUFFALOGRASS / BOUTELOUA DACTYLOIDES	3.27
BLUE GRAMA / BOUTELOUA GRACILIS	0.25
BOTTLEBRUSH SQUIRRELTAIL / ELYMUS ELYMOIDES	0.95
PRAIRIE JUNEGRASS / KOELERIA MACRANTHA	0.08
GREEN NEEDLEGRASS / NASSELLA VIRDULA	1.01
SWITCHGRASS / PANICUM VIRGATUM	0.71
WESTERN WHEAT / PASCOPYRUM SMITHII	1.61
SAND DROPSEED / SPOROBOLUS CRYPTANDRUS	0.04
TOTAL FOR UPLAND MIX (LBS/PLS/ACRE)	13.58
ACCEPTABLE SUBSTITUTIONS FOR WILDFLOWERS	
FRINGED SAGE / ARTEMISIA FRIGIDA	0.03
BLUE FLAX / LINUM LEWISII	0.41
PRAIRIE ASTER / MACHAERANTHERA TANACETIFOLIA	0.25
ACCEPTABLE SUBSTITUTIONS FOR GRASSES	
CANADA WILDRYE / ELYMUS CANADENSIS	1.59
INLAND SALTGRASS / DISTICHLIS STRICTA	0.35
MOUNTAIN MUHLY / MUHLENBERGIA MONTANA	0.11

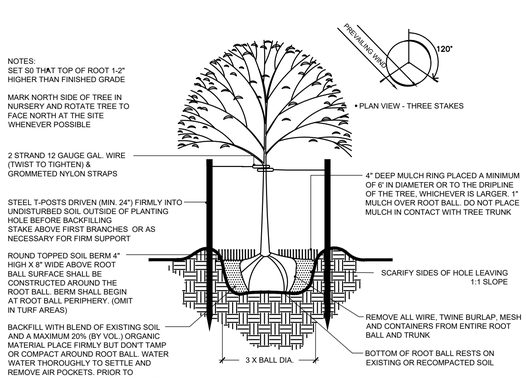
REQUIREMENTS:
CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PURCHASING ALL SPECIES LISTED IN MIX. IF A SPECIES CANT BE LOCATED, CONTRACTOR MUST REPLACE EACH MISSING SPECIES WITH THE ACCEPTABLE SUBSTITUTIONS (LISTED ABOVE). CONTRACTOR IS RESPONSIBLE FOR PROVIDING SEED TAGS TO APPROPRIATE CITY STAFF. THE MIX IS BASED ON 70 SEEDS/SQUARE FOOT AND IS ONLY CALCULATED FOR ONE ACRE. THIS MIX IS BASED ON THE CONTRACTOR USING A DRILL SEED APPLICATION. MIX SHOULD BE DOUBLED IF HAD BROADCASTED. CONTRACTOR IS RESPONSIBLE FOR CALCULATING THE APPROPRIATE SEED AMOUNTS TO PURCHASE. PLEASE NOTE THAT THE POUNDS PER ACRE ARE IN PLS (PURE LIVE SEED) AND MUST BE ORDERED THAT WAY. ALL MATERIALS FURNISHED SHALL BE FREE OF COLORADO STATE NOXIOUS WEEDS AS DEFINED IN ARTICLE III, SECTION 21-40 OF THE CODE OF THE CITY OF FORT COLLINS.



LANDSCAPE TYPE	SQUARE FOOT (SF)	ANNUAL GALS/SF	GALS/SEASON
HIGH WATER USE (HIGH WEAR TURF)	51,352	14	718,928
MODERATE WATER USE (SHRUB BEDS)	40,562	10	405,620
LOW WATER USE (NATIVE SEED & DETENTION)	11,437	5	57,185
VERY LOW WATER USE (DROUGHT TOLERANT NATIVES)		0.9	
		TOTAL ANNUAL GALLONS	1,181,733
		TOTAL SF	103,351
	AVERAGE GALLON/SF PER SEASON		11.43



1 CONIFER TREE PLANTING DETAIL - STEEL POSTS
SCALE: NTS
OP-CE-01



3 TREE PLANTING DETAIL - STEEL POSTS
SCALE: NTS
OP-CE-02

GREELEY WEST
MIXED-USE

PRELIMINARY PLAT

FORT COLLINS, CO

PREPARED BY:

ripley design
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ENGINEER
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p. 970.852.6858

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
2	PRELIM PLAT RD 2	08.25.2023

REVISIONS

No.	DESCRIPTION	DATE

LANDSCAPE NOTES

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R22-025
DRAWN BY:	LO, HJ
REVIEWED BY:	KR

DRAWING NUMBER:

L3.01

Plotted By: Kendra Berg **Layout:** LANDSCAPE NOTES **Printed On:** 8/25/2023 12:11 PM **File Name:** Landscape Plan.dwg

ATTACHMENT D - PERIMETER TREATMENT PLAN

GREELEY WEST MIXED-USE SITE PLAN REVIEW
TRACT A, OTG AT CENTERPLACE REPLAT
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO
9.99 ACRES
PROJECT NUMBER: SUB2023-0012

PLANT SCHEDULE

CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	HYDROZONE	MATURE HEIGHT	MATURE WIDTH
	CAS	11	CATALPA SPECIOSA 'HIAWATHA 2' / HEARTLAND WESTERN CATALPA	B & B	2"CAL	MODERATE	40 - 65FT. HT.	25 - 40FT. W.
	CO	18	CELTIS OCCIDENTALIS / COMMON HACKBERRY	B & B	2"CAL	LOW	40 - 65FT. HT.	40 - 65FT. W.
	CCO	9	CORYLUS COLURNA / TURKISH FILBERT	B & B	2"CAL	LOW	30-45FT. HT	25 - 40FT. W.
	GAT	9	GLEDITSIA TRIACANTHOS `SKYLINE` / SKYLINE HONEY LOCUST	B & B	2"CAL	LOW	40-50FT. HT	25 - 40FT. W.
	GAS	14	GLEDITSIA TRIACANTHOS INERMIS `SHADEMASTER` / SHADEMASTER HONEY LOCUST	B & B	2"CAL	LOW	40 - 65FT. HT.	25 - 40FT. W.
	GDE	14	GYMNOCLADUS DIOICUS 'ESPRESSO' / ESPRESSO KENTUCKY COFFEE TREE	B & B	2"CAL	LOW	50-60FT. HT	25 - 40FT. W.
	PAC	9	PLATANUS X ACERIFOLIA `BLOODGOOD` / BLOODGOOD LONDON PLANETREE	B & B	2"CAL	MODERATE	40 - 65FT. HT.	25 - 40FT. W.
	QMJ	14	QUERCUS MACROCARPA 'JFS-KW3' / URBAN PINNACLE BUR OAK	B & B	2"CAL	LOW	45-55FT. HT	20-25FT. W.
	QSS	15	QUERCUS SHUMARDII / SHUMARD RED OAK	B & B	2"CAL	LOW	40-50FT. HT	25 - 40FT. W.
	TAS	4	TILIA AMERICANA `SENTRY` / AMERICAN LINDEN	B & B	2"CAL	MODERATE	40-50FT. HT	30-40FT. W.
	UH	2	ULMUS X `PATRIOT` / PATRIOT ELM	B & B	2"CAL	MODERATE	50-70FT. HT	30-40FT. W.

EVERGREEN TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	HYDROZONE	MATURE HEIGHT	MATURE WIDTH
	PPH	3	PICEA PUNGENS `HOOPSII` / HOOPSI SPRUCE	B & B	6` H	MODERATE	20-25FT. HT	15 - 25FT. W.

ORNAMENTAL TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	HYDROZONE	MATURE HEIGHT	MATURE WIDTH
	CI	4	CRATAEGUS CRUS-GALLI INERMIS / THORNLESS COCKSPUR HAWTHORN	B & B	1.5"	LOW	15 - 25FT. HT.	15 - 25FT. W.
	MP	11	MALUS X 'PRAIRIE ROSE' / PRAIRIE ROSE CRABAPPLE	B & B	1.5"	MODERATE	15 - 25FT. HT.	10 - 15FT. W.
	MR	8	MALUS X 'RADIANT' / RADIANT CRABAPPLE	B & B	1.5"	MODERATE	15 - 25FT. HT.	15 - 25FT. W.
	MT	12	MALUS X 'THUNDERCHILD' / THUNDERCHILD CRABAPPLE	B & B	1.5"	MODERATE	15-20FT. HT	12-15FT. W.
	SRI	12	SYRINGA RETICULATA 'IVORY SILK' / IVORY SILK JAPANESE TREE LILAC	B & B	1.5"	LOW	15 - 25FT. HT.	15 - 25FT. W.

SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HYDROZONE	MATURE HEIGHT	MATURE WIDTH
	AR	35	AMELANCHIER ALNIFOLIA 'REGENT' / REGENT SERVICEBERRY	5 GAL	LOW	3 - 6FT. HT.	3 - 6FT. W.
	AA	17	AMELANCHIER X GRANDIFLORA 'AUTUMN SUNSET' / AUTUMN SUNSET APPLE SERVICEBERRY	5 GAL	LOW	5-25FT. HT	15 - 25FT. W.
	AAB	45	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA' / BRILLIANT RED CHOKEBERRY	5 GAL	MODERATE	6-8FT. HT	4-6FT. W.
	BP	61	BUDDLEJA X 'PURPLE HAZE' / LO & BEHOLD® PURPLE HAZE BUTTERFLY BUSH	5 GAL	MODERATE	18 - 36IN. HT.	3 - 6FT. W.
	CR	24	CORNUS ALBA 'REGNZAM' / RED GNOME™ TATARIAN DOGWOOD	5 GAL	MODERATE	6 - 10FT. HT.	6 - 10FT. W.
	CF	22	CORNUS SERICEA 'FARROW' / ARCTIC FIRE® RED TWIG DOGWOOD	5 GAL	MODERATE	3 - 6FT. HT.	3 - 6FT. W.
	CC	19	COTINUS COGGYGRIA 'ROYAL PURPLE' / ROYAL PURPLE SMOKE TREE	10 GAL	MODERATE	10 - 15FT. HT.	10 - 15FT. W.
	DB	18	DAPHNE X BURKWOODII 'CAROL MACKIE' / CAROL MACKIE DAPHNE	5 GAL	MODERATE	3 - 6FT. HT.	3 - 6FT. W.
	LR	26	DIERVILLA X 'G2X88544' / KODIAK® ORANGE DIERVILLA	5 GAL	LOW	3 - 6FT. HT.	3 - 6FT. W.
	EFE	29	EUONYMUS FORTUNEI 'EMERALD 'N GOLD' / EMERALD 'N GOLD WINTERCREEPER	5 GAL	MODERATE	18-24IN. HT	3 - 6FT. W.
	FC	48	FORSYTHIA X 'COURTASOL' / GOLD TIDE® FORSYTHIA	5 GAL	MODERATE	18 - 36IN. HT.	3 - 6FT. W.
	HB	64	HYDRANGEA PANICULATA 'ILVOBO' / BOBO® PANICLE HYDRANGEA	5 GAL	MODERATE	18 - 36IN. HT.	3 - 6FT. W.
	PL	67	PHYSOCARPUS OPULIFOLIUS 'LITTLE DEVIL' / LITTLE DEVIL™ DWARF NINEBARK	5 GAL	LOW	3 - 6FT. HT.	3 - 6FT. W.
	RG	50	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC	5 GAL	LOW	18 - 36IN. HT.	3 - 6FT. W.
	RF	55	ROSA X 'NOARE' / FLOWER CARPET® RED GROUNDCOVER ROSE	5 GAL	MODERATE	1-2FT. HT	1 - 3FT. W.
	RK	91	ROSA X 'RADSUNNY' / SUNNY KNOCK OUT® YELLOW ROSE	5 GAL	MODERATE	3 - 6FT. HT.	3 - 6FT. W.
	SL	105	SPIRAEA X BUMALDA 'MONHUB' / LIMEMOUND® SPIREA	5 GAL	MODERATE	18 - 36IN. HT.	3 - 6FT. W.
	SM	8	SYRINGA PATULA 'MISS KIM' / MISS KIM KOREAN LILAC	5 GAL	LOW	3 - 1' HT.	3 - 1' W.
	SB	65	SYRINGA X 'BLOOMERANG' / BLOOMERANG SERIES LILAC	5 GAL	LOW	3 - 6FT. HT.	3 - 6FT. W.
	WE	121	WEIGELA FLORIDA 'ELVERA' / MIDNIGHT WINE® WEIGELA	5 GAL	MODERATE	18-24IN. HT	1 - 3FT. W.

EVERGREEN SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HYDROZONE	MATURE HEIGHT	MATURE WIDTH
	AP	75	ARCTOSTAPHYLOS X COLORADENSIS 'PANCHITO' / PANCHITO MANZANITA	5 GAL	LOW	18 - 36IN. HT.	3 - 6FT. W.
	EE	18	EPHEDRA EQUISETINA / BLUESTEM JOINT FIR	5 GAL	LOW	63-5FT. HT	2-3FT. W.
	JW	30	JUNIPERUS HORIZONTALIS 'WILTONII' / BLUE RUG JUNIPER	5 GAL	LOW	< 6IN. HT.	3 - 6FT. W.
	PN	38	PICEA ABIES 'NIDIFORMIS' / BIRD'S NEST NORWAY SPRUCE	5 GAL	MODERATE	3 - 6FT. HT.	3 - 6FT. W.
	PG	2	PICEA GLAUCA 'NORTH POLE' / NORTH POLE WHITE SPRUCE	5 GAL	MODERATE	10 - 15FT. HT.	3 - 6FT. W.

ORNAMENTAL GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HYDROZONE	MATURE HEIGHT	MATURE WIDTH
	BB	171	BOUTELOUA GRACILIS 'BLONDE AMBITION' / BLONDE AMBITION BLUE GRAMA	1 GAL	VERY LOW	18 - 36IN. HT.	1 - 3FT. W.
	CA	328	CALAMAGROSTIS X ACUTIFLORA / FEATHER REED GRASS	1 GAL	LOW	3 - 6FT. HT.	1 - 3FT. W.
	CL	78	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL	MODERATE	18 - 6' HT.	1 - 3FT. W.
	MS	190	MISCANTHUS SINENSIS 'SILBERFEDER' / SILVER FEATHER EULALIA GRASS	1 GAL	MODERATE	3 - 1' HT.	3 - 6FT. W.
	MV	81	MISCANTHUS SINENSIS 'VARIEGATUS' / VARIEGATED EULALIA GRASS	1 GAL	MODERATE	3 - 1' HT.	3 - 6FT. W.
	PV	133	PANICUM VIRGATUM 'PRAIRIE FIRE' / PRAIRIE FIRE SWITCH GRASS	1 GAL	LOW	3 - 6FT. HT.	1 - 3FT. W.

PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HYDROZONE	MATURE HEIGHT	MATURE WIDTH
	AM	71	ACHILLEA X 'MOONSHINE' / MOONSHINE YARROW	1 GAL	LOW	6 - 18IN. HT.	1 - 3FT. W.
	AC	90	AGASTACHE AURANTIACA 'CORONADO' / CORONADO GIANT HYSSOP	1 GAL	LOW	18 - 36IN. HT.	12-15IN. W.
	AB	4	AJUGA REPTANS 'BURGUNDY GLOW' / BURGUNDY GLOW CARPET BUGLE	1 GAL	MODERATE	< 6IN. HT.	< 1FT. W.
	CIN	52	CALLIRHOE INVOLUCRATA / PURPLE POPPYMALLOW	1 GAL	LOW	6 - 18IN. HT.	1 - 3FT. W.
	CB	45	CARYOPTERIS X CLANDONENSIS 'BLUE MIST' / BLUE MIST BLUEBEARD	5 GAL	LOW	18 - 36IN. HT.	1 - 3FT. W.
	HA	22	HEMEROCALLIS X 'AUTUMN RED' / AUTUMN RED DAYLILY	1 GAL	LOW	3 - 6FT. HT.	3 - 6FT. W.
	HX	124	HEUCHERA X 'SNOW ANGEL' / SNOW ANGEL CORAL BELLS	1 GAL	MODERATE	12-18IN. HT	10-15IN. W.
	HP	3	HOSTA X 'PATRIOT' / PATRIOT HOSTA	1 GAL	MODERATE	18 - 36IN. HT.	1 - 6' W.
	IN	50	IRIS X GERMANICA 'SUMMER OLYMPICS' / SUMMER OLYMPICS GERMAN IRIS	1 GAL	LOW	18 - 36IN. HT.	1 - 3FT. W.
	NW	103	NEPETA X 'WALKER'S LOW' / WALKER'S LOW CATMINT	1 GAL	LOW	18-24IN. HT	2-3IN. W.
	RS	37	RUDBECKIA FULGIDA SULLIVANTII 'GOLDSTURM' / GOLDSTURM CONEFLOWER	1 GAL	LOW	18 - 36IN. HT.	1 - 3FT. W.
	RM	29	RUDBECKIA PURPUREA / PURPLE CONEFLOWER	1 GAL	LOW	18 - 36IN. HT.	1 - 3 FT. W.
	SA	103	SEDUM X 'ANGELINA' / ANGELINA SEDUM	1 GAL	LOW	< 6IN. HT.	1 - 3FT. W.

GREELEY WEST
MIXED-USE

PRELIMINARY PLAT

FORT COLLINS, CO

PREPARED BY:

ripley design
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Fort Collins, CO 80521
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ARCHITECT
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p. 303.592.2904

ENGINEER
KIMLEY-HORN
Andy Reese
3801 Automation Way, Suite 210
Fort Collins, CO 80525
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ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
2	PRELIM PLAT RD 2	08.25.2023

REVISIONS

No.	DESCRIPTION	DATE

LANDSCAPE SCHEDULE

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

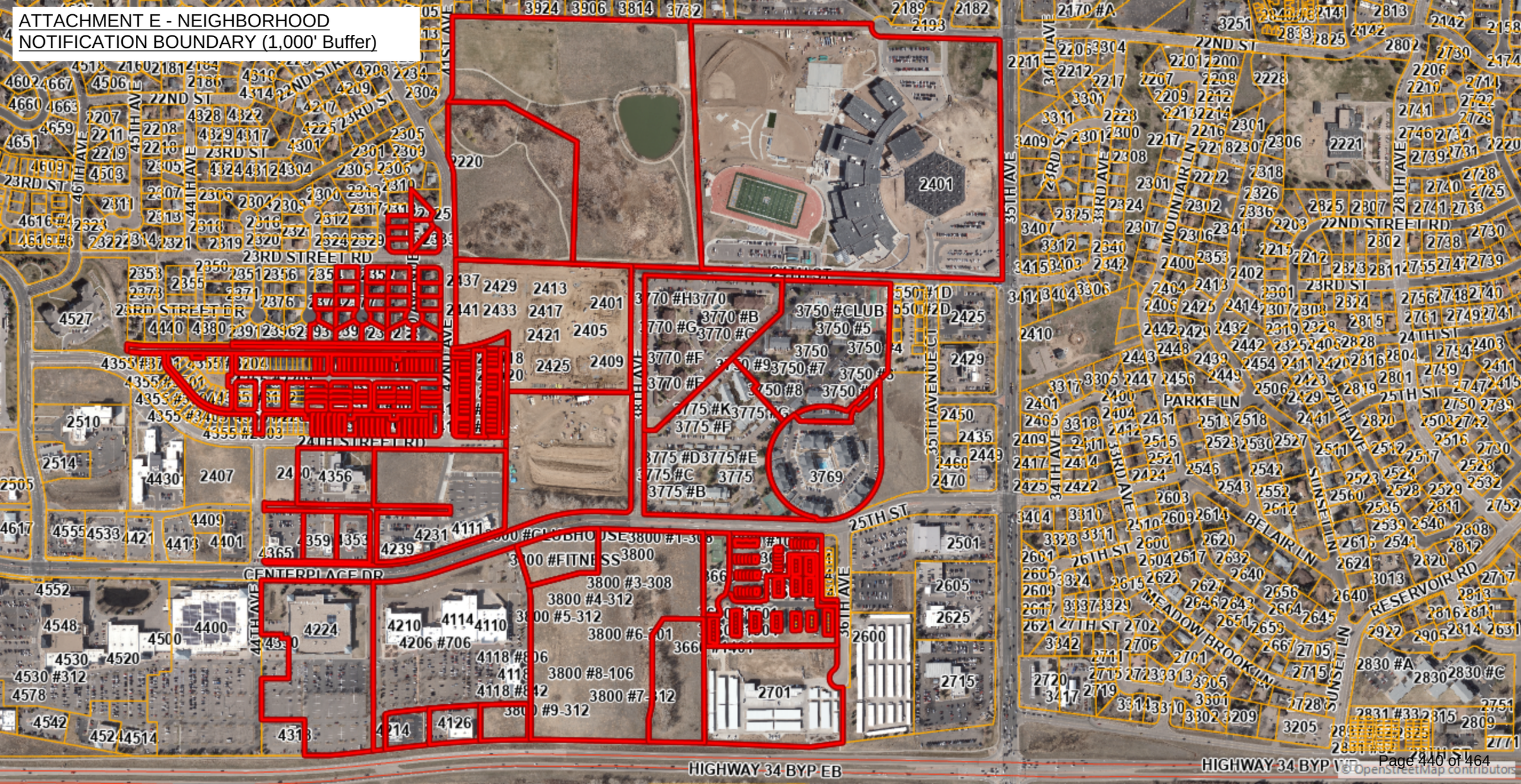
PROJECT No.:	R22-025
DRAWN BY:	LO, HJ
REVIEWED BY:	KR

DRAWING NUMBER:

L3.02

Plotted By: Kendra Berg **Layout:** LANDSCAPE SCHEDULE **Printed On:** 8/25/2023 12:20 PM **File Name:** Landscape Plan.dwg

ATTACHMENT E - NEIGHBORHOOD NOTIFICATION BOUNDARY (1,000' Buffer)



Greeley West Mixed Use Subdivision SUB2023-0012

Planning Commission
October 24, 2023
Michael Franke, Planner II

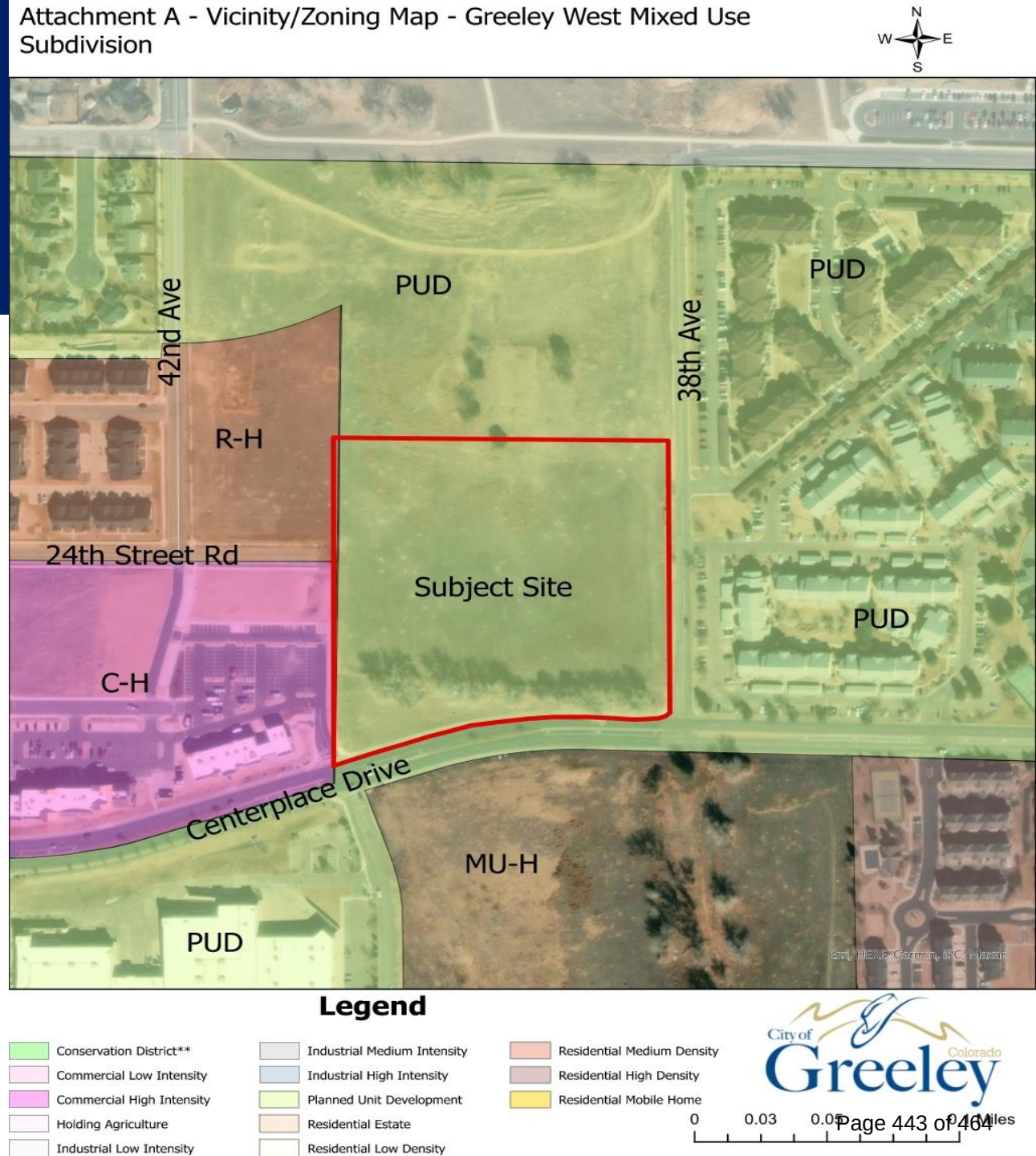
Request & Site Background

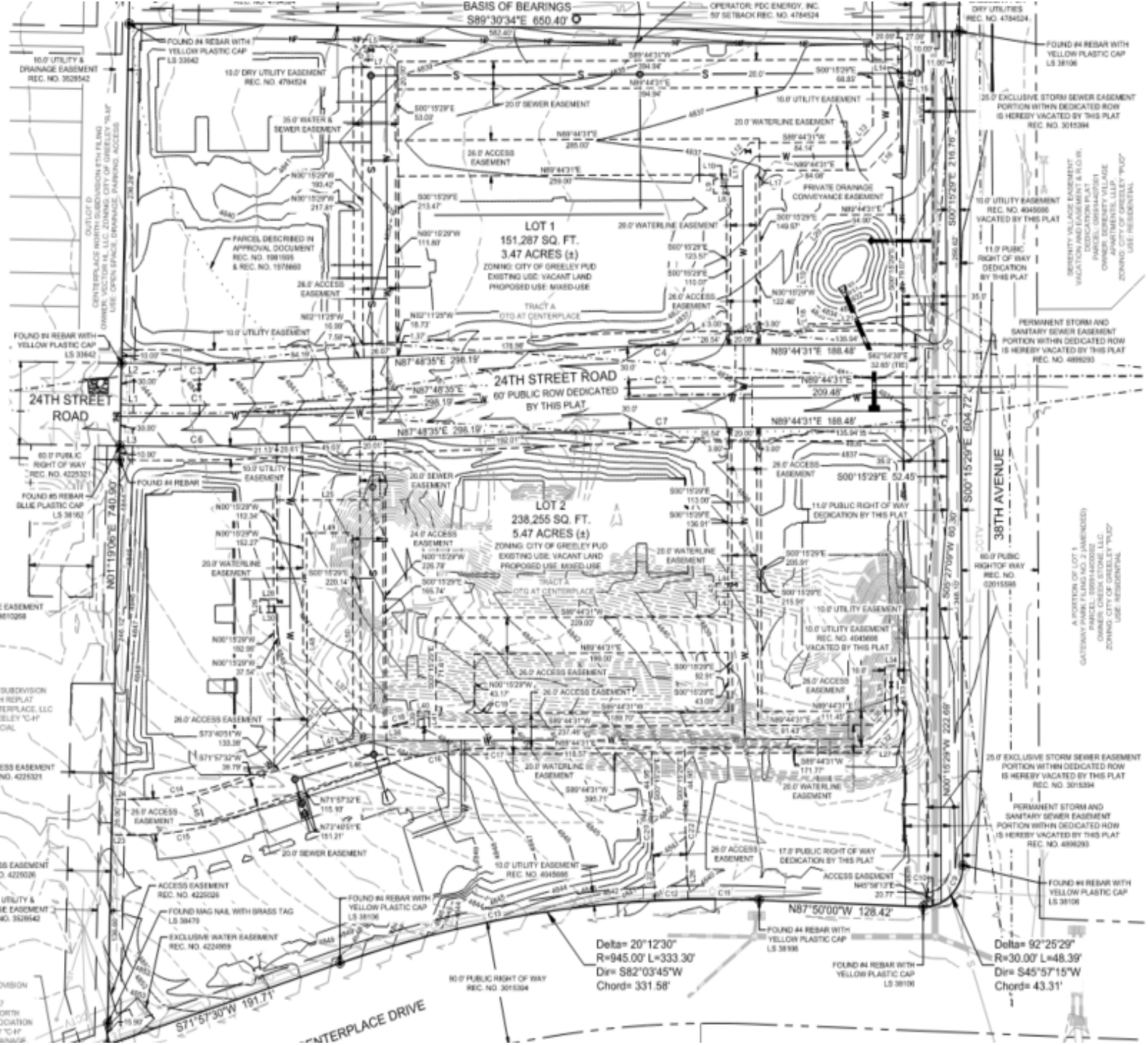
- Request:
  - Subdivide existing Tract A into 2 mixed use lots and dedicating rights-of-way on approximately 9.99 acres located at the northwest corner of Centerplace Drive and 38th Avenue.
- Background:
  - Site annexed in 1981 (Ord. 11, 1981).
  - Tract A of OTG at Centerplace Subdivision.
  - Part of the Centerplace development. Undeveloped Land.

Location

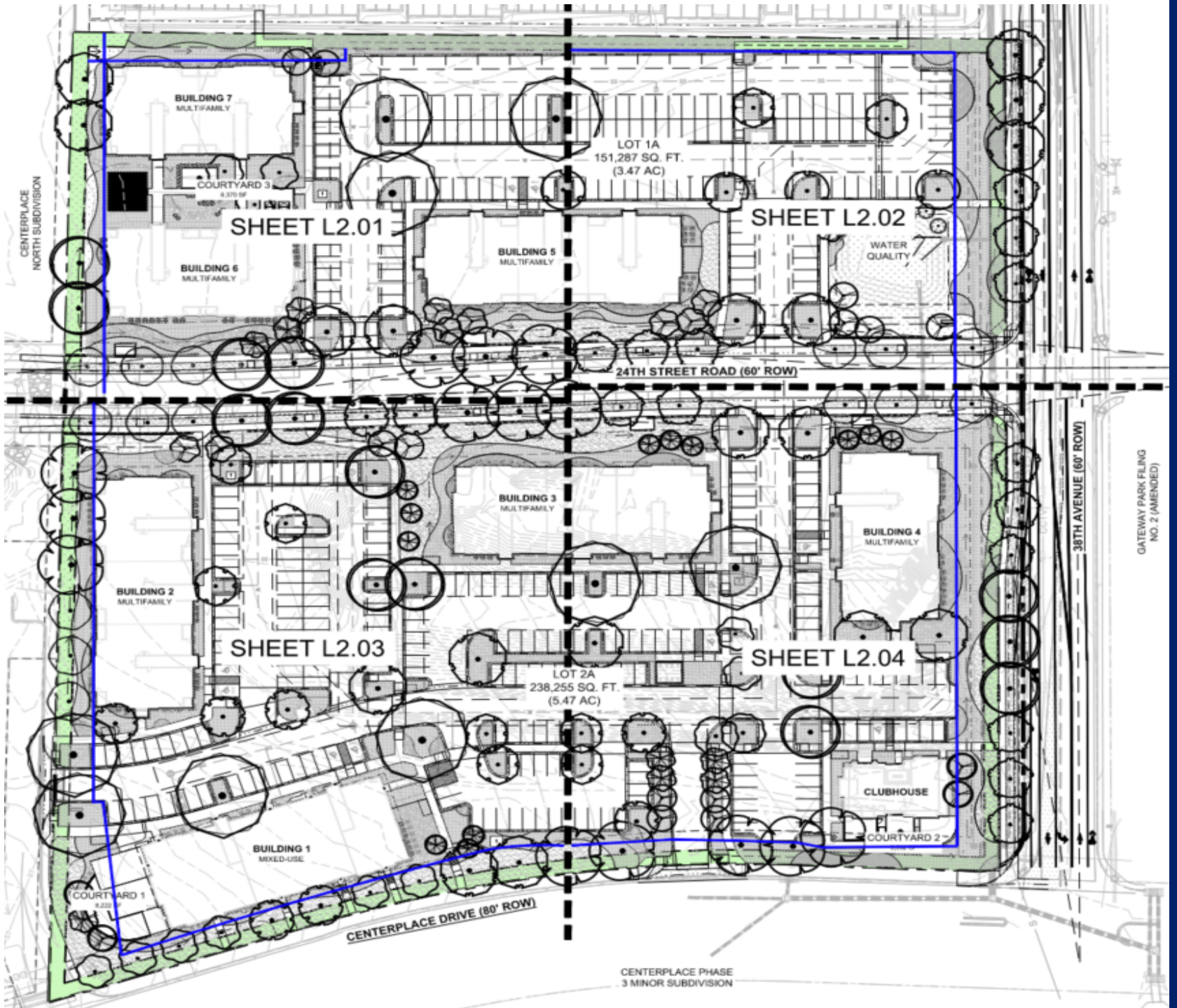
- Northwest corner of Centerplace Drive and 38th Avenue.
- Surrounding Zoning and Land Uses:
  - North: PUD | Multi-family dwellings
  - South: MU-H | Multi-family dwellings and future commercial
  - East: PUD | Multi-family dwellings
  - West: C-H and R-H | Retail and food/accommodation services, row housing

Attachment A - Vicinity/Zoning Map - Greeley West Mixed Use Subdivision





Greeley West Mixed Use Plat



Greeley West Mixed Use Perimeter Treatment Plan

Considerations

Approval Criteria

- Preliminary Subdivision Criteria, 24-203(b)(1)
- The proposal is consistent with the criteria as outlined in your Summary

Notification

- 261 notice letters (1000’ buffer, owners and current residents)
- Two signs posted on the property
- Web notice
- Mineral notice
- No objection/support

Recommendation

- Complies with Section 24-203(b)(1)
- Staff recommends approval

Motions

Recommended (Approval)

- 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 recommends City Council approval.

Alternative (Denial)

- Based on the application received and the preceding analysis, the Planning Commission finds that the proposed preliminary subdivision is not in compliance with Sections 24-203(b)(1) of the Development Code and therefore recommends City Council denial.

Michael Franke

michael.franke@greeleygov.com

https://greeleygov.com/services/cd/planning-and-zoning

Thank you

Review Criteria

Subdivision Review Criteria, Section 24-203(b)(1)	
1)	**The application is in accordance with the Comprehensive Plan, or any other specific plan created under that plan, and in particular, the physical development patterns and design concepts of the plan.**
	• *The City's Comprehensive Plan designates this area as "Mixed Use – High Intensity," which allows for residential and commercial land use. This application conforms with the intent of the Imagine Greeley Comprehensive Plan's vision for development in this area as mixed use development. See consistency with the comprehensive plan in your report summaries.*
2)	**The development and infrastructure is arranged in a manner to minimize impacts of geologic hazards, environmentally sensitive areas, wildlife habitat, or other natural features of the land.**
	• *The proposed subdivision was designed to minimize impacts to the surrounding area. Staff is unaware of any potential hazards that presently exist on the subject site.*

Review Criteria

Subdivision Review Criteria, Section 24-203(b)(1)	
3)	**The arrangement and proposed design of streets, blocks, and open spaces meet the development and design standards of the subdivision regulations and are coordinated with existing or potential development on adjacent property.**
	• *The subdivision design is consistent with the current development in the Centerplace area and design criteria stated in code. The City's Development Code regulations shall govern all arrangement of streets, blocks, lots, etc.*
4)	**The proposed blocks and lots are capable of meeting all development and site design standards under the applicable zoning district.**
	• *The design is consistent with current adjacent blocks and the Development Code criteria.*

Review Criteria

Subdivision Review Criteria, Section 24-203(b)(1)	
5)	**The application demonstrates a preliminary likelihood of being able to meet the design, construction, performance, and maintenance requirements for all required improvements.**
	• *Staff has reviewed the proposal against the ability to meet design, construction, performance, and maintenance requirements of improvements for the subdivision and found the application meets such criteria as required by the Development Code and demands of the city. City staff and referral agencies have will work through final details and logistics as part of the final plat submittal if the preliminary plat is approved.*
6)	**Any phasing is clearly indicated and demonstrates a logical and coordinated approach to development, and the timing, location, and construction of amenities is consistent throughout phases.**
	• *The applicant anticipates completing all infrastructure as one phase. All proposed improvements necessary for development are consistent with timing, location, and construction of the entire development.*

Review Criteria

Subdivision Review Criteria, Section 24-203(b)(1)	
7)	**Any impacts identified by specific studies or technical reports, including a review of storm water, are mitigated with generally accepted and sound planning, engineering, and urban design solutions that reflect long-term solutions and sound fiscal investments.**
	• *Staff and referral agencies have reviewed all plans and studies associated with the project and are comfortable with the applicant moving forward in providing final materials and working through remaining review processes.*
8)	**The design does not impede the construction of anticipated or planned future public infrastructure within the area, or deter future development of adjacent property from meeting the goals and policies of the Comprehensive Plan.**
	• *The proposed subdivision would not impede any anticipated future public infrastructure. The applicant is required to construct on-site and appropriate off-site utility and roadway infrastructure to serve the development. The proposed infrastructure would be available for future development in the area. Staff are not aware of any other major infrastructure projects planned for this area.*

Review Criteria

Subdivision Review Criteria, Section 24-203(b)(1)	
9)	**The recommendations of professional staff or any other referral agencies authorized to review the subdivision plan.**

- *Staff and referral agencies have reviewed all preliminary plans and studies associated with the project and are comfortable with the application as presented.*

GREELEY WEST MIXED-USE

McWHINNEY

Kimley»Horn

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING

Planning Commission Hearing

October 24th, 2023

Timeline

We are Here

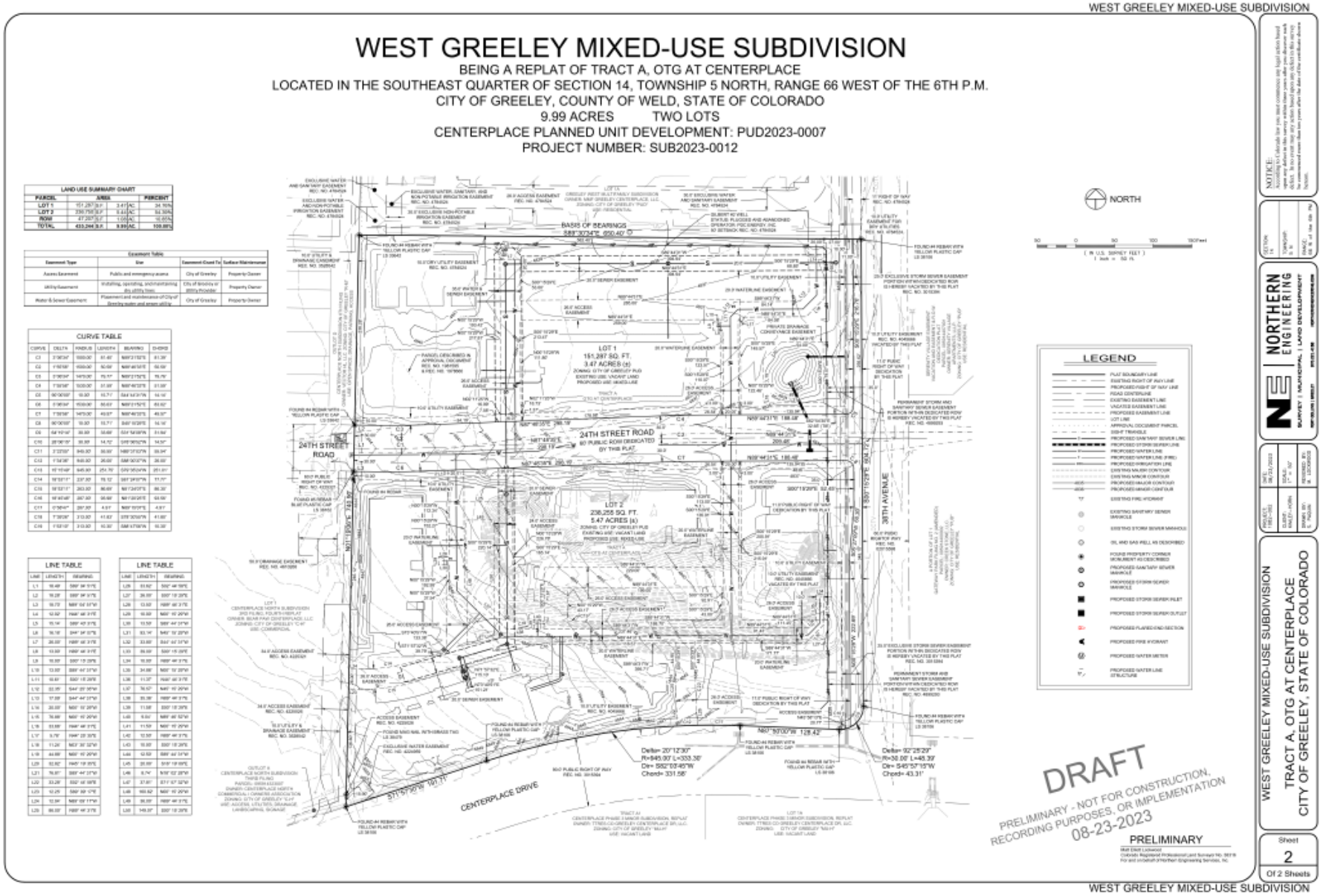
Submit 1st round Prelim Plat	Submit 2nd round Prelim Plat	Planning Commission	Final Plat Process
June 02, 2023	July 28, 2023	October 24, 2023	Complete 2024

Site Context

- 9.99 Acre site, split into two lots
- Zoning: Centerplace PUD
- Existing Use: Vacant Land
- Proposed Use: Residential & Mixed-Use

Preliminary Plat

- Meets required development patterns, street networks, blocks, lot layout, and public facility, utility requirements for future development



Preliminary Plat

- In compliance with all 9 review criteria *(Sec. 24-203. – Major Subdivision)*

- ✓ The application is **in accordance with the Comprehensive Plan, or any other specific plan** created under that plan, and in particular, the physical development patterns and design concepts of the plan.
- ✓ The development and infrastructure is arranged in a manner **to minimize impacts** on geologic hazards, environmentally sensitive areas, wildlife habitat, or other **natural features** of the land.
- ✓ The arrangement and proposed design of streets, blocks, and open spaces meet the development and design standards of the subdivision regulations, and are **coordinated with existing or potential development on adjacent property.**
- ✓ The proposed **blocks and lots are capable of meeting all development and site design standards** under the applicable zoning district.
- ✓ The application demonstrates a preliminary likelihood **of being able to meet** the design, construction, performance, and maintenance requirements for **all required improvements.**
- ✓ Any phasing is clearly indicated and demonstrates a logical and coordinated approach to development, and the timing, location, and construction of amenities is consistent throughout phases. (Not applicable)
- ✓ Any impacts identified by specific studies or technical reports, including a review of storm water, are mitigated with generally accepted **and sound planning, engineering,** and urban design solutions that reflect long-term solutions and sound fiscal investments.
- ✓ The **design does not impede the construction of anticipated or planned future public infrastructure** within the area, or deter future development on adjacent property from meeting the goals and policies of the Comprehensive Plan.
- ✓ The **recommendations of professional staff** or any other referral agencies authorized to review the subdivision plan.

McWHINNEY

Kimley»Horn

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING

Appendices

What is a Major Subdivision Plat Section

(Sec. 24-203. – Major Subdivision)

(A)Applicability.

Major subdivisions apply to all land divisions or other alterations of legal boundaries of lots or tracts that are ineligible for minor subdivision processes in section 24-202. Major subdivision applications may be initiated by the property owner. Major subdivisions require comprehensive review through separate preliminary and final plat procedures, due to the complexity of coordinating planning, design and engineering requirements. In accordance with section 24-201.b, the Director may determine at a pre-application conference that a preliminary and final plat may be submitted concurrently, where the application is small or routine.

(b)Preliminary Plat.

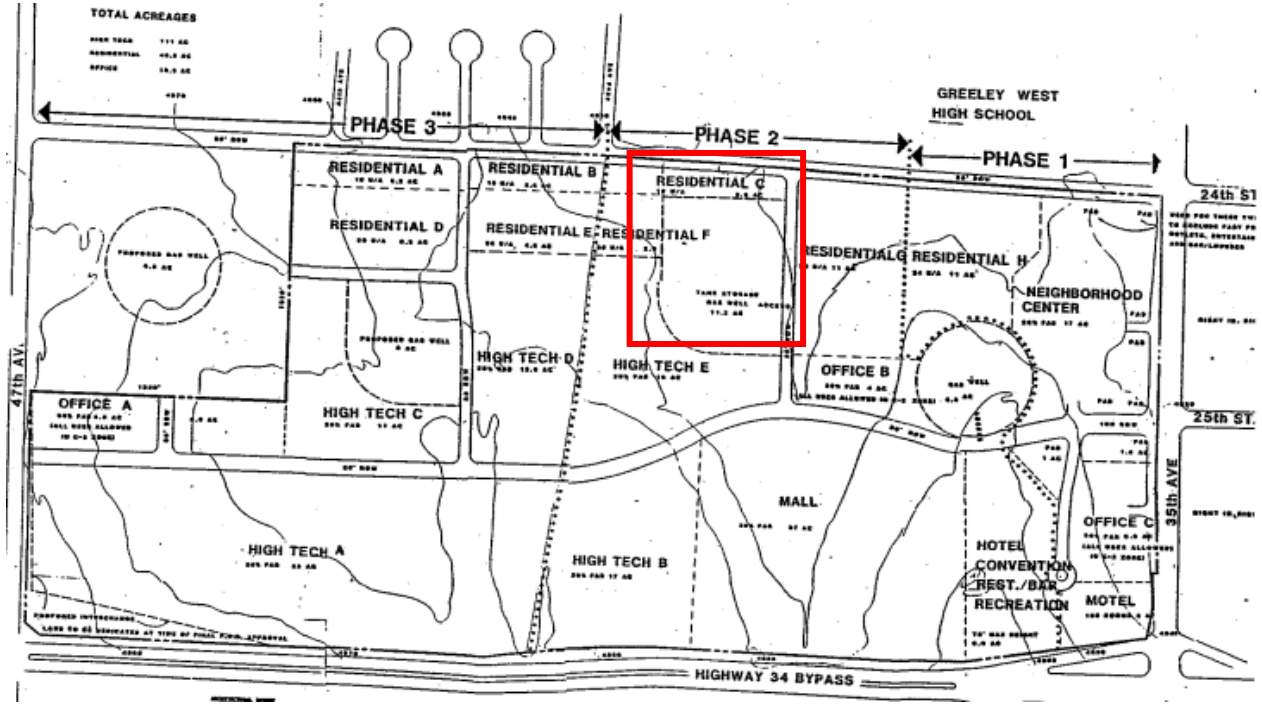
The preliminary plat provides detailed planning review of development patterns, street networks, block and lot layout, and the ability to meet public facility and utility requirements for future development, prior to preparation of detailed construction and engineering plans. A preliminary plat shall be processed according to the following specific procedures.

What is a p.u.d.?

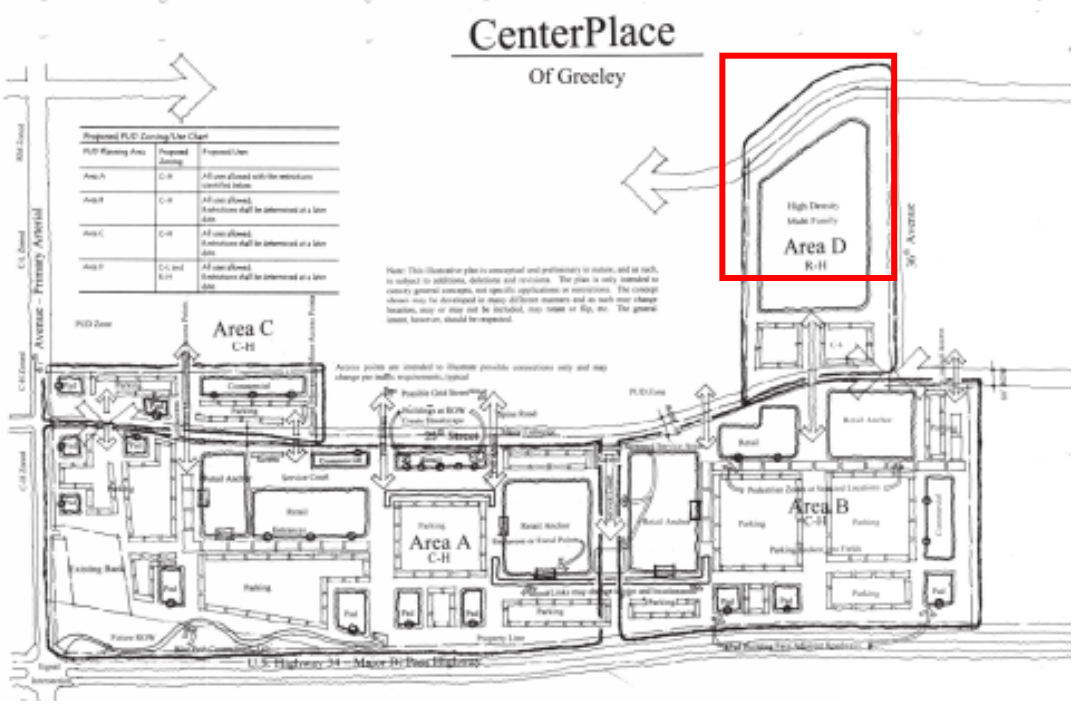
(Planned unit development)

- Zone district
- Development review process
- Type of development that provides a mix of land uses that promotes the City's objectives through flexible and creative design
- Allows a developer to master plan a larger area of land
- Provides the City and the public assurance that what is built in the future is compatible

1985 – Gateway Park



2000 - Centerplace



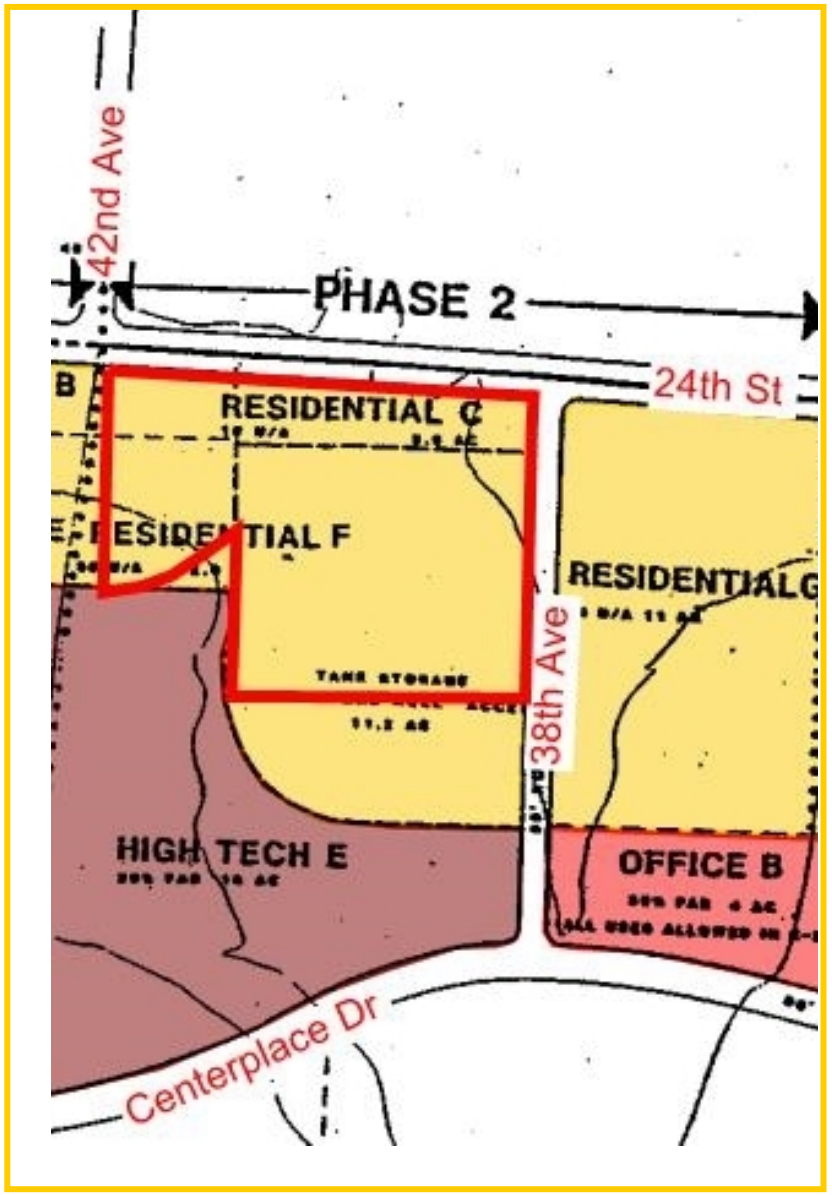
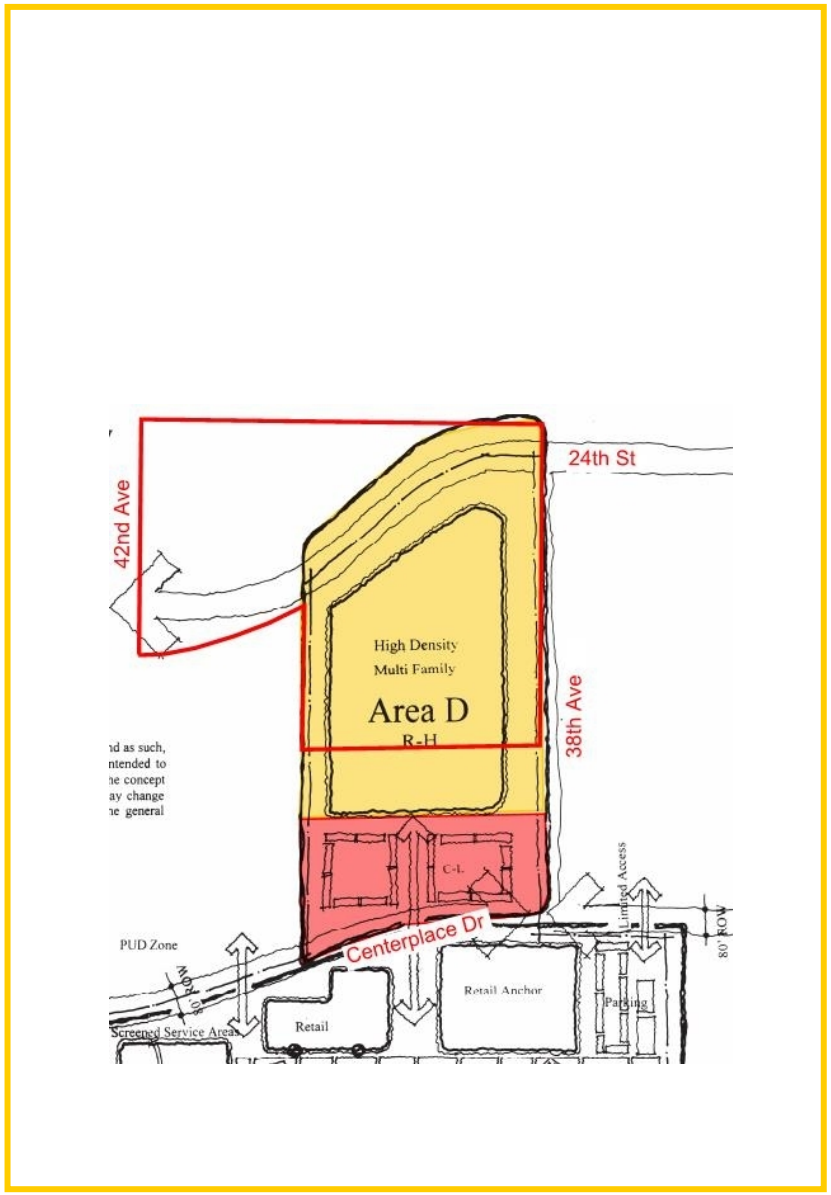
Site history

- **Annexed in 1981**
- **2 separate PUD's exist on Lot 1**
  - Gateway Park PUD (1985)
  - Centerplace Preliminary PUD (2000)

Site history

- Gateway Park
  - Planned for high density residential and high tech
  - 30 DU/AC
- Centerplace
  - Planned for high density residential and low intensity commercial
  - 20 DU/AC

1985 – Gateway Park



2000 - Centerplace