CITY OF DALY CITY

Regular Meeting - CITY COUNCIL

AGENDA

Monday, July 22, 2024 - 7:00 PM

City Hall Council Chambers – 2nd Floor
City Hall 333 – 90th Street
Daly City, CA 94015

To watch the live telecast:
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PUBLIC PARTICIPATION
There are three ways to submit public comments: (1) submit written comments by meeting day, (2) submit written comments during the meeting, and (3) attend the meeting in person.

1. To submit written comments by meeting day, please email cityclerk@dalycity.org and include "Public Comment" in the subject line. All written comments received by 4:00 pm on meeting day will be provided to the City Council prior to the meeting.

Please note: Any emailed comments received after 4:00 p.m. on the meeting date are not guaranteed to be received by the City Council prior to the meeting. Comments are not read aloud into the record.

2. During the meeting, you may visit www.dalycity.org/agendas to submit comments using the Public Comment form to address the City Council on a specific item, or during the public comment period, and such comments are delivered to the City Council and City Staff during the meeting, and may be read into the record at the time they are received.

3. To speak at the meeting in person, please complete a Speaker Card located at the entrance to the Council Chamber and submit it to a Staff Member as early in the meeting as possible.

Persons with disabilities who require auxiliary aids or services in attending or participating in this meeting should call the office of the City Clerk at (650) 991-8078 as soon as possible.

CALL TO ORDER:

PLEDGE TO THE FLAG:

ROLL CALL:

AVAILABILITY OF PUBLIC RECORDS:

All public record to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the City Clerk's Office, City Hall located at 333 90th Street, Daly City, CA during normal business hours, at the same time that the public records are distributed or made available to the legislative body.

PRESENTATIONS:

1. Daly City - Izumisano City, Sister Cities - Key to the City Ceremony

APPROVAL OF MINUTES:

2. Regular Meeting of July 8, 2024

APPROVAL OF AGENDA:

PUBLIC APPEARANCES/ORAL COMMUNICATIONS:

NOTE: Speakers are limited to two minutes, unless modified by the Mayor.
The Council cannot take action on any matter raised under this item.

CONSENT AGENDA

All items listed on the Consent Agenda are considered to be routine and may be approved by one roll call vote of the City Council. There shall be no separate discussion of the matters on the Consent Agenda unless requested by a member of the City Council. If discussion is required, that item will be removed from the Consent Agenda and will be considered separately at the end of the Agenda.

Resolutions:

3. Authorize the City Manager to Execute Construction Contract for the Parks/Fleet Maintenance Facility Roof Project

4. Authorize the City Manager to Execute an Amendment for the Professional Services Agreement for the City of Daly City's City Facilities – Interior Improvements Project

5. Amendment to the Professional Services Agreement with HDR, Inc. for Project Management Services

6. Appropriate $15,000 of Fund 96 – Bayshore Redevelopment RDA - Fund Balance for Rehabilitation of Vacant Unit and Other Property Improvements at 260 Abbot

7. Approve the Use of Measure Q Funds to Create a Police Department Mental Health Crisis Response Unit

8. Approve the use of Federal Asset Forfeiture Funds to Purchase a Polaris Ranger Crew XP1000 Utility Task Vehicle for Use by the Police Department

9. Approve Proposed Revisions of Lead Groundskeeper Gardener Job Specification, and Approve Proposed Title Change and Job Specification Revisions for Senior Building Maintenance Worker to Lead Building Maintenance Worker Job Specification (Civil Service)

10. Adopt Salary Range Reassignment for Specific Executive Management Positions

11. Authorize Temporary Assignment and Reimbursable Compensation of the Co-Interim Executive Director for the San Mateo County Pre-Hospital Care Emergency Medical Services Group (JPA)

END OF CONSENT AGENDA

PUBLIC HEARINGS:

12. General Plan Amendment GPA-05-24-16525, Planned Development PD-10-22-015932, and Design Review DR-4-18-13424 – Office Building and Parking Structure at 455 Hickey Boulevard

    STAFF: Sam Fielding

    RECOMMENDATION: Open/Close Hearing
    Motion for City Attorney to Read by Title Only
    Councilmember Introduce Ordinance
    Adopt Resolution by Roll Call Vote

APPOINTMENTS: Board/Commission Membership Committee Appointments

REPORTS:

13. Council Committee

14. City Council

15. Staff

ADJOURNMENT:

CITY OF DALY CITY
MINUTES – REGULAR MEETING – CITY COUNCIL
JULY 8, 2024

Visit https://www.youtube.com/@DalyCityGov/streams **to view the City Council meeting**

The regular meeting was called to order by Mayor Manalo at 7:00 P.M.

ROLL CALL: Councilmembers Present:
Juslyn C. Manalo, Mayor
Pamela DiGiovanni
Teresa G. Proaño
Glenn R. Sylvester

Councilmembers Absent:
Roderick Daus-Magbual, Vice Mayor

Staff Present:
Thomas J. Piccolotti, City Manager
Rose L. Zimmerman, City Attorney
K. Annette Hipona, City Clerk

PRESENTATIONS:

Proclamation - Park and Recreation Month
(Denise Brown, Director of Recreation Services and Recreation Staff)

Proclamation – Disability Pride Month
(Ligia Andrade Zuniga, President of the Board, Center for Independence of Individuals with Disabilities)

APPROVAL OF MINUTES:

Regular Meeting June 24, 2024

It was moved by Councilmember Sylvester, seconded by Councilmember DiGiovanni and carried by unanimous roll call vote to approve the minutes of June 24, 2024, as amended.

APPROVAL OF AGENDA:

It was moved by Mayor Manalo, seconded by Councilmember DiGiovanni and carried by unanimous roll call vote to approve the agenda.

CONSENT AGENDA:

It was moved by Mayor Manalo, seconded by Councilmember Proaño and carried by unanimous roll call vote to approve the consent agenda with the exception of Item 9, which was pulled for discussion.

Note on Public Comments:
To provide public comments, members of the public have the option to- 1) attend in person, 2) email the City Clerk, or 3) submit comments through the public comment portal on the City's website. Persons with disabilities who require auxiliary aids or services in attending or participating in this meeting are instructed to call the office of the City Clerk at 991-8078 prior to the meeting.

Resolutions:

Authorize the City Manager to Execute an Agreement and Appropriate grant funds with the Jefferson Elementary School District

Resolution 24-109, Authorizing Execution Of Agreement With Jefferson Elementary School District For The After School Education And Safety Program At MP Brown Elementary School And The Expanded Learning Opportunities Program At Daniel Webster And Majorie H. Tobias Elementary Schools And Fernando Rivera Intermediate School

Authorize the City Manager to Execute an Agreement with the Brisbane School District

Resolution 24-110, Authorizing Execution Of Agreement With Brisbane School District For The Afterschool Youth Recreation Program At Panorama Elementary School

Accept and Appropriate $75,000 Cannabis Equity Grant from GO-Biz Retroactively for FY 2023/24

Resolution 24-111, Accepting And Appropriating Grant Retroactively For FY 2023/24 From The California Governor's Office Of Business And Economic Development For Assessment Of A Cannabis Equity Program

Time Extension for Use Permit UPR-1-22-15498, Design Review DR-7-22-15775 - 79 Saint Francis Square Drive Through Restaurant

Resolution 24-112, Approving Extension For Use Permit UPR-1-22-15498 And Design Review DR-7-22-15775 – 79 Saint Francis Square Drive Through Restaurant

Time Extension for Use Permit UPR-2-23-016129 – 79 Saint Francis Square Sign Program

Resolution 24-113, Approving Extension For Use Permit UPR-2-23-016129 – 79 Saint Francis Square Sign Program

Appropriate Funds for Top of the Hill Street Festival and Authorize City Manager to Execute Professional Services Agreement with Anthony Presents LLC

Director of Economic and Community Development Tatum Mothershead provided the staff report including the proposal of a street fair as a way to revitalize the business community in the Top of the Hill neighborhood, the costs related to the street fair, and introduced Economic Development Specialist Maybelle Manio as project lead. Staff addressed questions on the scheduled date for the event, persons involved in the planning committee, how the proposed budget will be utilized, security and police services and related costs, power supply sources, whether entertainment will be provided, the selection process for the event planner, whether there is an entrance fee to the fair, other departments' involvement in planning the event, associated fees for sponsors and booths, number of people expected, whether staff is working with the transportation agencies to address public transportation issues, and ADA plans for the event.

The Council discussed the street festival's viability, the Council's priorities, the event's financial impact(s), whether the timing was right for the event, the needs of and challenges faced by the Top of the Hill area, the work yet to be done to revitalize the area, the process of selecting an event planner, and considered whether the item should be continued to the next Council meeting to receive more information.

A member of the community commented on the good of bringing community together, but expressed concern with the abandoned pantry building and unclean conditions in the area, and mentioned organizations that would like to serve the community.

Augusto Valera Jr., M.D., referred to the Westlake festival from 1999, noted safety and parking concerns in the area, and encouraged involving more organizations and volunteers to support the proposal.

Brent Turner expressed appreciation for and commended the City's efforts to create a festival, noting the benefits to the City from the potential sales tax revenue.

Vennie Acebedo commented on the festival being a haphazard plan, noting that the timeframe was too short, and made remarks on how the festival discounted the City's Recreation staff.

Economic Development Specialist Maybelle Manio provided information on her background and experience in the event industry and producing mass-scale festivals, reported on meeting with businesses in the Top of the Hill to help prepare them for the upcoming event, and noted benefits from a street fair including its potential to attract more businesses and increase tourism.

Director of Recreation Services Denise Brown provided information on the Recreation Department's meetings with Economic and Community Development staff about the project, noting the Recreation Department is one hundred percent behind the festival and would be providing support for the event.

It was moved by Mayor Manalo, seconded by Councilmember Sylvester and carried to adopt the resolution by the following roll call vote:

Ayes:	Proaño, Sylvester, Manalo
Abstained:	DiGiovanni

Resolution 24-114, Authorizing Execution Of Professional Services Agreement With Anthony Presents LLC And Appropriating Funds For The Top Of The Hill Street Festival

Notice of Completion for Fire Station 91 Roofing Project

Resolution 24-115, Accepting Completion of Certain Project in the Department of Public Works (Fire Station 91 Roofing Project)

Notice of Completion for the 2021-2022 and 2022-23 Street Resurfacing Project

Resolution 24-116, Accepting Completion of Certain Project in the Department of Public Works (2021-22 and 2022-23 Street Resurfacing Project)

Authorize City Manager to Approve Contract Change Orders for the Construction Contract for the Mussel Rock Landfill Upper Disposal Area Pull-Back Project

Resolution 24-117, Approving Contract Change Orders For The Construction Contract For The Mussel Rock Landfill Upper Disposal Area Pull-Back Project

Adopt Resolution for Classification Amendments Previously Approved During Budget Process

Resolution 24-118, Memorializing Classification Amendments For Specific Miscellaneous/ Unrepresented Classifications

END OF CONSENT AGENDA

REPORTS:

City Council

Mayor Manalo reported attendance at the following events: the grand opening of Pacifica's City Hall, along with Councilmember Sylvester, Councilmember Proaño, City Manager Piccolotti, and Director Cosgrove; the bocce ball competition with the Recreation team and which was won by the older adults/seniors team, joined by Mariann Mann and Councilmember Proaño; the Hui Fest at the Bayshore celebrating Tahitian culture, commending Debbie Viray and the dancers, and acknowledging the staff and community members for their efforts; the SF Pride Alice B. Toklas breakfast with Supervisor Stefani; the Philippine Independence Day reception with the Filipino Women's Network at the Philippine Consulate; and the annual barbeque event hosted by the Filipino Democratic Club of San Mateo. Manalo thanked her colleagues for their questions on and optimism in the Top of the Hill festival.

Councilmember DiGiovanni reported attendance at the Hui Fest honoring Chief Coco from Tahiti along with Councilmember Proaño, and acknowledged the Bayshore Recreation staff for their work.

ADJOURNMENT:

Mayor Manalo adjourned the meeting at 9:34 PM in memory of Barbara Maharaj and Corazon de Guzman Dandan.

Approved as submitted, this 22nd day of July, 2024.

Juslyn C. Manalo
Mayor

City Clerk

City Council Agenda Report

Item # _____

Meeting Date: July 22, 2024

Subject: Authorize the City Manager to Execute Construction Contract for the Parks/Fleet Maintenance Facility Roof Project

Recommended Action

Staff recommends the City Council authorize the City Manager to execute a contract with Garland/DBS Inc. for the Parks/Fleet Maintenance facility roof replacement in an amount of $523,311 and also authorize the City Manager, or his designee, to execute all other necessary contracts to complete the project.

Discussion

In 2017 the City completed a comprehensive facility condition assessment (FCA) of City owned buildings, including the Parks/Fleet Maintenance facility. One of the recommendations included in the FCA for the Parks/Fleet Maintenance facility is replacement of the roof in year 2025. In 2023, a follow-up assessment of the roof highlighted the need for a complete replacement due to failure of the roof seams and deteriorated roof and wall panels. These failures continue to cause water leaks during rain events resulting in damage to the interior of the facility. During the City's adoption of the fiscal year 2023/2024 Comprehensive Annual Capital Budget, $660,000 was allocated to the Parks/Fleet Maintenance facility roof replacement project.

Omnia Partners Purchasing Program is a cooperative purchasing alliance that simplifies and optimizes the procurement process for public sector entities by leveraging collective buying power. This program combines the resources of two leading cooperative purchasing organizations, National IPA and U.S. Communities, to offer access to competitively solicited contracts. The Omnia Partners Purchasing Program assists local and state government agencies in reducing the cost of purchased goods and services through pooling the purchasing power of public agencies nationwide.

Cooperative purchasing agreements like the OMNIA Partners Purchasing Program meet all requirements outlined under the California Government Code. Daly City as well as other public agencies can participate in cooperative purchasing agreements, while still adhering to the City's Municipal Code and adopted rules and procedures for the procurement of goods and services.

The proposal from Garland/DBS involves replacing the entire roofing system, rain gutters, and parapet wall panels and cap. The new roofing system will incorporate modern, high-quality materials designed to improve water drainage and weather resistance. These upgrades are expected to enhance the long-term structural integrity of the roof, reduce maintenance costs, and ensure the safety and comfort of staff working in the facility.

Garland's turnkey services provide a comprehensive solution for the Parks/Fleet Maintenance facility roof replacement project. This approach offers several benefits:

- **Pricing Competitiveness:** Leveraging the collective buying power of public agencies to obtain superior pricing.

- **Turnkey Single-Source Accountability:** Garland will act as both the material manufacturer and project manager to ensure warranty integrity and efficient project management.
- **Speedy Implementation:** Garland utilizes local pre-qualified contractors to expedite project completion.

The City is a member of the OMNIA Partners cooperative purchasing program and can participate in the contract. If approved, the City would contract directly with Garland for the project.

Fiscal Impact

The total cost of the project is $523,311, which includes the complete roof replacement and all associated material, labor, and warranties. Funding is available in the Parks/Fleet Maintenance Roof Replacement, account number 31-313-588.

Summary/Conclusion

Staff recommends the City Council authorize the City Manager to execute a contract with Garland/DBS Inc. for the Parks/Fleet Maintenance facility roof replacement in an amount of $523,311 and also authorize the City Manager, or his designee, to execute all other necessary contracts to complete the project.

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

Jeffery Fornesi
Asst. to the Director of Public Works

Richard Chiu, Jr.
Director of Public Works

Attachment: Garland/DBS, Inc Proposal, No. 25-CA-240813

Garland/DBS, Inc.
3800 East 91st Street
Cleveland, OH 44105
Phone: (800) 762-8225
Fax: (216) 883-2055

ROOFING MATERIAL AND SERVICES PROPOSAL

City of Daly City
Corp Yard Fleet Building
333 90th St
Daly City, CA 94015

Date Submitted: 07/12/2024
Proposal #: 25-CA-240813
MICPA # PW1925
CA General Contractor #: 949380

Purchase orders to be made out to: Garland/DBS, Inc.

Please Note: The following budget/estimate is being provided according to the pricing established under the Master Intergovernmental Cooperative Purchasing Agreement (MICPA) with Racine County, WI and OMNIA Partners, Public Sector (U.S. Communities). Garland/DBS, Inc. administered an informal competitive process for obtaining quotes for the project with the hopes of providing a lower market-adjusted price whenever possible.

Scope of Work: Install aluminum structural standing seam metal roof panels. System will be installed per the engineer stamped calculations to withstand wind uplift pressures of a future solar system.

1. DEMO (E) METAL ROOF PANELS, SKYLIGHTS AND GUTTER. INSTALL (N) STRUCTURAL STANDING SEAM ROOF PANELS AND GUTTER WITH ASSOCIATED SHEET METAL ACCESSORIES.
   • STANDING SEAM PANELS TO BE CONTINUOUS PANELS WITHOUT LAPS THROUGH THE ENTIRE LENGTH OF THE PANEL.
2. DEMO (E) WALL PANELS ABOVE ROOF AND INSTALL (N) WALL PANELS O/ (E) FRAMING.
3. MOUNT EXHAUST FANS ON METAL CURBS CURB.
4. INSTALL NEW COPING CAP.
5. INSTALL NEW GUTTER.
6. DAYLIGHT (E) VENT IN (N) WALL PANELS AND INSTALL PIPE BOOT FLASHING TO MATCH €
7. INSTALL NEW PIPE PENETRATION FLASHING.

Proposal Price Based Upon Market Experience:	**$**	**523,311**

Garland/DBS Price Based Upon Local Market Competition:

1 San Francisco Roofing Services, Inc	**$**	**532,311**
2 Pionner Contractors	$	744,953

San Francisco Roofing Services, Inc - Unforeseen Site Conditions:

LF cost to treat rust on (E) Z-purlins – wire wheel, prime w/ rust inhibitive primer and paint w/Tnemic:	$	28.50	per Ln. Ft.

Potential issues that could arise during the construction phase of the project will be addressed via unit pricing for additional work beyond the scope of the specifications. This could range anywhere from wet insulation, to the replacement of deteriorated wood nailers.

Please Note – The construction industry is experiencing unprecedented global pricing and availability pressures for many key building components. Specifically, the roofing industry is currently experiencing long lead times and significant price increases with roofing insulation and roofing fasteners. Therefore, this proposal can only be held for 30 days. DBS greatly values your business, and we are working diligently with our long-term suppliers to minimize price increases and project delays which could effect your project. Thank you for your understanding and cooperation.

Clarifications/Exclusions:

1. Plumbing, Mechanical, Electrical work is excluded.
2. Masonry work is included to which it obtains to the scope of work.
3. Interior Temporary protection is included to the extent that any equipment directly below the work area will be covered as needed to protect against dust and debris.
7. Prevailing Wages are included.
4. Any work not exclusively described in the above proposal scope of work is excluded.

If you have any questions regarding this proposal, please do not hesitate to call me at my number listed below.

Respectfully Submitted,

John Petersen

John Petersen
Garland/DBS, Inc.
(216) 302-3777

City Council Agenda Report

Item # _____

Meeting Date: July 22, 2024

Subject: Authorization to Approve an Amendment for the Professional Services Agreement for the City of Daly City's City Facilities – Interior Improvements Project

Recommended Action

Staff recommends that the City Council approve and authorize the City Manager to execute an amendment for the professional services agreement with Sally Swanson Architects, Inc. (SSA) of San Francisco, California in the amount of $185,000 for a total contract amount of $334,875 to complete the design for the City Facilities – Interior Improvements Project.

Background

On October 10, 2023, the City awarded the professional services agreement with SSA for the preparation of the City Facilities – Interior Improvements Project. The project scope included, reviewing as-built documents, visiting city facilities, and preparing construction plans, specifications and cost estimates to remove existing interior barriers identified in the 2020 ADA Self Evaluation and Transition Plan Report at City Hall, Doelger Senior Center, Westlake Community Center and Lincoln Park Community Center.

Discussion

During the preliminary facility site walks and detailed discussions with staff, SSA identified major ADA issues inside the City Council Chambers. These preliminary findings indicate the need to redesign the City Council Chambers dais. The revised work scope would include additional coordination meetings, recreating as-built drawings for City facilities and preparation of design documents for the City Council Chambers. These additional tasks were not included in the original agreement and are critical to completing the project design.

Fiscal Impact

The estimated total design cost for this project is $334,875, which includes the $149,875 original design contract and $185,000 for additional design services provided by SSA.

There are sufficient funds in Fiscal Year 2023-24 in the ADA Facility Upgrade Project account 31-313-875 to fully fund this request. No additional appropriation is needed at this time.

Summary/Conclusion

Staff recommends that the City Council approve and authorize the City Manager to execute an amendment for the professional services agreement with SSA in the amount of $185,000 for a total contract amount of $334,875 to complete the design for the City Facilities – Interior Improvements Project.

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

Shirley Chan
Acting City Engineer

Richard Chiu, Jr.
Director of Public Works

City Council Agenda Report

Item # _____

Meeting Date: July 22, 2024

Subject: Amendment to the Professional Services Agreement with HDR, Inc. for Project Management Services

Recommended Action

Staff recommends the City Council approve and authorize the City Manager to execute Amendment No. 6 to the professional services agreement with HDR, Inc. of Oakland, California, to provide project management services in the amount of $140,360.00, for a total contract amount of $853,994.78.

Background

On September 17, 2021, an agreement was executed with WRECO (now HDR, Inc.) to provide staff augmentation for permit technician services in an amount not to exceed $39,835.13. The permit technician provided work to review and process permit applications for building, utility, sewer, water, and encroachment permits while recruitment for the Engineering Technician position was underway. Five agreement amendments have been executed to extend the duration and to provide additional project manager services with an additional person, increasing the current contract amount to $713,634.78. The project manager performed contract administration, public bidding and consultant procurement, design support and preparation of bidding documents, and construction management on the Capital Improvement Program projects.

Discussion

The Public Works Engineering Division continues to have a vacancy in its Senior Civil Engineer position. The recruitment process is underway.

The proposed $140,360.00 Amendment No. 6 includes budget for a part-time project manager for approximately 6 additional months. The project manager will perform contract administration, public bidding and consultant procurement, design support and preparation of bidding documents, and construction management on CIP projects, as well as general office support. If approved, the existing contract of $713,634.78 would increase by $140,360.00 to a total contract amount of $853,994.78.

Fiscal Impact

The total estimated cost for Amendment No. 6 with HDR, Inc. provides for a total not-to-exceed amount of $140,360.00. Adequate funding for the consultant services is available for the project manager position by utilizing $40,000.00 of salary savings from the vacant Senior Civil Engineering position and $100,360.00 within the respective CIP projects. Therefore, no additional funds are required.

Summary/Conclusion

Staff recommends the City Council approve and authorize the City Manager to execute Amendment No. 6 to the professional services agreement with HDR, Inc. of Oakland, California, to provide project management services in the amount of $140,360.00, for a total contract amount of $853,994.78.

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

Shirley Chan
Acting City Engineer

Richard Chiu Jr.
Director of Public Works

Meeting Date: July 22, 2024

Subject: Appropriate $15,000 of Fund 96 – Bayshore Redevelopment RDA - Fund Balance for Rehabilitation of Vacant Unit and Other Property Improvements at 260 Abbot

Recommended Action

- Appropriate $15,000 for rehabilitation and upgrades to affordable housing units at 260 Abbot

Background

In 2007 the former Daly City Redevelopment Agency acquired a five-unit apartment building at 260 Abbot. The goal of this acquisition was to rehabilitate and preserve affordable housing units. With the dissolution of redevelopment in 2012, the building was transferred to the City and has continued to provide affordable housing to five very low income households. In 2023 a household that had occupied their unit for over 25 years vacated their unit. In order to rent the unit to a new household, significant repairs and refurbishment are needed.

In addition to rehabilitation of the vacant unit, staff is recommending two general improvements to the building:

- Installation of laundry facilities on the garage level
- Provision of internet services to the whole building

The estimated cost for the recommended improvements is $15,000.

Discussion

The proposed improvements will ensure habitability of the existing vacant unit and enable the City to rent it to a very low income household. Installation of laundry services will provide a convenience and comfort to working households who currently need to drive or walk several blocks to do laundry. Provision of reliable internet service to all households is an important step in ensuring that all households have equal access to modern telecommunications technologies that are critical for participation in education, employment, health and civic activities.

Fiscal Impact

An addition $15,000 is needed to be appropriated for the rehabilitation and upgrades to affordable housing units at 260 Abbot. There are sufficient funds in the Bayshore Redevelopment fund balance and if approved will still see an anticipated surplus of $3,500 for FY 2025.

Summary /Conclusions

Staff recommends appropriating $15,000 for rehabilitation and maintenance in the FY 25 Abbot budget for the purpose of improving the housing quality and living conditions for low-income households living at 260 Abbot.

Respectfully submitted,



Tatum Mothershead
Economic and Community Development Director

Meeting Date: July 22, 2024

Subject: **Approve the Use of Measure Q Funds to Create a Police Department Mental Health Crisis Response Unit**

Recommended Action

Staff recommends the Council approve the use of Measure Q funds to create a Police Department Mental Health Crisis Response Unit, consisting of a Crisis Response Supervisor and a Crisis Response Clinician I/II.

Background

The Police Department just concluded a 2-year mental health crisis response pilot program in collaboration with the County of San Mateo. This program, known as the Community Wellness and Crisis Response Team (CWCRT), was partially funded by the County of San Mateo during the pilot program, which ended June 30, 2024. Beginning this current fiscal year (FY 24/25), participating agencies were required to fund any ongoing clinical field resources as desired by the individual agency.

Discussion

The CWCRT program was a collaboration between the County of San Mateo, Behavioral Health and Recovery Services (SMCO BHRS), StarVista, a non-profit organization managing the clinicians, and the Stanford Gardner Center, the academic research component examining the efficacy of the model. The co-response model consisted of a clinician and a police officer responding to calls for service involving subjects experiencing a potential mental health crisis. This model proved successful in both academic research and anecdotal perspectives within the department and in the field. The Daly City Police Department, along with three of the larger agencies in San Mateo County, were selected as the pilot agencies, all of which echoed the same resounding support for the program and realized similar benefits to the communities and their agencies. The Stanford Gardner Center found that involuntary psychiatric detentions decreased approximately 17% throughout the pilot program amongst agencies sharing data. Some of this decrease is believed to be a result of preventing mental health emergencies from occurring, likely attributed to a more adequate level of care identified by participating clinicians in the field, reducing recidivism for acute cases. This result should reduce repeat calls for service, freeing up first responder services for other needs.

The Mental Health clinician had a significant impact on the police department and community alike. The co-response model often de-escalated situations and led to a more favorable outcome for individuals experiencing a mental health crisis, frequently requiring reduced or no law enforcement engagement. While the program was not intended to include follow-up case work or prolonged in-field care, there were times it became appropriate to ensure an adequate level of care as well as to support families seeking long term results. Additionally, the clinician participated in new hire and officer crisis intervention training, as well as officer wellness and critical stress

debriefs. Over time, officers learned by watching the clinician in the field, and as a result, improved their response to related calls in the absence of or while waiting for a clinician to arrive on scene. The clinicians that worked for Daly City were welcomed and became a pivotal component to a well-rounded response, appreciated and valued by officers in the field. All initial pilot agencies shared these experiences and are intending to maintain a co-response model, with a pilot program extension expanding this service to other agencies throughout the county.

The police department desires to maintain a co-response Mental Health Crisis Response Unit to meet the needs of the community and ensure a well-rounded field response. Over the last 3-years, to include the duration of the pilot program, the co-response clinician responded to 463 calls for service. During this same timeframe, there were 769 involuntary psychiatric detentions. The disparity between the number of detentions and the times a clinician was available and responded demonstrates the need for additional clinicians to better serve those experiencing a mental health crisis. The benefits realized during the pilot program demonstrate the value and necessity. The Mental Health Crisis Response Unit would initially consist of two full-time employees, with the ability to expand should the need or desire be recognized. The Crisis Response Unit would be a component of the police department and work in close collaboration to further the department's mission to provide safety and service to the community. The unit would be comprised of a Crisis Response Supervisor and a Crisis Response Clinician, who would both work independently to allow for greater periods of coverage in the field.

The primary objective of the unit would be to support the police department and the community in a co-response model to incidents or calls for service that have the potential to have a mental health crisis component. The clinicians would monitor the police radio and would either be requested through dispatch or could self-attach to a call if they feel their services would be beneficial. The department would continue the partnership with the SMCO BHRS, a desired component that supports the clinicians' ability to effectively serve in their capacity. Initial coverage would be Monday through Friday, spanning the morning to early evening as call volumes and statistics suggest the need. Future expansion could be considered as the need is identified.

Staff is recommending the approval of two new clinician job specifications, to include a Crisis Response Supervisor and the Crisis Response Clinician I/II (see Attachments – Job Specifications). The positions would be Miscellaneous/Unrepresented classifications and would be assigned to the salary ranges outlined in the graph below. These salary ranges are recommended based on comparable salaries of other Bay Area agencies with similar programs.

Classification	Range	Est. Salary – Step 5	Est. Benefits	Total
Crisis Response Supervisor	U 079	$157,939	$92,620	$250,559
Crisis Response Clinician II	U 068	$142,546	$84,690	$227,236
Crisis Response Clinician I	U 058	$128,902	$79,156	$208,058

Staff is also recommending the approval to hire two full-time employees to staff the Mental Health Crisis Response Unit, consisting of the Crisis Response Supervisor, and the Crisis Response Clinician I/II. The Crisis Response Supervisor is a mandatory position for the unit, as it requires a

valid clinical license recognized by the California Board of Behavioral Sciences, which allows this unit to operate independently. This certification permits the supervisor to manage non-licensed, but registered practicing clinicians (Crisis Response Clinician I) participating in field work, while also ensuring efficient collaboration with SMCO BHRS. The Crisis Response Clinician flex up level II position will require the California Board of Behavioral Sciences license, with additional cumulative crisis response field work of 2-years or more. As these clinicians will be expected to operate in the field daily, and considering there will be overlap in shiftwork, two additional vehicles will be necessary to ensure availability for timely responses. These vehicles will be marked as Mental Health Crisis Response Unit vehicles, and will be equipped with hazard/safety lighting, and a police radio. Specific makes/models will be selected once configuration requirements are identified, however we intend on purchasing hybrid vehicles with an estimated cost of $60,000 per vehicle, to include all outfitting.

Fiscal Impact

During the 2-year pilot program while participating in the CWCRT model, expenses where shared mutually between the County of San Mateo and the participating agencies. This agreement ended with the close of the 23/24 fiscal year, transferring the full cost for the CWCRT program to the individual agencies. In anticipation of continuing with a co-response clinician in the field, the Police Department budgeted $260,000 for estimated costs in the fiscal year 24/25 budget, which was approved by the City Council on June 24, 2024.

The proposed Mental Health Crisis Response Unit, consisting of a Crisis Response Supervisor and a Crisis Response Clinician I/II, with the addition of two new dedicated vehicles, is estimated to cost $578,617. Taking into consideration the already budgeted $260,000 in Measure Q funds from this fiscal year (FY 24/25) to continue the initial pilot program model, the remaining amount of Measure Q funds needed to offset the cost and create the Mental Health Crisis Response Unit within the Police Department is estimated to be $318,617.

Summary/Conclusion

Staff recommends the City Council approve the Miscellaneous/Unrepresented job specifications for the Crisis Response Supervisor and Crisis Response Clinician I/II as outlined above, and approve the hiring of two full-time employees, as well as approve the purchase of associated vehicles and appropriate $318,617 of Measure Q funds.

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,



Cameron Christensen
Acting Chief of Police

Attachments: Job Descriptions – Crisis Response Supervisor, Crisis Response Clinician I/II

CITY OF DALY CITY
JOB SPECIFICATION
EXEMPT POSITION

CRISIS RESPONSE SUPERVISOR

DEFINITION

Under general supervision provides field and office based professional behavioral health counseling, psychoeducation, outreach and engagement, case management, consultation, and quality assurance review of assigned cases; and performs related other work as required or assigned.

EXAMPLES OF DUTIES

Manage and supervise the Police Department's response to crisis intervention services; supervise, oversee, direct, schedule and coordinate the work of assigned staff; perform initial risk assessment during a crisis noting behavioral symptoms which may indicate mental health disorders in children, youth, or adults; determine whether individuals meet the criteria for a W&I 5150 application and follow appropriate procedure; determine other resources to connect individuals to who do not meet criteria for 5150; work closely with different law enforcement communities; participate in monthly San Mateo County Field Crisis Consultation Committee (FCCC) as needed; establish and maintain effective relationships with contractors, community organizations and other governmental agencies regarding programs and services; participate in committees, meetings and conferences; provide guidance regarding appropriate social-psychological practices and services. perform suicidal/homicidal/Grave Disability risk assessments; conduct home visits and/or field-based services; provide crisis intervention as needed; provide brief outreach counseling and refer clients to appropriate behavioral health resources; collect and evaluate medical or psychosocial data such as case histories, behavior patterns and family relationships of patients/clients; follow up with individuals where appropriate who are reluctant to engage with resources; work as a psychiatric team member with other treatment disciplines; utilize Trauma Informed Care and other evidence-based practices; provide consultation and education services; compile and prepare reports and documentation on clinical activities; maintain records; prepares periodic reports; ability to work weekends and perform related duties as assigned.

MINIMUM QUALIFICATIONS

Knowledge of: Current office procedures, including use of word processing, spreadsheet and specialized software applications; current philosophy, principles, and practices for services to clients with serious mental illness; individual, group and family psychodynamics as they relate to adults or children in crisis; psychological diagnostic methods and

terminology for mental health disorders; personality development from infancy through adulthood; de-escalation techniques; human and health services systems in the County including private agencies and other community resources; procedures and issues specific to mobile crisis intervention; applicable local, State and Federal laws, ordinances and rules.

Ability to: Provide effective clinical supervision and clinical consultation; provide mental health treatment to adults, children or adolescents with various mental disabilities ranging from serious mental illness to dysfunctional behavior patterns, including victims of sexual or physical abuse; set realistic treatment goals and facilitate their attainment; evaluate the degree of mental disability or emotional distress of patients/clients; communicate effectively orally and in writing; make presentations to outside organizations, agencies and community; oversee, direct and coordinate the work of assigned staff; select, supervise and train, counsel and discipline staff; provide consultation and technical assistance to agencies, schools and other organizations; develop strong working relationships with community agencies; work with multicultural communities; operate modern office equipment including specialized software applications programs; interacts positively and cooperate with co-workers, responds politely to customers, works as a team member, functions under demanding time pressure, responds in a positive manner to supervision, attends work and perform duties on a regular and consistent basis.

Education: Master's degree from accredited college or university in Social Work, Social Welfare, Psychology or a closely related field.

Experience: Five years of professional experience in the social work or counseling field with strong emphasis on social services, crisis response, severe mental illnesses, resources and referrals using a collaborative and community framework.

License: A current license with the State of California Board of Behavioral Sciences as either a LCSW, LMFT, LPCC or licensed Clinical Psychologist required.

Possession of a valid Class C California Driver's License.

07/24

CITY OF DALY CITY
JOB SPECIFICATION
EXEMPT POSITION

CRISIS RESPONSE CLINICIAN I/II

DEFINITION

Crisis Response Clinician I: Under direct supervision of the Crisis Response Supervisor, provides field and office based professional behavioral health counseling, psychoeducation, outreach and engagement, case management, consultation, and quality assurance review of assigned cases; and performs related other work as required or assigned.

Crisis Response Clinician II: Under general supervision of the Crisis Response Supervisor, provides field and office based professional behavioral health counseling, psychoeducation, outreach and engagement, case management, consultation, and quality assurance review of assigned cases; and performs related other work as required or assigned. This is a full journey level position within the Crisis Response Clinician series and is distinguished from the Crisis Response Clinician I by the performance of the full range of duties with only occasional instruction or assistance.

Under the flexible staffing concept, Crisis Response Clinician II positions that become vacant may reasonably be filled at the Crisis Response Clinician I level for training purposes.

EXAMPLES OF DUTIES

Perform initial diagnostic evaluation during a crisis noting behavioral symptoms which may indicate mental health disorders in children, youth, or adults; determine whether individuals meet the criteria for a W&I 5150 and follow appropriate procedure; determine other resources to connect individuals to who do not meet criteria for 5150; work closely with different law enforcement communities; participate in monthly San Mateo County Field Crisis Consultation Committee (FCCC) as needed; establish and maintain effective relationships with contractors and community organizations and other governmental agencies regarding programs and services; participate in committees, meetings and conferences; provide guidance regarding appropriate social-psychological practices and services. perform suicidal/homicidal/Grave Disability risk assessments; conduct home visits and/or field-based services; provide crisis Intervention as needed; provide outreach counseling and refer clients to appropriate behavioral health resources; collect and evaluate medical or psychosocial data such as case histories, behavior patterns and family relationships of patients/clients; follow up with individuals where appropriate who are reluctant to engage with resources; work as a psychiatric team member with other treatment disciplines; utilize Trauma Informed Care and other evidence-based practices;

provide consultation and education services; compile and prepare reports and documentation on clinical activities; maintain records; prepares periodic reports; ability to work weekends and perform related duties as assigned.

MINIMUM QUALIFICATIONS

Knowledge of: Office machines and specialized software applications; current philosophy, principles, and practices for services to clients with serious mental illness; individual, group and family psychodynamics as they relate to adults or children in crisis; psychological diagnostic methods and terminology; personality development from infancy through adulthood; human and health services systems in the County including private agencies and other community resources; applicable local, State and Federal laws, ordinances and rules.

Ability to: Provide crisis intervention treatment to adults, children or adolescents with various mental disabilities ranging from serious mental illness to dysfunctional behavior patterns, including victims of sexual or physical abuse; set realistic treatment goals and facilitate their attainment; evaluate the degree of mental disability or emotional distress of patients/clients; communicate effectively orally and in writing; provide consultation and technical assistance to agencies, schools and other organizations; operate modern office equipment including specialized software applications programs; interacts positively and cooperate with co-workers, responds politely to customers, works as a team member, functions under demanding time pressure, responds in a positive manner to supervision, attends work and perform duties on a regular and consistent basis.

Education: Master's degree from accredited college or university in Social Work, Social Welfare, Psychology, or a closely related field.

Experience:

Crisis Response Clinician I: One (1) year of experience working in the social work or counseling field with strong emphasis on social services, crisis response, severe mental illness, resources, and referrals using a collaborative and community framework.

Crisis Response Clinician II: Two (2) years of experience working in the social work or counseling field with strong emphasis on social services, crisis response, severe mental illness, resources, and referrals using a collaborative and community framework.

License:

Possession of a valid Class C California Driver's License.

Crisis Response Clinician I: Registered with the State of California Board of Behavioral

Sciences as an APCC, AMFT or ACSW. A current license with the State of California Board of Behavioral Sciences, as either a LCSW, LMFT, LPCC or licensed Clinical Psychologist desirable.

Crisis Response Clinician II: A current license with the State of California Board of Behavioral Sciences as either a LCSW, LMFT, LPCC or licensed Clinical Psychologist required.

07/24

City Council Meeting Agenda Report Item # _____

Meeting Date: July 22, 2024

Subject: **Approve Use of Federal Asset Forfeiture Funds to Purchase a Polaris Ranger Crew XP1000 Utility Task Vehicle for Use by the Police Department**

Recommended Action
Staff recommends City Council approve the use of Federal Asset Forfeiture Funds to purchase a Polaris Utility Task Vehicle for use by the Police Department.

Background
The Police Department conducts general operations and provides community safety efforts during events throughout the city where the use of a utility task vehicle (UTV) could improve effectiveness and efficiency. Currently, the Department does not have such a vehicle.

Discussion
UTV's are midsized off-road capable vehicles that typically carry 2-6 passengers. They can operate in a variety of terrain, and properly outfitted can provide support to different units within the police department. Opportunities for a UTV include large scale community events, patrols, and details at congested locations where vehicle operations are impeded, support for transporting the Bicycle Patrol Unit during identified details, search and rescue in remote locations on the coast or in San Bruno Mountain, and for carrying out services following natural disasters. The primary challenge associated with all these potential use cases is either accessibility or maneuverability, given terrain or congestion concerns.

Staff evaluated UTV options and identified the Polaris Ranger Crew XP1000, law enforcement edition, as best suited for our needs. It is fully enclosed, climate controlled and capable of deploying 6 passengers while maintaining a cargo bed. It is outfitted with custom law enforcement graphics and emergency lighting, clearly distinguishing it as an emergency response vehicle.

Fiscal Impact
Funding is available using Federal Asset Forfeiture Funds. The one-time purchase cost for a Polaris Ranger Crew XP1000 through Polaris Government and Defense, the sole source provider of the law enforcement edition, is not to exceed $55,000.

Summary/Conclusions
Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

Cameron Christensen
Acting Chief of Police

City Council Meeting Agenda Report Item # _____

Meeting Date: July 22, 2024

Subject: Approve Proposed Revisions of Lead Groundskeeper Gardener Job Specification, and Approve Proposed Title Change and Job Specification Revisions for Senior Building Maintenance Worker to Lead Building Maintenance Worker Job Specification (Civil Service)

Recommended Action

Staff recommends that the City Council approve the proposed revisions to the Lead Groundskeeper Gardener job specification, and approve the title change and job specification revisions for the Senior Building Maintenance Worker to Lead Building Maintenance Worker.

Background/Discussion

Through the 2019 Labor negotiations process, the City and AFSCME Local 829 agreed to review the Lead Public Works Maintenance Worker classification. As a result, both parties are in agreement to revert back to using a title specific to the division the employee will be assigned to. On April 8, 2024, the City Council previously approved the change to the Lead Public Works Maintenance Worker assigned to the Streets Division.

The Lead Groundskeeper Gardener job specification has been updated to accurately reflect the duties of the position.

Staff is also recommending a title change for the Senior Building Maintenance Worker to Lead Building Maintenance Worker. This will make the title consistent with the other Lead Worker classifications in Public Works. The Lead Building Maintenance Worker job specification also has been updated to accurately reflect the duties of the position and remain at range X044 of the AFSCME salary schedule.

The City Manager has approved the proposed title change and civil service job specifications and the City has met and conferred in good faith with the affected bargaining units and, as a result, have agreed to the proposed title change and job specification changes.

Fiscal Impact

No fiscal impact.

Summary/Conclusion

Staff is recommending that the City Council approve the proposed revisions to the Lead Groundskeeper Gardener job specification, and approve the title change and job specification revisions for the Senior Building Maintenance Worker to Lead Building Maintenance Worker.

Staff is available to provide any additional information desired by the Mayor or Councilmembers.
Respectfully submitted,

Natalie Sakkal
Director of Human Resources

Attachments

CITY OF DALY CITY
JOB SPECIFICATION

APPROVED BY:
PERSONNEL BOARD: ~~09/12/2013~~
CITY COUNCIL: ~~10/14/2013~~
RES. NO. ~~13-157~~

LEAD GROUNDSKEEPER/GARDENER~~PUBLIC WORKS MAINTENANCE WORKER~~

DEFINITION

Under general supervision, serves as a lead worker and assumes significant responsibilities for the general maintenance, repair, construction, and inspections of landscaping and trees, irrigations systems, pathways, and sports fields. Supervises, organizes, trains, and provides direction to assigned personnel and performs a variety of skilled tasks related to the maintenance, repair and construction of landscaping, irrigations systems, and pathways, and performs other related duties as assigned.~~Under general supervision of a Public Works Maintenance Supervisor, provides lead direction, personally performs any combination of tasks involved with inspection, construction, repair, preventative, corrective and emergency maintenance of streets, roadways, storm drains, landscaping, irrigation, sports fields, playground structures, public buildings, facilities and related structures, and performs other duties as assigned. The Lead Public Works Maintenance Workers may be assigned to one of three (3) Public Works Maintenance Sections (Streets, Buildings, or Parks).~~

DISTINGUISHING CHARACTERISTICS

This classification is distinguished from the Groundskeeper/Gardener ~~Maintenance Worker~~ I/II classification series by the performance of more skilled and complex ~~public~~ maintenance and repair tasks, and the requirement to oversee, lead and train subordinate ~~a crew of~~ employees. Incumbents may also perform all the duties customarily performed by a Groundskeeper/Gardener I/II. ~~Maintenance Worker I/II in any of the assigned areas: Streets, Buildings or Parks.~~

EXAMPLES OF DUTIES

Leads and performs complex skilled landscape and irrigation maintenance and repair duties. Maintains sports fields, landscape areas, roadway medians, irrigation systems, and related facilities. Picks up litter around parks, roadway medians, and City facilities. Water, mow, weed, trim, renovate, and fertilize lawns; prunes trees and shrubs; plants and propagates trees, flowers, and shrubs. Applies herbicides, fungicides, and pesticides safely; maintains record of fertilizers and chemicals used. Installs and maintains irrigations systems.

Prepares the detailed planning, scheduling and organization of the work of assigned personnel; ~~checks~~ oversees work of assigned crews to verify~~see~~ that work is done

properly and expeditiously; confers with ~~Public Works Maintenance S~~supervisor on significant deviations; prepares cost estimates as required; may assist in the preparation of annual budgets, including capital improvements; assists in projecting personnel, equipment, and material needs; opens and completes work orders; maintains records concerning installations, repairs, and the condition of the landscaped areas ~~facility~~ or site of assigned work; makes recommendations for improvements, additions, alterations and repairs and may inspect work performed by outside contractors; assists in preparing employee performance evaluations, conducts effective training on equipment operation, care, cleaning and maintenance; and general safety and work site safety; advises on safety precautions and instructs personnel in the

technical aspects of work performed; responds to inquiries and complaints pertaining to the work of the Parks Maintenance Section as directed; other related duties as assigned.

Operates hand and power tools, mowers, tractors, trenchers, and ~~heavy~~ equipment common to landscap~~e~~ing, ~~paving~~ maintenance work; performs routine maintenance of such equipment. ~~or general construction.~~ Reads and interprets construction plans and specifications and prepare cost estimates; meets with and ~~monitors~~ oversees assigned personnel, contractors and vendors.

~~Depending on the Public Works Maintenance Section the employee is assigned may personally perform typical duties in one of the following broad categories:~~

~~Parks- safely handles and apply pesticides, herbicides and fertilizers, propagates plants, transplants and cares for flowers, ornamental trees and shrubs; installs and maintains irrigation systems;~~

~~Streets- safely handles and applies thermoplastic and paint for roadway striping; maintains street pavement, signage, stripping and storm drain facilities;~~

~~Buildings- repairs and maintains plumbing and heating systems, door hardware and locks, roofs, fencing, sheet rock, paneling, floor and wall covering and general carpentry;~~

MINIMUM QUALIFICATIONS

Knowledge of: Practical aspects of supervisory principles and practices including effectively maintaining a work environment that is free of discrimination and harassment; elements of work scheduling; labor and material cost estimating for landscape, irrigation, and sports field renovation~~Public Works Maintenance~~ projects; basic recordkeeping and budget procedures; standard safety procedures, including working practices and safety orders of the California Division of Industrial Safety pertinent to landscape, irrigation, and sports field ~~general or utility~~ construction, ~~and~~ maintenance, and repair; methods, tools, materials, and types and functions of equipment used; provisions of the California Vehicle

Code as it applies to the loading and operation of motor vehicles; applicable Federal, State and local laws, codes and regulations.

Ability to: Supervise, schedule, train, and direct the work of assigned personnel; follow oral and written directions; prepare clear and accurate reports; prepare and maintain accurate records; read and interpret plans and specifications; be available in an emergency for night and weekend work; operate and maintain all types of specialized equipment used in the maintenance of ~~public buildings,~~ landscaping, irrigation, and sports fields ~~and street infrastructure~~; perform skilled and semi-skilled tasks; organize and direct ~~building, street, and~~ parks maintenance projects; analyze situations effectively and develop appropriate solutions to correct problem areas, communicate in a professional manner with various personnel, including personnel from other City Departments, city residents, engineering consultants and industry representatives, communicate clearly and concisely with contacts both verbally and in writing, as needed, to perform one's assignments, interact positively and cooperatively with co-workers, respond politely to customers, work as a team member, function under demanding time pressures, respond in a positive manner to supervision, and attend work and perform duties on a regular and consistent basis.

Experience: Three (3) years of increasingly responsible experience in performing skilled work in the maintenance, repair, and/or construction of ~~of~~ landscaping, irrigation, and sports fields~~streets, roadways, storm drains systems, landscaping, irrigation, sports fields, playground structures, public facilities~~ and related structures.

Education: Graduation from high school or equivalent. Associate of Arts Degree or higher in related field highly desirable.

~~**Education:** Graduation from high school or equivalent. Additional qualifying experience may be substituted for the required education on a year-for-year basis up to a maximum of two years. Associate of Arts Degree or higher in related field highly desirable.~~

Physical Requirements: Moderate and sometimes strenuous exertion required, including sustained walking, standing, bending, kneeling, crawling, climbing, and lifting. Works in adverse weather conditions from time to time. Exposure to dirt, noise, uneven surfaces, and/or extreme heat or cold when in the ~~field, and~~field and may be required to sit for long periods using a computer ~~keyboard~~ and electronic equipment~~mouse~~.

License: Possession of a valid Class "CA" ~~or Class "B"~~ California Driver's License ~~with a Tank Endorsement~~ (including acceptable driving record)~~, or the ability to obtain one within 12 months.~~

Certification: Possession of a ~~Candidates assigned to the Parks Section must possess a~~ Qualified Applicator's Certificate issued by the State of California and be qualified for spraying in categories (B) Landscape Maintenance and (C) Rights-of-Ways, or the ability to obtain one within 12 months.

~~Candidates assigned to the Streets Section must possess a Wastewater Collection System Maintenance Certificate Grade I issued by the California Water Environment Association, or ability to obtain Certificate within 12 months.~~

~~Candidates assigned to the Buildings Section must possess a Playground Safety Inspector Certification issued by the National Recreation and Park Association, or ability to obtain Certificate within 12 months.~~

R: 0911/2019 ~~08/20136~~/2024

Approved:



Date:

7/17/2024

CITY OF DALY CITY
JOB SPECIFICATION

~~10/14/2013~~

~~157~~

~~APPROVED BY:~~
~~09/12/2013~~
CITY COUNCIL:

RES. NO. ~~13-~~

LEAD BUILDING MAINTENANCE ~~PUBLIC WORKS MAINTENANCE~~ WORKER

DEFINITION

Under general supervision ~~of a Public Works Maintenance Supervisor~~, serves as a lead worker and assumes significant responsibilities for the general maintenance, repairs, and inspections of buildings, exterior hardscape structures, and playground structures. Supervises organizes, trains, and provides direction to assigned personnel. Performs a variety of skilled tasks that include painting, carpentry, plumbing, roofing, electrical, and heating, ventilation and air conditioning (HVAC), ~~provides lead direction, personally performs any combination of tasks involved with inspection, construction, repair, preventative, corrective and emergency maintenance of streets, roadways, storm drains, landscaping, irrigation, sports fields, playground Structures, public buildings, facilities and related structures,~~ and performs other duties as assigned. ~~The Lead Public Works Maintenance Workers may be assigned to one of three (3) Public Works Maintenance Sections (Streets, Buildings, or Parks).~~

DISTINGUISHING CHARACTERISTICS

This classification is distinguished from the Building Maintenance ~~Maintenance~~ Worker I/II classification series by the performance of more skilled and complex ~~public~~ maintenance and repair tasks, and the requirement to oversee, lead and train ~~a~~subordinate ~~crew of~~ employees. Incumbents may also perform all ~~of~~ the duties customarily performed by a Building Maintenance ~~Maintenance~~ Worker I/II. ~~in any of the assigned areas: Streets, Buildings or Parks.~~

EXAMPLES OF DUTIES

Leads and performs complex skilled maintenance and repair work at the journey level in one or more of the following trades: plumbing, electrical, HVAC, painting, or carpentry. Repair and maintain door hardware and locks, roofs, fencing, floor and wall covering, and park and playground structures.

Prepares the detailed planning, scheduling and organization of the work of assigned personnel; checks work of assigned crews to see that work is done properly and expeditiously; confers with ~~Public Works Maintenance~~ Supervisor on significant deviations; prepares cost estimates as required; may assist in the preparation of annual budgets, including capital improvements; assists in projecting personnel, equipment, and

material needs; opens and completes work orders; maintains records concerning installations, repairs, and the condition of the facility or site of assigned work; makes recommendations for improvements, additions, alterations and repairs; and may inspects work performed by outside contractors; supervise and enforce rules and regulations on assigned personnel; assists in preparing employee performance evaluations; conducts effective training on the operation and maintenance of equipment operation, care, cleaning and maintenance; and monitors general safety and work site safety; advises on safety precautions and instructs personnel in the technical aspects of work performed; responds

to inquiries and complaints pertaining to the work of the Building Maintenance Section as directed; other duties as assigned.

Operates hand and power tools, and heavy equipment common to landscaping, paving or general construction and building repairs. Reads and interprets construction plans and specifications; and prepares cost estimates; and meets with and oversee monitors assigned personnel, contractors and vendors.

Depending on the Public Works Maintenance Section the employee is assigned may personally perform typical duties in one of the following broad categories:

Parks- safely handles and apply pesticides, herbicides and fertilizers, propagates plants, transplants and cares for flowers, ornamental trees and shrubs; installs and maintains irrigation systems;

Streets- safely handles and applies thermoplastic and paint for roadway striping; maintains street pavement, signage, stripping and storm drain facilities;

Buildings- repairs and maintains plumbing and heating systems, door hardware and locks, roofs, fencing, sheet rock, paneling, floor and wall covering and general carpentry;

MINIMUM QUALIFICATIONS

Knowledge of: Methods, materials, tools and equipment required in carpentry, painting, electrical, plumbing, HVAC, other building systems, and associated equipment. Practical aspects of supervisory principles and practices including effectively maintaining a work environment that is free of discrimination and harassment; elements of work scheduling; labor and material cost estimating for Public Works Maintenance projects; basic recordkeeping and budget procedures; standard safety procedures, including working practices and safety orders of the California Division of Industrial Safety pertinent to general or utility construction and maintenance; methods, tools, materials, and types and functions of equipment used safety principles and practices used in building maintenance work; provisions of the provisions of the California Vehicle Code as it applies to the

loading and operation of motor vehicles; applicable Federal, State and local laws, codes and regulations.

Ability to: ~~Perform complex skilled maintenance and repair at the journey level in one or more of the following trades: plumbing, electrical, painting, carpentry, or HVAC.~~ Supervise, schedule, train, and direct the work of assigned personnel; follow oral and written directions; prepare clear and accurate reports; prepare and maintain accurate records; read and interpret plans and specifications; be available in an emergency for night and weekend work; operate and maintain all types of specialized equipment used in the maintenance of public buildings, facilities, and playground structures~~;, landscaping and street infrastructure~~; perform skilled and semi-skilled tasks; organize and direct building and park and playground structure~~, street, and parks maintenance~~ projects; analyze situations effectively and develop appropriate solutions to correct problem areas ~~areas~~, communicate in a professional manner with various personnel, including personnel from other City Departments, city residents, engineering consultants and industry representatives~~;~~, communicate clearly and concisely with contacts ~~, with contacts bo bbo~~th verbally and in writing, as needed~~,, as needed,~~ to perform one's assignments, interact positively and cooperatively with co-workers, respond politely to customers, work as a team member, function under demanding time pressures, respond in a positive manner to supervision, and attend work and perform duties on a regular and consistent basis.

Experience: Three (3) years of increasingly responsible experience in performing skilled work in the maintenance, repair, and/or construction of ~~of streets, roadways, storm drains systems, landscaping, irrigation, sports fields,~~ public facilities, park and playground structures~~,, public facilities~~ and related structures.

Education: Graduation from high school or equivalent. Associate of Arts Degree or higher in related field desirable.

Physical Requirements: Moderate and sometimes strenuous exertion required,

including sustained walking, standing, bending, kneeling, crawling, climbing, and lifting. Works in adverse weather conditions from time to time. Exposure to dirt, dust, noise, uneven surfaces, and/or extreme heat or cold when in the ~~field, and~~field and may be required to sit for long periods using a computer and other electronic equipment~~keyboard and mouse~~.

License: ~~None~~Possession of a valid Class "C" California Driver's License (including acceptable driving record).

Certifications: Possession of a Playground Safety Inspector Certification issued by the National Recreation and Park Association, or ability to obtain Certificate within 12 months. ~~valid Class "A" or Class "B" California Driver's License with a Tank Endorsement (including acceptable driving record), or the ability to obtain one within 12 months.~~
~~Candidates assigned to the Parks Section must possess a Qualified Applicator's Certificate issued by the State of California and be qualified for spraying in categories (B) Landscape Maintenance and (C) Rights-of-Ways, or the ability to obtain one within 12 months.~~
~~Candidates assigned to the Streets Section must possess a Wastewater Collection System Maintenance Certificate Grade I issued by the California Water Environment Association, or ability to obtain Certificate within 12 months.~~

~~Candidates assigned to the Buildings Section must possess a Playground Safety Inspector Certification issued by the National Recreation and Park Association, or ability to obtain Certificate within 12 months.~~

R: ~~11/2019~~ 06/2024

Approved:



Date:

7/17/24

City Council Meeting Agenda Report Item # ____

Meeting Date: July 22, 2024

Subject: Resolution Adopting Salary Range Reassignments for Specific Executive Management Positions

Recommended Action
Staff recommends that the City Council adopt a resolution approving salary range reassignments for specific executive management positions.

Background/Discussion
In an effort to address historical internal inequity amongst executive management/department head positions that have comparable job duties and responsibilities, staff is recommending aligning and reassigning those executive management positions as appropriate.

Staff is recommending reassigning the following classifications from Range M428 to Range M440 of the Executive Management salary schedule effective the first full pay period following City Council adoption of this resolution:

1) Director of Human Resources
2) Director of Recreation Services
3) Library Director

The salary range alignment and reassignment of these Department Heads will be equitable to the Director of Economic & Community Development, Director of Public Works and the Director of Water & Wastewater Resources.

Fiscal Impact
The proposed salary range reassignments for the Director of Human Resources, Director of Recreation Services and Library Director salary will result in a --- (approximately 6.39% increase in ranges for 3 employees) to the General Fund budget for FY 2024.

Summary/Conclusion
Staff recommends that the City Council adopt a resolution approving salary range reassignments for specific Executive Management employees.

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

Timothy J. Nevin
Director of Finance and
Administrative Services

Thomas J. Piccolotti
City Manager

City Council Agenda Report

Item #____

Meeting Date: July 22, 2024

Subject: Authorize Temporary Assignment and Reimbursable Compensation of the Co-Interim Executive Director for the San Mateo County Pre-Hospital Care Emergency Medical Services Group (JPA)

Recommended Action

The City Council authorize Fire Chief Ron Myers to continue performing in the capacity as the San Mateo County Pre-Hospital Care Joint Powers Authority Temporary Co-Interim Executive Director and approve a management incentive compensation of 10% of the Fire Chief's base salary. The compensation shall be fully reimbursed to the City of Daly City by the JPA Board.

Background

The San Mateo County Pre-Hospital Emergency Medical Services Group ("JPA") is a joint powers authority that provides first responder pre-hospital emergency medical services in San Mateo County. The JPA provides a mechanism to monitor and improve the quality of advanced life support services throughout San Mateo County. It serves to track the effectiveness of the public/private partnership between the JPA and the Countywide ambulance providers under contract with San Mateo County.

Since June of 2022, and the impending retirement of the Executive Director, Daly City Fire Chief Ron Myers has been serving as Interim Co-Executive Director at no cost to the JPA and has not received any extra compensation for serving in this capacity. Because the Chief has been a part of the JPA for an extended period, he has the ability, knowledge and experience to oversee the activities and operations of the JPA along with the other co-interim Executive Director.

Discussion

The Fire Chief as the Co-Executive Director would continue managing the day-to-day activities and operations, overseeing budget, fiscal planning and accounting, including addressing significant projects and issues such as the build out and replacement of the countywide radio communications infrastructure system, as well as the ongoing interactions with the County regarding the countywide dispatch services. The Interim Co-Executive Director responsibilities and activities would continue until a permanent Executive Director is appointed after a short transition period has occurred.

Fiscal Impact

There is no cost or additional funding required, as the Pre-Hospital Care JPA will fully reimburse all compensation and expenses associated with the assignment.

Summary/Conclusion

Recommend that the City Council authorize the temporary assignment of the Fire Chief as the Co-Interim Executive Director and approve the management incentive compensation of 10% of the base salary to be reimbursed by the JPA until a permanent Executive Director is appointed by the Pre-Hospital Care JPA and a short transition period has occurred.

Staff is available to provide any additional information desired by the Mayor or City Council Members.

Respectfully submitted,



Ron Myers
Fire Chief



Thomas J. Piccolotti
City Manager

Meeting Date: July 22, 2024

Subject: General Plan Amendment GPA-05-24-16525, Planned Development PD-10-22-015932, and Design Review DR-4-18-13424 – Office Building and Parking Structure at 455 Hickey Boulevard

Recommended Action

Approve the General Plan Amendment GPA-05-24-16525, Planned Development Rezone PD-10-22-015932, and Design Review DR-4-18-13424, certify the Mitigated Negative Declaration prepared for the project, and accept the Water Supply Assessment prepared for the project.

Planning Commission Discussion

On June 4, 2024, the Planning Commission voted 3-0 (Commissioner Satorre abstained) to recommend that the City Council approve the project. The Commissioners expressed support for the project and its benefits to the local economy of Daly City. The Planning Commissioners asked when construction was anticipated to start and whether the applicant had financing for the project. The applicant stated this depended on market conditions and ability to obtain financing to start construction depends on securing major tenants. Commissioner Catuar asked if the parking could possibly used by the public during hours the office building was non-operational. The applicant responded that it would largely depend on what the ultimate building tenant would prefer. Nels DeLander, representing NorCal Carpenters Union, expressed overall support for the project and a desire that the project could provide job and apprenticeship opportunities for labor members.

Background

The applicant proposes to demolish an existing five-story office building and three-level parking garage and construct a new office building with parking structure at 455 Hickey Boulevard (see Attachment A – Site Location). The project site is currently developed as the Serramonte Business Center, which includes an 80,652 square foot, five-story office building and 112,500 square foot three-level, 293 parking space, parking garage. The existing building was constructed in 1982.

The project, as proposed, requires the following entitlements:

1. General Plan Amendment to change the General Plan designation for a small portion of the project site from Commercial - Retail and Office (C-RO) to Commercial -Office (C-O);

2. Rezoning entire project site from C-1 Light Commercial, C-O Commercial Office, and Planned Development 8 (PD8) to Planned Development 8A (PD-8A);

3. Design Review approval for the site and building design;

4. Certification of the Mitigated Negative Declaration for the project; and

5. Adoption of a Water Supply Assessment for the project.

On May 22, 2023, the City Council reviewed and approved the Preliminary Plan for the project which included the proposed land use, circulation, and overall site design.

Project Description

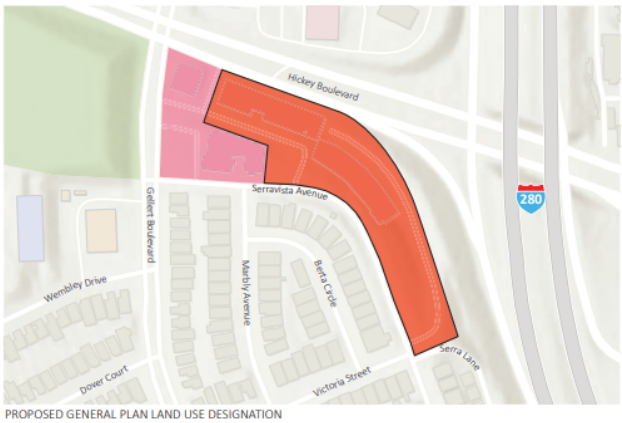
The project applicant proposes to demolish an existing three-level parking garage and five-story office building and construct a new office building with parking structure at a 3.2-acre site. The applicant is requesting approval of two alternatives for the project. Alternative one would entail construction of an eight-story, 166-foot-tall office building over a three-story parking podium. The total building area would be 280,000 square feet (see Attachment B - Commercial Office Plans). Alternative two would entail the construction of a five-story, 118-foot tall, medical office building with a total of 180,000 square feet and would be placed within the same building footprint as the business office building (see Attachment C - Medical Office Plans). Under either alternative, the same six-level parking garage would be constructed providing approximately 900 parking spaces. The garage size would appear as a six-level structure from Hickey Boulevard and two and a half level structure from Serravista Avenue.

General Plan Amendment

A General Plan Amendment is proposed to change the land use of the northwest portion of the project site from the Commercial - Retail and Office (C-RO) land use designation to the Commercial -Office (C-O) land use designation. As shown in the illustration below, this General Plan amendment pertains only to s small portion at the northwest corner of the site, as the bulk of the site is already designated C-O, a designation which was established at the time of the construction of the office building that exist today. The amendment is necessary to ensure the entire site is designated C-O.



EXISTING GENERAL PLAN LAND USE DESIGNATION



PROPOSED GENERAL PLAN LAND USE DESIGNATION

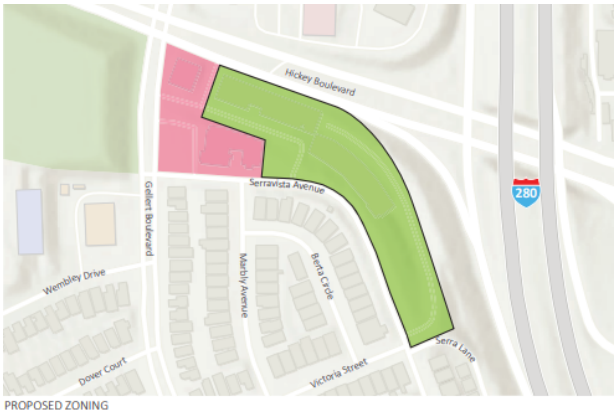
Planned Development Rezone

The proposed project requires the approval of an amendment to the existing Planned Development zoning for the site, PD8, and rezoning portion of the site that are presently zoned C-1 Light Commercial and C-O Office Commercial into a new Planned Development 8A zone (see Attachment D – Draft Planned Development Standards). A graphic illustrating these changes is provided on the following page.

The Planned Development amendment provides the City Council with an opportunity to evaluate the proposal in the context of the existing on-site and adjacent uses and evaluate if the proposed project merits approval. In so determining, the Council should evaluate if the new building and parking structure would be compatible with existing uses, if infrastructure exists to serve the site, and if the provision of parking is adequate and, as designed, would not have a detrimental impact to the adjacent neighborhood.

The Council should note that the subject site is presently occupied by an 80,652 square foot office building consisting of medical and commercial office uses. After redevelopment of the parking garage and office building, the expanded parking and office building would offer either medical or office use space. As the existing and proposed uses on the project site are essentially the same, staff feels the proposed use would be compatible with existing uses.





Design Review

Design Review approval pursuant to Chapter 17.45 (Design Review) of the Zoning Code is required. The proposed project must meet the following findings:

1. The plans are in best interest of public health, safety and general welfare of the community;

2. General site considerations, including site layout, open space and topography, orientation and location of buildings, vehicular access, circulation and parking, setbacks, heights, walls, fences, public safety and similar elements have been design to provide a desirable environment;

3. The architectural design has considered the character, scale and quality of the design, the architectural relationship with the site and other buildings, building materials, colors, screening of exterior appurtenances, exterior lighting and signing and similar elements have been incorporated in order to insure the compatibility of this development with its design concept and the character of other adjacent buildings;

4. General landscape considerations of Chapter 17.41, Landscaping, have been provided to ensure visual relief, to complement buildings and structures and to provide an attractive environment for the enjoyment of the public.

According to the applicant, the building's massing is articulated in different ways to reflect the unique hillside character and be respectful of the varied scales and massing of the mixed-used neighborhoods. A strong emphasis is placed on the vertical hierarchy of the building massing. Architectural expression evolved from the garage base to the body of the building and roofline. Appropriately expressed transparency of the glass facade is reinforced by skeletal frames of opaque finishes, aluminum, and solar-control elements. This animated face highlights the movement rhythm of the freeway and Hickey Blvd. Additionally, multi-level view decks are strategically placed and aligned with the glass building corners that provide belief to the building massing, but also create outdoor amenities within the building, on this tight site. The new office building will present itself as a visual maker of the neighborhood and for the vehicular traffic along the I-280 Freeway and from the west side of the city. The dual-tone, white and grey, Glass Fiber Reinforced Concrete (GFRC) panels at the main building body form a solid frame, anchoring the building to the hillside. The building corners will be framed with painted grey and off white, perforated metal panels and feature more glass panels for higher transparency, posing a visually interesting juxtaposition with the main body and help to break down the building scale. Two types of glazing are being proposed in this project - the main body glazing will have a grey-blue appearance, creating a sophisticated feel to the overall building design; the corners will have a silver-blue appearance, creating a series of lighter volumes around the building. Sunshade devices are being applied at west and south-facing elevations to improve building daylight quality and energy performance. A double-story lobby will be placed on the southeast corner where the building meets grade at Serravista Avenue; two corner entrances will be created to welcome people coming from both the street and the parking garage.

The parking garage will be largely screened by existing landscaping on Hickey Boulevard, perforated metal panels will be placed strategically to dress up the garage, this design also forms a strong base for the office building above. Two additional levels of parking structure will be built east of the office building, large street trees will be placed along Serravista Avenue to minimize pretenses in the area. The stair tower will mimic the building design language and feature some glass panels facing Hickey Boulevard. The service yard will be located on the east side of the building, equipment and loading area will be screened with architectural and landscape elements to minimize the visual impact.

Staff supports the site layout and building architectural design and materials for the proposed building (commercial office and medical office options). The contemporary design and materials offer a visually interesting structure as viewed from adjacent streets and the site layout, open space and the orientation of the building provides a desirable environment for the public and building tenants. Given the quality of the proposed building design, staff recommends no Conditions of Approval related to architecture of either building scenario.

The City Council should be aware that the project applicant has requested a Design Review Permit approval period of ten years. Staff is recommending that the Planning Commission and City Council grant the request for an extension of four years, allowing for a five-year Design Review approval period (Code required one-year approval period plus four years). The entitlement approval period is outlined in the new Planned Development requirements for the project. The Applicant may request additional extensions by seeking approval from the Planning Commission and City Council.

Landscape and Open Space

The project site is located within the lower southern hills of Daly City with existing trees flanking the site to the east within the I-280 corridor. Large existing evergreen trees along the southwest edge of the site will remain and be protected. According to applicant, the plant palette is to be drought tolerant, and work with the wind and fog common in this part of Daly City. Special attention is paid to native species such as Western Redbud, Ceanothus and Berkeley Sedge. Wind resistant species such as New Zealand Christmas Tree, Arbutus Marina and Holly Oak will be used to create wind breaks and increase the amount of outdoor usable space. Color is added into the palette with species such as Pink Muhly Grass, New Zealand Flax and Star Jasmine.

Irregular shapes creating triangulated tilted planes are used to create identity within the Urban Plaza which also serves as a vehicular drop off. Useable space is created with large triangular mounds with seating carved within the mound for a protected and calming lunch time collaborative experience. Smaller seating areas are created from the parking and public access areas into the building lobbies, creating a hierarchy of spaces when combined with the larger seating areas within the mounds. Attention is paid to differing paving materials to create interest in the paving and provide visual queues when approaching the plaza itself, and aid in wayfinding from parking/ public access areas.

Staff concludes that the project complies with the General landscape considerations of Chapter 17.41, providing open space and landscaping to ensure visual relief, to complement buildings and structures and to provide an attractive environment for the enjoyment of the public (Municipal Code Design Review 17.45.080 – Findings).

Transportation Study

A transportation impact analysis was completed by the transportation consultant TJKM to evaluate both the proposed commercial office (Alternative 1) and medical office (Alternative 2) alternatives (see Attachment E – Traffic Impact Study Report). The study evaluated project trip generation under existing conditions, existing plus project alternative 1 conditions, existing plus project alternative 2, and cumulative (2035) plus project alternatives 1 and 2 conditions.

Under existing plus project alternative 1 and 2 conditions, the study determined that 15 of the 17 study intersection will operate at acceptable Level of Service (LOS) D or better during both peak hours for both existing plus project alternatives. Evaluating cumulative (2035) plus project alternative 1 and 2 conditions, 14 of the 17 intersections continue to operate at acceptable LOS D or better during both peak hours.

Based on the analysis of the alternative 1 and 2 conditions, City staff evaluated proposed measures to reduce delay and have required the project applicant implement transportation improvement measures that are included in the Conditions of Approval of the project.

Parking and Circulation

The proposed parking count for both the commercial office and medical office building will remain the same. The project would provide a total of approximately 900 parking spaces. As per current State requirements, 450 parking spaces would be electric vehicle (EV) spaces. Of the 450 spaces, 90

spaces would be Level 2 (240 Volt) spaces, 90 would be EV Level 1 (120 Volt) spaces and 270 spaces would be EV capable (infrastructure installed except for wires). The remaining 450 parking spaces would not have any special parking designation, except for required accessible spaces. A total of eight short-term bicycle parking spaces and 46 long-term bicycle parking spaces would also be provided.

Site access and parking would be the same under both the Commercial Office and Medical Office Building options. The project (under either option) would include two entry points for employees and visitors to access the podium parking and the parking structure. Access to the podium parking would be provided primarily from Hickey Boulevard with drop-off at the interior lobby. Access to the parking structure east of the office building would be provided primarily via a private driveway off Serravista Avenue. A curbside drop-off space would be provided on Serravista Avenue, connecting the sidewalk and the new entry plaza leading to the building's main lobby. A landscaped pathway would link the lobby to the elevator/stairway of the parking structure to the east. Delivery trucks traveling to the site would enter and exit via the Serravista Avenue driveway to access the singular loading area east of the building within the service yard. Internal drive aisles (24-feet in width) would provide vehicle and truck circulation around the perimeter of the proposed building. Additionally, a 20-foot-wide utility easement driveway would be constructed on the north side of the first parking level to provide the City access to the re-aligned underground sewer lines and storm drain. The driveway would be accessible via the garage entry off Hickey Boulevard and through a sloped driveway to Serravista Avenue.

Shadow Analysis

A shadow study was conducted by the applicant for the project to assess the potential impacts of the proposed building and parking structure on the existing streets and properties (see Attachment F – Shadow Study). The study included both development scenarios, an eight-story commercial office development and five-story medical office. The shadow study was conducted using a combination of satellite images, digital mapping tools, and 3D modeling and simulation software. Data was collected for different times of the day, including 9am and 3pm during the spring equinox, summer solstice, fall equinox, and winter solstice, to capture variations in shadow patterns throughout the year. The results of the study found that in the morning, shadows from the new building structure are casting primarily towards the northwest side, over a portion of the adjacent shopping center and Hickey Boulevard. No shadow impacts were found on the existing residential homes to the south of project site. During the winter seasons, shadows from the new development tilt slightly toward the north-direction, but generally over public right of ways up the hill. The shadows from the low-angle sun recede gradually as the morning progresses. In the afternoon, shadows from the new building shift towards the east as the sun moves westward, over a portion of Hickey Boulevard and the commercial buildings across the street to the north of the project site. The shadow study concluded that there is minimal impact over the existing residential neighborhood south of Serravista Avenue. Only a portion of the public ROW and adjacent commercial uses will be shaded for part of the day.

San Francisco International Airport Influence Area

The project site is located within the Airport Influence Area (AIA) of the San Francisco International Airport (SFO). Properties within the AIA may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (e.g., noise, vibration, and odors).

The airport/land use compatibility of a proposed development or land use policy action is determined by comparing the proposed development or land use policy action with the safety compatibility criteria, noise compatibility criteria, and airspace protection/height limitation criteria in the Airport Land Use Compatibility Plan (ALUCP). Any proposed land use policy actions, including the proposed General Plan rezoning, that affect properties within the ALUCP Airport Influence Area B boundary in Daly City (such as the project site), must be referred to the C/CAG Board for an ALUCP consistency review and determination.

On December 8, 2022, the Board considered the ALUC recommendation and evaluated the consistency of the project with the relevant airport/land use compatibility policies and criteria contained in the adopted ALUCP. The C/CAG Board determined the proposed General Plan amendment, rezoning, and related project entitlements were consistent with relevant ALUCP policies with a required Condition of Approval related to real estate disclosure requirements regarding the site's location within the AIA and the requirement that the project undergo FAA review as described in 14 Code of Federal Regulations Part 77 for both (1) the permanent structures and (2) any temporary cranes or other equipment taller than the permanent buildings which would be required to construct those structures.

Utilities Infrastructure Capacity

The City's Public Works Department and Department of Water and Wastewater Resources have evaluated the proposal and determined that adequate water and sewer infrastructure exists to serve the subject site. The Fire Department has also reviewed the project and has no objections.

Fiscal Analysis and Impacts

The construction of the proposed building addition would add an incremental demand for City services. Prior to project completion, the project applicant will be required to pay building permit, plan check, and AB 1600 fees to the City. The project will increase property tax and business license taxes.

Environmental Assessment

After completing an initial study for the project, staff has determined that the adoption of a Mitigated Negative Declaration (MND) for the project is appropriate pursuant to Section 15070 of the Public Resources Code, as specified under the California Environmental Quality Act (CEQA) (see Attachment G – Final Mitigation Negative Declaration). A Mitigation Monitoring and Reporting Program (MMRP) was required for this project in the following resources: Air Quality, Biological Resources, Cultural Resources, Geology and Soils and Noise and Vibration. Implementation of these MMRPs reduce the impact from the project to less-than-significant (Section 21081.6 of CEQA) (see Attachment H – Mitigation Monitoring and Reporting Program).

Public Comment
The draft MND environmental document was prepared and was circulated for public comment for 30-days (from May 21, 2024, to June 20, 2024). Staff received three public comments, one from Caltrans, one from a member of the Pedestrian Bicycle Advisory Committee (PBAC), and one from

a neighborhood resident. These comments were addressed in the CEQA responses to public comments document. (see Attachment I – Responses to Public Comments).

Staff received comments from Caltrans dated June 19, 2024. Caltrans comments are as follows. Caltrans advised that any permanent work or temporary traffic control that encroaches onto Caltrans' Right of Way (ROW) requires a Caltrans-issued encroachment permit. Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. A Transportation Demand Management plan is required for the project. Finally, if any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction.

Staff received a public comment email on May 31, 2024, from a member of the Pedestrian Bicycle Advisory Committee, recommending pedestrian, bicycle and transit improvements for the adjacent streets surrounding the project. The comments received from Alay Uy, were shared with the Planning Commission prior to the Planning Commission hearing held on June 4, 2024, but Commissioners had no comments regarding these suggestions at the meeting. Staff evaluated the recommendations and agreed to amend the conditions of approval for the project to have the applicant install high-visibility crosswalk striping on the east approach crosswalk of Gellert Boulevard and Serravista Avenue. In addition, staff is coordinating with Samtrans to require the installation of two bus shelters and improvements, if determined to be feasible, for the #121 and #130 line bus stops located on Gellert Boulevard southbound and Hickey Boulevard eastbound.

Staff received a letter on June 5, 2024, from a neighbor located at 49 Berta Circle expressing concerns about noise, pollution, traffic and views. Berta Circle is the street south of Serravista Avenue. Concerns about noise, pollution, traffic and views were evaluated in the CEQA-Mitigated Negative Declaration report. Noise and pollution were addressed in the Mitigated Monitoring and Reporting Program required for the project. The mitigation measures for the project construction noise and pollution will reduce these impacts to less-than-significant. A traffic study was conducted evaluating the traffic impacts of the proposed project and found no significant impacts to traffic from the proposed project. The applicant will be required to implement Transportation Demand Management measures for the development to reduce single-vehicle occupancy commuting. In addition, the applicant is required to implement pedestrian, traffic and transit safety improvements as a condition of approval for the project. Views were evaluated in the Aesthetics section of the environmental document and the study determined that the project would have a less than significant impact on scenic vistas. Scenic vistas are defined as the coastline, San Bruno Mountain, and scenic corridors within Daly City. Intermittent views of San Bruno Mountain from public roadways in the project vicinity would remain with the proposed development.

All comments received during the public comment period were addressed in a response in the subsequent final MND for the project, that is presented to the City Council for approval (see Attachment I – Responses to Public Comments).

Findings

The Planning Commission has found that, as conditioned, the approval of General Plan Amendment GPA-05-24-16525, Planned Development Zone Change PD-10-22-015932 and Design Review DR-

4-18-13424, would comply with Title 17 (Zoning) of the Daly City Municipal Code. Approval of the proposed project will not be detrimental to the health, safety, morals, comfort and general welfare of persons residing in or working in the neighborhood or be injurious or detrimental to the property and improvements in the neighborhood or the general welfare of the City. These findings are based on the following facts:

1. In accordance with Title 17 of the Daly City Municipal Code, as well as applicable State zoning enabling legislation, the City Council conducted a public hearing on July 22, 2024; notice of said hearing was published in a newspaper of general circulation on July 12, 2024, posting and first class mailing to property owners within 300 feet;

2. The Planning Commission and City Council have reviewed the proposal under the requirements of the California Environmental Quality Act (CEQA) and based on the Initial Study prepared by a qualified professional consultant, has determined that there is no substantial evidence, in light of the whole record, that the project may have a significant impact, given the mitigation measures outlined in the Mitigation Monitoring and Reporting Program prepared for the project. Therefore, a Mitigated Negative Declaration is appropriate for the project in accordance with the California Environmental Quality Act;

3. The proposed office building complies with applicable provisions of the Title 17 (Zoning) of the Daly City Municipal Code, including Chapter 17.48 Amendments, Chapter 17.28 – Planned Development, and Chapter 17.45 – Design Review;

4. The proposed office building merits design review approval, as the building would be compatible with existing adjacent uses, adequate utility and infrastructural capacity exists within close proximity to serve the site, and the provision of parking is adequate and, as designed, would not have a detrimental impact to the adjacent neighborhood;

5. General site considerations, including site layout, open space and topography, orientation and location of buildings, vehicular access, circulation and parking, setbacks, heights, walls, public safety and similar elements have been designed to provide a desirable environment;

6. General architectural considerations have been incorporated in order to ensure the compatibility of this development with its design concept and the character of on-site signage. These considerations include, but are not limited to, the character, scale and quality of the design, the architectural relationship with the site and other buildings, building materials, and colors;

7. General landscape considerations of Chapter 17.41, Landscaping, will be provided to ensure visual relief, to complement buildings and structures and to provide an attractive environment for the enjoyment of the public; and

8. The project will minimize the risk to existing public improvements and adjacent private property by providing controlled stormwater runoff from the site to City facilities in full compliance with Order R-2 NPDES Permit No. CAS612008 and Order No. 2010-0014-DWQ, NPDES No. CAS000002, the statewide National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit.

Conditions of Approval

The Planning Commission recommends the City Council approve the General Plan Amendment GPA-05-24-16525, Planned Development Rezoning PD-10-22-015932 and Design Review DR-4-18-13424, subject to the following conditions and Daly City General Conditions of Approval. Minor deviations from the conditions of approval may be approved by the Planning Division. Significant deviations will require review and approval by the Planning Commission and City Council.

A . DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT

General

1. The design review permit approval shall be valid for a period of one year from the date of City Council approval. The approvals shall terminate if a building permit has not been obtained and construction commenced within one-year of City Council approval of the project or if the applicant fails to obtain a valid business license.

2. The design review permit shall be valid only in conjunction with plans submitted and approved by the City Council. Any significant modifications and changes to the plans shall be treated as an amendment and shall be subject to review by a Council Committee appointed by the Mayor.

3. All buildings, any applicable retaining walls, fences, and trash enclosure materials and colors must match those as approved. High quality materials shall be utilized and final finishes shall be approved by the Director of Economic and Community Development.

4. Prior to issuance of a building permit, the project sponsor shall file Form 7460-1 with the Federal Aviation Administration (FAA) and provide to the City of Daly City an FAA "Determination of No Hazard".

5. The project sponsor shall comply with the real estate disclosure requirements outlined in Policy IP-1 of the Comprehensive Airport Land Use Compatibility Plan for the environs of San Francisco International Airport (SFO ALUCP).

6. Prior to Final Certificate of Occupancy, the project sponsor shall be required to paint all above ground devices for all new development, as specified below, and shall note this on the construction drawings submitted for Building Permits.

    - Domestic water above ground piping and devices are Precaution Blue #22
    - Irrigation water above ground piping and devices are Billiard Table Green #178

- Fire water above ground piping and devices are Dunn Edwards Safety Red #221
- Fire Hydrants are Rustoleum Safety Yellow #242258

Building and Site Design

7. The trash enclosure shall be constructed from concrete (CMU is acceptable) and shall receive design elements similar to those of the medical office building, including color, materials, and roof design. The enclosure's doors shall receive a powder-coated metal door painted to match the enclosure's wall color. The capacity, design, and location of the structure shall be approved by both the Planning Division and Republic Services prior to incorporation in the project plans that are submitted to the Building Division for permit issuance.

8. Backflow preventers shall be concealed and/or screened from public view to the satisfaction of the Daly City Community and Economic Development Director prior to issuance of building permit.

Landscaping

9. The project landscape plans shall incorporate irrigated vine or other climbing plants to soften the first floor exterior adjacent to the project parking lot.

Lot Line Adjustment/Lot Merger

10. The applicant shall obtain a Lot Line Adjustment / Lot Merger approval from the City prior to the issuance of building permit.

Stormwater Treatment

11. The applicant shall develop and submit a stormwater management plan that illustrates full compliance with Section C.3 of Order R-2-2009-0074 NPDES Permit No. CAS612008. The project must comply with Order No. 2010-0014-DWQ, NPDES No. CAS000002, the statewide National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit.

12. The applicant shall receive approval of the stormwater management plan from a third-party reviewer appointed by the City prior to building permit submittal. The applicant shall pay the entire cost of the third-party reviewer.

13. All stormwater treatment facilities shall be inspected during construction to ensure eventual compliance with the stormwater management plan. The applicant shall pay the entire cost of these inspections.

14. The applicant shall enter into an Operation and Maintenance Agreement with the City to ensure long-term maintenance and servicing by the Property Owner of stormwater site design and treatment control measures according to the approved Operation and Maintenance Plan.

15. The applicant shall arrange and pay for final inspection of installed treatment measure by the City's Special Inspector within 45 days of installation or project construction completion, whichever comes first.

B. BUILDING DIVISION

16. Hours of operation for all construction work associated with the subject project shall be Monday through Friday between the hours of 8:00 am to 5:00 pm. For work in the Hickey Boulevard right-of-way, the construction hours would be limited to Monday through Friday between the hours of 9:00 am to 3:00 pm. If the project's general contractor wishes to work outside the allowable hours, on weekends, or on City holidays, on a regular basis, this must be approved in advance by the City Council and the City Manager. For special requests on a limited basis, the Building Official can approve alternate construction hours for the project not within or impacting the ROW. The applicant will be making only special requests, on a limited basis, to the Building Official to work on construction outside of allowable hours, not within or impacting the ROW. The Building Official must be notified and approval given, in writing, in advance of said work.

17. At Building Permit Submittal, the applicant shall apply for a Building Permit for Site Improvement work to review and inspect all Building Code-related items. This includes structural, architectural, accessibility, and et cetera. The Building Division review will not occur under the Site Improvement Permit.

C. PUBLIC WORKS - ENGINEERING DIVISION

General

18. All improvements shall be consistent with the plans approved by the City Engineer and the Conditions of Approval. All improvements shall meet the latest California Building Code, California Fire Code, Daly City Municipal Code, and the City Standards and Specifications.

19. Provide "will serve letters" from Pacific Gas and Electric Company (PG&E) for gas and electric services and Republic Services for solid waste collection services.

20. All improvements shall be installed, inspected and approved by the City Engineer prior to issuance of occupancy permits. In addition, as-built record plans of all improvements shall be submitted in a form acceptable to the City Engineer prior to issuance of occupancy permits.

21. All electrical and telecommunications services shall be provided through underground connections. There shall be no overhead drops. All existing overhead services and supporting poles along the project frontage and/or on the private property shall be removed, at the applicant's expense.

22. All utility services shall be underground. Said improvements shall conform to City of Daly City and affected Agency's standards.

23. All plans shall be accompanied by all required calculations and studies including geotechnical and impact studies to justify design signed and sealed by a licensed professional engineer.

24. Grading and improvement plan review and approval by the City Engineer are required before any City permit is issued. The improvement plans shall include details for on-site and off-site improvements for vehicular and pedestrian access, parking, traffic signs and markings, utility service connections, modifications and extensions of the City's sewer, water, storm drain, safety lighting, landscaping, and other public service facilities.

25. Securities for all improvements (on-site and off-site), and applicable fees and charges, shall be submitted with any building permits. The applicant shall obtain all required permits before commencing work.

26. The applicant and/or Contractor shall have a project sign with a 24-hour Project contact information for public concerns such as off-site tracking, dust control, noise complaints, ground shaking and any related construction activities. The complaints and responses shall be logged, and copies provided to the City Engineer with action status on a weekly basis.

27. Provide erosion and storm water pollution plan incorporating best management practices, including operation and maintenance provisions per the requirements applicable at the time of construction permit application. During the wet/rainy season (October 1 to April 30) the developer shall submit a revised erosion control plan as necessary (every five working days) or as required by the City Engineer and/or his representative.

28. Concurrent with each demolition, grading and drainage permit submittal, or as a part of the Improvement Plan package, the Applicant shall prepare a dust control plan. The plan shall conform to the City Standards and comply with the requirements of the Bay Area Air Quality Management District (BAAQMD) Best Management Practices for dust control. The Applicant shall post a publicly visible sign with the telephone number and person to contact regarding dust complaints. The person shall respond and take corrective action within 48 hours.

29. No permanent building encroachment including but not limited to: awnings, canopies, marquees, signs, windows, balconies, architectural features and mechanical equipment shall be allowed in the Right-of-Way without the written authorization of the City Engineer.

30. The project's electrical transformer shall not be installed within the public right-of-way.

31. The applicant shall enter into a Landscape Maintenance Agreement in a form acceptable to the City Attorney to ensure the Property Owner will provide long-term maintenance of all street trees, landscaping, irrigation, and pedestrian-scale lighting installed in the public right-of-way. Design of planting and irrigation system shall minimize the extent of irrigation lines, controllers, and valves in the public right-of-way and shall be reviewed and approved by the City Engineer.

32. Applicant shall provide justification for the tiebacks proposed in the Public Right-Of-Way (ROW) for the City to review and approve. A shoring study to consider alternatives to tiebacks in the Public's ROW shall be prepared for various alternatives along with the pros and cons associated with each alternative. Conceptual layouts and details shall be provided for each alternative. Shoring study shall be signed and stamped by the Structural Engineer. Applicant shall also clarify how shoring will be performed for areas adjacent to neighboring properties outside of the ROW. Applicant acknowledges that tiebacks may not be approved in the Public Right-of-Way and that alternative shoring methods that do not encroach into the public ROW may need to be utilized to construct the project. Applicant shall be responsible for all cost associated with the review and evaluation of tie-back justification request and additional deposit may be required.

Site

33. The applicant shall install monolithic curb, gutter, and sidewalk over the entire frontage of the development to the nearest expansion joints or score lines. Sidewalks fronting the property on public streets and within the development shall be a minimum 5.5 feet in width including the top of curb. The improvements shall be ADA compliant and to current City Standards and Specifications. A minimum 5-foot wide Public Access Easement (PAE) shall be provided over portions of the pedestrian sidewalk located within private property/adjacent to the proposed drop off zone along Serravista Ave.

34. Amenities to support bicycle parking shall be provided. Bicycle parking shall be accessible directly from street level without the use of an elevator or stairs.

35. Curb ramps in and around the project site shall utilize the case types in the Caltrans Standard Plans.

36. The applicant shall repair and/or replace additional areas of street pavement, sidewalk, curb, and gutter, streetlights, manhole, catch basins, or any other public infrastructure within the right-of-way damaged by construction activities associated with the project (utility installation, etc.) as required by the City Inspector during construction. Such repair shall be per the City's Standards and Specifications.

37. Applicant shall provide permeable pavement designs, designed by a professional engineer, that supports all-weather driving conditions and can support imposed loads as required by the City.

38. All pervious pavements shall be maintained in perpetuity under an approved maintenance plan that is recorded on the property.\

Grading

39. Grading exceeding 50 cubic yards shall require approval of plans and a grading permit. A licensed Civil Engineer shall prepare the grading plans and erosion control plan in conformance with a soil report prepared by a licensed soil engineer or qualified civil engineer in compliance with the NPDES requirements prior to any development on the property.

40. Grading plans shall be reviewed by an independent qualified Consulting Engineer or Geologist as well as the City Engineer; a letter of compliance from the independent qualified Consulting Engineer or Geologist shall be provided to Engineering prior to the issuance of any permit. The Engineer and/or Geologist, of record, shall be present on-site during the excavation and grading phases of the project and shall submit a written certification that the project civil plans has been implemented as approved.

41. The applicant shall provide fail-safe conditions for catastrophic events such as 100-year storms, seismic events, system overflows or failures. Drainage swales shall be provided at the top, intermediate and bottom of slopes and embankments to prevent erosion and degradation of slopes. The project geotechnical report shall include appropriate recommendations regarding the protection of existing and proposed slopes.

42. The soils report shall be finalized and resubmitted prior to any parcel or final map approval, and prior to building permit issuance. As required by the engineering division, the applicant shall be responsible for the costs associated with a third-party peer review of soils reports provided for buildings or subdivision, and the applicant's soils engineer shall address and incorporate the recommendations of the third-party peer review. Prior to subdivision improvement or building permit issuance, the applicant's soils engineer shall provide a letter stating that they have reviewed such plans and the plans incorporate the recommendations contained in their report.

Stormwater/Utility

43. Provide a storm drain study of the project. A storm drain utility report containing hydraulic calculations for the proposed storm drain system, that includes both public and private on-site drainage, shall be submitted to the City for review and approval. Along with the report, a letter from the engineer of record indicating that the proposed storm drain system does not increase runoff above the pre-development condition shall be submitted to the City Engineer for review and approval.

44. Runoff calculations shall be provided verifying that post development stormwater runoff from the site does not exceed the pre-development stormwater runoff. Additional stormwater runoff generated from the design storm as a result of this development shall be retained on-site.

45. Drainage from the site to a public storm drain system or street shall not flow over any sidewalk. On site drainage retention shall be provided to limit the flow rate entering the City's storm drain system to the pre-development rate. The retention facility shall accommodate the excess runoff from a storm of 10-year frequency and two-hour duration.

46. All stormwater retention, stormwater treatment, or other stormwater BMP improvements shall be located outside of the public right-of-way and maintained by the property owner. All privately owned and maintained improvements shall be located outside of the public right-of-way. There shall be no private improvements within the public right-of-way.

47. The applicant shall be financially responsible for all project-related storm drainage improvements on- and off-site, as required and approved by the City Engineer in accordance with City Standards.

48. Full trash capture devices approved by the City Engineer shall be installed on the drainage system.

49. Storm drain laterals and mains shall be CCTV'ed at the end of construction. Owner is responsible for providing videos of laterals/mains prior to the City Engineer's permit signoff/acceptance. If cleanouts are utilized instead of manholes or drainage inlets, it is up to the owner to make required changes to provide camera access if access is not available via cleanouts.

Traffic

50. Install flashing pedestrian crossing system at the intersection of Gellert Boulevard at Serravista Avenue for the crosswalk on the south approach.

51. Install pedestrian bulb-outs at the northeast, southeast and southwest corners of Gellert Boulevard at Serravista Avenue.

52. Applicant shall provide an approved Transportation Demand Management (TDM) plan and implement any required measures to meet City/County Association of Governments of San Mateo County's TDM Policy.

53. Samtrans bus stop improvements: STOP 332612 (Hickey Blvd & Gellert Blvd) and STOP 332110 (Gellert Blvd & Hickey Blvd). The applicant shall coordinate with the City and Samtrans to implement bus stop improvements including, if determined to be feasible, the relocation of the stops and installation of bus shelters and amenities at each of the respective stop locations. Applicant shall dedicate to the City any additional public right-of-way required for the construction of the bus shelter and shall pay for the cost for all bus stop improvements. The City, in consultation with Samtrans, shall determine the appropriate design of the shelters. Prior to submittal for Building permits, the applicant shall submit truck turning templates for all turning movements from Hickey Boulevard into the right turn pocket and into the parking structure to DWWR and Public Works staff for review and approval. All such bus stop improvements shall be installed and accepted by the City prior to the issuance of the Certificate of the Occupancy for any office space.

54. Remove the Stop bar and legend for the southbound left-turn lane at Gellert Boulevard at Serravista Avenue

55. The applicant shall install a high-visibility crosswalk (thermoplastic) on the east approach of the intersection at Gellert Boulevard and Serravista Avenue.

Mapping

56. Prior to Building Permit issuance, a parcel map will be prepared and recorded to merge the three (3) parcels into one (1) parcel. Please contact the Planning Division to apply for a minor subdivision to merge the parcels.

57. All ROW dedication/easement language shall be reviewed and approved by the City Engineer.

58. The applicant shall prepare all necessary documents required for recordation of proposed easement abandonments and/or for proposed easements dedications. All easement abandonments and dedications shall be accepted by the City of Daly City City Council prior to issuance of Building Permits.

59. The width and locations of Public Easements shall be specified for review and approval by all utility companies and the City Engineer.

Permit

60. An encroachment permit shall be required to be issued by the Public Works Department for all work proposed within the public right-of-way.

61. The applicant shall provide verification, in writing, that the joint trench design has been reviewed and approved by each utility company.

D. DEPARTMENT OF WATER AND WASTEWATER RESOURCES

62. The proposed project Tie backs shall follow the requirements set forth by DPW and DWWR.

63. No Tie backs shall be permitted within the sewer easement.

64. A 20-foot utility easement shall be provided to the North San Mateo County Sanitation District for the new sewer routing. The new easement shall follow all requirements set by the Daly City Engineering Department.

65. All improvements shall be consistent with the approved plans and the Conditions of Approval. All improvements shall meet the latest Daly City Municipal Code, and the City Standards and Specifications.

66. The applicant shall contribute a fair-share cost of the new 30-inch relief sewer crossing I-280. The fair share contribution shall be based on the added flows relative to the additional capacity needed for the new I-280 crossing as determined by the Department of Water and Wastewater Resources.

67. The applicant shall coordinate review of the existing on-site sanitary sewer system with the Department of Water and Wastewater Resources (DWWR). The existing sewer shall be protected in place and always accessible until the new sewer system is constructed, approved, and accepted by DWWR.

E. FIRE DEPARTMENT

68. The specific Fire and Building Code requirements for this project will be determined upon submittal and review of the completed and approved construction plans. Work shall not commence without approved plans. All inspections require a copy of the "APPROVED" plans and job card available at the job site.

69. Demolition/Construction shall comply with California Fire Code Chapter 33, Fire Safety During Construction and Demolition.

70. Fire sprinkler system is required. Submit plans to NCFA under separate fire permit.

71. Complete Alternate Methods & Materials Request form (AMMR) with NCFA for alternate proposal to provide Class I standpipes in lieu of travel distance requirements.

72. Provide fire flow information per CFC, Appendix B.

73. Monitored Fire alarm system with Emergency Voice/Alarm Communication is required. Submit plans to NCFA under separate fire permit.

74. Emergency Responder Radio Coverage is required per CFC 510. Submit plans to NCFA under separate fire permit.

75. Fire Command Center is required per CFC. Location of Fire Command Center shall be coordinated with NCFA.

76. Firefighter Breathing Air Replenishment System is required per DCMC and CFC Appendix L.

77. A smoke control system is required. Submit plans to NCFA under separate permit. A smoke control study is to be performed by a qualified design professional.

78. Hood & Duct fire extinguishing system may be required. Submit plans to NCFA under separate permit.

79. Key Box is required. Apply for approved hardware at NCFA Administration.

80. Portable fire extinguishers(s) are required. Mount fire extinguishers 3-5 feet above floor.

81. Hazardous material use, storage, or operations permit may be required.

82. Elevators shall be sized to allow for approved EMS gurneys.

Recommendations

Staff and the Planning Commission recommend that the City Council take the following actions:

1. Adopt the Findings as outlined herein;

2. Certify the Mitigated Negative Declaration prepared for the project

3. Adopt the Water Supply Assessment prepared for the project (see ISMND Appendix H); and

4. Approve General Plan Amendment GPA-05-24-16525, Planned Development Rezoning PD-10-22-015932 and Design Review DR-4-18-13424, subject to the Conditions of Approved outlined herein.

Staff is available to provide any additional information desired by the Council members.

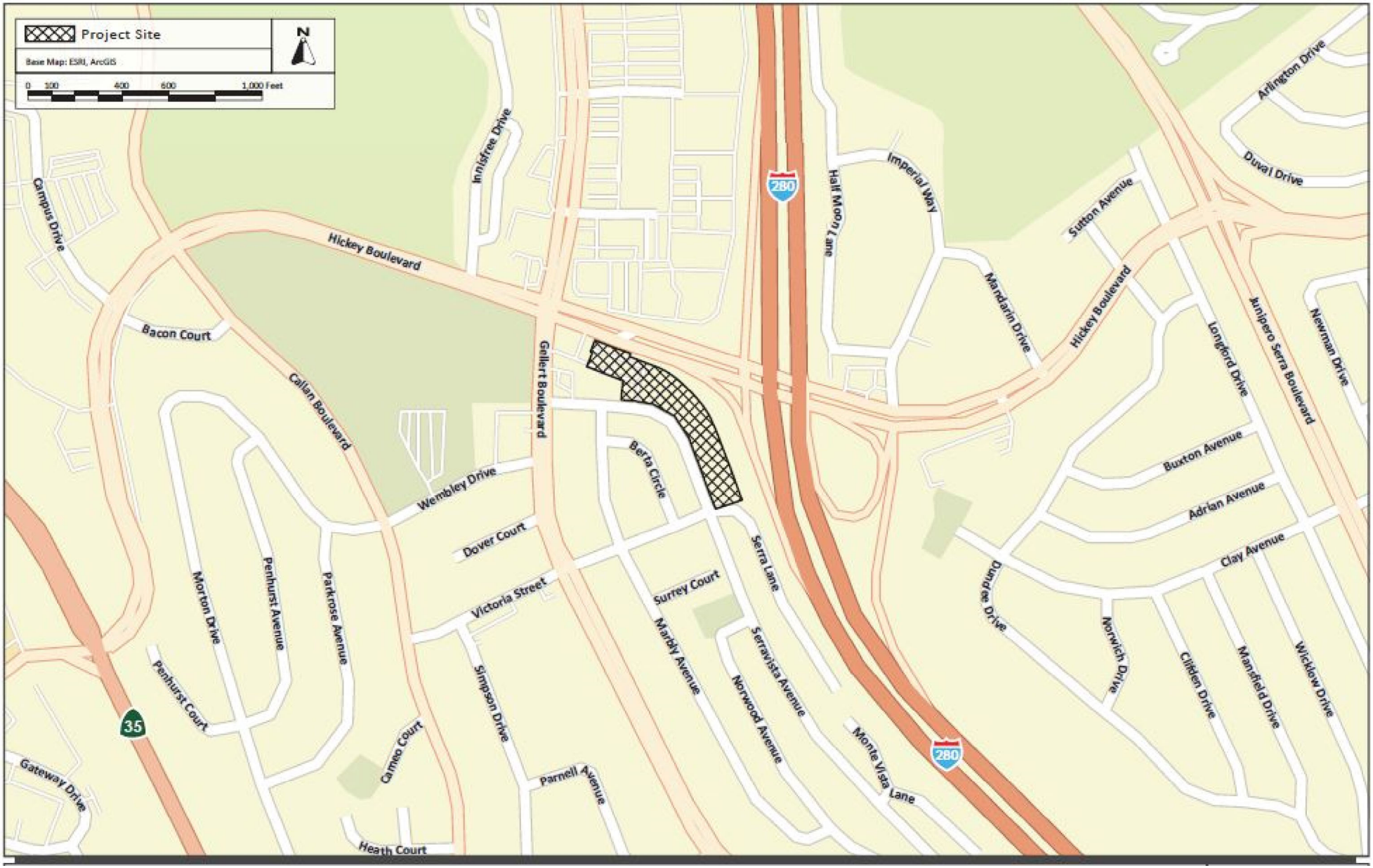
Respectfully submitted,

Sam Fielding
Associate Planner

Tatum Mothershead
Director of Economic and Community Development

Attachments

Attachment A – Site Location
Attachment B – Commercial Office Plans
Attachment C – Medical Office Plans
Attachment D – Draft Planned Development Standards
Attachment E – Traffic Impact Study Report
Attachment F – Shadow Study
Attachment G – Final Mitigated Negative Declaration
Attachment H – Mitigation Monitoring and Reporting Program
Attachment I – Responses to Public Comments


Project Site
Base Map: ESRI, ArcGIS
0 100 400 600 1,000 Feet
N
Campus Drive
Innisfree Drive
Hickey Boulevard
Bacon Court
Callan Boulevard
Gellert Boulevard
Wembley Drive
Dover Court
Victoria Street
Berta Circle
Surrey Court
Serra Lane
Marbly Avenue
Serravista Avenue
Norwood Avenue
Monte Vista Lane
Morton Drive
Penhurst Avenue
Penhurst Court
Parkrose Avenue
Cameo Court
Simpson Drive
Parnell Avenue
Heath Court
Gateway Drive
35
280
Hall Moor Lane
Imperial Way
Mandarin Drive
Sutton Avenue
Hickey Boulevard
Arlington Drive
Duval Drive
Junipero Serra Boulevard
Longford Drive
Newman Drive
Buxton Avenue
Adrian Avenue
Clay Avenue
Dunda Drive
Norwich Drive
Clitden Drive
Mansfield Drive
Wicklow Drive



455 HICKEY

455 HICKEY BLVD
DALY CITY, CA

PLANNING SUBMITTAL
10.17.2022

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VICINITY MAP



PROJECT NARRATIVE

The project site is located immediately to the south of the Gellert / Hickey Boulevard intersection. The 3.2 acres site is comprised of three parcels. Currently, there is a 3-level parking garage and a 5-story office building tucked into the hillside on Serravista Avenue. This project proposes to demolish the existing office building and parking garage for a new office development. The development includes a new 8-story tech office building over 3-story parking podium. The total building area is 280,000 sq. ft. at 2.0 FAR. An additional 3-story parking structure will be constructed east to the office building. The project will be looking at a robust TDM plan to encourage alternate commute methods to the site and reduce parking needs. Currently, 900 parking spaces are planned for this scenario, at a 3/1,000 ratio.

PROJECT TEAM

ARCHITECT:
DES ARCHITECTS + ENGINEERS
399 BRADFORD STREET
REDWOOD CITY, CA 94063
PHONE: 650.364.6453
CONTACT: KENNY HUNG

CIVIL:
BKF ENGINEERS
255 SHORELINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: 650.482.6306
CONTACT: JONATHAN TANG

LANDSCAPE:
DES ARCHITECTS + ENGINEERS
399 BRADFORD STREET
REDWOOD CITY, CA 94063
PHONE: 650.364.6453
CONTACT: CHRIS MATEO

PROJECT DATA

SITE INFORMATION

ZONING DESIGNATION (CURRENT)	LIGHT COMMERCIAL (C-1) OFFICE COMMERCIAL (C-O) PLANNED DEVELOPMENT (PD8A)
ZONING DESIGNATION (2030 GENERAL PLAN)	COMMERCIAL OFFICE (C-O) COMMERCIAL NEIGHBORHOOD (C-N)
APN	091341140
SITE AREA	139,392 SQ.FT. (3.2 ACRES)

ZONING INFORMATION

	EXISTING	PROPOSED
BUILDING HEIGHT	65 FT.	130 FT.
PROJECT USE	OFFICE	OFFICE
BUILDING AREA	80,652 SQ.FT.	280,000 SQ.FT.
FAR	0.58	2.0
PARKING STRUCTURE	112,500 SQ.FT.	347,500 SQ. FT.

	C-1		C-O	
BUILDING SETBACK	REQ'D	PRO'D	REQ'D	PRO'D
FRONT	-	12'	10'	11'
REAR	-	0'	-	0'
MAX HEIGHT	36'	130'	-	130'
FAR	-	2.0	3.5-1.0	2.0

PARKING REQUIREMENTS

	EXISTING	PROPOSED
PARKING RATIO	3.3 / 1,000 SF	3 / 1000 SF
PARKING SPACES	293	900

SPACES BREAKDOWN	REQ'D	PRO'D
STANDARD SPACES COMPACT SPACES	> 706 * < 176 *	730 152
ACCESSIBLE SPACES	18	18
EV SPACES EVCS EV READY EV CAPABLE	 90 ** 90 ** 270 **	 90 90 270

* PER DALY CITY ZONING CODE SECTION 17.34.010, UP TO 20% OF THE TOTAL REQUIRED OFF-STREET PARKING SPACES MAY BE DESIGNATED FOR "SMALL CARS ONLY"

** PER DALY CITY ZONING CODE SECTION 5.106.5.3.1, 10% OF THE AVAILABLE PARKING SPACES ON SITE SHALL BE EQUIPPED WITH LEVEL 2 EVCS; AN ADDITIONAL 10% SHALL BE PROVIDED WITH AT LEAST LEVEL 1 EV READY SPACES; AND AN ADDITIONAL 30% SHALL BE AT LEAST EV CAPABLE.

BICYCLE PARKING REQUIREMENTS

	REQ'D	PRO'D
SHORT TERM	8	8
LONG TERM	45	46

SHEET INDEX

ARCHITECTURAL

A0.1	PROJECT DATA
A0.2	EXISTING CONDITIONS
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A1.0B	SITE PLAN
A1.1	SITE CIRCULATION DIAGRAM
A1.2	RENDERING - AERIAL VIEW
A1.3	RENDERING - VIEW FROM I-280 LOOKING NORTHWEST
A1.4	RENDERING - VIEW FROM HICKEY AND GELLERT
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A2.6	SERVICE YARD PLAN AND ELEVATIONS
A3.0	BUILDING SECTIONS
A3.1	BUILDING ELEVATIONS
A4.0	BUILDING MATERIAL BOARD

CIVIL

C1.0	EXISTING CONDITIONS PLAN
C2.0	MAPPING PLAN
C3.0	PRELIMINARY EMERGENCY VEHICLE TURNING PLAN
C3.1	PRELIMINARY DELIVERY TRUCK TURNING PLAN
C4.0	GRADING PLAN - SERRAVISTA AVENUE
C4.1	GRADING PLAN - HICKEY BOUELVARD
C5.0	CROSS SECTIONS
C5.1	CROSS SECTIONS
C6.0	UTILITY PLAN - SERRAVISTA AVENUE
C6.1	UTILITY PLAN - HICKEY BOULEVARD
C7.0	PRELIMINARY STORMWATER CONTROL PLAN
C8.0	EROSION CONTROL PLAN
C8.1	CONSTRUCTION BEST MANAGEMENT PRACTICES

LANDSCAPE

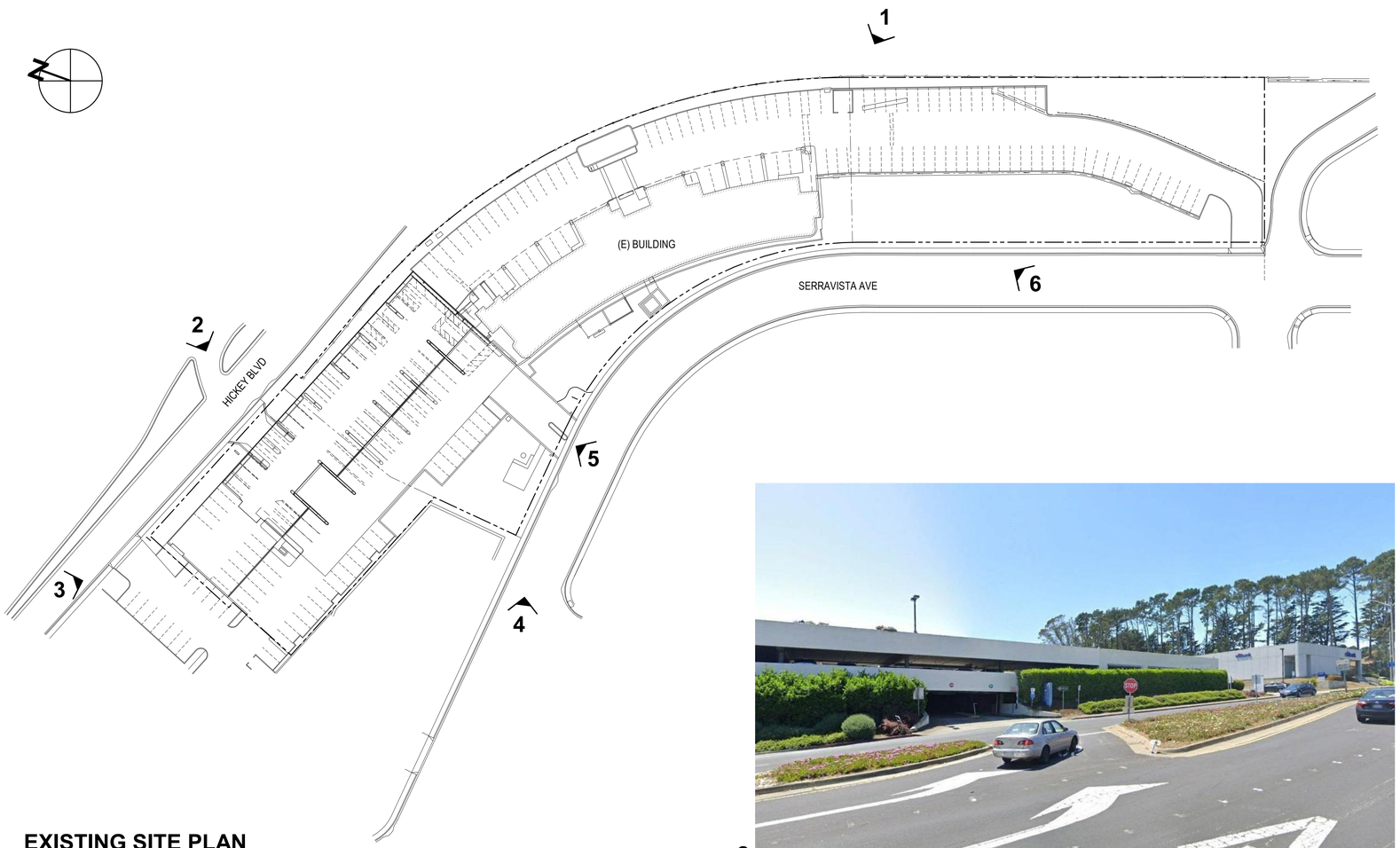
L1A	TREE PROTECTION PLAN
L1B	TREE DATA AND TREE PROTECTION DETAIL
L2	ENTRY PLAZA PLAN
L3	OVERALL PLANTING PLAN
L4	HARDSCAPE IMAGERY
L5	PLANTING IMAGERY

LIGHTING

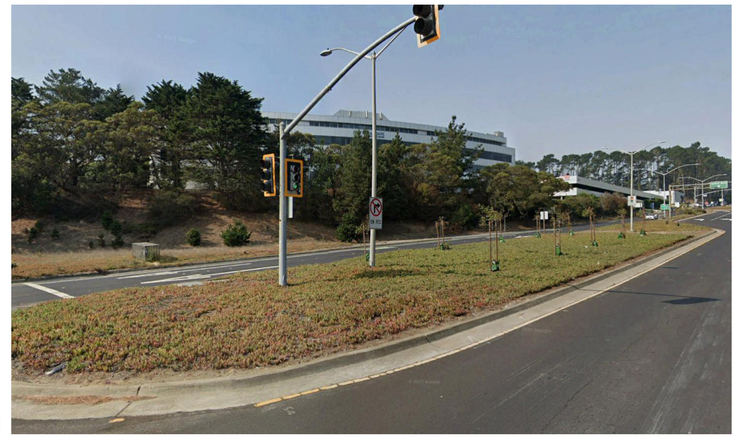
LT-1	SITE LIGHTING PLAN - LEVEL 1
LT-2	SITE LIGHTING PLAN - LEVEL 4
LT-3	SITE LIGHTING PHOTOMETRIC PLAN - LEVEL 4

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EXISTING SITE PLAN



1

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EXISTING CONDITIONS

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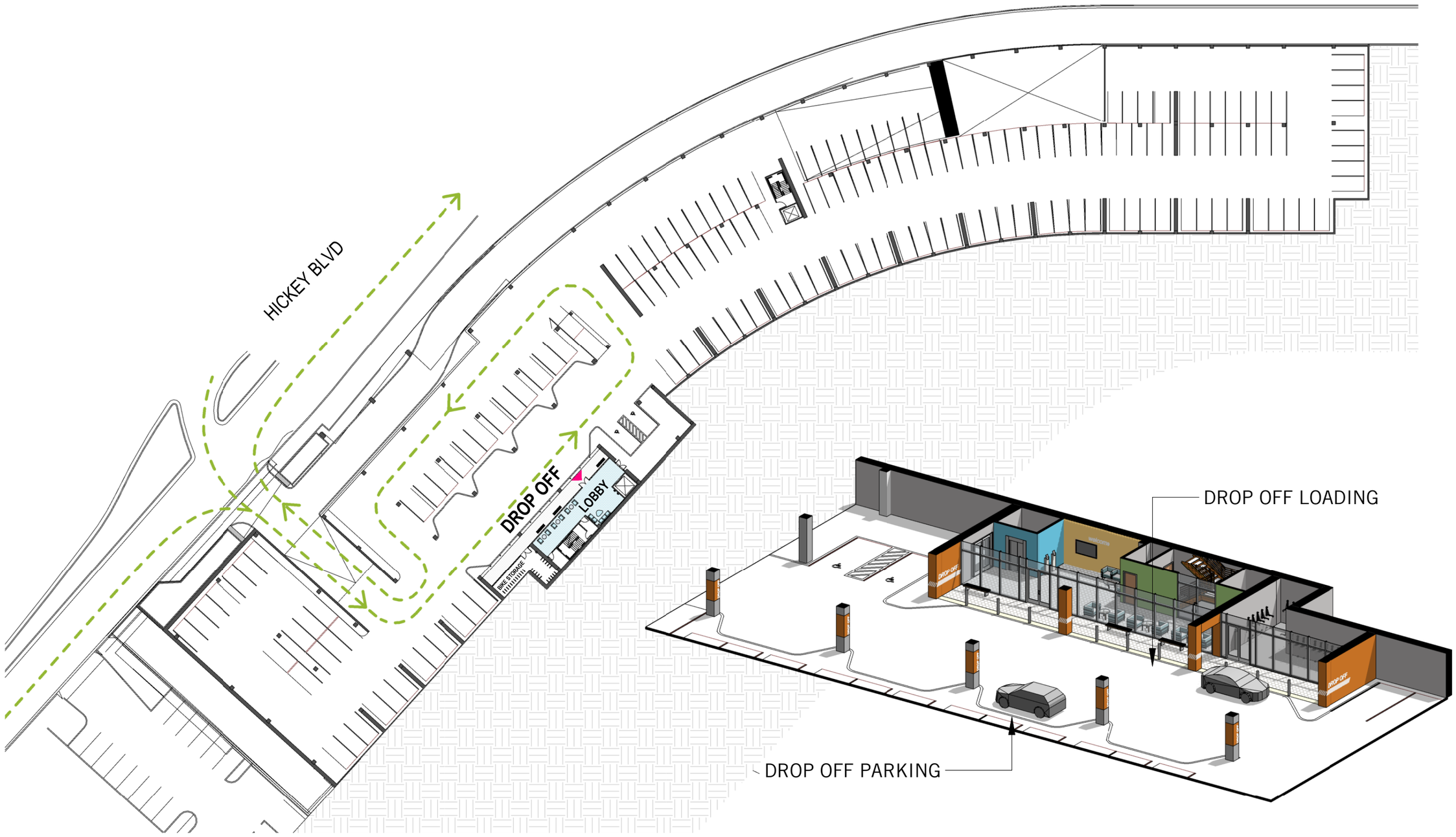
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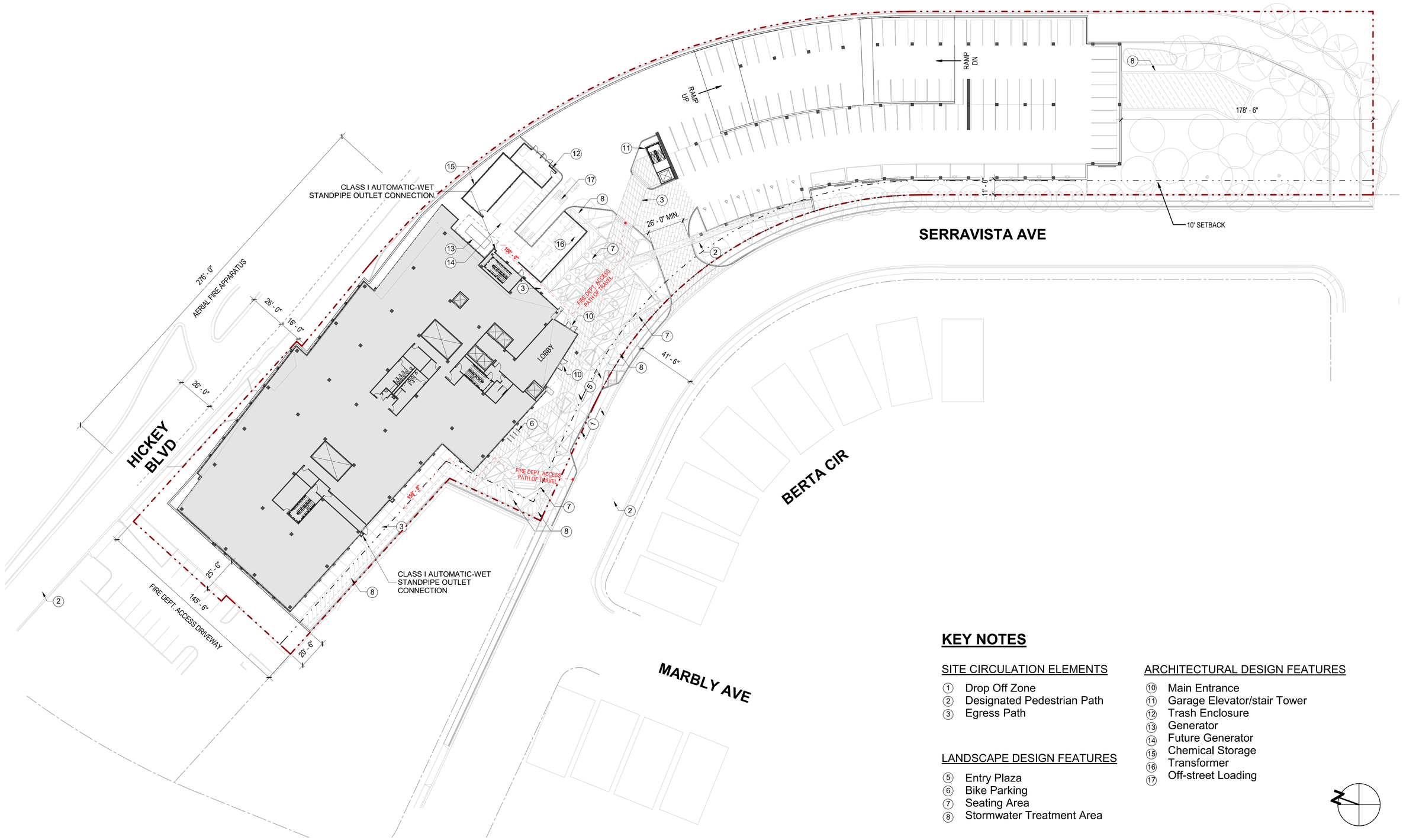
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I-280
OPEN SPACE
TO REMAIN
HICKEY BLVD
2.5-LEVEL GARAGE
ABOVE GRADE
SERRAVISTA AVE
FOR AUTHORIZED
VEHICLES ONLY
ENTRY TO
LOWER-LEVEL
GARAGE LOBBY
8-STORY
TECH OFFICE
BUILDING
SERVICE AND
PARKING ENTRY
ENTRY PLAZA
AND DROP-OFF
BERTA CIR
MARBLY AVE
VICTORIA ST


HICKEY BLVD
DROP OFF
LOBBY
BIKE STORAGE
DROP OFF LOADING
DROP OFF PARKING



KEY NOTES

SITE CIRCULATION ELEMENTS

1. Drop Off Zone
2. Designated Pedestrian Path
3. Egress Path

LANDSCAPE DESIGN FEATURES

5. Entry Plaza
6. Bike Parking
7. Seating Area
8. Stormwater Treatment Area

ARCHITECTURAL DESIGN FEATURES

10. Main Entrance
11. Garage Elevator/stair Tower
12. Trash Enclosure
13. Generator
14. Future Generator
15. Chemical Storage
16. Transformer
17. Off-street Loading

SCALE: 1" = 30'-0"

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SITE PLAN

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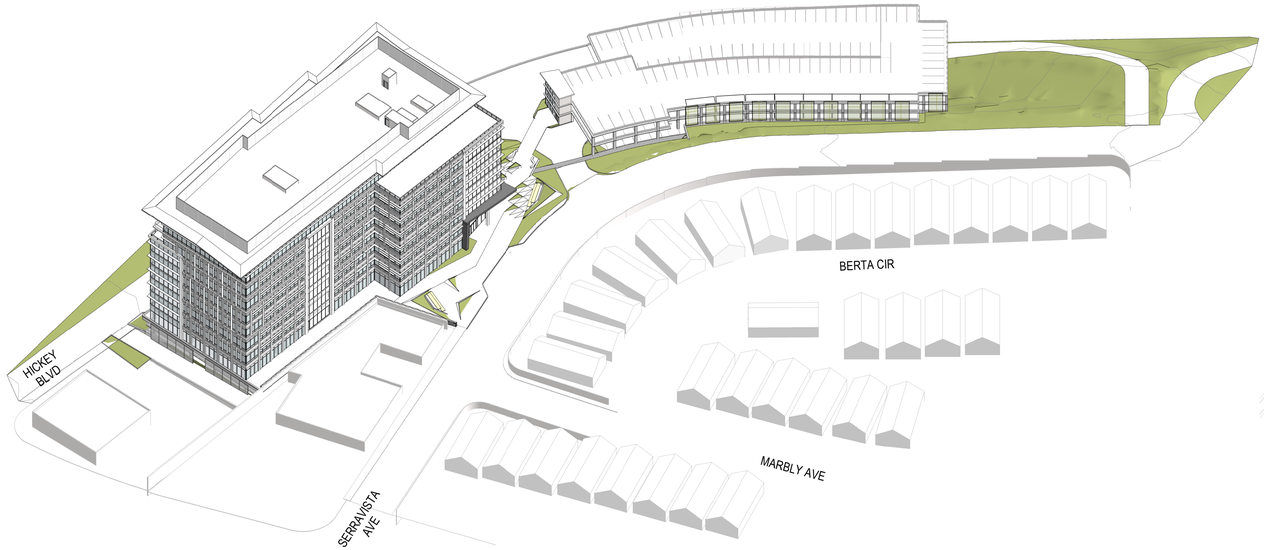
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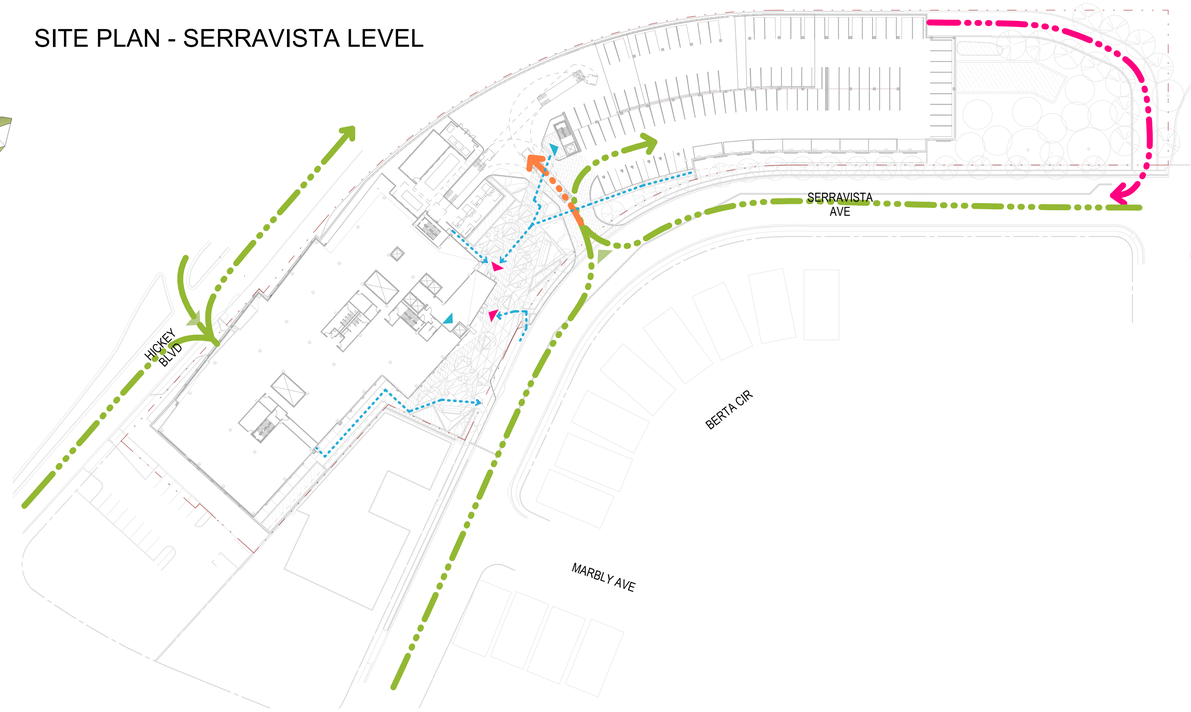
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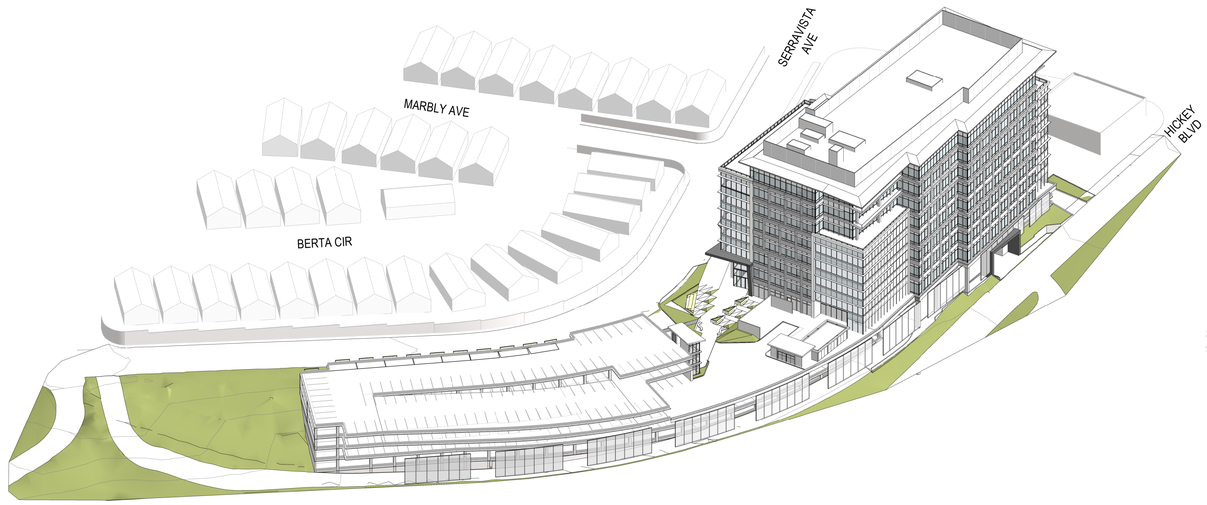
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AXON - VIEW FROM SERRAVISTA

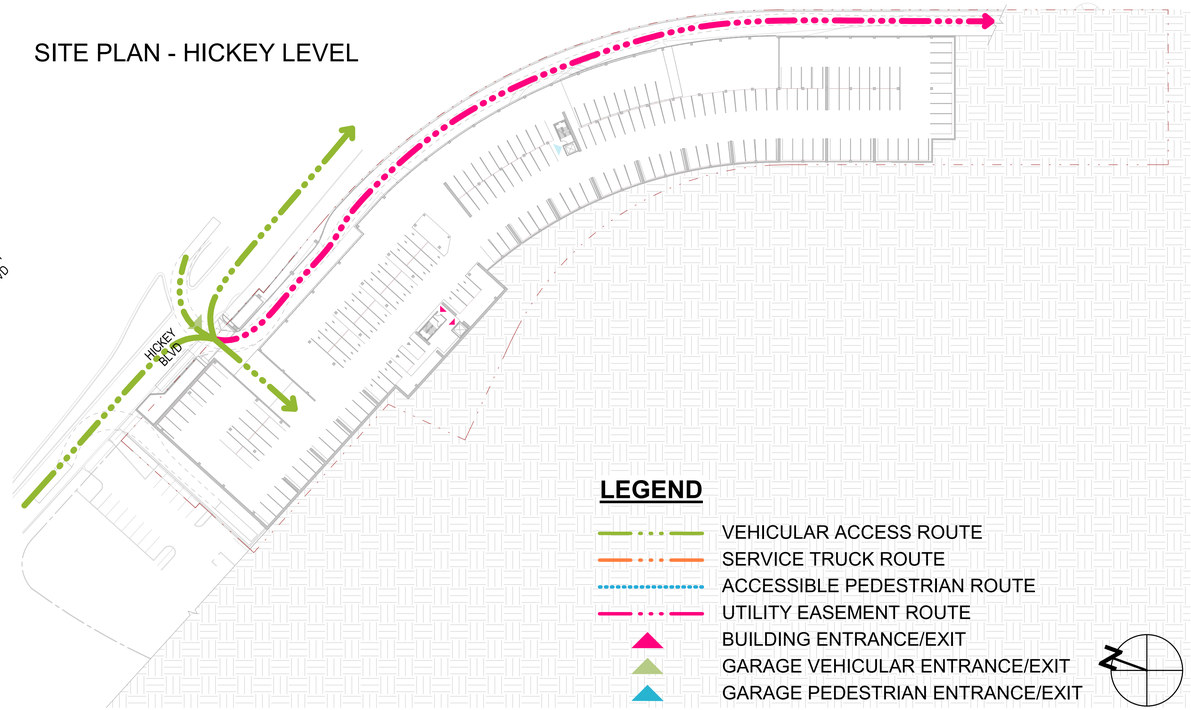
SITE PLAN - SERRAVISTA LEVEL





AXON - VIEW FROM HICKEY

SITE PLAN - HICKEY LEVEL



DES ARCHITECTS ENGINEERS

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SITE CIRCULATION DIAGRAM

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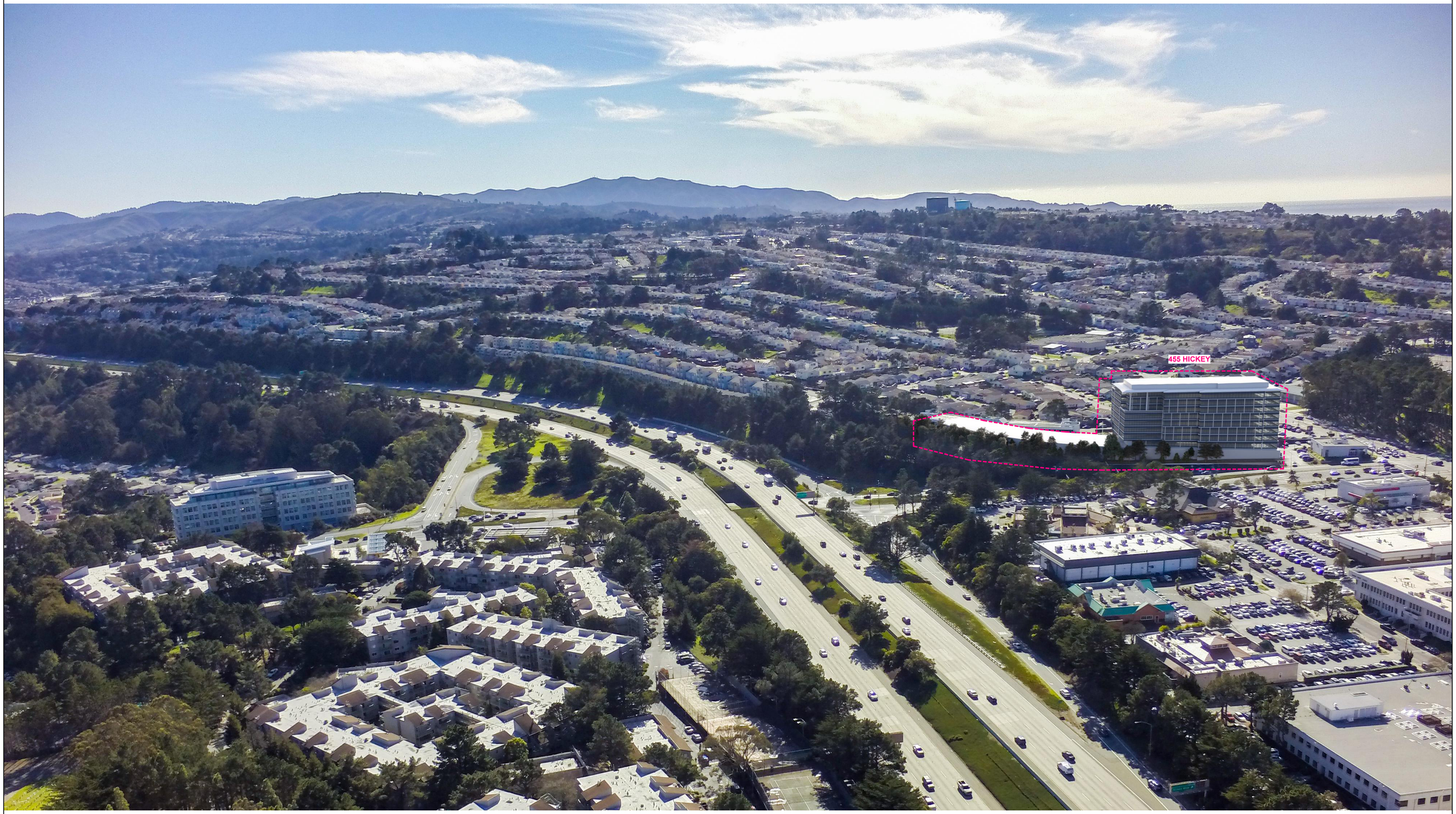
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RENDERING - AERIAL VIEW

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RENDERING - VIEW FROM I-280 LOOKING NORTHWEST

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DES ARCHITECTS ENGINEERS

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RENDERING - VIEW FROM HICKEY AND GELLERT

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DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

RENDERING - VIEW FROM SERRAVISTA AND GELLERT

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DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

RENDERING - VIEW FROM SERRAVISTA AND VICTORIA

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DES ARCHITECTS ENGINEERS

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RENDERING - VIEW FROM I-280 LOOKING SOUTHWEST

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RENDERING - VIEW AT MAIN ENTRANCE

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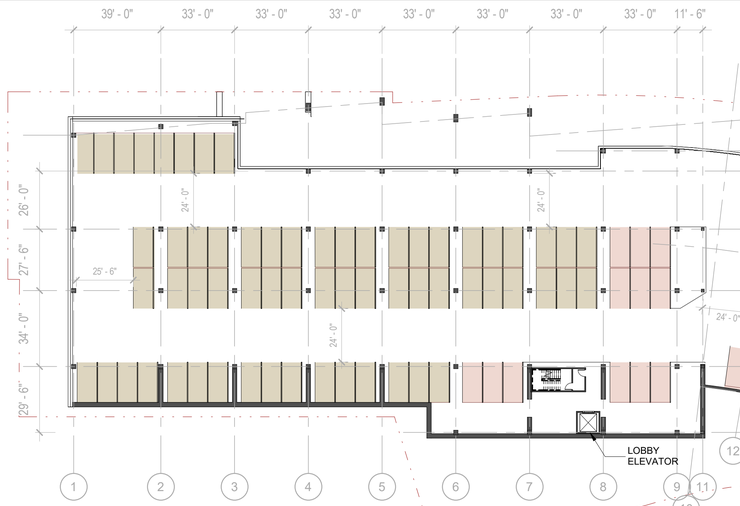
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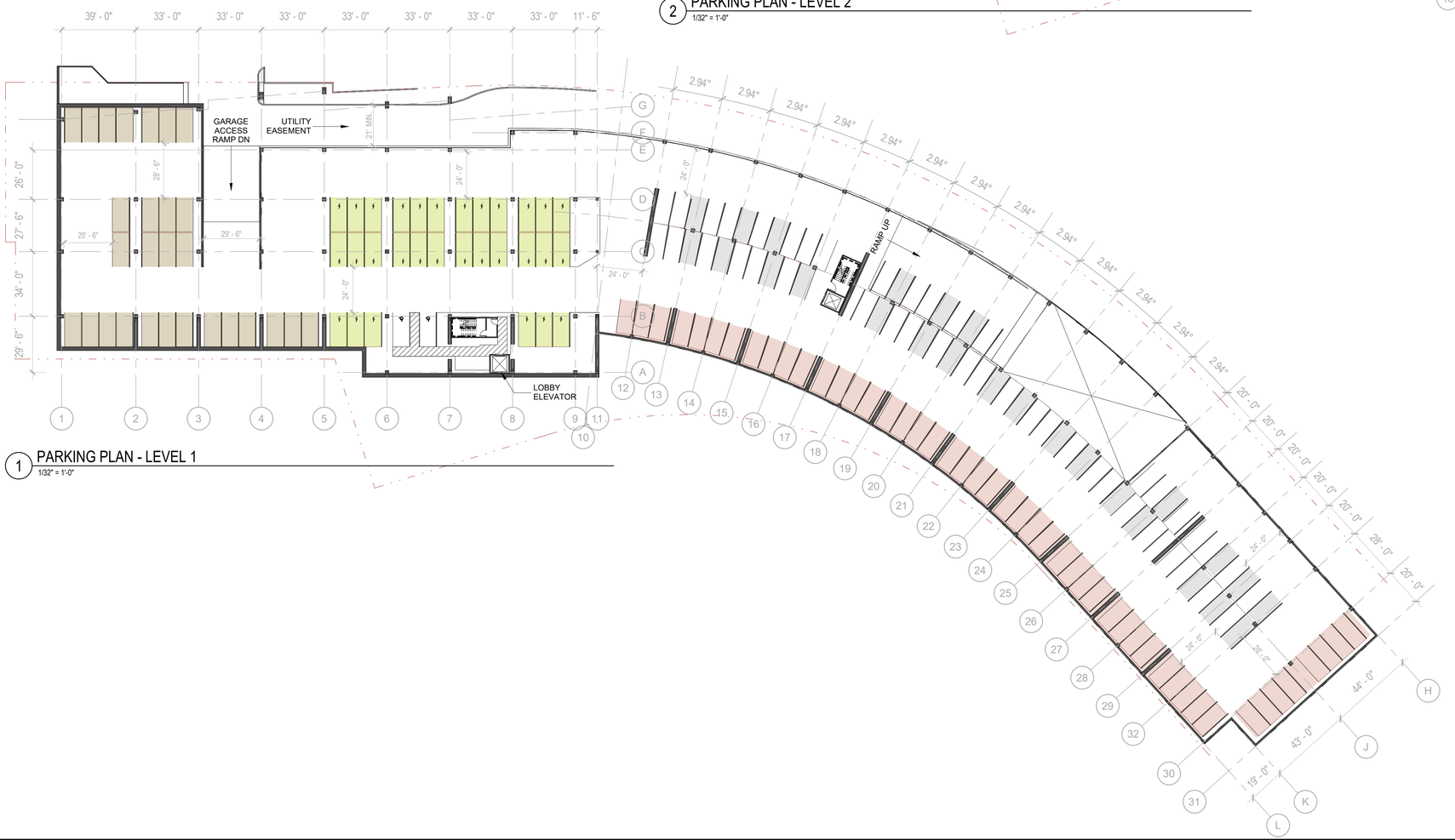
PARKING LEVEL 1 :	175 SPACES
PARKING LEVEL 2 :	205 SPACES
PARKING LEVEL 3 :	221 SPACES
PARKING LEVEL 4 :	108 SPACES
PARKING LEVEL 5 :	100 SPACES
PARKING LEVEL 6 :	91 SPACES
TOTAL PARKING :	**900 SPACES**

STANDARD ACCESSIBLE:	15 SPACES
VAN ACCESSIBLE:	3 SPACES
TOTAL ACCESSIBLE PARKING :	**18 SPACES**

STANDARD EV ACCESSIBLE:	1 SPACES
EV VAN ACCESSIBLE:	3 SPACES
EV AMBULATORY	3 SPACES
TOTAL EV ACCESSIBLE PARKING :	**7 SPACES**



2 PARKING PLAN - LEVEL 2
1/32" = 1'-0"



1 PARKING PLAN - LEVEL 1
1/32" = 1'-0"

PARKING LEGEND

- REGULAR SPACE (8.5' X 18')
- COMPACT SPACE (8' X 16')
- ADA SPACE (9' X 18')
- ADA VAN SPACE (9' X 18')
- EVCS SPACE (9' X 18')
- EV READY SPACE (9' X 18')
- EV CAPABLE SPACE (9' X 18')

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

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PARKING PLANS

455 HICKEY, DALY CITY, CA

PLANNING SUBMITTAL 10.17.2022

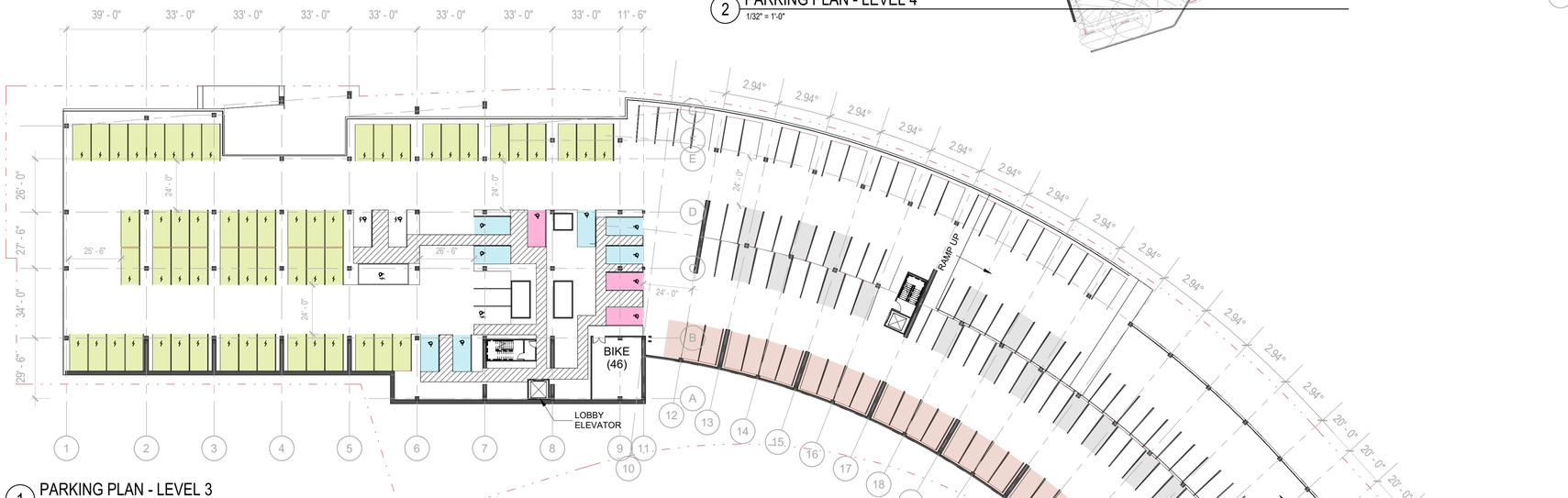
A2.1

10071.003

Autodesk Docs://KingAsset - 455HickeyBlvd/10071003_A_455 Hickey_R22_CENTRAL.rvt

PARKING LEVEL 1 :	175 SPACES
PARKING LEVEL 2 :	205 SPACES
PARKING LEVEL 3 :	221 SPACES
PARKING LEVEL 4 :	108 SPACES
PARKING LEVEL 5 :	100 SPACES
PARKING LEVEL 6 :	91 SPACES
TOTAL PARKING :	**900 SPACES**

STANDARD ACCESSIBLE:	15 SPACES
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TOTAL ACCESSIBLE PARKING :	**18 SPACES**
STANDARD EV ACCESSIBLE:	1 SPACES
EV VAN ACCESSIBLE:	3 SPACES
EV AMBULATORY	3 SPACES
TOTAL EV ACCESSIBLE PARKING :	**7 SPACES**



1 PARKING PLAN - LEVEL 3
1/32" = 1'-0"



2 PARKING PLAN - LEVEL 4
1/32" = 1'-0"

PARKING LEGEND

- REGULAR SPACE (8.5' X 18')
- COMPACT SPACE (8' X 16')
- ADA SPACE (9' X 18')
- ADA VAN SPACE (9' X 18')
- EVCS SPACE (9' X 18')
- EV READY SPACE (9' X 18')
- EV CAPABLE SPACE (9' X 18')

DES ARCHITECTS ENGINEERS

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PARKING PLANS

455 HICKEY, DALY CITY, CA

PLANNING SUBMITTAL 10.17.2022

A2.2

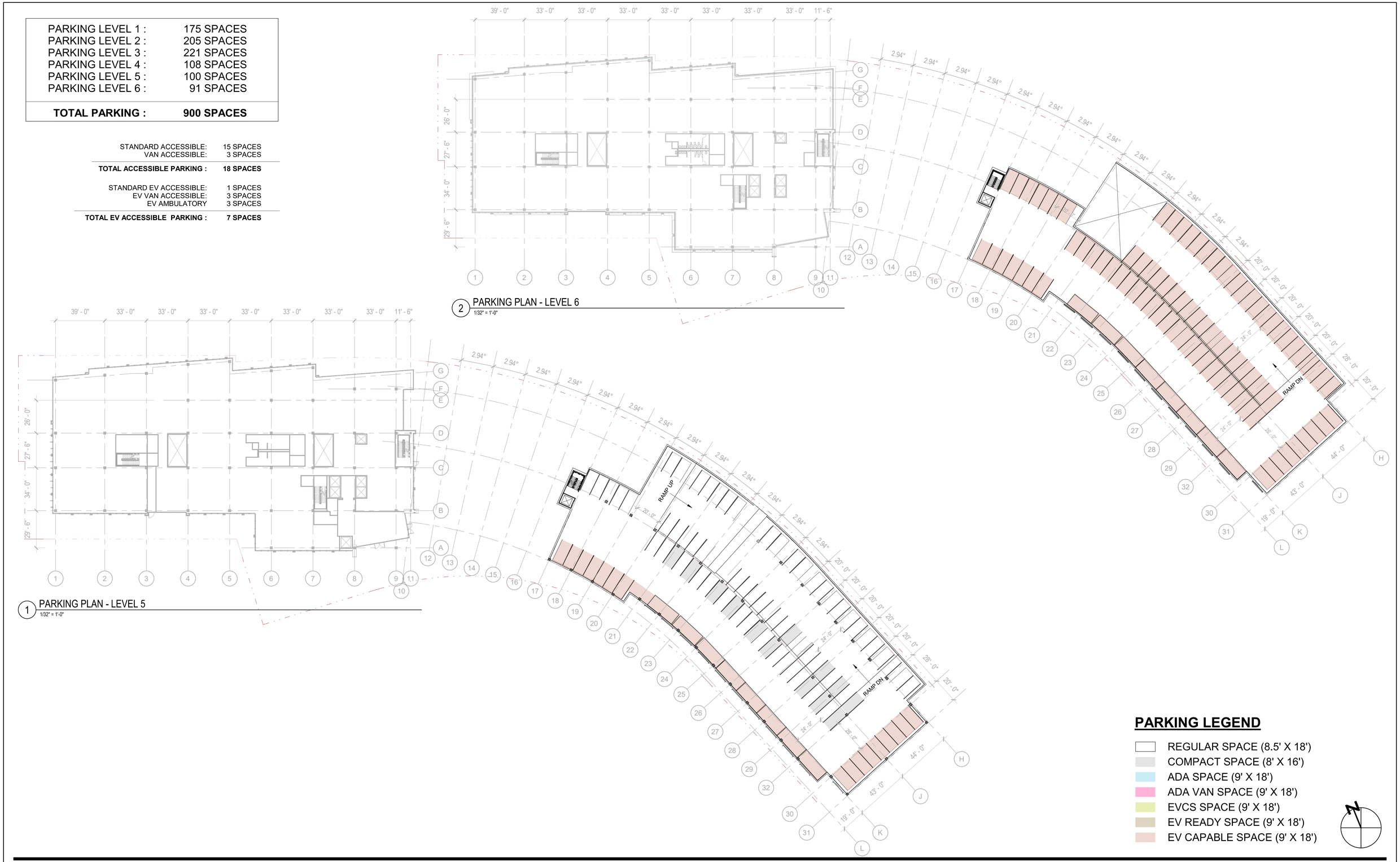
10071.003

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PARKING LEVEL 1 :	175 SPACES
PARKING LEVEL 2 :	205 SPACES
PARKING LEVEL 3 :	221 SPACES
PARKING LEVEL 4 :	108 SPACES
PARKING LEVEL 5 :	100 SPACES
PARKING LEVEL 6 :	91 SPACES
TOTAL PARKING :	**900 SPACES**

STANDARD ACCESSIBLE:	15 SPACES
VAN ACCESSIBLE:	3 SPACES
TOTAL ACCESSIBLE PARKING :	**18 SPACES**
STANDARD EV ACCESSIBLE:	1 SPACES
EV VAN ACCESSIBLE:	3 SPACES
EV AMBULATORY	3 SPACES
TOTAL EV ACCESSIBLE PARKING :	**7 SPACES**



1 PARKING PLAN - LEVEL 5
1/32" = 1'-0"

2 PARKING PLAN - LEVEL 6
1/32" = 1'-0"

PARKING LEGEND

- REGULAR SPACE (8.5' X 18')
- COMPACT SPACE (8' X 16')
- ADA SPACE (9' X 18')
- ADA VAN SPACE (9' X 18')
- EVCS SPACE (9' X 18')
- EV READY SPACE (9' X 18')
- EV CAPABLE SPACE (9' X 18')

DES ARCHITECTS ENGINEERS

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PARKING PLANS

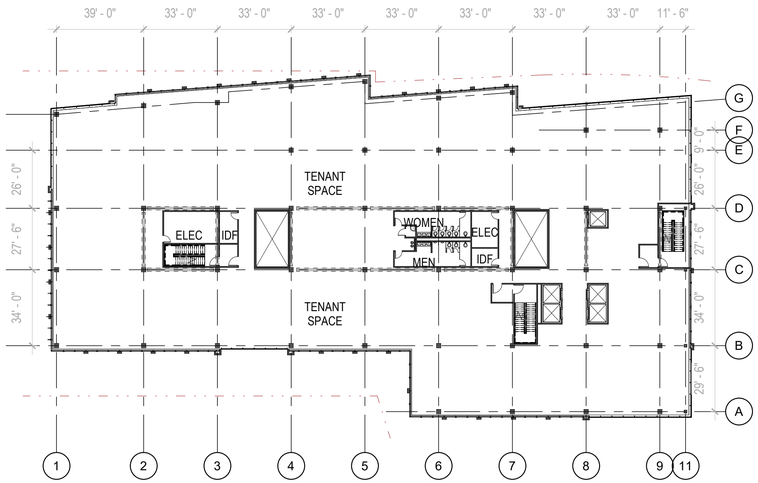
455 HICKEY, DALY CITY, CA

PLANNING SUBMITTAL 10.17.2022

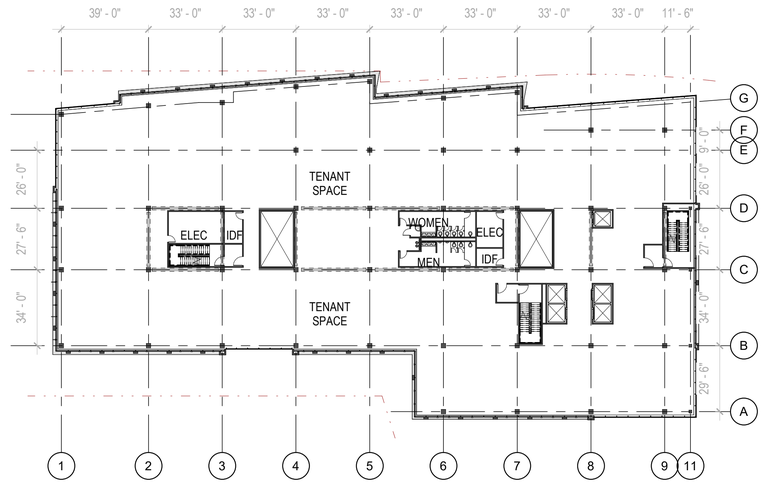
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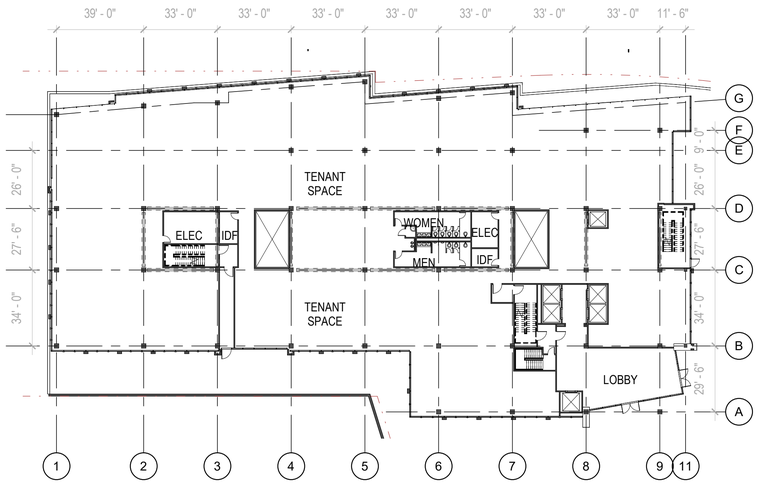
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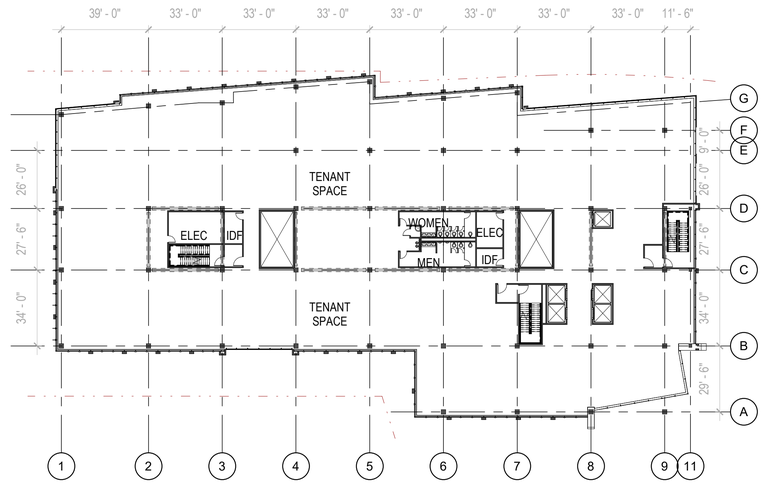
3 LEVEL 3
1/32" = 1'-0"



4 LEVEL 4
1/32" = 1'-0"



1 LEVEL 1
1/32" = 1'-0"



2 LEVEL 2
1/32" = 1'-0"

DES ARCHITECTS ENGINEERS

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BUILDING PLANS

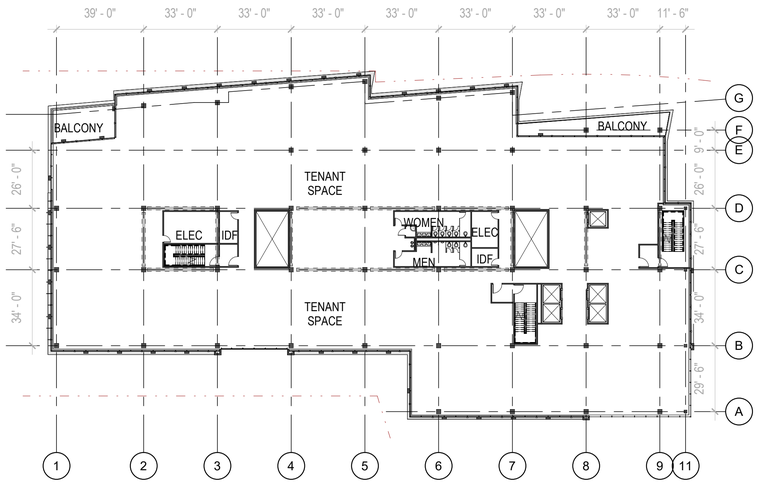
455 HICKEY, DALY CITY, CA

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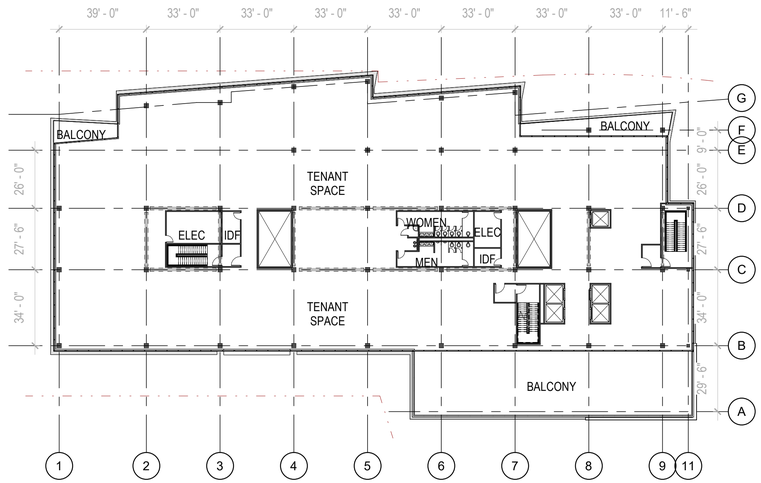
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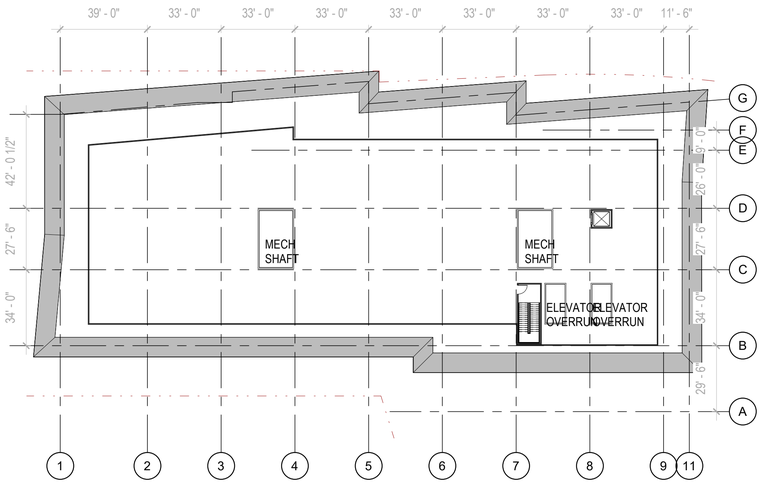
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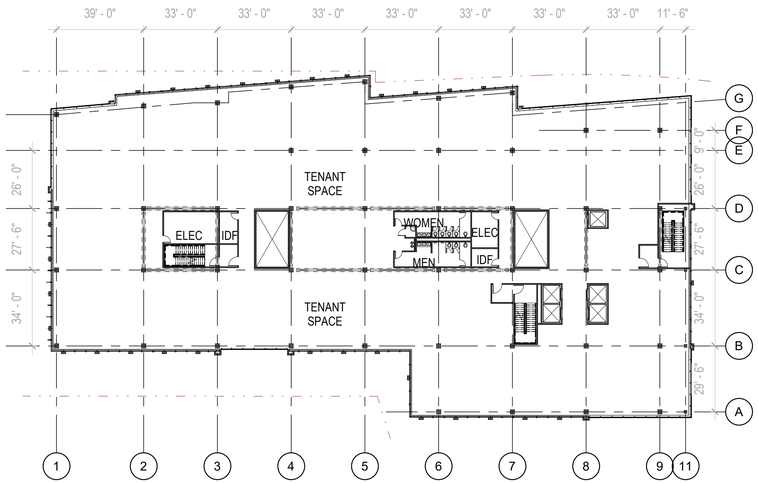
3 LEVEL 7
1/32" = 1'-0"



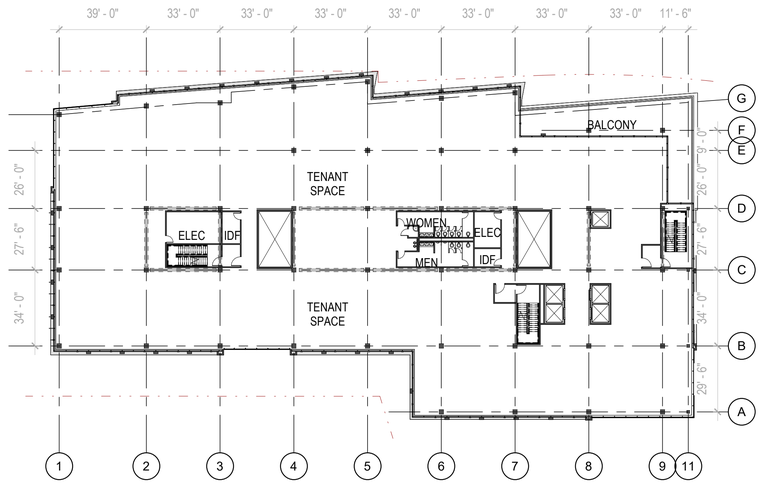
4 LEVEL 8
1/32" = 1'-0"



5 ROOF PLAN
1/32" = 1'-0"



1 LEVEL 5
1/32" = 1'-0"



2 LEVEL 6
1/32" = 1'-0"

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

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BUILDING PLANS

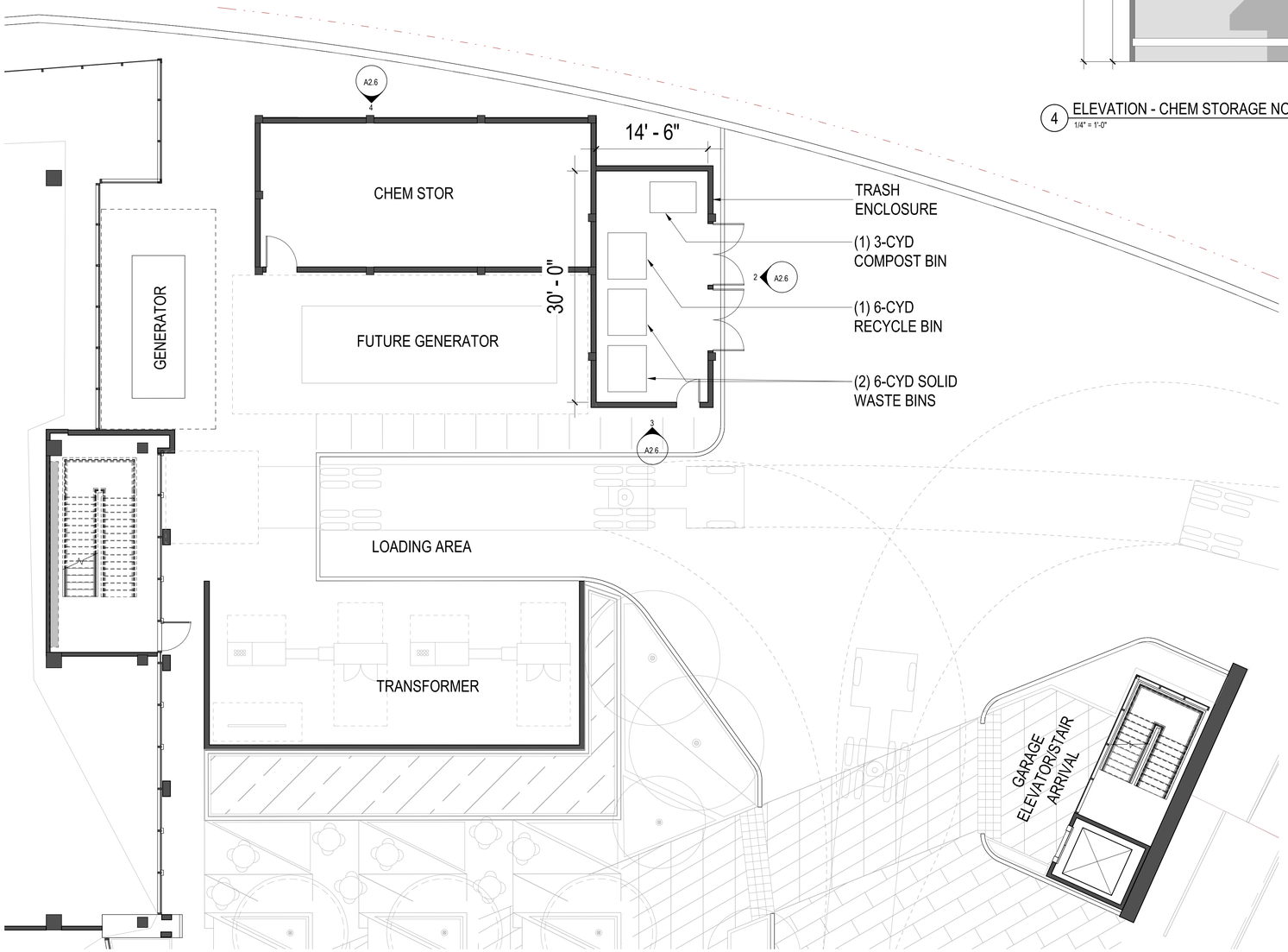
455 HICKEY, DALY CITY, CA

PLANNING SUBMITTAL 10.17.2022

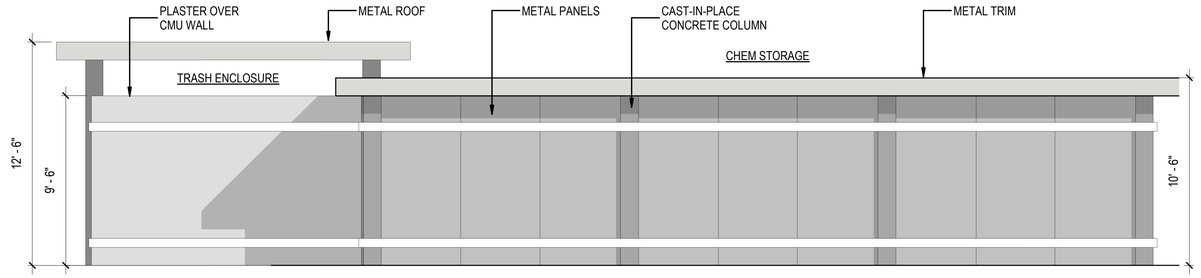
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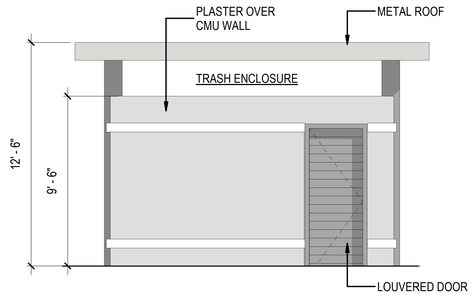
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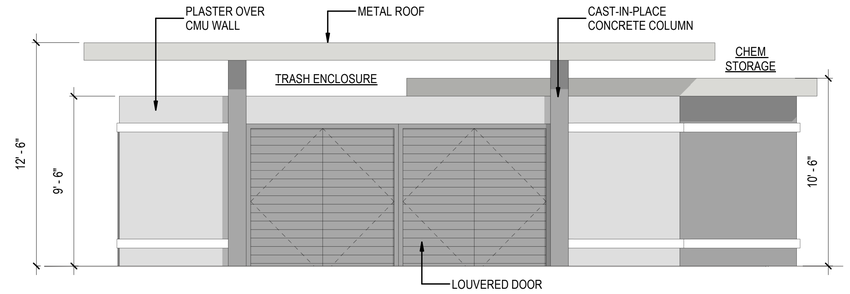
1 ENLARGED PLAN - SERVICE YARD
1/8" = 1'-0"



4 ELEVATION - CHEM STORAGE NORTH FACADE
1/4" = 1'-0"



3 ELEVATION - TRASH ENCLOSURE SOUTH FACADE
1/4" = 1'-0"



2 ELEVATION - TRASH ENCLOSURE EAST FACADE
1/4" = 1'-0"

DES ARCHITECTS ENGINEERS

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SERVICE YARD PLAN AND ELEVATIONS

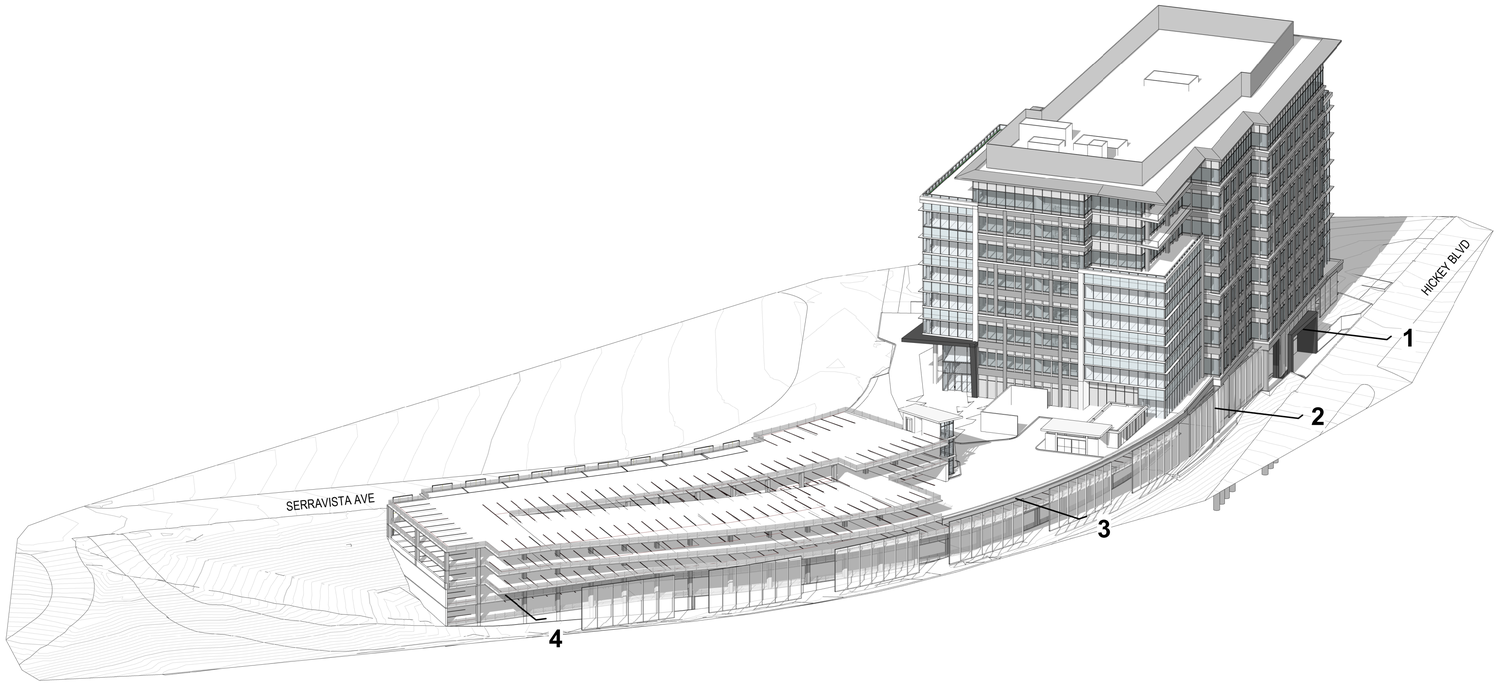
455 HICKEY, DALY CITY, CA

PLANNING SUBMITTAL 10.17.2022

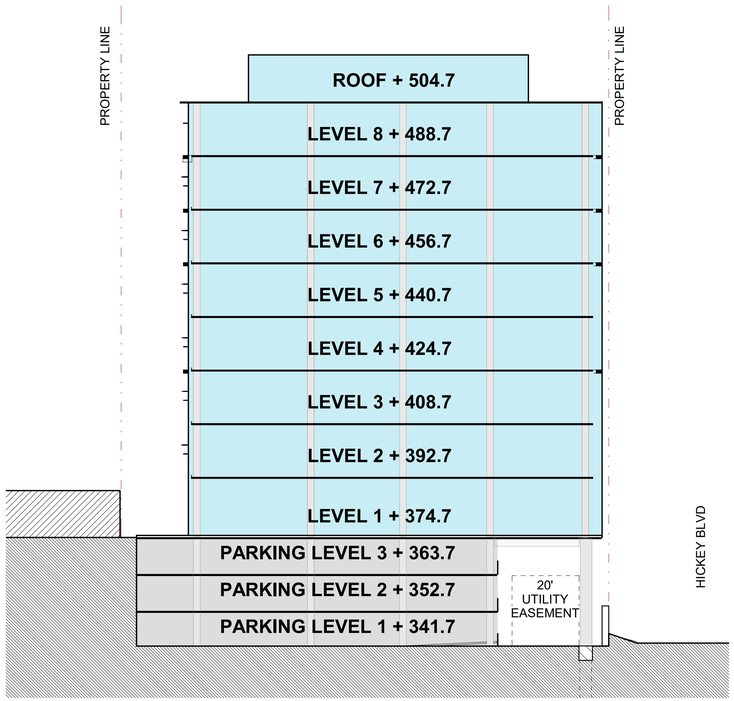
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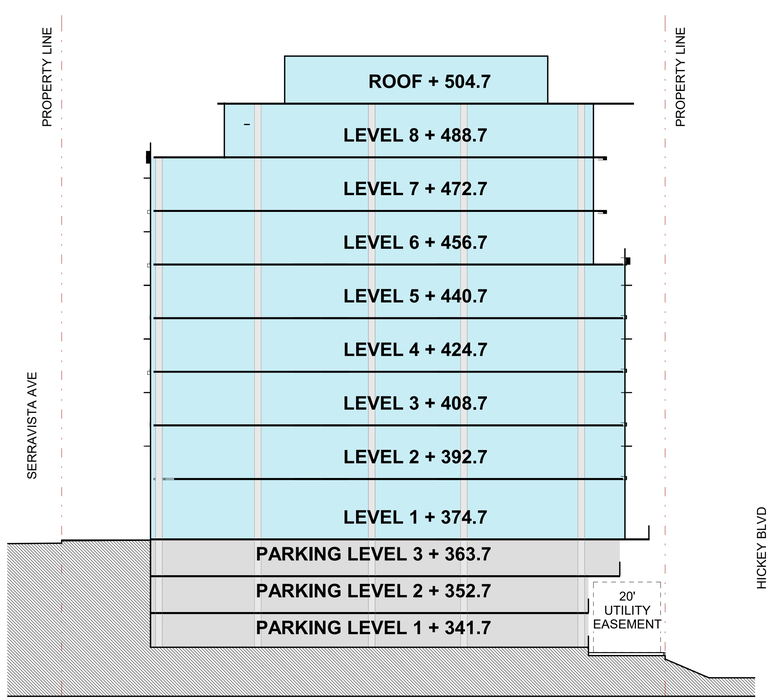
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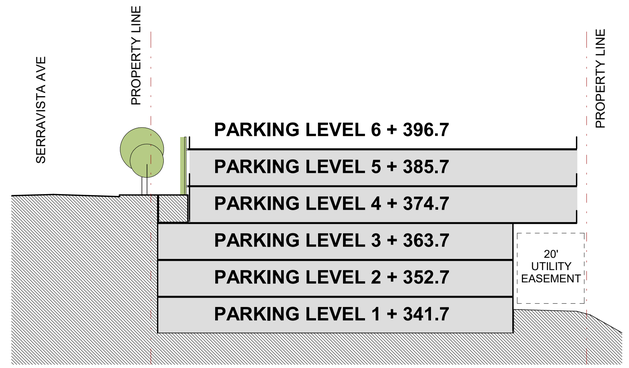
LEVEL 1 :	35,000 SF
LEVEL 2 :	36,000 SF
LEVEL 3 :	36,000 SF
LEVEL 4 :	36,000 SF
LEVEL 5 :	36,100 SF
LEVEL 6 :	35,200 SF
LEVEL 7 :	34,700 SF
LEVEL 8 :	31,000 SF
TOTAL GFA :	280,000 SF



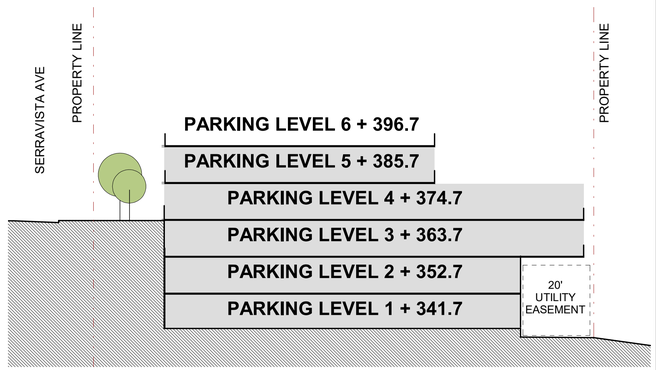
SECTION 1



SECTION 2



SECTION 4



SECTION 3

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

BUILDING SECTIONS

455 HICKEY, DALY CITY, CA

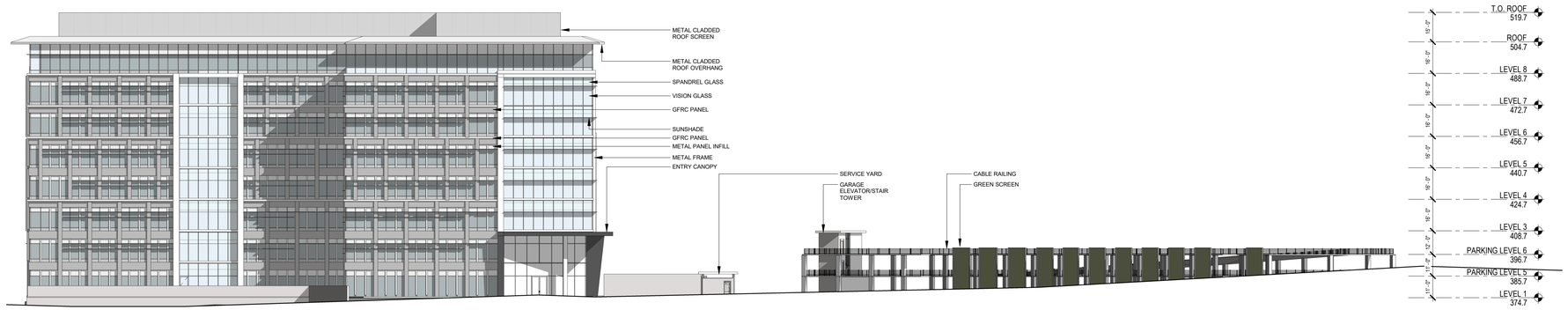
PLANNING SUBMITTAL 10.17.2022

A3.0

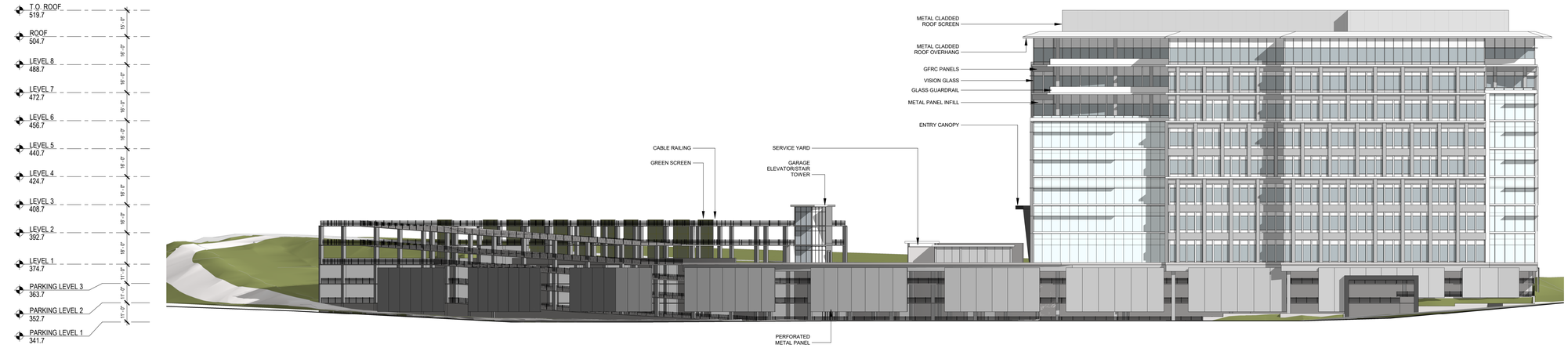
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4 SOUTH ELEVATION
1/32" = 1'-0"



3 NORTH ELEVATION
1/32" = 1'-0"



1 EAST ELEVATION
1/32" = 1'-0"

2 WEST ELEVATION
1/32" = 1'-0"

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

BUILDING ELEVATIONS

455 HICKEY, DALY CITY, CA

PLANNING SUBMITTAL 10.17.2022

A3.1

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1 **GLASS**
SILVER BLUE IGU

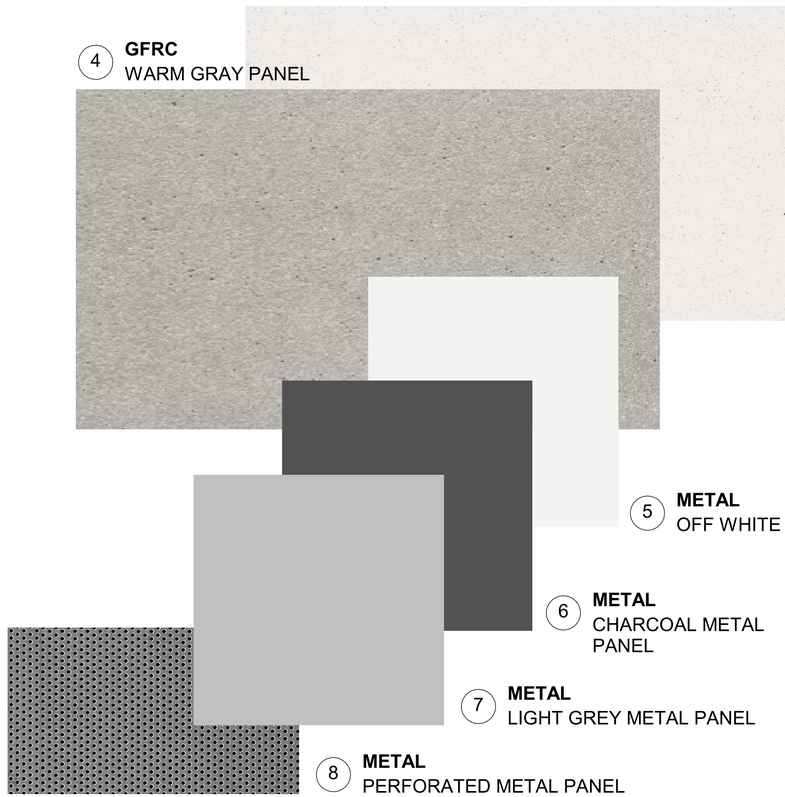


2 **GLASS**
GRAY BLUE IGU



3 **GFRC**
OFF WHITE PANEL

4 **GFRC**
WARM GRAY PANEL



5 **METAL**
OFF WHITE

6 **METAL**
CHARCOAL METAL PANEL

7 **METAL**
LIGHT GREY METAL PANEL

8 **METAL**
PERFORATED METAL PANEL

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

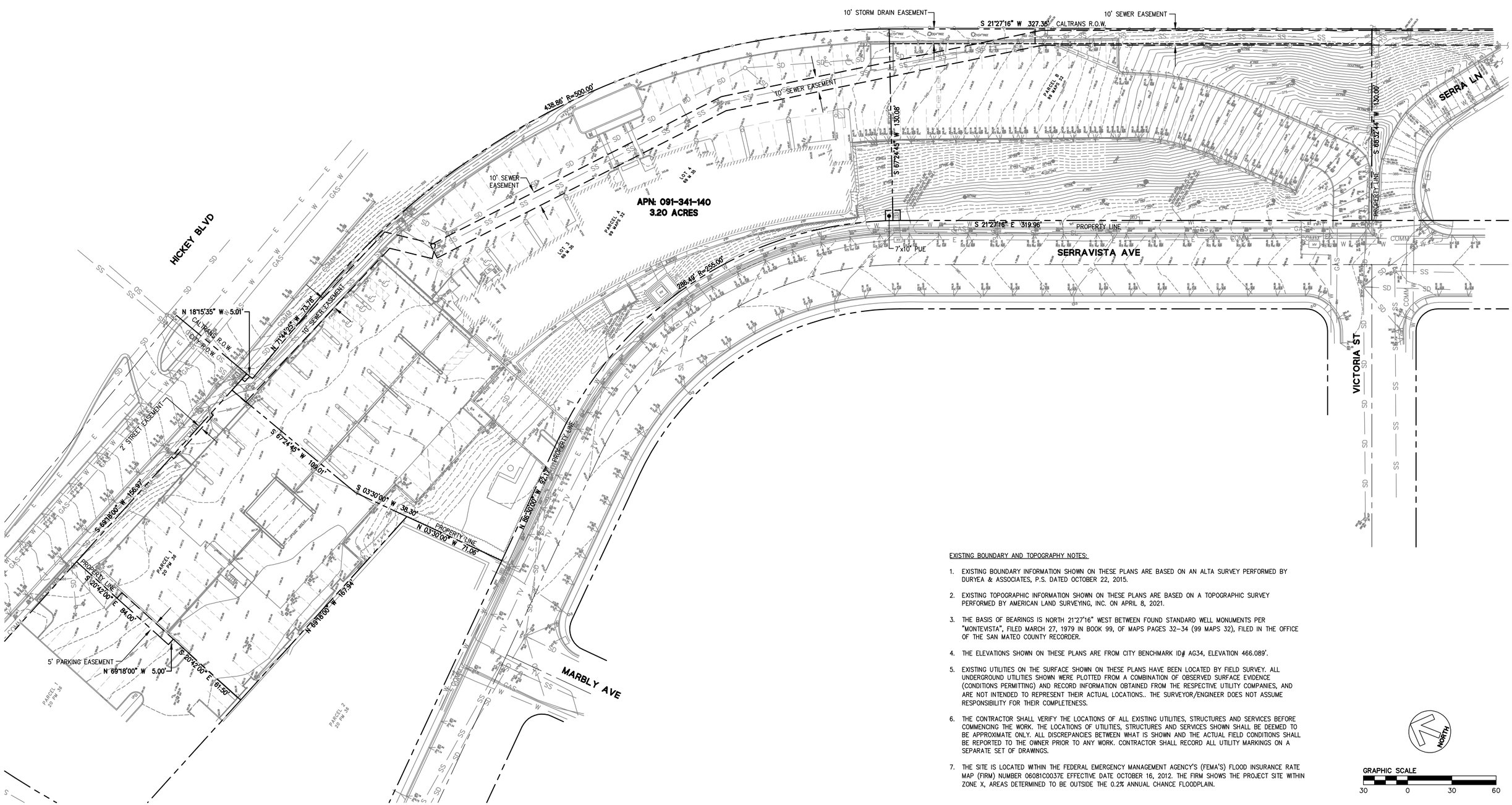
BUILDING MATERIAL BOARD

455 HICKEY, DALY CITY, CA
PLANNING SUBMITTAL 10.17.2022

A4.0
10071.003

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EXISTING BOUNDARY AND TOPOGRAPHY NOTES:

1. EXISTING BOUNDARY INFORMATION SHOWN ON THESE PLANS ARE BASED ON AN ALTA SURVEY PERFORMED BY DURYEA & ASSOCIATES, P.S. DATED OCTOBER 22, 2015.
2. EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS ARE BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY AMERICAN LAND SURVEYING, INC. ON APRIL 8, 2021.
3. THE BASIS OF BEARINGS IS NORTH 21°27'16" WEST BETWEEN FOUND STANDARD WELL MONUMENTS PER "MONTEVISTA", FILED MARCH 27, 1979 IN BOOK 99, OF MAPS PAGES 32–34 (99 MAPS 32), FILED IN THE OFFICE OF THE SAN MATEO COUNTY RECORDER.
4. THE ELEVATIONS SHOWN ON THESE PLANS ARE FROM CITY BENCHMARK ID# AG34, ELEVATION 466.089'.
5. EXISTING UTILITIES ON THE SURFACE SHOWN ON THESE PLANS HAVE BEEN LOCATED BY FIELD SURVEY. ALL UNDERGROUND UTILITIES SHOWN WERE PLOTTED FROM A COMBINATION OF OBSERVED SURFACE EVIDENCE (CONDITIONS PERMITTING) AND RECORD INFORMATION OBTAINED FROM THE RESPECTIVE UTILITY COMPANIES, AND ARE NOT INTENDED TO REPRESENT THEIR ACTUAL LOCATIONS.. THE SURVEYOR/ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR THEIR COMPLETENESS.
6. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING THE WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN SHALL BE DEEMED TO BE APPROXIMATE ONLY. ALL DISCREPANCIES BETWEEN WHAT IS SHOWN AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO ANY WORK. CONTRACTOR SHALL RECORD ALL UTILITY MARKINGS ON A SEPARATE SET OF DRAWINGS.
7. THE SITE IS LOCATED WITHIN THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S (FEMA'S) FLOOD INSURANCE RATE MAP (FIRM) NUMBER 06081C0037E EFFECTIVE DATE OCTOBER 16, 2012. THE FIRM SHOWS THE PROJECT SITE WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

NORTH

GRAPHIC SCALE
30 0 30 60

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

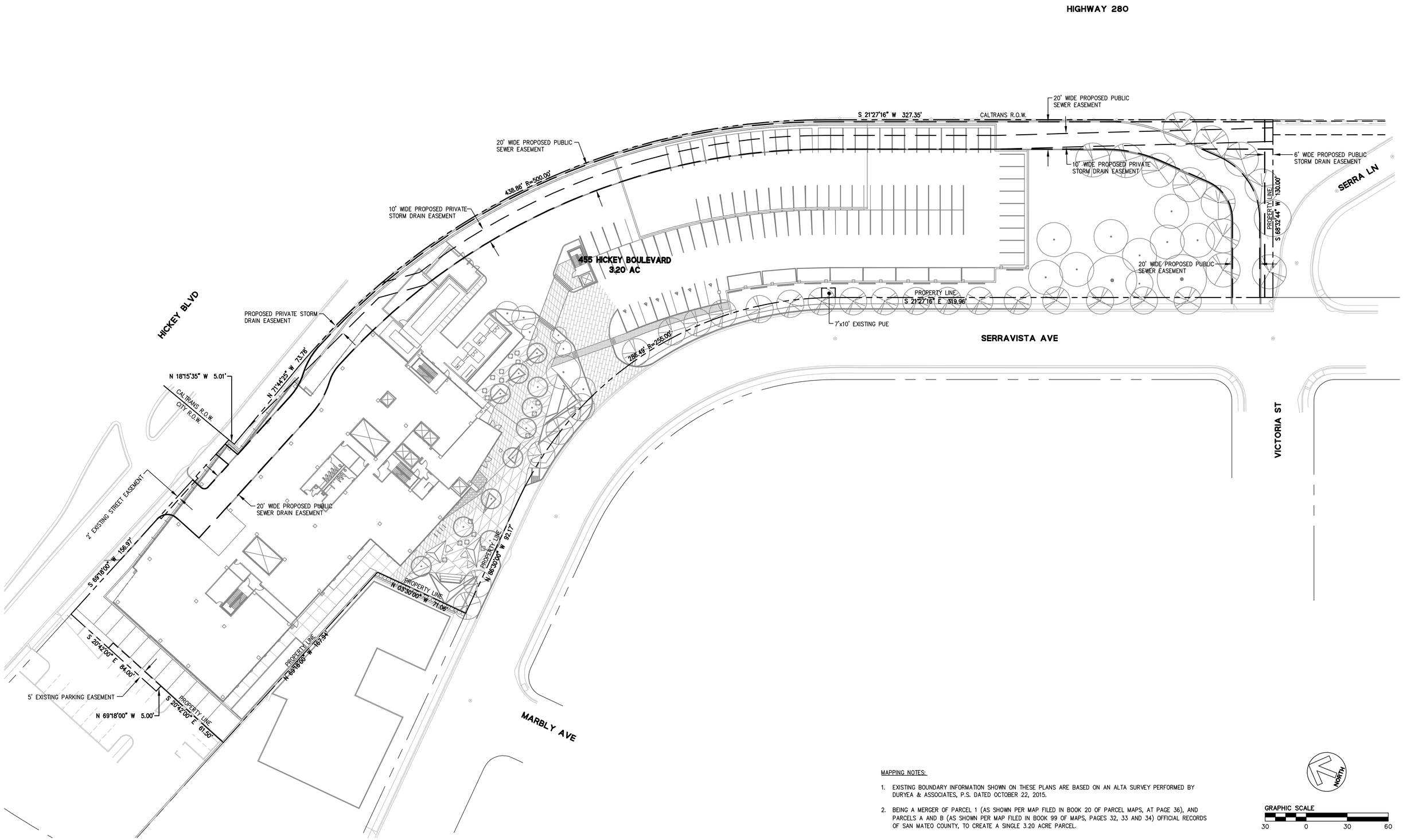
BKF
255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

EXISTING CONDITIONS PLAN

PLANNING SUBMITTAL 10.17.2022

C1.0

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MAPPING NOTES:

1. EXISTING BOUNDARY INFORMATION SHOWN ON THESE PLANS ARE BASED ON AN ALTA SURVEY PERFORMED BY DURYEA & ASSOCIATES, P.S. DATED OCTOBER 22, 2015.
2. BEING A MERGER OF PARCEL 1 (AS SHOWN PER MAP FILED IN BOOK 20 OF PARCEL MAPS, AT PAGE 36), AND PARCELS A AND B (AS SHOWN PER MAP FILED IN BOOK 99 OF MAPS, PAGES 32, 33 AND 34) OFFICIAL RECORDS OF SAN MATEO COUNTY, TO CREATE A SINGLE 3.20 ACRE PARCEL.

NORTH

GRAPHIC SCALE
30 0 30 60

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

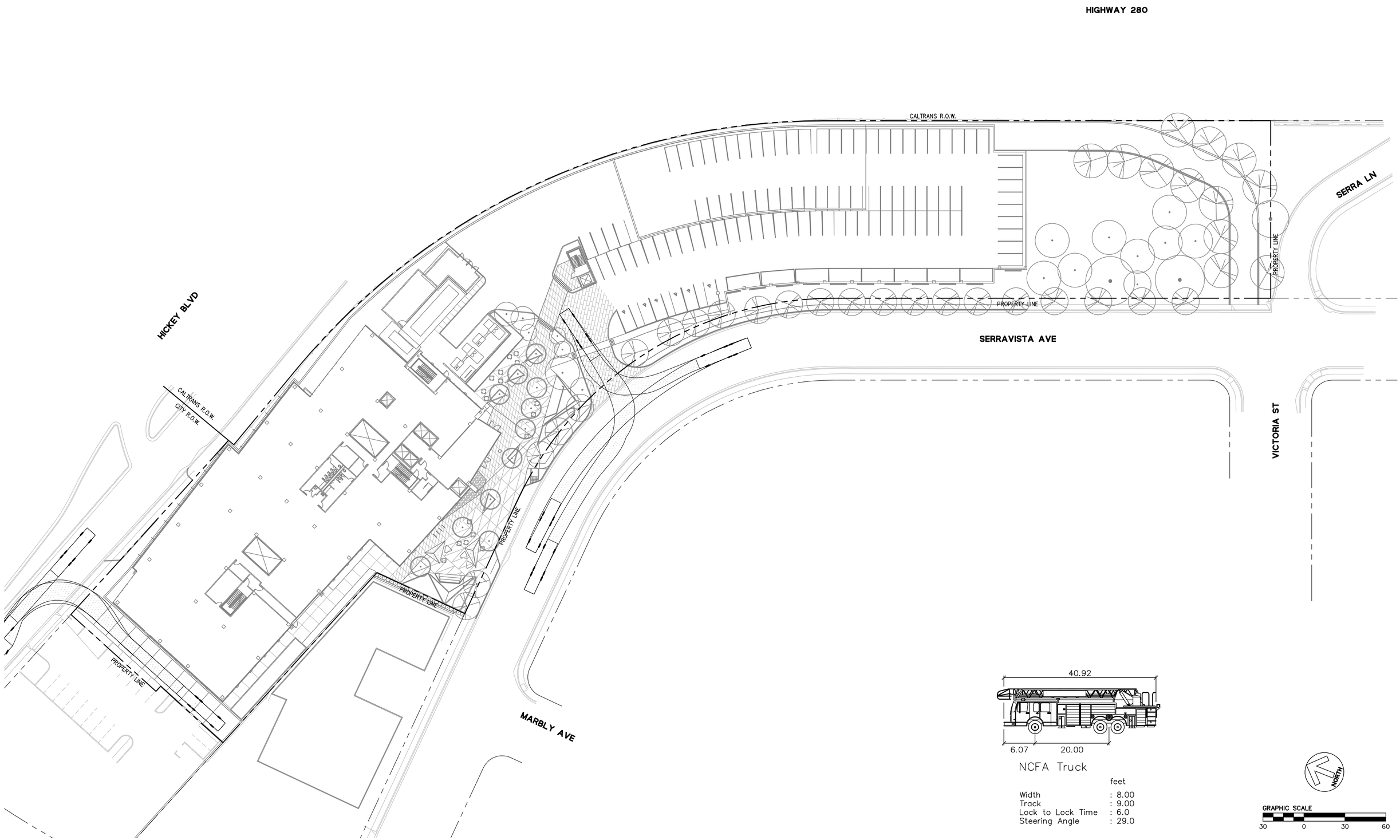
BKF
255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

MAPPING PLAN

PLANNING SUBMITTAL 10.17.2022

C2.0

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NCFA Truck

	feet
Width	: 8.00
Track	: 9.00
Lock to Lock Time	: 6.0
Steering Angle	: 29.0

NORTH

GRAPHIC SCALE

30 0 30 60

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

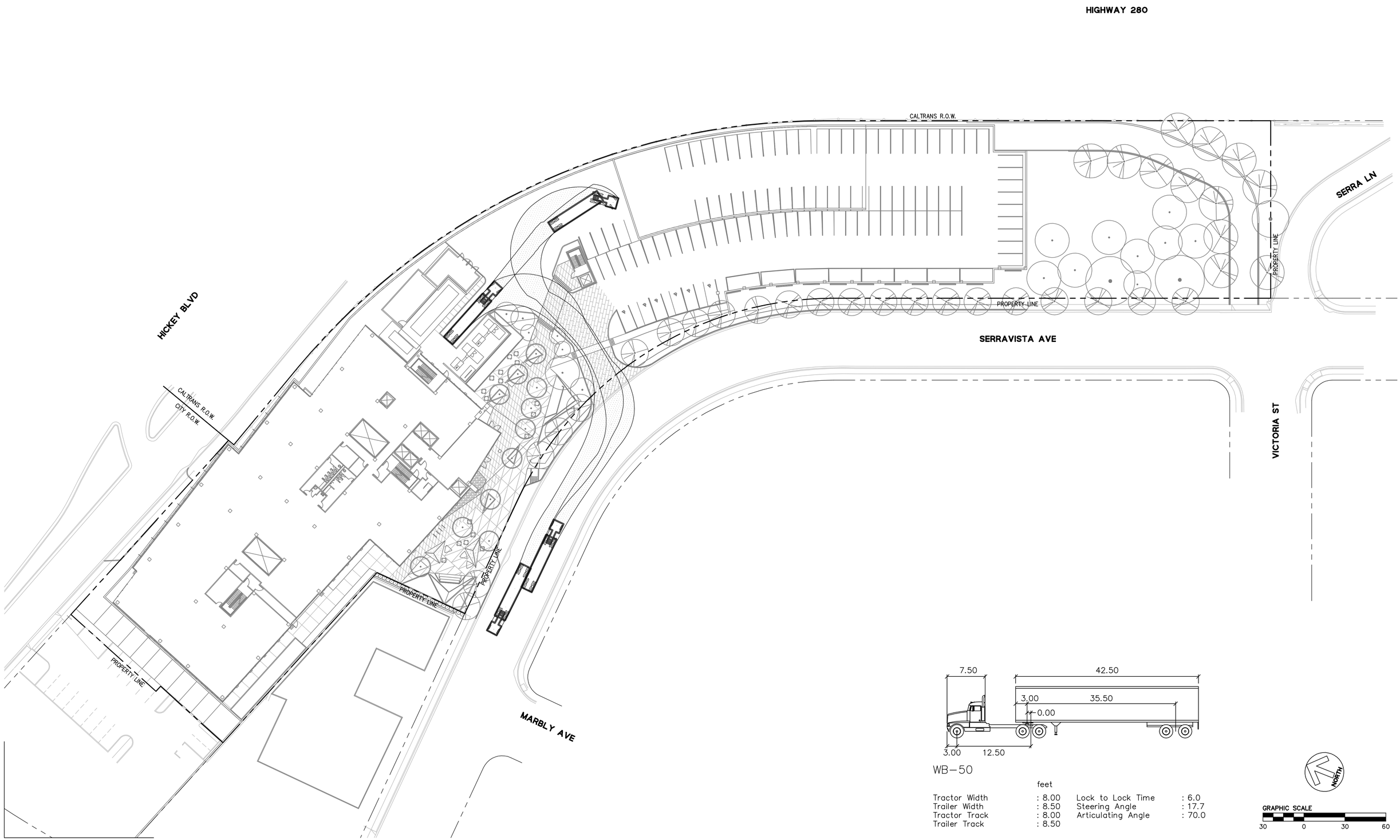
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255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

PRELIMINARY EMERGENCY VEHICLE TURNING PLAN

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C3.0

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WB–50

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

NORTH

GRAPHIC SCALE

30 0 30 60

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

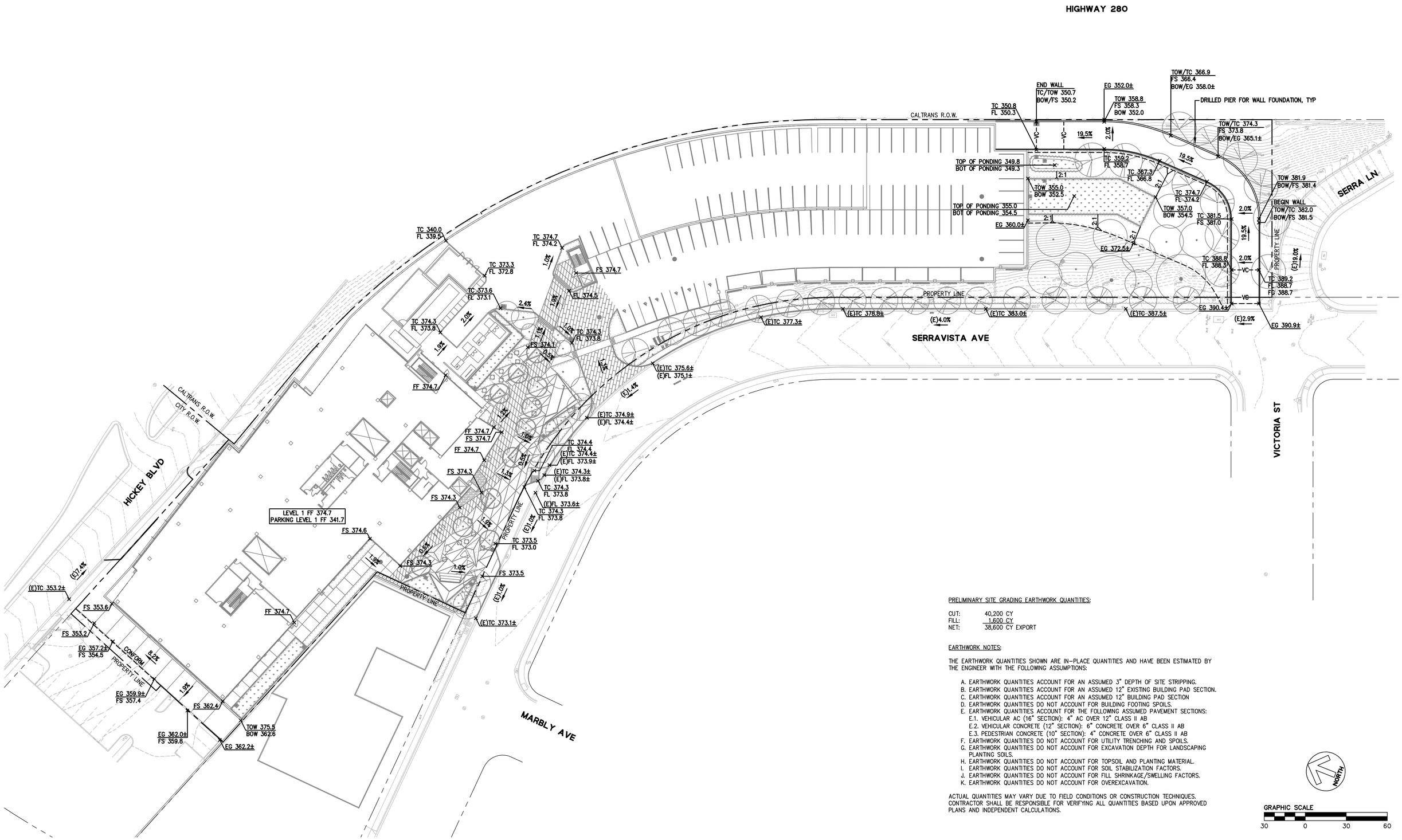
BKF
255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

PRELIMINARY DELIVERY TRUCK TURNING PLAN

PLANNING SUBMITTAL 10.17.2022

C3.1

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PRELIMINARY SITE GRADING EARTHWORK QUANTITIES:

CUT:	40,200 CY
FILL:	1,600 CY
NET:	38,600 CY EXPORT

EARTHWORK NOTES:

THE EARTHWORK QUANTITIES SHOWN ARE IN-PLACE QUANTITIES AND HAVE BEEN ESTIMATED BY THE ENGINEER WITH THE FOLLOWING ASSUMPTIONS:

A. EARTHWORK QUANTITIES ACCOUNT FOR AN ASSUMED 3" DEPTH OF SITE STRIPPING.
B. EARTHWORK QUANTITIES ACCOUNT FOR AN ASSUMED 12" EXISTING BUILDING PAD SECTION.
C. EARTHWORK QUANTITIES ACCOUNT FOR AN ASSUMED 12" BUILDING PAD SECTION
D. EARTHWORK QUANTITIES DO NOT ACCOUNT FOR BUILDING FOOTING SPOILS.
E. EARTHWORK QUANTITIES ACCOUNT FOR THE FOLLOWING ASSUMED PAVEMENT SECTIONS:
   E.1. VEHICULAR AC (16" SECTION): 4" AC OVER 12" CLASS II AB
   E.2. VEHICULAR CONCRETE (12" SECTION): 6" CONCRETE OVER 6" CLASS II AB
   E.3. PEDESTRIAN CONCRETE (10" SECTION): 4" CONCRETE OVER 6" CLASS II AB
F. EARTHWORK QUANTITIES DO NOT ACCOUNT FOR UTILITY TRENCHING AND SPOILS.
G. EARTHWORK QUANTITIES DO NOT ACCOUNT FOR EXCAVATION DEPTH FOR LANDSCAPING PLANTING SOILS.
H. EARTHWORK QUANTITIES DO NOT ACCOUNT FOR TOPSOIL AND PLANTING MATERIAL.
I. EARTHWORK QUANTITIES DO NOT ACCOUNT FOR SOIL STABILIZATION FACTORS.
J. EARTHWORK QUANTITIES DO NOT ACCOUNT FOR FILL SHRINKAGE/SWELLING FACTORS.
K. EARTHWORK QUANTITIES DO NOT ACCOUNT FOR OVEREXCAVATION.

ACTUAL QUANTITIES MAY VARY DUE TO FIELD CONDITIONS OR CONSTRUCTION TECHNIQUES. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES BASED UPON APPROVED PLANS AND INDEPENDENT CALCULATIONS.

NORTH

GRAPHIC SCALE
30 0 30 60

DES ARCHITECTS ENGINEERS

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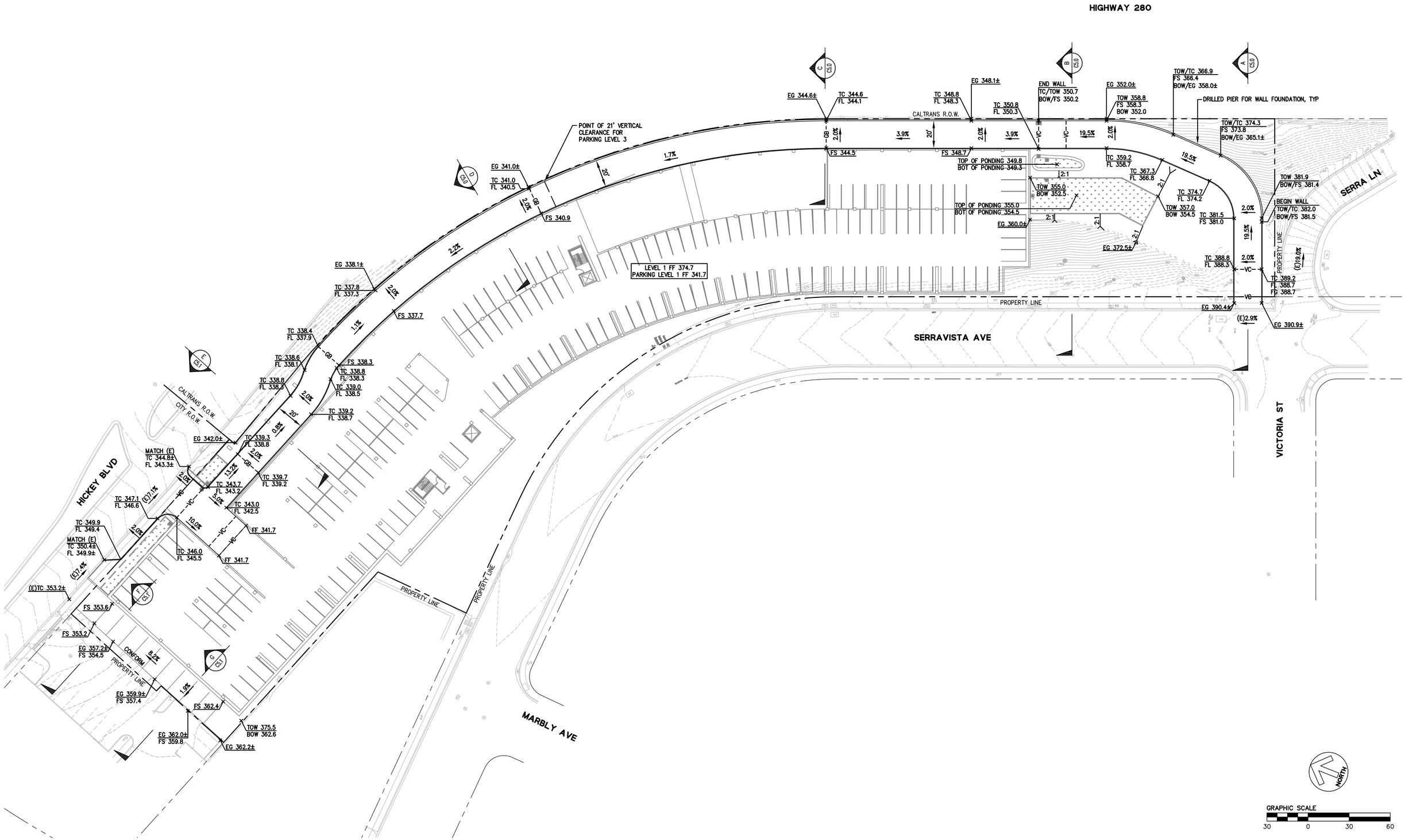
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GRADING PLAN - SERRAVISTA AVENUE

PLANNING SUBMITTAL 10.17.2022

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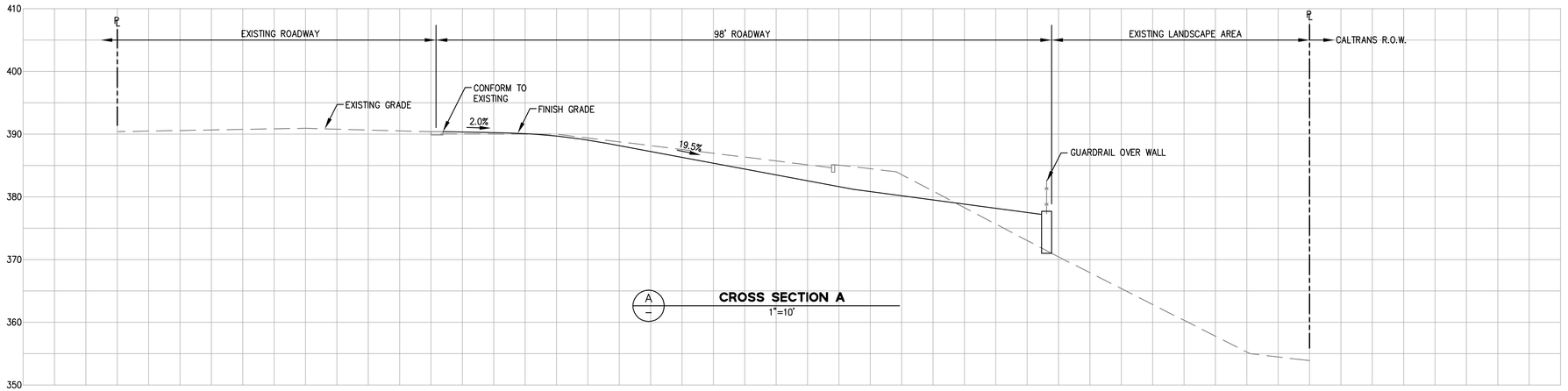
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GRADING PLAN - HICKEY BOUELVARD

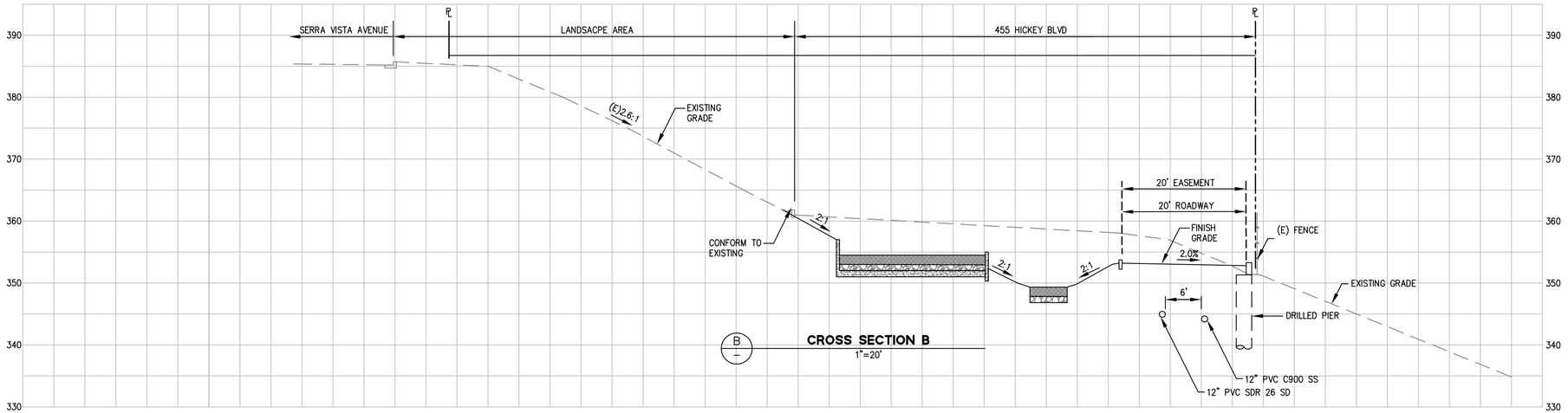
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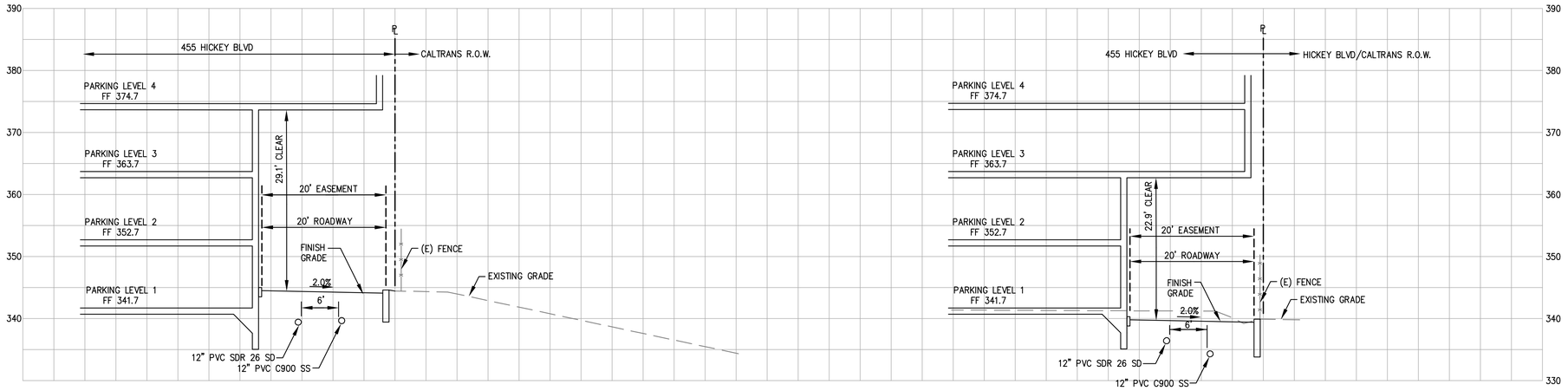
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A — CROSS SECTION A
1"=10'



B — CROSS SECTION B
1"=20'



C — CROSS SECTION C
1"=20'

D — CROSS SECTION D
1"=20'

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CROSS SECTIONS

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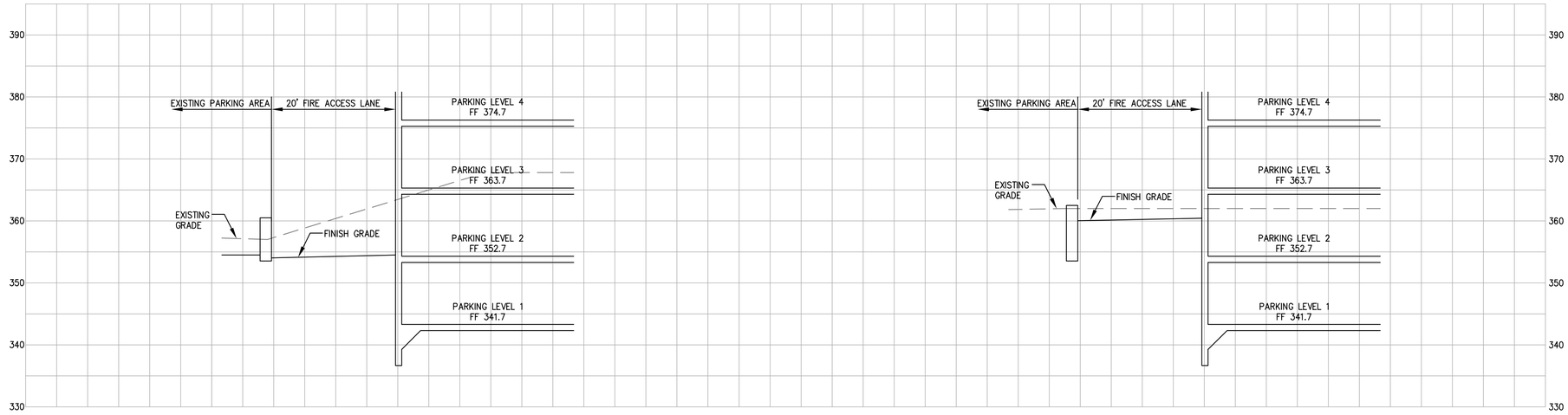
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E
–

CROSS SECTION E

1"=20'



F
–

CROSS SECTION C

1"=20'

G
–

CROSS SECTION D

1"=20'

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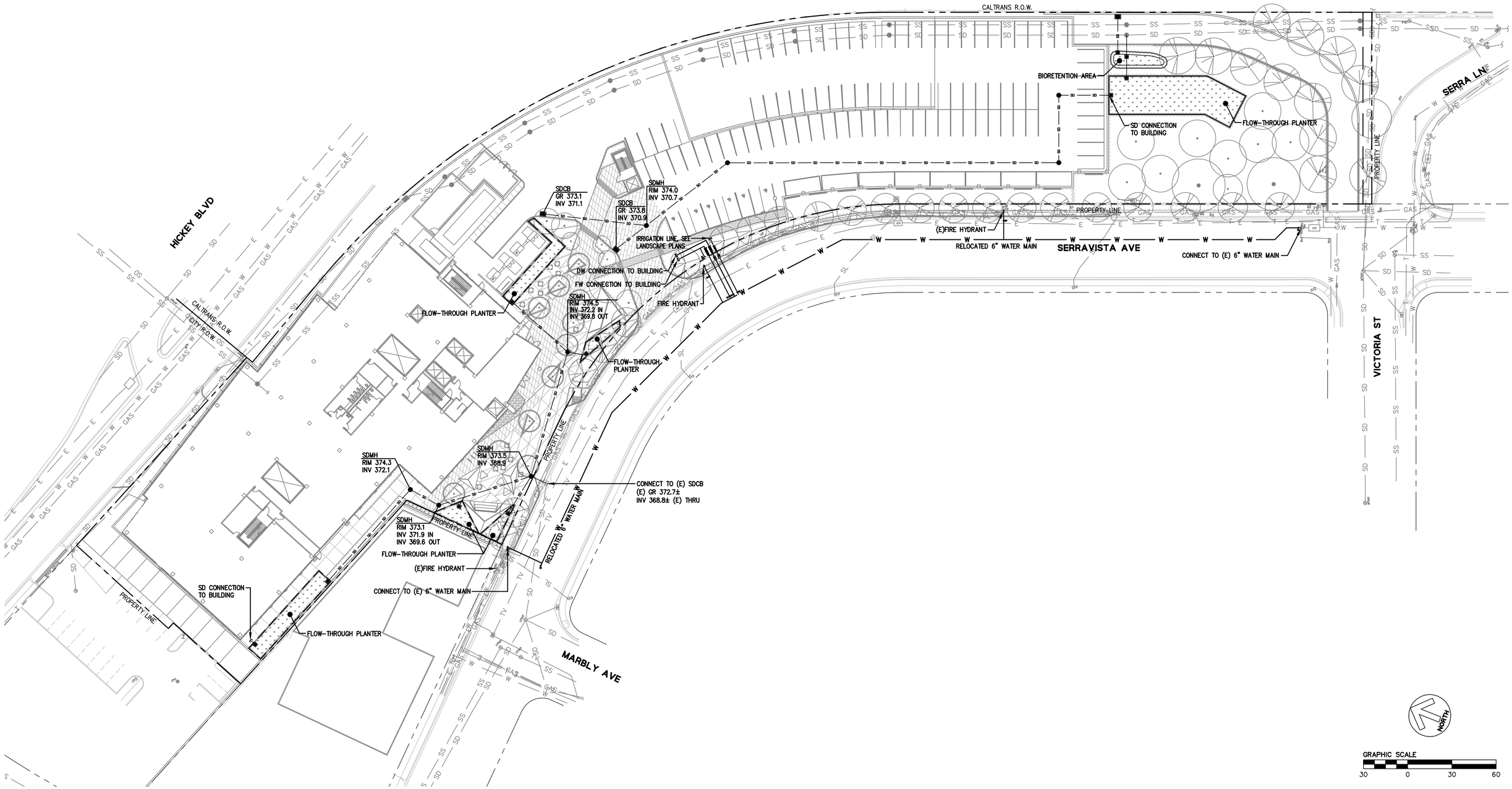
CROSS SECTIONS

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HIGHWAY 280



NORTH

GRAPHIC SCALE

30 0 30 60

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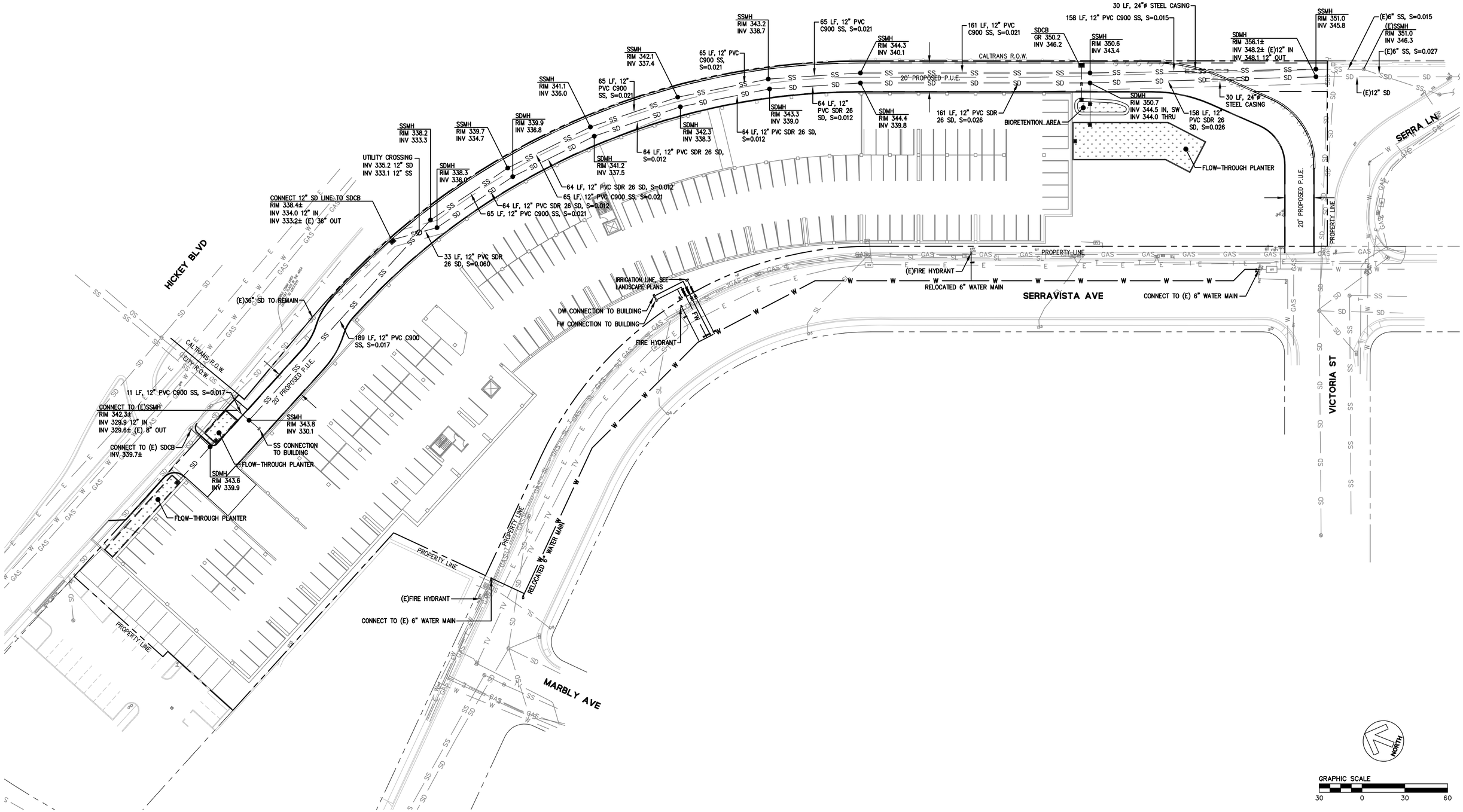
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UTILITY PLAN - SERRAVISTA AVENUE

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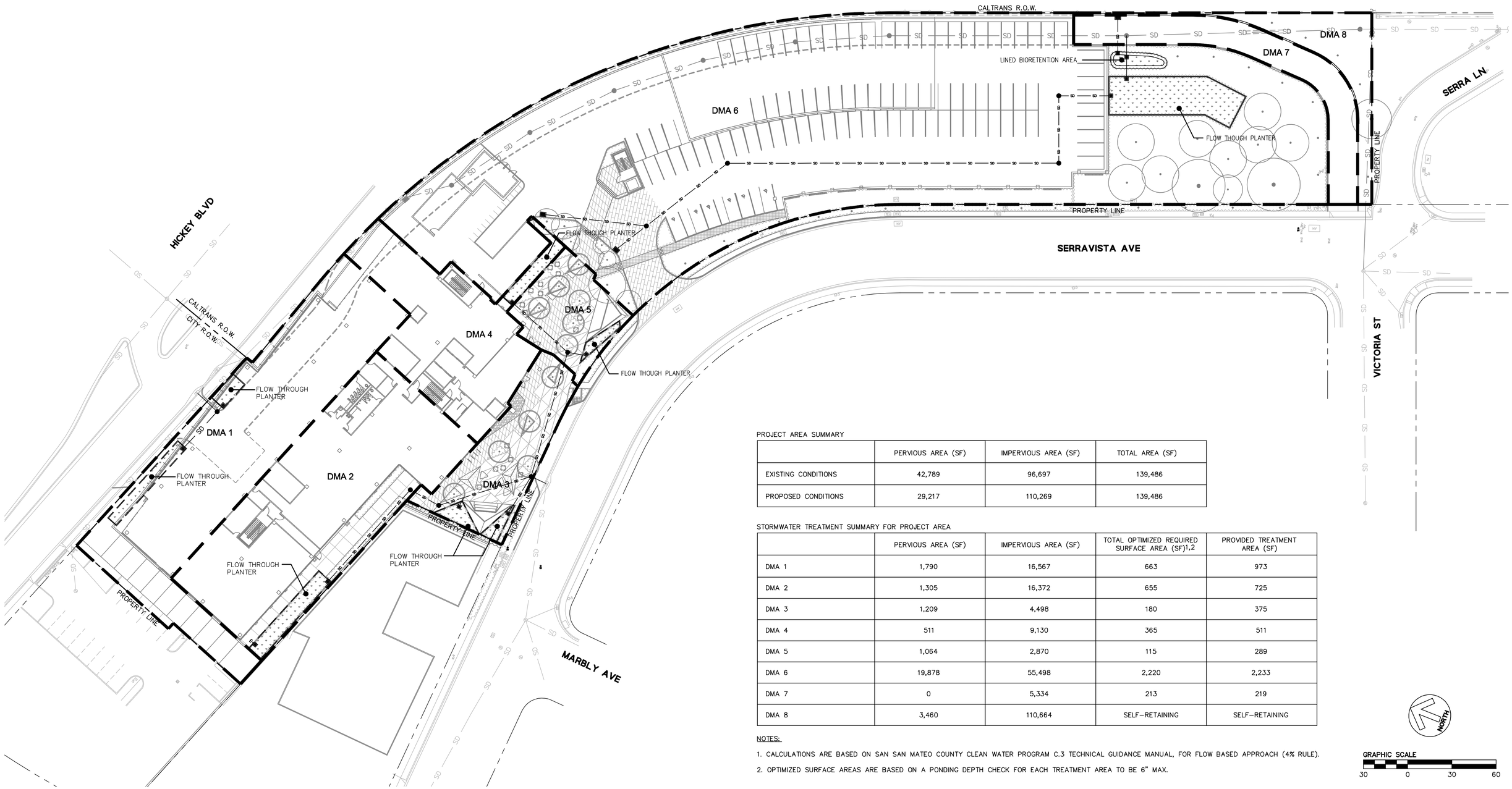
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UTILITY PLAN - HICKEY BOULEVARD

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PROJECT AREA SUMMARY

	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)
EXISTING CONDITIONS	42,789	96,697	139,486
PROPOSED CONDITIONS	29,217	110,269	139,486

STORMWATER TREATMENT SUMMARY FOR PROJECT AREA

	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	TOTAL OPTIMIZED REQUIRED SURFACE AREA (SF)[1,2]	PROVIDED TREATMENT AREA (SF)
DMA 1	1,790	16,567	663	973
DMA 2	1,305	16,372	655	725
DMA 3	1,209	4,498	180	375
DMA 4	511	9,130	365	511
DMA 5	1,064	2,870	115	289
DMA 6	19,878	55,498	2,220	2,233
DMA 7	0	5,334	213	219
DMA 8	3,460	110,664	SELF-RETAINING	SELF-RETAINING

NOTES:

1. CALCULATIONS ARE BASED ON SAN SAN MATEO COUNTY CLEAN WATER PROGRAM C.3 TECHNICAL GUIDANCE MANUAL, FOR FLOW BASED APPROACH (4% RULE).
2. OPTIMIZED SURFACE AREAS ARE BASED ON A PONDING DEPTH CHECK FOR EACH TREATMENT AREA TO BE 6" MAX.

NORTH

GRAPHIC SCALE
30 0 30 60

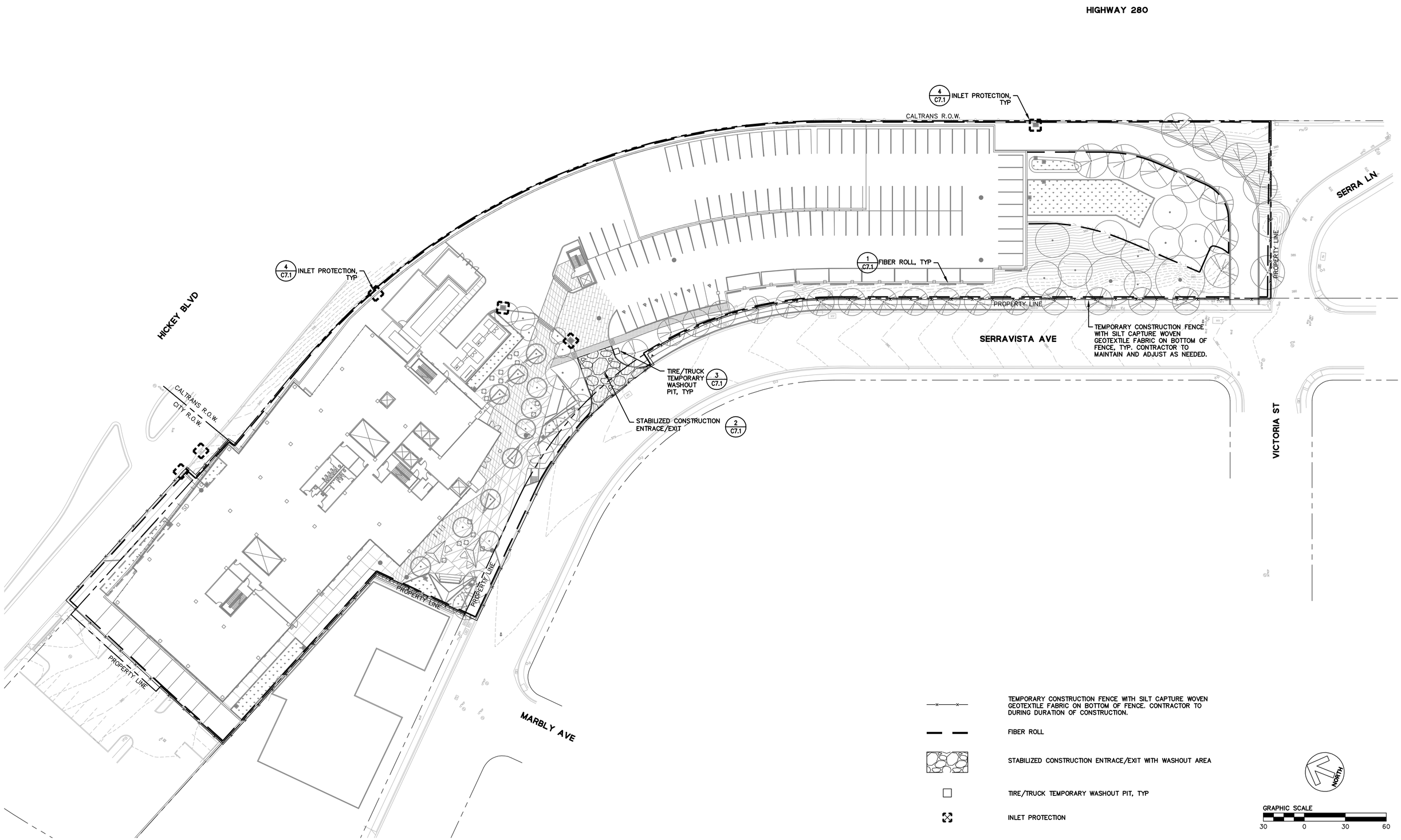
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PRELIMINARY STORMWATER CONTROL PLAN

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EROSION CONTROL PLAN

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C8.0

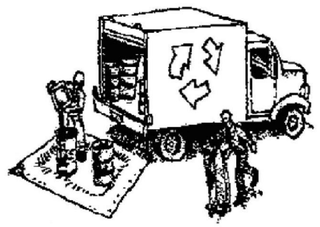
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SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



Maintenance and Parking

- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- ❑ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving



- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- ❑ Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- ❑ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - Unusual soil conditions, discoloration, or odor.
  - Abandoned underground tanks.
  - Abandoned wells
  - Buried barrels, debris, or trash.

Paving/Asphalt Work

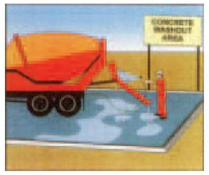


- ❑ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

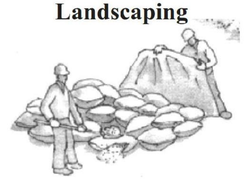
- ❑ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



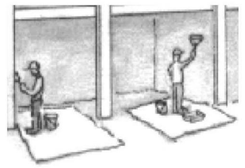
- ❑ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ❑ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- ❑ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ❑ Stack bagged material on pallets and under cover.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

Painting & Paint Removal



Painting Cleanup and Removal

- ❑ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ❑ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

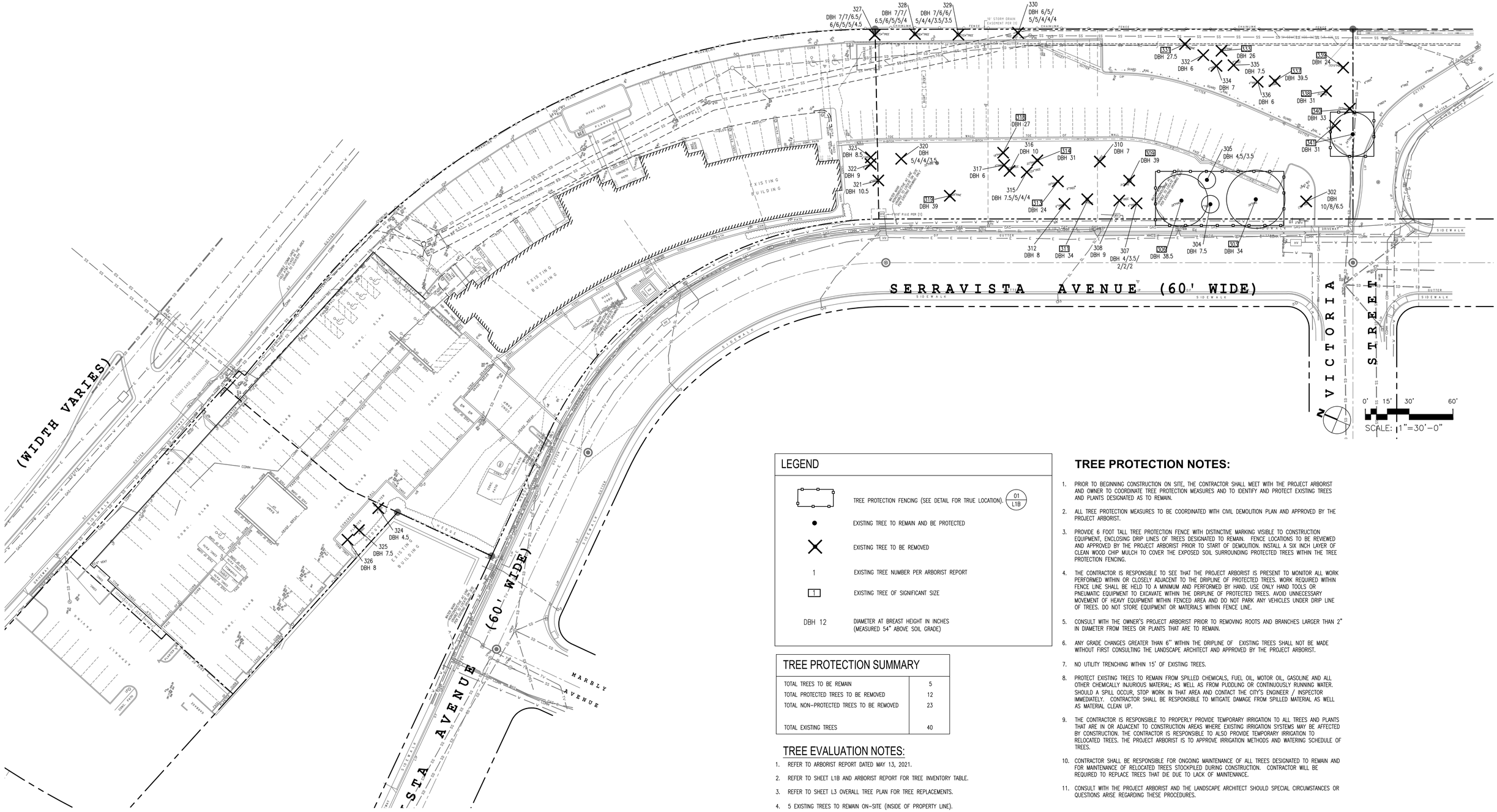
Dewatering



- ❑ Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- ❑ Divert run-on water from offsite away from all disturbed areas.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to $10,000 per day!

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LEGEND

	TREE PROTECTION FENCING (SEE DETAIL FOR TRUE LOCATION). 01 / L1B
●	EXISTING TREE TO REMAIN AND BE PROTECTED
X	EXISTING TREE TO BE REMOVED
1	EXISTING TREE NUMBER PER ARBORIST REPORT
[1]	EXISTING TREE OF SIGNIFICANT SIZE
DBH 12	DIAMETER AT BREAST HEIGHT IN INCHES (MEASURED 54" ABOVE SOIL GRADE)

TREE PROTECTION SUMMARY

TOTAL TREES TO BE REMAIN	5
TOTAL PROTECTED TREES TO BE REMOVED	12
TOTAL NON-PROTECTED TREES TO BE REMOVED	23
TOTAL EXISTING TREES	40

TREE EVALUATION NOTES:

1. REFER TO ARBORIST REPORT DATED MAY 13, 2021.
2. REFER TO SHEET L1B AND ARBORIST REPORT FOR TREE INVENTORY TABLE.
3. REFER TO SHEET L3 OVERALL TREE PLAN FOR TREE REPLACEMENTS.
4. 5 EXISTING TREES TO REMAIN ON-SITE (INSIDE OF PROPERTY LINE).

TREE PROTECTION NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION ON SITE, THE CONTRACTOR SHALL MEET WITH THE PROJECT ARBORIST AND OWNER TO COORDINATE TREE PROTECTION MEASURES AND TO IDENTIFY AND PROTECT EXISTING TREES AND PLANTS DESIGNATED AS TO REMAIN.
2. ALL TREE PROTECTION MEASURES TO BE COORDINATED WITH CIVIL DEMOLITION PLAN AND APPROVED BY THE PROJECT ARBORIST.
3. PROVIDE 6 FOOT TALL TREE PROTECTION FENCE WITH DISTINCTIVE MARKING VISIBLE TO CONSTRUCTION EQUIPMENT, ENCLOSING DRIP LINES OF TREES DESIGNATED TO REMAIN. FENCE LOCATIONS TO BE REVIEWED AND APPROVED BY THE PROJECT ARBORIST PRIOR TO START OF DEMOLITION. INSTALL A SIX INCH LAYER OF CLEAN WOOD CHIP MULCH TO COVER THE EXPOSED SOIL SURROUNDING PROTECTED TREES WITHIN THE TREE PROTECTION FENCING.
4. THE CONTRACTOR IS RESPONSIBLE TO SEE THAT THE PROJECT ARBORIST IS PRESENT TO MONITOR ALL WORK PERFORMED WITHIN OR CLOSELY ADJACENT TO THE DRIPLINE OF PROTECTED TREES. WORK REQUIRED WITHIN FENCE LINE SHALL BE HELD TO A MINIMUM AND PERFORMED BY HAND. USE ONLY HAND TOOLS OR PNEUMATIC EQUIPMENT TO EXCAVATE WITHIN THE DRIPLINE OF PROTECTED TREES. AVOID UNNECESSARY MOVEMENT OF HEAVY EQUIPMENT WITHIN FENCED AREA AND DO NOT PARK ANY VEHICLES UNDER DRIP LINE OF TREES. DO NOT STORE EQUIPMENT OR MATERIALS WITHIN FENCE LINE.
5. CONSULT WITH THE OWNER'S PROJECT ARBORIST PRIOR TO REMOVING ROOTS AND BRANCHES LARGER THAN 2" IN DIAMETER FROM TREES OR PLANTS THAT ARE TO REMAIN.
6. ANY GRADE CHANGES GREATER THAN 6" WITHIN THE DRIPLINE OF EXISTING TREES SHALL NOT BE MADE WITHOUT FIRST CONSULTING THE LANDSCAPE ARCHITECT AND APPROVED BY THE PROJECT ARBORIST.
7. NO UTILITY TRENCHING WITHIN 15' OF EXISTING TREES.
8. PROTECT EXISTING TREES TO REMAIN FROM SPILLED CHEMICALS, FUEL, OIL, MOTOR OIL, GASOLINE AND ALL OTHER CHEMICALLY INJURIOUS MATERIAL; AS WELL AS FROM PUDDLING OR CONTINUOUSLY RUNNING WATER. SHOULD A SPILL OCCUR, STOP WORK IN THAT AREA AND CONTACT THE CITY'S ENGINEER / INSPECTOR IMMEDIATELY. CONTRACTOR SHALL BE RESPONSIBLE TO MITIGATE DAMAGE FROM SPILLED MATERIAL AS WELL AS MATERIAL CLEAN UP.
9. THE CONTRACTOR IS RESPONSIBLE TO PROPERLY PROVIDE TEMPORARY IRRIGATION TO ALL TREES AND PLANTS THAT ARE IN OR ADJACENT TO CONSTRUCTION AREAS WHERE EXISTING IRRIGATION SYSTEMS MAY BE AFFECTED BY CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO ALSO PROVIDE TEMPORARY IRRIGATION TO RELOCATED TREES. THE PROJECT ARBORIST IS TO APPROVE IRRIGATION METHODS AND WATERING SCHEDULE OF TREES.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ONGOING MAINTENANCE OF ALL TREES DESIGNATED TO REMAIN AND FOR MAINTENANCE OF RELOCATED TREES STOCKPILED DURING CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REPLACE TREES THAT DIE DUE TO LACK OF MAINTENANCE.
11. CONSULT WITH THE PROJECT ARBORIST AND THE LANDSCAPE ARCHITECT SHOULD SPECIAL CIRCUMSTANCES OR QUESTIONS ARISE REGARDING THESE PROCEDURES.

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

Tree Protection Plan

455 Hickey Blvd

PLANNING SUBMITTAL 10.17.2022

L1A

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urbantreemanagement inc.

TREE SURVEY DATA

Address: 455 Hickey BLVD Daly City, CA 94015
Inspection Date: 5/13/2021

Ratings for health and structure are given separately for each tree according to the table below. IE, a tree may be rated "Good" under the health column For excellent, vigorous appearance and growth, while the same tree may be rated "Fair, Poor" in the structure column if structural mitigation is needed.

KEY	Health	Structure
Good	excellent, vigorous	flawless
Fair - Good	no significant health concerns	very stable
Fair	declining; measures should be taken to improve health and appearance	routine maintenance needed
Fair - Poor	in decline: significant health issues	mitigation needed, it may or may not preserve this tree
Poor	dead or near dead	hazard

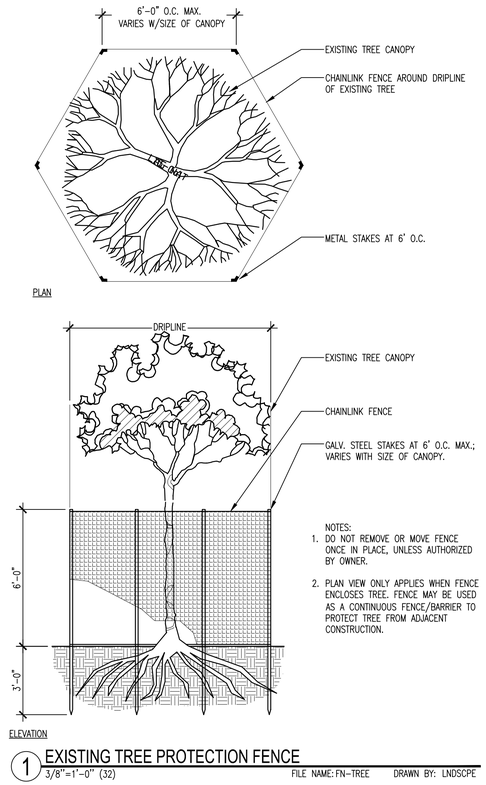
Tag no	Common Name	Diameter at Breast Height"	H'/W'	HEALTH	STRUCTURE	SIGNIFICANT (X)	RECOMMENDED REMOVAL (X)	RECOMMENDED SIGNIFICANT REMOVAL (XX)	NOTES, RECOMMENDATIONS
302	Mangrove	10/8/6.5	18'/30'	f	fp				Recommend EWR, DWR, SP, multiple leaders at base
303	Monterey pine	34	65'/40'	f	f	x			Recommend EWR, DWR, thin canopy
304	Black acacia	7.5	15'/12'	fp	p				Recommend EWR, DWR, leaning
305	Black acacia	4.5/573.5	12'/12'	f	fp				Recommend EWR, DWR, SP, multiple leaders at base
306	Monterey pine	38.5	50'/55'	f	f	x			Recommend EWR, DWR, thin canopy
307	Black acacia	4/3.5/2/2/2	12'/10'	f	fp				Recommend EWR, DWR, SP, multiple leaders at base
308	Black acacia	9	12'/10'	f	f				Recommend EWR, DWR, SP
309	Monterey pine	39	70'/50'	f	f	x			Recommend EWR, DWR, thin canopy
310	Monterey pine	7	20'/15'	f	fp				Recommend EWR, DWR, thin canopy
311	Monterey pine	34	50'/40'	f	f	x			Recommend EWR, DWR, thin canopy
312	Black acacia	8	8'/12'	f	p		x		Recommend removal, heavy lean, no hope for recovery
313	Monterey pine	24	48'/35'	f	f	x			Recommend EWR, DWR, thin canopy
314	Monterey pine	31	55'/40'	f	fp	x			Recommend EWR, DWR, codominant leaders at 12'
315	Black acacia	7.5/5/4/4	14'/15'	f	fp				Recommend EWR, DWR, SP, multiple leaders at base
316	Black acacia	10	15'/18'	f	f				Recommend EWR, DWR, SP
317	Black acacia	6	12'/15'	fg	fp				Recommend EWR, DWR, SP, leaning into tree 318
318	Monterey pine	27	45'/30'	f	f	x			Recommend EWR, DWR, thin canopy
319	Monterey pine	39	55'/35'	f	fp	x			Recommend EWR, DWR, codominant leaders at 7'
320	Laurel	5/4/4/3.5	15'/18'	fg	fp				Recommend EWR, DWR, SP, multiple leaders at base
321	Black acacia	10.5	20'/20'	f	fp				Recommend EWR, DWR, SP, leaning
322	Black acacia	9	16'/15'	f	fp				Recommend EWR, DWR, SP, leaning
323	Black acacia	8.5 @ 2.5'	10'/6'	fp	p		x		Recommend removal, heavy lean, thin canopy, no hope for recovery
324	Paperbark tree	4.5	12'/7'	f	fp				Recommend EWR, DWR, SP, leaning
325	Purple leaf plum	7.5 @ 2.5'	15'/20'	fg	f				Recommend EWR, DWR, SP, multiple leaders at 2.5'
326	Paperbark tree	8	20'/18'	fg	f				Recommend EWR, DWR, SP
327	Pohutukawa	7/7/6.5/6/6/5/5/4.5	25'/25'	fg	fp				Recommend EWR, DWR, SP, multiple leaders at base
328	Pohutukawa	7/7/6.5/6/5/5/4	25'/20'	fg	fp				Recommend EWR, DWR, SP, multiple leaders at base
329	Pohutukawa	7/6/6/5/4/4/3.5/3.5	25'/20'	fg	fp				Recommend EWR, DWR, SP, multiple leaders at base
330	Black acacia	6/5/5/5/4/4/4	20'/18'	fp	fp		x		Recommend removal, multiple leaders from base, thin canopy, no new foliage
331	Monterey pine	27.5_	55'/35'	fg	f	x			Recommend EWR, DWR, SP
332	Black acacia	6	9'/6'	f	fp				Recommend EWR, DWR, SP, stub cuts
333	Monterey pine	26 @ 3.5'	50'/25'	f	fp	x			Recommend EWR, DWR, thin canopy, codominant leaders at 3.5'
334	Black acacia	7	16'/6'	f	fp				Recommend EWR, DWR, SP, stub cuts
335	Black acacia	7.5	18'/12'	f	fp				Recommend EWR, DWR, SP, leaning
336	Black acacia	6	12'/8'	f	f				Recommend EWR, DWR, SP
337	Monterey pine	39.5	65'/50'	f	f	x			Recommend EWR, DWR, thin canopy
338	Monterey pine	31	50'/35	f	fp	x			Recommend EWR, DWR, thin canopy, codominant leaders at 8'
339	Monterey pine	24 @ 2'	38'/15'	p	p	x		xx	Recommend removal, tree is dead
340	Monterey pine	33	45'/30'	p	p	x		xx	Recommend removal, tree is dead
341	Monterey pine	31	48'/30'	f	f	x			Recommend EWR, DWR, thin canopy

TOTAL TREES	**40**
PROTECTED TOTAL	
RECOMMENDED REMOVAL TOTAL	**3**
RECOMMENDED SIGNIFICANT REMOVALS TOTAL	**2**

KEY TO ACRONYMS
DWR - Dead Wood Removal pruning recommended
EWR - End Weight Reduction: pruning to remove weight from limb ends, thus reducing the potential for limb failure(s).
RCE - Root Collar Excavation: excavating a small area around a tree that is currently buried by soil or refuse above buttress roots, usually done with a hand shovel.
SP - Structural pruning - removal of selected non-dominant leaders in order to balance the tree
CD - Codominant Leader, two leaders with a narrow angle of attachement and prone to failure
LCR-Live Crown Ratio
RR - Recommend Tree Removal based upon Health or Structure of tree.
Prop - Steel prop in concrete footing recommended to help support a tree/limb.
Cable - Recommend a steel cable(s) be installed to help support a weakly attached limb(s).

TREE ORDINANCE
The City of Daly city does not have any tree protection ordinances as of the date of this tree survey.

Common Name	*Latin Name*
Mangrove	*Rhizophora sp.*
Monterey pine	*Pinus radiata*
Black acacia	*Acacia melanoxylon*
Laurel	*Laurus nobilis*
Paper bark	*Melaleuca quinquenervia*
Purple leaf plum	*Prunus cerasifera*
Pohutukawa	*Metrosideros excelsa*
Vinegar tree	*Rhus glabra*



1 EXISTING TREE PROTECTION FENCE
3/8"=1'-0" (32) FILE NAME: FN-TREE DRAWN BY: LNDSCPE

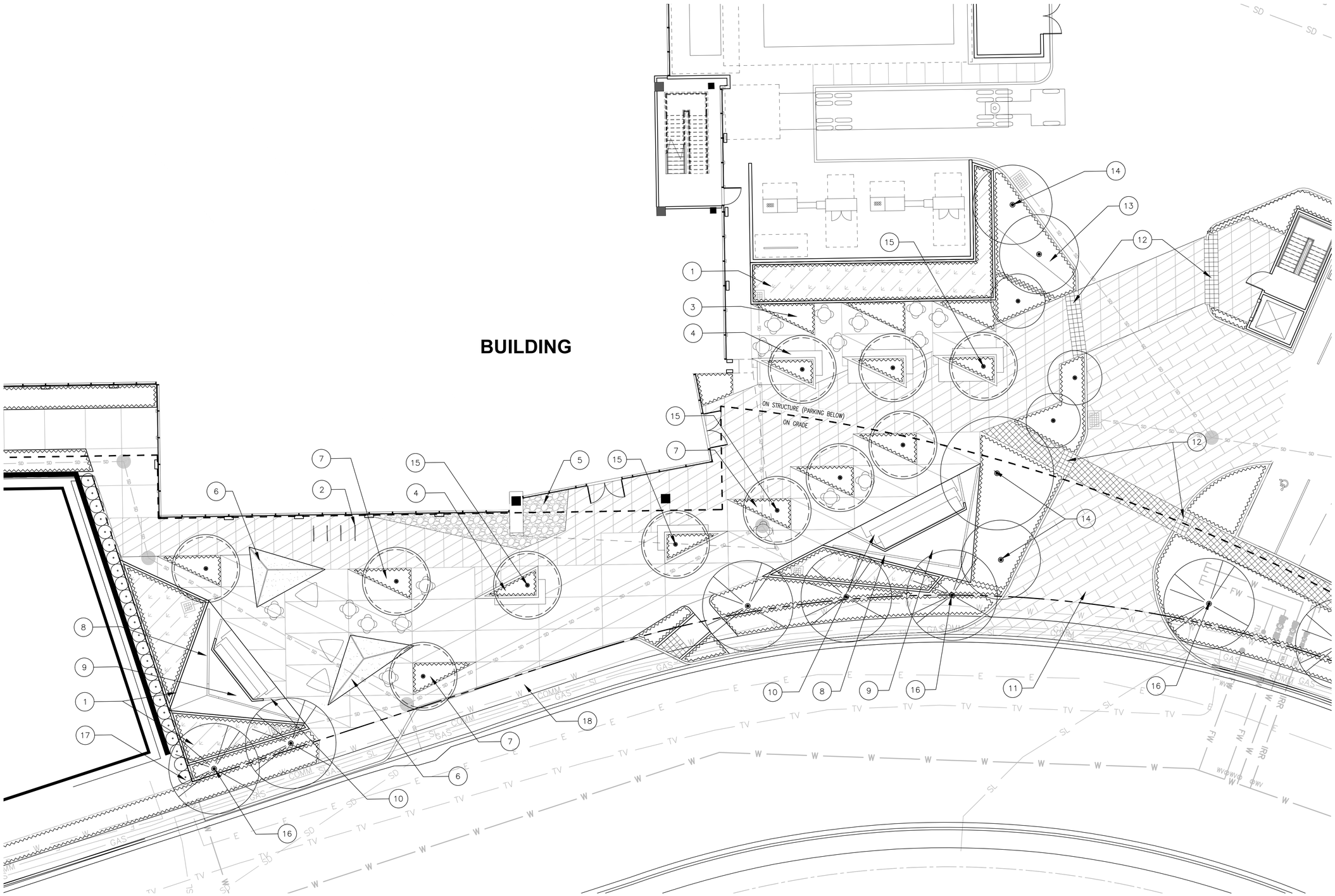
DES ARCHITECTS ENGINEERS | KING ASSET MANAGEMENT

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Tree Data / Tree Protection Detail

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L1B



KEY NOTES:

1. FLOW THRU PLANTER
2. BIKE RACKS
3. SMALL SLOPED PLANTING
4. RAISED PLANTER & WOOD BENCH
5. COBBLESTONE AREA
6. PLANTING PYRAMID
7. PLANTING AREA (FLUSH TO ADJACENT PAVING)
8. SLOPED METAL WALL
9. LARGE SLOPED PLANTING
10. GRAND STAIRS
11. ENTRY DRIVE TO GARAGE
12. DETECTABLE WARNING SURFACE
13. LANDSCAPE MOUND
14. CANOPY TREE
15. ACCENT TREE
16. STREET TREE
17. SCREEN HEDGES
18. DROP-OFF

MATERIAL KEY:

- CONCRETE PAVING
- PRECAST PAVERS
- COBBLESTONE PAVING
- BIORETENTION

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KING ASSET MANAGEMENT

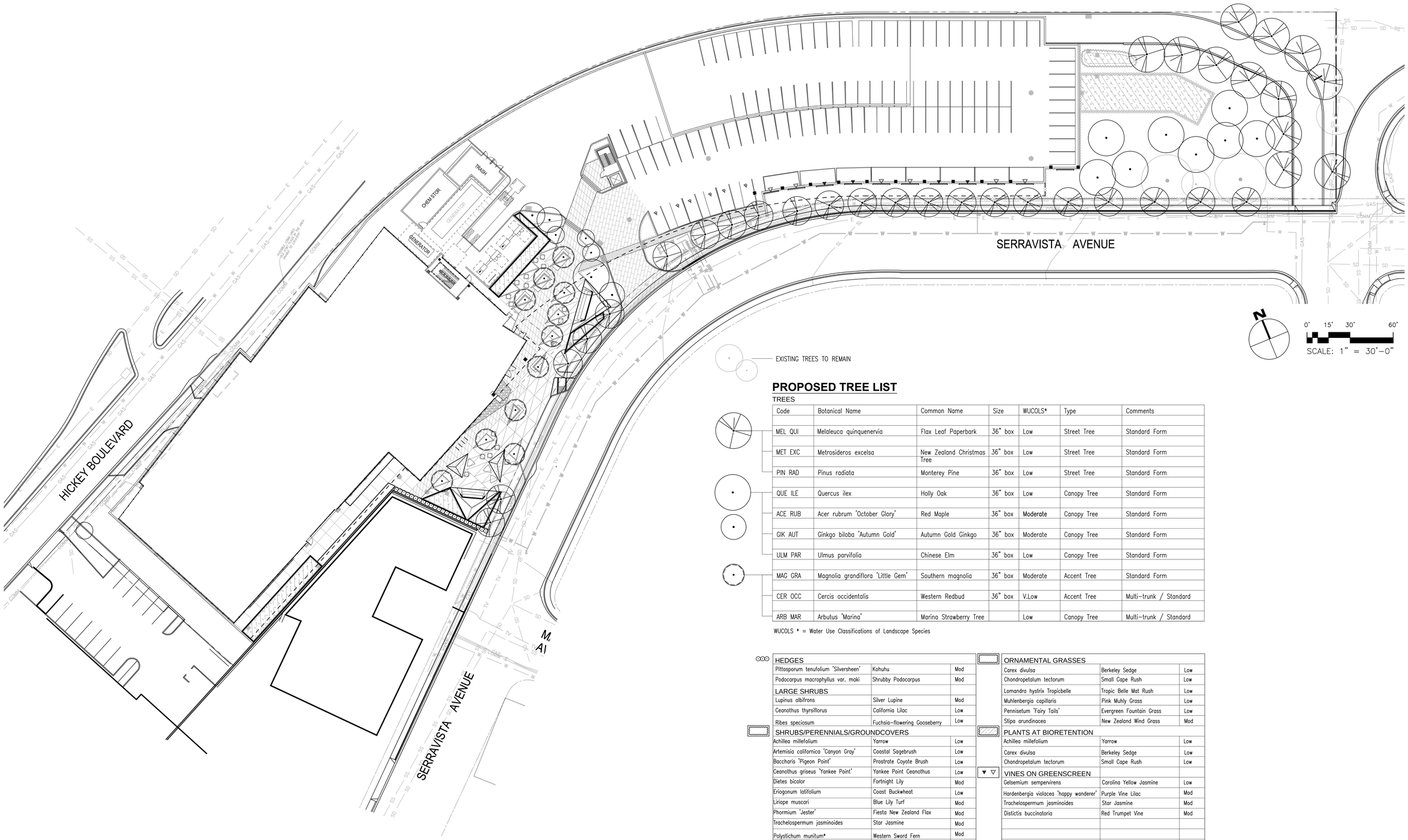
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ENTRY PLAZA PLAN

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L2



EXISTING TREES TO REMAIN

PROPOSED TREE LIST

TREES

Code	Botanical Name	Common Name	Size	WUCOLS*	Type	Comments
MEL QUI	Melaleuca quinquenervia	Flax Leaf Paperbark	36" box	Low	Street Tree	Standard Form
MET EXC	Metrosideros excelsa	New Zealand Christmas Tree	36" box	Low	Street Tree	Standard Form
PIN RAD	Pinus radiata	Monterey Pine	36" box	Low	Street Tree	Standard Form
QUE ILE	Quercus ilex	Holly Oak	36" box	Low	Canopy Tree	Standard Form
ACE RUB	Acer rubrum 'October Glory'	Red Maple	36" box	Moderate	Canopy Tree	Standard Form
GIK AUT	Ginkgo biloba 'Autumn Gold'	Autumn Gold Ginkgo	36" box	Moderate	Canopy Tree	Standard Form
ULM PAR	Ulmus parvifolia	Chinese Elm	36" box	Low	Canopy Tree	Standard Form
MAG GRA	Magnolia grandiflora 'Little Gem'	Southern magnolia	36" box	Moderate	Accent Tree	Standard Form
CER OCC	Cercis occidentalis	Western Redbud	36" box	V.Low	Accent Tree	Multi-trunk / Standard
ARB MAR	Arbutus 'Marina'	Marina Strawberry Tree		Low	Canopy Tree	Multi-trunk / Standard

WUCOLS * = Water Use Classifications of Landscape Species

HEDGES		
Pittosporum tenufolium 'Silversheen'	Kohuhu	Mod
Podocarpus macrophyllus var. maki	Shrubby Podocarpus	Mod
LARGE SHRUBS		
Lupinus albifrons	Silver Lupine	Mod
Ceanothus thyrsiflorus	California Lilac	Low
Ribes speciosum	Fuchsia-flowering Gooseberry	Low
SHRUBS/PERENNIALS/GROUNDCOVERS		
Achillea millefolium	Yarrow	Low
Artemisia californica 'Canyon Gray'	Coastal Sagebrush	Low
Baccharis 'Pigeon Point'	Prostrate Coyote Brush	Low
Ceanothus griseus 'Yankee Point'	Yankee Point Ceanothus	Low
Dietes bicolor	Fortnight Lily	Mod
Eriogonum latifolium	Coast Buckwheat	Low
Liriope muscari	Blue Lily Turf	Mod
Phormium 'Jester'	Fiesta New Zealand Flax	Mod
Trachelospermum jasminoides	Star Jasmine	Mod
Polystichum munitum*	Western Sword Fern	Mod

ORNAMENTAL GRASSES		
Carex divulsa	Berkeley Sedge	Low
Chondropetalum tectorum	Small Cape Rush	Low
Lomandra hystrix 'Tropicbelle'	Tropic Belle Mat Rush	Low
Muhlenbergia capillaris	Pink Muhly Grass	Low
Pennisetum 'Fairy Tails'	Evergreen Fountain Grass	Low
Stipa arundinacea	New Zealand Wind Grass	Mod
PLANTS AT BIORETENTION		
Achillea millefolium	Yarrow	Low
Carex divulsa	Berkeley Sedge	Low
Chondropetalum tectorum	Small Cape Rush	Low
VINES ON GREENSCREEN		
Gelsemium sempervirens	Carolina Yellow Jasmine	Low
Hardenbergia violacea 'happy wanderer'	Purple Vine Lilac	Mod
Trachelospermum jasminoides	Star Jasmine	Mod
Distictis buccinatoria	Red Trumpet Vine	Mod

DES ARCHITECTS ENGINEERS

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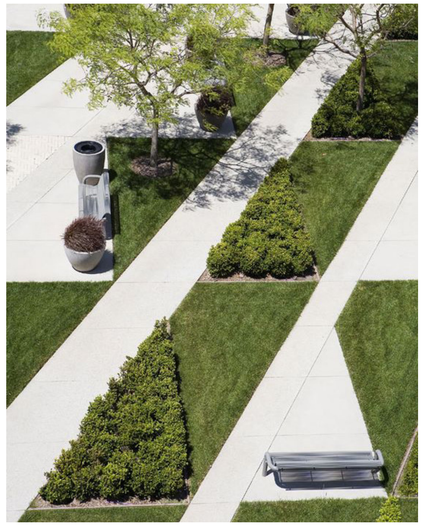
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Overall Planting Plan

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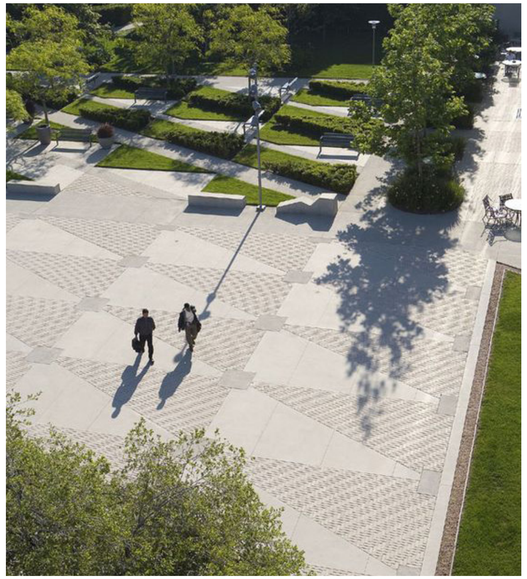
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Hardscape Imagery

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L4

TREES



ACER RUBRUM ‘OCTOBER GLORY’
RED MAPLE



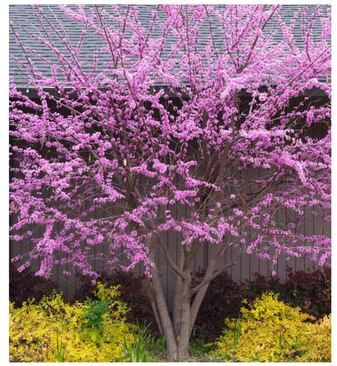
METROSIDEROS EXCELSA
NEW ZEALAND CHRISTMAS TREE



GINKGO BILOBA ‘AUTUMN GOLD’
AUTUMN GOLD GINKGO



ARBUTUS MARINA
MARINA STRAWBERRY TREE



CERCIS OCCIDENTALIS
WESTERN REDBUD



QUERCUS ILEX
HOLLY OAK



MAGNOLIA GRANDIFLORA ‘LITTLE GEM’
SOUTHERN MAGNOLIA

HEDGES



PODOCARPUS MACROPHYLLUS VAR. MAKI
SHRUBBY PODOCARPUS

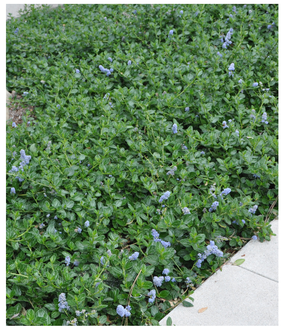


PITTOSPORUM TENUIFOLIUM ‘SILVERSHEEN’
SILVER SHEEN KOHUHU

SHRUBS/PERENNIALS/GROUNDCOVERS



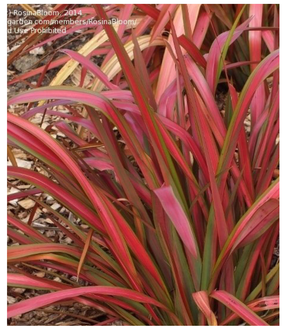
DIETES BICOLOR
FORTNIGHT LILY



CEANOTHUS GRISEUS ‘YANKEE POINT’
YANKEE POINT CEANOTHUS



LIRIOPE MUSCARI
BLUE LILY TURF



PHORMIUM JESTER
NEW ZEALAND FLAX



TRACHELOSPERMUM JASMINOIDES
STAR JASMINE



POLYSTICHUM MUNITUM
WESTERN SWORD FERN

ORNAMENTAL GRASSES



LOMANDRA HYSTRIX ‘TROPICBELLE’
TROPIC BELLE MAT RUSH



PENNISETUM ‘FAIRY TALES’
EVERGREEN FOUNTAIN GRASS



MUHLENBERGIA CAPILLARIS
PINK MUHLY GRASS

BIORETENTION PLANTS



ACHILLEA MILLEFOLIUM
YARROW

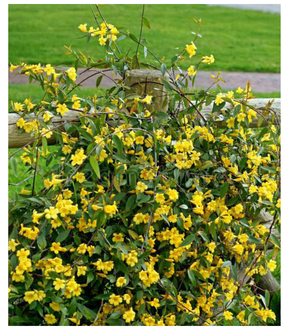


CAREX DIVULSA
BERKELEY SEDGE

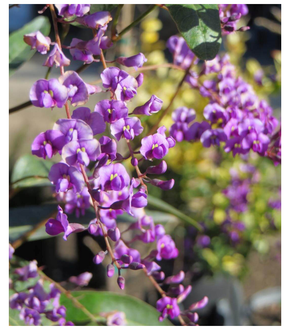


CHONDROPETALUM TECTORUM
SMALL CAPE RUSH

VINES



GELSEMIUM SEMPERVIRENS
CAROLINA JESSAMINE



HARDENBERGIA VIOLACEA ‘HAPPY WANDERER’
PURPLE VINE LILAC

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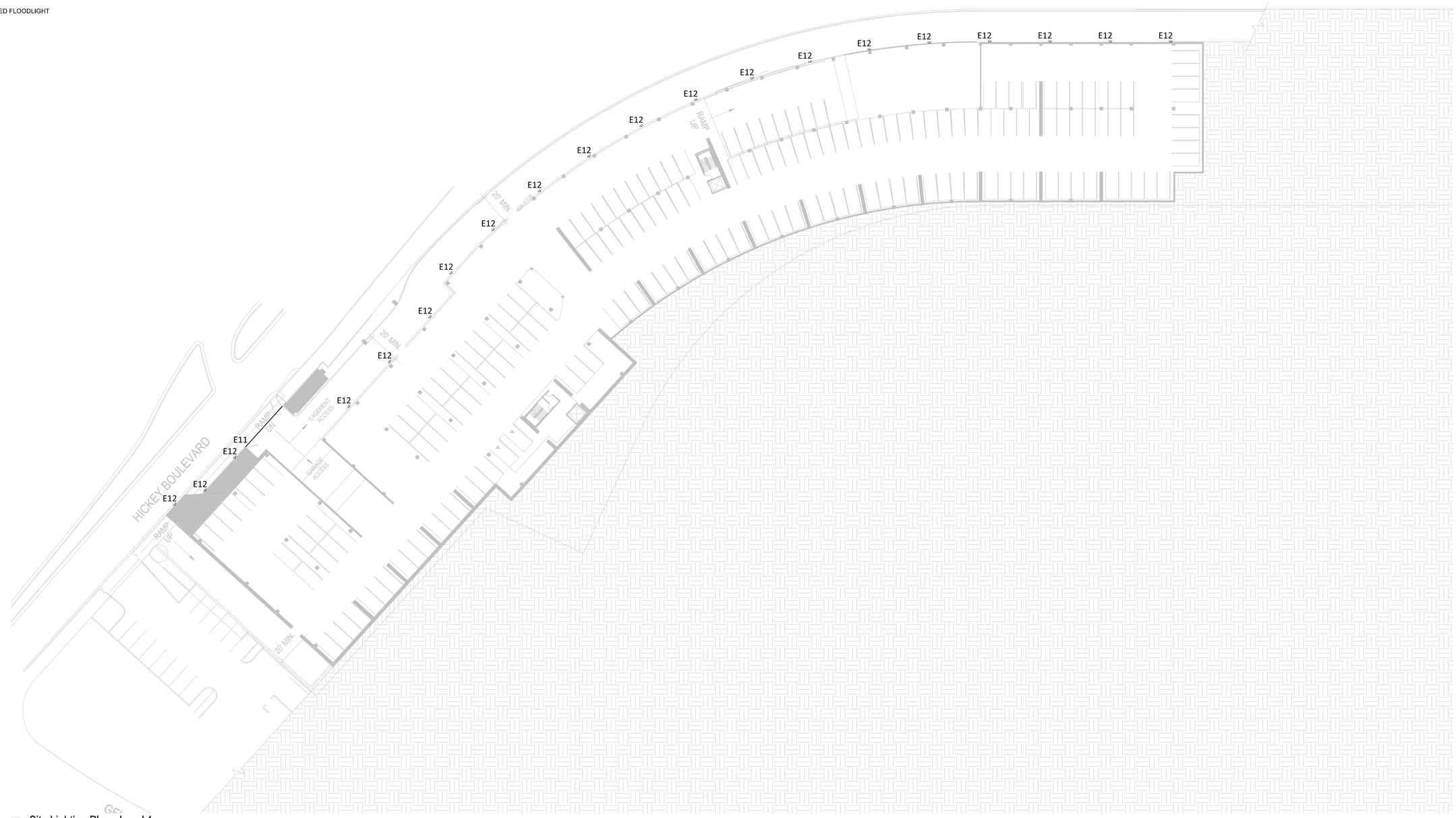
LIGHTING FIXTURE SCHEDULE



TYPE E11
A LIGHT
RECESSED WET LOCATION LENSED LINEAR
ACL5
9.5W/FT LED



TYPE E12
ELLIPTIPAR
12" SURFACE-MOUNTED FLOODLIGHT
S172-M112
54W LED



1 Site Lighting Plan - Level 1
1/32" = 1'-0"

DES ARCHITECTS ENGINEERS
KING ASSET MANAGEMENT
HLB
785 Market Street, #800
San Francisco, CA 94103
415.348.8273
HLBlighting.com
new york | **san francisco** | los angeles | boston | miami | denver | austin

SITE LIGHTING PLAN - LEVEL 1

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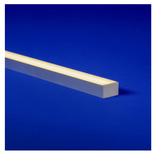
LIGHTING FIXTURE SCHEDULE



TYPE E1
BEGA
AREA LIGHT ON 14' POLE
88 263
30W LED
TYPE V DISTRIBUTION



TYPE E2
BEGA
IN-WALL LIGHT
24 060
12.2W LED



TYPE E3:
QTRAN
UNDERBENCH LIGHT
VERS-ENCAPSULATED (06)
3W/FT LED



TYPE E4:
BK LIGHTING
IN-GRADE UPLIGHT
HP2 LED
34W LED



TYPE E5:
BK LIGHTING
TREE UPLIGHT
DENALI LED
20W LED



TYPE E6:
USAI
RECESSED MULTI-CELL DOWNLIGHT
20W LED



TYPE E7:
BEGA
BOLLARD WITH ASYMMETRIC OPTICS
84 238
15W LED

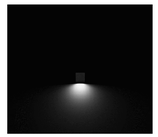


TYPE E8:
GARDCO P26
E8 - TWIN HEAD AREA LIGHT ON 17' POLE
114W LED; TYPE III DISTRIBUTION

E8A - TRIPLE HEAD AREA LIGHT ON 17' POLE
114W LED; TYPE III DISTRIBUTION

E8B - SINGLE HEAD AREA LIGHT ON 20' POLE
60W LED; TYPE IV DISTRIBUTION

E8C - SINGLE HEAD AREA LIGHT ON 20' POLE
60W LED; TYPE III DISTRIBUTION



TYPE E9
PERFORMANCE IN LIGHTING
WALL SCONCE
MIMIK 20 M
15W LED
TYPE IV DISTRIBUTION



TYPE E10:
BEGA
IN-WALL LIGHT
24 212
15W LED



TYPE E11
A LIGHT
RECESSED WET LOCATION LENSED LINEAR
ACL5
9.5W/FT LED

1 Site Lighting Plan - Level 4
1/32" = 1'-0"

DES ARCHITECTS ENGINEERS
KING ASSET MANAGEMENT
HLB
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San Francisco, CA 94103
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SITE LIGHTING PLAN - LEVEL 4

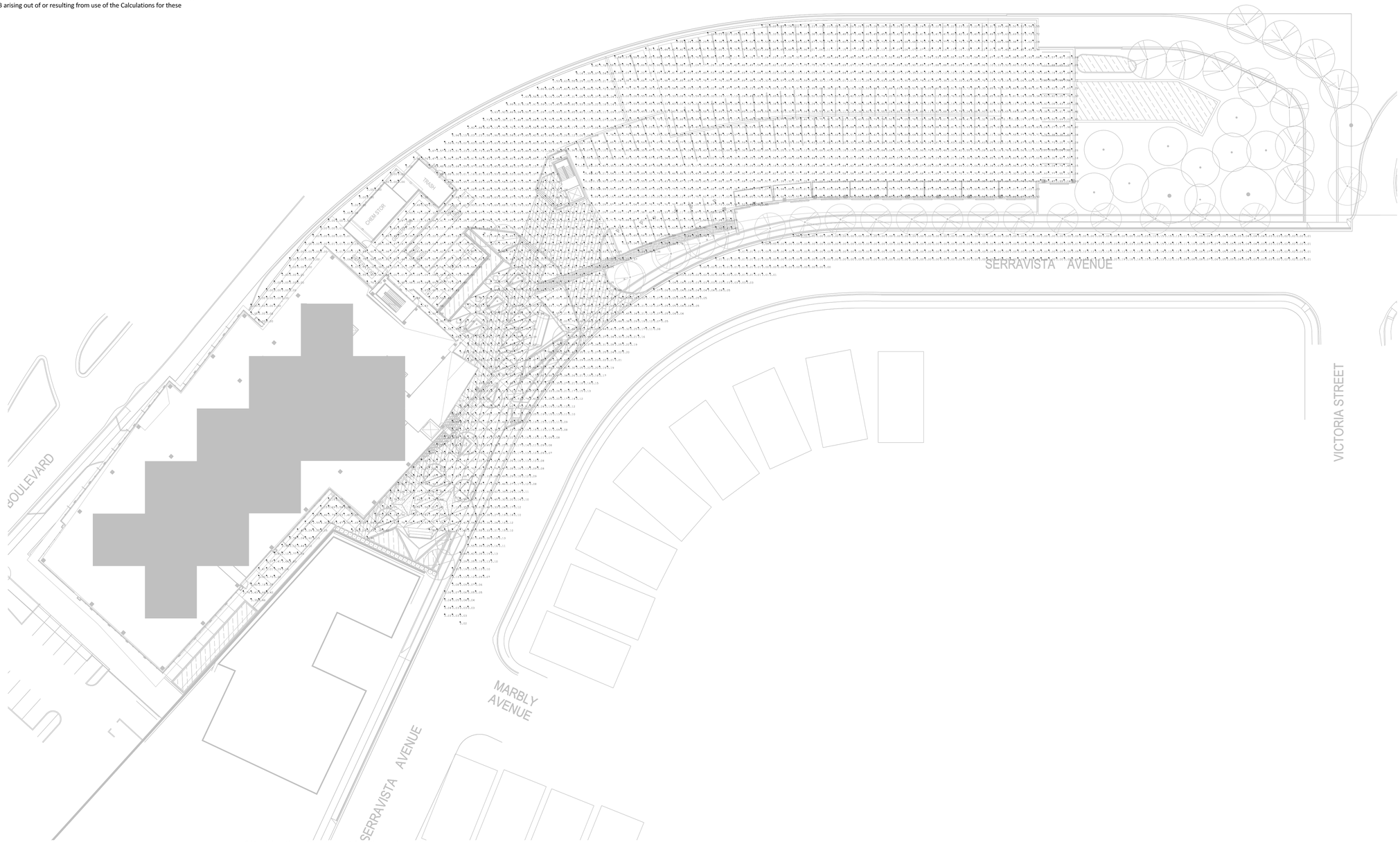
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1007.003

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Illuminance Calculations Disclaimer:

Illuminance calculations are for lighting design aid purposes only. All calculations performed by Horton Lees Brogden Lighting Design Inc (HLB) are based on published methods and recommendations of the Illuminating Engineering Society of North America (IESNA).Calculation accuracy is highly dependent upon the input data utilized in the calculations and variances greater than 20% may occur if there are variations in the input data or if equipment does not perform as published in IES Photometric files. Some input data is provided by others (e.g. manufacturer's photometric reports, lamp lumen ratings, ballast factors, room surface materials and or reflectances) and not all report data is available for the exact luminaire characteristics specified. Some information is derived by HLB from industry standard methods (e.g. luminaire and room surface dirt depreciation factors). Some information is not available for conditions outside of the norm, like variations in temperature, humidity, snow cover, vibration or non-standard mounting conditions. HLB has made every effort to endure the reliability of all data, but is not responsible for errors in data that is received from others, is unavailable, or for equipment that does not perform as published. Field measurements may vary as much as 10%-20% from calculation results due to the limitations associated with the calculation procedures utilized and referenced by the IESNA. High amounts of variation can occur from the use of non-professional grade illuminance meters or meters that are not in perfect calibration. HLB includes a listing of all input values as part of the calculation submission. Please review these input values and notify HLB immediately if any inconsistencies or inaccuracies are noted. Further, the Calculation results provided herein are without warranty of any kind as related to compliance with any local or state emergency or egress code requirements. Use of the Calculations for these purposes is at sole risk of the user and without liability of legal exposure to HLB. User agrees that they shall waive any and all claims against HLB arising out of or resulting from use of the Calculations for these purposes.



1 Site Lighting Photometric Plan - Level 4
1/32" = 1'-0"

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

HLB
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SITE LIGHTING PHOTOMETRIC PLAN - LEVEL 4

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455 HICKEY

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DALY CITY, CA

MEDICAL OFFICE BUILDING APPENDIX
04.07.2023

DES ARCHITECTS ENGINEERS

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VICINITY MAP



PROJECT NARRATIVE

The project site is located immediately to the south of the Gellert / Hickey Boulevard intersection. The 3.2 acres site is comprised of three parcels. Currently, there is a 3-level parking garage and a 5-story office building tucked into the hillside on Serravista Avenue. This project proposes to demolish the existing office building and parking garage for a new medical office development. The development includes a new 5-story medical office building over 3-story parking podium. The total building area is 180,000 sq. ft. at 1.29 FAR. An additional 3-story parking structure will be constructed east to the medical office building. Currently, 900 parking spaces are planned for this scenario, at a 5/1,000 ratio.

PROJECT TEAM

ARCHITECT:
DES ARCHITECTS + ENGINEERS
399 BRADFORD STREET
REDWOOD CITY, CA 94063
PHONE: 650.364.6453
CONTACT: KENNY HUNG

CIVIL:
BKF ENGINEERS
255 SHORELINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: 650.482.6306
CONTACT: JONATHAN TANG

LANDSCAPE:
DES ARCHITECTS + ENGINEERS
399 BRADFORD STREET
REDWOOD CITY, CA 94063
PHONE: 650.364.6453
CONTACT: CHRIS MATEO

LIGHTING:
HLB LIGHTING DESIGN
785 MARKET ST, STE800
SAN FRANCISCO, CA 94103
PHONE: 628.246.2714
CONTACT: ANDREW MOORE

PROJECT DATA

SITE INFORMATION

ZONING DESIGNATION (CURRENT)	LIGHT COMMERCIAL (C-1) OFFICE COMMERCIAL (C-O) PLANNED DEVELOPMENT (PD8A)
ZONING DESIGNATION (2030 GENERAL PLAN)	COMMERCIAL OFFICE (C-O) COMMERCIAL NEIGHBORHOOD (C-N)
APN	091341140
SITE AREA	139,392 SQ.FT. (3.2 ACRES)

ZONING INFORMATION

	EXISTING	PROPOSED
BUILDING HEIGHT	65 FT.	85 FT.
PROJECT USE	OFFICE	MEDICAL OFFICE
BUILDING AREA	80,652 SQ.FT.	180,000 SQ.FT.
FAR	0.58	1.29
PARKING STRUCTURE	112,500 SQ.FT.	347,500 SQ. FT.

	C-1		C-O	
BUILDING SETBACK	REQ'D	PRO'D	REQ'D	PRO'D
FRONT	-	12'	10'	11'
REAR	-	0'	-	0'
MAX HEIGHT	36'	85'	-	85'
FAR	-	1.29	3.5-1.0	1.29

PARKING REQUIREMENTS

	EXISTING	PROPOSED
PARKING RATIO	3.3 / 1,000 SF	5 / 1000 SF
PARKING SPACES	293	900

SPACES BREAKDOWN	REQ'D	PRO'D
STANDARD SPACES COMPACT SPACES	> 706 * < 176 *	797 103
ACCESSIBLE SPACES	18	18
EV SPACES EVCS EV CAPABLE	 134 ** 405 **	 134 405

* PER DALY CITY ZONING CODE SECTION 17.34.010, UP TO 20% OF THE TOTAL REQUIRED OFF-STREET PARKING SPACES MAY BE DESIGNATED FOR "SMALL CARS ONLY"

** PER 2022 CALGREEN CODE SECTION 5.106.5.3.2, 45% OF THE AVAILABLE PARKING SPACES ON SITE SHALL BE EV CAPABLE, AND 33% OF THE EV CAPABLE PARKING NEEDS TO BE EQUIPPED WITH LEVEL 2 EVCS.

BICYCLE PARKING REQUIREMENTS

	REQ'D	PRO'D
SHORT TERM	8	8
LONG TERM	45	46

SHEET INDEX

ARCHITECTURAL

A0.1	PROJECT DATA
A1.0A	COLOR SITE PLAN
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COLOR SITE PLAN

455 HICKEY, DALY CITY, CA

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PLAN CHECK RESPONSE 1 03.31.2023
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A1.0A

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RENDERING - VIEW FROM BERTA CIRCLE

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RENDERING - VIEW FROM SERRAVISTA AND VICTORIA

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RENDERING - VIEW FROM I-280 LOOKING SOUTHWEST

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RENDERING - VIEW AT MAIN ENTRANCE

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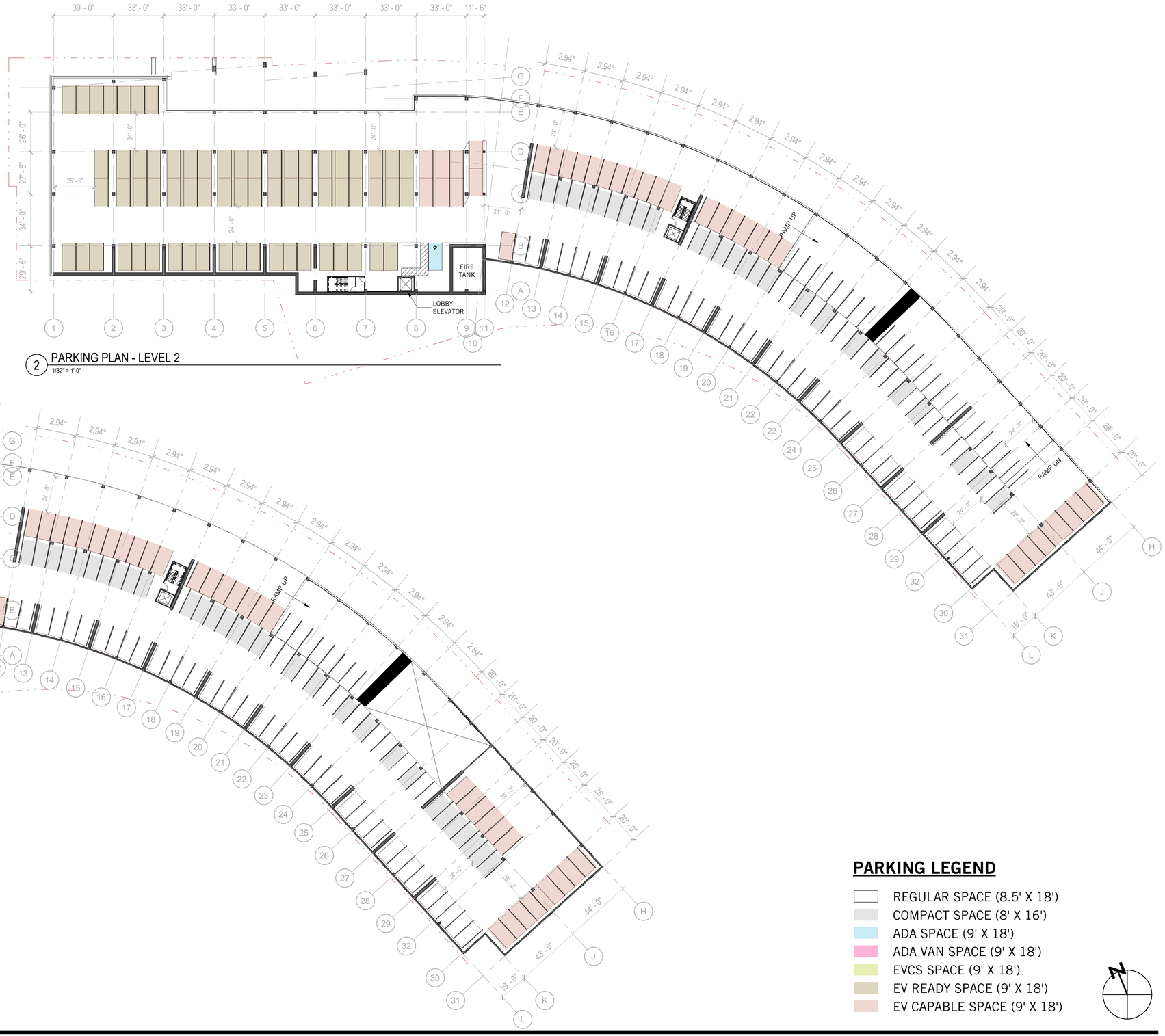
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PARKING LEVEL 2 :	205 SPACES
PARKING LEVEL 3 :	221 SPACES
PARKING LEVEL 4 :	108 SPACES
PARKING LEVEL 5 :	100 SPACES
PARKING LEVEL 6 :	91 SPACES
TOTAL PARKING :	**900 SPACES**

STANDARD ACCESSIBLE:	15 SPACES
VAN ACCESSIBLE:	3 SPACES
TOTAL ACCESSIBLE PARKING :	**18 SPACES**
STANDARD EV ACCESSIBLE:	1 SPACES
EV VAN ACCESSIBLE:	3 SPACES
EV AMBULATORY	3 SPACES
TOTAL EV ACCESSIBLE PARKING :	**7 SPACES**



2 PARKING PLAN - LEVEL 2
1/32" = 1'-0"

1 PARKING PLAN - LEVEL 1
1/32" = 1'-0"

PARKING LEGEND

- REGULAR SPACE (8.5' X 18')
- COMPACT SPACE (8' X 16')
- ADA SPACE (9' X 18')
- ADA VAN SPACE (9' X 18')
- EVCS SPACE (9' X 18')
- EV READY SPACE (9' X 18')
- EV CAPABLE SPACE (9' X 18')

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PARKING PLANS

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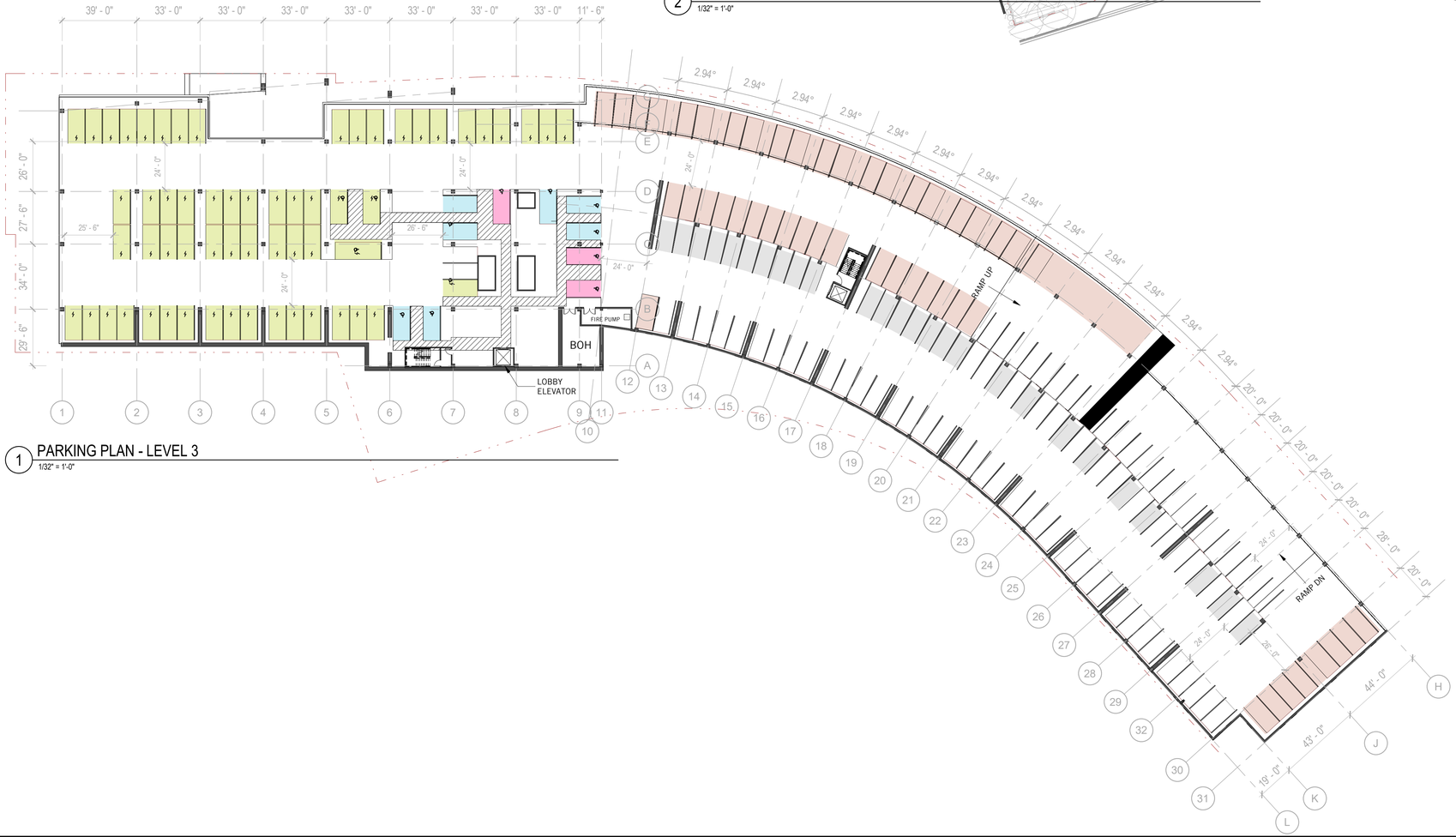
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PARKING LEVEL 1 :	175 SPACES
PARKING LEVEL 2 :	205 SPACES
PARKING LEVEL 3 :	221 SPACES
PARKING LEVEL 4 :	108 SPACES
PARKING LEVEL 5 :	100 SPACES
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TOTAL PARKING :	**900 SPACES**

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TOTAL ACCESSIBLE PARKING :	**18 SPACES**
STANDARD EV ACCESSIBLE:	1 SPACES
EV VAN ACCESSIBLE:	3 SPACES
EV AMBULATORY	3 SPACES
TOTAL EV ACCESSIBLE PARKING :	**7 SPACES**



2 PARKING PLAN - LEVEL 4
1/32" = 1'-0"



1 PARKING PLAN - LEVEL 3
1/32" = 1'-0"

PARKING LEGEND

- REGULAR SPACE (8.5' X 18')
- COMPACT SPACE (8' X 16')
- ADA SPACE (9' X 18')
- ADA VAN SPACE (9' X 18')
- EVCS SPACE (9' X 18')
- EV READY SPACE (9' X 18')
- EV CAPABLE SPACE (9' X 18')

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PARKING PLANS

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PARKING LEVEL 1 :	175 SPACES
PARKING LEVEL 2 :	205 SPACES
PARKING LEVEL 3 :	221 SPACES
PARKING LEVEL 4 :	108 SPACES
PARKING LEVEL 5 :	100 SPACES
PARKING LEVEL 6 :	91 SPACES
TOTAL PARKING :	**900 SPACES**

STANDARD ACCESSIBLE:	15 SPACES
VAN ACCESSIBLE:	3 SPACES
TOTAL ACCESSIBLE PARKING :	**18 SPACES**
STANDARD EV ACCESSIBLE:	1 SPACES
EV VAN ACCESSIBLE:	3 SPACES
EV AMBULATORY	3 SPACES
TOTAL EV ACCESSIBLE PARKING :	**7 SPACES**



2 PARKING PLAN - LEVEL 6
1/32" = 1'-0"

1 PARKING PLAN - LEVEL 5
1/32" = 1'-0"

PARKING LEGEND

- REGULAR SPACE (8.5' X 18')
- COMPACT SPACE (8' X 16')
- ADA SPACE (9' X 18')
- ADA VAN SPACE (9' X 18')
- EVCS SPACE (9' X 18')
- EV READY SPACE (9' X 18')
- EV CAPABLE SPACE (9' X 18')

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PARKING PLANS

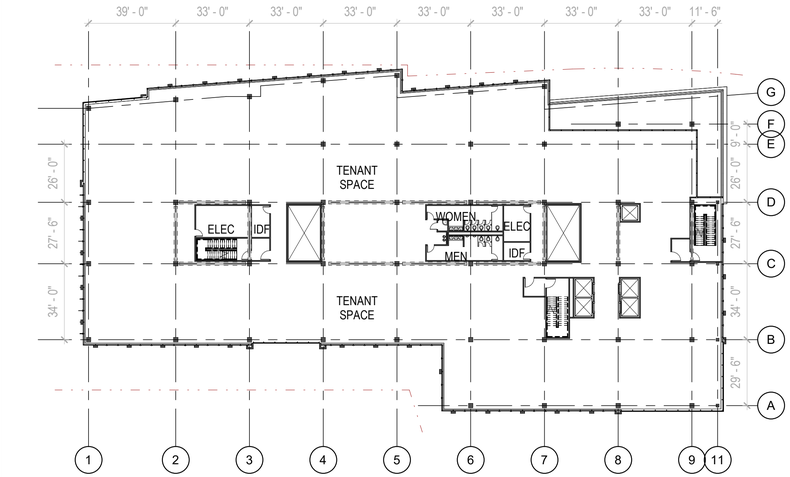
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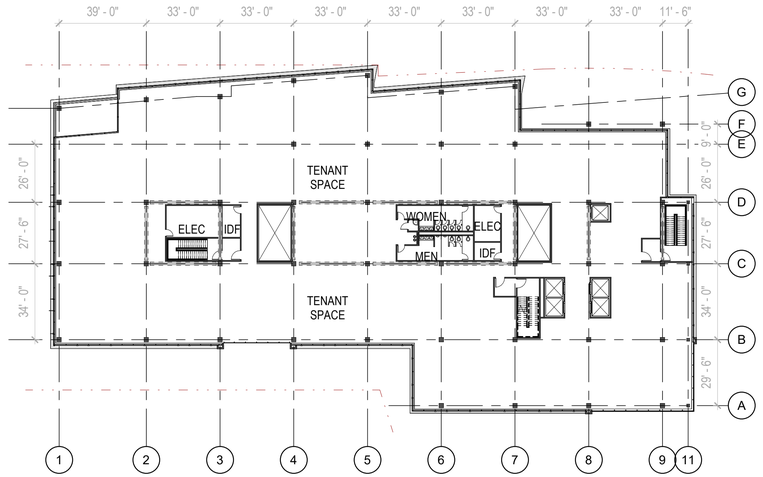
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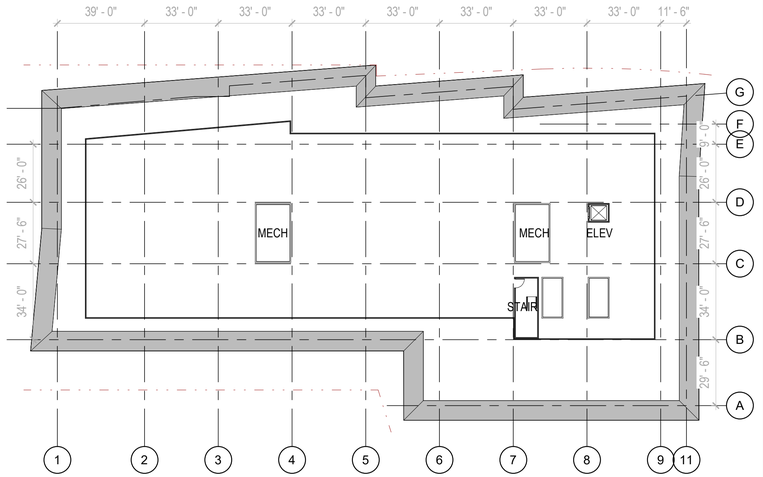
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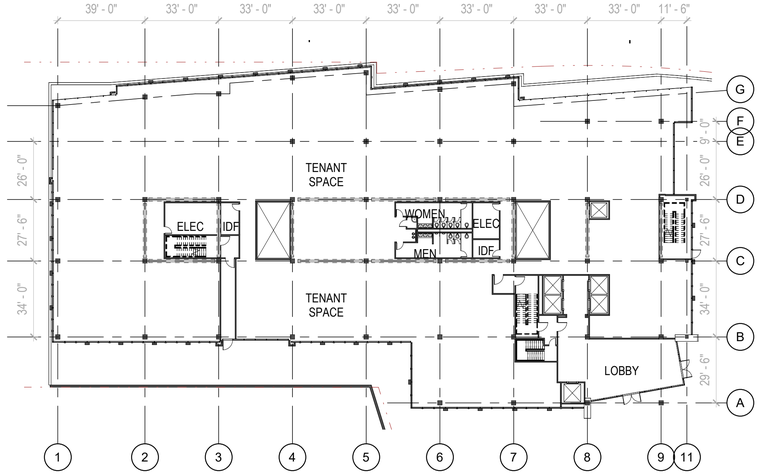
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1/32" = 1'-0"



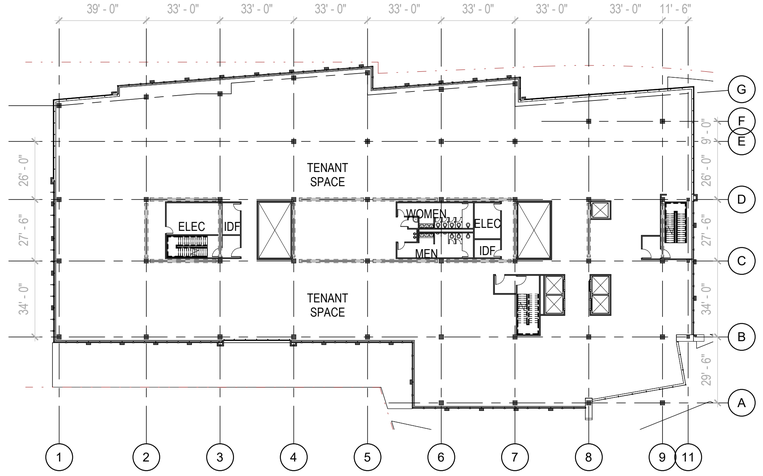
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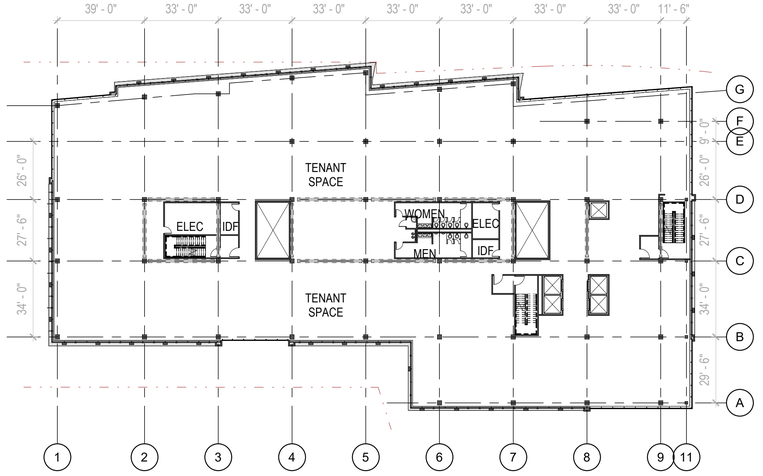
6 ROOF
1/32" = 1'-0"



1 LEVEL 1
1/32" = 1'-0"



2 LEVEL 2
1/32" = 1'-0"



3 LEVEL 3
1/32" = 1'-0"

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BUILDING PLANS

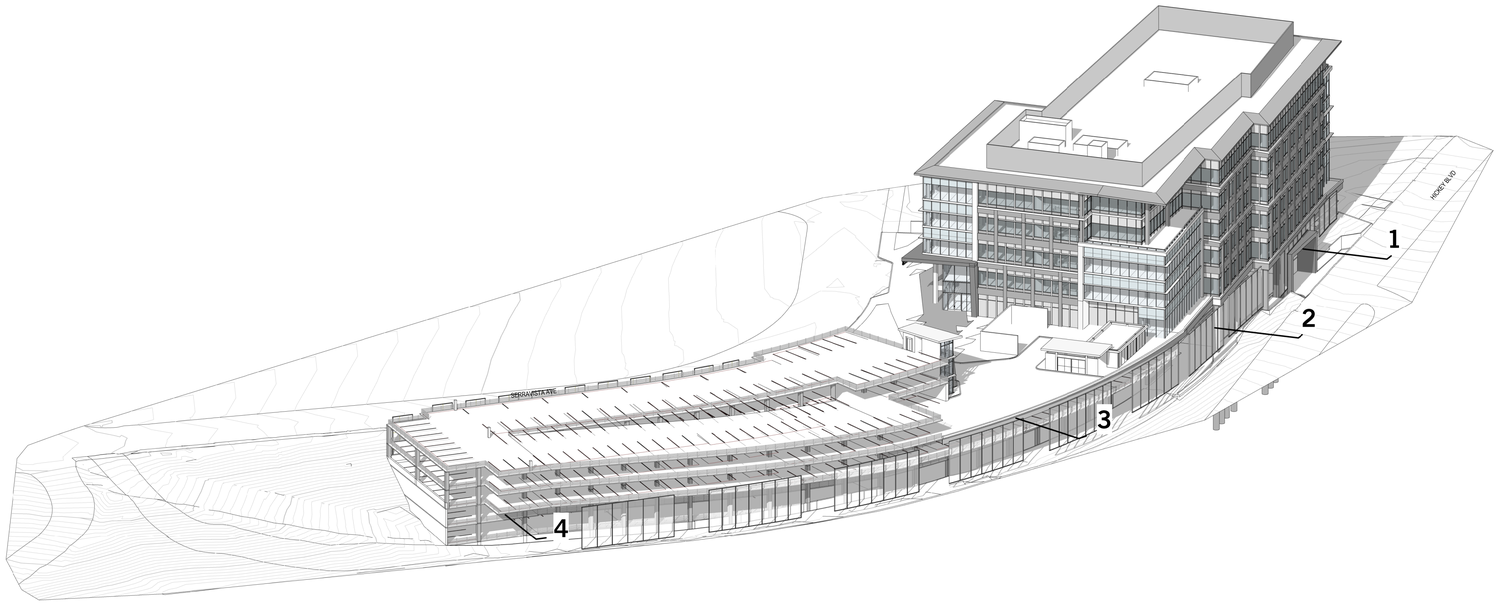
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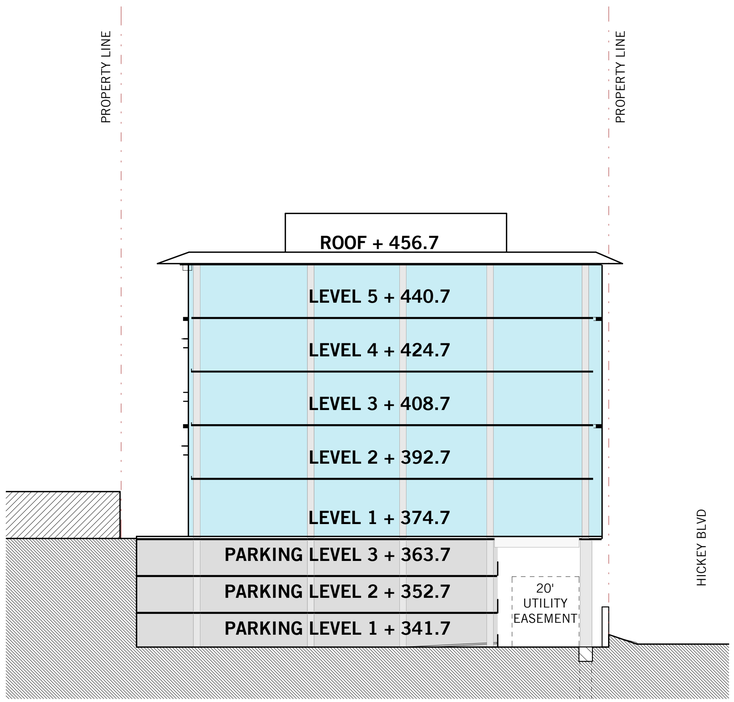
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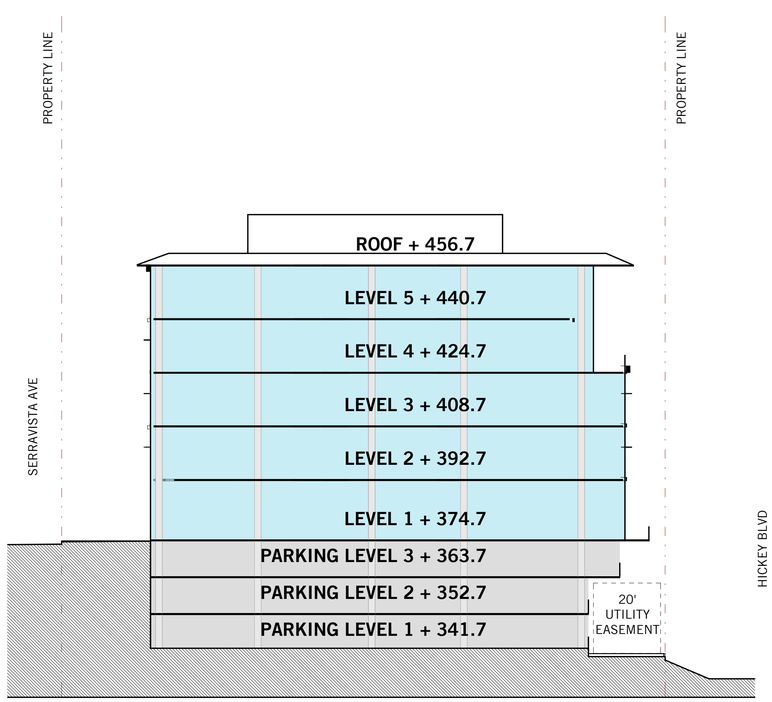
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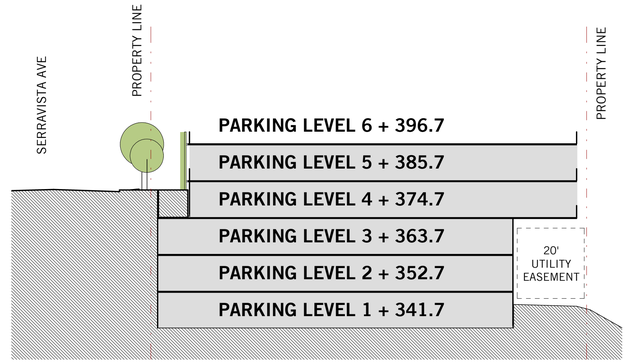
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LEVEL 2 :	36,100 SF
LEVEL 3 :	36,100 SF
LEVEL 4 :	36,100 SF
LEVEL 5 :	36,100 SF
TOTAL GFA :	180,000 SF



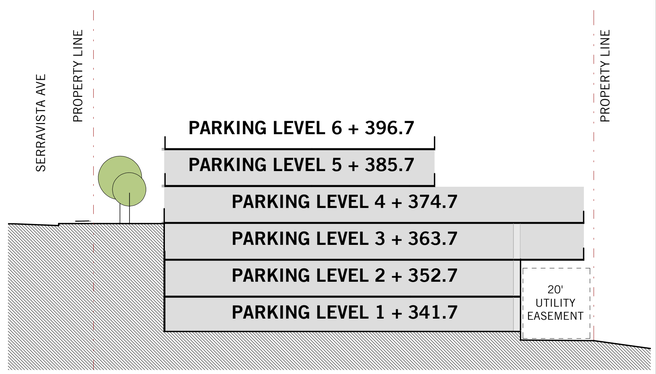
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SECTION 2



SECTION 4



SECTION 3

DES ARCHITECTS ENGINEERS

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BUILDING SECTIONS

455 HICKEY, DALY CITY, CA

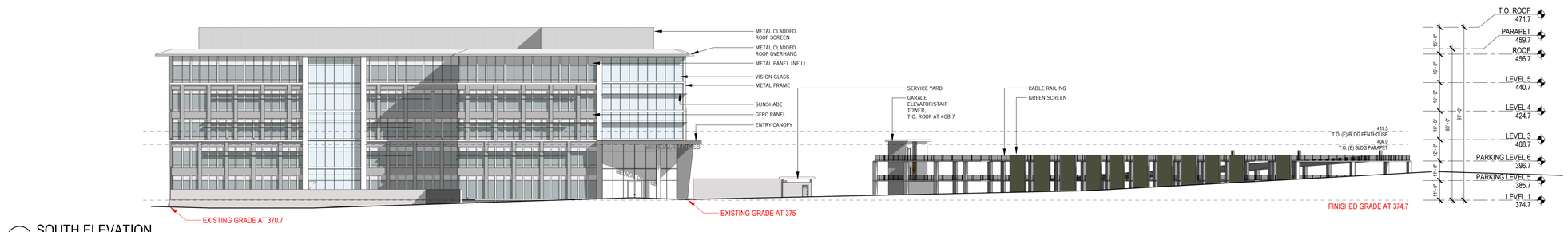
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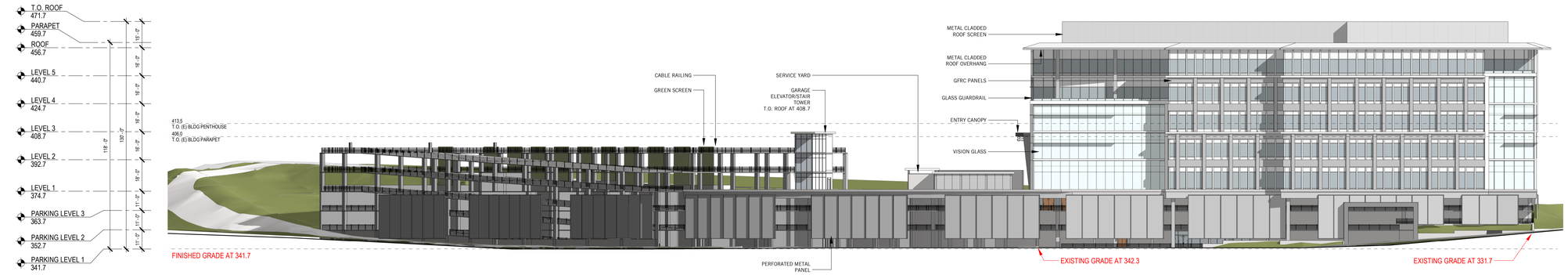
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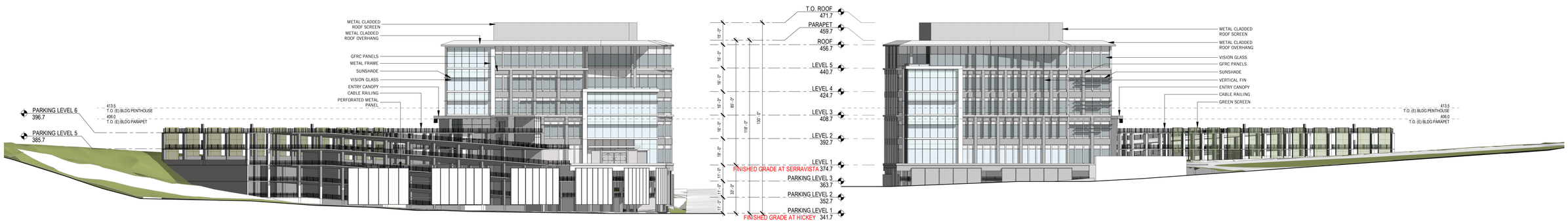
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4 SOUTH ELEVATION
1/32" = 1'-0"



3 NORTH ELEVATION
1/32" = 1'-0"



1 EAST ELEVATION
1/32" = 1'-0"

2 WEST ELEVATION
1/32" = 1'-0"

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

BUILDING ELEVATIONS

455 HICKEY, DALY CITY, CA

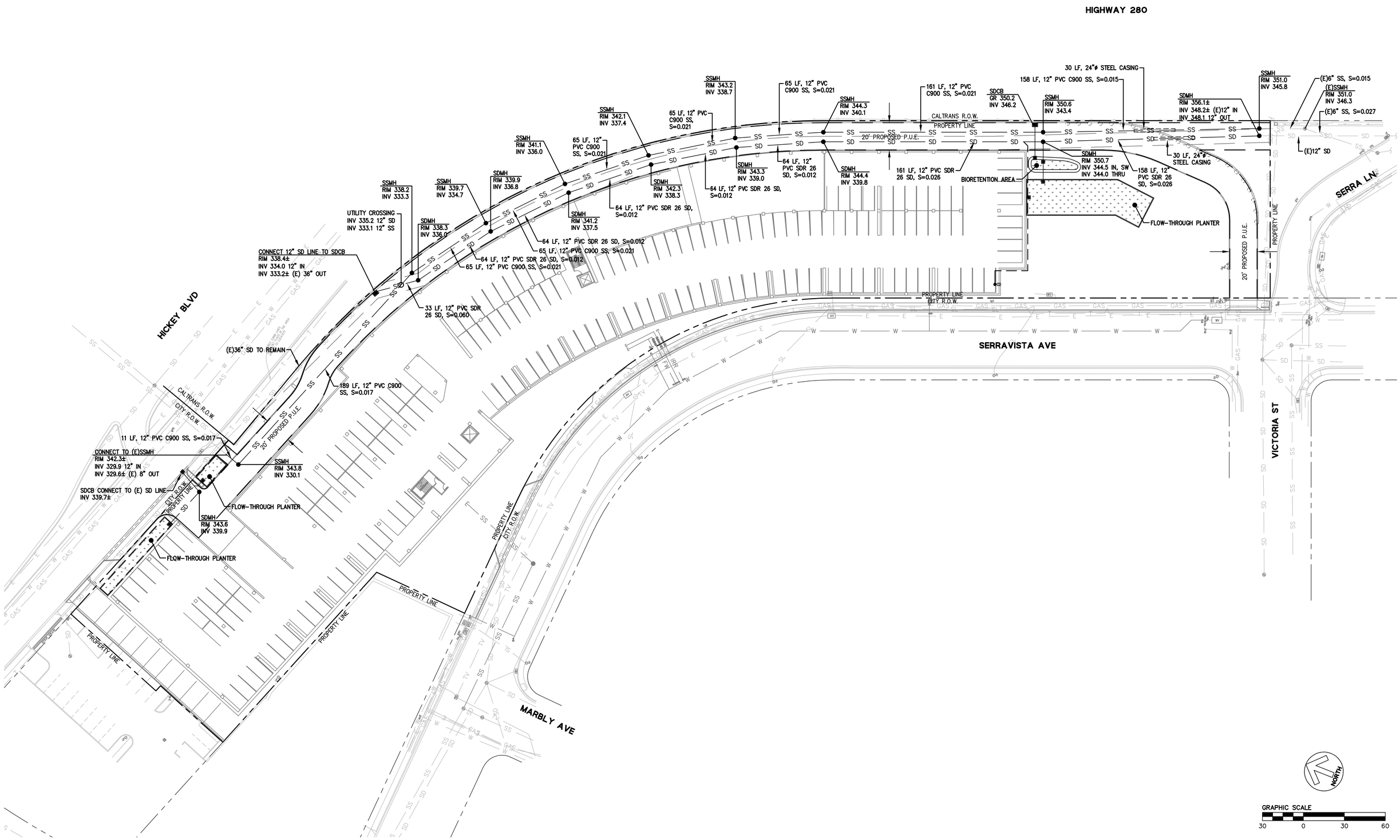
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NORTH

GRAPHIC SCALE
30 0 30 60

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BKF
255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

UTILITY PLAN - HICKEY BOULEVARD

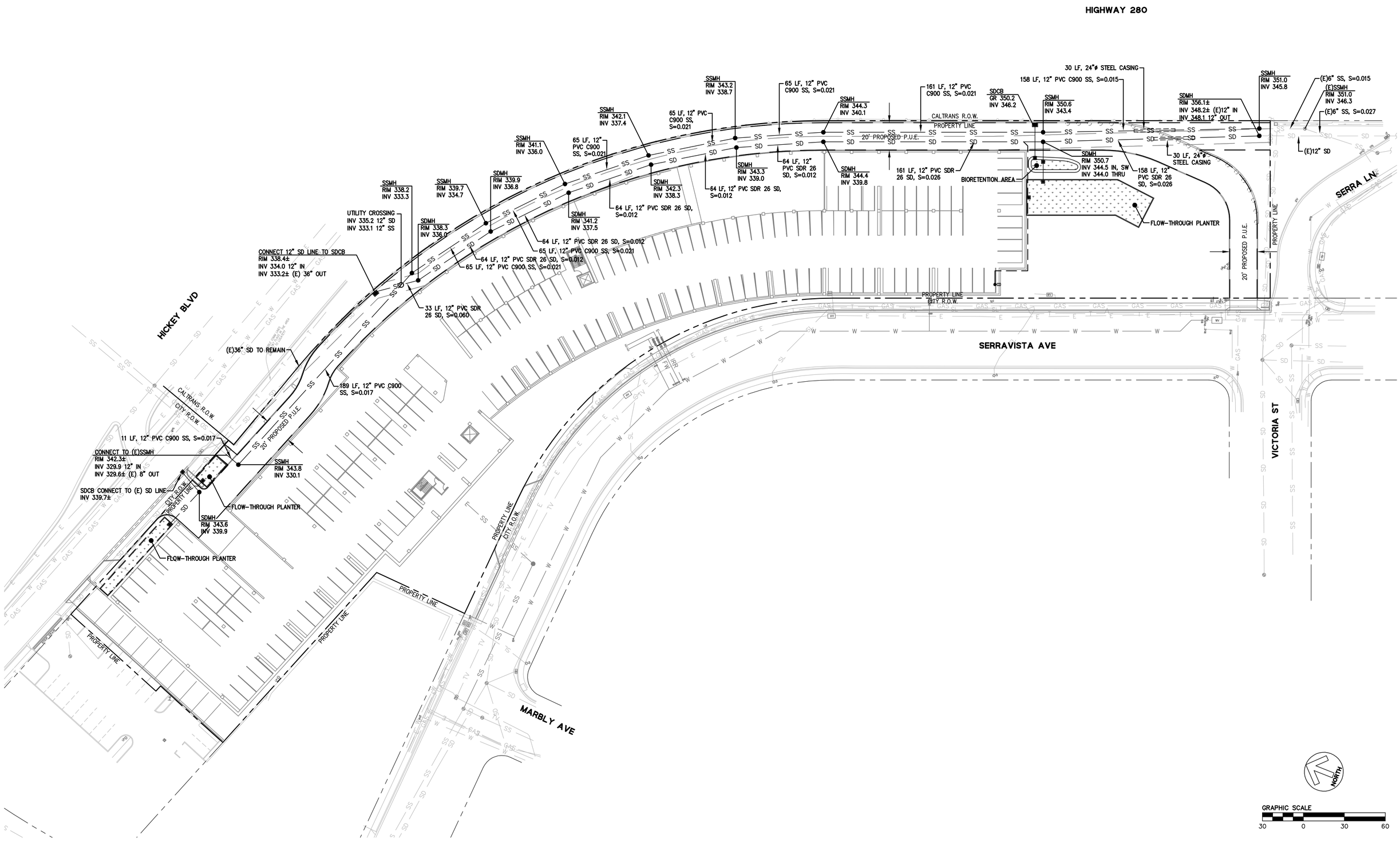
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UTILITY PLAN - HICKEY BOULEVARD

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DRAFT

PLANNED DEVELOPMENT STANDARDS
PLANNED DEVELOPMENT ZONE PD-8B
455 HICKEY BOULEVARD OFFICE BUILDING AND PARKING STRUCTURE REDEVELOPMENT

The purpose and intent of these Planned Development Standards is to establish a Planned Development Zoning District for PD-8B, which encompasses the entire project site.

I. GENERAL

1. The Design Review approval shall be effective for five years, unless otherwise extended by the City Council.

2. When these planned development standards conflict with other sections of the Zoning Ordinance, these standards prevail only to the extent of the conflict. Where these planned development standards do not provide regulations, the Zoning Ordinance shall apply as to the most similar land use or standard.

3. Any modifications to plans approved by the City Council shall require an amendment of the original PD approval and shall be subject to separate approval by the Planning Commission and City Council. Minor changes of the approved plans due to code requirements or conditions of approval may be approved by the Planning Division.

4. All structures, landscape areas, required facilities and amenities shall be maintained in a neat, safe, and healthful condition, subject to improvement and upgrading of plans as required by this Planned Development approval.

5. The property owners of PD-8B shall seek to provide a balanced mix of Commercial Office and/or Medical Office uses with compatible peak hours and parking needs.

II. PERMITTED USES

A. The following uses are permitted as part of Planned Development Zone PD-8B:

Commercial Office
Medical Office
Ancillary uses related to Commercial and Medical Office

1. When a use is not specifically listed, it shall be assumed that when the unlisted use is similar to nor more objectionable than a permitted use, such use shall be permitted in the district to the same requirements of the most similarly listed use.

II. DEVELOPMENT STANDARDS

A. Parking

1. Property owners shall implement measures to manage the parking during the peak hours. The plan may include such measures as valet parking, incentives to carpooling and disincentives to parking in the residential areas near the development.

2. The total number of on-site parking spaces required for the 455 Hickey Boulevard Commercial Office or Medical Office shall be a total of 900 parking spaces. This requirement shall be based on three parking_space per 1,000 square feet within the property.

3. Secure bicycle parking shall be provided at strategic locations throughout the property including the ground floor of any parking structure. A total of eight short-term bicycle parking spaces and 46 long term parking spaces shall be provided.

4. The parking areas shall conform to plans approved as part of the preliminary plan for PD-8B and shall be maintained in accordance with City standards.

B. Signage

1. New Signage for the project should enhance the building facades. All signage shall adhere to the requirements of Chapter 17.32.200 Permitted signs in commercial and industrial districts of the Daly City Municipal Code.

2. All signage shall require a Building Permit submittal and review for approval by City staff.

C. Circulation

1. All deliveries shall gain access to the project site by way of the Serravista Avenue driveway to access the singular loading area east of the building within the service yard.

    a. Deliveries to the development by large semi-type trucks shall not take place during peak traffic hours. Smaller delivery vehicles may deliver at all hours.
    b. The property owners shall provide an approved Transportation Demand Management (TDM) plan and implement any required

measures to meet City/County Association of Governments of San Mateo County's TDM Policy.

c. Site access and parking for the project (under either option) would include two entry points for employees and visitors to access the podium parking and the parking structure. Access to the podium parking would be provided primarily from Hickey Boulevard with drop-off at the interior lobby. Access to the parking structure east of the office building would be provided primarily via a private driveway off Serravista Avenue. A curbside drop-off space would be provided on Serravista Avenue, connecting the sidewalk and the new entry plaza leading to the building's main lobby.

D. Landscaping

1. All landscaping improvements shall conform to the approved landscaping plan and with Section 17.41 (Landscaping) of the Zoning Ordinance.

   a. Landscaping shall be installed in accordance with approved plans and maintained in a neat, clean and healthful condition.

   b. In general, all shrubs or any vegetation at points of ingress or egress shall be maintained at a height of no greater than 30 inches. Trees must be trimmed in a manner to maintain a site clearance underneath the branches of five feet from grade.

   c. Landscaping shall be planted at the base of any monument signs and shall be maintained in a healthy growing condition and be replaced as necessary. The plants shall include a variety of flowering evergreen shrubs and flowering ground cover.

E. Architecture/Site Design

1. Architectural design of all structures and facades, all materials and colors, and all landscaping shall comply with plans approved by a Design Review Permit.

   a. Once approved, any major architectural modification shall be subject to approval by a Design Review Permit, except that minor changes may be approved administratively by the Planning Division.

   b. All roof equipment shall be screened from view from the surrounding streets.

c. The Planning Division shall approve the design and location of all trash or storage enclosures and other proposed fencing or walls.

d. All ground mounted appurtenances, such as transformers or air conditioning units shall be undergrounded.

F. Maintenance

1. A maintenance plan for on-site litter control shall be submitted by the applicant and approved by the City. The litter control maintenance plan shall include provision for on-going maintenance required for the project use. The maintenance plan shall be recorded as part of the PD-8B planned development standards. The maintenance plan shall include the following standards:

b. The entire development area shall be maintained in a neat, safe, and healthful condition.

c. A garbage disposal plan approved by the Planning Division and the Streets Division shall specify that:

i. All trash shall be confined in approved receptacles and enclosures.

ii. All unenclosed materials, equipment and/or supplies of any kind shall be maintained within approved enclosure areas. Any stacked or stored items shall not exceed the height of the enclosure.

iii. All trash and storage enclosures shall be properly maintained in accordance with approved plans.

iv. The applicant shall prepare an agreement to implement a weekly litter cleanup plan for all open areas, planters and public sidewalks adjacent to the development. All waste materials generated by the development, such as cardboard boxes, skids, garbage, litter, etc., must be stored in the enclosure for disposal. No waste material shall be visible at anytime. All enclosures shall be designed to conceal the contents. All enclosures should be kept clean and free of odor at all times.

G. Lighting

1. All exterior lighting shall be in accordance with precise plans and shall be adequately maintained according to approved standards.

2. Site lighting shall be directed downward to protect adjacent residential neighborhoods from glare.

H. Building Area Limitation

1. There shall be no additional square footage allowed in PD-8B beyond what is permitted through approval of the precise plan. Minor additions or alterations to square footage for any given designated use (+/- 2%) may be approved by the Planning Division if such changes are to meet specific code requirements and do not affect the overall mass of the building.

2. The Commercial Office alternative shall include a 280,000 square feet commercial office building over a three-story, 347,500 square feet, parking podium with additional parking structure constructed east of the building. The general distribution of allowable square footage shall be in substantial accordance with the Precise Plan.

3. The Medical Office alternative shall include 180,000 square feet medical office use building over a three-story parking, 347,500 square feet, podium with additional parking structure constructed east of the building. The general distribution of allowable square footage shall be in substantial accordance with the Precise Plan.

I. Maximum Permitted Building Height

1. Building height for the Commercial Office building shall be an eight-story, 166-foot tall, office building over three-story parking podium and three-story Parking structure located east of building.

2. Building height for the Medical Office building shall be a five-story, 118-foot tall, building over three-story parking podium and three-story parking structure located east of building.

J. Building Setbacks

1. Front setback: 11 ft.
   Side setbacks: 0 ft.
   Rear setback: 0 ft.

K. **Floor Area Ratio (FAR)**

1. 2.0 FAR

Traffic Impact Study Report

455 Hickey Boulevard

Daly City, California

April 26, 2023

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EXECUTIVE SUMMARY

This report presents the results of the transportation impact analysis conducted for the proposed office development at 455 Hickey Boulevard in Daly City, as shown in **Figure 1**. The proposed project would replace the existing 81,460 square foot office building and parking facilities with one of two development alternatives.

Project Alternative 1 would construct a new 180,000 square feet (sq. ft.) medical office building with a parking structure. Project Alternative 2 would construct a new 280,000 sq. ft. tech office building with a parking structure.

The project site is accessed via one driveway on Hickey Boulevard and one on Serravista Avenue.

Project Trip Generation

Project trip generation for the proposed project was estimated based on published trip generation rates from the Institute of Transportation Engineers (ITE) publication *Trip Generation 10th Edition*. The project site is currently occupied by an existing 81,460 square foot office building that would be replaced.

The proposed Alternative 1 is expected to generate 5,471 net new daily trips, including 406 net new a.m. peak hour trips (309 in, 97 out) and 529 net new p.m. peak hour trips (159 in, 370 out). The proposed Alternative 2 is expected to generate 1,934 net new daily trips, including 231 net new a.m. peak hour trips (199 in, 32 out) and 228 net new p.m. peak hour trips (36 in, 192 out).

Existing Conditions

Under this scenario, 15 of the 17 study intersections operate at acceptable LOS D or better during both peak hours. The intersection of Hickey Boulevard and Skyline Boulevard operates at LOS E during the a.m. peak hour. The intersection of Serramonte Boulevard at Junipero Serra Boulevard operates at LOS F during both peak hours.

Existing plus Project Alternative 1 Conditions

Under this scenario, 15 of the 17 study intersections continue to operate at acceptable LOS D or better during both peak hours in accordance with City standards.

The intersection of Hickey Boulevard and Skyline Boulevard/SR-35 (Intersection #12) degrades from LOS E with 71.2 seconds to LOS F with 78.0 seconds during the a.m. peak hour. One option to reduce total delay is to convert the eastbound right turn lane to a shared through-right lane, thus providing a second through lane. With this physical improvement, delay is reduced to 61.5 seconds.

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps (Intersection #17) continues to operate at LOS F during both peak hours. The project adds 0.5 seconds of delay in the a.m. peak hour and 5.3 seconds of delay in the p.m. peak hour. A feasible mitigation measure to reduce overall delay is to optimize signal timing. With this improvement, the delay in the a.m. peak hour is 37.5 seconds, which is 64.7 seconds less than existing conditions, and 47.5 seconds in the p.m. peak hour, which is 102.0 seconds less than existing conditions.

These two intersections are operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at these intersections. Since these intersections currently operate below an acceptable level of service, and this project adds a marginal number of trips, this project should contribute a fair share toward these improvements, if they are deemed necessary.

Existing plus Project Alternative 2 Conditions

Under this scenario, 15 of the 17 study intersections continue to operate at acceptable LOS D or better during both peak hours, thus meeting the City's LOS policy.

The intersection of Hickey Boulevard and Skyline Boulevard/SR-35 (Intersection #12) continues to operate at LOS E with an increase of 3.8 seconds of delay. Based on the physical intersection improvements described in the previous section for Project Alternative 1, delay can be improved to 13.6 seconds less than existing conditions.

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps (Intersection #17) continues to operate at LOS F during both peak hours. The project adds 0.1 seconds of delay in the a.m. peak hour and 3.2 seconds of delay in the p.m. peak hour. A feasible mitigation measure to reduce overall delay is to optimize signal timing. With this improvement, the delay in the a.m. peak hour is 37.4 seconds, which is 64.7 seconds less than existing conditions, and 47.9 seconds in the p.m. peak hour, which is 101.6 seconds less than existing conditions.

These two intersections are operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at these intersections. Since these intersections currently operate below an acceptable level of service and this project adds a marginal number of trips, this project should contribute a fair share toward these improvements, if they are deemed necessary.

Cumulative (2035) No Project Conditions

Under this scenario, 14 of the 17 study intersections operate at acceptable LOS D or better during both peak hours. The intersection of Hickey Boulevard and Skyline Boulevard/SR-35 operates at LOS F during the a.m. peak hour. The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps operates at LOS F during both peak hours. The intersection of Hickey Boulevard & I-280 northbound ramps operates at LOS E with 56.2 seconds of delay during the p.m. peak hour.

Cumulative (2035) plus Project Alternative 1 Conditions

Under this scenario, 14 of the 17 study intersections continue to operate at acceptable LOS D or better during both peak hours. The three intersections that operate below LOS D in the Cumulative Condition continue to operate at the same LOS in the Cumulative plus Project Alternative 1 Conditions.

The intersection of Hickey Boulevard & I-280 northbound on-ramps (Intersection #6) continues to operate at LOS E with an additional 4.2 seconds of delay. This impact can be mitigated by converting the southbound approach from one left/through lane and one right turn lane, to one left turn lane and one

through/right turn lane. This mitigation will reduce delay in the p.m. peak hour to 50.3 seconds, improving the level of service back to acceptable LOS D.

The intersection of Hickey Boulevard and Skyline Boulevard/SR 35 (Intersection #12) continues to operate at LOS F during the a.m. peak hour with an additional 10.2 seconds of delay, for a total of 103.9 seconds of delay. The physical intersection improvements described in the previous section for Existing plus Project Alternative 1 Conditions would reduce this delay to 81.0 seconds, which is an improvement over Cumulative No Project conditions.

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps (Intersection #17) operates at LOS F during both peak hours. The project adds 0.3 seconds of delay in the a.m. peak hour and 3.9 seconds of additional delay in the p.m. peak hour. The mitigation measure described in the previous section for Existing plus Project Alternative 1 Conditions would reduce the delay in the a.m. peak hour to 92.6 seconds less than cumulative conditions. In the p.m. peak hour the delay is reduced to 147.3 seconds less than cumulative conditions.

The improvements identified for these three intersections mitigate the project's impacts. These three intersections are operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at these intersections. Since these intersections currently operate below an acceptable level of service and this project adds a marginal number of trips, this project should contribute a fair share toward these improvements, if it is deemed necessary.

Cumulative (2035) plus Project Alternative 2 Conditions

Under this scenario, 14 of the 17 study intersections continue to operate at acceptable LOS D or better during both peak hours. The three intersections that operate below LOS D in the Cumulative Condition, continue to operate at the same LOS in the Cumulative plus Project Alternative 2 Conditions.

The intersection of Hickey Boulevard & I-280 northbound on-ramps (Intersection #6) continues to operate at LOS E with an additional 1.3 seconds of delay. This impact can be mitigated by converting the southbound approach from one left/through lane and one right turn lane, to one left turn lane and one through/right turn lane. This mitigation will reduce delay in the p.m. peak hour to 46.2 seconds, improving the level of service back to acceptable LOS D.

The intersection of Hickey Boulevard and Skyline Boulevard/SR 35 (Intersection #12) continues to operate at LOS F during the a.m. peak hour with an additional 6.0 seconds of delay, for a total of 99.7 seconds of delay. The physical intersection improvements described in the previous section for Existing plus Project Alternative 1 Conditions would reduce this delay to 77.2 seconds, which is an improvement over Cumulative No Project conditions.

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps (Intersection #17) operates at LOS F during both peak hours. The project adds 0.0 seconds of delay in the a.m. peak hour and 1.9 seconds of additional delay in the p.m. peak hour. The mitigation measure described in the previous section for Existing plus Project Alternative 1 Conditions would reduce the delay

in the a.m. peak hour to 92.9 seconds less than cumulative conditions. In the p.m. peak hour the delay is reduced to 148.4 seconds less than cumulative conditions.

The improvements identified for these three intersections mitigate the project's impacts. These three intersections are operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at these intersections. Since these intersections currently operate below an acceptable level of service and this project adds a marginal number of trips, this project should contribute a fair share toward these improvements, if it is deemed necessary.

Vehicle Miles Traveled

The project is located in Travel Analysis Zone (TAZ) #1918 in the City/County Association of Governments of San Mateo County (C/CAG) model, which is tagged as a Transit Priority Area (TPA) under C/CAG geographical definitions. A TPA is defined as being within one half mile of a transit stop in a high quality corridor with a frequency of service interval of 15minutes or less during the morning and afternoon peak commute periods. Since the project is located within a TPA, the project is screened out from VMT analysis. **This meets Caltrans and C/CAG policy for determination of a less than significant impact.**

Transportation Demand Management Policy

Since this proposed project is located in a TPA, as identified in the VMT analysis above, and defined as a large non-residential project, the target trip reduction is 25% based on the C/CAG TDM Policy. The TDM Policy identifies nine measures which are required of all projects. These required measures add up to the goal of 25% reduction. The nine measures are as follows:

1. Free/Preferential Parking for Carpools
2. TDM Coordinator/Contact Person
3. Actively Participate in Commute.org or a Transportation Management Association Equivalent
4. Carpool or Vanpool Program
5. Transit or Rideshare Passes/Subsidies
6. Pre-Tax Transportation Benefits
7. Secure Bicycle Storage
8. Design Streets to Encourage Bike/Pedestrian Access
9. Showers, Lockers and Changing Rooms for Cyclists

Site Access

Vehicles would access the project site via a driveway on Hickey Boulevard and a driveway on Serravista Avenue. A third access point is restricted to City utility access at the southern edge of the project. Truck access to a loading area is provided via the driveway at Serravista Avenue with appropriate turning radii.

Two vehicle pick-up/drop-off zones are proposed with one at the entry plaza to the building on Serravista Avenue and one at the first level of the parking garage accessible via Hickey Boulevard entrance. Based on Project Alternative 1, it is recommended that at a minimum the drop off space accommodate eight vehicles. Based on Project Alternative 2, it is recommended that at a minimum the drop off space

accommodate five vehicles. The project is currently proposing space for five vehicles at the entry plaza on Serravista, and space for five vehicles within the parking garage which is sufficient for both alternatives.

Pedestrian access to the project site is located at the Entry Plaza on Serravista Avenue. Pedestrian access is provided through connections via adequate sidewalks on Serravista Avenue, which connect to sidewalks on Gellert Boulevard and Hickey Boulevard.

Bicyclists can access the site either as a vehicle at the designated driveways or as a pedestrian at the Entry Plaza. The bicycle locker facility is located on the first parking garage level accessible by Hickey Boulevard adjacent to the elevators. Gellert Boulevard south of Serravista Avenue has marked Class II bike lanes and Hickey Boulevard is a marked Class III bicycle route. Serravista Avenue is a low-volume residential roadway that functions easily as a bikeway without specific designation.

Site access for vehicles, trucks, pedestrians and bicycles are **adequate**.

Local Operational Analysis

The operational analysis reveals that in the a.m. peak hour, the queue from northbound vehicles on Gellert Boulevard approaching Hickey Boulevard is 510 feet long and blocks the downstream one-way stop-controlled intersection of Serravista Avenue, which is only 300 feet away.

To reduce this queue, it is recommended that one of the northbound through lanes is converted to a shared through-right lane, to allow for a dual right turn lanes to accommodate heavy right turn volumes. This improvement reduces the queue to 129 feet.

Reducing the queue at Hickey Boulevard and Gellert Boulevard will improve operations at the intersection of Gellert Boulevard and Serravista Avenue. Vehicles entering and exiting Serravista Avenue will no longer be blocked by the queue resulting in easier access through the intersection.

It is noted that the southbound left turn has a stop bar and STOP legend pavement markings. This can be confusing by leading southbound drivers to believe that the intersection is an all-way stop. It is recommended that this STOP bar and legend be removed.

Another operational issue at this intersection is pedestrian access and safety as this is a major crossing to connect Gellert Park with the residential and commercial area. This pedestrian access is also needed to access the bus stop on the west side of Gellert Avenue. To enhance pedestrian access and safety at this location, it is recommended to install flashing pedestrian crossing signs and curb bulbouts at the corners.

Parking

The project will provide a total of 900 parking spaces which meet City requirements and exceeds parking generation determined by the Institute of Transportation Engineers. The proposed supply of vehicle parking types such as accessible, electric vehicles charging stations and future stations and bicycle parking is **more than adequate**.

Pedestrian, Bicycle, and Transit Impacts

The project will connect to existing pedestrian facilities and will need to provide on-site circulation through a variety of continuous paths and crosswalks. The project is not expected to create any disruptions or inconsistencies with existing pedestrian facilities or plans. Pedestrians and bicyclists can access the closest transit stops on Gellert Boulevard via a continuous path of sidewalks. However, it is recommended that the project implement pedestrian crossing safety improvements at the intersection of Gellert Boulevard and Serravista Avenue to facilitate access to the transit stop on the west side of Gellert Boulevard. The project is expected to add trips to the existing transit services, which can be accommodated by the existing transit capacity. It is recommended that SamTrans is contacted to determine if the bus stop along the project frontage on Hickey Boulevard requires any modifications or enhancements as there currently is no signage. Therefore, the project is estimated to have a **less than significant** impact to pedestrian, bicycle, and transit facilities.

Recommendations

Based on the findings in this report, TJKM recommends the following:

- It is recommended that the northbound through lane at Gellert Boulevard and Hickey Boulevard be converted to a shared through-right turn lane.
- It is recommended that a flashing pedestrian crossing sign along with curb bulbouts be installed at the intersection of Gellert Boulevard and Serravista Avenue.
- It is recommended that Caltrans be consulted to determine if improvements are needed at the following intersections since they are already operating below LOS D:
    - Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound
    - Hickey Boulevard and Skyline Boulevard/SR-35
    - Hickey Boulevard & I-280 northbound on-ramps

  If improvements are needed, the project should contribute a fair share percentage.
- It is recommended that this project implement all nine required TDM measures identified on the C/CAG TDM checklist as outlines in section 7.2. and is summarized as follows:
    - Free/Preferential Parking for Carpools
    - TDM Coordinator/Contact Person
    - Actively Participate in Commute.org or a Transportation Management Association Equivalent
    - Carpool or Vanpool Program
    - Transit or Rideshare Passes/Subsidies
    - Pre-Tax Transportation Benefits
    - Secure Bicycle Storage
    - Design Streets to Encourage Bike/Pedestrian Access
    - Showers, Lockers and Changing Rooms for Cyclists
- It is recommended that the project's vehicle drop-off/pick-up zone accommodate at least eight vehicles in the case of Project Alternative 1, and five vehicles in the case of Project Alternative 2. Signage should be provided which limits parking to a 10 minute loading zone.

- It is recommended that SamTrans be consulted to determine if a bus stop continues to exist on Hickey Boulevard along the project frontage and if additional improvements are needed at this location to accommodate this bus stop.
- It is recommended that the STOP bar and legend is removed from the southbound left turn lane at Gellert Boulevard at Serravista Avenue.

1.0 INTRODUCTION

This report presents the results of the transportation impact analysis conducted for the proposed office development at 455 Hickey Boulevard in Daly City, as shown in **Figure 1**. The proposed project would replace the existing 81,460 square foot office building and its parking facilities with one of two development alternatives.

Project Alternative 1 would construct a new 180,000 square feet (sq. ft.) medical office building with a parking structure. Project Alternative 2 would construct a new 280,000 sq. ft. tech office building with a parking structure.

Transportation impacts include vehicle miles travelled (VMT) analysis in accordance with California Environmental Quality Act (CEQA), as well as local impacts measured in terms of vehicle delay and levels of service at intersections and transportation operations issues such as site access, impacts to active transportation modes and vehicle traffic operations.

1.1 Study Intersections and Scenarios

TJKM evaluated traffic conditions at seventeen study intersections and two project driveways during the a.m. and p.m. peak hours for a typical weekday. The study intersections were selected based on TJKM's working knowledge of the area with input and approval from Daly City staff.

New peak hour turning movement counts were collected in July 2021. The peak periods observed were between 7:00-9:00 a.m. and 4:00-6:00 p.m. These counts were noted to be low due to irregular traffic volumes resulting from 2020-2021 pandemic conditions. Historical counts at two intersections, at Hickey Boulevard & Skyline Boulevard in November 2017 and at Hickey Boulevard & Junipero Serra Boulevard in November 2019, were used as the basis of adjusting the new turning movement volumes to estimated typical volumes. These adjusted volumes are the basis for analyzing Existing Conditions scenarios. The study intersections, associated traffic controls and responsible jurisdiction are as follows:

1. Serravista Avenue & Gellert Boulevard (one-way stop) – City of Daly City
2. Serravista Avenue & Marbly Avenue (one-way stop) - City of Daly City
3. Serravista Avenue & Victoria Street (two-way stop) – City of Daly City
4. Serravista Avenue & Project Access (one-way stop) – City of Daly City
5. Hickey Boulevard & Junipero Serra Boulevard (signal) – City of South San Francisco
6. Hickey Boulevard & I-280 Northbound Ramps (signal) - Caltrans
7. Hickey Boulevard & I-280 Southbound Ramps (signal) - Caltrans
8. Hickey Boulevard & Project Access (one-way stop) – City of Daly City
9. Hickey Boulevard & Gellert Boulevard (signal) – City of Daly City
10. Hickey Boulevard & Callan Boulevard (signal) – City of Daly City
11. Hickey Boulevard & Campus Drive (signal) – City of Daly City

12. Hickey Boulevard & Skyline Boulevard/SR-35 (signal) - Caltrans
13. Gellert Boulevard & Victoria Street (all-way stop) – City of Daly City
14. Gellert Boulevard & Serramonte Boulevard (signal) – City of Daly City
15. Serramonte Boulevard & I-280 Northbound Ramps (signal) - Caltrans
16. Serramonte Boulevard & I-280 Southbound Ramps (signal) - Caltrans
17. Serramonte Boulevard & Junipero Serra Boulevard/I-280 Northbound Ramps (signal) - Caltrans

Figure 1 illustrates the study intersections and the vicinity map of the proposed project. The detailed inset map shows the existing and proposed project driveways.

This study addresses the following six traffic scenarios:

- **Existing Conditions** – This scenario evaluates the study intersections based on the adjusted existing turning movement counts.
- **Existing plus Project Alternative 1 Conditions** – This scenario is identical to Existing Conditions, but with the addition of traffic from the proposed Project Alternative 1.
- **Existing plus Project Alternative 2 Conditions** – This scenario is identical to Existing Conditions, but with the addition of traffic from the proposed Project Alternative 2.
- **Cumulative (2035) No Project Conditions** – This scenario is similar to the Existing Conditions but with future turning movement counts which were derived from the City of Daly City's Traffic Demand Model Buildout Year 2035 based on land uses identified in the City' General Plan.
- **Cumulative plus Project Alternative 1 Conditions** – This scenario is identical to Cumulative Conditions, but with the addition of traffic from the proposed Project Alternative 1.
- **Cumulative plus Project Alternative 2 Conditions** – This scenario is identical to Cumulative Conditions, but with the addition of traffic from the proposed Project Alternative 2.

Figure 1: Vicinity Map

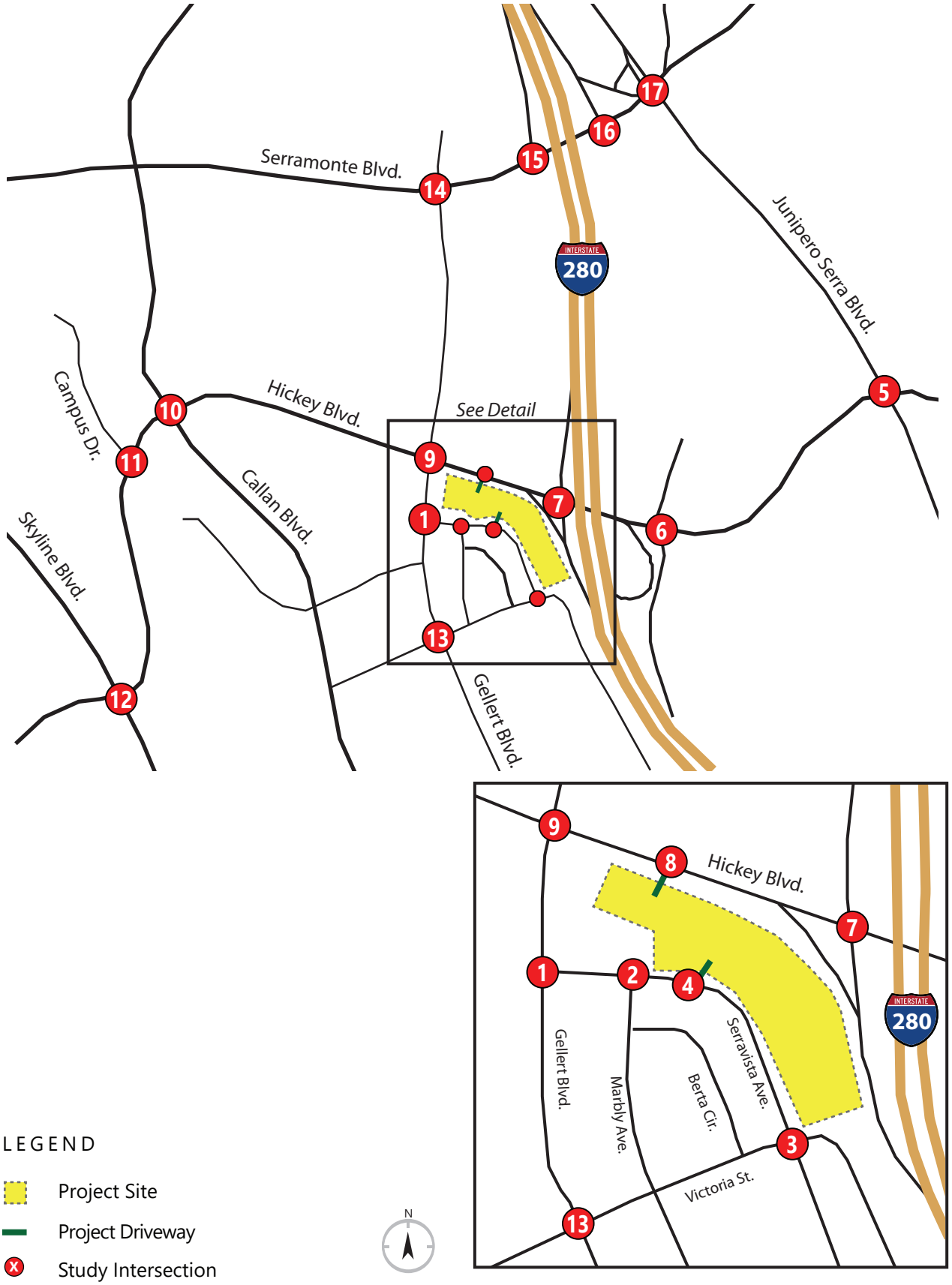


Figure 2a: Site Plan, Alternative 1



KING ASSET MANAGEMENT

SITE PLAN - TECH

455 HICKEY
Daly City, CA 08.08.2022

N

Figure 2b: Site Plan, Aternative 2



KING ASSET MANAGEMENT

SITE PLAN - MOB

455 HICKEY
Daly City, CA 08.08.2022

N

2.0 STUDY METHODOLOGY

Transportation impacts related to the proposed project were evaluated for environmental significance as defined in the California Environmental Quality Act (CEQA). Additional analysis include evaluation of conformity with local policies, impact on traffic operations and site access.

As of July 1, 2020, Vehicles Miles Traveled (VMT) is the new measure of traffic impact significance for CEQA purposes. According to a technical advisory published by the Governor's Office of Planning and Research (OPR), vehicle delay is no longer an appropriate measure of environmental impact. The City/County Association of Governments (C/CAG) of San Mateo has adopted policies in accordance with the technical advisory published by the OPR. Although intersection level of service (LOS) is no longer be used to determine significant impacts for CEQA purposes, it can be used to determine conformity with the City of Daly City's adopted General Plan.

2.1 Vehicle Miles Traveled

Reducing Vehicle Miles Travelled (VMT) per capita is an important component for achieving the state's long-term climate goals since half of greenhouse gas emissions are derived from transportation sources. The Governor's Office of Planning and Research (OPR) published the *Technical Advisory on Evaluating Transportation Impacts in CEQA*. This document provides the basis for VMT analysis for this project.

Caltrans also has adopted VMT as the primary metric for traffic impact studies based on the updated Transportation Impact Study Guidelines dated May 20, 2020. These new guidelines are also based on the OPR Technical Advisory document.

The City of Daly City has not adopted formal VMT guidelines. The City/County Association of Governments of San Mateo County (C/CAG) guidelines are used, since Daly City is a member agency.

C/CAG provided a *SB 743 Implementation Decisions* document, published on September 2021 which consists of VMT thresholds and screening criteria for projects within San Mateo County. Within these guidelines, there is a screening criteria which states that if a project is located within a transit priority area (TPA), then the project is exempt from VMT analysis. This is the criteria that is applicable to this project.

2.2 Level of Service Analysis Methodology

Level of Service (LOS) is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The LOS generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience and safety. The operational LOS are given letter designations from A to F, with A representing the free-flow operating conditions and F representing the severely congested flow with high delays. Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets. The following sections provide detailed study methodology based on the type of intersections.

Signalized Intersections

The study intersections were analyzed using the Highway Capacity Manual 6th Edition for signalized intersections (HCM 6th), except two signalized intersections. The intersection of Serramonte Boulevard & Junipero Serra Boulevard were evaluated using HCM method 2000. This is due to limitations with HCM 6th Edition with respect to the geometric configurations at this intersection. These methodologies determines LOS based on average control delay per vehicle for the overall intersection during peak hour intersection operating conditions. **Table 1** summarizes the relationship between the control delay and LOS for signalized intersections. The LOS assessment under all scenarios is based on current traffic controls and optimized signal timing unless otherwise noted.

Table 1: Level of Service Definitions for Signalized Intersections

Level of Service	Description
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: Highway Capacity Manual

Unsignalized Intersections

LOS ratings for stop-sign controlled intersections are based on the average control delay expressed in seconds per vehicle. At one- or two-way stop controlled intersections, the control delay is calculated for each movement, not for the intersection as a whole. **Table 2** summarizes the relationship between delay and LOS for stop-controlled intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections, as drivers expect less delay at stop-controlled intersections.

Each of the study intersections were analyzed using Synchro Version 10 software. The LOS assessment under all scenarios is based on current traffic controls unless otherwise noted.

Table 2: Level of Service Definitions for Stop Controlled Intersections

Level of Service	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: Highway Capacity Manual

2.3 Level of Service Standards

In accordance with recently updated CEQA requirements, the standards and levels of significance described below are used to determine compliance with goals and policies for each jurisdiction. They are not used for findings of significance under CEQA. It is observed that as jurisdictions are updating their policies and General Plans, levels of service standards are being replaced with VMT as the metric that satisfies overall goals of multi-modal transportation and transportation safety. This section describes the level of service policy of each jurisdiction.

City of Daly City Intersections

A majority of the study intersections are operated by the City of Daly City. According to the Circulation Element of the City's adopted General Plan 2030 (adopted March 25, 2013), the level of service standard is LOS D at all intersections.

> Policy CE-1 of the General Plan states: Use the City's traffic model and environmental review process outlined by the California Environmental Quality Act (CEQA) to ensure that the City's existing roadway network is relatively free flowing during peak traffic periods.
>
> Task CE-1.6 of the General Plan states: Incorporate a Level of Service (LOS) into Daly City's Local Thresholds of Significance Guidelines and use the standard as an evaluation measure for the traffic impacts created by new discretionary projects and to identify future roadway and intersection improvements in the City's Capital Improvement Program. This standard shall be applied as follows: Require that a minimum LOS D be maintained at all principal intersections.

Caltrans Intersections

Per the updated Transportation Impact Study Guidelines dated May 20, 2020, Caltrans no longer holds a level of service policy. VMT analysis replaces level of service, the prior widely applied metric used for CEQA transportation analysis. Caltrans' primary review focus for a land use project's impacts is now VMT.

Town of Colma Intersections

The signalized intersection of Serramonte Boulevard & Junipero Serra Boulevard/I-280 Northbound Ramps is located in the Town of Colma and operated by Caltrans. According to the Town's Mobility Element of the 2040 General Plan (adopted March 2022), Goal M2-5 states the following:

> *Strive to achieve LOS D as the planned operating condition for all arterial and collector roadway segments ("segments") and intersections, except for (1) those specified segments and intersections for which planned LOS conditions are otherwise established; and (2) segments and intersections that are operating at LOS E or lower at the time an application for a proposed development project is submitted, if no feasible improvements exist to improve the LOS. The Town may permit the then-existing LOS to be the minimum acceptable operating condition for those segments and intersections in category (2), provided that the LOS does not deteriorate further due to the proposed development.*

City of South San Francisco Intersections

The signalized intersection of Hickey Boulevard & Junipero Serra Boulevard is located within the City of South San Francisco. According to the City's recently adopted Mobility and Access element of the 2040 General Plan (adopted October 12, 2022), there is no mention of a level of service policy. Policy MOB-3.2 states the following:

> *Optimize traffic operations on City streets. Optimize traffic operations on City streets while avoiding widening roadways or otherwise pursuing traffic operations changes at expense of multimodal safety, transit reliability, or bicycle and pedestrian comfort.*

3.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, traffic volumes and operations are presented for the study intersections, including the results of LOS calculations.

3.1 Existing Setting and Roadway System

I-280 is a north south, eight lane freeway with a posted speed limit of 65 miles per hour (mph). The north-south freeway connects Daly City with nearby cities such as San Francisco to the north and San Jose to the south. It also provides access to the greater regional freeway network with direct connections to Interstate 380, US Highway 101, State Route 1, and Skyline Boulevard (SR-35). Bicyclists and pedestrians are not allowed on this facility.

Hickey Boulevard is a generally east west, four lane collector with a posted speed limit of 35 mph. Hickey Boulevard connects the project site to I-280, Junipero Serra Boulevard, and Skyline Boulevard. One existing driveway on the project site connects to Hickey Boulevard. Class III shared lane bike route markings were recently marked near the project. Sidewalks and crosswalks are provided in the vicinity of the project, although to the east of the project, sidewalks are provided only on one side.

Gellert Boulevard is a north-south collector roadway with a posted speed limit of 30 mph. Gellert Boulevard is two lanes south of Hickey Boulevard and widens up to six lanes between Hickey Boulevard and Serramonte Boulevard. Class II bike lanes are marked south of Serravista Avenue. Sidewalks are provided on both sides of the roadway.

Junipero Serra Boulevard is a north south, four-to-six lane arterial located to the east of the project. The posted speed limit on Junipero Serra Boulevard is 50 mph south of Hickey Boulevard and 40 mph north of Hickey Boulevard. Junipero Serra Boulevard runs roughly parallel to I-280. Class II bike lanes are marked on a majority of Junipero Serra Boulevard in the vicinity of the project. South of Hickey Boulevard sidewalks are not provided.

Skyline Boulevard/SR-35 is a north-south highway located to the west of the project. South of Hickey Boulevard, Skyline Boulevard/SR-35 is two lanes and has a posted speed limit of 45 mph. North of Hickey Boulevard, Skyline Boulevard widens to six lanes and becomes a freeway with a posted speed limit of 55 mph. There are no designated bicycle or pedestrian facilities.

Serramonte Boulevard is an east west, generally four lane collector with a speed limit of 30 mph, located to the north of the project. Class II Bike Lanes are marked from Serramonte Mall to Callan Boulevard. Sidewalks are provided on both sides of the roadway near the project.

Callan Boulevard is a north-south, two lane local roadway with on-street parking, Class II bike lanes and sidewalks.

Serravista Avenue is a north-south two lane local roadway that turns east-west at the project location. On-street parking and sidewalks are available on both sides of the roadway.

Victoria Street is an east-west two lane local roadway with on-street parking and sidewalks on both sides. Between Gellert Boulevard and Callan Boulevard, Class III shared lane bicycle route markings are provided.

3.2 Existing Pedestrian Facilities

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, and easy access to transit facilities, and services.

Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities.

The project is located on a primarily commercial corridor, with multiple shopping centers and other commercial uses nearby, as well as bordering a residential area. The existing pedestrian facilities in the study area as shown in **Figure 3a**.

Within the project vicinity, there are sidewalks or other walkways present on one or both sides of most streets, as well as numerous marked crosswalks, and pedestrian signal heads at signalized intersections.

3.3 Existing Bicycle Facilities

The City of Daly City adopted the *Walk Bike Daly City* Pedestrian and Bicycle Master Plan in 2020. It contains the policy vision, design guidance, and specific recommendations to guide the development of pedestrian and bicycle facilities to make walking and bicycling safer, more convenient and popular. Bicycle facilities include the following:

- Bike Paths/Multi-use Paths (Class I) – Paved trails that are separated from roadways
- Bike Lanes (Class II) – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs
- Bike Routes/Bike Boulevards (Class III) –Roadways for shared bicycle use designated by signs or other markings that may or may not include additional pavement width for cyclists
- Separated Bikeways (Class IV) – Bikeways that are physically separated from vehicle traffic by vertical elements, such as grade separation, flexible posts, or parking lanes

The existing bicycle facilities in the study area are shown in **Figure 3b**. There currently are no planned bicycle facilities as several of these facilities were recently installed to complete the bicycle network. Within the project vicinity, there are Class II bike lanes on Gellert Boulevard south of Hickey Boulevard and on Callan Boulevard. Class III bike routes are located on Serramonte Boulevard, Hickey Boulevard, Gellert Boulevard north of Hickey Boulevard and Victoria Street

3.4 Existing Transit Facilities

Transit services within the project vicinity are provided by San Mateo County Transit District (SamTrans) and the Bay Area Rapid Transit system (BART). The existing transit facilities are shown in **Figure 3c**.

SamTrans – SamTrans provides local bus routes within San Mateo County, express routes, and multi-city routes. SamTrans also operates multiple local routes with limited service to high schools. **Table 3** describes weekday and weekend bus services and frequency as they are currently operating.

Within a half-mile of the project, there are several bus stops that serve multiple bus routes. Routes 112 and 120 provide service to Colma BART station. Route 122 provides service to South San Francisco BART and San Francisco State. Route 130 provides service to Daly City BART. Route 35 provides local service to El Camino High School.

According to the SamTrans website, there is an existing bus stop for Route 130 providing service to Daly City BART located along the project frontage on Hickey Boulevard. However, there is no signage for this bus stop. It is recommended that SamTrans be contacted to determine if a stop is currently operating at this location.

BART - BART provides passenger service within the metropolitan Bay Area. BART currently has five main operating lines: Antioch-SFO/Millbrae, Dublin/Pleasanton-Daly City, Berryessa/North San Jose-Richmond, Berryessa/North San Jose-Daly City, and Richmond-Millbrae There are also connectors to Oakland International Airport (OAK) and San Francisco International Airport (SFO). BART operates between 5:00 a.m. and midnight on weekdays and between 6:00 a.m. and midnight on Saturdays and between 8:00 a.m. and midnight on Sundays. On weekdays, most lines operate at 15-minute intervals through most of the day and 30-minute intervals after 8:00 p.m. The closest BART station is approximately 1.5 miles east located in South San Francisco just off El Camino Real.

Table 3: Existing Bus Routes

No.	From	To	Weekdays		Saturday		Sunday	
			Operating Hours	Headway (minutes)	Operating Hours	Headway (minutes)	Operating Hours	Headway (minutes)
35[1]	El Camino High	Warwick / Christen	7:55 – 8:30 a.m., 2:45 – 3;45 p.m.	10	-	-	-	-
112	Colma BART	Linda Mar Park & Ride	6:00 a.m. – 9:45 p.m.	60	8:00 a.m. – 8:45 p.m.	60	8:00 a.m. – 8:45 p.m.	60
120	Colma BART	Brunswick/ Templeton	4:00 a.m. – 11:45 p.m.	10 peak, 30 off-peak	4:00 a.m. – 11:45 p.m.	15-45	4:00 a.m. – 11:00 p.m.	15-45
121	Skyline College	Pope/ Bellevue	6:30 a.m. – 10:30 p.m.	60	7:30 a.m. – 10:30 p.m.	60	7:30 a.m. – 9:00 p.m.	60
122	Stonestown/ SF State	South San Francisco BART	5:15 a.m. – 11:30 p.m.	30	8:00 a.m. – 11:30 p.m.	30	8:00 a.m. – 11:30 p.m.	30
130	Airport/Linden	Daly City BART	5:00 a.m. – midnight	15 peak, 30 off-peak	7:00 a.m. – 9:15 p.m.	30	6:45 a.m. – 8L00 p.m.	30

Notes:
[1] Operates on school days only
Source: www.samtrans.com accessed June 10, 2021.

Figure 3a: Existing Pedestrian Facilities

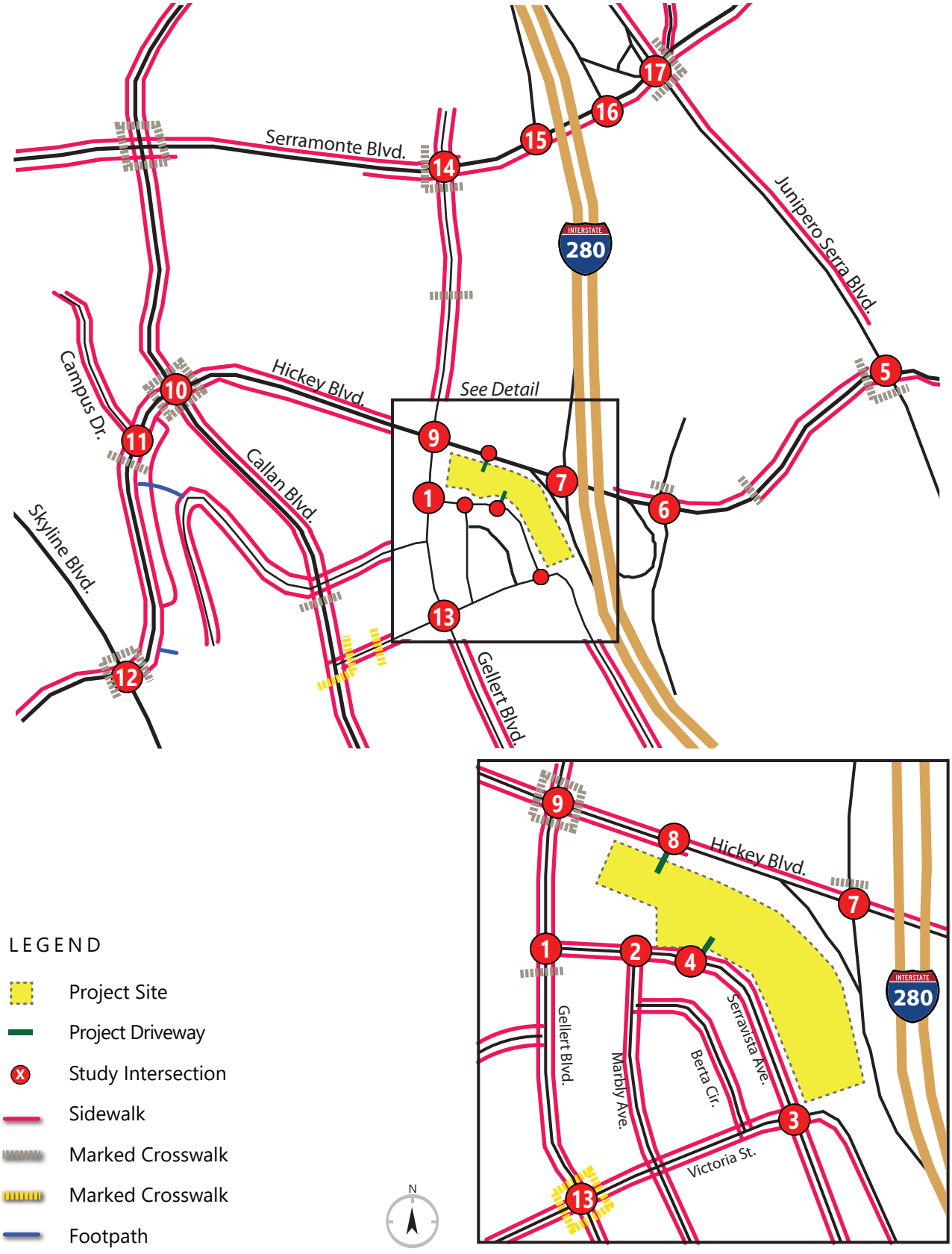
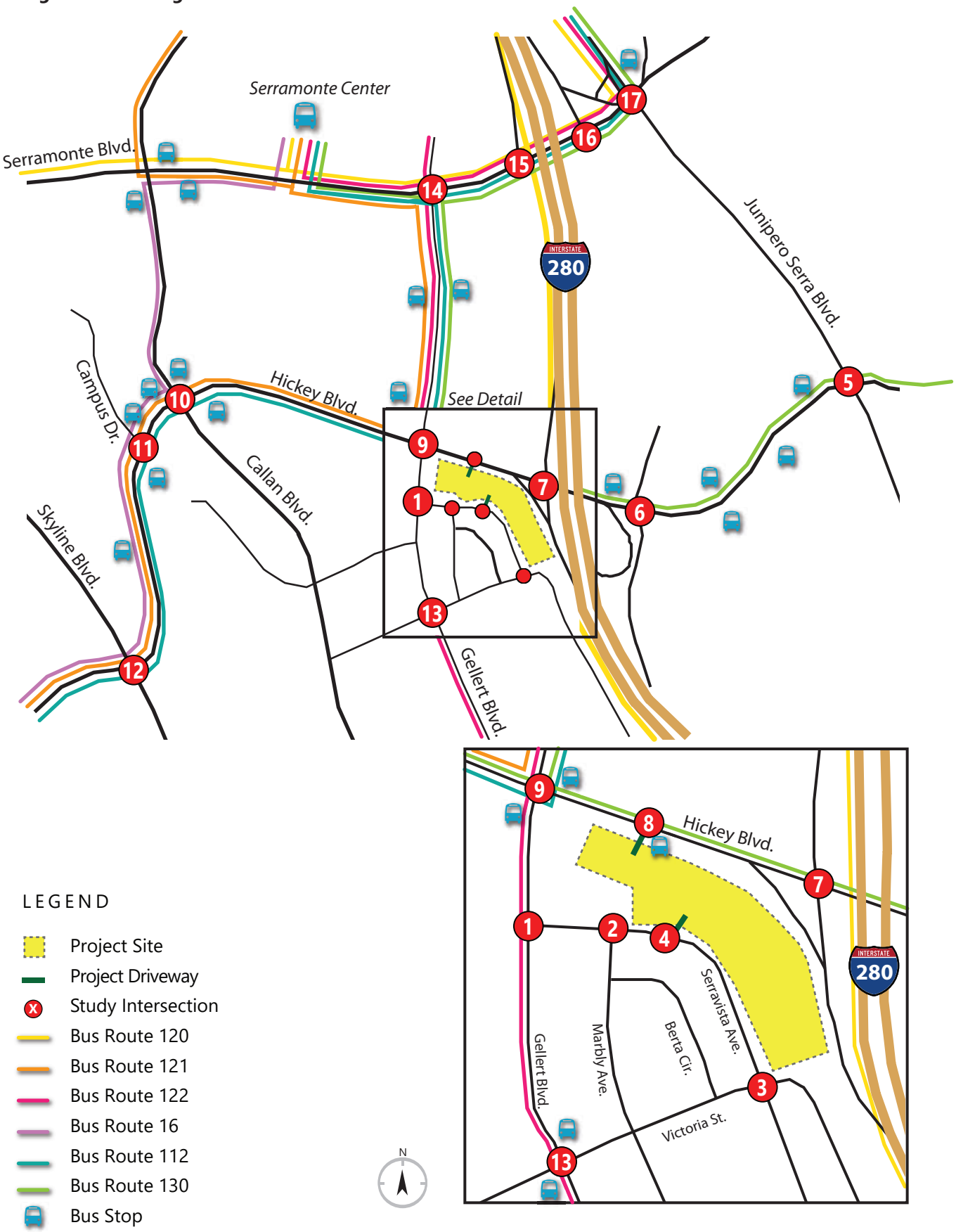


Figure 3b: Existing Bicycle Facilities



Figure 3c: Existing Transit Facilities



3.5 Estimated Existing Peak Hour Traffic Volumes

The existing operations of the seventeen study intersections were evaluated for the highest one-hour volumes during weekday morning (7-9 a.m.) and evening (4-6 p.m.) peak periods. This study began in May 2021. Peak hour turning movement counts were collected on Tuesday, July 20th, 2021. These counts were compared to turning movement counts which were collected prior to the Covid pandemic at the intersections of Junipero Serra Boulevard (collected November 2019) at Hickey Boulevard and Skyline Boulevard at Hickey Boulevard (collected November 2017). The turning movement counts were much lower than expected due to continued disrupted travel patterns due to the Covid pandemic.

In consultation with the City of Daly City staff, turning movement volumes were adjusted using a factor of 1.88 for the a.m. peak hour counts and 1.18 for the p.m. peak hour counts. These factors were based on the two intersections with comparable counts, to conservatively adjust volumes up to a pre-pandemic level.

Appendix A includes the raw data collected for the existing turning movement volumes for the study intersections.

3.6 Intersection Level of Service Analysis – Existing Conditions

The existing operations of the study intersections were evaluated for the highest one-hour volume during the weekday morning and evening peak periods based on the adjusted existing vehicle volumes as described above. The results of the LOS analysis using the Synchro 10 software program for Existing Conditions are summarized in **Table 4**. LOS worksheets are provided in **Appendix B**.

Under this scenario, 15 of the 17 study intersections operate at acceptable LOS D or better during both peak hours.

The intersection of Hickey Boulevard and Skyline Boulevard/SR-35 operates at LOS E during the a.m. peak hour.

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 NB Ramp operates at LOS F during both peak hours.

Both of these signalized intersections are operated by Caltrans which no longer has a LOS policy. The intersection of Hickey Boulevard at Skyline Boulevard/SR-35 is located in Daly City and does not meet the City's General Plan policy for level of service D or better.

Table 4: Intersection Level of Service Analysis – Existing Conditions

ID	Study Intersections	Control	Peak Hour[1]	Delay[2]	LOS[3]
1	Serravista Ave. & Gellert Blvd.	One-Way Stop	AM	25.5	D
			PM	16.6	C
2	Serravista Ave. & Marbly Ave.	One-Way Stop	AM	10.6	B
			PM	9.5	A
3	Serravista Ave. & Victoria St.	Two-Way Stop	AM	10.5	B
			PM	9.0	A
4	Serravista Ave. & Project Driveway	One-Way Stop	AM	0.0	A
			PM	8.7	A
5	Hickey Blvd. & Junipero Serra Blvd.	Signal	AM	19.7	B
			PM	30.2	C
6	Hickey Blvd. & I-280 NB Ramps	Signal	AM	35.8	D
			PM	41.9	D
7	Hickey Blvd. & I-280 SB Ramps	Signal	AM	16.8	B
			PM	14.6	B
8	Hickey Blvd. & Project Driveway	One-Way Stop	AM	0.0	A
			PM	14.9	B
9	Hickey Blvd. & Gellert Blvd.	Signal	AM	49.7	D
			PM	32.8	C
10	Hickey Blvd. & Callan Blvd.	Signal	AM	21.8	C
			PM	27.4	C
11	Hickey Blvd. & Campus Dr.	Signal	AM	15.2	B
			PM	11.0	B
12	Hickey Blvd. & Skyline Blvd./SR-35	Signal	AM	**71.2**	**E**
			PM	38.2	D
13	Gellert Blvd. & Victoria St.	All-Way Stop	AM	28.1	D
			PM	28.9	D
14	Gellert Blvd. & Serramonte Blvd.	Signal	AM	20.8	C
			PM	35.5	D
15	Serramonte Blvd. & I-280 SB Ramps	Signal	AM	11.3	B
			PM	22.2	C
16	Serramonte Blvd. & I-280 NB Ramps	Signal	AM	3.0	A
			PM	4.4	A
17	Serramonte Blvd. & Junipero Serra Blvd./I-280 NB Ramps	Signal	AM	**154.5**	**F**
			PM	**201.5**	**F**

Notes:

[1] AM – morning peak hour, PM – evening peak hour

[2] Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop controlled intersections.

[3] LOS – Level of Service

Bold text indicates intersection operates below level of service D.

Figure 4: Existing Lane Geometry and Traffic Controls

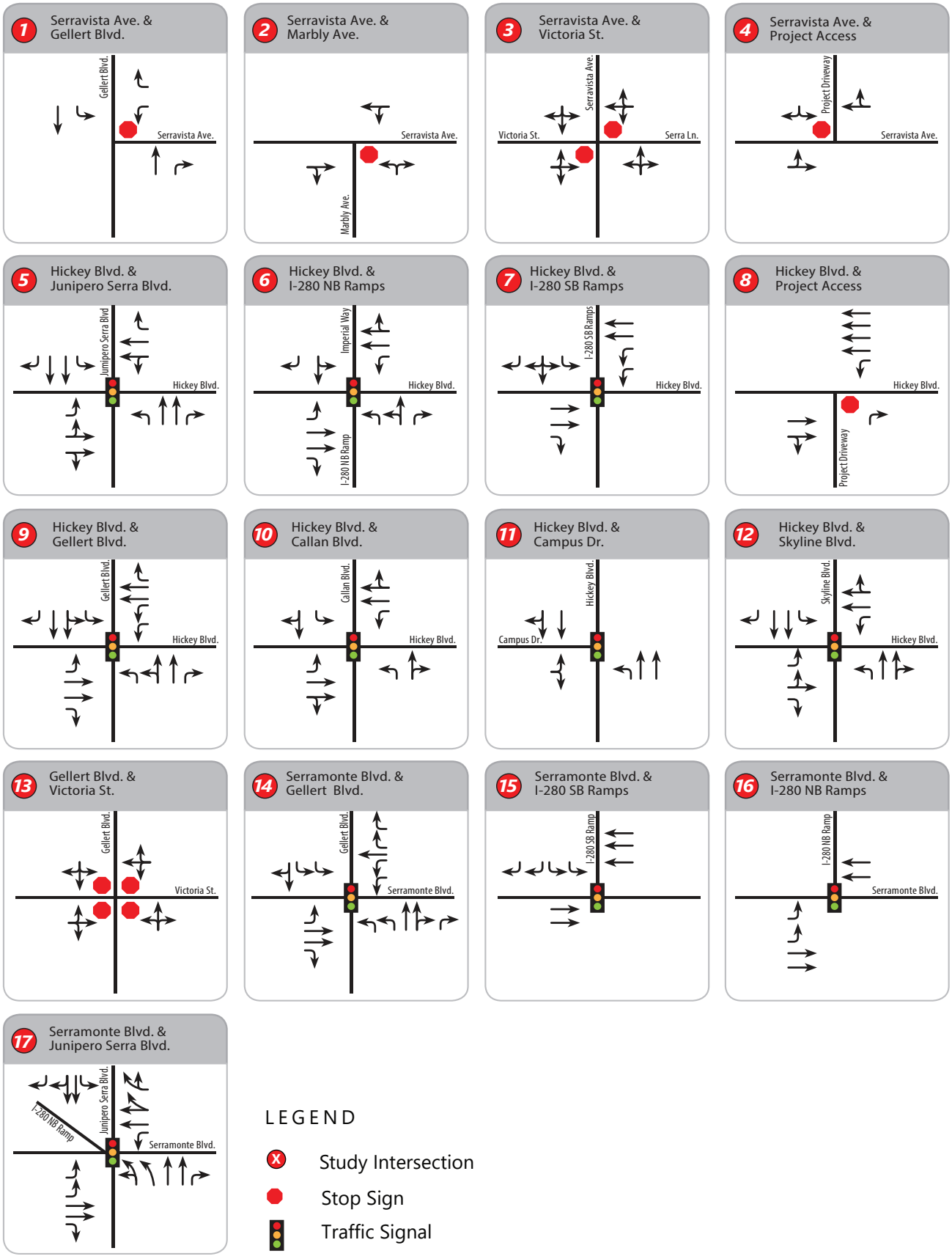
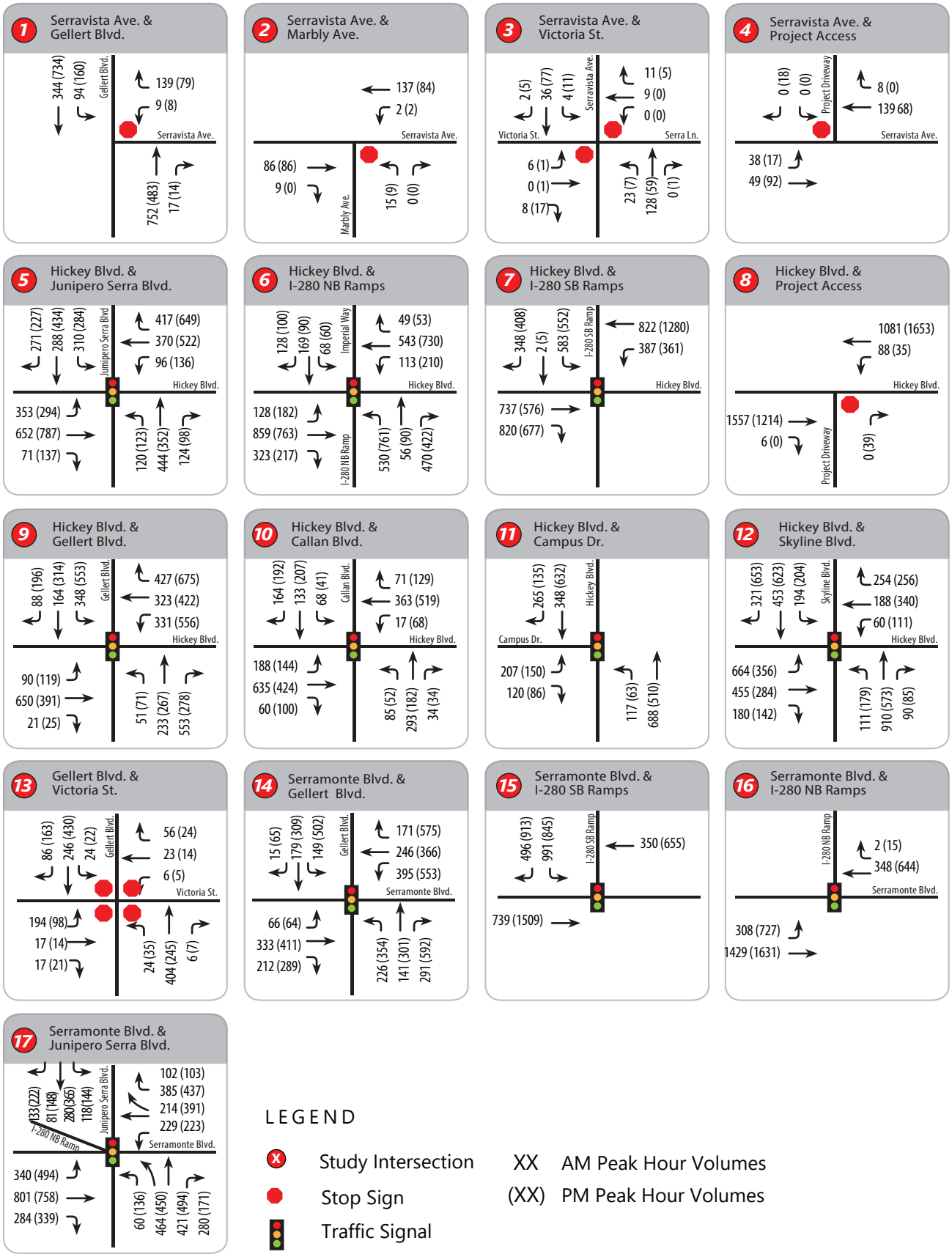


Figure 5. Existing Conditions AM & PM Peak Hour Traffic Volumes



4.0 EXISTING PLUS PROJECT CONDITIONS

This analysis scenario presents the impacts of the proposed project at 455 Hickey Boulevard on the study intersections. This scenario is similar to Existing Conditions, but with the addition of projected traffic from the proposed development.

4.1 PROJECT TRIP GENERATION

TJKM developed estimated project trip generation for the proposed project based on published trip generation rates from the Institute of Transportation Engineers (ITE) publication *Trip Generation 10th Edition*. For the proposed project, TJKM used published trip rates for the ITE land uses General Office Building (ITE Code 710) and Medical-Dental Office Building (ITE Code 720). The project site is currently occupied by an existing 81,460 square foot office building that would be replaced. Trips generated by the existing uses were estimated with trip rates for General Office Building (ITE Code 710). Estimated existing trips were deducted from the project trip generation for each project alternative for the purpose of level of service impact as these trips already exist on the roadway network.

As shown in **Table 5a**, the proposed Alternative 1 is expected to generate 5,471 net new daily trips, including 406 net new a.m. peak hour trips (309 in, 97 out) and 529 net new p.m. peak hour trips (159 in, 370 out). As shown in **Table 5b**, the proposed Alternative 2 is expected to generate 1,934 net new daily trips, including 231 net new a.m. peak hour trips (199 in, 32 out) and 228 net new p.m. peak hour trips (36 in, 192 out).

Table 5a: Project Net Trip Generation – Project Alternative 1

Land Use (ITE Code)[1]	Size (ksf)	Daily		A.M. Peak					P.M. Peak				
		Rate	Trips	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Proposed Uses													
Medical-Dental Office Building (720)	180	34.80	6,264	2.78	78:22	390	110	500	3.46	28:72	174	449	623
Proposed Subtotal			6,264			390	110	500			174	449	623
Existing Uses													
General Office Building (710)	81.46	9.74	793	1.16	86:14	81	13	94	1.15	16:84	15	79	94
Net New Trips			**5,471**			**309**	**97**	**406**			**159**	**370**	**529**

Notes:
[1] Source: ITE *Trip Generation 10th Edition*

Table 5b: Project Net Trip Generation – Project Alternative 2

Land Use (ITE Code)[1]	Size (ksf)	Daily		A.M. Peak					P.M. Peak				
		Rate	Trips	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Proposed Uses													
General Office Building (710)	280	9.74	2727	1.16	86:14	280	45	325	1.15	16:84	52	270	322
Proposed Subtotal			2,727			280	45	325			51	271	322
Existing Uses													
General Office Building (710)	81.46	9.74	793	1.16	86:14	81	13	94	1.15	16:84	15	79	94
Net New Trips			**1,934**			**199**	**32**	**231**			**36**	**192**	**228**

Notes:
[1] Source: ITE *Trip Generation 10th Edition*

4.2 Project Trip Distribution and Assignment

Trip distribution is a process that determines in what proportion vehicles are expected to travel between the project site and various destinations outside the project study area. Assignment determines the various routes that vehicles would take from the project site to each destination using the estimated trip distribution. Trip distribution assumptions were determined in consultation with City of Daly City staff.

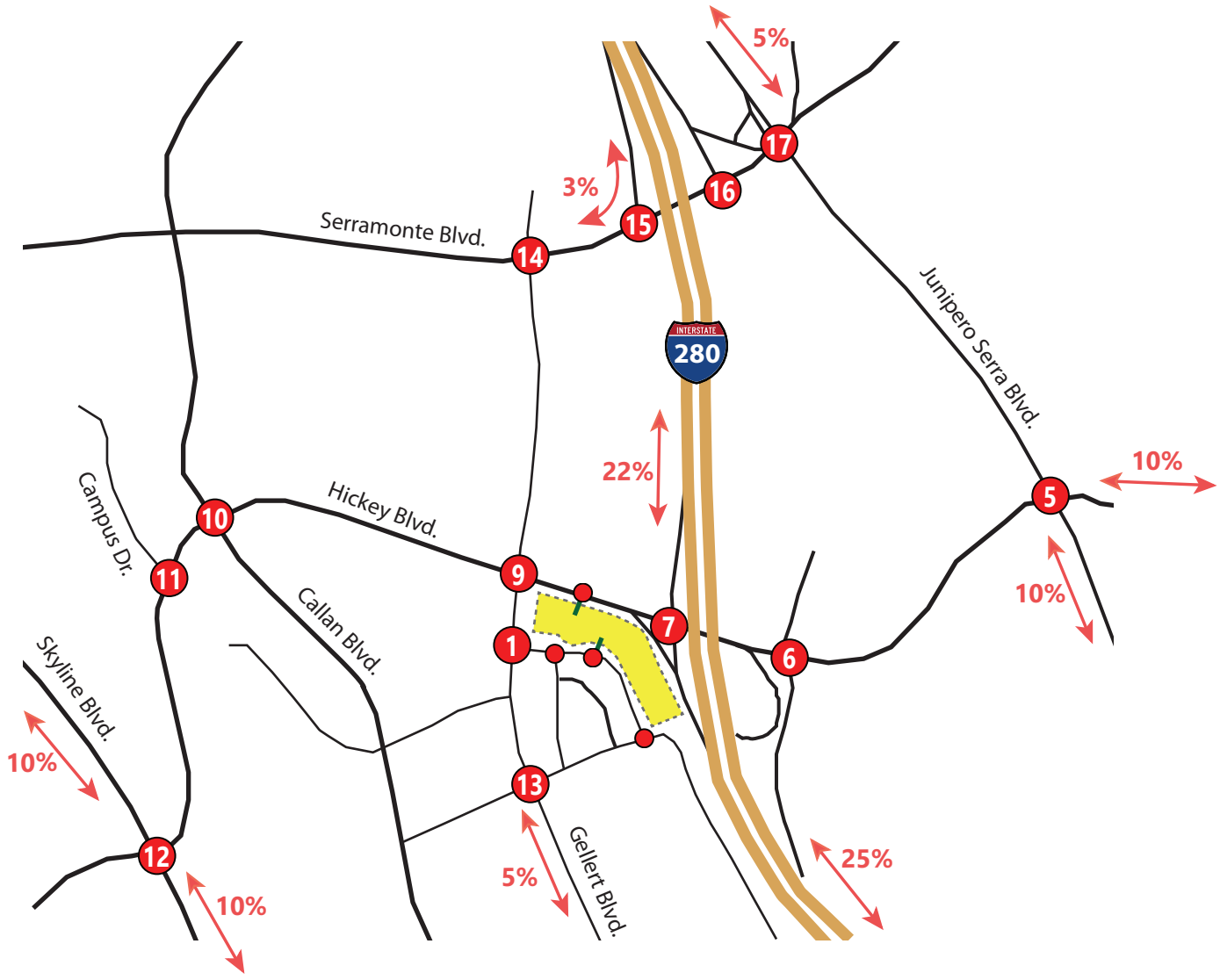
Net new trips associated with the proposed project were distributed as follows:

- 25 percent to/from I-280 to/from the south
- 22 percent to/from I-280 to/from the north via Hickey Boulevard
- 3 percent to/from I-280 to/from the north via Serramonte Boulevard
- 10 percent to/from Hickey Boulevard to/from the east
- 10 percent to/from Junipero Serra Boulevard to/from the south
- 10 percent to/from Skyline Boulevard to/from the south
- 10 percent to/from Skyline Boulevard to/from the north
- 5 percent to/from Gellert Boulevard to/from the south
- 5 percent to/from Junivero Serra Boulevard to/from the north

According to the project site plans shown in **Figure 2**, both development alternatives include a new parking structure with one driveway on Hickey Boulevard and one on Serravista Avenue. The Hickey Boulevard driveway would retain its existing access pattern with left and right turns into the parking structure with a median left turn pocket, but would restrict outbound vehicles to right turns only. Approximately 60 percent of the entering and existing traffic is forecast to utilize the Hickey Boulevard driveway due to direct access and reduced travel distance via a right turn out to the destinations east and south of the project. 40 percent of the project traffic is forecast to utilize the Serravista Avenue driveway. Trips assigned to driveways are gross project trips, without deductions for the existing use.

Figure 6 illustrates the trip distribution percentages and the trip assignment developed for the proposed project. The assigned project trips were then added to the adjusted existing traffic volumes under Existing Conditions, to generate Existing plus Project Conditions traffic volumes.

Figure 6a. Project Trip Distribution



LEGEND

- Project Site
- Project Driveway
- Study Intersection
- XX% Trip Distribution

Figure 6b. Project Trip Assignment, Alternative 1

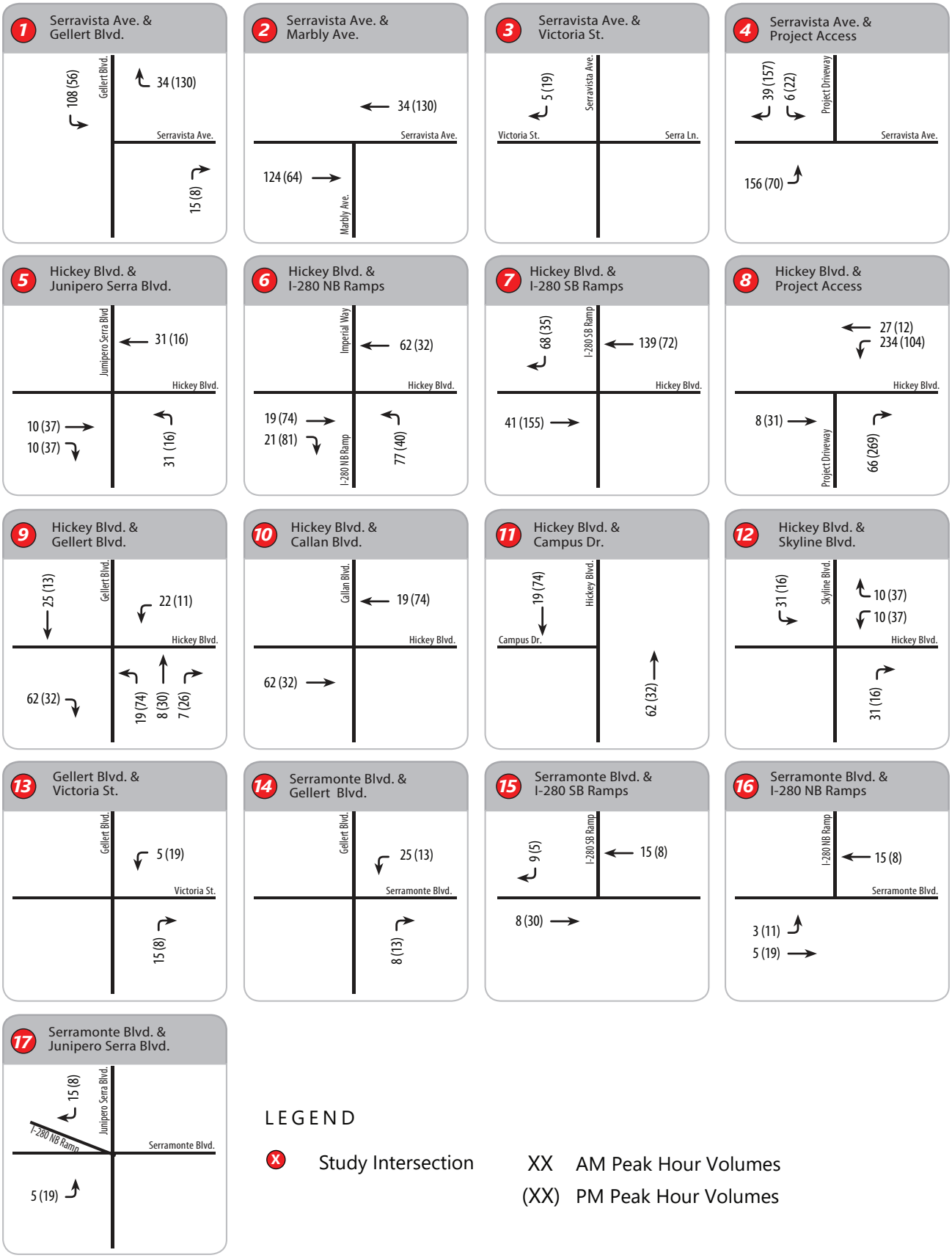
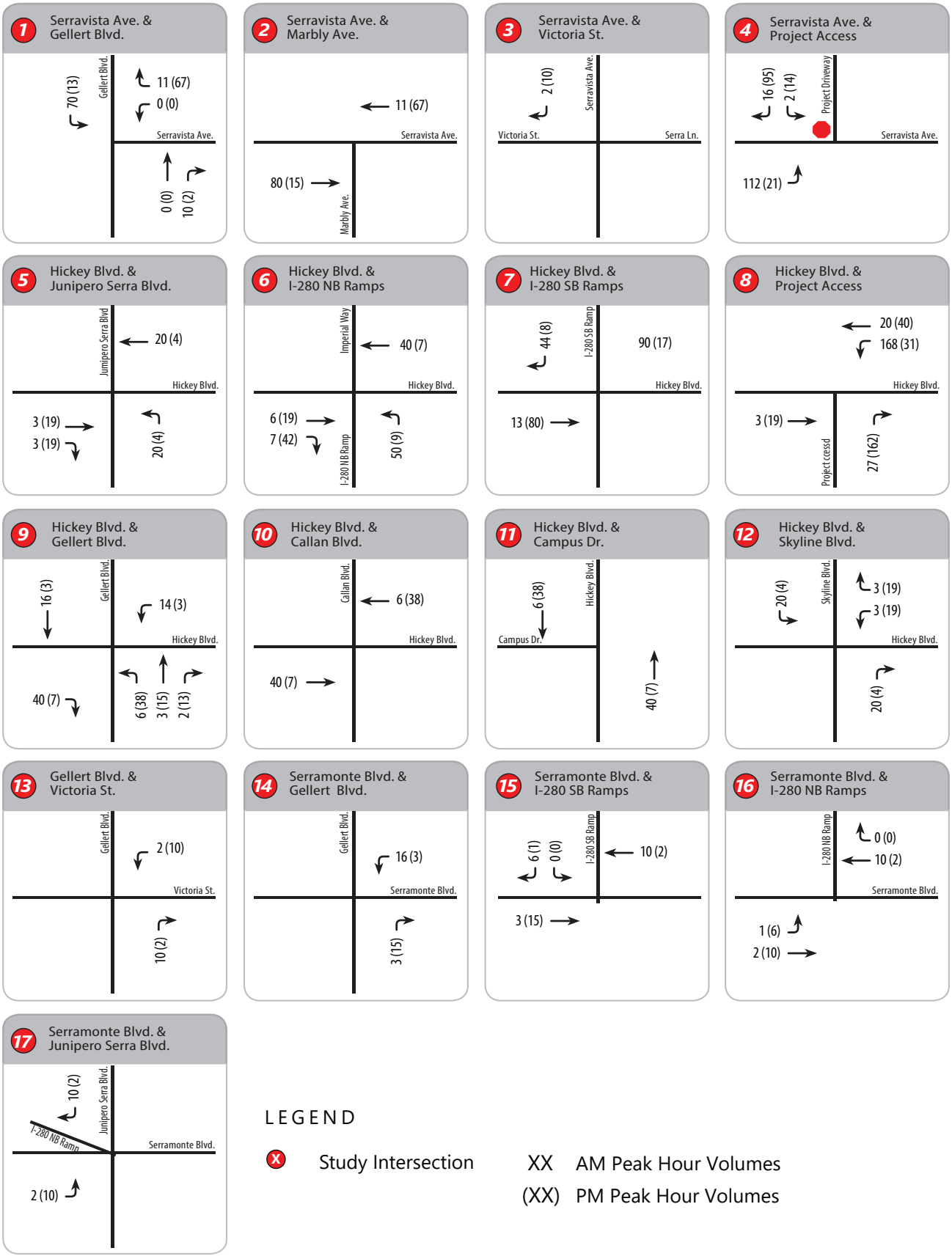


Figure 6c. Project Trip Assignment, Alternative 2



4.4 Intersection Level of Service Analysis – Existing plus Project Alternative 1 Conditions

Figure 7a summarizes the project turning movement volumes at the study intersections for the Existing plus Project Alternative 1 Conditions. The intersection LOS analysis results are summarized in **Table 7a**. LOS worksheets and are provided in **Appendix C**.

Under this scenario, 15 of the 17 study intersections continue to operate at acceptable LOS D or better during both peak hours.

Hickey Boulevard and Skyline Boulevard/SR-35

The intersection of Hickey Boulevard and Skyline Boulevard/SR-35 (Intersection #12) degrades from LOS E with 71.2 seconds to LOS F with 78.0 seconds during the a.m. peak hour. This is an increase of 6.8 seconds of delay. The project adds 82 trips to this intersection during the a.m. peak hour.

To reduce the delay to pre-project levels, physical improvements are required. One option to reduce total delay is to convert the eastbound right turn lane to a shared through-right lane, thus providing a second through lane. This would require modifying the intersection by eliminating the right turn channelization islands for the eastbound and northbound directions, as well as installing a larger signal mast arm for the southbound direction. This physical improvement delay is reduced to 61.5 seconds and LOS E. This improvement more than mitigates the project's impact on the intersection but still does not meet City of Daly City LOS policy.

This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service, this project should contribute a fair share toward this improvement, if it is deemed necessary.

Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps (Intersection #17) continues to operate at LOS F during both peak hours. The project adds 0.5 seconds of delay in the a.m. peak hour and 5.3 seconds of delay in the p.m. peak hour for a total of 102.7 seconds and 154.8 seconds, respectively. The project adds 20 vehicles to this intersection during the a.m. peak hour and 27 vehicles during the p.m. peak hour. This intersection is located in the City of Colma and operated by Caltrans.

If a mitigation is desirable, it is possible to reduce delay with modified signal timing. With optimized timings, the delay in the a.m. peak hour is 37.5 seconds, which is 64.7 seconds less than existing conditions, and 47.5 seconds in the p.m. peak hour, which is 102.0 seconds less than existing conditions. This improvement more than mitigates the project's impact on the intersection.

Based on the Town of Colma's LOS policy, since this intersection is already operating at LOS F, this is the baseline for measurement of impact. This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service and this project adds a marginal number of trips, this project should contribute a fair share toward this improvement, if it is deemed necessary.

4.5 Intersection Level of Service Analysis – Existing plus Project Alternative 2 Conditions

Figure 7b shows projected turning movement volumes at all of the study intersections for Existing plus Project Conditions. The intersection LOS analysis results are summarized in **Table 7b** for Project Alternative 2. LOS worksheets are provided in **Appendix D**.

Under this scenario, 15 of the 17 study intersections continue to operate at acceptable LOS D or better during both peak hours.

Hickey Boulevard and Skyline Boulevard/SR-35

The intersection of Hickey Boulevard and Skyline Boulevard/SR-35 (Intersection #12) continues to operate at LOS E, increasing to 75.0 seconds during the a.m. peak hour. This is an increase of 3.8 seconds of delay. The project adds 46 vehicles during the a.m. peak hour to the intersection.

Based on the physical intersection improvements described in the previous section for Project Alternative 1, delay can be improved to 57.6 seconds, which is 13.6 seconds less than existing conditions. This improvement more than mitigates the project's impact on the intersection but still does not meet City of Daly City LOS policy.

This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service and this, this project should contribute a fair share toward this improvement, if it is deemed necessary.

Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps (Intersection #17) continues to operate at LOS F during both peak hours. The project adds 0.1 seconds of delay in the a.m. peak hour and 3.2 seconds of delay in the p.m. peak hour for a total of 102.3 seconds and 152.7 seconds, respectively. The project adds 12 vehicles to this intersection during the a.m. peak hour and 12 vehicles during the p.m. peak hour.

If the same mitigation measure described in section 4.4 is implemented, the delay in the a.m. peak hour is 37.4 seconds, which is 64.8 seconds less than existing conditions, and 47.9 seconds in the p.m. peak hour, which is 101.6 seconds less than existing conditions. This improvement more than mitigates the project's impact on the intersection.

Based on the Town of Colma's LOS policy, since this intersection is already operating at LOS F, this is the baseline for measurement of impact. This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service and this project adds a marginal number of trips, this project should contribute a fair share toward this improvement, if it is deemed necessary.

Table 7a: Intersection Level of Service Analysis – Existing plus Project Alternative 1 Conditions

ID	Study Intersections	Control[6]	Peak Hour[1]	Existing Conditions		Existing Plus Alt. 1 Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Serravista Ave. & Gellert Blvd.	One-Way Stop	AM	25.5	D	26.7	D	1.2
			PM	16.6	C	19.3	C	2.7
2	Serravista Ave. & Marbly Ave.	One-Way Stop	AM	10.6	B	12.9	B	2.3
			PM	9.5	A	11.5	B	1.8
3	Serravista Ave. & Victoria St.	Two-Way Stop	AM	10.5	B	11.8	B	1.3
			PM	9.0	A	9.1	A	0.1
4	Serravista Ave. & Project Driveway	One-Way Stop	AM	0.0	A	9.9	A	9.9
			PM	8.7	A	9.9	B	1.2
5	Hickey Blvd. & Junipero Serra Blvd.	Signal	AM	19.7	B	21.5	C	1.8
			PM	30.2	C	33.1	C	2.9
6	Hickey Blvd. & I-280 NB Ramps	Signal	AM	35.8	D	39.8	D	4.0
			PM	41.9	D	47.1	D	5.2
7	Hickey Blvd. & I-280 SB Ramps	Signal	AM	16.8	B	17.5	B	0.7
			PM	14.6	B	16.3	B	1.7
8	Hickey Blvd. & Project Driveway	One-Way Stop	AM	0.0	A	20.5	C	20.5
			PM	14.9	B	31.6	D	16.7
9	Hickey Blvd. & Gellert Blvd.	Signal	AM	49.7	D	48.6	D	-1.1
			PM	32.8	C	34.9	C	2.1
10	Hickey Blvd. & Callan Blvd.	Signal	AM	21.8	C	22.2	C	0.4
			PM	27.4	C	29.7	C	2.3
11	Hickey Blvd. & Campus Dr.	Signal	AM	15.2	B	15.2	B	0.0
			PM	11.0	B	11.8	B	0.8
12	Hickey Blvd. & Skyline Blvd./SR-35	Signal	AM	**71.2**	**E**	**78.0**	**E**	**6.8**
			PM	38.2	D	40.7	D	2.5
13	Gellert Blvd. & Victoria St.	All-Way Stop	AM	28.1	D	33.1	D	5.0
			PM	28.9	D	31.6	D	2.7
14	Gellert Blvd. & Serramonte Blvd.	Signal	AM	20.8	C	21.3	C	0.5
			PM	35.5	D	35.9	D	0.4
15	Serramonte Blvd. & I-280 SB Ramps	Signal	AM	11.3	B	11.4	B	0.1
			PM	22.2	C	23.5	C	1.3
16	Serramonte Blvd. & I-280 NB Ramps	Signal	AM	3.0	A	3.0	A	0.0
			PM	4.4	A	4.5	A	0.1
17	Serramonte Blvd. & Junipero Serra Blvd./I-280 NB Ramp	Signal	AM	**102.2**	**F**	**102.7**	**F**	**0.5**
			PM	**149.5**	**F**	**154.8**	**F**	**5.3**

Notes:

[1] AM – morning peak hour, PM – evening peak hour

[2] Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop controlled intersections.

[3] LOS – Level of Service

Bold text indicates intersection operates below level of service. D.

Table 7b: Intersection Level of Service Analysis – Existing plus Project Alternative 2 Conditions

ID	Study Intersections	Control[6]	Peak Hour[1]	Existing Conditions		Existing Plus Alt. 2 Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Serravista Ave. & Gellert Blvd.	One-Way Stop	AM	25.5	D	23.8	C	-1.7
			PM	16.6	C	17.8	C	1.2
2	Serravista Ave. & Marbly Ave.	One-Way Stop	AM	10.6	B	11.9	B	1.3
			PM	9.5	A	10.4	A	0.7
3	Serravista Ave. & Victoria St.	Two-Way Stop	AM	10.5	B	11.7	B	1.2
			PM	9.0	A	9.0	A	0.0
4	Serravista Ave. & Project Driveway	One-Way Stop	AM	0.0	A	9.5	A	9.5
			PM	8.7	A	9.3	A	0.6
5	Hickey Blvd. & Junipero Serra Blvd.	Signal	AM	19.7	B	20.8	C	1.1
			PM	30.2	C	30.9	C	0.7
6	Hickey Blvd. & I-280 NB Ramps	Signal	AM	35.8	D	38.1	D	2.3
			PM	41.9	D	43.1	D	1.2
7	Hickey Blvd. & I-280 SB Ramps	Signal	AM	16.8	B	17.0	B	0.2
			PM	14.6	B	15.2	B	0.6
8	Hickey Blvd. & Project Driveway	One-Way Stop	AM	0.0	A	18.1	C	18.1
			PM	14.9	B	19.8	C	4.9
9	Hickey Blvd. & Gellert Blvd.	Signal	AM	49.7	D	47.1	D	-2.6
			PM	32.8	C	33.5	C	0.7
10	Hickey Blvd. & Callan Blvd.	Signal	AM	21.8	C	22.0	C	0.2
			PM	27.4	C	28.5	C	1.1
11	Hickey Blvd. & Campus Dr.	Signal	AM	15.2	B	15.2	B	0.0
			PM	11.0	B	11.5	B	0.5
12	Hickey Blvd. & Skyline Blvd./SR-35	Signal	AM	**71.2**	**E**	**75.0**	**E**	**3.8**
			PM	38.2	D	47.1	D	8.9
13	Gellert Blvd. & Victoria St.	Signal	AM	28.1	D	29.9	D	1.8
			PM	28.9	D	30.0	D	1.1
14	Gellert Blvd. & Serramonte Blvd.	All-Way Stop	AM	20.8	C	21.1	C	0.3
			PM	35.5	D	35.6	D	0.1
15	Serramonte Blvd. & I-280 SB Ramps	Signal	AM	11.3	B	11.4	B	0.1
			PM	22.2	C	22.8	C	0.6
16	Serramonte Blvd. & I-280 NB Ramps	Signal	AM	3.0	A	3.0	A	0.0
			PM	4.4	A	4.4	A	0.0
17	Serramonte Blvd. & Junipero Serra Blvd./I-280 NB Ramps	Signal	AM	**102.2**	**F**	**102.3**	**F**	**0.1**
			PM	**149.5**	**F**	**152.7**	**F**	**3.2**

Notes:

[1] AM – morning peak hour, PM – evening peak hour

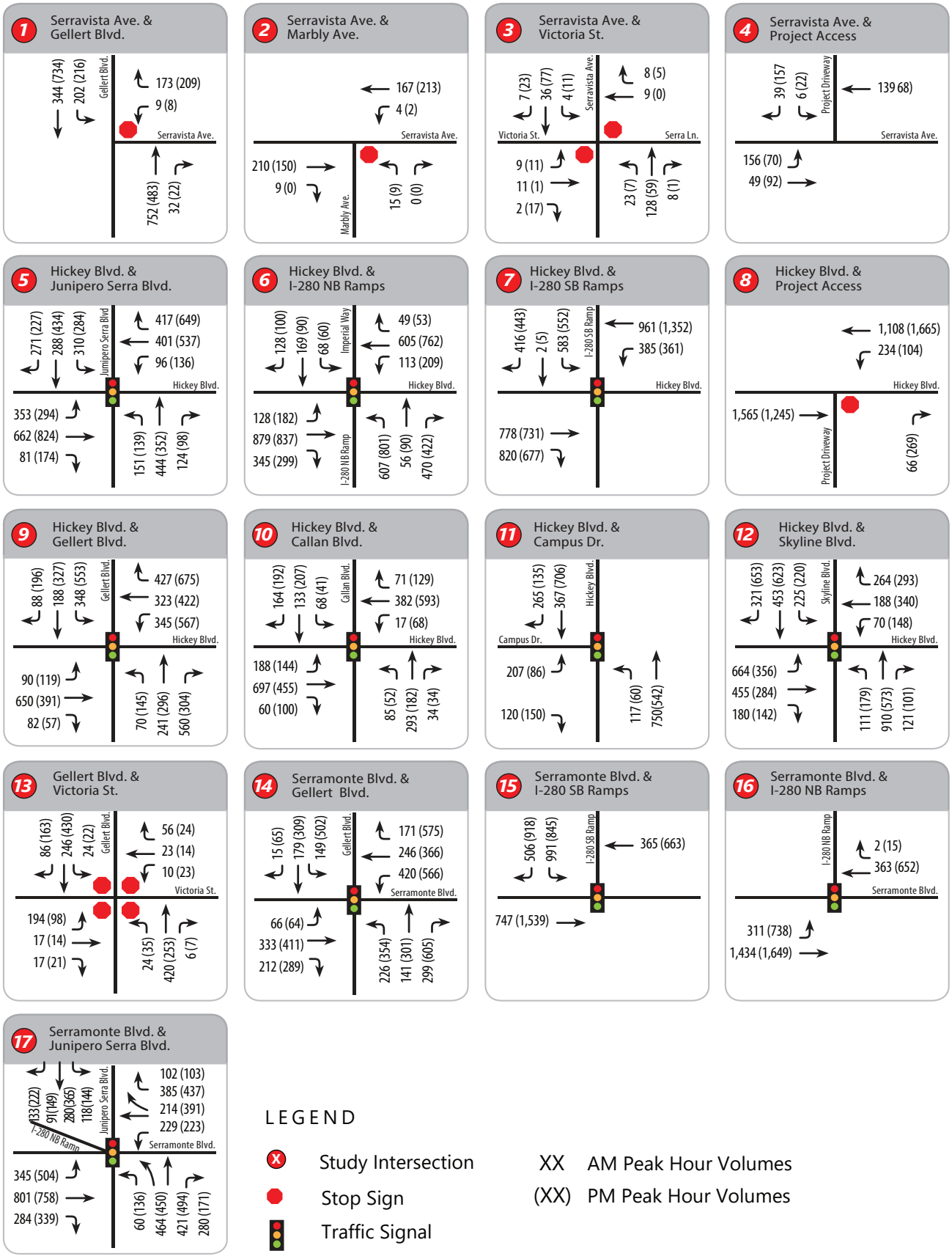
[2] Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop controlled intersections.

[3] LOS – Level of Service

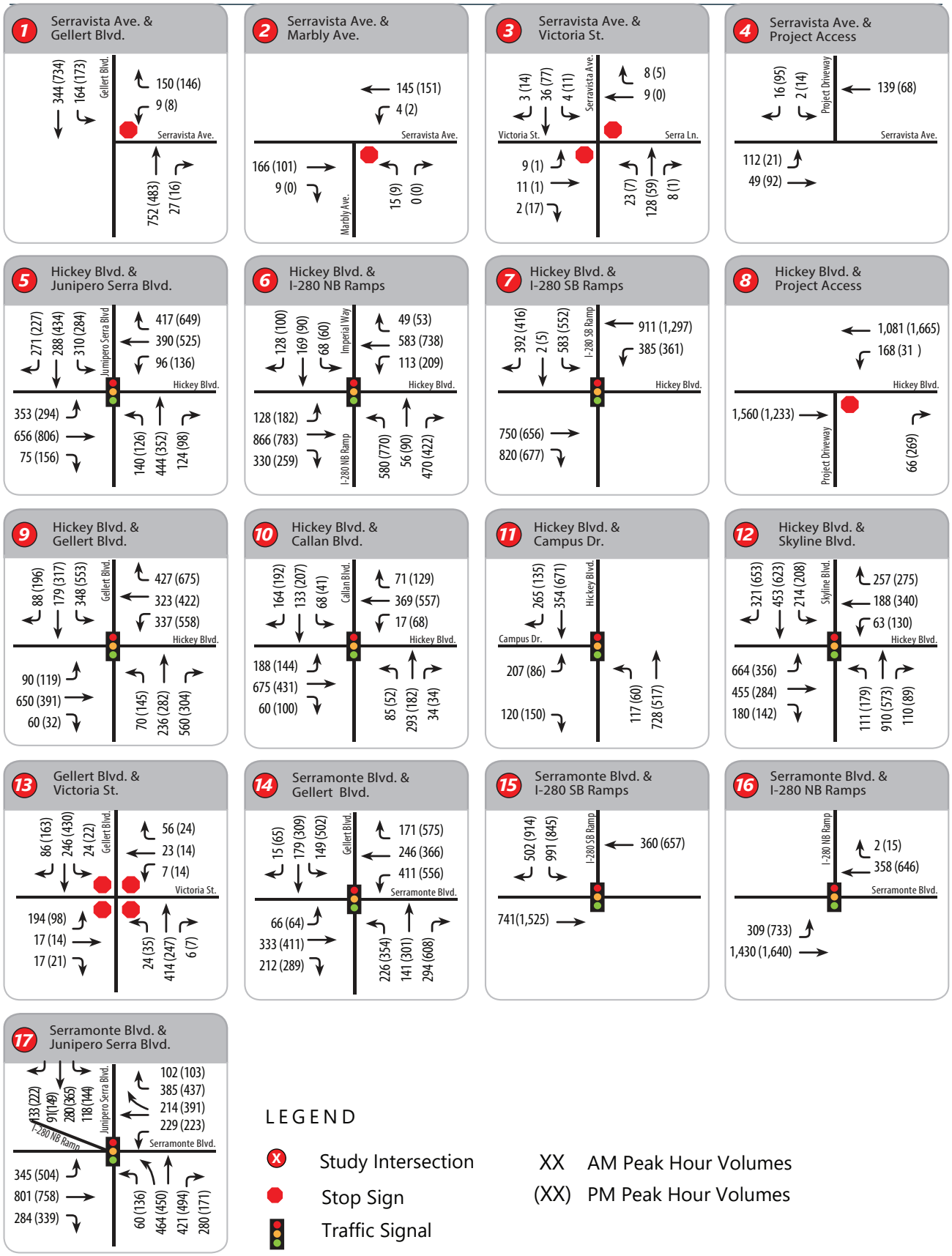
[4] Total project trips added to intersection

Bold text indicates intersection operates below level of service. D.

7a. Existing plus Project Alternative 1 Peak Hour Traffic Volumes



7b. Existing plus Project Alternative 2 Peak Hour Traffic Volumes



5.0 CUMULATIVE (2035) NO PROJECT CONDITIONS

This section details expected traffic conditions at the study intersections under a future Cumulative (No Project) Conditions based on General Plan land uses. Cumulative turning movement volumes for future year 2035 were obtained from the consultant that manages the City of Daly City's travel demand model.

Figure 8 shows projected turning movement volumes at all study intersections for Cumulative Conditions.

5.1 Intersection Level of Service Analysis - Cumulative Conditions

The intersection LOS analysis results for Cumulative Conditions are summarized in **Table 8**. Peak hour factors and intersection signal timing and phasing are identical to Existing Conditions. LOS worksheets are provided in **Appendix E.**

Under this scenario, 14 of the 17 study intersections operate at acceptable LOS D or better during both peak hours.

The intersection of Hickey Boulevard and Skyline Boulevard/SR-35 operates at LOS F during the a.m. peak hour.

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps operates at LOS F during both peak hours.

The intersection of Hickey Boulevard & I-280 northbound ramps operates at LOS E with 56.2 seconds of delay during the p.m. peak hour.

Table 8: Intersection Level of Service Analysis – Cumulative Conditions

ID	Study Intersections	Control	Peak Hour[1]	Delay[2]	LOS[3]
1	Serravista Ave. & Gellert Blvd.	One-Way Stop	AM	21.4	C
			PM	16.5	C
2	Serravista Ave. & Marbly Ave.	One-Way Stop	AM	10.5	B
			PM	9.0	A
3	Serravista Ave. & Victoria St.	Two-Way Stop	AM	10.4	B
			PM	8.9	A
4	Serravista Ave. & Project Driveway	One-Way Stop	AM	0.0	A
			PM	9.6	A
5	Hickey Blvd. & Junipero Serra Blvd.	Signal	AM	36.2	D
			PM	35.3	D
6	Hickey Blvd. & I-280 NB Ramps	Signal	AM	41.6	D
			PM	**56.2**	**E**
7	Hickey Blvd. & I-280 SB Ramps	Signal	AM	11.7	B
			PM	15.2	B
8	Hickey Blvd. & Project Driveway	One-Way Stop	AM	15.5	C
			PM	14.0	B
9	Hickey Blvd. & Gellert Blvd.	Signal	AM	31.2	C
			PM	49.7	D
10	Hickey Blvd. & Callan Blvd.	Signal	AM	22.1	C
			PM	32.4	C
11	Hickey Blvd. & Campus Dr.	Signal	AM	22.5	C
			PM	15.8	B
12	Hickey Blvd. & Skyline Blvd./SR-35	Signal	AM	**93.7**	**F**
			PM	44.2	D
13	Gellert Blvd. & Victoria St.	All-Way Stop	AM	26.1	D
			PM	30.0	D
14	Gellert Blvd. & Serramonte Blvd.	Signal	AM	24.8	C
			PM	44.5	D
15	Serramonte Blvd. & I-280 SB Ramps	Signal	AM	19.5	B
			PM	35.0	C
16	Serramonte Blvd. & I-280 NB Ramps	Signal	AM	3.8	A
			PM	5.5	A
17	Serramonte Blvd. & Junipero Serra Blvd./I-280 NB Ramps	Signal	AM	**140.1**	**F**
			PM	**228.8**	**F**

Notes:

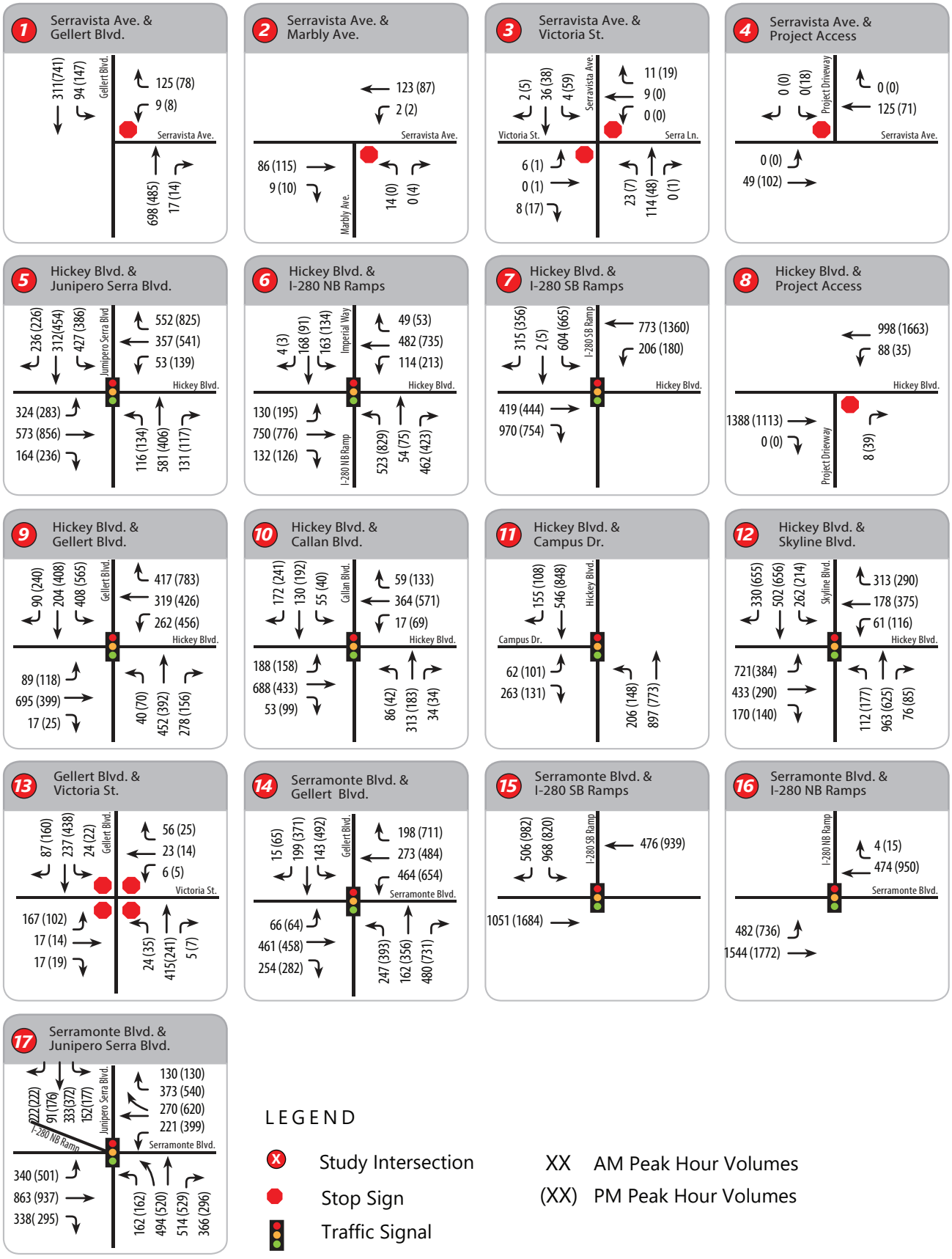
[1] AM – morning peak hour, PM – evening peak hour

[2] Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop controlled intersections.

[3] LOS – Level of Service

Bold text indicates intersection operates below level of service D

8. Cumulative Conditions Peak Hour Traffic Volumes



6.0 CUMULATIVE (2035) PLUS PROJECT CONDITIONS

This scenario is similar to the Cumulative Conditions, with the addition of projected traffic from the proposed project. Trip generation, distribution, and assignment for the proposed project are identical to that assumed under Existing plus Project Conditions.

6.1 Intersection Level of Service Analysis - Cumulative plus Project Alternative 1 Conditions

Figure 9a shows projected turning movement volumes at all of the study intersections for Cumulative plus Project Alternative 1 Conditions. The intersection LOS analysis results are summarized in **Table 9a**. LOS worksheets are provided in **Appendix F**.

Under this scenario, 14 of the 17 study intersections continue to operate at acceptable LOS D or better during both peak hours. The three intersections that operate below LOS D in the Cumulative Condition, continue to operate at the same LOS in the Cumulative plus Project Alternative 1 Conditions.

Hickey Boulevard & I-280 northbound On-Ramps

The intersection of Hickey Boulevard & I-280 northbound on-ramps (Intersection #6) continues to operate at LOS E with an additional 4.2 seconds of delay for a total of 60.4 seconds of delay during the p.m. peak hour.

Converting the southbound approach from one left/through lane and one right turn lane, to one left turn lane and one through/right turn lane would reduce delay in the p.m. peak hour to 50.3 seconds, thus improving the level of service back to acceptable LOS D. This improvement avoids alterations to the median located on private property but may require adjustment of the receiving I-280 on-ramp to better align with the new through lane. This potential improvement mitigates the project's impact on the intersection and would meet the City of Daly City's LOS policy of LOS D or better.

This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service, this project should contribute a fair share toward this improvement, if it is deemed necessary.

Hickey Boulevard and Skyline Boulevard/SR 35

The intersection of Hickey Boulevard and Skyline Boulevard/SR 35 (Intersection #12) continues to operate at LOS F during the a.m. peak hour with an additional 10.2 seconds of delay for a total of 103.9 seconds of delay. The physical intersection improvements described in Section 4.4 would reduce this delay to 81.0 seconds, which is an improvement over Cumulative No Project conditions.

The physical improvement is to convert the eastbound right turn lane to a shared through-right lane, thus providing a second through lane. This would require modifying the intersection by eliminating the right turn channelization islands for the eastbound and northbound directions, as well as installing a larger

signal mast arm for the southbound direction. This improvement more than mitigates the project's impact on the intersection but still does not meet City of Daly City LOS policy.

This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service, this project should contribute a fair share toward this improvement, if it is deemed necessary.

Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps (Intersection #17) operates at LOS F during both peak hours. The project adds 0.3 second of delay for a total of 140.4 second in the a.m. peak hour and 3.9 seconds of additional delay in the p.m. peak hour for a total of 232.7 seconds.

The mitigation measure described in section 4.4 is modified signal timing. With optimized timings, the delay in the a.m. peak hour is reduced to 47.5 seconds, which is 92.6 seconds less than cumulative conditions. In the p.m. peak hour the delay is reduced to 81.5 seconds, which is 147.3 seconds less than cumulative conditions. This improvement more than mitigates the project's impact on the intersection.

Based on the City of Colma's LOS policy, since this intersection is already operating at LOS F, this is the baseline for measurement of impact. This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service and this project adds a marginal number of trips, this project should contribute a fair share toward this improvement, if it is deemed necessary.

6.2 Intersection Level of Service Analysis - Cumulative plus Project Alternative 2 Conditions

Figure 9b shows projected turning movement volumes at all of the study intersections for Cumulative plus Project Alternative 2 Conditions. The intersection LOS analysis results are summarized in **Table 9b**. LOS worksheets are provided in **Appendix G**.

Under this scenario, 14 of the 17 study intersections continue to operate at acceptable LOS D or better during both peak hours. The three intersections that operate below LOS D in the Cumulative Condition, continue to operate at the same LOS in the Cumulative plus Project Alternative 2 Conditions, similar to Cumulative plus Project Alternative 1 Conditions, but with less added delay.

Hickey Boulevard & I-280 Northbound Ramps

The intersection of Hickey Boulevard & I-280 Northbound Ramps (Intersection #6) continues to operate at LOS E with an additional 1.3 seconds of delay for a total of 57.5 seconds of delay during the p.m. peak hour. The mitigation of Converting the southbound approach from one left/through lane and one right turn lane, to one left turn lane and one through/right turn lane, described in Section 6.2, would reduce this delay to 46.2 seconds. This improvement would mitigate the project's impact on the intersection and would meet the City of Daly City's LOS policy of LOS D or better.

This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service and this, this project should contribute a fair share toward this improvement, if it is deemed necessary.

Hickey Boulevard and Skyline Boulevard/SR-35

The intersection of Hickey Boulevard and Skyline Boulevard/SR-35 (Intersection #12) continues to operate at LOS F during the a.m. peak hour with an additional 6.0 seconds of delay for a total of 99.7 seconds of delay. The mitigation described in Section 4.4 would reduce this delay to 77.2 seconds, 16.5 seconds less than Cumulative conditions. This improvement more than mitigates the project's impact on the intersection but still does not meet City of Daly City LOS policy.

This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service and this, this project should contribute a fair share toward this improvement, if it is deemed necessary.

Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps

The intersection of Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound Ramps (Intersection #17) operates at LOS F during both peak hours. The project adds 1.9 seconds of delay for a total of 230.7 seconds in the p.m. peak hour.

The mitigation measure described in section 4.4 is modified signal timing. With optimized timings, the delay in the p.m. peak hour is reduced to 80.4 seconds, which is 148.4 seconds less than cumulative conditions. This improvement more than mitigates the project's impact on the intersection but still does not meet City of Daly City LOS policy.

Based on the City of Colma's LOS policy, since this intersection is already operating at LOS F, this is the baseline for measurement of impact. This intersection is operated by Caltrans which no longer has a level of service policy. Caltrans should be consulted to determine what, if any, improvements are necessary at this intersection. Since this intersection currently operates below an acceptable level of service and this project adds a marginal number of trips, this project should contribute a fair share toward this improvement, if it is deemed necessary.

Table 9a: Intersection Level of Service Analysis – Cumulative plus Project Alternative 1 Conditions

ID	Study Intersections	Control[6]	Peak Hour[1]	Cumulative Conditions		Cumulative Plus Alt. 1 Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Serravista Ave. & Gellert Blvd.	One-Way Stop	AM	21.4	C	25.9	D	4.5
			PM	16.5	C	19.6	C	3.1
2	Serravista Ave. & Marbly Ave.	One-Way Stop	AM	10.5	B	12.7	B	2.2
			PM	9.0	A	9.4	A	0.4
3	Serravista Ave. & Victoria St.	Two-Way Stop	AM	10.4	B	10.4	B	0.0
			PM	8.9	A	9.7	A	0.8
4	Serravista Ave. & Project Driveway	One-Way Stop	AM	0.0	A	9.8	A	9.8
			PM	9.6	A	10.0	B	0.4
5	Hickey Blvd. & Junipero Serra Blvd.	Signal	AM	36.2	D	36.1	D	-0.1
			PM	35.3	D	38.4	D	3.1
6	Hickey Blvd. & I-280 NB Ramps	Signal	AM	41.6	D	45.2	D	3.6
			PM	**56.2**	**E**	**60.4**	**E**	**4.2**
7	Hickey Blvd. & I-280 SB Ramps	Signal	AM	11.7	B	12.2	B	0.5
			PM	15.2	B	16.3	C	1.1
8	Hickey Blvd. & Project Driveway	One-Way Stop	AM	15.5	C	18.0	C	2.5
			PM	14.0	B	29.5	D	15.5
9	Hickey Blvd. & Gellert Blvd.	Signal	AM	31.2	C	33.0	C	1.8
			PM	49.7	D	51.5	D	1.8
10	Hickey Blvd. & Callan Blvd.	Signal	AM	22.1	C	22.7	C	0.6
			PM	32.4	C	36.0	D	3.6
11	Hickey Blvd. & Campus Dr.	Signal	AM	22.5	C	22.8	C	0.3
			PM	15.8	B	17.4	B	1.6
12	Hickey Blvd. & Skyline Blvd.	Signal	AM	**93.7**	**F**	**103.9**	**F**	**10.2**
			PM	44.2	D	54.9	D	10.7
13	Gellert Blvd. & Victoria St.	All-Way Stop	AM	26.1	D	29.1	D	3.0
			PM	30.0	D	33.0	D	3.0
14	Gellert Blvd. & Serramonte Blvd.	Signal	AM	24.8	C	26.7	C	1.9
			PM	44.5	D	45.4	D	0.9
15	Serramonte Blvd. & I-280 SB Ramps	Signal	AM	19.8	B	20.3	C	0.5
			PM	35.0	C	37.8	D	2.8
16	Serramonte Blvd. & I-280 NB Ramps	Signal	AM	3.8	A	3.8	A	0.0
			PM	5.5	A	5.6	A	0.1
17	Serramonte Blvd. & Junipero Serra Blvd.	Signal	AM	**140.1**	**F**	**140.4**	**F**	**0.3**
			PM	**228.8**	**F**	**232.7**	**F**	**3.9**

Notes:
[1] AM – morning peak hour, PM – evening peak hour
[2] Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop controlled intersections.
[3] LOS – Level of Service
Bold text indicates intersection operates below level of service D.

Table 9b: Intersection Level of Service Analysis – Cumulative plus Project Alternative 2 Conditions

ID	Study Intersections	Control[6]	Peak Hour[1]	Cumulative Conditions		Cumulative Plus Alt. 2 Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Serravista Ave. & Gellert Blvd.	One-Way Stop	AM	21.4	C	23.1	C	1.7
			PM	16.5	C	16.8	C	0.3
2	Serravista Ave. & Marbly Ave.	One-Way Stop	AM	10.5	B	11.7	B	1.2
			PM	9.0	A	9.1	A	0.1
3	Serravista Ave. & Victoria St.	Two-Way Stop	AM	10.4	B	10.4	B	0.0
			PM	8.9	A	8.9	A	0.0
4	Serravista Ave. & Project Driveway	One-Way Stop	AM	0.0	A	9.4	A	9.4
			PM	9.6	A	9.4	A	-0.2
5	Hickey Blvd. & Junipero Serra Blvd.	Signal	AM	36.2	D	36.1	D	-0.1
			PM	35.3	D	35.9	D	0.6
6	Hickey Blvd. & I-280 NB Ramps	Signal	AM	41.6	D	43.5	D	1.9
			PM	**56.2**	**E**	**57.5**	**E**	**1.3**
7	Hickey Blvd. & I-280 SB Ramps	Signal	AM	11.7	B	11.9	B	0.2
			PM	15.2	B	15.5	B	0.3
8	Hickey Blvd. & Project Driveway	One-Way Stop	AM	15.5	C	16.2	C	0.7
			PM	14.0	B	18.8	C	4.8
9	Hickey Blvd. & Gellert Blvd.	Signal	AM	31.2	C	32.2	C	1.0
			PM	49.7	D	50.6	D	0.9
10	Hickey Blvd. & Callan Blvd.	Signal	AM	22.1	C	22.4	C	0.3
			PM	32.4	C	34.1	C	1.7
11	Hickey Blvd. & Campus Dr.	Signal	AM	22.5	C	22.5	C	0.0
			PM	15.8	B	16.6	B	0.8
12	Hickey Blvd. & Skyline Blvd.	Signal	AM	**93.7**	**F**	**99.7**	**F**	**6.0**
			PM	44.2	D	45.3	D	1.1
13	Gellert Blvd. & Victoria St.	All-Way Stop	AM	26.1	D	27.8	D	1.7
			PM	30.0	D	31.4	D	1.4
14	Gellert Blvd. & Serramonte Blvd.	Signal	AM	24.8	C	25.9	C	1.1
			PM	44.5	D	44.7	D	0.2
15	Serramonte Blvd. & I-280 SB Ramps	Signal	AM	19.8	B	20.0	B	0.2
			PM	35.0	C	36.2	D	1.2
16	Serramonte Blvd. & I-280 NB Ramps	Signal	AM	3.8	A	3.8	A	0.0
			PM	5.5	A	5.5	A	0.0
17	Serramonte Blvd. & Junipero Serra Blvd.	Signal	AM	**140.1**	**F**	**140.1**	**F**	**0.0**
			PM	**228.8**	**F**	**230.7**	**F**	**1.9**

Notes:

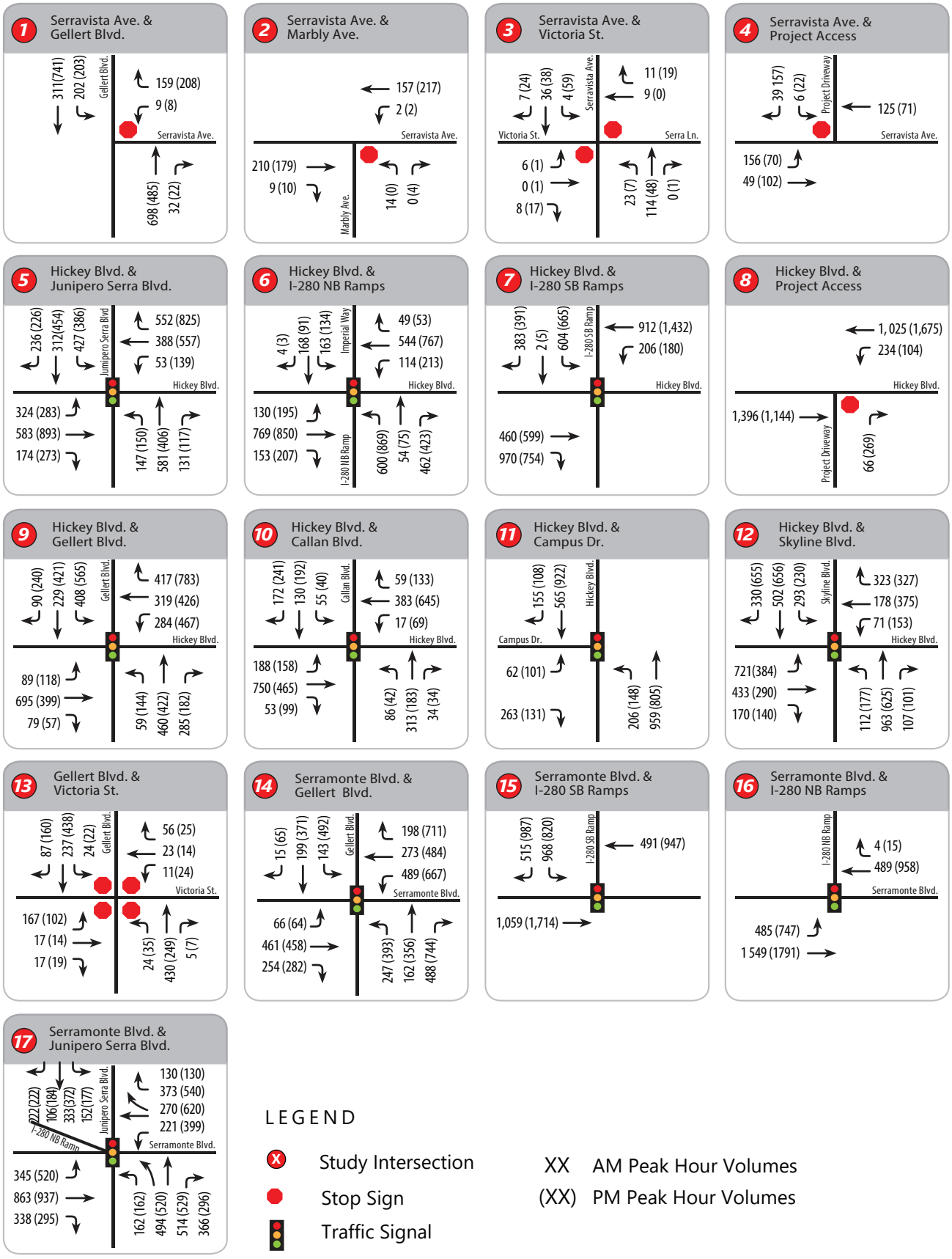
[1] AM – morning peak hour, PM – evening peak hour

[2] Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop controlled intersections.

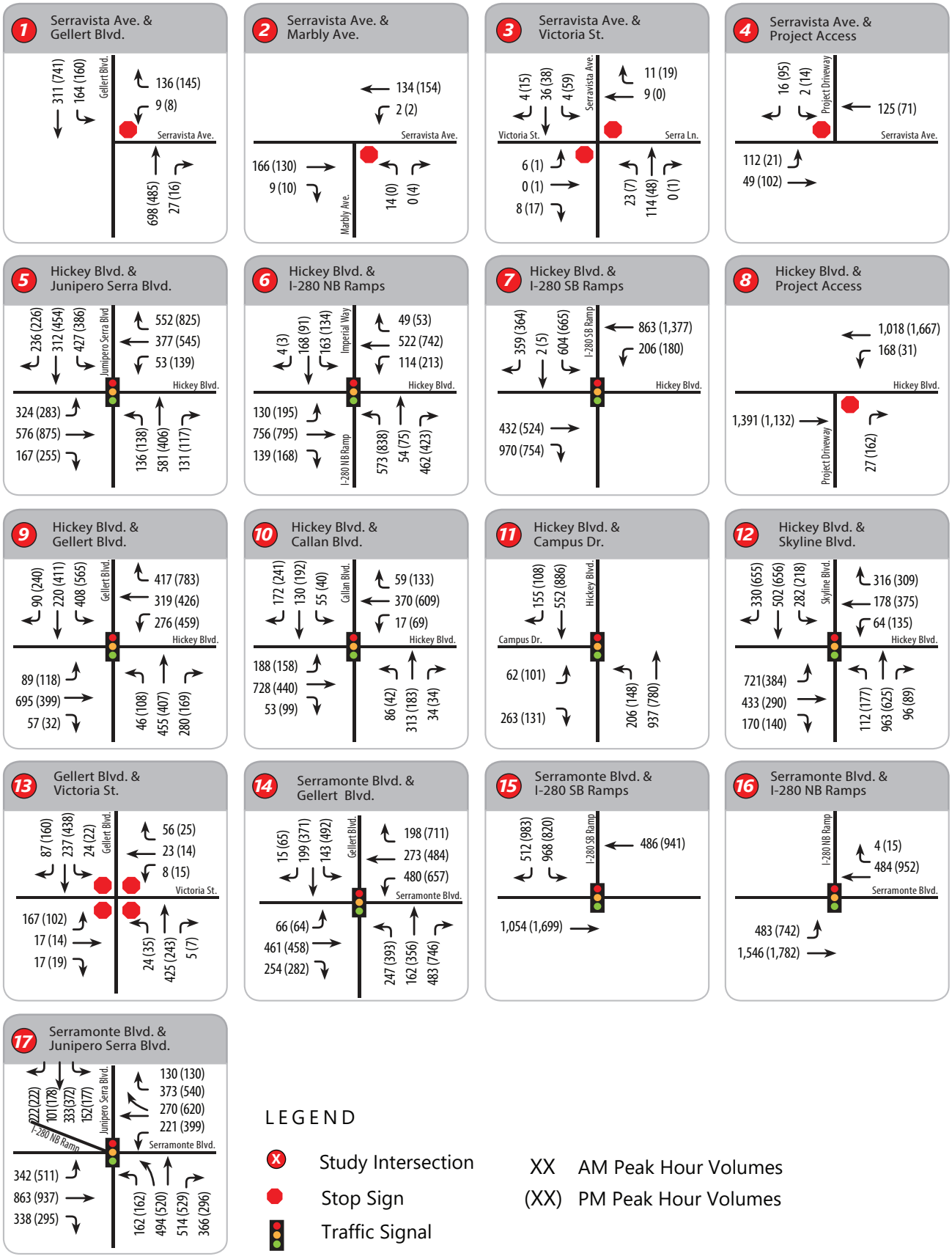
[3] LOS – Level of Service

Bold text indicates intersection operates below level of service D.

9a. Cumulative plus Project Alternative 1 Peak Hour Traffic Volumes



9b. Cumulative plus Project Alternative 1 Peak Hour Traffic Volumes



7.0 VEHICLES MILES TRAVELED & TRANSPORTATION DEMAND MANAGEMENT

7.1 Vehicle Miles Traveled

Senate Bill (SB) 743 requires analysis of Vehicles Miles Traveled (VMT) as the measure of California Environmental Quality Act (CEQA) for transportation impacts. Reducing VMT per capita is an important component for achieving the state's long-term climate goals since half of greenhouse gas emissions are derived from transportation sources.

For VMT analysis, as Daly City has not adopted formal SB743 guidelines, the City/County Association of Governments of San Mateo County (C/CAG) guidelines were used, since Daly City is a member agency.

C/CAG provided a SB 743 Implementation Decisions document, published on September 2021 which consists of VMT thresholds and screening criteria for projects within San Mateo County, along with a VMT screening tool based off their travel demand model. Within these guidelines, there is a screening criteria which states that if a project is located within a transit priority area (TPA), then the project is exempt from VMT analysis and its VMT impact is insignificant.

TJKM inserted the 455 Hickey Project details into the C/CAG VMT Estimation Tool. The project is located in Travel Analysis Zone (TAZ) #1918 in the C/CAG model, which is identified as a TPA under C/CAG geographical definitions. Since the project is located within a TPA, the project is screened out from VMT analysis and has an **insignificant impact on VMT.**

Output from the C/CAG VMT Estimation Tool can be found in **Appendix H**.

7.2 Transportation Demand Management (TDM) Policy

C/CAG is the designated Congestion Management Agency for San Mateo County. The Land Use Impact Analysis Program is a legally required component of the Congestion Management Program. This program was updated in September 2021 with a Transportation Demand Management (TDM) Policy Update Approach that requires participation by all member jurisdictions, such as the City of Daly City. This policy reflects TDM best practices, provides updated performance targets and standardizes monitoring and reporting requirements.

According to the TDM Policy Implementation Guide (April 2022), any project that generates more than 100 average daily trips is subject to the TDM policy and therefore must complete a TDM checklist and implement associated measure to mitigate traffic impacts.

Since this proposed project is located in a high quality transit zone, as identified in the VMT analysis above, and defined as a large non-residential project, the target trip reduction is 25% based on TDM Policy. The TDM Policy identifies nine measures which are required of all projects. These required measures add up to the goal of 25% reduction. There are additional measures which are not required. See **Appendix I** for the TDM checklist provided by C/CAG (ccagtdm.org).

It is recommended that this project implement all nine required measures identified on the C/CAG TDM checklist as follows:

1. Provide free or preferential parking, including reserved spaces near entrances or other desirable locations to incentivize ridesharing.
2. Provide a TDM coordinator/liaison for tenants. May be contracted through 3rd party provider such as Commute.org.
3. Obtain certification of registration from Commute.org or equivalent transportation management association.
4. Establish carpool or vanpool program for tenants and register program with Commute.org.
5. Offer tenants passes or subsidies for monthly public transit or ridesharing costs incurred, equivalent to 30% of value or $50, whichever is lower.
6. Offer option for tenants to participate in a pre-tax transit program to encourage the use of sustainable transportation modes and leverage pre-tax income to pay for commute trip costs.
7. Comply with CalGREEN for minimum bicycle parking requirements.
8. Design adjacent streets or roadways to facilitate multimodal travel.
9. Provide showers, lockers and changing rooms for cyclists and other active modes.

8.0 ADDITIONAL TRANSPORTATION ANALYSIS

The following sections provide additional analyses of other transportation issues associated with the project site, including:

- Site access;
- Local Operational Analysis;
- Parking analysis;
- Pedestrian, bicycle and transit access and impacts;

The analyses in these sections are based on professional judgment in accordance with the standards and methods employed by traffic engineers.

8.1 Site Access and On-Site Circulation

This section analyzes site access and internal circulation for vehicles, pedestrians, and bicycles, based on the site plan presented in **Figure 2**. TJKM reviewed available documents for internal and external access for the project site for vehicles, pedestrians, and bicycles and on-site vehicle circulation.

Site Access

Vehicles would access the parking structure to the project site via two existing driveways. According to the project site plans shown in **Figure 2**, one driveway is located at the existing driveway on Hickey Boulevard and the other driveway near the existing driveway on Serravista Avenue. The Hickey Boulevard driveway would retain its existing access pattern with median-protected left turns into the parking structure, but would restrict outbound vehicles to right turns only. A third access point is restricted to City utility access at the southern edge of the project. Truck access to a loading area is provided via the driveway at Serravista Avenue with appropriate turning radii.

Two vehicle pick-up/drop-off areas are proposed for the project. One is at the entry plaza to the building on Serravista Avenue and another is inside the first level of the parking garage accessible via Hickey Boulevard at the lower lobby. This analysis assumes that four percent of peak hour trips result in pick-up or drop-off activity and the curbside wait time is ten minutes.

Based on Project Alternative 1, it is projected that eight spaces will accommodate loading vehicles 95% of the time, and space for 15 loading vehicles is needed to accommodate 100% of the time. It is recommended that at a minimum, space for a total of eight vehicles are provided.

Based on Project Alternative 2, it is projected that five spaces will accommodate loading vehicles 95% of the time, and space for ten vehicles is needed to accommodate 100% of the time. It is recommended that at a minimum, space for a total of five vehicles are provided.

The Serravista Avenue loading zone proposes to accommodate 5 vehicles. Any loading zone on a public street will need to be reviewed by the City of Daly City's Traffic Safety Committee and approved by the City Council. The parking garage loading zone proposes to accommodate five vehicles with one curbside and four designated loading zone parking spaces.

Pedestrian access to the project site is located at the Entry Plaza on Serravista Avenue. Pedestrian access is provided through connections via adequate sidewalks on Serravista Avenue which connect to sidewalks on Gellert Boulevard and Hickey Boulevard. ADA-compliant pedestrian crossings are located at the signalized intersection of Gellert Boulevard and Hickey Boulevard.

Bicyclists can access the site either as a vehicle at the designated driveways or as a pedestrian at the Entry Plaza. Gellert Boulevard south of Serravista Avenue has marked Class II bike lanes and Hickey Boulevard is a marked Class III bicycle route. Serravista Avenue is a low-volume residential roadway that functions easily as a bikeway without specific designation.

8.2 Local Operational Analysis

Traffic operations at two key study intersections were evaluated for Existing plus Project Alternative 1 conditions. This alternative adds more trips to these intersections and provides a more conservative analysis.

Gellert Boulevard at Hickey Boulevard

The operational analysis indicates that in the a.m. peak hour, the queue from northbound vehicles on Gellert Boulevard approaching Hickey Boulevard is 510 feet long and blocks the downstream one-way stop-controlled intersection of Serravista Avenue, which is only 300 feet away. This can impede vehicles at the downstream intersection of Serravista Avenue, as well as create safety issues.

To remedy this operational issue, it is recommended that one of the northbound through lanes at the signalized intersection of Gellert Boulevard and Hickey Boulevard be converted to a shared through-right lane, to allow for dual right turn lanes to accommodate heavy right turn volumes. This improvement reduces the queue to 129 feet. This improvement can be implemented without changes to signal timing since the signal is already running a split phase for north and southbound movements. It is also recommended that two lanes be delineated all the way to Serravista Avenue allowing for two distinct queues.

Gellert Boulevard at Serravista Avenue

Reducing the northbound queue at Hickey Boulevard will improve operations at the intersection of Gellert Boulevard and Serravista Avenue. Vehicles entering and exiting Serravista Avenue will no longer be blocked by the queue resulting in easier access through the intersection.

The intersection of Serravista Avenue and Gellert Boulevard was evaluated for traffic signal warrants. With the addition of project traffic, traffic volumes are projected to meet the peak hour traffic signal warrant. The Signal Warrant Analysis Worksheet is provided in **Appendix J**.

Although this intersection meets warrants for a traffic signal, there are other factors to consider when installing a traffic signal, such as proximity to adjacent signals. A signal at this location would need to be coordinated with the signal at Gellert Avenue and Hickey Boulevard in order to avoid vehicles queuing and blocking Hickey Boulevard.

Often times an intermediate traffic control measure to a traffic signal is an all-way stop controlled intersection. However, this is not recommended as it will create a back-up onto the adjacent intersection at Hickey Boulevard as well as increase average delay to 122.4.

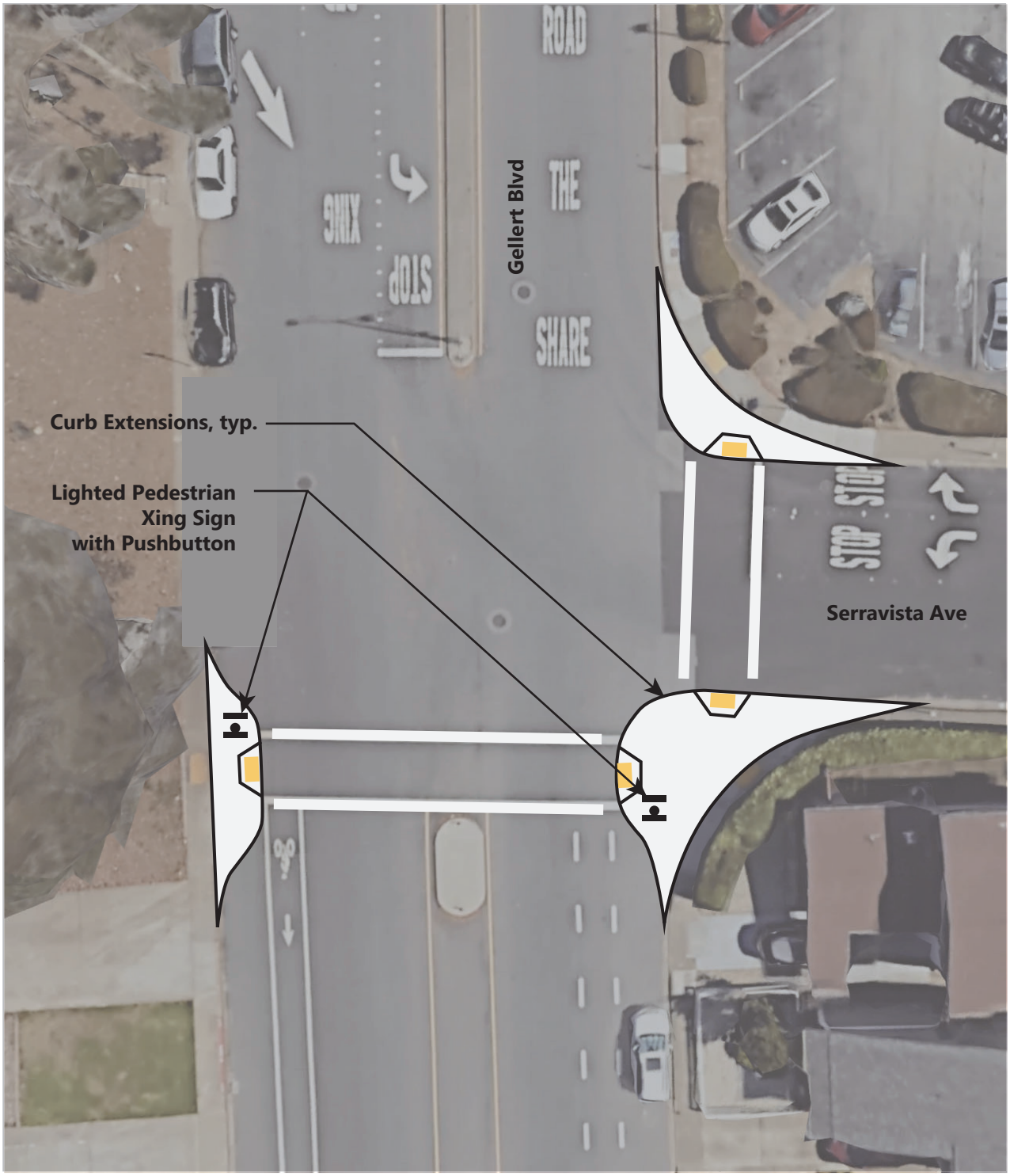
By reducing the queue that blocks this intersection, operational issues may be addressed and a traffic signal may not be needed. It is noted in the level of service analysis, that the delay for the southbound left turn is an average of 11.3 seconds if the intersection is not blocked.

It is noted that the southbound left turn has a stop bar and STOP legend pavement markings. This can be confusing by leading southbound drivers to believe that the intersection is an all-way stop. It is common traffic law that a left turning vehicle must yield to on-coming. It is recommended that this STOP bar and legend be removed. It is noted that per City of Daly City traffic engineering staff, this was installed to address vehicles failing to yield.

Another operational issue at this intersection is pedestrian access and safety. To the west of the intersection is Gellert Park, which includes many amenities including a clubhouse, a library, tennis courts, soccer and baseball fields. There is also a bus stop on the west side of Gellert Boulevard. For the residents directly east, as well as pedestrians from the proposed project, the intersection of Serravista Avenue and Gellert Boulevard is the most direct intersection to cross Gellert Boulevard. It is recommended to enhance pedestrian access and safety at this location by installing flashing pedestrian crossing signs and curb bulbouts at the corners. See **Figure 10** for an illustration of improvements. The bulbouts will narrow the crossing distance for pedestrians crossing Gellert Boulevard by as much as 30% as well as provide more visibility by placing them closer to the edge of the bicycle travel lane. The bulbouts also offer a visual constriction of the roadway which has the effect of reducing vehicle speeds. These improvements overall communicate to southbound motorists that they are entering a residential area which will also improve yielding to pedestrians.

To summarize, it is recommended that the northbound through lane at Gellert Boulevard and Hickey Boulevard is converted to a shared through-right turn lane with two lanes marked through to the intersection of Serravista Avenue. It is also recommended that the STOP bar and legend be removed from the southbound left turn lane at Gellert Boulevard at Serravista Avenue. It is also recommended that curb bulbouts along with flashing pedestrian crossing signs are installed at Gellert Boulevard and Serravista Avenue.

Figure 10: Recommended Intersection Improvements at Gellert Blvd and Serravista Avenue



8.3 Parking Analysis

This section discusses vehicle parking for the proposed project and includes an assessment of whether the proposed parking supply is adequate based on the proposed project size, zoning regulations, and planned operation. Parking is a crucial component of the project due to the proximity of the residential area and the need to avoid parking spillover into the neighborhood. However, providing too much vehicle parking can also be a waste of resources, considering the cost of a parking structure, and can encourage single occupant vehicles.

The project is proposing to provide 900 parking spaces in a parking garage.

During the pre-application process, City Staff identified a rate of five parking spaces per 1000 square feet for the medical office building proposed in Project Alternative 1 and a rate of three parking spaces per 1,000 square feet for the office building proposed in Project Alternative 2. These rates vary slightly from the Daly City Municipal Code as the land uses for parking requirements in the code are very general.

To determine parking sufficiency, these rates were compared with the Institute of Transportation Engineers Parking Generation Manual 5th Edition. See **Table 10** for the comparison of the parking requirements. The proposed project has shown to meet City parking requirements as well as being well above the ITE parking recommendations. Based on this information, the project is projected to avoid parking spillover into the neighborhood.

However, it should also be noted that parking behavior can result in some vehicles being parked on-street in the neighborhood, even with sufficient parking in the garage. Most of the on-street spaces occupied would be along Serravista Avenue which is lined with residential backyards, rather than residential frontages. This would mostly avoid the situation with project visitor vehicles being parked in front of neighbor's homes. However, if it should become an issue, this residential area could become permit parking restricted for residents only. The City of Daly City offers a Residential Parking Permit program for other areas of the City impacted by commuters parking in residential areas near transportation hubs.

Table 10: Comparison of Parking Requirements

Peak Parking Demand Analysis	***Size***		***ITE Avg. Rate[1]***	***Spaces***	***ITE 95th% Rate***	***Spaces***	***Daly City Rate***	***Spaces***
Alternative 1: Medical Office Building								
Medical-Dental Office Building (720)	180.00	ksf	3.23	581	3.42	616	5	900
Alternative 2: Tech Office Building								
General Office Building (710)	280.00	ksf	2.39	669	2.50	700	3	840

[1] Based on Institute of Transportation Engineers (ITE) Parking Generation Manual 5th Edition

The proposed project identifies 18 accessible parking spaces near building entrances which meets the 2% requirement. Two of these spaces should be van accessible spaces.

The project proposes 152 compact parking spaces which is less than the 20 percent maximum of the total supply allowed according to Daly City Zoning Code Section 17.43.010.

Daly City Zoning Code Section 5.106.5.3.1 requires that 10% of the available sparking spaces be equipped with Level 2 electric vehicle charging stations (EVCS), an additional 10% shall be Level 1 electric vehicle (EV) ready spaces and an additional 30% shall be EV capable. The proposed project meets these requirements with 90 EVCS, 90 EV ready and 270 EV capable.

The 2016 California Green Building Standards Code (CalGREEN) provides minimum standards for bicycle parking for non-residential structures. This standard is also a requirement of the C/CAG TDM Policy as noted in Section 7.2. The amount of bicycle parking required is an amount that is 5% of vehicle parking. Bicycle parking is provided as a mix of short-term parking such as bike racks and long-term parking such as bike lockers. Bike racks should be provided in a visible area within 50-200 feet of the building entrance. Acceptable long term bicycle parking facilities include secure bicycle lockers, covered lockable enclosures or bicycle rooms with permanently anchored racks.

The mix between short-term and long-term bicycle parking is determined based on the mix of visitors and occupants/employees, with visitors using bike racks, and occupants using bike lockers or other secure bicycle storage. The project proposes eight short term bicycle parking spots with four racks located in the Entry Plaza. Long term bicycle parking is provided via a bicycle cage located near the building elevator on the first floor of the parking structure, easily accessible via the Hickey Boulevard entrance. The cage will provide secure space for at least 45 bicycles.

Based on the various requirements, the proposed supply of vehicle parking, bike parking, and truck loading spaces is **more than adequate**.

8.4 Pedestrian, Bicycle, and Transit Impacts

Significant impacts are evaluated based on consistency with applicable adopted plans.

Pedestrian Impacts

An impact to pedestrians occurs if the proposed project disrupts existing pedestrian's facilities; or creates inconsistencies with planned pedestrian facilities or adopted pedestrian system plans, guidelines, policies, or standards. The project will connect to existing pedestrian facilities and provides adequate on-site pedestrian access and circulation through a variety of continuous, accessible paths and crosswalks.

As discussed in section 8.2, pedestrian improvements are recommended for the intersection of Gellert Boulevard and Serravista Avenue to enhance pedestrian safety and access from the project to the bus stop and the community park to the west of Gellert Boulevard. These pedestrian improvements also enhance traffic operations and safety at the intersection of Gellert Boulevard and Serravista Avenue.

As discussed in section 3.2 and shown in **Figure 3a** there are continuous pedestrian facilities and generally ADA-compliant curb ramps are present on most streets within the immediate project vicinity. The project is not expected to create any disruptions or inconsistencies with existing pedestrian facilities or plans. Therefore, the impact to pedestrian facilities is **less-than-significant**.

Bicycle Impacts

An impact to bicycles occurs if the proposed project disrupts existing bicycle facilities; or creates inconsistencies with planned bicycle facilities or adopted bicycle system plans, guidelines, policies, or standards. The proposed project will have adequate bicycle access to the project site from the surrounding area and is not expected to create any inconsistencies with bicycle facilities or plans. Therefore, the impact to bicycle facilities is **less-than-significant**.

Transit Impacts

A proposed project is considered to have a significant impact on transit if it conflicts with existing or planned transit facilities, or is expected to generate additional transit trips and does not provide adequate facilities for pedestrians and bicyclists to access transit routes and stops. Pedestrians and bicyclists can access the closest transit stops on Gellert Boulevard and Hickey Boulevard via a continuous path of sidewalks and crosswalks.

It is noted that the SamTrans website identifies a bus stop at the project frontage on Hickey Boulevard for Route 130 with service to South San Francisco BART, however, there does not appear to be signage for this stop. It is recommended that SamTrans is consulted to determine if indeed a stop exists at this location and if additional improvements are requested at this location to accommodate this bus stop.

The transit service within the immediate project vicinity operates within capacity, and additional trips generated by the proposed project could be accommodated by existing bus services. Therefore, impacts to transit service are expected to be **less-than-significant**.

8.5 Recommendations

Based on the findings in this report, TJKM recommends the project implement the following:

- It is recommended that the northbound through lane at Gellert Boulevard and Hickey Boulevard be converted to a shared through-right turn lane.
- It is recommended that a flashing pedestrian crossing sign along with curb bulbouts be installed at the intersection of Gellert Boulevard and Serravista Avenue.
- It is recommended that Caltrans be consulted to determine if improvements are needed at the following intersections since they are already operating below LOS D:
    - Serramonte Boulevard at Junipero Serra Boulevard/I-280 Northbound
    - Hickey Boulevard and Skyline Boulevard/SR-35
    - Hickey Boulevard & I-280 northbound on-ramps

  If improvements are needed, the project should contribute a fair share percentage.
- It is recommended that this project implement all nine required TDM measures identified on the C/CAG TDM checklist as outlines in section 7.2. and is summarized as follows:
    - Free/Preferential Parking for Carpools
    - TDM Coordinator/Contact Person
    - Actively Participate in Commute.org or a Transportation Management Association Equivalent
    - Carpool or Vanpool Program

  - Transit or Rideshare Passes/Subsidies
  - Pre-Tax Transportation Benefits
  - Secure Bicycle Storage
  - Design Streets to Encourage Bike/Pedestrian Access
  - Showers, Lockers and Changing Rooms for Cyclists
- It is recommended that the project's proposed vehicle drop-off/pick-up zone be at least 125 feet in the case of Project Alternative 1 and 75 feet in the case of Project Alternative 2. Signage should be provided which limits parking to a 10 minute loading zone.
- It is recommended that SamTrans be consulted to determine if a bus stop continues to exist on Hickey Boulevard along the project frontage and if additional improvements are needed at this location to accommodate this bus stop.
- It is recommended that the STOP bar and legend is removed from the southbound left turn lane at Gellert Boulevard at Serravista Avenue.

Appendix A – Traffic Counts Worksheets

Prepared by National Data & Surveying Services

Gellert Blvd & Serravista Ave

Peak Hour Turning Movement Count

ID: 21-080154-001
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	7:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Gellert Blvd)

AM	0	183	46	4	477	AM
NOON	0	0	0	0	0	NOON
PM	0	622	118	18	494	PM

EASTBOUND (Serravista Ave)

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

WESTBOUND (Serravista Ave)

PM	NOON	AM	
67	0	74	1
0	0	0	0
7	0	5	1
0	0	0	0
130	0	55	
PM	NOON	AM	

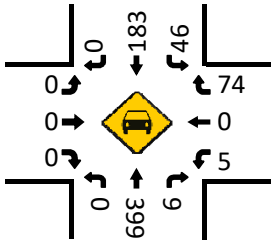
NORTHBOUND (Gellert Blvd)

PM	629	0	0	409	12	PM
NOON	0	0	0	0	0	NOON
AM	189	1	0	399	9	AM

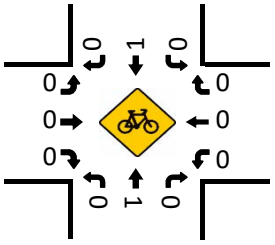
CONTROL			
2-Way Stop(SB/WB)			
TEV	721	0	1253
	AM	NOON	PM
PHF	0.94		0.93

SB turning movements: 0 2 1 0
EB turning movements: 0 0 1 0

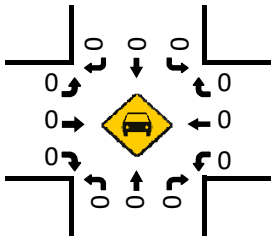
Totals (AM)



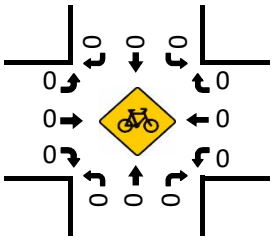
Total Bikes (AM)



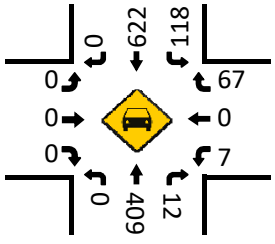
Totals (NOON)



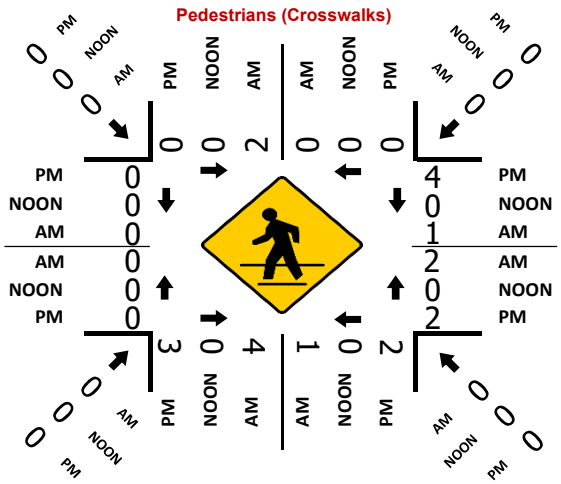
Total Bikes (NOON)



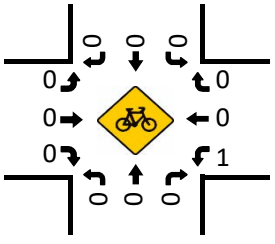
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Serravista Ave
City: Daly City
Control: 2-Way Stop(SB/WB)

Project ID: 21-080154-001
Date: 7/20/2021

Data - Totals

AM

NS/EW Streets:	Gellert Blvd				Gellert Blvd				Serravista Ave				Serravista Ave				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	2	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	65	2	0	7	32	0	0	0	0	0	0	0	0	11	0	117
7:15 AM	0	102	4	0	13	23	0	2	0	0	0	0	1	0	11	0	156
7:30 AM	0	93	6	0	7	40	0	0	0	0	0	0	1	0	22	0	169
7:45 AM	0	110	2	1	12	37	0	1	0	0	0	0	2	0	12	0	177
8:00 AM	0	100	1	0	13	52	0	0	0	0	0	0	2	0	15	0	183
8:15 AM	0	82	3	0	13	44	0	1	0	0	0	0	1	0	26	0	170
8:30 AM	0	107	3	0	8	50	0	2	0	0	0	0	0	0	21	0	191
8:45 AM	0	72	4	0	21	60	0	0	0	0	0	0	0	0	15	0	172
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	731	25	1	94	338	0	6	0	0	0	0	7	0	133	0	1335
APPROACH %'s :	0.00%	96.57%	3.30%	0.13%	21.46%	77.17%	0.00%	1.37%					5.00%	0.00%	95.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	399	9	1	46	183	0	4	0	0	0	0	5	0	74	0	721
PEAK HR FACTOR :	0.000	0.907	0.750	0.250	0.885	0.880	0.000	0.500	0.000	0.000	0.000	0.000	0.625	0.000	0.712	0.000	0.944
	0.905				0.896								0.731				

PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	2	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	76	4	0	28	144	0	4	0	0	0	0	7	0	17	0	280
4:15 PM	0	84	0	0	33	115	0	2	0	0	0	0	4	0	18	0	256
4:30 PM	0	109	2	0	30	124	0	3	0	0	0	0	1	0	16	0	285
4:45 PM	0	94	3	0	27	135	0	8	0	0	0	0	2	0	22	0	291
5:00 PM	0	95	5	0	36	130	0	4	0	0	0	0	2	0	21	0	293
5:15 PM	0	97	2	0	24	160	0	3	0	0	0	0	1	0	14	0	301
5:30 PM	0	108	1	0	33	168	0	5	0	0	0	0	2	0	19	0	336
5:45 PM	0	109	4	0	25	164	0	6	0	0	0	0	2	0	13	0	323
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	772	21	0	236	1140	0	35	0	0	0	0	21	0	140	0	2365
APPROACH %'s :	0.00%	97.35%	2.65%	0.00%	16.73%	80.79%	0.00%	2.48%					13.04%	0.00%	86.96%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	409	12	0	118	622	0	18	0	0	0	0	7	0	67	0	1253
PEAK HR FACTOR :	0.000	0.938	0.600	0.000	0.819	0.926	0.000	0.750	0.000	0.000	0.000	0.000	0.875	0.000	0.798	0.000	0.932
	0.931				0.920								0.804				

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Serravista Ave
City: Daly City
Control: 2-Way Stop(SB/WB)

Project ID: 21-080154-001
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Gellert Blvd				Gellert Blvd				Serravista Ave				Serravista Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	2	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
	0.250				0.250												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	2	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	1	0	0	3	0	0	0	0	2	0	0	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	25.00%	0.00%	0.00%	75.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250
													0.250				

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Serravista Ave
City: Daly City
Project ID: 21-080154-001
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Gellert Blvd		Gellert Blvd		Serravista Ave		Serravista Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	2	1	2	1	0	0	0	6
7:15 AM	0	0	0	3	0	0	0	0	3
7:30 AM	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	1	0	1	0	0	0	2
8:15 AM	2	0	0	0	0	0	0	0	2
8:30 AM	0	0	2	1	1	1	0	0	5
8:45 AM	0	0	0	1	0	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	3	5	7	3	1	0	0	21
APPROACH %'s :	40.00%	60.00%	41.67%	58.33%	75.00%	25.00%			
PEAK HR :	**07:45 AM - 08:45 AM**								TOTAL
PEAK HR VOL :	2	0	4	1	2	1	0	0	10
PEAK HR FACTOR :	0.250		0.500	0.250	0.500	0.250			0.500
	0.250		0.417		0.375				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0		3	1	1	0	0	5
4:15 PM	0	0	0	1	0	1	0	0	2
4:30 PM	0	0	1	0	0	2	0	0	3
4:45 PM	0	0	0	1	1	0	0	0	2
5:00 PM	0	0	1	0	1	0	0	0	2
5:15 PM	0	0	2	0	0	0	0	0	2
5:30 PM	0	0	0	2	1	3	0	0	6
5:45 PM	0	0	0	0	0	1	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	4	7	4	8	0	0	23
APPROACH %'s :			36.36%	63.64%	33.33%	66.67%			
PEAK HR :	**05:00 PM - 06:00 PM**								TOTAL
PEAK HR VOL :	0	0	3	2	2	4	0	0	11
PEAK HR FACTOR :			0.375	0.250	0.500	0.333			0.458
			0.625		0.375				

Prepared by National Data & Surveying Services

Marbly Ave & Serravista Ave

Peak Hour Turning Movement Count

ID: 21-080154-002
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	7:00 AM - 09:00 AM
NOON	NONE
PM	4:00 PM - 06:00 PM

SOUTHBOUND (Marbly Ave)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Serravista Ave)

AM	NOON	PM		
81	0	74	⇦	
0	0	0	↶	0
0	0	0	↱	0
46	0	89	→	1
5	0	15	↴	0
AM	NOON	PM		

WESTBOUND (Serravista Ave)

PM	NOON	AM		
				0
0	0	0	↰	1
71	0	73	←	0
2	0	1	↩	0
0	0	0		
92	0	46	⇨	
PM	NOON	AM		

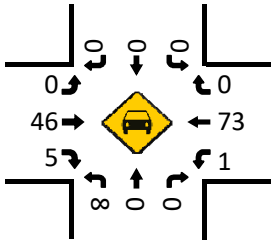
CONTROL: No Control

TEV	133 AM	0 NOON	183 PM
PHF	0.83		0.92

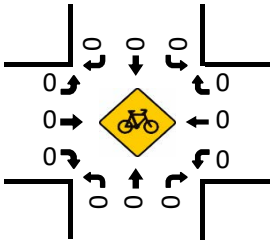
NORTHBOUND (Marbly Ave)

PM	17	0	3	0	3	PM
NOON	0	0	0	0	0	NOON
AM	6	0	8	0	0	AM

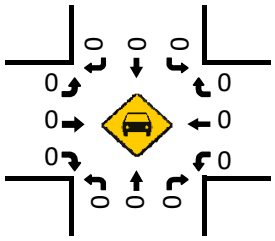
Totals (AM)



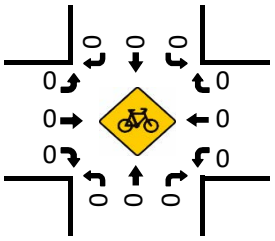
Total Bikes (AM)



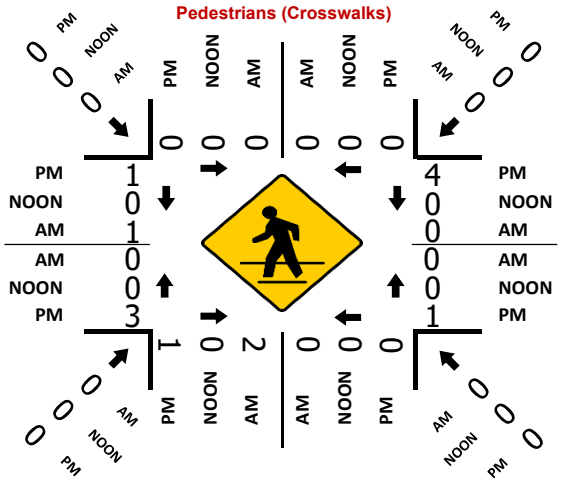
Totals (NOON)



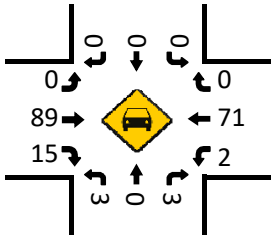
Total Bikes (NOON)



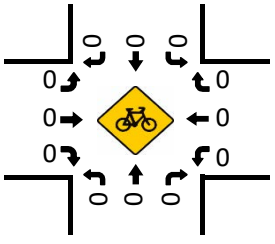
Pedestrians (Crosswalks)



Totals (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Marbly Ave & Serravista Ave
City: Daly City
Control: No Control

Project ID: 21-080154-002
Date: 7/20/2021

Data - Totals

NS/EW Streets:	Marbly Ave				Marbly Ave				Serravista Ave				Serravista Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	0	0	0	0	0	0	0	0	3	0	0	0	10	0	0	14
7:15 AM	0	0	0	0	0	0	0	0	0	7	1	0	0	13	0	0	21
7:30 AM	1	0	0	0	0	0	0	0	0	4	1	1	0	19	0	0	26
7:45 AM	1	0	0	0	0	0	0	0	0	7	0	0	0	11	0	0	19
8:00 AM	3	0	0	0	0	0	0	0	0	7	1	0	0	12	0	0	23
8:15 AM	3	0	0	0	0	0	0	0	0	10	3	0	0	23	0	0	39
8:30 AM	1	0	0	0	0	0	0	0	0	9	0	0	0	21	0	0	31
8:45 AM	1	0	0	0	0	0	0	0	0	20	1	0	1	17	0	0	40
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	11	0	0	0	0	0	0	0	0	67	7	1	1	126	0	0	213
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%					0.00%	89.33%	9.33%	1.33%	0.79%	99.21%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	8	0	0	0	0	0	0	0	0	46	5	0	1	73	0	0	133
PEAK HR FACTOR :	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.575	0.417	0.000	0.250	0.793	0.000	0.000	0.831
	0.667								0.607				0.804				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	5	0	0	0	0	0	0	0	0	12	6	0	1	15	0	0	39
4:15 PM	1	0	1	0	0	0	0	0	0	22	4	0	1	14	0	0	43
4:30 PM	0	0	1	0	0	0	0	0	0	25	2	0	0	15	0	0	43
4:45 PM	1	0	1	0	0	0	0	0	0	20	2	0	0	23	0	0	47
5:00 PM	1	0	0	0	0	0	0	0	0	22	7	0	1	19	0	0	50
5:15 PM	2	0	0	0	0	0	0	0	0	19	2	0	1	11	0	0	35
5:30 PM	0	0	0	0	0	0	0	0	0	24	1	0	0	19	0	0	44
5:45 PM	0	0	0	0	0	0	0	0	0	17	5	0	0	12	0	0	34
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	0	3	0	0	0	0	0	0	161	29	0	4	128	0	0	335
APPROACH %'s :	76.92%	0.00%	23.08%	0.00%					0.00%	84.74%	15.26%	0.00%	3.03%	96.97%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	3	0	3	0	0	0	0	0	0	89	15	0	2	71	0	0	183
PEAK HR FACTOR :	0.750	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.890	0.536	0.000	0.500	0.772	0.000	0.000	0.915
	0.750								0.897				0.793				

National Data & Surveying Services Intersection Turning Movement Count

Location: Marbly Ave & Serravista Ave
City: Daly City
Control: No Control

Project ID: 21-080154-002
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Marbly Ave				Marbly Ave				Serravista Ave				Serravista Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
APPROACH %'s :													0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: Marbly Ave & Serravista Ave
City: Daly City
Project ID: 21-080154-002
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Marbly Ave		Marbly Ave		Serravista Ave		Serravista Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	1	2	0	0	0	3
7:15 AM	0	0	0	2	0	0	0	0	2
7:30 AM	0	0	1	0	0	0	2	0	3
7:45 AM	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	0	0	0	1	2
8:30 AM	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	4	3	2	0	2	1	12
APPROACH %'s :			57.14%	42.86%	100.00%	0.00%	66.67%	33.33%	
PEAK HR :	**08:00 AM - 09:00 AM**								TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	1	3
PEAK HR FACTOR :			0.500					0.250	0.375
			0.500				0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	1	1	0	0	0	1	3
4:15 PM	0	0	0	0	1	1	0	0	2
4:30 PM	0	0	1	0	0	0	1	0	2
4:45 PM	0	0	0	0	0	0	2	0	2
5:00 PM	0	0	0	0	0	3	0	1	4
5:15 PM	0	0	0	2	0	0	2	1	5
5:30 PM	0	0	0	2	0	0	0	2	4
5:45 PM	0	0	0	0	1	1	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	2	5	2	5	5	5	24
APPROACH %'s :			28.57%	71.43%	28.57%	71.43%	50.00%	50.00%	
PEAK HR :	**04:15 PM - 05:15 PM**								TOTAL
PEAK HR VOL :	0	0	1	0	1	4	3	1	10
PEAK HR FACTOR :			0.250		0.250	0.333	0.375	0.250	0.625
			0.250		0.417		0.500		

Prepared by National Data & Surveying Services

Serravista Ave & Victoria St/Serra Ln/Montevista Ln

Peak Hour Turning Movement Count

ID: 21-080154-003
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	7:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Serravista Ave)

AM	1	19	2	0	77	AM
NOON	0	0	0	0	0	NOON
PM	4	65	9	0	55	PM

EASTBOUND (Victoria St/Serra Ln/Montevista Ln)

AM	NOON	PM	
17	0	10	
0	0	0	0
3	0	1	0
0	0	1	1
4	0	14	0
AM	NOON	PM	

WESTBOUND (Victoria St/Serra Ln/Montevista Ln)

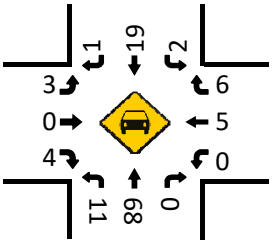
PM	NOON	AM	
4	0	6	0
0	0	5	1
0	0	0	0
0	0	0	0
11	0	2	
PM	NOON	AM	

NORTHBOUND (Serravista Ave)

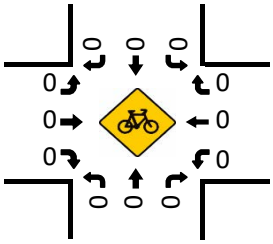
PM	79	0	6	50	1	PM
NOON	0	0	0	0	0	NOON
AM	24	1	11	68	0	AM

CONTROL			
2-Way Stop(EB/WB)			
TEV	120 AM	0 NOON	155 PM
PHF	0.80		0.90

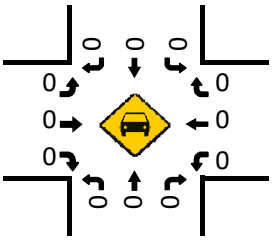
Totals (AM)



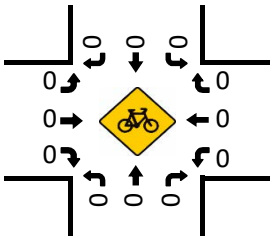
Total Bikes (AM)



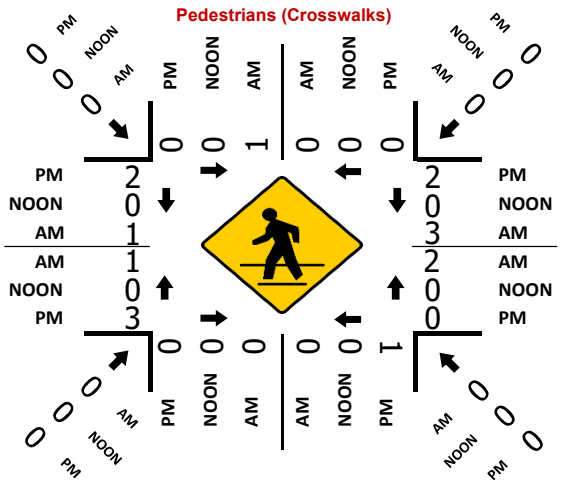
Totals (NOON)



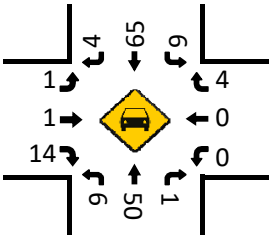
Total Bikes (NOON)



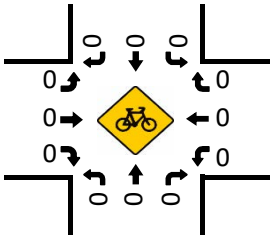
Pedestrians (Crosswalks)



Totals (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Serravista Ave & Victoria St/Serra Ln/Montevista Ln
City: Daly City
Control: 2-Way Stop(EB/WB)

Project ID: 21-080154-003
Date: 7/20/2021

Data - Totals

NS/EW Streets: Serravista Ave | Serravista Ave | Victoria St/Serra Ln/Montevista Ln | Victoria St/Serra Ln/Montevista Ln

AM

	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND				WESTBOUND2				
	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	W2L2	W2T2	W2R2	W2U2	TOTAL
7:00 AM	0	9	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	14
7:15 AM	3	13	0	0	0	0	4	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	24
7:30 AM	2	17	0	0	1	1	3	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	27
7:45 AM	1	10	0	0	0	1	4	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	19
8:00 AM	3	11	0	0	0	1	2	0	0	1	1	0	2	0	0	0	1	1	0	0	0	0	0	23
8:15 AM	2	26	0	1	2	0	7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	41
8:30 AM	4	13	0	0	2	0	4	1	0	0	1	0	2	0	2	0	0	5	0	0	0	0	0	34
8:45 AM	2	18	0	0	0	1	6	0	0	3	1	0	0	0	0	0	2	0	0	0	0	0	0	33
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	W2L2	W2T2	W2R2	W2U2	TOTAL
TOTAL VOLUMES :	17	117	0	1	5	4	31	3	0	6	3	0	7	0	2	0	6	10	0	1	1	1	0	215
APPROACH %'s :	12.14%	83.57%	0.00%	0.71%	3.57%	9.09%	70.45%	6.82%	0.00%	13.64%	25.00%	0.00%	58.33%	0.00%	16.67%	0.00%	37.50%	62.50%	0.00%	33.33%	33.33%	33.33%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																							TOTAL
PEAK HR VOL :	11	68	0	1	4	2	19	1	0	4	3	0	4	0	2	0	5	6	0	0	0	1	0	131
PEAK HR FACTOR :	0.688	0.654	0.000	0.250	0.500	0.500	0.679	0.250	0.000	0.333	0.750	0.000	0.500	0.000	0.250	0.000	0.625	0.300	0.000	0.000	0.000	0.250	0.000	0.799
			0.677					0.650					0.450					0.550						

PM

	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND								
	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	W2L2	W2T2	W2R2	W2U2	TOTAL
4:00 PM	1	6	0	0	0	1	10	0	0	1	1	0	1	0	0	0	0	0	0	0	1	1	1	24
4:15 PM	0	7	1	0	1	3	15	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	33
4:30 PM	3	7	0	0	0	0	15	0	0	0	0	0	1	0	0	0	0	1	0	1	0	2	0	30
4:45 PM	0	16	1	0	0	0	17	1	0	0	0	0	5	0	0	0	0	2	0	3	0	1	0	46
5:00 PM	1	13	0	0	0	5	12	1	0	0	0	1	4	0	0	0	0	1	0	2	1	1	0	42
5:15 PM	3	10	0	0	0	2	16	2	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	36
5:30 PM	2	11	0	0	0	2	20	0	0	0	1	0	3	0	0	0	0	0	0	0	1	1	0	41
5:45 PM	1	7	0	0	0	1	18	2	0	1	0	0	2	0	0	0	0	2	0	0	1	0	0	35
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	W2L2	W2T2	W2R2	W2U2	TOTAL
TOTAL VOLUMES :	11	77	2	0	1	14	123	6	0	2	2	1	20	1	0	0	0	10	0	6	4	6	1	287
APPROACH %'s :	12.09%	84.62%	2.20%	0.00%	1.10%	9.66%	84.83%	4.14%	0.00%	1.38%	8.33%	4.17%	83.33%	4.17%	0.00%	0.00%	0.00%	100.00%	0.00%	35.29%	23.53%	35.29%	5.88%	
PEAK HR :	04:45 PM - 05:45 PM																							TOTAL
PEAK HR VOL :	6	50	1	0	0	9	65	4	0	0	1	1	14	0	0	0	0	4	0	5	2	3	0	165
PEAK HR FACTOR :	0.500	0.781	0.250	0.000	0.000	0.450	0.813	0.500	0.000	0.000	0.250	0.250	0.700	0.000	0.000	0.000	0.000	0.500	0.000	0.417	0.500	0.750	0.000	0.897
			0.838					0.886					0.800					0.500						

Explanation for extra leg movements

Movements entering the extra leg

NR2	Movements coming from NB on Serravista Ave entering into the Extra Leg (Montevista Ln)
SL2	Movements coming from SB on Serravista Ave entering into the Extra Leg (Montevista Ln)
ET2	Movements coming from EB on Victoria St entering into the Extra Leg (Montevista Ln)

Movements exiting the extra leg

W2L2	Movements exiting from Extra Leg (Montevista Ln) entering into Serravista Ave heading SB
W2T2	Movements exiting from Extra Leg (Montevista Ln) entering into Victoria St heading WB
W2R2	Movements exiting from Extra Leg (Montevista Ln) entering into Serravista Ave heading NB
W2U2	Movements exiting from Extra Leg (Montevista Ln) entering into Serra Ln heading EB



National Data & Surveying Services Intersection Turning Movement Count

Location: Serravista Ave & Victoria St/Serra Ln/Montevista Ln
City: Daly City
Control: 2-Way Stop(EB/WB)

Project ID: 21-080154-003
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Serravista Ave					Serravista Ave					Victoria St/Serra Ln/Montevista Ln					Victoria St/Serra Ln/Montevista Ln								
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					WESTBOUND2			
	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	W2L2	W2T2	W2R2	W2U2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	W2L2	W2T2	W2R2	W2U2	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%																			
PEAK HR :	08:00 AM - 09:00 AM																							TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND								
	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	W2L2	W2T2	W2R2	W2U2	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	W2L2	W2T2	W2R2	W2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																								
PEAK HR :	04:45 PM - 05:45 PM																							TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: Serravista Ave & Victoria St/Serra Ln/Montevista Ln
City: Daly City
Project ID: 21-080154-003
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Serravista Ave		Serravista Ave		Victoria St/Serra Ln/Montevista Ln		Victoria St/Serra Ln/Montevista Ln				
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		EAST LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	2	1	0	1	0	1	0	5
7:15 AM	0	0	0	0	0	0	3	0	0	0	3
7:30 AM	0	0	0	0	1	0	1	0	1	0	3
7:45 AM	0	0	0	0	1	0	1	1	0	0	3
8:00 AM	0	0	0	0	1	0	0	1	0	0	2
8:15 AM	0	0	0	0	0	2	0	0	0	2	4
8:30 AM	0	0	0	0	0	0	1	0	0	0	1
8:45 AM	1	0	0	0	1	1	0	0	1	1	5
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	0	2	5	3	7	2	3	3	26
APPROACH %'s :	100.00%	0.00%	0.00%	100.00%	62.50%	37.50%	77.78%	22.22%	50.00%	50.00%	
PEAK HR :	08:00 AM - 09:00 AM										TOTAL
PEAK HR VOL :	1	0	0	0	2	3	1	1	1	3	12
PEAK HR FACTOR :	0.250				0.500	0.375	0.250	0.250	0.250	0.375	
	0.250				0.625		0.500		0.500		0.600

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		EAST LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	1	1	0	0	2
4:15 PM	0	0	1	0	0	0	0	1	0	0	2
4:30 PM	0	0	0	0	0	0	0	1	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	2	0	0	2
5:15 PM	0	0	0	0	0	1	2	0	0	1	4
5:30 PM	0	0	0	1	0	1	1	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	1	1	0	2	4	5	0	2	15
APPROACH %'s :			50.00%	50.00%	0.00%	100.00%	44.44%	55.56%	0.00%	100.00%	
PEAK HR :	04:45 PM - 05:45 PM										TOTAL
PEAK HR VOL :	0	0	0	1	0	2	3	2	0	2	10
PEAK HR FACTOR :				0.250		0.500	0.375	0.250		0.500	
			0.250		0.500		0.625		0.500		0.625

Prepared by National Data & Surveying Services

Junipero Serra Blvd & Hickey Blvd

Peak Hour Turning Movement Count

ID: 21-080154-005
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND — Junipero Serra Blvd

AM	144	153	154	11	653	AM
NOON	0	0	0	0	0	NOON
PM	192	368	235	6	1096	PM
	1	2	1	0		

EASTBOUND — Hickey Blvd

AM	NOON	PM		
397	0	710		
4	0	7	0	
184	0	242	1.5	
347	0	667	1	
38	0	116	0.5	
AM	NOON	PM		

WESTBOUND — Hickey Blvd

PM	NOON	AM	
550	0	222	1
442	0	197	2
115	0	51	0
0	0	0	0
985	0	567	
PM	NOON	AM	

CONTROL

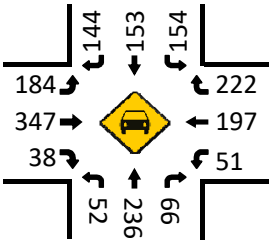
Signalized

TEV	1871 AM	0 NOON	3425 PM
PHF	0.95		0.98

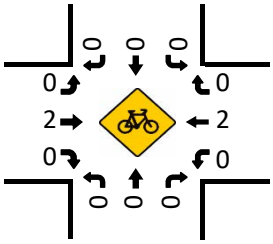
NORTHBOUND — Junipero Serra Blvd

PM	634	35	69	298	83	PM
NOON	0	0	0	0	0	NOON
AM	254	12	52	236	66	AM
		0	1	2	1	

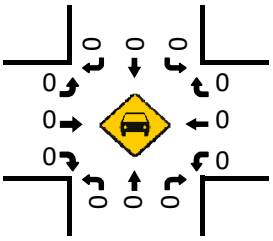
Totals (AM)



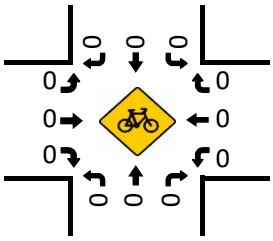
Total Bikes (AM)



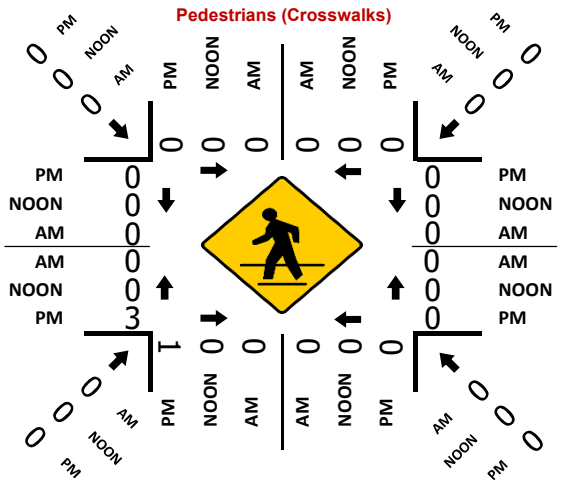
Totals (NOON)



Total Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0
0
0
0
0
0

National Data & Surveying Services Intersection Turning Movement Count

Location: Junipero Serra Blvd & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-005
Date: 7/20/2021

Data - Totals

NS/EW Streets:	Junipero Serra Blvd				Junipero Serra Blvd				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1.5	1	0.5	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	41	7	3	16	19	23	0	31	43	7	1	4	16	49	0	263
7:15 AM	5	53	3	2	10	25	24	1	39	50	4	1	6	21	47	0	291
7:30 AM	7	64	13	3	24	22	15	1	60	52	10	0	7	30	66	0	374
7:45 AM	9	78	15	2	23	30	22	2	63	80	8	1	12	41	65	0	451
8:00 AM	6	56	17	3	33	38	35	3	38	78	12	0	11	44	56	0	430
8:15 AM	14	72	11	3	36	41	38	2	48	80	8	0	15	51	52	0	471
8:30 AM	14	53	19	5	37	29	36	4	56	98	11	3	14	40	59	0	478
8:45 AM	18	55	19	1	48	45	35	2	42	91	7	1	11	62	55	0	492
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	76	472	104	22	227	249	228	15	377	572	67	7	80	305	449	0	3250
APPROACH %'s :	11.28%	70.03%	15.43%	3.26%	31.57%	34.63%	31.71%	2.09%	36.85%	55.91%	6.55%	0.68%	9.59%	36.57%	53.84%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	52	236	66	12	154	153	144	11	184	347	38	4	51	197	222	0	1871
PEAK HR FACTOR :	0.722	0.819	0.868	0.600	0.802	0.850	0.947	0.688	0.821	0.885	0.792	0.333	0.850	0.794	0.941	0.000	0.951
	0.915				0.888				0.853				0.918				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1.5	1	0.5	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	63	18	9	58	71	54	0	52	155	20	1	20	124	135	0	795
4:15 PM	15	72	23	6	63	98	55	0	61	150	19	3	28	108	140	0	841
4:30 PM	16	72	18	7	38	82	68	3	67	151	19	2	17	101	130	0	791
4:45 PM	16	54	16	8	63	85	39	3	49	177	21	3	23	111	145	0	813
5:00 PM	16	65	12	8	64	106	47	2	58	157	23	3	27	112	127	0	827
5:15 PM	12	91	26	4	55	77	43	1	68	169	29	1	38	125	131	0	870
5:30 PM	19	77	23	9	67	85	51	2	65	165	33	2	20	97	160	0	875
5:45 PM	22	65	22	14	49	100	51	1	51	176	31	1	30	108	132	0	853
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	131	559	158	65	457	704	408	12	471	1300	195	16	203	886	1100	0	6665
APPROACH %'s :	14.35%	61.23%	17.31%	7.12%	28.91%	44.53%	25.81%	0.76%	23.76%	65.59%	9.84%	0.81%	9.27%	40.48%	50.25%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	69	298	83	35	235	368	192	6	242	667	116	7	115	442	550	0	3425
PEAK HR FACTOR :	0.784	0.819	0.798	0.625	0.877	0.868	0.941	0.750	0.890	0.947	0.879	0.583	0.757	0.884	0.859	0.000	0.979
	0.912				0.914				0.966				0.941				

National Data & Surveying Services Intersection Turning Movement Count

Location: Junipero Serra Blvd & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-005
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Junipero Serra Blvd				Junipero Serra Blvd				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1.5	1	0.5	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.500
									0.250				0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1.5	1	0.5	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	4
APPROACH %'s :					50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	3
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.375
					0.500								0.250				

National Data & Surveying Services Intersection Turning Movement Count

Location: Junipero Serra Blvd & Hickey Blvd
City: Daly City
Project ID: 21-080154-005
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Junipero Serra Blvd		Junipero Serra Blvd		Hickey Blvd		Hickey Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	1	0	2
APPROACH %'s :			100.00%	0.00%			100.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	0	2
5:15 PM	0	0	1	0	0	0	1	0	2
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	3	0	4
APPROACH %'s :			100.00%	0.00%			100.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	0	0	1	0	0	0	3	0	4
PEAK HR FACTOR :			0.250				0.375		0.500
			0.250				0.375		

Prepared by National Data & Surveying Services

I-280 NB Ramps & Hickey Blvd

Peak Hour Turning Movement Count

ID: 21-080154-006
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (I-280 NB Ramps)

AM	68	90	36	0	109	AM
NOON	0	0	0	0	0	NOON
PM	85	76	51	0	260	PM
	1	0.5	0.5	0		

EASTBOUND (Hickey Blvd)

AM	NOON	PM	
654	0	1364	
15	0	15	0
53	0	139	1
457	0	647	2
172	0	184	1
AM	NOON	PM	

WESTBOUND (Hickey Blvd)

PM	NOON	AM	
45	0	26	0
619	0	289	2
177	0	60	1
1	0	0	0
1057	0	743	
PM	NOON	AM	

CONTROL

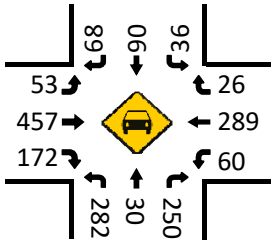
Signalized

TEV	1828 AM	0 NOON	3118 PM
PHF	0.89		0.94

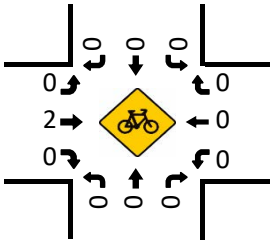
NORTHBOUND (I-280 NB Ramps)

	0	1.5	0.5	1		
PM	437	0	645	76	358	PM
NOON	0	0	0	0	0	NOON
AM	322	0	282	30	250	AM

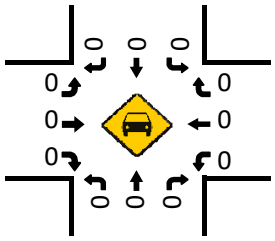
Totals (AM)



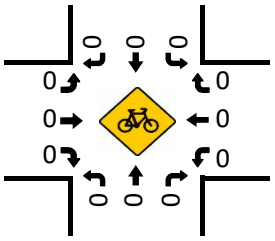
Total Bikes (AM)



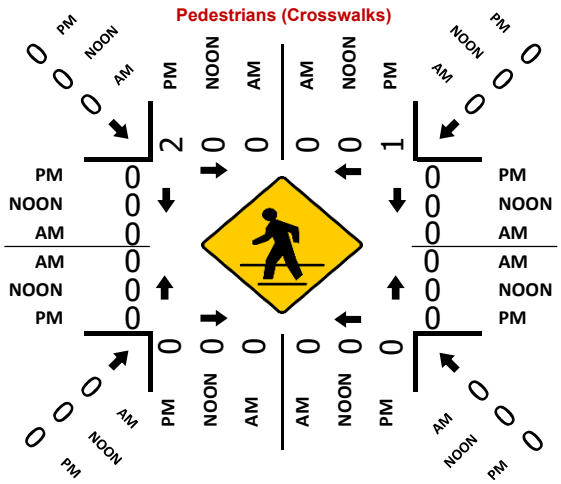
Totals (NOON)



Total Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
2
0
0
1
0
0
0
0
0
0
0
0
0
0
0

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 NB Ramps & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-006
Date: 7/20/2021

Data - Totals

NS/EW Streets:	I-280 NB Ramps				I-280 NB Ramps				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	1	0	0.5	0.5	1	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	36	9	26	0	6	14	19	0	10	45	29	2	11	41	2	1	251
7:15 AM	40	9	45	0	3	24	12	0	12	57	58	2	8	33	6	0	309
7:30 AM	63	7	59	0	9	29	24	0	13	53	52	2	8	43	4	0	366
7:45 AM	59	10	55	0	11	23	21	0	26	95	43	3	8	56	0	1	411
8:00 AM	53	11	59	0	9	28	13	0	8	91	40	7	15	68	9	0	411
8:15 AM	72	5	65	0	10	23	13	0	18	113	44	1	15	56	7	0	442
8:30 AM	76	7	72	0	7	21	19	0	14	127	57	3	17	84	9	0	513
8:45 AM	81	7	54	0	10	18	23	0	13	126	31	4	13	81	1	0	462
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	480	65	435	0	65	180	144	0	114	707	354	24	95	462	38	2	3165
APPROACH %'s :	48.98%	6.63%	44.39%	0.00%	16.71%	46.27%	37.02%	0.00%	9.51%	58.97%	29.52%	2.00%	15.91%	77.39%	6.37%	0.34%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	282	30	250	0	36	90	68	0	53	457	172	15	60	289	26	0	1828
PEAK HR FACTOR :	0.870	0.682	0.868	0.000	0.900	0.804	0.739	0.000	0.736	0.900	0.754	0.536	0.882	0.860	0.722	0.000	0.891
	0.906				0.951				0.867				0.852				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	1	0	0.5	0.5	1	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	125	15	81	0	16	25	22	0	23	152	33	2	46	161	13	0	714
4:15 PM	157	24	93	0	13	22	11	0	20	160	45	4	46	130	15	0	740
4:30 PM	162	30	84	0	10	23	16	0	22	161	45	5	44	161	15	0	778
4:45 PM	159	15	80	0	18	20	20	0	35	173	46	2	51	139	10	0	768
5:00 PM	146	14	83	0	12	13	23	0	38	160	46	7	49	149	12	0	752
5:15 PM	165	20	103	0	15	21	21	0	30	142	36	1	39	166	13	1	773
5:30 PM	175	27	92	0	6	22	21	0	36	172	56	5	38	165	10	0	825
5:45 PM	182	24	65	0	7	13	20	0	29	155	47	6	30	136	15	0	729
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1271	169	681	0	97	159	154	0	233	1275	354	32	343	1207	103	1	6079
APPROACH %'s :	59.92%	7.97%	32.11%	0.00%	23.66%	38.78%	37.56%	0.00%	12.30%	67.32%	18.69%	1.69%	20.74%	72.97%	6.23%	0.06%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	645	76	358	0	51	76	85	0	139	647	184	15	177	619	45	1	3118
PEAK HR FACTOR :	0.921	0.704	0.869	0.000	0.708	0.864	0.924	0.000	0.914	0.935	0.821	0.536	0.868	0.932	0.865	0.250	0.945
	0.918				0.914				0.915				0.961				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 NB Ramps & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-006
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	I-280 NB Ramps				I-280 NB Ramps				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	1	0	0.5	0.5	1	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
										0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	1	0	0.5	0.5	1	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	0	1	0	1	1	0	0	2	0	0	0	0	0	1	0	7
APPROACH %'s :	50.00%	0.00%	50.00%	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
			0.250				0.250				0.250						

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 NB Ramps & Hickey Blvd
City: Daly City
Project ID: 21-080154-006
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	I-280 NB Ramps		I-280 NB Ramps		Hickey Blvd		Hickey Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%							
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	1
5:15 PM	2	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	1	0	0	0	0	0	0	3
APPROACH %'s :	66.67%	33.33%							
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	2	1	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.250	0.250							0.375
	0.375								

Prepared by National Data & Surveying Services

I-280 SB Ramps & Hickey Blvd

Peak Hour Turning Movement Count

ID: 21-080154-007
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (I-280 SB Ramps)

AM	185	1	310	0	0	AM
NOON	0	0	0	0	0	NOON
PM	346	4	468	0	0	PM
	1.3	0.3	1.3	0		

EASTBOUND (Hickey Blvd)

AM	NOON	PM		
622	0	1431	⇦	
0	0	0	↩	0
0	0	0	↱	0
392	0	488	→	2
436	0	574	↴	1
AM	NOON	PM		

WESTBOUND (Hickey Blvd)

PM	NOON	AM		
0	0	0	↰	0
1085	0	437	←	2
300	0	205	↶	2
6	0	1	↩	0
962	0	703	⇨	
PM	NOON	AM		

CONTROL

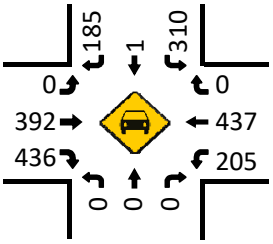
Signalized

TEV	1967 AM	0 NOON	3271 PM
PHF	0.94		0.94

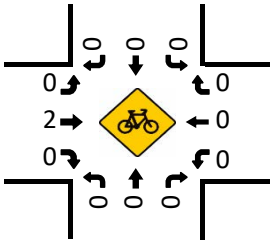
NORTHBOUND (I-280 SB Ramps)

PM	878	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	642	0	0	0	0	AM
		0	0	0	0	

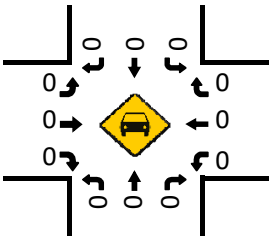
Totals (AM)



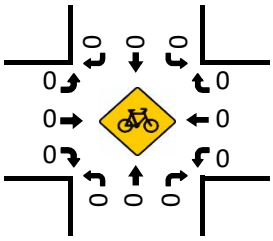
Total Bikes (AM)



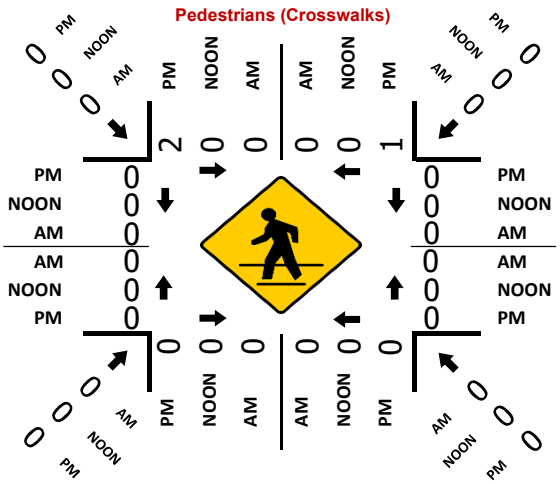
Totals (NOON)



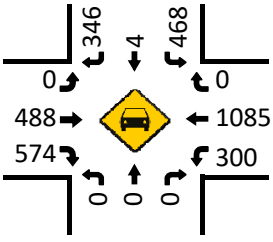
Total Bikes (NOON)



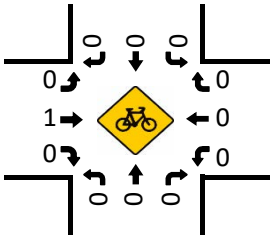
Pedestrians (Crosswalks)



Totals (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 SB Ramps & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-007
Date: 7/20/2021

Data - Totals

NS/EW Streets:	I-280 SB Ramps				I-280 SB Ramps				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1.3	0.3	1.3	0	0	2	1	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	30	0	26	0	0	53	82	0	38	61	0	0	290
7:15 AM	0	0	0	0	44	0	18	0	0	85	95	0	26	61	0	0	329
7:30 AM	0	0	0	0	43	0	30	0	0	84	102	0	44	80	0	0	383
7:45 AM	0	0	0	0	61	0	35	0	0	101	99	0	38	105	0	0	439
8:00 AM	0	0	0	0	68	0	45	0	0	83	122	0	47	89	0	1	455
8:15 AM	0	0	0	0	76	0	55	0	0	98	94	0	48	95	0	0	466
8:30 AM	0	0	0	0	84	1	41	0	0	113	111	0	48	125	0	0	523
8:45 AM	0	0	0	0	82	0	44	0	0	98	109	0	62	128	0	0	523
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	488	1	294	0	0	715	814	0	351	744	0	1	3408
APPROACH %'s :					62.32%	0.13%	37.55%	0.00%	0.00%	46.76%	53.24%	0.00%	32.03%	67.88%	0.00%	0.09%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	310	1	185	0	0	392	436	0	205	437	0	1	1967
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.923	0.250	0.841	0.000	0.000	0.867	0.893	0.000	0.827	0.854	0.000	0.250	0.940
					0.947				0.924				0.846				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1.3	0.3	1.3	0	0	2	1	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	108	1	72	0	0	108	117	0	81	236	0	0	723
4:15 PM	0	0	0	0	113	2	95	0	0	116	122	0	58	234	0	2	742
4:30 PM	0	0	0	0	98	0	69	0	0	126	123	0	83	268	0	2	769
4:45 PM	0	0	0	0	123	0	88	0	0	136	128	0	57	258	0	0	790
5:00 PM	0	0	0	0	111	0	77	0	0	138	171	0	67	249	0	0	813
5:15 PM	0	0	0	0	112	3	89	0	0	94	130	0	78	278	0	3	787
5:30 PM	0	0	0	0	134	0	91	0	0	143	142	0	82	280	0	2	874
5:45 PM	0	0	0	0	111	1	89	0	0	113	131	0	73	278	0	1	797
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	910	7	670	0	0	974	1064	0	579	2081	0	10	6295
APPROACH %'s :					57.34%	0.44%	42.22%	0.00%	0.00%	47.79%	52.21%	0.00%	21.69%	77.94%	0.00%	0.37%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	468	4	346	0	0	488	574	0	300	1085	0	6	3271
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.873	0.333	0.951	0.000	0.000	0.853	0.839	0.000	0.915	0.969	0.000	0.500	0.936
					0.909				0.859				0.955				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 SB Ramps & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-007
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	I-280 SB Ramps				I-280 SB Ramps				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1.3	0.3	1.3	0	0	2	1	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
										0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1.3	0.3	1.3	0	0	2	1	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
										0.250							

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 SB Ramps & Hickey Blvd
City: Daly City
Project ID: 21-080154-007
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	I-280 SB Ramps		I-280 SB Ramps		Hickey Blvd		Hickey Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	1
7:45 AM	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	2	0	0	0	0	0	0	2
APPROACH %'s :	0.00%	100.00%							
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	1	1	0	0	0	0	0	0	2
5:15 PM	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	1	0	0	0	0	0	0	4
APPROACH %'s :	75.00%	25.00%							
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	2	1	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.500	0.250							0.375
	0.375								

Prepared by National Data & Surveying Services

Gellert Blvd & Hickey Blvd

Peak Hour Turning Movement Count

ID: 21-080154-008
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	7:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Gellert Blvd)

AM	47	87	183	2	401	AM
NOON	0	0	0	0	0	NOON
PM	166	266	456	13	902	PM
	1	1.5	1.5	0		

EASTBOUND (Hickey Blvd)

AM	NOON	PM	
246	0	594	
0	0	10	0
48	0	91	1
346	0	331	2
11	0	21	1
AM	NOON	PM	

WESTBOUND (Hickey Blvd)

PM	NOON	AM	
572	0	227	1
358	0	172	2
465	0	168	2
6	0	8	0
1029	0	831	
PM	NOON	AM	

NORTHBOUND (Gellert Blvd)

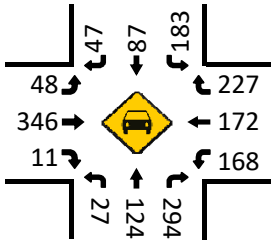
PM	752	0	60	226	236	PM
NOON	0	0	0	0	0	NOON
AM	266	0	27	124	294	AM
		0	1.5	1.5	1	

CONTROL

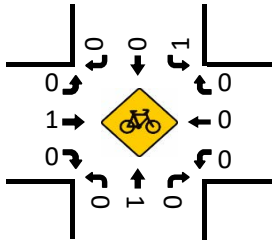
Signalized

TEV	1744 AM	0 NOON	3277 PM
PHF	0.95		0.99

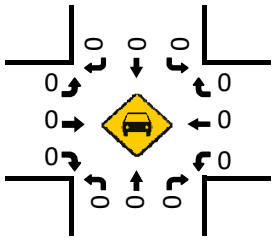
Totals (AM)



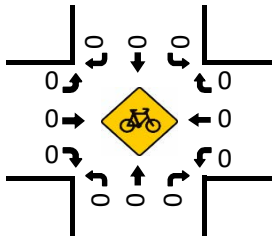
Total Bikes (AM)



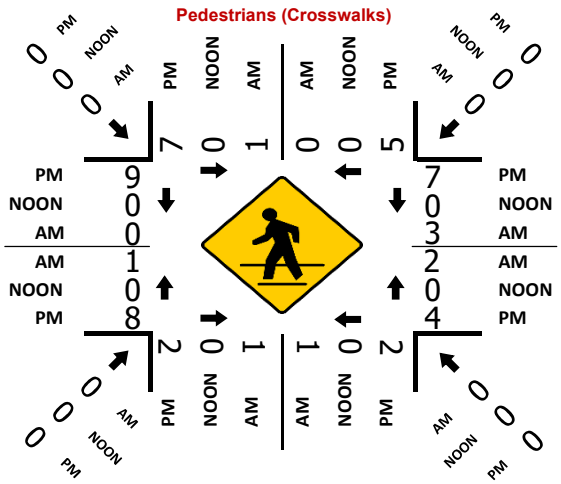
Totals (NOON)



Total Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0
0
0
0
0
0

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-008
Date: 7/20/2021

Data - Totals

NS/EW Streets:	Gellert Blvd				Gellert Blvd				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	1.5	1	0	1.5	1.5	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	12	66	0	21	15	4	0	6	50	4	0	19	31	27	1	260
7:15 AM	5	30	76	0	32	10	4	0	7	65	4	1	25	21	34	0	314
7:30 AM	7	28	86	0	39	20	7	0	15	65	1	0	25	32	38	2	365
7:45 AM	3	33	81	0	41	13	9	0	18	73	2	2	35	52	44	1	407
8:00 AM	8	26	84	0	45	22	6	0	5	76	1	0	44	43	49	1	410
8:15 AM	7	33	73	0	40	20	15	1	18	79	2	0	34	37	57	4	420
8:30 AM	8	33	87	0	48	15	13	1	10	92	2	0	43	47	56	0	455
8:45 AM	4	32	50	0	50	30	13	0	15	99	6	0	47	45	65	3	459
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	46	227	603	0	316	145	71	2	94	599	22	3	272	308	370	12	3090
APPROACH %'s :	5.25%	25.91%	68.84%	0.00%	59.18%	27.15%	13.30%	0.37%	13.09%	83.43%	3.06%	0.42%	28.27%	32.02%	38.46%	1.25%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	27	124	294	0	183	87	47	2	48	346	11	0	168	172	227	8	1744
PEAK HR FACTOR :	0.844	0.939	0.845	0.000	0.915	0.725	0.783	0.500	0.667	0.874	0.458	0.000	0.894	0.915	0.873	0.500	0.950
	0.869				0.858				0.844				0.898				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	1.5	1	0	1.5	1.5	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	47	49	0	96	60	44	3	23	73	2	1	109	71	113	3	704
4:15 PM	8	47	54	0	106	48	48	1	23	64	8	1	102	91	126	4	731
4:30 PM	11	60	67	0	101	57	40	4	26	68	8	0	84	78	150	4	758
4:45 PM	14	56	61	0	116	70	65	1	24	67	8	3	99	84	144	1	813
5:00 PM	16	46	67	0	121	48	42	6	25	106	9	3	106	85	132	3	815
5:15 PM	15	62	50	0	111	69	37	1	24	73	2	4	120	90	148	2	808
5:30 PM	13	39	70	0	113	65	35	3	27	73	5	0	133	100	154	0	830
5:45 PM	16	79	49	0	111	84	52	3	15	79	5	3	106	83	138	1	824
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	103	436	467	0	875	501	363	22	187	603	47	15	859	682	1105	18	6283
APPROACH %'s :	10.24%	43.34%	46.42%	0.00%	49.69%	28.45%	20.61%	1.25%	21.95%	70.77%	5.52%	1.76%	32.24%	25.60%	41.48%	0.68%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	60	226	236	0	456	266	166	13	91	331	21	10	465	358	572	6	3277
PEAK HR FACTOR :	0.938	0.715	0.843	0.000	0.942	0.792	0.798	0.542	0.843	0.781	0.583	0.625	0.874	0.895	0.929	0.500	0.987
	0.906				0.901				0.792				0.905				

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-008
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Gellert Blvd				Gellert Blvd				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	1.5	1	0	1.5	1.5	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	4
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.375
	0.250				0.250				0.250								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	1.5	1	0	1.5	1.5	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	1	0	0	0	0	0	0	1	1	0	1	0	0	0	5
APPROACH %'s :	0.00%	50.00%	50.00%	0.00%					0.00%	50.00%	50.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
									0.250								

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Hickey Blvd
City: Daly City
Project ID: 21-080154-008
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Gellert Blvd		Gellert Blvd		Hickey Blvd		Hickey Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	2	1	0	0	3
7:15 AM	0	0	0	0	0	0	1	0	1
7:30 AM	2	0	0	0	4	0	3	0	9
7:45 AM	1	0	0	0	1	2	0	1	5
8:00 AM	0	0	0	0	1	0	0	0	1
8:15 AM	1	0	0	0	0	0	1	0	2
8:30 AM	0	0	1	1	0	2	0	0	4
8:45 AM	0	0	0	0	1	1	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	4	0	1	1	9	6	5	1	27
APPROACH %'s :	100.00%	0.00%	50.00%	50.00%	60.00%	40.00%	83.33%	16.67%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	1	0	1	1	2	3	1	0	9
PEAK HR FACTOR :	0.250		0.250	0.250	0.500	0.375	0.250		0.563
	0.250		0.250		0.625		0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	0	0	1	1	2	3	0	8
4:15 PM	0	5	1	0	4	1	3	0	14
4:30 PM	1	0	1	0	0	0	2	2	6
4:45 PM	0	2	0	0	1	0	0	2	5
5:00 PM	2	1	0	0	2	1	2	3	11
5:15 PM	1	2	1	0	1	2	3	4	14
5:30 PM	2	2	1	2	1	2	0	2	12
5:45 PM	2	0	0	0	0	2	3	0	7
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	9	12	4	3	10	10	16	13	77
APPROACH %'s :	42.86%	57.14%	57.14%	42.86%	50.00%	50.00%	55.17%	44.83%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	7	5	2	2	4	7	8	9	44
PEAK HR FACTOR :	0.875	0.625	0.500	0.250	0.500	0.875	0.667	0.563	0.786
	0.750		0.333		0.917		0.607		

Prepared by National Data & Surveying Services

Callan Blvd & Hickey Blvd

Peak Hour Turning Movement Count

ID: 21-080154-009
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	7:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Callan Blvd)

AM	87	71	36	0	293	AM
NOON	0	0	0	0	0	NOON
PM	163	175	35	0	384	PM
	0.5	0.5	1	0		

EASTBOUND (Hickey Blvd)

AM	NOON	PM	
326	0	648	
1	0	1	0
99	0	121	1
338	0	359	2
32	0	85	0

WESTBOUND (Hickey Blvd)

PM	NOON	AM	
109	0	38	0
440	0	193	2
43	0	8	1
15	0	1	0
438	0	393	

NORTHBOUND (Callan Blvd)

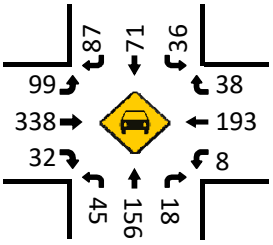
	0	1	1	0		
PM	303	0	44	154	29	PM
NOON	0	0	0	0	0	NOON
AM	111	0	45	156	18	AM

CONTROL

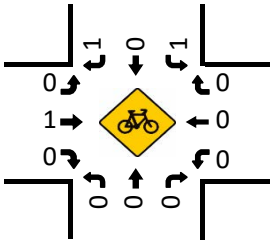
Signalized

TEV	1123 AM	0 NOON	1773 PM
PHF	0.92		0.94

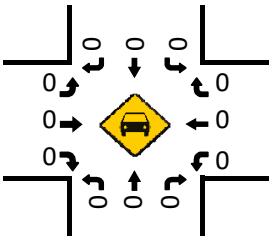
Totals (AM)



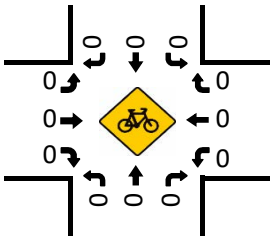
Total Bikes (AM)



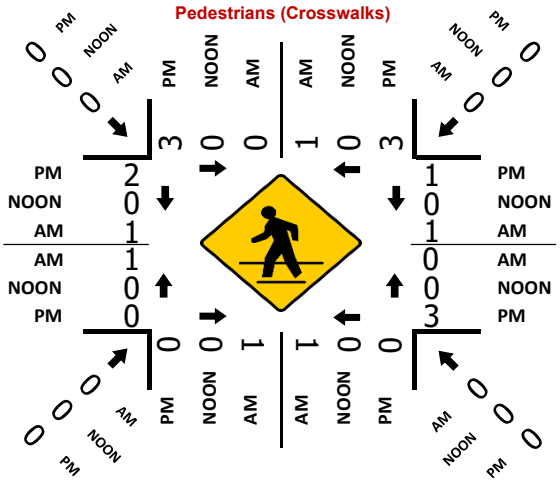
Totals (NOON)



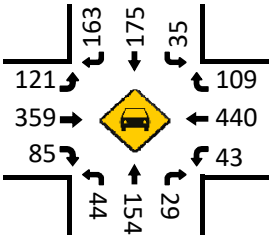
Total Bikes (NOON)



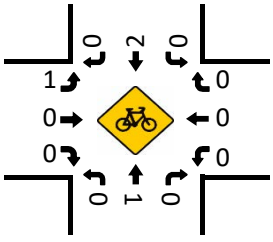
Pedestrians (Crosswalks)



Totals (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Callan Blvd & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-009
Date: 7/20/2021

Data - Totals

NS/EW Streets:	Callan Blvd				Callan Blvd				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	0.5	0.5	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	15	3	0	6	14	11	0	11	44	5	0	3	24	6	1	150
7:15 AM	8	32	5	0	5	9	18	0	18	68	2	0	2	24	6	0	197
7:30 AM	7	26	5	0	6	17	11	0	9	70	3	0	5	29	9	2	199
7:45 AM	12	32	6	0	11	12	27	0	26	70	8	0	2	51	6	0	263
8:00 AM	12	37	6	0	7	18	26	0	34	77	5	0	0	42	11	0	275
8:15 AM	12	36	3	0	6	16	22	0	21	72	6	0	3	49	5	1	252
8:30 AM	6	45	4	0	12	15	19	0	27	93	7	1	3	46	13	0	291
8:45 AM	15	38	5	0	11	22	20	0	17	96	14	0	2	56	9	0	305
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	79	261	37	0	64	123	154	0	163	590	50	1	20	321	65	4	1932
APPROACH %'s :	20.95%	69.23%	9.81%	0.00%	18.77%	36.07%	45.16%	0.00%	20.27%	73.38%	6.22%	0.12%	4.88%	78.29%	15.85%	0.98%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	45	156	18	0	36	71	87	0	99	338	32	1	8	193	38	1	1123
PEAK HR FACTOR :	0.750	0.867	0.750	0.000	0.750	0.807	0.837	0.000	0.728	0.880	0.571	0.250	0.667	0.862	0.731	0.250	0.920
	0.944				0.915				0.918				0.896				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	0.5	0.5	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	12	40	4	0	8	46	45	0	36	77	9	1	7	87	31	3	406
4:15 PM	17	35	7	0	12	48	30	0	34	84	16	0	14	115	16	3	431
4:30 PM	10	51	4	0	5	32	34	0	30	81	17	0	7	99	20	1	391
4:45 PM	14	30	9	0	12	44	45	0	26	81	14	0	9	115	20	4	423
5:00 PM	16	41	10	0	9	46	44	0	35	103	22	0	10	106	25	6	473
5:15 PM	8	44	10	0	12	45	38	0	39	88	25	1	9	112	30	4	465
5:30 PM	10	32	3	0	4	44	35	0	21	74	22	0	5	101	30	2	383
5:45 PM	10	37	6	0	10	40	46	0	26	94	16	0	19	121	24	3	452
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	97	310	53	0	72	345	317	0	247	682	141	2	80	856	196	26	3424
APPROACH %'s :	21.09%	67.39%	11.52%	0.00%	9.81%	47.00%	43.19%	0.00%	23.04%	63.62%	13.15%	0.19%	6.91%	73.92%	16.93%	2.25%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	44	154	29	0	35	175	163	0	121	359	85	1	43	440	109	15	1773
PEAK HR FACTOR :	0.688	0.875	0.725	0.000	0.729	0.951	0.886	0.000	0.776	0.871	0.850	0.250	0.566	0.909	0.908	0.625	0.937
	0.847				0.942				0.884				0.909				

National Data & Surveying Services Intersection Turning Movement Count

Location: Callan Blvd & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-009
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Callan Blvd				Callan Blvd				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	0.5	0.5	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3
APPROACH %'s :					50.00%	0.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.375
					0.500				0.250								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	0.5	0.5	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	2	0	0	1	0	0	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	3	0	0	1	0	0	0	0	0	0	0	5
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	2	0	0	1	0	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
		0.250				0.250				0.250							

National Data & Surveying Services Intersection Turning Movement Count

Location: Callan Blvd & Hickey Blvd
City: Daly City
Project ID: 21-080154-009
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Callan Blvd		Callan Blvd		Hickey Blvd		Hickey Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	0	0	1	0	1	1	0	4
7:15 AM	0	0	0	0	0	1	0	1	2
7:30 AM	1	0	0	0	0	0	0	1	2
7:45 AM	1	0	1	0	0	0	0	1	3
8:00 AM	0	1	0	1	0	0	1	0	3
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	1	0	1	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	1	2	2	0	3	2	4	17
APPROACH %'s :	75.00%	25.00%	50.00%	50.00%	0.00%	100.00%	33.33%	66.67%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	1	1	1	0	1	1	1	6
PEAK HR FACTOR :	0.250		0.250	0.250	0.250		0.250	0.250	0.500
	0.250		0.500		0.250		0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	3	0	0	0	0	0	0	3
4:45 PM	0	0	0	1	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	1	2
5:15 PM	1	0	0	0	2	1	0	0	4
5:30 PM	2	0	0	0	0	0	0	0	2
5:45 PM	0	2	0	0	1	0	0	1	4
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	6	0	1	3	1	0	2	16
APPROACH %'s :	33.33%	66.67%	0.00%	100.00%	75.00%	25.00%	0.00%	100.00%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	3	3	0	0	3	1	0	2	12
PEAK HR FACTOR :	0.375	0.375			0.375	0.250		0.500	0.750
	0.750				0.333		0.500		

Prepared by National Data & Surveying Services

Campus Dr & Hickey Blvd

Peak Hour Turning Movement Count

ID: 21-080154-010
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	7:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Campus Dr)

AM	64	0	110	0	203	AM
NOON	0	0	0	0	0	NOON
PM	73	0	127	0	165	PM

EASTBOUND (Hickey Blvd)

AM	NOON	PM	
249	0	611	
0	0	2	0
62	0	51	1
366	0	432	2
0	0	0	0

WESTBOUND (Hickey Blvd)

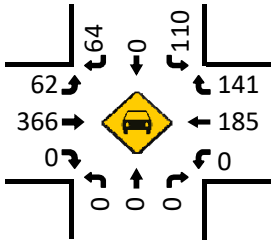
PM	NOON	AM	
114	0	141	0
536	0	185	2
0	0	0	0
0	0	0	0
559	0	476	

NORTHBOUND (Campus Dr)

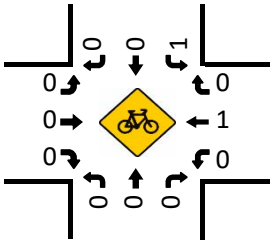
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

CONTROL			
Signalized			
TEV	928 AM	0 NOON	1335 PM
PHF	0.94		0.95

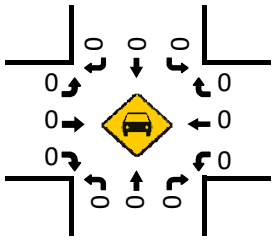
Totals (AM)



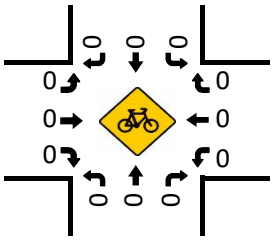
Total Bikes (AM)



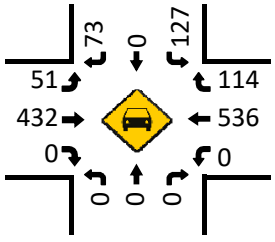
Totals (NOON)



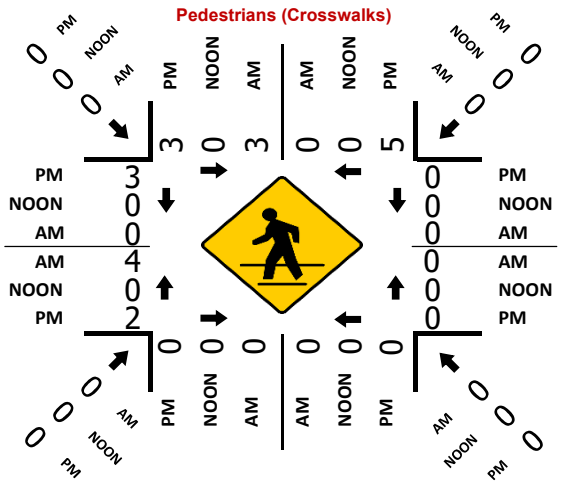
Total Bikes (NOON)



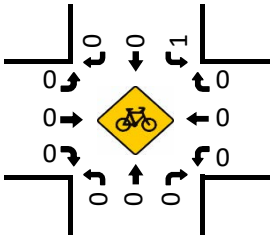
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Campus Dr & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-010
Date: 7/20/2021

Data - Totals

NS/EW Streets:	Campus Dr				Campus Dr				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	10	0	9	0	4	55	0	0	0	29	13	0	120
7:15 AM	0	0	0	0	14	0	13	0	11	69	0	0	0	29	20	0	156
7:30 AM	0	0	0	0	8	0	9	0	7	80	0	0	0	28	18	0	150
7:45 AM	0	0	0	0	23	0	12	0	13	74	0	0	0	50	42	0	214
8:00 AM	0	0	0	0	39	0	22	0	23	77	0	0	0	33	42	0	236
8:15 AM	0	0	0	0	24	0	20	0	16	75	0	0	0	47	41	0	223
8:30 AM	0	0	0	0	23	0	12	0	10	105	0	0	0	49	23	0	222
8:45 AM	0	0	0	0	24	0	10	0	13	109	0	0	0	56	35	0	247
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	165	0	107	0	97	644	0	0	0	321	234	0	1568
APPROACH %'s :					60.66%	0.00%	39.34%	0.00%	13.09%	86.91%	0.00%	0.00%	0.00%	57.84%	42.16%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	110	0	64	0	62	366	0	0	0	185	141	0	928
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.705	0.000	0.727	0.000	0.674	0.839	0.000	0.000	0.000	0.826	0.839	0.000	0.939
					0.713				0.877				0.896				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	27	0	21	0	7	97	0	0	0	114	33	0	299
4:15 PM	0	0	0	0	27	0	16	0	8	106	0	0	0	135	27	0	319
4:30 PM	0	0	0	0	26	0	23	0	6	101	0	0	0	109	28	0	293
4:45 PM	0	0	0	0	25	0	23	0	13	101	0	0	0	135	44	0	341
5:00 PM	0	0	0	0	41	0	22	0	12	116	0	0	0	135	26	0	352
5:15 PM	0	0	0	0	38	0	13	0	13	117	0	1	0	140	21	0	343
5:30 PM	0	0	0	0	23	0	15	0	13	98	0	1	0	126	23	0	299
5:45 PM	0	0	0	0	23	0	12	0	8	107	0	0	0	147	26	0	323
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	230	0	145	0	80	843	0	2	0	1041	228	0	2569
APPROACH %'s :					61.33%	0.00%	38.67%	0.00%	8.65%	91.14%	0.00%	0.22%	0.00%	82.03%	17.97%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	127	0	73	0	51	432	0	2	0	536	114	0	1335
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.774	0.000	0.793	0.000	0.981	0.923	0.000	0.500	0.000	0.957	0.648	0.000	0.948
					0.794				0.926				0.908				

National Data & Surveying Services Intersection Turning Movement Count

Location: Campus Dr & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-010
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Campus Dr				Campus Dr				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
APPROACH %'s :					100.00%	0.00%	0.00%	0.00%					0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.500
					0.250								0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :					100.00%	0.00%	0.00%	0.00%									
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
					0.250												

National Data & Surveying Services Intersection Turning Movement Count

Location: Campus Dr & Hickey Blvd
City: Daly City
Project ID: 21-080154-010
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Campus Dr		Campus Dr		Hickey Blvd		Hickey Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	1	1	0	0	0	0	0	0	2
7:30 AM	2	1	0	0	0	0	0	1	4
7:45 AM	0	1	0	0	0	0	0	2	3
8:00 AM	0	0	0	0	0	0	1	0	1
8:15 AM	2	0	0	0	0	0	2	0	4
8:30 AM	1	0	0	0	0	0	1	0	2
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	6	3	0	0	0	0	4	3	16
APPROACH %'s :	66.67%	33.33%					57.14%	42.86%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	3	0	0	0	0	0	4	0	7
PEAK HR FACTOR :	0.375						0.500		0.438
	0.375						0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	0	0	2	1	4
4:45 PM	0	1	0	0	0	0	1	0	2
5:00 PM	0	1	0	0	0	0	1	1	3
5:15 PM	2	2	0	0	0	0	0	2	6
5:30 PM	1	1	0	0	0	0	0	0	2
5:45 PM	0	2	0	0	0	0	1	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	4	8	0	0	0	0	5	4	21
APPROACH %'s :	33.33%	66.67%					55.56%	44.44%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	3	5	0	0	0	0	2	3	13
PEAK HR FACTOR :	0.375	0.625					0.500	0.375	0.542
	0.500						0.625		

Prepared by National Data & Surveying Services

Skyline Blvd & Hickey Blvd

Peak Hour Turning Movement Count

ID: 21-080154-011
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	7:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	2064	0	3226
PHF	0.93		0.99

SOUTHBOUND (Skyline Blvd)

	L	T	R	U	Total	
AM	171	241	103	0	972	AM
NOON	0	0	0	0	0	NOON
PM	553	528	173	0	1005	PM
	1	2	1	0		

EASTBOUND (Hickey Blvd)

AM	NOON	PM	
330	0	993	
0	0	0	0
353	0	302	1.5
242	0	241	0.5
96	0	120	1
AM	NOON	PM	

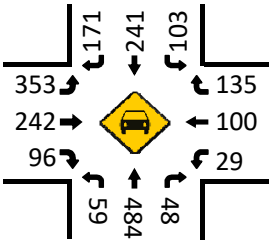
WESTBOUND (Hickey Blvd)

PM	NOON	AM	
217	0	135	0.5
288	0	100	1
94	0	29	0.5
0	0	3	0
486	0	396	
PM	NOON	AM	

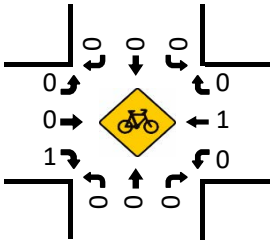
NORTHBOUND (Skyline Blvd)

	L	T	T	R	Total	
PM	742	0	152	486	72	PM
NOON	0	0	0	0	0	NOON
AM	366	0	59	484	48	AM
		0	1	1.5	0.5	

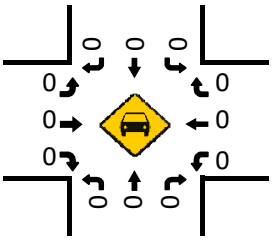
Totals (AM)



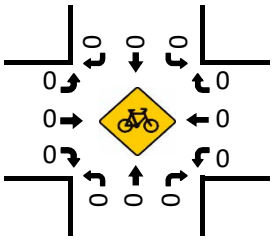
Total Bikes (AM)



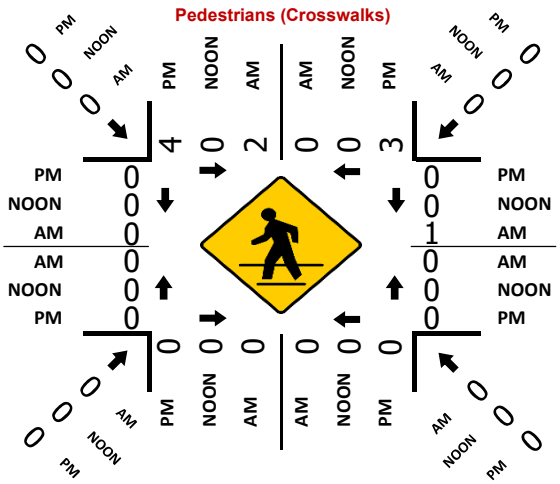
Totals (NOON)



Total Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
4
0
2
0
0
3
0
PM
0
NOON
0
AM
0
AM
0
NOON
0
PM
0
1
0
0
0
0
0
0
0
0
0
0
0

National Data & Surveying Services Intersection Turning Movement Count

Location: Skyline Blvd & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-011
Date: 7/20/2021

Data - Totals

NS/EW Streets:	Skyline Blvd				Skyline Blvd				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1.5	0.5	0	1	2	1	0	1.5	0.5	1	0	0.5	1	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	101	6	0	19	32	25	0	77	42	16	0	4	20	22	0	376
7:15 AM	8	103	12	0	20	30	37	0	80	50	13	0	5	16	31	0	405
7:30 AM	10	108	8	0	17	47	38	0	98	61	19	0	4	14	28	0	452
7:45 AM	14	111	15	0	20	68	43	0	88	50	24	0	7	32	25	1	498
8:00 AM	17	111	11	0	29	50	34	0	99	51	29	0	4	15	44	0	494
8:15 AM	10	109	8	0	24	52	43	0	83	58	13	0	10	29	38	1	478
8:30 AM	12	143	14	0	21	76	48	0	82	72	25	0	9	25	24	1	552
8:45 AM	20	121	15	0	29	63	46	0	89	61	29	0	6	31	29	1	540
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	103	907	89	0	179	418	314	0	696	445	168	0	49	182	241	4	3795
APPROACH %'s :	9.37%	82.53%	8.10%	0.00%	19.65%	45.88%	34.47%	0.00%	53.17%	34.00%	12.83%	0.00%	10.29%	38.24%	50.63%	0.84%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	59	484	48	0	103	241	171	0	353	242	96	0	29	100	135	3	2064
PEAK HR FACTOR :	0.738	0.846	0.800	0.000	0.888	0.793	0.891	0.000	0.891	0.840	0.828	0.000	0.725	0.806	0.767	0.750	0.935
	0.874				0.888				0.965				0.856				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1.5	0.5	0	1	2	1	0	1.5	0.5	1	0	0.5	1	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	31	112	13	0	26	110	90	0	59	56	30	0	22	68	45	0	662
4:15 PM	36	105	19	0	40	136	111	0	75	60	24	1	23	82	47	0	759
4:30 PM	39	113	15	0	42	136	132	0	86	45	33	0	20	69	53	0	783
4:45 PM	45	124	18	0	41	132	147	0	74	57	30	0	27	67	51	0	813
5:00 PM	38	128	17	0	46	116	132	0	81	71	28	0	23	79	56	0	815
5:15 PM	30	121	22	0	44	144	142	0	61	68	29	0	24	73	57	0	815
5:30 PM	23	110	19	0	34	127	126	0	74	59	27	0	26	67	40	0	732
5:45 PM	44	116	13	0	36	149	121	0	79	69	28	0	26	93	40	0	814
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	286	929	136	0	309	1050	1001	0	589	485	229	1	191	598	389	0	6193
APPROACH %'s :	21.17%	68.76%	10.07%	0.00%	13.09%	44.49%	42.42%	0.00%	45.17%	37.19%	17.56%	0.08%	16.21%	50.76%	33.02%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	152	486	72	0	173	528	553	0	302	241	120	0	94	288	217	0	3226
PEAK HR FACTOR :	0.844	0.949	0.818	0.000	0.940	0.917	0.940	0.000	0.878	0.849	0.909	0.000	0.870	0.911	0.952	0.000	0.990
	0.949				0.950				0.921				0.948				

National Data & Surveying Services Intersection Turning Movement Count

Location: Skyline Blvd & Hickey Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-011
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Skyline Blvd				Skyline Blvd				Hickey Blvd				Hickey Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1.5	0.5	0	1	2	1	0	1.5	0.5	1	0	0.5	1	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
APPROACH %'s :									0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.250
											0.250			0.250			

NS/EW Streets:	Skyline Blvd				Skyline Blvd				Hickey Blvd				Hickey Blvd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1.5	0.5	0	1	2	1	0	1.5	0.5	1	0	0.5	1	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%					0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: Skyline Blvd & Hickey Blvd
City: Daly City
Project ID: 21-080154-011
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Skyline Blvd		Skyline Blvd		Hickey Blvd		Hickey Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	1
7:45 AM	0	1	0	0	0	0	0	0	1
8:00 AM	1	0	0	0	0	1	0	0	2
8:15 AM	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	1	0	1	0	1	0	0	5
APPROACH %'s :	66.67%	33.33%	0.00%	100.00%	0.00%	100.00%			
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	2	0	0	0	0	1	0	0	3
PEAK HR FACTOR :	0.500					0.250			0.375
	0.500				0.250				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	1
4:15 PM	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	2	0	0	0	0	0	0	2
5:00 PM	2	1	0	0	0	0	0	0	3
5:15 PM	2	0	0	0	0	0	0	0	2
5:30 PM	1	2	0	0	0	0	0	0	3
5:45 PM	0	2	0	0	0	0	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	7	7	0	0	0	0	0	0	14
APPROACH %'s :	50.00%	50.00%							
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	4	3	0	0	0	0	0	0	7
PEAK HR FACTOR :	0.500	0.375							0.583
	0.583								

Prepared by National Data & Surveying Services

Gellert Blvd & Serramonte Blvd

Peak Hour Turning Movement Count

ID: 21-080154-012
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	7:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Gellert Blvd)

AM	8	95	79	0	186	AM
NOON	0	0	0	0	0	NOON
PM	55	262	423	2	780	PM
	0.5	0.5	2	0		

EASTBOUND (Serramonte Blvd)

AM	NOON	PM		
270	0	682		
15	0	18	0	
20	0	36	1	
177	0	348	2	
113	0	245	1	
AM	NOON	PM		

WESTBOUND (Serramonte Blvd)

PM	NOON	AM	
487	0	91	2
310	0	131	1
466	0	210	2
3	0	0	0
1276	0	411	
PM	NOON	AM	

CONTROL

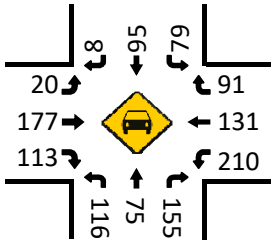
Signalized

TEV	1289 AM	0 NOON	3712 PM
PHF	0.88		0.96

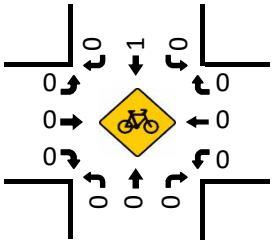
NORTHBOUND (Gellert Blvd)

	0	2	1.5	1.5	
PM	974	1	299	255	502	PM
NOON	0	0	0	0	0	NOON
AM	422	4	116	75	155	AM

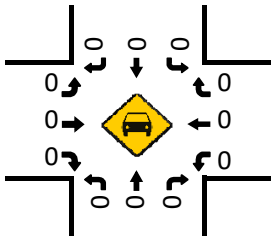
Totals (AM)



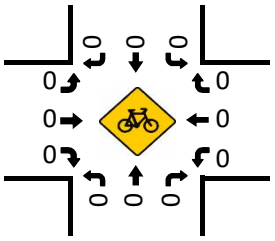
Total Bikes (AM)



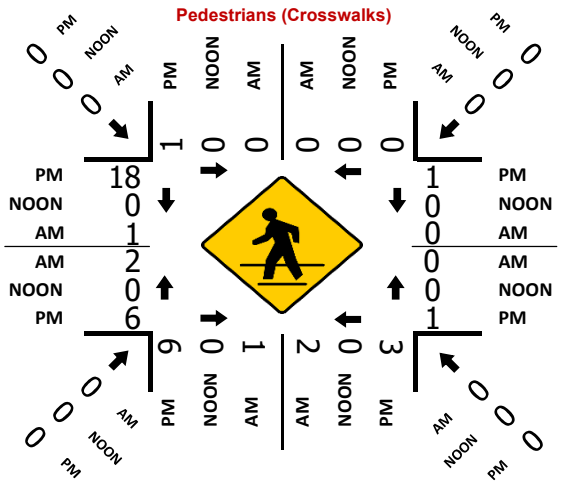
Totals (NOON)



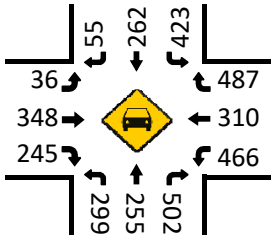
Total Bikes (NOON)



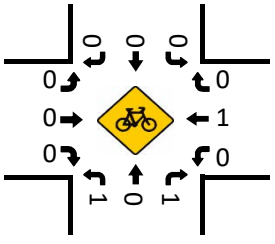
Pedestrians (Crosswalks)



Totals (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Serramonte Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-012
Date: 7/20/2021

Data - Totals

NS/EW Streets:	Gellert Blvd				Gellert Blvd				Serramonte Blvd				Serramonte Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1.5	1.5	0	2	0.5	0.5	0	1	2	1	0	2	1	2	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	14	8	22	3	10	12	0	0	3	29	29	1	21	25	13	0	190
7:15 AM	25	11	30	1	10	11	3	0	2	37	27	5	29	20	8	0	219
7:30 AM	28	16	32	1	12	15	1	0	0	33	22	1	36	23	10	0	230
7:45 AM	23	13	38	7	14	12	2	0	4	36	24	2	53	29	15	0	272
8:00 AM	25	11	32	2	15	23	3	0	6	50	22	4	41	36	24	0	294
8:15 AM	33	18	36	2	17	25	0	0	8	42	30	1	56	28	19	0	315
8:30 AM	28	21	41	0	19	22	2	0	5	43	25	4	48	32	23	0	313
8:45 AM	30	25	46	0	28	25	3	0	1	42	36	6	65	35	25	0	367
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	206	123	277	16	125	145	14	0	29	312	215	24	349	228	137	0	2200
APPROACH %'s :	33.12%	19.77%	44.53%	2.57%	44.01%	51.06%	4.93%	0.00%	5.00%	53.79%	37.07%	4.14%	48.88%	31.93%	19.19%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	116	75	155	4	79	95	8	0	20	177	113	15	210	131	91	0	1289
PEAK HR FACTOR :	0.879	0.750	0.842	0.500	0.705	0.950	0.667	0.000	0.625	0.885	0.785	0.625	0.808	0.910	0.910	0.000	0.878
	0.866				0.813				0.956				0.864				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1.5	1.5	0	2	0.5	0.5	0	1	2	1	0	2	1	2	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	66	52	113	0	98	63	14	0	7	105	65	5	118	83	88	0	877
4:15 PM	57	52	109	0	113	61	21	1	3	91	61	5	131	88	107	0	900
4:30 PM	70	68	117	0	108	74	10	1	11	93	56	0	115	75	128	0	926
4:45 PM	83	64	140	0	93	59	15	1	11	90	83	3	127	85	112	0	966
5:00 PM	72	51	123	1	100	66	18	0	8	94	60	5	115	72	118	2	905
5:15 PM	74	72	122	0	122	63	12	0	6	71	46	10	109	78	129	1	915
5:30 PM	85	65	111	0	108	59	12	0	6	85	50	1	117	91	130	0	920
5:45 PM	82	53	110	0	104	63	18	0	7	90	82	5	107	74	118	0	913
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	589	477	945	1	846	508	120	3	59	719	503	34	939	646	930	3	7322
APPROACH %'s :	29.27%	23.71%	46.97%	0.05%	57.28%	34.39%	8.12%	0.20%	4.49%	54.68%	38.25%	2.59%	37.29%	25.66%	36.93%	0.12%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	299	255	502	1	423	262	55	2	36	348	245	18	466	310	487	3	3712
PEAK HR FACTOR :	0.901	0.885	0.896	0.250	0.867	0.885	0.764	0.500	0.818	0.926	0.738	0.450	0.917	0.912	0.944	0.375	0.961
	0.921				0.942				0.865				0.977				

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Serramonte Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-012
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Gellert Blvd				Gellert Blvd				Serramonte Blvd				Serramonte Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1.5	1.5	0	2	0.5	0.5	0	1	2	1	0	2	1	2	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	0	0	0	1	0	0	0	0	1	0	4
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
					0.250												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1.5	1.5	0	2	0.5	0.5	0	1	2	1	0	2	1	2	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	0	2	1	0	0	0	0	0	0	1	0	0	1	0	0	6
APPROACH %'s :	25.00%	0.00%	50.00%	25.00%					0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	3
PEAK HR FACTOR :	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.375
			0.500												0.250		

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Serramonte Blvd
City: Daly City
Project ID: 21-080154-012
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Gellert Blvd		Gellert Blvd		Serramonte Blvd		Serramonte Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	1
7:45 AM	0	1	0	1	0	0	1	0	3
8:00 AM	0	0	0	2	0	0	1	0	3
8:15 AM	0	0	1	0	0	0	1	0	2
8:30 AM	0	0	0	0	0	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	1	3	0	0	4	1	10
APPROACH %'s :	0.00%	100.00%	25.00%	75.00%			80.00%	20.00%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	1	2	0	0	2	1	6
PEAK HR FACTOR :			0.250	0.250			0.500	0.250	0.500
			0.375				0.750		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	3	0	0	6	1	10
4:15 PM	0	0	1	2	0	0	2	1	6
4:30 PM	1	0	2	1	1	1	2	4	12
4:45 PM	0	0	2	0	0	0	1	6	9
5:00 PM	0	0	1	2	0	0	2	4	9
5:15 PM	0	0	1	0	0	0	1	4	6
5:30 PM	0	0	1	0	0	0	0	4	5
5:45 PM	0	0	1	3	0	0	1	1	6
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	9	11	1	1	15	25	63
APPROACH %'s :	100.00%	0.00%	45.00%	55.00%	50.00%	50.00%	37.50%	62.50%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	1	0	6	3	1	1	6	18	36
PEAK HR FACTOR :	0.250		0.750	0.375	0.250	0.250	0.750	0.750	0.750
	0.250		0.750		0.250		0.857		

Prepared by National Data & Surveying Services

Gellert Blvd & Victoria St

Peak Hour Turning Movement Count

ID: 21-080154-004
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS		COUNT PERIODS
AM	08:00 AM - 09:00 AM	AM
NOON	NONE	NOON
PM	05:00 PM - 06:00 PM	PM

AM	46	131	13	0	348	AM
NOON	0	0	0	0	0	NOON
PM	138	364	19	0	311	PM

SOUTHBOUND — Gellert Blvd

EASTBOUND — Victoria St

AM	NOON	PM	
70	0	175	⇦
0	0	0	↶ 0
103	0	83	↱ 0
9	0	12	→ 1
9	0	18	↴ 0

WESTBOUND — Victoria St

PM	NOON	AM	
20	0	30	0 ↰
12	0	12	1 ←
4	0	3	0 ↙
0	0	0	0 ↶
37	0	25	⇨

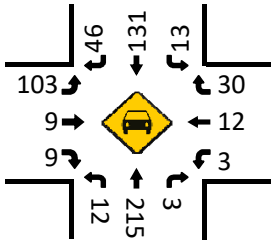
CONTROL
4-Way Stop

TEV	587 AM	0 NOON	914 PM
PHF	0.90		0.93

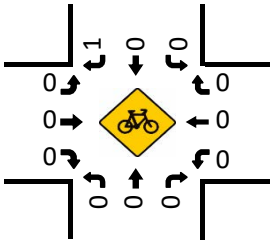
PM	391	5	25	208	6	PM
NOON	0	0	0	0	0	NOON
AM	144	1	12	215	3	AM

NORTHBOUND — Gellert Blvd

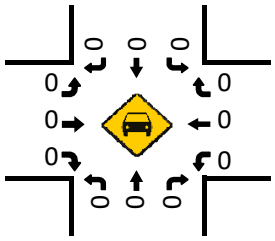
Totals (AM)



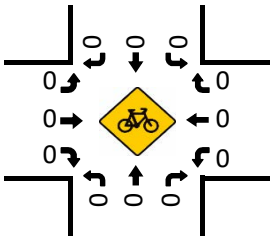
Total Bikes (AM)



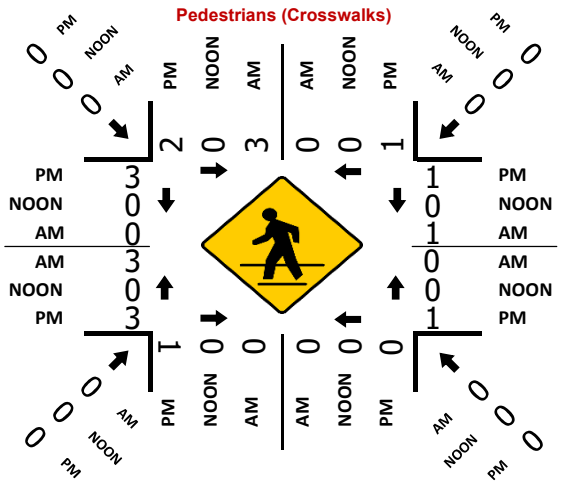
Totals (NOON)



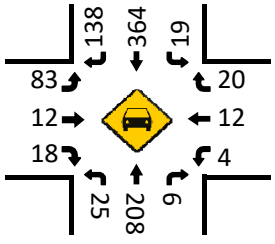
Total Bikes (NOON)



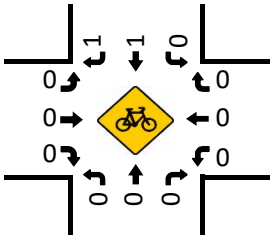
Pedestrians (Crosswalks)



Totals (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Victoria St
City: Daly City
Control: 4-Way Stop

Project ID: 21-080154-004
Date: 7/20/2021

Data - Totals

NS/EW Streets:	Gellert Blvd				Gellert Blvd				Victoria St				Victoria St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	44	2	0	2	20	4	0	20	0	4	0	1	1	9	0	110
7:15 AM	2	58	1	0	4	23	5	1	25	0	1	0	0	2	7	0	129
7:30 AM	3	53	1	0	5	21	11	0	30	1	2	0	1	0	9	0	137
7:45 AM	2	55	0	0	4	19	10	0	30	1	3	0	1	3	9	0	137
8:00 AM	3	47	0	0	3	32	12	0	21	0	2	0	0	2	7	0	129
8:15 AM	6	61	0	0	3	19	13	0	25	4	3	0	1	4	10	0	149
8:30 AM	1	62	1	1	5	42	11	0	26	4	1	0	1	4	4	0	163
8:45 AM	2	45	2	0	2	38	10	0	31	1	3	0	1	2	9	0	146
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	22	425	7	1	28	214	76	1	208	11	19	0	6	18	64	0	1100
APPROACH %'s :	4.84%	93.41%	1.54%	0.22%	8.78%	67.08%	23.82%	0.31%	87.39%	4.62%	7.98%	0.00%	6.82%	20.45%	72.73%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	12	215	3	1	13	131	46	0	103	9	9	0	3	12	30	0	587
PEAK HR FACTOR :	0.500	0.867	0.375	0.250	0.650	0.780	0.885	0.000	0.831	0.563	0.750	0.000	0.750	0.750	0.750	0.000	0.900
	0.862				0.819				0.864				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	4	58	0	1	7	81	36	0	19	3	9	0	1	1	8	0	228
4:15 PM	3	65	0	1	9	57	34	0	20	3	4	0	1	2	3	0	202
4:30 PM	6	60	2	0	4	72	35	0	25	3	5	0	0	0	9	0	221
4:45 PM	5	50	1	2	7	78	27	0	19	4	5	0	2	3	2	0	205
5:00 PM	11	43	2	1	6	68	39	0	18	3	8	0	3	2	6	0	210
5:15 PM	4	52	1	1	4	104	30	0	21	4	3	0	0	6	3	0	233
5:30 PM	4	51	1	3	5	96	41	0	27	3	5	0	1	2	6	0	245
5:45 PM	6	62	2	0	4	96	28	0	17	2	2	0	0	2	5	0	226
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	43	441	9	9	46	652	270	0	166	25	41	0	8	18	42	0	1770
APPROACH %'s :	8.57%	87.85%	1.79%	1.79%	4.75%	67.36%	27.89%	0.00%	71.55%	10.78%	17.67%	0.00%	11.76%	26.47%	61.76%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	25	208	6	5	19	364	138	0	83	12	18	0	4	12	20	0	914
PEAK HR FACTOR :	0.568	0.839	0.750	0.417	0.792	0.875	0.841	0.000	0.769	0.750	0.563	0.000	0.333	0.500	0.833	0.000	0.933
	0.871				0.917				0.807				0.818				

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Victoria St
City: Daly City
Control: 4-Way Stop

Project ID: 21-080154-004
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Gellert Blvd				Gellert Blvd				Victoria St				Victoria St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%									
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
					0.250												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	1	1	0	0	1	0	0	0	1	0	0	4
APPROACH %'s :					0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
					0.500												

National Data & Surveying Services Intersection Turning Movement Count

Location: Gellert Blvd & Victoria St
City: Daly City
Project ID: 21-080154-004
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Gellert Blvd		Gellert Blvd		Victoria St		Victoria St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	2	0	0	1	0	2	2	0	7
7:15 AM	0	1	0	0	0	0	0	0	1
7:30 AM	0	1	2	0	0	0	0	0	3
7:45 AM	1	0	1	0	2	1	0	0	5
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	1
8:30 AM	2	0	0	0	0	1	1	0	4
8:45 AM	1	0	0	0	0	0	1	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	6	2	3	1	2	4	5	0	23
APPROACH %'s :	75.00%	25.00%	75.00%	25.00%	33.33%	66.67%	100.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	3	0	0	0	0	1	3	0	7
PEAK HR FACTOR :	0.375					0.250	0.750		0.438
	0.375				0.250		0.750		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	3	1	0	6	0	10
4:15 PM	2	0	2	0	0	0	3	0	7
4:30 PM	0	0	0	0	0	1	3	0	4
4:45 PM	0	2	0	2	0	1	0	2	7
5:00 PM	1	0	0	0	0	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	1	1	1	0	0	0	0	0	3
5:45 PM	0	0	0	0	1	1	3	2	7
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	4	3	3	5	2	3	15	5	40
APPROACH %'s :	57.14%	42.86%	37.50%	62.50%	40.00%	60.00%	75.00%	25.00%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	2	1	1	0	1	1	3	3	12
PEAK HR FACTOR :	0.500	0.250	0.250		0.250	0.250	0.250	0.375	0.429
	0.375		0.250		0.250		0.300		

Prepared by National Data & Surveying Services

I-280 SB Ramp & Serramonte Blvd

Peak Hour Turning Movement Count

ID: 21-080154-013
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (I-280 SB Ramp)

AM	264	0	527	0	0	AM
NOON	0	0	0	0	0	NOON
PM	774	0	716	0	0	PM
	2	0	2	0		

EASTBOUND (Serramonte Blvd)

AM	NOON	PM	
450	0	1329	
0	0	0	0
0	0	0	0
393	0	1279	2
0	0	0	0

WESTBOUND (Serramonte Blvd)

	PM	NOON	AM
0	0	0	0
3	555	0	186
0	0	0	0
0	0	0	0
	1995	0	920

NORTHBOUND (I-280 SB Ramp)

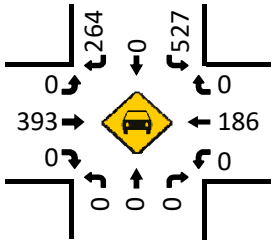
	0	0	0	0		
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

CONTROL

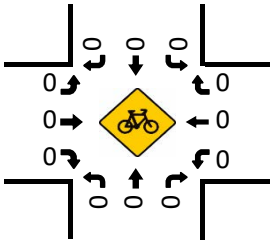
Signalized

TEV	1370	0	3324
	AM	NOON	PM
PHF	0.84		0.97

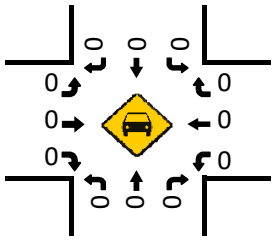
Totals (AM)



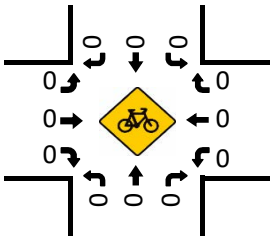
Total Bikes (AM)



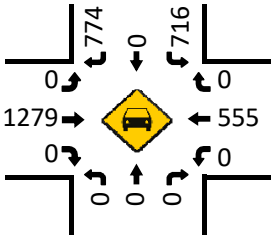
Totals (NOON)



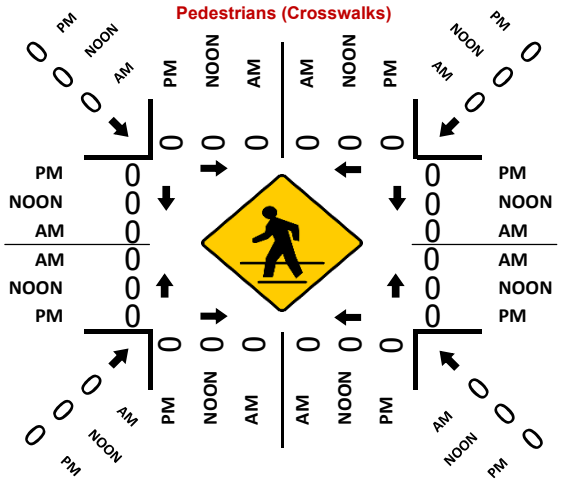
Total Bikes (NOON)



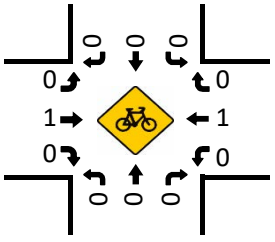
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 SB Ramp & Serramonte Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-013
Date: 7/20/2021

Data - Totals

NS/EW Streets:	I-280 SB Ramp				I-280 SB Ramp				Serramonte Blvd				Serramonte Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	2	0	2	0	0	2	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	43	0	22	0	0	74	0	0	0	27	0	0	166
7:15 AM	0	0	0	0	81	0	32	0	0	76	0	0	0	29	0	0	218
7:30 AM	0	0	0	0	103	0	43	0	0	82	0	0	0	37	0	1	266
7:45 AM	0	0	0	0	114	0	71	0	0	92	0	0	0	38	0	0	315
8:00 AM	0	0	0	0	109	0	60	0	0	92	0	0	0	40	0	0	301
8:15 AM	0	0	0	0	135	0	64	0	0	83	0	0	0	43	0	0	325
8:30 AM	0	0	0	0	126	0	59	0	0	102	0	0	0	51	0	0	338
8:45 AM	0	0	0	0	157	0	81	0	0	116	0	0	0	52	0	0	406
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	868	0	432	0	0	717	0	0	0	317	0	1	2335
APPROACH %'s :					66.77%	0.00%	33.23%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	99.69%	0.00%	0.31%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	527	0	264	0	0	393	0	0	0	186	0	0	1370
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.839	0.000	0.815	0.000	0.000	0.847	0.000	0.000	0.000	0.894	0.000	0.000	0.844
					0.831				0.847				0.894				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	2	0	2	0	0	2	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	153	0	148	0	0	318	0	0	0	147	0	0	766
4:15 PM	0	0	0	0	160	0	195	0	0	308	0	0	0	137	0	0	800
4:30 PM	0	0	0	0	156	0	191	0	0	309	0	0	0	145	0	0	801
4:45 PM	0	0	0	0	177	0	195	0	0	336	0	0	0	140	0	0	848
5:00 PM	0	0	0	0	172	0	210	0	0	313	0	0	0	120	0	0	815
5:15 PM	0	0	0	0	173	0	170	0	0	320	0	0	0	142	0	0	805
5:30 PM	0	0	0	0	194	0	199	0	0	310	0	0	0	153	0	0	856
5:45 PM	0	0	0	0	158	0	202	0	0	296	0	0	0	121	0	0	777
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1343	0	1510	0	0	2510	0	0	0	1105	0	0	6468
APPROACH %'s :					47.07%	0.00%	52.93%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	716	0	774	0	0	1279	0	0	0	555	0	0	3324
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.923	0.000	0.921	0.000	0.000	0.952	0.000	0.000	0.000	0.907	0.000	0.000	0.971
					0.948				0.952				0.907				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 SB Ramp & Serramonte Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-013
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	I-280 SB Ramp				I-280 SB Ramp				Serramonte Blvd				Serramonte Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	2	0	2	0	0	2	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	2	0	2	0	0	2	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.250
									0.250				0.250				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 SB Ramp & Serramonte Blvd
City: Daly City
Project ID: 21-080154-013
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	I-280 SB Ramp		I-280 SB Ramp		Serramonte Blvd		Serramonte Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%							
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

I-280 NB Ramp & Serramonte Blvd

Peak Hour Turning Movement Count

ID: 21-080154-014
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	7:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	4:00 PM - 06:00 PM

SOUTHBOUND (I-280 NB Ramp)

AM	0	0	0	0	163	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	625	PM

EASTBOUND (Serramonte Blvd)

AM	NOON	PM		
187	0	550	⇦	
2	0	4	↶	0
162	0	612	↱	2
760	0	1382	→	2
0	0	0	↷	0
AM	NOON	PM		

WESTBOUND (Serramonte Blvd)

PM	NOON	AM		
13	0	1	↰	0
546	0	185	←	2
0	0	0	↰	0
0	0	0	↶	0
1382	0	760	⇨	
PM	NOON	AM		

NORTHBOUND (I-280 NB Ramp)

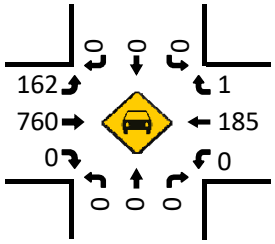
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

CONTROL

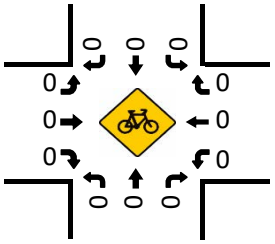
Signalized

TEV	1110 AM	0 NOON	2557 PM
PHF	0.85		0.97

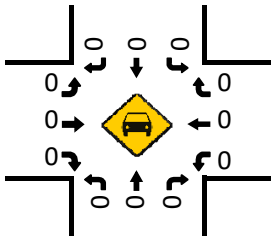
Totals (AM)



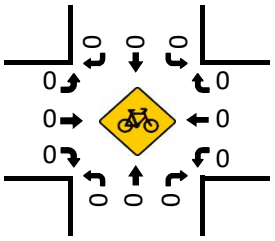
Total Bikes (AM)



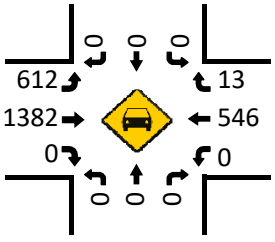
Totals (NOON)



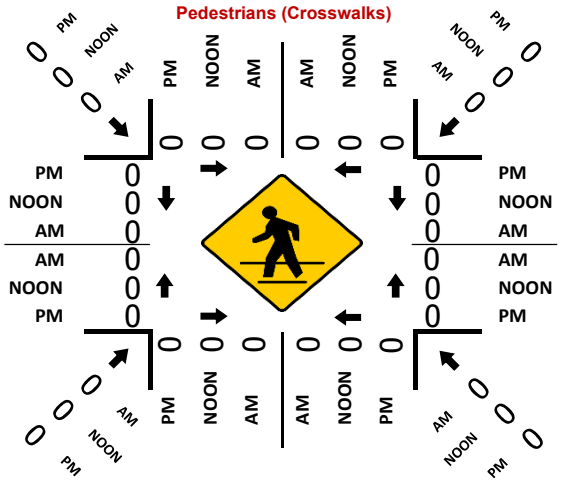
Total Bikes (NOON)



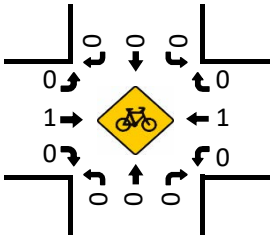
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 NB Ramp & Serramonte Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-014
Date: 7/20/2021

Data - Totals

NS/EW Streets:	I-280 NB Ramp				I-280 NB Ramp				Serramonte Blvd				Serramonte Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	2	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	27	98	0	0	0	22	0	0	147
7:15 AM	0	0	0	0	0	0	0	0	34	121	0	0	0	31	0	0	186
7:30 AM	0	0	0	0	0	0	0	0	34	148	0	0	0	36	0	0	218
7:45 AM	0	0	0	0	0	0	0	0	39	168	0	0	0	38	0	0	245
8:00 AM	0	0	0	0	0	0	0	0	41	162	0	1	0	44	1	0	249
8:15 AM	0	0	0	0	0	0	0	0	32	186	0	0	0	40	0	0	258
8:30 AM	0	0	0	0	0	0	0	0	45	179	0	1	0	51	0	0	276
8:45 AM	0	0	0	0	0	0	0	0	44	233	0	0	0	50	0	0	327
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	296	1295	0	2	0	312	1	0	1906
APPROACH %'s :									18.58%	81.29%	0.00%	0.13%	0.00%	99.68%	0.32%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	162	760	0	2	0	185	1	0	1110
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.900	0.815	0.000	0.500	0.000	0.907	0.250	0.000	0.849
									0.834				0.912				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	2	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	173	292	0	2	0	141	0	0	608
4:15 PM	0	0	0	0	0	0	0	0	146	326	0	0	0	139	1	0	612
4:30 PM	0	0	0	0	0	0	0	0	154	305	0	3	0	144	0	0	606
4:45 PM	0	0	0	0	0	0	0	0	155	360	0	1	0	135	10	0	661
5:00 PM	0	0	0	0	0	0	0	0	137	344	0	1	0	119	2	0	603
5:15 PM	0	0	0	0	0	0	0	0	151	339	0	1	0	153	0	0	644
5:30 PM	0	0	0	0	0	0	0	0	169	339	0	1	0	139	1	0	649
5:45 PM	0	0	0	0	0	0	0	0	140	314	0	0	0	127	2	0	583
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	1225	2619	0	9	0	1097	16	0	4966
APPROACH %'s :									31.79%	67.97%	0.00%	0.23%	0.00%	98.56%	1.44%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	612	1382	0	4	0	546	13	0	2557
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.905	0.960	0.000	1.000	0.000	0.892	0.325	0.000	0.967
									0.968				0.913				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 NB Ramp & Serramonte Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-014
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	I-280 NB Ramp				I-280 NB Ramp				Serramonte Blvd				Serramonte Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	2	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	2	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.250
									0.250				0.250				

National Data & Surveying Services Intersection Turning Movement Count

Location: I-280 NB Ramp & Serramonte Blvd
City: Daly City
Project ID: 21-080154-014
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	I-280 NB Ramp		I-280 NB Ramp		Serramonte Blvd		Serramonte Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%							
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%							
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Junipero Serra Blvd & Serramonte Blvd

Peak Hour Turning Movement Count

ID: 21-080154-015
City: Daly City

Day: Tuesday
Date: 7/20/2021

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	7:00 AM - 09:00 AM
NOON	NONE
PM	4:00 PM - 06:00 PM

SOUTHBOUND — Junipero Serra Blvd

AM	43	149	53	10	469	AM
NOON	0	0	0	0	0	NOON
PM	125	309	101	21	942	PM
	1	2	1	0		

EASTBOUND — Serramonte Blvd

AM	NOON	PM	
185	0	564	
0	0	4	0
181	0	415	2
426	0	642	2
151	0	287	1

WESTBOUND — Serramonte Blvd

PM	NOON	AM	
87	0	54	1.5
331	0	114	1.5
189	0	122	1
0	0	0	0
888	0	628	

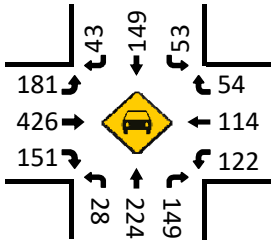
NORTHBOUND — Junipero Serra Blvd

PM	796	11	104	419	145	PM
NOON	0	0	0	0	0	NOON
AM	426	4	28	224	149	AM
		0	2	2	1	

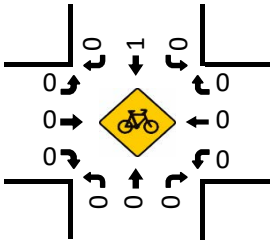
CONTROL: Signalized

TEV	1708	0	3190
	AM	NOON	PM
PHF	0.92		0.95

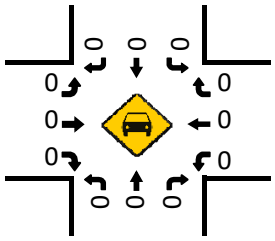
Totals (AM)



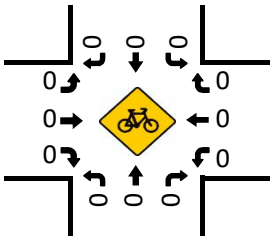
Total Bikes (AM)



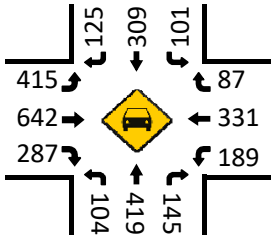
Totals (NOON)



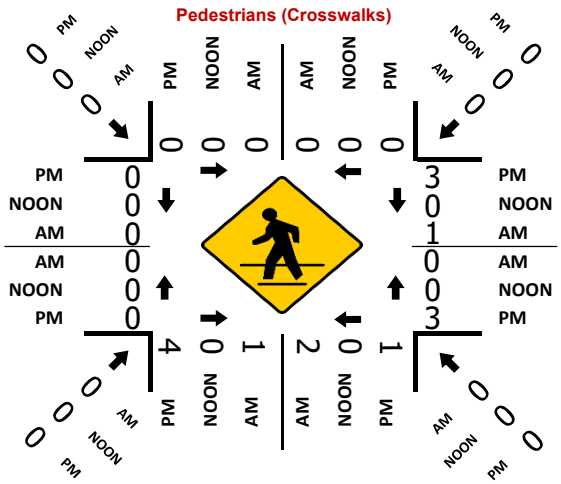
Total Bikes (NOON)



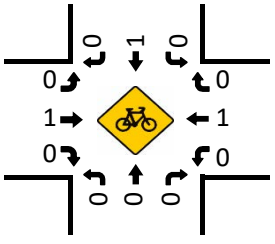
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Junipero Serra Blvd & Serramonte Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-015
Date: 7/20/2021

Data - Totals

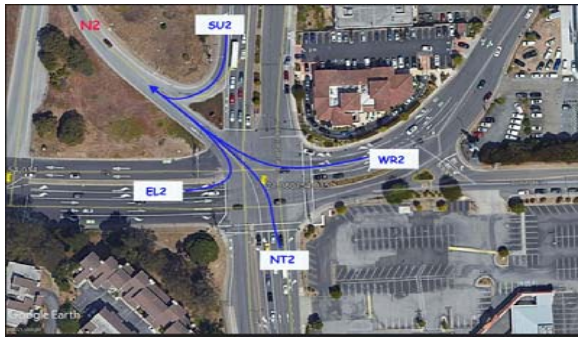
NS/EW Streets:	Junipero Serra Blvd					Junipero Serra Blvd					Serramonte Blvd					Serramonte Blvd					
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	2	2	1	0	0	1	2	1	0	0	2	2	1	0	0	1	1.5	1.5	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
7:00 AM	3	33	25	1	54	11	15	8	4	5	33	56	16	0	0	16	10	9	0	30	329
7:15 AM	5	41	41	2	59	8	24	9	3	15	33	68	13	1	0	17	17	4	0	31	391
7:30 AM	4	39	41	1	87	12	17	5	1	8	42	89	22	0	0	20	26	9	0	31	454
7:45 AM	4	83	41	0	80	11	23	11	3	15	45	97	25	0	1	24	24	14	0	40	541
8:00 AM	10	47	36	1	63	12	31	11	4	18	39	86	35	0	0	30	23	17	0	43	506
8:15 AM	5	56	35	1	78	12	37	11	0	18	42	109	39	0	0	30	26	12	0	52	563
8:30 AM	6	56	38	0	49	14	42	11	3	17	45	109	25	0	0	30	33	13	0	64	555
8:45 AM	7	65	40	2	57	15	39	10	3	18	55	122	52	0	0	32	32	12	0	46	607
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
TOTAL VOLUMES :	44	420	297	8	527	95	228	76	21	114	334	736	227	1	1	199	191	90	0	337	3946
APPROACH %'s :	3.40%	32.41%	22.92%	0.62%	40.66%	17.79%	42.70%	14.23%	3.93%	21.35%	25.71%	56.66%	17.47%	0.08%	0.08%	24.36%	23.38%	11.02%	0.00%	41.25%	
PEAK HR :	08:00 AM - 09:00 AM																				TOTAL
PEAK HR VOL :	28	224	149	4	247	53	149	43	10	71	181	426	151	0	0	122	114	54	0	205	2231
PEAK HR FACTOR :	0.700	0.862	0.931	0.500	0.792	0.883	0.887	0.977	0.625	0.986	0.823	0.873	0.726	0.000	0.000	0.953	0.864	0.794	0.000	0.801	
			0.931					0.937					0.828					0.884			0.919

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	2	2	1	0	0	1	2	1	0	0	2	2	1	0	0	1	1.5	1.5	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
4:00 PM	19	90	26	3	86	20	39	43	1	42	92	143	63	1	0	40	81	17	0	83	889
4:15 PM	37	103	41	0	99	24	79	29	1	51	112	132	82	0	0	46	71	16	0	102	1025
4:30 PM	20	103	39	3	91	29	82	30	7	48	91	141	60	1	0	59	93	20	0	99	1016
4:45 PM	26	108	36	2	106	30	73	27	4	49	111	190	70	1	0	49	94	18	0	97	1091
5:00 PM	24	88	38	2	83	24	88	36	3	49	103	146	82	1	1	43	57	25	0	90	983
5:15 PM	34	120	32	4	101	18	66	32	7	42	110	165	75	1	0	38	87	24	0	84	1040
5:30 PM	30	99	36	2	117	21	80	39	2	44	99	167	71	0	1	46	70	21	0	67	1012
5:45 PM	22	97	29	6	116	16	74	27	3	42	100	123	83	1	0	45	79	28	0	99	990
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
TOTAL VOLUMES :	212	808	277	22	799	182	581	263	28	367	818	1207	586	6	2	366	632	169	0	721	8046
APPROACH %'s :	10.01%	38.15%	13.08%	1.04%	37.72%	12.81%	40.89%	18.51%	1.97%	25.83%	31.23%	46.09%	22.37%	0.23%	0.08%	19.39%	33.47%	8.95%	0.00%	38.19%	
PEAK HR :	04:30 PM - 05:30 PM																				TOTAL
PEAK HR VOL :	104	419	145	11	381	101	309	125	21	188	415	642	287	4	1	189	331	87	0	370	4130
PEAK HR FACTOR :	0.765	0.873	0.929	0.688	0.899	0.842	0.878	0.868	0.750	0.959	0.935	0.845	0.875	1.000	0.250	0.801	0.880	0.870	0.000	0.934	
			0.911					0.930					0.907					0.901			0.946

Explanation for extra leg movements

Movements entering the extra leg

NT2	Movements coming from NB on Junipero Serra Blvd entering into the Extra Leg (On Ramp Junipero Serra Fwy)
SU2	Movements coming from SB on Junipero Serra Blvd entering into the Extra Leg (On Ramp Junipero Serra Fwy)
EL2	Movements coming from EB on Serramonte Blvd entering into the Extra Leg (On Ramp Junipero Serra Fwy)
WR2	Movements coming from WB on Serramonte Blvd entering into the Extra Leg (On Ramp Junipero Serra Fwy)



National Data & Surveying Services Intersection Turning Movement Count

Location: Junipero Serra Blvd & Serramonte Blvd
City: Daly City
Control: Signalized

Project ID: 21-080154-015
Date: 7/20/2021

Data - Bikes

NS/EW Streets:	Junipero Serra Blvd					Junipero Serra Blvd					Serramonte Blvd					Serramonte Blvd					
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	2	2	1	0	0	1	2	1	0	0	2	2	1	0	0	1	1.5	1.5	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	3
APPROACH %'s :						0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																				TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
								0.250													

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	2	2	1	0	0	1	2	1	0	0	2	2	1	0	0	1	1.5	1.5	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	1	0	0	0	5
APPROACH %'s :						0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																				TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	3
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250
								0.250					0.250					0.250			

National Data & Surveying Services Intersection Turning Movement Count

Location: Junipero Serra Blvd & Serramonte Blvd
City: Daly City

Project ID: 21-080154-015
Date: 7/20/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Junipero Serra Blvd		Junipero Serra Blvd		Serramonte Blvd		Serramonte Blvd				
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		NORTH LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	0	1	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	2	2	1	0	0	0	0	6
8:00 AM	0	0	0	2	0	1	0	0	0	0	3
8:15 AM	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
TOTAL VOLUMES :	0	0	2	5	2	3	0	0	0	0	12
APPROACH %'s :			28.57%	71.43%	40.00%	60.00%					
PEAK HR :	08:00 AM - 09:00 AM										TOTAL
PEAK HR VOL :	0	0	1	2	0	1	0	0	0	0	4
PEAK HR FACTOR :			0.250	0.250		0.250					0.333
			0.375		0.250						

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		NORTH LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
4:00 PM	0	0	0	3	0	3	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	2	0	2	0	0	0	0	0	4
4:45 PM	0	0	2	0	1	0	0	0	0	0	3
5:00 PM	0	0	0	1	0	3	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	1	0	0	3	0	0	0	0	5
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
TOTAL VOLUMES :	1	0	5	4	3	9	0	0	0	0	22
APPROACH %'s :	100.00%	0.00%	55.56%	44.44%	25.00%	75.00%					
PEAK HR :	04:30 PM - 05:30 PM										TOTAL
PEAK HR VOL :	0	0	4	1	3	3	0	0	0	0	11
PEAK HR FACTOR :			0.500	0.250	0.375	0.250					0.688
			0.625		0.500						

Appendix B – Existing Conditions
Intersection Level of Service
Worksheets

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	139	752	17	94	344
Future Vol, veh/h	9	139	752	17	94	344
Conflicting Peds, #/hr	5	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	190	826	19	104	382

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1424	831	0	0	848	0
Stage 1	829	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	150	370	-	-	790	-
Stage 1	429	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	129	368	-	-	788	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.5	0	2.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	129	368	788	-
HCM Lane V/C Ratio	-	-	0.096	0.517	0.133	-
HCM Control Delay (s)	-	-	35.8	24.8	10.3	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	2.9	0.5	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	86	9	2	137	15	0
Future Vol, veh/h	86	9	2	137	15	0
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	80	80	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	15	3	171	22	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	158	0	329	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	178	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1422	-	665	895
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1419	-	662	893
Mov Cap-2 Maneuver	-	-	-	-	662	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	662	-	-	1419	-
HCM Lane V/C Ratio	0.034	-	-	0.002	-
HCM Control Delay (s)	10.6	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	8	0	9	11	23	128	0	4	36	2
Future Vol, veh/h	6	0	8	0	9	11	23	128	0	4	36	2
Conflicting Peds, #/hr	1	0	0	0	0	1	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	55	55	55	68	68	68	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	18	0	16	20	34	188	0	6	55	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	346	332	59	339	333	194	60	0	0	193	0	0
Stage 1	71	71	-	261	261	-	-	-	-	-	-	-
Stage 2	275	261	-	78	72	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	608	588	1007	615	587	847	1544	-	-	1380	-	-
Stage 1	939	836	-	744	692	-	-	-	-	-	-	-
Stage 2	731	692	-	931	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	565	566	1005	587	565	842	1541	-	-	1373	-	-
Mov Cap-2 Maneuver	565	566	-	587	565	-	-	-	-	-	-	-
Stage 1	914	830	-	722	671	-	-	-	-	-	-	-
Stage 2	678	671	-	910	829	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	10.5	1.1	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1541	-	-	754	690	1373	-	-
HCM Lane V/C Ratio	0.022	-	-	0.041	0.053	0.004	-	-
HCM Control Delay (s)	7.4	0	-	10	10.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.2	0	-	-

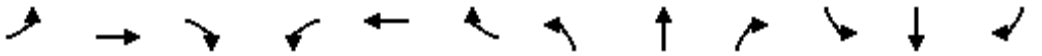
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	49	139	8	0	0
Future Vol, veh/h	38	49	139	8	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	41	53	151	9	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	160	0	-	0	291	156
Stage 1	-	-	-	-	156	-
Stage 2	-	-	-	-	135	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1419	-	-	-	700	890
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1419	-	-	-	679	890
Mov Cap-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1419	-	-	-	-
HCM Lane V/C Ratio	0.029	-	-	-	-
HCM Control Delay (s)	7.6	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	652	71	96	370	417	120	444	124	310	288	271
Future Volume (veh/h)	353	652	71	96	370	417	120	444	124	310	288	271
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	767	0	104	402	0	130	483	0	348	324	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	1496		251	836		519	1421		439	1421	
Arrive On Green	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	983	3741	0	322	2090	1585	1056	3647	0	912	3554	1585
Grp Volume(v), veh/h	415	767	0	197	309	0	130	483	0	348	324	0
Grp Sat Flow(s),veh/h/ln	983	1870	0	795	1617	1585	1056	1777	0	912	1777	1585
Q Serve(g_s), s	11.6	7.0	0.0	4.2	6.4	0.0	4.2	4.2	0.0	13.8	2.7	0.0
Cycle Q Clear(g_c), s	18.0	7.0	0.0	11.2	6.4	0.0	6.9	4.2	0.0	18.0	2.7	0.0
Prop In Lane	1.00		0.00	0.53		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	414	1496		440	647		519	1421		439	1421	
V/C Ratio(X)	1.00	0.51		0.45	0.48		0.25	0.34		0.79	0.23	
Avail Cap(c_a), veh/h	414	1496		440	647		519	1421		439	1421	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.9	10.2	0.0	11.3	10.0	0.0	11.2	9.4	0.0	17.0	8.9	0.0
Incr Delay (d2), s/veh	45.0	0.3	0.0	0.7	0.5	0.0	0.3	0.1	0.0	9.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	2.2	0.0	1.4	1.8	0.0	0.8	1.2	0.0	4.2	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	10.5	0.0	12.0	10.6	0.0	11.4	9.5	0.0	26.6	9.0	0.0
LnGrp LOS	F	B		B	B		B	A		C	A	
Approach Vol, veh/h		1182			506			613			672	
Approach Delay, s/veh		29.2			11.1			9.9			18.1	
Approach LOS		C			B			A			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		8.9		20.0		20.0		13.2				
Green Ext Time (p_c), s		2.4		0.0		0.0		1.4				

Intersection Summary		
HCM 6th Ctrl Delay	19.7	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	859	323	113	543	49	530	56	470	68	169	128
Future Volume (veh/h)	128	859	323	113	543	49	530	56	470	68	169	128
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	987	0	133	639	51	626	0	203	72	178	17
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1220		164	1112	89	738	0	328	85	211	254
Arrive On Green	0.10	0.34	0.00	0.09	0.33	0.33	0.21	0.00	0.21	0.16	0.16	0.16
Sat Flow, veh/h	1781	3647	0	1781	3334	266	3563	0	1585	531	1313	1585
Grp Volume(v), veh/h	147	987	0	133	340	350	626	0	203	250	0	17
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1823	1781	0	1585	1844	0	1585
Q Serve(g_s), s	7.4	23.1	0.0	6.7	14.4	14.5	15.4	0.0	10.6	12.0	0.0	0.8
Cycle Q Clear(g_c), s	7.4	23.1	0.0	6.7	14.4	14.5	15.4	0.0	10.6	12.0	0.0	0.8
Prop In Lane	1.00		0.00	1.00		0.15	1.00		1.00	0.29		1.00
Lane Grp Cap(c), veh/h	181	1220		164	593	608	738	0	328	296	0	254
V/C Ratio(X)	0.81	0.81		0.81	0.57	0.58	0.85	0.00	0.62	0.84	0.00	0.07
Avail Cap(c_a), veh/h	287	1614		177	698	716	870	0	387	385	0	331
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.2	27.3	0.0	40.7	25.1	25.1	34.8	0.0	32.9	37.2	0.0	32.5
Incr Delay (d2), s/veh	9.0	2.4	0.0	22.6	0.9	0.9	7.0	0.0	2.2	12.6	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.7	0.0	3.9	5.9	6.1	7.0	0.0	4.2	6.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	29.6	0.0	63.3	26.0	26.0	41.8	0.0	35.2	49.8	0.0	32.7
LnGrp LOS	D	C		E	C	C	D	A	D	D	A	C
Approach Vol, veh/h		1134			823			829			267	
Approach Delay, s/veh		32.2			32.0			40.2			48.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.4	12.9	35.9	19.2	13.8	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.3	9.1	41.5	19.1	14.7	35.9
Max Q Clear Time (g_c+I1), s	17.4	8.7	25.1	14.0	9.4	16.5
Green Ext Time (p_c), s	1.5	0.0	6.3	0.6	0.2	4.0

Intersection Summary	
HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	737	820	387	822	0	0	0	0	583	2	348
Future Volume (veh/h)	0	737	820	387	822	0	0	0	0	583	2	348
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	801	0	421	893	0				752	0	253
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1173		549	2021	0				968	0	431
Arrive On Green	0.00	0.33	0.00	0.16	0.57	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	801	0	421	893	0				752	0	253
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	11.0	0.0	6.6	8.2	0.0				11.0	0.0	7.8
Cycle Q Clear(g_c), s	0.0	11.0	0.0	6.6	8.2	0.0				11.0	0.0	7.8
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1173		549	2021	0				968	0	431
V/C Ratio(X)	0.00	0.68		0.77	0.44	0.00				0.78	0.00	0.59
Avail Cap(c_a), veh/h	0	2236		668	3206	0				1269	0	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.3	0.0	22.7	7.0	0.0				19.0	0.0	17.8
Incr Delay (d2), s/veh	0.0	0.7	0.0	4.4	0.2	0.0				2.3	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
%ile BackOfQ(50%),veh/ln	0.0	3.9	0.0	2.7	2.2	0.0				4.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.1	0.0	27.1	7.2	0.0				21.2	0.0	19.1
LnGrp LOS	A	B		C	A	A				C	A	B
Approach Vol, veh/h		801			1314						1005	
Approach Delay, s/veh		17.1			13.5						20.7	
Approach LOS		B			B						C	

Timer - Assigned Phs	3	4	6	8
Phs Duration (G+Y+Rc), s	13.5	23.1	19.8	36.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.9	35.5	20.1	50.9
Max Q Clear Time (g_c+I1), s	8.6	13.0	13.0	10.2
Green Ext Time (p_c), s	0.4	5.6	2.3	7.4

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

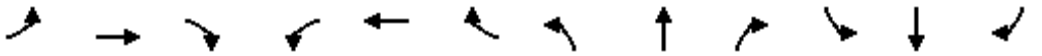
Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1557	6	88	0	0	0
Future Vol, veh/h	1557	6	88	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1692	7	96	0	0	0

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	850
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	304
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	304
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	650	21	331	323	427	51	233	553	348	164	88
Future Volume (veh/h)	90	650	21	331	323	427	51	233	553	348	164	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	774	2	368	359	95	59	268	456	405	191	5
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.87	0.87	0.87	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	903	397	423	1074	478	557	1171	487	568	298	251
Arrive On Green	0.07	0.25	0.25	0.12	0.30	0.30	0.31	0.31	0.31	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1561	3456	3554	1582	1781	3741	1557	3563	1870	1570
Grp Volume(v), veh/h	107	774	2	368	359	95	59	268	456	405	191	5
Grp Sat Flow(s),veh/h/ln	1781	1777	1561	1728	1777	1582	1781	1870	1557	1781	1870	1570
Q Serve(g_s), s	7.1	24.8	0.1	12.5	9.4	5.3	2.8	6.3	33.9	12.9	11.4	0.3
Cycle Q Clear(g_c), s	7.1	24.8	0.1	12.5	9.4	5.3	2.8	6.3	33.9	12.9	11.4	0.3
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	132	903	397	423	1074	478	557	1171	487	568	298	251
V/C Ratio(X)	0.81	0.86	0.01	0.87	0.33	0.20	0.11	0.23	0.94	0.71	0.64	0.02
Avail Cap(c_a), veh/h	187	1043	458	443	1126	501	593	1245	518	1105	580	487
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	54.4	42.4	33.2	51.4	32.3	30.9	29.1	30.3	39.8	47.5	46.9	42.3
Incr Delay (d2), s/veh	16.0	6.5	0.0	16.3	0.2	0.2	0.1	0.1	23.9	1.7	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	11.5	0.0	6.3	4.0	2.1	1.2	2.9	15.9	5.8	5.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.4	48.9	33.2	67.7	32.5	31.1	29.2	30.4	63.7	49.2	49.2	42.3
LnGrp LOS	E	D	C	E	C	C	C	C	E	D	D	D
Approach Vol, veh/h		883			822			783			601	
Approach Delay, s/veh		51.5			48.1			49.7			49.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		41.8	19.1	34.8		23.5	13.4	40.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		39.7	15.3	35.0		37.0	12.5	37.8				
Max Q Clear Time (g_c+I1), s		35.9	14.5	26.8		14.9	9.1	11.4				
Green Ext Time (p_c), s		1.4	0.1	3.2		2.6	0.1	2.6				

Intersection Summary		
HCM 6th Ctrl Delay		49.7
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	635	60	17	363	71	85	293	34	68	133	164
Future Volume (veh/h)	188	635	60	17	363	71	85	293	34	68	133	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	690	65	19	403	79	90	312	36	74	145	178
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1063	100	41	607	118	124	408	47	112	184	226
Arrive On Green	0.14	0.32	0.32	0.02	0.20	0.20	0.07	0.25	0.25	0.06	0.24	0.24
Sat Flow, veh/h	1781	3275	308	1781	2964	576	1781	1646	190	1781	763	936
Grp Volume(v), veh/h	204	374	381	19	240	242	90	0	348	74	0	323
Grp Sat Flow(s),veh/h/ln	1781	1777	1806	1781	1777	1763	1781	0	1836	1781	0	1699
Q Serve(g_s), s	5.8	9.5	9.5	0.6	6.5	6.7	2.6	0.0	9.3	2.1	0.0	9.4
Cycle Q Clear(g_c), s	5.8	9.5	9.5	0.6	6.5	6.7	2.6	0.0	9.3	2.1	0.0	9.4
Prop In Lane	1.00		0.17	1.00		0.33	1.00		0.10	1.00		0.55
Lane Grp Cap(c), veh/h	255	577	586	41	364	361	124	0	455	112	0	410
V/C Ratio(X)	0.80	0.65	0.65	0.46	0.66	0.67	0.73	0.00	0.76	0.66	0.00	0.79
Avail Cap(c_a), veh/h	321	759	771	169	607	602	186	0	672	176	0	613
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	15.2	15.2	25.4	19.3	19.3	24.0	0.0	18.4	24.1	0.0	18.7
Incr Delay (d2), s/veh	10.9	1.2	1.2	7.9	2.1	2.2	7.9	0.0	3.0	6.5	0.0	4.0
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	2.9	3.4	3.5	0.3	2.6	2.6	1.3	0.0	3.9	1.0	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	16.5	16.5	33.3	21.3	21.5	31.9	0.0	21.4	30.7	0.0	22.8
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h		959			501			438			397	
Approach Delay, s/veh		19.9			21.9			23.6			24.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	17.6	5.7	21.6	8.2	17.2	12.0	15.3
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	5.3	19.3	5.0	22.5	5.5	19.0	9.5	18.0
Max Q Clear Time (g_c+I1), s	4.1	11.3	2.6	11.5	4.6	11.4	7.8	8.7
Green Ext Time (p_c), s	0.0	1.3	0.0	3.5	0.0	1.2	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	207	120	117	688	348	265
Future Volume (veh/h)	207	120	117	688	348	265
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	169	133	782	387	294
Peak Hour Factor	0.71	0.71	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	342	198	171	1729	559	419
Arrive On Green	0.32	0.32	0.10	0.49	0.29	0.29
Sat Flow, veh/h	1076	623	1781	3647	2005	1432
Grp Volume(v), veh/h	462	0	133	782	359	322
Grp Sat Flow(s),veh/h/ln	1702	0	1781	1777	1777	1567
Q Serve(g_s), s	11.7	0.0	3.4	6.7	8.2	8.4
Cycle Q Clear(g_c), s	11.7	0.0	3.4	6.7	8.2	8.4
Prop In Lane	0.63	0.37	1.00			0.91
Lane Grp Cap(c), veh/h	541	0	171	1729	520	458
V/C Ratio(X)	0.85	0.00	0.78	0.45	0.69	0.70
Avail Cap(c_a), veh/h	722	0	290	2434	753	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	20.3	7.8	14.4	14.5
Incr Delay (d2), s/veh	7.6	0.0	7.3	0.2	1.7	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	1.6	1.8	2.9	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.3	0.0	27.6	8.0	16.1	16.4
LnGrp LOS	C	A	C	A	B	B
Approach Vol, veh/h	462			915	681	
Approach Delay, s/veh	22.3			10.8	16.3	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		26.9		19.1	8.9	18.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		31.5		19.5	7.5	19.5
Max Q Clear Time (g_c+I1), s		8.7		13.7	5.4	10.4
Green Ext Time (p_c), s		5.5		0.9	0.1	2.9

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	664	455	180	60	188	254	111	910	90	194	453	321
Future Volume (veh/h)	664	455	180	60	188	254	111	910	90	194	453	321
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	577	620	0	70	219	0	128	1046	0	218	509	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	543	571		90	299		157	1128		197	1208	
Arrive On Green	0.31	0.31	0.00	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.34	0.00
Sat Flow, veh/h	1781	1870	1585	830	2775	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	577	620	0	154	135	0	128	1046	0	218	509	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1829	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	34.5	34.5	0.0	9.3	8.3	0.0	8.0	32.2	0.0	12.5	12.5	0.0
Cycle Q Clear(g_c), s	34.5	34.5	0.0	9.3	8.3	0.0	8.0	32.2	0.0	12.5	12.5	0.0
Prop In Lane	1.00		1.00	0.45		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	543	571		197	192		157	1128		197	1208	
V/C Ratio(X)	1.06	1.09		0.78	0.70		0.82	0.93		1.11	0.42	
Avail Cap(c_a), veh/h	543	571		291	283		250	1163		197	1208	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.3	39.3	0.0	49.2	48.7	0.0	50.7	37.3	0.0	50.3	28.7	0.0
Incr Delay (d2), s/veh	56.0	63.3	0.0	7.9	4.7	0.0	10.7	12.4	0.0	95.8	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.1	25.4	0.0	4.6	3.9	0.0	3.9	15.2	0.0	10.6	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.3	102.6	0.0	57.1	53.4	0.0	61.3	49.8	0.0	146.1	29.0	0.0
LnGrp LOS	F	F		E	D		E	D		F	C	
Approach Vol, veh/h		1197			289			1174			727	
Approach Delay, s/veh		99.1			55.4			51.0			64.1	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	40.4		39.0	14.4	43.0		16.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0
Max Q Clear Time (g_c+I1), s	14.5	34.2		36.5	10.0	14.5		11.3
Green Ext Time (p_c), s	0.0	1.7		0.0	0.1	2.9		0.8

Intersection Summary	
HCM 6th Ctrl Delay	71.2
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	28.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	194	17	17	6	23	56	24	404	6	24	246	86
Future Vol, veh/h	194	17	17	6	23	56	24	404	6	24	246	86
Peak Hour Factor	0.86	0.86	0.86	0.75	0.75	0.75	0.86	0.86	0.86	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	226	20	20	8	31	75	28	470	7	29	300	105
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.3	12.7	38.3	26.1
HCM LOS	C	B	E	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	85%	7%	7%
Vol Thru, %	93%	7%	27%	69%
Vol Right, %	1%	7%	66%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	434	228	85	356
LT Vol	24	194	6	24
Through Vol	404	17	23	246
RT Vol	6	17	56	86
Lane Flow Rate	505	265	113	434
Geometry Grp	1	1	1	1
Degree of Util (X)	0.874	0.531	0.234	0.753
Departure Headway (Hd)	6.234	7.209	7.429	6.246
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	575	496	486	573
Service Time	4.319	5.307	5.429	4.338
HCM Lane V/C Ratio	0.878	0.534	0.233	0.757
HCM Control Delay	38.3	18.3	12.7	26.1
HCM Lane LOS	E	C	B	D
HCM 95th-tile Q	9.9	3.1	0.9	6.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	333	212	395	246	171	226	141	291	149	179	15
Future Volume (veh/h)	66	333	212	395	246	171	226	141	291	149	179	15
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		0.99	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	347	221	459	286	0	260	162	334	184	221	19
Peak Hour Factor	0.96	0.96	0.96	0.86	0.86	0.86	0.87	0.87	0.87	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	708	483	586	577		378	378	1173	305	312	27
Arrive On Green	0.06	0.20	0.20	0.17	0.31	0.00	0.11	0.20	0.20	0.09	0.18	0.18
Sat Flow, veh/h	1781	3554	1578	3456	1870	2790	3563	1870	3147	3456	1695	146
Grp Volume(v), veh/h	69	347	221	459	286	0	260	162	334	184	0	240
Grp Sat Flow(s),veh/h/ln	1781	1777	1578	1728	1870	1395	1781	1870	1573	1728	0	1841
Q Serve(g_s), s	2.0	4.6	6.0	6.7	6.6	0.0	3.7	4.0	3.9	2.7	0.0	6.5
Cycle Q Clear(g_c), s	2.0	4.6	6.0	6.7	6.6	0.0	3.7	4.0	3.9	2.7	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	107	708	483	586	577		378	378	1173	305	0	339
V/C Ratio(X)	0.64	0.49	0.46	0.78	0.50		0.69	0.43	0.28	0.60	0.00	0.71
Avail Cap(c_a), veh/h	196	1211	706	648	783		398	673	1669	334	0	635
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.3	18.8	14.8	21.0	14.9	0.0	22.8	18.4	11.7	23.2	0.0	20.2
Incr Delay (d2), s/veh	6.3	0.5	0.7	5.7	0.7	0.0	4.6	0.8	0.1	2.6	0.0	2.7
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	1.0	1.8	2.0	2.9	2.6	0.0	1.7	1.6	1.2	1.1	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	19.3	15.5	26.7	15.6	0.0	27.4	19.2	11.8	25.8	0.0	22.9
LnGrp LOS	C	B	B	C	B		C	B	B	C	A	C
Approach Vol, veh/h		637			745			756			424	
Approach Delay, s/veh		19.2			22.4			18.7			24.2	
Approach LOS		B			C			B			C	

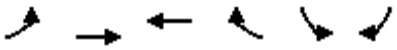
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	15.2	13.4	15.0	10.1	14.2	7.7	20.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	19.0	9.9	18.0	5.9	18.2	5.8	22.1
Max Q Clear Time (g_c+I1), s	4.7	6.0	8.7	8.0	5.7	8.5	4.0	8.6
Green Ext Time (p_c), s	0.0	1.9	0.2	2.2	0.0	0.9	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

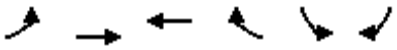
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	739	350	0	991	496
Future Volume (veh/h)	0	739	350	0	991	496
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	869	393	0	1194	598
Peak Hour Factor	0.85	0.85	0.89	0.89	0.83	0.83
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1200	1725	0	1558	1258
Arrive On Green	0.00	0.34	0.34	0.00	0.45	0.45
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	869	393	0	1194	598
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	9.1	2.4	0.0	12.3	6.4
Cycle Q Clear(g_c), s	0.0	9.1	2.4	0.0	12.3	6.4
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1200	1725	0	1558	1258
V/C Ratio(X)	0.00	0.72	0.23	0.00	0.77	0.48
Avail Cap(c_a), veh/h	0	1502	2157	0	1866	1506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.4	10.1	0.0	9.8	8.2
Incr Delay (d2), s/veh	0.0	1.3	0.1	0.0	1.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	0.7	0.0	3.0	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.7	10.2	0.0	11.4	8.5
LnGrp LOS	A	B	B	A	B	A
Approach Vol, veh/h		869	393		1792	
Approach Delay, s/veh		13.7	10.2		10.4	
Approach LOS		B	B		B	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	18.9	23.7	18.9
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	23.0	18.0
Max Q Clear Time (g_c+I1), s	11.1	14.3	4.4
Green Ext Time (p_c), s	3.3	4.9	2.2

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

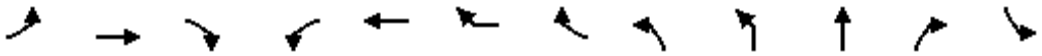


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	308	1429	348	2	0	0
Future Volume (veh/h)	308	1429	348	2	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	371	1722	430	2		
Peak Hour Factor	0.83	0.83	0.81	0.81		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	633	2985	1803	8		
Arrive On Green	0.18	0.84	0.50	0.50		
Sat Flow, veh/h	3456	3647	3721	17		
Grp Volume(v), veh/h	371	1722	211	221		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1867		
Q Serve(g_s), s	2.8	4.2	1.9	1.9		
Cycle Q Clear(g_c), s	2.8	4.2	1.9	1.9		
Prop In Lane	1.00			0.01		
Lane Grp Cap(c), veh/h	633	2985	883	928		
V/C Ratio(X)	0.59	0.58	0.24	0.24		
Avail Cap(c_a), veh/h	1289	4483	1294	1360		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	0.7	4.0	4.0		
Incr Delay (d2), s/veh	0.9	0.2	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.1	0.3	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	0.9	4.2	4.2		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2093	432			
Approach Delay, s/veh		2.7	4.2			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	28.1	9.7	18.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	10.5	20.5
Max Q Clear Time (g_c+I1), s	6.2	4.8	3.9
Green Ext Time (p_c), s	17.4	0.7	2.3

Intersection Summary	
HCM 6th Ctrl Delay	3.0
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	340	801	284	229	214	385	102	60	464	421	280	118
Future Volume (vph)	340	801	284	229	214	385	102	60	464	421	280	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	370	871	309	249	233	418	111	65	504	458	304	128
RTOR Reduction (vph)	0	0	217	0	0	124	0	0	0	0	172	0
Lane Group Flow (vph)	370	871	92	249	496	142	0	0	569	458	132	128
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	17.8	17.8	5.0	17.8	17.8			5.5	14.3	14.3	5.0
Effective Green, g (s)	5.0	17.8	17.8	5.0	17.8	17.8			5.5	14.3	14.3	5.0
Actuated g/C Ratio	0.08	0.30	0.30	0.08	0.30	0.30			0.09	0.24	0.24	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	285	1048	468	147	924	426			314	842	376	147
v/s Ratio Prot	0.11	c0.25		c0.14	0.16				c0.17	c0.13		0.07
v/s Ratio Perm			0.06			0.10					0.08	
v/c Ratio	1.30	0.83	0.20	1.69	0.54	0.33			1.81	0.54	0.35	0.87
Uniform Delay, d1	27.6	19.7	15.8	27.6	17.7	16.5			27.3	20.0	19.0	27.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	157.6	5.7	0.2	339.7	0.6	0.5			377.8	0.7	0.6	39.1
Delay (s)	185.2	25.5	16.0	367.3	18.3	17.0			405.1	20.8	19.6	66.3
Level of Service	F	C	B	F	B	B			F	C	B	E
Approach Delay (s)		61.7			103.9					184.8		
Approach LOS		E			F					F		

Intersection Summary			
HCM 2000 Control Delay	102.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	280	81	133
Future Volume (vph)	280	81	133
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.97		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3420		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3420		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	304	88	145
RTOR Reduction (vph)	0	0	112
Lane Group Flow (vph)	392	0	33
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	13.8		13.8
Effective Green, g (s)	13.8		13.8
Actuated g/C Ratio	0.23		0.23
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	785		363
v/s Ratio Prot	0.11		
v/s Ratio Perm			0.02
v/c Ratio	0.50		0.09
Uniform Delay, d1	20.1		18.2
Progression Factor	1.00		1.00
Incremental Delay, d2	0.5		0.1
Delay (s)	20.6		18.3
Level of Service	C		B
Approach Delay (s)	28.9		
Approach LOS	C		

Intersection Summary

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	79	483	14	160	734
Future Vol, veh/h	8	79	483	14	160	734
Conflicting Peds, #/hr	5	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	99	519	15	174	798

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1676	525	0	0	540	0
Stage 1	525	-	-	-	-	-
Stage 2	1151	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	105	552	-	-	1028	-
Stage 1	593	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	86	549	-	-	1022	-
Mov Cap-2 Maneuver	86	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	249	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	86	549	1022	-
HCM Lane V/C Ratio	-	-	0.116	0.18	0.17	-
HCM Control Delay (s)	-	-	52.3	13	9.2	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.7	0.6	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	86	0	2	84	9	0
Future Vol, veh/h	86	0	2	84	9	0
Conflicting Peds, #/hr	0	1	1	0	4	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	79	79	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	0	3	106	12	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	97	0	213	102
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1496	-	775	953
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1495	-	770	948
Mov Cap-2 Maneuver	-	-	-	-	770	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	904	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	770	-	-	1495	-
HCM Lane V/C Ratio	0.016	-	-	0.002	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	17	0	0	5	7	59	1	11	77	5
Future Vol, veh/h	1	1	17	0	0	5	7	59	1	11	77	5
Conflicting Peds, #/hr	0	0	1	1	0	0	5	0	2	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	50	50	50	84	84	84	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	21	0	0	10	8	70	1	12	87	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	211	208	96	215	211	73	98	0	0	73	0	0
Stage 1	119	119	-	89	89	-	-	-	-	-	-	-
Stage 2	92	89	-	126	122	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	746	689	960	742	686	989	1495	-	-	1527	-	-
Stage 1	885	797	-	918	821	-	-	-	-	-	-	-
Stage 2	915	821	-	878	795	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	727	675	955	715	672	987	1488	-	-	1524	-	-
Mov Cap-2 Maneuver	727	675	-	715	672	-	-	-	-	-	-	-
Stage 1	875	787	-	911	814	-	-	-	-	-	-	-
Stage 2	900	814	-	849	785	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.7	0.8	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1488	-	-	920	987	1524	-	-
HCM Lane V/C Ratio	0.006	-	-	0.026	0.01	0.008	-	-
HCM Control Delay (s)	7.4	0	-	9	8.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

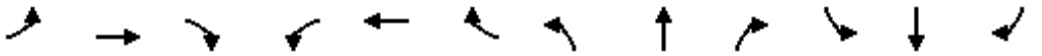
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	92	68	0	0	18
Future Vol, veh/h	17	92	68	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	18	100	74	0	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	210	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1526	-	-	-	778	988
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	769	988
Mov Cap-2 Maneuver	-	-	-	-	769	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	890	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	988
HCM Lane V/C Ratio	0.012	-	-	-	0.02
HCM Control Delay (s)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	787	137	136	522	649	123	352	98	284	434	227
Future Volume (veh/h)	294	787	137	136	522	649	123	352	98	284	434	227
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	811	0	145	555	0	135	387	0	312	477	0
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1598		312	691		422	1454		466	1454	
Arrive On Green	0.43	0.43	0.00	0.43	0.43	0.00	0.41	0.41	0.00	0.41	0.41	0.00
Sat Flow, veh/h	854	3741	0	423	1617	1585	917	3647	0	995	3554	1585
Grp Volume(v), veh/h	303	811	0	145	555	0	135	387	0	312	477	0
Grp Sat Flow(s),veh/h/ln	854	1870	0	423	1617	1585	917	1777	0	995	1777	1585
Q Serve(g_s), s	7.0	8.7	0.0	11.1	16.5	0.0	6.5	4.0	0.0	16.6	5.0	0.0
Cycle Q Clear(g_c), s	23.5	8.7	0.0	19.8	16.5	0.0	11.5	4.0	0.0	20.6	5.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	1598		312	691		422	1454		466	1454	
V/C Ratio(X)	1.26	0.51		0.47	0.80		0.32	0.27		0.67	0.33	
Avail Cap(c_a), veh/h	240	1598		312	691		422	1454		466	1454	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.9	11.5	0.0	18.7	13.7	0.0	15.0	10.8	0.0	17.6	11.1	0.0
Incr Delay (d2), s/veh	146.8	0.3	0.0	1.1	6.8	0.0	0.4	0.1	0.0	3.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	3.0	0.0	1.6	6.1	0.0	1.2	1.3	0.0	3.6	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.7	11.8	0.0	19.8	20.6	0.0	15.5	10.9	0.0	21.3	11.2	0.0
LnGrp LOS	F	B		B	C		B	B		C	B	
Approach Vol, veh/h		1114			700			522			789	
Approach Delay, s/veh		55.6			20.4			12.1			15.2	
Approach LOS		E			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		13.5		25.5		22.6		21.8				
Green Ext Time (p_c), s		2.1		0.0		0.0		0.9				

Intersection Summary		
HCM 6th Ctrl Delay	30.2	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	763	217	210	730	53	761	90	422	60	90	100
Future Volume (veh/h)	182	763	217	210	730	53	761	90	422	60	90	100
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		0.99	1.00		1.00	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	829	0	219	760	51	897	0	144	66	99	6
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	1008		251	996	67	1033	0	460	81	122	173
Arrive On Green	0.13	0.28	0.00	0.14	0.29	0.29	0.29	0.00	0.29	0.11	0.11	0.11
Sat Flow, veh/h	1781	3647	0	1781	3378	227	3563	0	1585	733	1100	1563
Grp Volume(v), veh/h	198	829	0	219	400	411	897	0	144	165	0	6
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1828	1781	0	1585	1834	0	1563
Q Serve(g_s), s	11.2	22.5	0.0	12.4	21.1	21.1	24.6	0.0	7.3	9.1	0.0	0.4
Cycle Q Clear(g_c), s	11.2	22.5	0.0	12.4	21.1	21.1	24.6	0.0	7.3	9.1	0.0	0.4
Prop In Lane	1.00		0.00	1.00		0.12	1.00		1.00	0.40		1.00
Lane Grp Cap(c), veh/h	231	1008		251	524	539	1033	0	460	204	0	173
V/C Ratio(X)	0.86	0.82		0.87	0.76	0.76	0.87	0.00	0.31	0.81	0.00	0.03
Avail Cap(c_a), veh/h	299	1326		287	651	670	1340	0	596	322	0	274
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	34.5	0.0	43.4	33.1	33.1	34.7	0.0	28.6	44.8	0.0	40.9
Incr Delay (d2), s/veh	17.4	3.3	0.0	22.3	4.2	4.1	5.1	0.0	0.4	8.2	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	9.9	0.0	6.9	9.4	9.7	10.8	0.0	2.8	4.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	37.8	0.0	65.8	37.3	37.2	39.8	0.0	29.0	53.0	0.0	41.0
LnGrp LOS	E	D		E	D	D	D	A	C	D	A	D
Approach Vol, veh/h		1027			1030			1041			171	
Approach Delay, s/veh		42.3			43.3			38.3			52.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	34.4	19.0	33.8	16.0	17.9	34.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.8	16.6	38.5	18.1	17.3	37.8
Max Q Clear Time (g_c+I1), s	26.6	14.4	24.5	11.1	13.2	23.1
Green Ext Time (p_c), s	3.3	0.1	4.8	0.5	0.2	4.3

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	576	677	361	1280	0	0	0	0	552	5	408
Future Volume (veh/h)	0	576	677	361	1280	0	0	0	0	552	5	408
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	670	0	376	1333	0				748	0	300
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1056		516	1905	0				1016	0	452
Arrive On Green	0.00	0.30	0.00	0.15	0.54	0.00				0.29	0.00	0.29
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	670	0	376	1333	0				748	0	300
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	8.2	0.0	5.2	14.0	0.0				9.6	0.0	8.4
Cycle Q Clear(g_c), s	0.0	8.2	0.0	5.2	14.0	0.0				9.6	0.0	8.4
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1056		516	1905	0				1016	0	452
V/C Ratio(X)	0.00	0.63		0.73	0.70	0.00				0.74	0.00	0.66
Avail Cap(c_a), veh/h	0	1871		652	2860	0				1451	0	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.3	0.0	20.4	8.7	0.0				16.3	0.0	15.9
Incr Delay (d2), s/veh	0.0	0.6	0.0	3.1	0.5	0.0				1.2	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	2.9	0.0	2.1	3.7	0.0				3.2	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.9	0.0	23.5	9.1	0.0				17.5	0.0	17.5
LnGrp LOS	A	B		C	A	A				B	A	B
Approach Vol, veh/h		670			1709						1048	
Approach Delay, s/veh		15.9			12.3						17.5	
Approach LOS		B			B						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		12.0	19.5		18.8		31.5					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		9.5	26.5		20.5		40.5					
Max Q Clear Time (g_c+I1), s		7.2	10.2		11.6		16.0					
Green Ext Time (p_c), s		0.3	4.0		2.8		11.0					

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

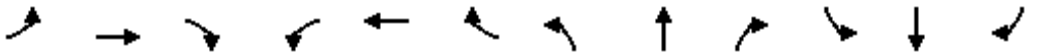
Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1214	0	35	0	0	39
Future Vol, veh/h	1214	0	35	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1320	0	38	0	0	42

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	660
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	406
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	406
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	14.9
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	406	-	-
HCM Lane V/C Ratio	0.104	-	-
HCM Control Delay (s)	14.9	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	391	25	556	422	675	71	267	278	553	314	196
Future Volume (veh/h)	119	391	25	556	422	675	71	267	278	553	314	196
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		0.99	1.00		0.96	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	495	0	611	464	343	78	293	37	614	349	29
Peak Hour Factor	0.79	0.79	0.79	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	681	304	707	1038	457	250	526	215	803	422	349
Arrive On Green	0.10	0.19	0.00	0.20	0.29	0.29	0.14	0.14	0.14	0.23	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	3456	3554	1566	1781	3741	1528	3563	1870	1549
Grp Volume(v), veh/h	151	495	0	611	464	343	78	293	37	614	349	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1566	1781	1870	1528	1781	1870	1549
Q Serve(g_s), s	6.3	9.9	0.0	12.9	8.1	15.1	3.0	5.5	1.6	12.2	13.5	1.1
Cycle Q Clear(g_c), s	6.3	9.9	0.0	12.9	8.1	15.1	3.0	5.5	1.6	12.2	13.5	1.1
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	186	681	304	707	1038	457	250	526	215	803	422	349
V/C Ratio(X)	0.81	0.73	0.00	0.86	0.45	0.75	0.31	0.56	0.17	0.76	0.83	0.08
Avail Cap(c_a), veh/h	186	844	377	775	1271	560	435	913	373	870	457	378
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	28.8	0.0	29.1	21.8	24.3	29.3	30.4	28.7	27.5	27.9	23.2
Incr Delay (d2), s/veh	23.3	2.4	0.0	9.4	0.3	4.5	0.7	0.9	0.4	3.8	11.3	0.1
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	3.8	4.2	0.0	6.0	3.2	5.8	1.3	2.5	0.6	5.4	7.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	31.2	0.0	38.5	22.1	28.8	30.0	31.3	29.1	31.2	39.2	23.3
LnGrp LOS	E	C	A	D	C	C	C	C	C	C	D	C
Approach Vol, veh/h		646			1418			408			992	
Approach Delay, s/veh		37.1			30.8			30.8			33.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.2	20.0	19.0		21.6	12.4	26.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	17.0	18.0		18.5	7.9	27.1				
Max Q Clear Time (g_c+I1), s		7.5	14.9	11.9		15.5	8.3	17.1				
Green Ext Time (p_c), s		1.7	0.6	1.6		1.4	0.0	3.1				

Intersection Summary	
HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	424	100	68	519	129	52	182	34	41	207	192
Future Volume (veh/h)	144	424	100	68	519	129	52	182	34	41	207	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	482	114	75	570	142	61	214	40	44	220	204
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	886	208	105	715	178	94	451	84	76	253	234
Arrive On Green	0.12	0.31	0.31	0.06	0.25	0.25	0.05	0.30	0.30	0.04	0.29	0.29
Sat Flow, veh/h	1781	2849	670	1781	2813	699	1781	1528	286	1781	885	820
Grp Volume(v), veh/h	164	299	297	75	359	353	61	0	254	44	0	424
Grp Sat Flow(s),veh/h/ln	1781	1777	1742	1781	1777	1735	1781	0	1813	1781	0	1705
Q Serve(g_s), s	5.5	8.6	8.7	2.5	11.6	11.7	2.1	0.0	7.1	1.5	0.0	14.6
Cycle Q Clear(g_c), s	5.5	8.6	8.7	2.5	11.6	11.7	2.1	0.0	7.1	1.5	0.0	14.6
Prop In Lane	1.00		0.38	1.00		0.40	1.00		0.16	1.00		0.48
Lane Grp Cap(c), veh/h	206	553	542	105	452	441	94	0	535	76	0	487
V/C Ratio(X)	0.80	0.54	0.55	0.72	0.80	0.80	0.65	0.00	0.47	0.58	0.00	0.87
Avail Cap(c_a), veh/h	246	557	546	208	519	507	145	0	600	147	0	567
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.5	17.6	17.6	28.5	21.5	21.5	28.6	0.0	17.8	28.9	0.0	20.9
Incr Delay (d2), s/veh	14.3	1.1	1.1	8.8	7.4	7.8	7.4	0.0	0.7	6.7	0.0	12.4
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	3.0	3.3	3.3	1.3	5.3	5.2	1.0	0.0	2.8	0.8	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	18.6	18.8	37.3	28.9	29.3	36.0	0.0	18.5	35.6	0.0	33.3
LnGrp LOS	D	B	B	D	C	C	D	A	B	D	A	C
Approach Vol, veh/h		760			787			315			468	
Approach Delay, s/veh		23.5			29.9			21.9			33.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	22.7	8.1	23.7	7.7	22.1	11.6	20.2
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	5.1	20.4	7.2	19.3	5.0	20.5	8.5	18.0
Max Q Clear Time (g_c+I1), s	13.5	9.1	4.5	10.7	4.1	16.6	7.5	13.7
Green Ext Time (p_c), s	0.0	1.1	0.0	2.3	0.0	1.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	150	86	63	510	632	135
Future Volume (veh/h)	150	86	63	510	632	135
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	190	109	68	548	695	148
Peak Hour Factor	0.79	0.79	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	249	143	119	1905	1025	218
Arrive On Green	0.23	0.23	0.07	0.54	0.35	0.35
Sat Flow, veh/h	1077	618	1781	3647	3002	619
Grp Volume(v), veh/h	300	0	68	548	424	419
Grp Sat Flow(s),veh/h/ln	1701	0	1781	1777	1777	1751
Q Serve(g_s), s	6.4	0.0	1.4	3.3	7.8	7.9
Cycle Q Clear(g_c), s	6.4	0.0	1.4	3.3	7.8	7.9
Prop In Lane	0.63	0.36	1.00			0.35
Lane Grp Cap(c), veh/h	393	0	119	1905	626	617
V/C Ratio(X)	0.76	0.00	0.57	0.29	0.68	0.68
Avail Cap(c_a), veh/h	792	0	235	2575	846	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	17.5	4.9	10.6	10.6
Incr Delay (d2), s/veh	3.1	0.0	4.2	0.1	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.6	0.6	2.4	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.0	0.0	21.7	5.0	11.9	12.0
LnGrp LOS	B	A	C	A	B	B
Approach Vol, veh/h	300			616	843	
Approach Delay, s/veh	17.0			6.8	12.0	
Approach LOS	B			A	B	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	25.2		13.4	7.1	18.1
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	28.0		18.0	5.1	18.4
Max Q Clear Time (g_c+I1), s	5.3		8.4	3.4	9.9
Green Ext Time (p_c), s	3.6		0.7	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	356	284	142	111	340	256	179	573	85	204	623	653
Future Volume (veh/h)	356	284	142	111	340	256	179	573	85	204	623	653
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	348	364	0	117	358	0	188	603	0	215	656	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	420		157	510		226	756		255	813	
Arrive On Green	0.22	0.22	0.00	0.19	0.19	0.00	0.13	0.21	0.00	0.14	0.23	0.00
Sat Flow, veh/h	1781	1870	1585	846	2759	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	348	364	0	253	222	0	188	603	0	215	656	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1828	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.4	14.4	0.0	10.0	8.9	0.0	7.9	12.3	0.0	9.0	13.4	0.0
Cycle Q Clear(g_c), s	14.4	14.4	0.0	10.0	8.9	0.0	7.9	12.3	0.0	9.0	13.4	0.0
Prop In Lane	1.00		1.00	0.46		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	400	420		338	329		226	756		255	813	
V/C Ratio(X)	0.87	0.87		0.75	0.68		0.83	0.80		0.84	0.81	
Avail Cap(c_a), veh/h	429	451		512	498		234	931		276	1014	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.7	28.6	0.0	29.6	29.1	0.0	32.7	28.6	0.0	32.1	28.0	0.0
Incr Delay (d2), s/veh	16.4	15.4	0.0	3.3	2.4	0.0	21.2	4.0	0.0	19.6	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	7.9	0.0	4.5	3.8	0.0	4.5	5.2	0.0	5.0	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	44.0	0.0	32.9	31.6	0.0	53.9	32.7	0.0	51.6	31.9	0.0
LnGrp LOS	D	D		C	C		D	C		D	C	
Approach Vol, veh/h		712			475			791			871	
Approach Delay, s/veh		44.5			32.3			37.7			36.8	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.5	20.8		21.7	14.2	22.1		18.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.0	20.1		18.5	10.1	21.9		21.5
Max Q Clear Time (g_c+I1), s	11.0	14.3		16.4	9.9	15.4		12.0
Green Ext Time (p_c), s	0.1	1.8		0.7	0.0	2.2		1.9

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	28.9
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	14	21	5	14	24	35	245	7	22	430	163
Future Vol, veh/h	98	14	21	5	14	24	35	245	7	22	430	163
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.87	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	17	26	6	17	29	40	282	8	24	467	177
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.5	10.4	14.5	41.4
HCM LOS	B	B	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	74%	12%	4%
Vol Thru, %	85%	11%	33%	70%
Vol Right, %	2%	16%	56%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	287	133	43	615
LT Vol	35	98	5	22
Through Vol	245	14	14	430
RT Vol	7	21	24	163
Lane Flow Rate	330	164	52	668
Geometry Grp	1	1	1	1
Degree of Util (X)	0.513	0.301	0.098	0.932
Departure Headway (Hd)	5.602	6.597	6.695	5.019
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	640	542	539	722
Service Time	3.671	4.679	4.695	3.073
HCM Lane V/C Ratio	0.516	0.303	0.096	0.925
HCM Control Delay	14.5	12.5	10.4	41.4
HCM Lane LOS	B	B	B	E
HCM 95th-tile Q	2.9	1.3	0.3	13



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	411	289	553	366	575	354	301	592	502	309	65
Future Volume (veh/h)	64	411	289	553	366	575	354	301	592	502	309	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.94	1.00		0.97
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	472	332	564	373	0	385	327	643	534	329	69
Peak Hour Factor	0.87	0.87	0.87	0.98	0.98	0.98	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	739	534	650	641		470	395	1227	622	387	81
Arrive On Green	0.05	0.21	0.21	0.19	0.34	0.00	0.13	0.21	0.21	0.18	0.26	0.26
Sat Flow, veh/h	1781	3554	1564	3456	1870	2790	3563	1870	2990	3456	1491	313
Grp Volume(v), veh/h	74	472	332	564	373	0	385	327	643	534	0	398
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1728	1870	1395	1781	1870	1495	1728	0	1804
Q Serve(g_s), s	3.5	10.3	15.0	13.4	13.9	0.0	8.9	14.1	13.9	12.7	0.0	17.7
Cycle Q Clear(g_c), s	3.5	10.3	15.0	13.4	13.9	0.0	8.9	14.1	13.9	12.7	0.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	95	739	534	650	641		470	395	1227	622	0	468
V/C Ratio(X)	0.78	0.64	0.62	0.87	0.58		0.82	0.83	0.52	0.86	0.00	0.85
Avail Cap(c_a), veh/h	139	756	542	715	641		526	429	1282	698	0	512
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	30.6	23.4	33.3	22.8	0.0	35.7	31.9	19.5	33.6	0.0	29.8
Incr Delay (d2), s/veh	15.3	1.7	2.1	10.3	1.3	0.0	9.1	12.0	0.4	9.6	0.0	12.2
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	1.9	4.5	5.6	6.4	6.1	0.0	4.4	7.5	4.7	6.0	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	32.3	25.5	43.6	24.2	0.0	44.8	43.9	19.8	43.2	0.0	41.9
LnGrp LOS	D	C	C	D	C		D	D	B	D	A	D
Approach Vol, veh/h		878			937			1355			932	
Approach Delay, s/veh		31.7			35.9			32.7			42.7	
Approach LOS		C			D			C			D	

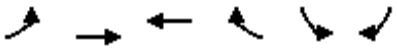
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.7	22.4	20.4	22.1	15.7	26.4	9.0	33.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	17.1	19.4	17.5	18.0	12.5	24.0	6.6	28.9
Max Q Clear Time (g_c+I1), s	14.7	16.1	15.4	17.0	10.9	19.7	5.5	15.9
Green Ext Time (p_c), s	0.6	1.6	0.5	0.5	0.3	0.9	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

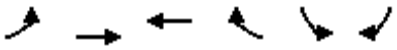
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1509	655	0	845	913
Future Volume (veh/h)	0	1509	655	0	845	913
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1588	720	0	889	961
Peak Hour Factor	0.95	0.95	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1688	2426	0	1292	1043
Arrive On Green	0.00	0.48	0.48	0.00	0.37	0.37
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1588	720	0	889	961
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	25.3	5.1	0.0	12.9	19.6
Cycle Q Clear(g_c), s	0.0	25.3	5.1	0.0	12.9	19.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1688	2426	0	1292	1043
V/C Ratio(X)	0.00	0.94	0.30	0.00	0.69	0.92
Avail Cap(c_a), veh/h	0	1699	2440	0	1304	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.8	9.6	0.0	15.7	17.8
Incr Delay (d2), s/veh	0.0	10.8	0.1	0.0	1.5	12.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.8	1.6	0.0	4.3	6.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	25.6	9.6	0.0	17.3	30.6
LnGrp LOS	A	C	A	A	B	C
Approach Vol, veh/h		1588	720		1850	
Approach Delay, s/veh		25.6	9.6		24.2	
Approach LOS		C	A		C	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	32.8	26.8	32.8
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	22.5	28.5
Max Q Clear Time (g_c+I1), s	27.3	21.6	7.1
Green Ext Time (p_c), s	1.0	0.7	5.1

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

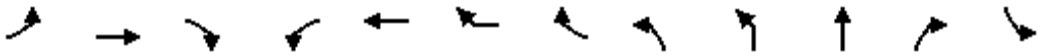


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	727	1631	644	15	0	0
Future Volume (veh/h)	727	1631	644	15	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	749	1681	708	16		
Peak Hour Factor	0.97	0.97	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1088	2977	1281	29		
Arrive On Green	0.31	0.84	0.36	0.36		
Sat Flow, veh/h	3456	3647	3644	80		
Grp Volume(v), veh/h	749	1681	354	370		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1854		
Q Serve(g_s), s	5.3	4.0	4.4	4.4		
Cycle Q Clear(g_c), s	5.3	4.0	4.4	4.4		
Prop In Lane	1.00			0.04		
Lane Grp Cap(c), veh/h	1088	2977	641	669		
V/C Ratio(X)	0.69	0.56	0.55	0.55		
Avail Cap(c_a), veh/h	1557	4548	1185	1236		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.3	0.7	7.1	7.1		
Incr Delay (d2), s/veh	0.8	0.2	0.7	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.1	1.0	1.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.1	0.9	7.8	7.8		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		2430	724			
Approach Delay, s/veh		3.4	7.8			
Approach LOS		A	A			

Timer - Assigned Phs		4		7	8
Phs Duration (G+Y+Rc), s		27.7		13.2	14.5
Change Period (Y+Rc), s		4.5		4.5	4.5
Max Green Setting (Gmax), s		35.5		12.5	18.5
Max Q Clear Time (g_c+I1), s		6.0		7.3	6.4
Green Ext Time (p_c), s		17.0		1.5	3.6

Intersection Summary	
HCM 6th Ctrl Delay	4.4
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	494	758	339	223	391	437	103	136	450	494	171	144
Future Volume (vph)	494	758	339	223	391	437	103	136	450	494	171	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1555	1770	3176	1421			3433	3539	1555	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1555	1770	3176	1421			3433	3539	1555	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	543	833	373	248	434	486	114	149	495	543	188	155
RTOR Reduction (vph)	0	0	222	0	0	126	0	0	0	0	139	0
Lane Group Flow (vph)	543	833	151	248	711	197	0	0	644	543	49	155
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	17.6	17.6	5.0	17.6	17.6			5.5	16.1	16.1	5.0
Effective Green, g (s)	5.0	17.6	17.6	5.0	17.6	17.6			5.5	16.1	16.1	5.0
Actuated g/C Ratio	0.08	0.29	0.29	0.08	0.29	0.29			0.09	0.26	0.26	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	278	1009	443	143	905	405			306	923	405	143
v/s Ratio Prot	c0.16	c0.24		0.14	0.22				c0.19	0.15		0.09
v/s Ratio Perm			0.10			0.14					0.03	
v/c Ratio	1.95	0.83	0.34	1.73	0.79	0.49			2.10	0.59	0.12	1.08
Uniform Delay, d1	28.4	20.6	17.5	28.4	20.3	18.3			28.1	19.9	17.4	28.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	441.8	5.6	0.5	357.9	4.5	0.9			508.0	1.0	0.1	99.5
Delay (s)	470.2	26.2	17.9	386.2	24.9	19.2			536.1	20.9	17.5	127.8
Level of Service	F	C	B	F	C	B			F	C	B	F
Approach Delay (s)		162.3			93.3					261.7		
Approach LOS		F			F					F		

Intersection Summary			
HCM 2000 Control Delay	149.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	61.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	365	148	222
Future Volume (vph)	365	148	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3373		1563
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3373		1563
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	392	159	239
RTOR Reduction (vph)	0	0	179
Lane Group Flow (vph)	551	0	60
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	15.6		15.6
Effective Green, g (s)	15.6		15.6
Actuated g/C Ratio	0.25		0.25
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	852		395
v/s Ratio Prot	c0.16		
v/s Ratio Perm			0.04
v/c Ratio	0.65		0.15
Uniform Delay, d1	20.6		17.9
Progression Factor	1.00		1.00
Incremental Delay, d2	1.7		0.2
Delay (s)	22.3		18.1
Level of Service	C		B
Approach Delay (s)	38.5		
Approach LOS	D		

Intersection Summary

Appendix C – Existing + Project Alternative 1 Conditions Intersection Level of Service Worksheets

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	173	752	32	202	344
Future Vol, veh/h	9	173	752	32	202	344
Conflicting Peds, #/hr	5	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	192	826	35	224	382

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1664	831	0	0	864	0
Stage 1	829	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	107	370	-	-	779	-
Stage 1	429	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	76	368	-	-	777	-
Mov Cap-2 Maneuver	76	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	302	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.7	0	4.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	76	368	777	-
HCM Lane V/C Ratio	-	-	0.132	0.522	0.289	-
HCM Control Delay (s)	-	-	59.4	25	11.5	-
HCM Lane LOS	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	0.4	2.9	1.2	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	210	9	4	167	15	0
Future Vol, veh/h	210	9	4	167	15	0
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	80	80	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	344	15	5	209	22	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	361	0	574	354
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1198	-	480	690
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	817	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1196	-	476	689
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	812	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	476	-	-	1196	-
HCM Lane V/C Ratio	0.047	-	-	0.004	-
HCM Control Delay (s)	12.9	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	11	2	6	9	8	23	128	8	4	36	7
Future Vol, veh/h	9	11	2	6	9	8	23	128	8	4	36	7
Conflicting Peds, #/hr	1	0	0	0	0	1	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	55	55	55	68	68	68	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	24	4	11	16	15	34	188	12	6	55	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	354	348	63	354	347	200	68	0	0	205	0	0
Stage 1	75	75	-	267	267	-	-	-	-	-	-	-
Stage 2	279	273	-	87	80	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	601	576	1002	601	576	841	1533	-	-	1366	-	-
Stage 1	934	833	-	738	688	-	-	-	-	-	-	-
Stage 2	728	684	-	921	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	563	555	1000	563	555	836	1530	-	-	1359	-	-
Mov Cap-2 Maneuver	563	555	-	563	555	-	-	-	-	-	-	-
Stage 1	909	827	-	716	667	-	-	-	-	-	-	-
Stage 2	680	663	-	885	822	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.8	11.1	1.1	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1530	-	-	582	631	1359	-	-
HCM Lane V/C Ratio	0.022	-	-	0.084	0.066	0.005	-	-
HCM Control Delay (s)	7.4	0	-	11.8	11.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0	-	-

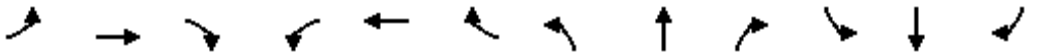
Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	156	49	139	0	6	39
Future Vol, veh/h	156	49	139	0	6	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	170	53	151	0	7	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	151	0	-	0	544	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1430	-	-	-	500	895
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	682	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1430	-	-	-	439	895
Mov Cap-2 Maneuver	-	-	-	-	439	-
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	682	-

Approach	EB	WB	SB
HCM Control Delay, s	6	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1430	-	-	-	786
HCM Lane V/C Ratio	0.119	-	-	-	0.062
HCM Control Delay (s)	7.9	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	662	81	96	401	417	151	444	124	310	288	271
Future Volume (veh/h)	353	662	81	96	401	417	151	444	124	310	288	271
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	779	0	104	436	0	164	483	0	348	324	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	1496		241	857		519	1421		439	1421	
Arrive On Green	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	953	3741	0	304	2144	1585	1056	3647	0	912	3554	1585
Grp Volume(v), veh/h	415	779	0	211	329	0	164	483	0	348	324	0
Grp Sat Flow(s),veh/h/ln	953	1870	0	830	1617	1585	1056	1777	0	912	1777	1585
Q Serve(g_s), s	11.1	7.1	0.0	4.2	6.9	0.0	5.5	4.2	0.0	13.8	2.7	0.0
Cycle Q Clear(g_c), s	18.0	7.1	0.0	11.3	6.9	0.0	8.2	4.2	0.0	18.0	2.7	0.0
Prop In Lane	1.00		0.00	0.49		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	1496		452	647		519	1421		439	1421	
V/C Ratio(X)	1.05	0.52		0.47	0.51		0.32	0.34		0.79	0.23	
Avail Cap(c_a), veh/h	395	1496		452	647		519	1421		439	1421	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.2	10.2	0.0	11.2	10.2	0.0	11.6	9.4	0.0	17.0	8.9	0.0
Incr Delay (d2), s/veh	59.1	0.3	0.0	0.8	0.7	0.0	0.3	0.1	0.0	9.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	2.2	0.0	1.1	1.9	0.0	1.0	1.2	0.0	4.2	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.3	10.6	0.0	12.0	10.8	0.0	12.0	9.5	0.0	26.6	9.0	0.0
LnGrp LOS	F	B		B	B		B	A		C	A	
Approach Vol, veh/h		1194			540			647			672	
Approach Delay, s/veh		34.1			11.3			10.1			18.1	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		10.2		20.0		20.0		13.3				
Green Ext Time (p_c), s		2.3		0.0		0.0		1.5				

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	879	345	113	605	49	607	56	470	68	169	128
Future Volume (veh/h)	128	879	345	113	605	49	607	56	470	68	169	128
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	1010	0	133	712	51	711	0	203	72	178	17
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	1219		163	1121	80	788	0	351	84	208	251
Arrive On Green	0.10	0.34	0.00	0.09	0.33	0.33	0.22	0.00	0.22	0.16	0.16	0.16
Sat Flow, veh/h	1781	3647	0	1781	3363	241	3563	0	1585	531	1313	1585
Grp Volume(v), veh/h	147	1010	0	133	376	387	711	0	203	250	0	17
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1827	1781	0	1585	1844	0	1585
Q Serve(g_s), s	7.8	25.3	0.0	7.1	17.3	17.4	18.8	0.0	11.1	12.8	0.0	0.9
Cycle Q Clear(g_c), s	7.8	25.3	0.0	7.1	17.3	17.4	18.8	0.0	11.1	12.8	0.0	0.9
Prop In Lane	1.00		0.00	1.00		0.13	1.00		1.00	0.29		1.00
Lane Grp Cap(c), veh/h	180	1219		163	593	609	788	0	351	292	0	251
V/C Ratio(X)	0.82	0.83		0.82	0.63	0.64	0.90	0.00	0.58	0.86	0.00	0.07
Avail Cap(c_a), veh/h	270	1522		167	658	677	820	0	365	363	0	312
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.7	29.2	0.0	43.2	27.3	27.3	36.7	0.0	33.7	39.7	0.0	34.7
Incr Delay (d2), s/veh	11.2	3.2	0.0	25.6	1.7	1.7	12.9	0.0	2.1	15.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	10.8	0.0	4.2	7.4	7.6	9.1	0.0	4.4	7.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	32.4	0.0	68.8	29.0	29.0	49.6	0.0	35.8	54.8	0.0	34.8
LnGrp LOS	D	C		E	C	C	D	A	D	D	A	C
Approach Vol, veh/h		1157			896			914			267	
Approach Delay, s/veh		35.2			34.9			46.5			53.5	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	25.9	13.3	37.7	19.9	14.3	36.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.3	9.1	41.5	19.1	14.7	35.9
Max Q Clear Time (g_c+I1), s	20.8	9.1	27.3	14.8	9.8	19.4
Green Ext Time (p_c), s	0.6	0.0	6.0	0.6	0.1	4.3

Intersection Summary	
HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	778	820	385	961	0	0	0	0	583	2	416
Future Volume (veh/h)	0	778	820	385	961	0	0	0	0	583	2	416
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	846	0	418	1045	0				775	0	302
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1209		539	2034	0				979	0	435
Arrive On Green	0.00	0.34	0.00	0.16	0.57	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	846	0	418	1045	0				775	0	302
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	12.1	0.0	6.8	10.5	0.0				11.9	0.0	10.1
Cycle Q Clear(g_c), s	0.0	12.1	0.0	6.8	10.5	0.0				11.9	0.0	10.1
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1209		539	2034	0				979	0	435
V/C Ratio(X)	0.00	0.70		0.78	0.51	0.00				0.79	0.00	0.69
Avail Cap(c_a), veh/h	0	2141		639	3070	0				1215	0	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.8	0.0	23.9	7.6	0.0				19.8	0.0	19.1
Incr Delay (d2), s/veh	0.0	0.7	0.0	5.0	0.2	0.0				2.9	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	0.0	2.9	2.9	0.0				4.5	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.6	0.0	28.9	7.8	0.0				22.7	0.0	22.0
LnGrp LOS	A	B		C	A	A				C	A	C
Approach Vol, veh/h		846			1463						1077	
Approach Delay, s/veh		17.6			13.9						22.5	
Approach LOS		B			B						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		13.7	24.5		20.7		38.2					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		10.9	35.5		20.1		50.9					
Max Q Clear Time (g_c+I1), s		8.8	14.1		13.9		12.5					
Green Ext Time (p_c), s		0.3	5.9		2.3		9.1					

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

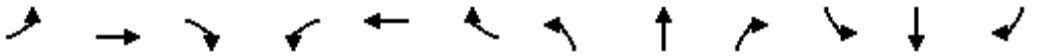
Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1565	0	234	1108	0	66
Future Vol, veh/h	1565	0	234	1108	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1701	0	254	1204	0	72

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	851
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	303
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	303
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	20.5
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	303	-	-
HCM Lane V/C Ratio	0.237	-	-
HCM Control Delay (s)	20.5	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.9	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	650	82	345	323	427	70	241	560	348	188	88
Future Volume (veh/h)	90	650	82	345	323	427	70	241	560	348	188	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	774	75	383	359	95	80	277	464	405	219	5
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.87	0.87	0.87	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	811	356	407	961	428	562	1181	492	536	281	236
Arrive On Green	0.08	0.23	0.23	0.12	0.27	0.27	0.32	0.32	0.32	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1560	3456	3554	1582	1781	3741	1558	3563	1870	1569
Grp Volume(v), veh/h	107	774	75	383	359	95	80	277	464	405	219	5
Grp Sat Flow(s),veh/h/ln	1781	1777	1560	1728	1777	1582	1781	1870	1558	1781	1870	1569
Q Serve(g_s), s	5.7	20.6	3.7	10.5	7.9	4.5	3.1	5.2	27.8	10.5	10.8	0.3
Cycle Q Clear(g_c), s	5.7	20.6	3.7	10.5	7.9	4.5	3.1	5.2	27.8	10.5	10.8	0.3
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	135	811	356	407	961	428	562	1181	492	536	281	236
V/C Ratio(X)	0.79	0.95	0.21	0.94	0.37	0.22	0.14	0.23	0.94	0.76	0.78	0.02
Avail Cap(c_a), veh/h	169	811	356	407	961	428	572	1201	500	669	351	295
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	43.6	36.5	30.0	42.0	28.4	27.1	23.5	24.3	32.0	39.0	39.2	34.7
Incr Delay (d2), s/veh	18.3	21.1	0.3	30.0	0.2	0.3	0.1	0.1	26.6	3.8	8.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	11.0	1.4	6.1	3.3	1.7	1.3	2.3	13.6	4.8	5.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.9	57.6	30.3	71.9	28.6	27.4	23.6	24.4	58.5	42.9	47.7	34.8
LnGrp LOS	E	E	C	E	C	C	C	C	E	D	D	C
Approach Vol, veh/h		956			837			821			629	
Approach Delay, s/veh		55.9			48.3			43.6			44.5	
Approach LOS		E			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.8	15.8	26.4		18.9	11.8	30.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.8	11.3	21.9		18.0	9.1	24.1				
Max Q Clear Time (g_c+I1), s		29.8	12.5	22.6		12.8	7.7	9.9				
Green Ext Time (p_c), s		0.4	0.0	0.0		1.4	0.0	2.2				

Intersection Summary												
HCM 6th Ctrl Delay			48.6									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	697	60	17	382	71	85	293	34	68	133	164
Future Volume (veh/h)	188	697	60	17	382	71	85	293	34	68	133	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	758	65	19	424	79	90	312	36	74	145	178
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1089	93	41	627	116	123	407	47	111	183	225
Arrive On Green	0.14	0.33	0.33	0.02	0.21	0.21	0.07	0.25	0.25	0.06	0.24	0.24
Sat Flow, veh/h	1781	3305	283	1781	2991	553	1781	1646	190	1781	763	936
Grp Volume(v), veh/h	204	407	416	19	251	252	90	0	348	74	0	323
Grp Sat Flow(s),veh/h/ln	1781	1777	1811	1781	1777	1768	1781	0	1836	1781	0	1699
Q Serve(g_s), s	5.9	10.6	10.6	0.6	6.9	7.0	2.6	0.0	9.4	2.2	0.0	9.5
Cycle Q Clear(g_c), s	5.9	10.6	10.6	0.6	6.9	7.0	2.6	0.0	9.4	2.2	0.0	9.5
Prop In Lane	1.00		0.16	1.00		0.31	1.00		0.10	1.00		0.55
Lane Grp Cap(c), veh/h	254	585	597	41	373	371	123	0	454	111	0	409
V/C Ratio(X)	0.80	0.70	0.70	0.46	0.67	0.68	0.73	0.00	0.77	0.67	0.00	0.79
Avail Cap(c_a), veh/h	318	750	765	167	600	597	184	0	665	174	0	606
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	15.5	15.5	25.7	19.4	19.4	24.3	0.0	18.6	24.4	0.0	19.0
Incr Delay (d2), s/veh	11.2	2.0	1.9	7.9	2.1	2.2	8.1	0.0	3.2	6.7	0.0	4.3
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	3.0	3.9	4.0	0.3	2.7	2.8	1.3	0.0	4.0	1.1	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	17.5	17.5	33.6	21.5	21.6	32.4	0.0	21.8	31.1	0.0	23.2
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1027			522			438			397	
Approach Delay, s/veh		20.6			22.0			24.0			24.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	17.7	5.7	22.1	8.2	17.3	12.1	15.7
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	5.3	19.3	5.0	22.5	5.5	19.0	9.5	18.0
Max Q Clear Time (g_c+I1), s	4.2	11.4	2.6	12.6	4.6	11.5	7.9	9.0
Green Ext Time (p_c), s	0.0	1.3	0.0	3.6	0.0	1.2	0.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	207	120	117	750	367	265
Future Volume (veh/h)	207	120	117	750	367	265
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	169	133	852	408	294
Peak Hour Factor	0.71	0.71	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	341	197	171	1740	581	414
Arrive On Green	0.32	0.32	0.10	0.49	0.30	0.30
Sat Flow, veh/h	1076	622	1781	3647	2051	1395
Grp Volume(v), veh/h	462	0	133	852	370	332
Grp Sat Flow(s),veh/h/ln	1702	0	1781	1777	1777	1575
Q Serve(g_s), s	11.8	0.0	3.4	7.5	8.6	8.7
Cycle Q Clear(g_c), s	11.8	0.0	3.4	7.5	8.6	8.7
Prop In Lane	0.63	0.37	1.00			0.89
Lane Grp Cap(c), veh/h	539	0	171	1740	527	467
V/C Ratio(X)	0.86	0.00	0.78	0.49	0.70	0.71
Avail Cap(c_a), veh/h	713	0	287	2406	745	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	0.0	20.5	8.0	14.5	14.6
Incr Delay (d2), s/veh	7.9	0.0	7.3	0.2	1.7	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	1.6	2.0	3.0	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.8	0.0	27.9	8.2	16.2	16.6
LnGrp LOS	C	A	C	A	B	B
Approach Vol, veh/h	462			985	702	
Approach Delay, s/veh	22.8			10.8	16.4	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.3		19.2	9.0	18.3
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		31.5		19.5	7.5	19.5
Max Q Clear Time (g_c+I1), s		9.5		13.8	5.4	10.7
Green Ext Time (p_c), s		6.0		0.9	0.1	2.9

Intersection Summary		
HCM 6th Ctrl Delay	15.2	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	664	455	180	70	188	264	111	910	121	225	453	321
Future Volume (veh/h)	664	455	180	70	188	264	111	910	121	225	453	321
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	577	620	0	81	219	0	128	1046	0	253	509	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	568		103	299		156	1125		196	1204	
Arrive On Green	0.30	0.30	0.00	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.34	0.00
Sat Flow, veh/h	1781	1870	1585	924	2677	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	577	620	0	160	140	0	128	1046	0	253	509	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1824	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	34.5	34.5	0.0	9.7	8.6	0.0	8.0	32.4	0.0	12.5	12.6	0.0
Cycle Q Clear(g_c), s	34.5	34.5	0.0	9.7	8.6	0.0	8.0	32.4	0.0	12.5	12.6	0.0
Prop In Lane	1.00		1.00	0.51		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	568		204	198		156	1125		196	1204	
V/C Ratio(X)	1.07	1.09		0.79	0.71		0.82	0.93		1.29	0.42	
Avail Cap(c_a), veh/h	541	568		289	281		249	1157		196	1204	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.6	39.6	0.0	49.2	48.7	0.0	51.0	37.6	0.0	50.6	29.0	0.0
Incr Delay (d2), s/veh	57.9	65.4	0.0	8.9	4.6	0.0	10.9	12.8	0.0	163.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.4	25.7	0.0	4.9	4.0	0.0	4.0	15.4	0.0	14.3	5.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.5	105.0	0.0	58.0	53.2	0.0	61.8	50.4	0.0	214.5	29.2	0.0
LnGrp LOS	F	F		E	D		E	D		F	C	
Approach Vol, veh/h		1197			300			1174			762	
Approach Delay, s/veh		101.4			55.8			51.7			90.7	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	40.5		39.0	14.5	43.0		17.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0
Max Q Clear Time (g_c+I1), s	14.5	34.4		36.5	10.0	14.6		11.7
Green Ext Time (p_c), s	0.0	1.6		0.0	0.1	2.9		0.8

Intersection Summary	
HCM 6th Ctrl Delay	78.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	33.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	194	17	17	10	23	56	24	420	6	24	246	86
Future Vol, veh/h	194	17	17	10	23	56	24	420	6	24	246	86
Peak Hour Factor	0.86	0.86	0.86	0.75	0.75	0.75	0.86	0.86	0.86	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	226	20	20	13	31	75	28	488	7	29	300	105
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.2	13.2	48.3	28.8
HCM LOS	C	B	E	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	85%	11%	7%
Vol Thru, %	93%	7%	26%	69%
Vol Right, %	1%	7%	63%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	450	228	89	356
LT Vol	24	194	10	24
Through Vol	420	17	23	246
RT Vol	6	17	56	86
Lane Flow Rate	523	265	119	434
Geometry Grp	1	1	1	1
Degree of Util (X)	0.932	0.547	0.25	0.78
Departure Headway (Hd)	6.41	7.426	7.584	6.468
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	570	485	471	560
Service Time	4.428	5.487	5.666	4.49
HCM Lane V/C Ratio	0.918	0.546	0.253	0.775
HCM Control Delay	48.3	19.2	13.2	28.8
HCM Lane LOS	E	C	B	D
HCM 95th-tile Q	11.8	3.2	1	7.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	333	212	420	246	171	226	141	299	149	179	15
Future Volume (veh/h)	66	333	212	420	246	171	226	141	299	149	179	15
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		0.99	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	347	221	488	286	0	260	162	344	184	221	19
Peak Hour Factor	0.96	0.96	0.96	0.86	0.86	0.86	0.87	0.87	0.87	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	704	480	607	587		377	378	1192	302	311	27
Arrive On Green	0.06	0.20	0.20	0.18	0.31	0.00	0.11	0.20	0.20	0.09	0.18	0.18
Sat Flow, veh/h	1781	3554	1578	3456	1870	2790	3563	1870	3147	3456	1695	146
Grp Volume(v), veh/h	69	347	221	488	286	0	260	162	344	184	0	240
Grp Sat Flow(s),veh/h/ln	1781	1777	1578	1728	1870	1395	1781	1870	1573	1728	0	1841
Q Serve(g_s), s	2.0	4.6	6.1	7.2	6.6	0.0	3.8	4.0	4.1	2.7	0.0	6.5
Cycle Q Clear(g_c), s	2.0	4.6	6.1	7.2	6.6	0.0	3.8	4.0	4.1	2.7	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	107	704	480	607	587		377	378	1192	302	0	338
V/C Ratio(X)	0.65	0.49	0.46	0.80	0.49		0.69	0.43	0.29	0.61	0.00	0.71
Avail Cap(c_a), veh/h	193	1197	699	640	773		393	665	1675	330	0	627
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	19.0	15.1	21.1	14.9	0.0	23.0	18.6	11.6	23.5	0.0	20.5
Incr Delay (d2), s/veh	6.4	0.5	0.7	7.1	0.6	0.0	4.8	0.8	0.1	2.8	0.0	2.8
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	1.0	1.8	2.0	3.3	2.6	0.0	1.7	1.7	1.2	1.2	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	19.6	15.7	28.2	15.5	0.0	27.9	19.4	11.8	26.3	0.0	23.2
LnGrp LOS	C	B	B	C	B		C	B	B	C	A	C
Approach Vol, veh/h		637			774			766			424	
Approach Delay, s/veh		19.5			23.5			18.8			24.6	
Approach LOS		B			C			B			C	

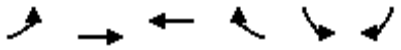
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	15.3	13.9	15.1	10.2	14.3	7.7	21.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	19.0	9.9	18.0	5.9	18.2	5.8	22.1
Max Q Clear Time (g_c+I1), s	4.7	6.1	9.2	8.1	5.8	8.5	4.0	8.6
Green Ext Time (p_c), s	0.0	1.9	0.1	2.2	0.0	0.9	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

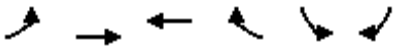
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	747	365	0	991	506
Future Volume (veh/h)	0	747	365	0	991	506
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	879	410	0	1194	610
Peak Hour Factor	0.85	0.85	0.89	0.89	0.83	0.83
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1206	1733	0	1557	1257
Arrive On Green	0.00	0.34	0.34	0.00	0.45	0.45
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	879	410	0	1194	610
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	9.3	2.5	0.0	12.4	6.6
Cycle Q Clear(g_c), s	0.0	9.3	2.5	0.0	12.4	6.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1206	1733	0	1557	1257
V/C Ratio(X)	0.00	0.73	0.24	0.00	0.77	0.49
Avail Cap(c_a), veh/h	0	1494	2147	0	1856	1499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.4	10.2	0.0	9.9	8.3
Incr Delay (d2), s/veh	0.0	1.4	0.1	0.0	1.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	0.7	0.0	3.1	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.8	10.2	0.0	11.5	8.6
LnGrp LOS	A	B	B	A	B	A
Approach Vol, veh/h		879	410		1804	
Approach Delay, s/veh		13.8	10.2		10.5	
Approach LOS		B	B		B	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	19.0	23.8	19.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	23.0	18.0
Max Q Clear Time (g_c+I1), s	11.3	14.4	4.5
Green Ext Time (p_c), s	3.2	4.9	2.3

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

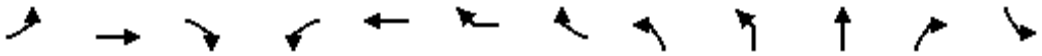


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	311	1434	363	2	0	0
Future Volume (veh/h)	311	1434	363	2	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	375	1728	448	2		
Peak Hour Factor	0.83	0.83	0.81	0.81		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	637	2987	1803	8		
Arrive On Green	0.18	0.84	0.50	0.50		
Sat Flow, veh/h	3456	3647	3722	16		
Grp Volume(v), veh/h	375	1728	219	231		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1867		
Q Serve(g_s), s	2.8	4.3	2.0	2.0		
Cycle Q Clear(g_c), s	2.8	4.3	2.0	2.0		
Prop In Lane	1.00			0.01		
Lane Grp Cap(c), veh/h	637	2987	883	928		
V/C Ratio(X)	0.59	0.58	0.25	0.25		
Avail Cap(c_a), veh/h	1285	4468	1290	1356		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	0.7	4.1	4.1		
Incr Delay (d2), s/veh	0.9	0.2	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.1	0.3	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	0.9	4.2	4.2		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2103	450			
Approach Delay, s/veh		2.8	4.2			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	28.2	9.7	18.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	10.5	20.5
Max Q Clear Time (g_c+I1), s	6.3	4.8	4.0
Green Ext Time (p_c), s	17.5	0.7	2.4

Intersection Summary	
HCM 6th Ctrl Delay	3.0
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	345	801	284	229	214	385	102	60	464	421	280	118
Future Volume (vph)	345	801	284	229	214	385	102	60	464	421	280	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	375	871	309	249	233	418	111	65	504	458	304	128
RTOR Reduction (vph)	0	0	217	0	0	124	0	0	0	0	172	0
Lane Group Flow (vph)	375	871	92	249	496	142	0	0	569	458	132	128
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	17.8	17.8	5.0	17.8	17.8			5.5	14.3	14.3	5.0
Effective Green, g (s)	5.0	17.8	17.8	5.0	17.8	17.8			5.5	14.3	14.3	5.0
Actuated g/C Ratio	0.08	0.30	0.30	0.08	0.30	0.30			0.09	0.24	0.24	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	285	1048	468	147	924	426			314	842	376	147
v/s Ratio Prot	0.11	c0.25		c0.14	0.16				c0.17	c0.13		0.07
v/s Ratio Perm			0.06			0.10					0.08	
v/c Ratio	1.32	0.83	0.20	1.69	0.54	0.33			1.81	0.54	0.35	0.87
Uniform Delay, d1	27.6	19.7	15.8	27.6	17.7	16.5			27.3	20.0	19.0	27.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	164.8	5.7	0.2	339.7	0.6	0.5			377.8	0.7	0.6	39.1
Delay (s)	192.3	25.5	16.0	367.3	18.3	17.0			405.1	20.8	19.6	66.3
Level of Service	F	C	B	F	B	B			F	C	B	E
Approach Delay (s)		63.8			103.9					184.8		
Approach LOS		E			F					F		

Intersection Summary			
HCM 2000 Control Delay	102.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	280	96	133
Future Volume (vph)	280	96	133
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3404		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3404		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	304	104	145
RTOR Reduction (vph)	0	0	112
Lane Group Flow (vph)	408	0	33
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	13.8		13.8
Effective Green, g (s)	13.8		13.8
Actuated g/C Ratio	0.23		0.23
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	781		363
v/s Ratio Prot	0.12		
v/s Ratio Perm			0.02
v/c Ratio	0.52		0.09
Uniform Delay, d1	20.3		18.2
Progression Factor	1.00		1.00
Incremental Delay, d2	0.6		0.1
Delay (s)	20.9		18.3
Level of Service	C		B
Approach Delay (s)	28.9		
Approach LOS	C		

Intersection Summary

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	209	483	22	216	734
Future Vol, veh/h	8	209	483	22	216	734
Conflicting Peds, #/hr	5	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	261	519	24	235	798

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1798	525	0	0	549	0
Stage 1	525	-	-	-	-	-
Stage 2	1273	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	88	552	-	-	1021	-
Stage 1	593	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	67	549	-	-	1015	-
Mov Cap-2 Maneuver	67	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	201	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.3	0	2.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	67	549	1015	-
HCM Lane V/C Ratio	-	-	0.149	0.476	0.231	-
HCM Control Delay (s)	-	-	67.9	17.4	9.6	-
HCM Lane LOS	-	-	F	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	2.5	0.9	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	0	2	213	9	0
Future Vol, veh/h	150	0	2	213	9	0
Conflicting Peds, #/hr	0	1	1	0	4	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	79	79	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	167	0	3	270	12	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	168	0	448	173
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	280	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1410	-	568	871
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1409	-	563	866
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	762	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	563	-	-	1409	-
HCM Lane V/C Ratio	0.021	-	-	0.002	-
HCM Control Delay (s)	11.5	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

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	1	1	17	0	0	5	7	59	1	11	77	23
Future Vol, veh/h	1	1	17	0	0	5	7	59	1	11	77	23
Conflicting Peds, #/hr	0	0	1	1	0	0	5	0	2	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	50	50	50	84	84	84	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	21	0	0	10	8	70	1	12	87	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	221	218	106	225	231	73	118	0	0	73	0	0
Stage 1	129	129	-	89	89	-	-	-	-	-	-	-
Stage 2	92	89	-	136	142	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	735	680	948	730	669	989	1470	-	-	1527	-	-
Stage 1	875	789	-	918	821	-	-	-	-	-	-	-
Stage 2	915	821	-	867	779	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	717	666	943	703	655	987	1463	-	-	1524	-	-
Mov Cap-2 Maneuver	717	666	-	703	655	-	-	-	-	-	-	-
Stage 1	865	779	-	911	814	-	-	-	-	-	-	-
Stage 2	900	814	-	839	769	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.7	0.8	0.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	908	987	1524	-	-
HCM Lane V/C Ratio	0.006	-	-	0.026	0.01	0.008	-	-
HCM Control Delay (s)	7.5	0	-	9.1	8.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

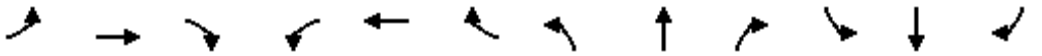
Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	92	68	0	22	157
Future Vol, veh/h	70	92	68	0	22	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	76	100	74	0	24	171

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	326	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	252	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1526	-	-	-	668	988
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	790	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	633	988
Mov Cap-2 Maneuver	-	-	-	-	633	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	790	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	924
HCM Lane V/C Ratio	0.05	-	-	-	0.211
HCM Control Delay (s)	7.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	824	174	136	537	649	139	352	98	284	434	227
Future Volume (veh/h)	294	824	174	136	537	649	139	352	98	284	434	227
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	849	0	145	571	0	153	387	0	312	477	0
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	1598		299	691		422	1454		466	1454	
Arrive On Green	0.43	0.43	0.00	0.43	0.43	0.00	0.41	0.41	0.00	0.41	0.41	0.00
Sat Flow, veh/h	841	3741	0	394	1617	1585	917	3647	0	995	3554	1585
Grp Volume(v), veh/h	303	849	0	145	571	0	153	387	0	312	477	0
Grp Sat Flow(s),veh/h/ln	841	1870	0	394	1617	1585	917	1777	0	995	1777	1585
Q Serve(g_s), s	6.3	9.2	0.0	11.7	17.2	0.0	7.5	4.0	0.0	16.6	5.0	0.0
Cycle Q Clear(g_c), s	23.5	9.2	0.0	21.0	17.2	0.0	12.6	4.0	0.0	20.6	5.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	227	1598		299	691		422	1454		466	1454	
V/C Ratio(X)	1.33	0.53		0.48	0.83		0.36	0.27		0.67	0.33	
Avail Cap(c_a), veh/h	227	1598		299	691		422	1454		466	1454	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.2	11.7	0.0	19.4	13.9	0.0	15.4	10.8	0.0	17.6	11.1	0.0
Incr Delay (d2), s/veh	176.8	0.3	0.0	1.2	8.2	0.0	0.5	0.1	0.0	3.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.9	3.2	0.0	1.6	6.5	0.0	1.4	1.3	0.0	3.6	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	202.9	12.0	0.0	20.7	22.1	0.0	15.9	10.9	0.0	21.3	11.2	0.0
LnGrp LOS	F	B		C	C		B	B		C	B	
Approach Vol, veh/h		1152			716			540			789	
Approach Delay, s/veh		62.2			21.8			12.3			15.2	
Approach LOS		E			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		14.6		25.5		22.6		23.0				
Green Ext Time (p_c), s		2.0		0.0		0.0		0.3				

Intersection Summary		
HCM 6th Ctrl Delay	33.1	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	837	299	209	762	53	801	90	422	60	90	100
Future Volume (veh/h)	182	837	299	209	762	53	801	90	422	60	90	100
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		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	910	0	218	794	51	941	0	144	66	99	6
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	1054		247	1040	67	1054	0	469	80	120	171
Arrive On Green	0.13	0.30	0.00	0.14	0.31	0.31	0.30	0.00	0.30	0.11	0.11	0.11
Sat Flow, veh/h	1781	3647	0	1781	3389	218	3563	0	1585	733	1100	1563
Grp Volume(v), veh/h	198	910	0	218	416	429	941	0	144	165	0	6
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1830	1781	0	1585	1834	0	1563
Q Serve(g_s), s	12.3	27.2	0.0	13.5	23.8	23.8	28.4	0.0	7.9	9.9	0.0	0.4
Cycle Q Clear(g_c), s	12.3	27.2	0.0	13.5	23.8	23.8	28.4	0.0	7.9	9.9	0.0	0.4
Prop In Lane	1.00		0.00	1.00		0.12	1.00		1.00	0.40		1.00
Lane Grp Cap(c), veh/h	228	1054		247	545	562	1054	0	469	200	0	171
V/C Ratio(X)	0.87	0.86		0.88	0.76	0.76	0.89	0.00	0.31	0.82	0.00	0.04
Avail Cap(c_a), veh/h	274	1217		263	597	615	1230	0	547	295	0	252
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.1	37.4	0.0	47.5	35.3	35.3	37.9	0.0	30.7	49.0	0.0	44.8
Incr Delay (d2), s/veh	21.6	6.0	0.0	26.9	5.3	5.2	7.7	0.0	0.4	11.4	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	12.4	0.0	7.8	10.9	11.2	12.9	0.0	3.0	5.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.7	43.4	0.0	74.5	40.6	40.4	45.6	0.0	31.0	60.4	0.0	44.9
LnGrp LOS	E	D		E	D	D	D	A	C	E	A	D
Approach Vol, veh/h		1108			1063			1085			171	
Approach Delay, s/veh		48.1			47.5			43.7			59.9	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	37.8	20.1	37.8	16.8	18.9	39.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.8	16.6	38.5	18.1	17.3	37.8
Max Q Clear Time (g_c+I1), s	30.4	15.5	29.2	11.9	14.3	25.8
Green Ext Time (p_c), s	2.9	0.1	4.1	0.4	0.2	4.1

Intersection Summary	
HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	731	677	361	1352	0	0	0	0	552	5	443
Future Volume (veh/h)	0	731	677	361	1352	0	0	0	0	552	5	443
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	850	0	376	1408	0				761	0	326
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1177		500	1981	0				997	0	444
Arrive On Green	0.00	0.33	0.00	0.14	0.56	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	850	0	376	1408	0				761	0	326
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	11.6	0.0	5.8	16.1	0.0				10.8	0.0	10.3
Cycle Q Clear(g_c), s	0.0	11.6	0.0	5.8	16.1	0.0				10.8	0.0	10.3
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1177		500	1981	0				997	0	444
V/C Ratio(X)	0.00	0.72		0.75	0.71	0.00				0.76	0.00	0.73
Avail Cap(c_a), veh/h	0	1703		594	2603	0				1321	0	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.3	0.0	22.7	9.0	0.0				18.2	0.0	18.1
Incr Delay (d2), s/veh	0.0	0.9	0.0	4.4	0.6	0.0				1.9	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0	2.4	4.5	0.0				3.9	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.1	0.0	27.1	9.6	0.0				20.2	0.0	21.4
LnGrp LOS	A	B		C	A	A				C	A	C
Approach Vol, veh/h		850			1784						1087	
Approach Delay, s/veh		17.1			13.3						20.5	
Approach LOS		B			B						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		12.5	22.8		20.0		35.3					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		9.5	26.5		20.5		40.5					
Max Q Clear Time (g_c+I1), s		7.8	13.6		12.8		18.1					
Green Ext Time (p_c), s		0.3	4.7		2.7		11.2					

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

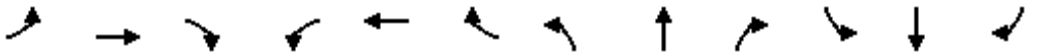
Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1245	0	104	1665	0	269
Future Vol, veh/h	1245	0	104	1665	0	269
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1311	0	109	1753	0	283

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	656
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	408
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	408
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	31.6
HCM LOS		D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	408	-	-
HCM Lane V/C Ratio	0.694	-	-
HCM Control Delay (s)	31.6	-	-
HCM Lane LOS	D	-	-
HCM 95th %tile Q(veh)	5.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	391	57	567	422	675	145	296	304	553	327	196
Future Volume (veh/h)	119	391	57	567	422	675	145	296	304	553	327	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.97	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	495	20	623	464	343	159	325	66	614	363	29
Peak Hour Factor	0.79	0.79	0.79	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	672	290	709	1043	459	269	565	231	802	421	349
Arrive On Green	0.10	0.19	0.19	0.21	0.29	0.29	0.15	0.15	0.15	0.23	0.23	0.23
Sat Flow, veh/h	1781	3554	1535	3456	3554	1566	1781	3741	1532	3563	1870	1549
Grp Volume(v), veh/h	151	495	20	623	464	343	159	325	66	614	363	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1535	1728	1777	1566	1781	1870	1532	1781	1870	1549
Q Serve(g_s), s	6.5	10.3	0.8	13.7	8.3	15.5	6.5	6.3	3.0	12.6	14.6	1.2
Cycle Q Clear(g_c), s	6.5	10.3	0.8	13.7	8.3	15.5	6.5	6.3	3.0	12.6	14.6	1.2
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	179	672	290	709	1043	459	269	565	231	802	421	349
V/C Ratio(X)	0.84	0.74	0.07	0.88	0.44	0.75	0.59	0.58	0.29	0.77	0.86	0.08
Avail Cap(c_a), veh/h	179	816	352	749	1228	541	420	883	361	841	441	366
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	34.6	29.9	26.1	30.2	22.5	25.1	31.0	30.9	29.5	28.4	29.2	24.0
Incr Delay (d2), s/veh	28.5	2.8	0.1	11.2	0.3	4.7	2.1	0.9	0.7	4.1	15.4	0.1
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	4.4	0.3	6.5	3.3	6.0	2.9	2.8	1.1	5.6	8.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.2	32.8	26.2	41.5	22.8	29.8	33.1	31.9	30.2	32.5	44.6	24.1
LnGrp LOS	E	C	C	D	C	C	C	C	C	C	D	C
Approach Vol, veh/h		666			1430			550			1006	
Approach Delay, s/veh		39.5			32.6			32.0			36.6	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.3	20.6	19.3		22.2	12.4	27.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	17.0	18.0		18.5	7.9	27.1				
Max Q Clear Time (g_c+I1), s		8.5	15.7	12.3		16.6	8.5	17.5				
Green Ext Time (p_c), s		2.0	0.4	1.6		1.0	0.0	3.0				

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	455	100	68	593	129	52	182	34	41	207	192
Future Volume (veh/h)	144	455	100	68	593	129	52	182	34	41	207	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	517	114	75	652	142	61	214	40	44	220	204
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	934	205	103	770	167	93	447	84	76	250	232
Arrive On Green	0.12	0.32	0.32	0.06	0.27	0.27	0.05	0.29	0.29	0.04	0.28	0.28
Sat Flow, veh/h	1781	2892	634	1781	2896	630	1781	1528	286	1781	885	820
Grp Volume(v), veh/h	164	317	314	75	400	394	61	0	254	44	0	424
Grp Sat Flow(s),veh/h/ln	1781	1777	1749	1781	1777	1749	1781	0	1813	1781	0	1705
Q Serve(g_s), s	5.7	9.3	9.4	2.6	13.5	13.5	2.1	0.0	7.3	1.5	0.0	15.0
Cycle Q Clear(g_c), s	5.7	9.3	9.4	2.6	13.5	13.5	2.1	0.0	7.3	1.5	0.0	15.0
Prop In Lane	1.00		0.36	1.00		0.36	1.00		0.16	1.00		0.48
Lane Grp Cap(c), veh/h	205	574	565	103	472	465	93	0	530	76	0	483
V/C Ratio(X)	0.80	0.55	0.56	0.73	0.85	0.85	0.66	0.00	0.48	0.58	0.00	0.88
Avail Cap(c_a), veh/h	239	574	565	202	505	497	141	0	584	143	0	552
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	17.7	17.7	29.4	22.0	22.0	29.5	0.0	18.4	29.8	0.0	21.7
Incr Delay (d2), s/veh	15.3	1.1	1.2	9.4	12.0	12.4	7.7	0.0	0.7	6.9	0.0	13.7
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	3.1	3.6	3.6	1.3	6.6	6.6	1.1	0.0	2.9	0.8	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	18.8	18.9	38.7	34.1	34.4	37.2	0.0	19.1	36.6	0.0	35.4
LnGrp LOS	D	B	B	D	C	C	D	A	B	D	A	D
Approach Vol, veh/h		795			869			315			468	
Approach Delay, s/veh		23.8			34.6			22.6			35.5	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	23.0	8.2	25.0	7.8	22.4	11.8	21.3
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	5.1	20.4	7.2	19.3	5.0	20.5	8.5	18.0
Max Q Clear Time (g_c+I1), s	3.5	9.3	4.6	11.4	4.1	17.0	7.7	15.5
Green Ext Time (p_c), s	0.0	1.1	0.0	2.3	0.0	0.9	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	86	150	60	542	706	135
Future Volume (veh/h)	86	150	60	542	706	135
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	190	65	583	776	148
Peak Hour Factor	0.79	0.79	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	140	245	114	1923	1085	207
Arrive On Green	0.23	0.23	0.06	0.54	0.37	0.37
Sat Flow, veh/h	598	1042	1781	3647	3065	567
Grp Volume(v), veh/h	300	0	65	583	464	460
Grp Sat Flow(s),veh/h/ln	1645	0	1781	1777	1777	1761
Q Serve(g_s), s	6.9	0.0	1.4	3.6	9.0	9.0
Cycle Q Clear(g_c), s	6.9	0.0	1.4	3.6	9.0	9.0
Prop In Lane	0.36	0.63	1.00			0.32
Lane Grp Cap(c), veh/h	387	0	114	1923	649	643
V/C Ratio(X)	0.78	0.00	0.57	0.30	0.72	0.72
Avail Cap(c_a), veh/h	736	0	226	2475	813	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	18.3	5.1	11.0	11.0
Incr Delay (d2), s/veh	3.4	0.0	4.4	0.1	2.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.6	0.7	2.9	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.8	0.0	22.7	5.2	13.2	13.2
LnGrp LOS	B	A	C	A	B	B
Approach Vol, veh/h	300			648	924	
Approach Delay, s/veh	17.8			6.9	13.2	
Approach LOS	B			A	B	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	26.3		13.9	7.1	19.2
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	28.0		18.0	5.1	18.4
Max Q Clear Time (g_c+I1), s	5.6		8.9	3.4	11.0
Green Ext Time (p_c), s	3.9		0.7	0.0	3.3

Intersection Summary		
HCM 6th Ctrl Delay	11.8	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	356	284	142	148	340	293	179	573	101	220	623	653
Future Volume (veh/h)	356	284	142	148	340	293	179	573	101	220	623	653
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	348	364	0	156	358	0	188	603	0	232	656	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	414		201	495		225	740		267	824	
Arrive On Green	0.22	0.22	0.00	0.19	0.19	0.00	0.13	0.21	0.00	0.15	0.23	0.00
Sat Flow, veh/h	1781	1870	1585	1040	2556	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	348	364	0	273	241	0	188	603	0	232	656	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1818	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.0	14.9	0.0	11.3	10.1	0.0	8.2	12.9	0.0	10.1	13.8	0.0
Cycle Q Clear(g_c), s	15.0	14.9	0.0	11.3	10.1	0.0	8.2	12.9	0.0	10.1	13.8	0.0
Prop In Lane	1.00		1.00	0.57		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	414		352	344		225	740		267	824	
V/C Ratio(X)	0.88	0.88		0.77	0.70		0.84	0.82		0.87	0.80	
Avail Cap(c_a), veh/h	415	436		492	481		227	899		267	980	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.9	29.9	0.0	30.4	29.9	0.0	33.9	30.0	0.0	33.0	28.7	0.0
Incr Delay (d2), s/veh	18.8	17.6	0.0	5.0	2.6	0.0	22.8	4.9	0.0	25.0	4.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	8.4	0.0	5.2	4.3	0.0	4.7	5.5	0.0	5.9	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	47.5	0.0	35.4	32.5	0.0	56.7	34.9	0.0	58.0	32.7	0.0
LnGrp LOS	D	D		D	C		E	C		E	C	
Approach Vol, veh/h		712			514			791			888	
Approach Delay, s/veh		48.1			34.0			40.1			39.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.4	21.0		22.1	14.5	22.9		19.9
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.9	20.1		18.5	10.1	21.9		21.5
Max Q Clear Time (g_c+I1), s	12.1	14.9		17.0	10.2	15.8		13.3
Green Ext Time (p_c), s	0.0	1.7		0.6	0.0	2.1		1.9

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	31.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	14	21	23	14	24	35	253	7	22	430	163
Future Vol, veh/h	98	14	21	23	14	24	35	253	7	22	430	163
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.87	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	17	26	28	17	29	40	291	8	24	467	177
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.9	11.1	15.5	46.6
HCM LOS	B	B	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	74%	38%	4%
Vol Thru, %	86%	11%	23%	70%
Vol Right, %	2%	16%	39%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	295	133	61	615
LT Vol	35	98	23	22
Through Vol	253	14	14	430
RT Vol	7	21	24	163
Lane Flow Rate	339	164	74	668
Geometry Grp	1	1	1	1
Degree of Util (X)	0.54	0.312	0.144	0.955
Departure Headway (Hd)	5.734	6.848	6.953	5.143
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	624	529	519	702
Service Time	3.833	4.848	4.961	3.224
HCM Lane V/C Ratio	0.543	0.31	0.143	0.952
HCM Control Delay	15.5	12.9	11.1	46.6
HCM Lane LOS	C	B	B	E
HCM 95th-tile Q	3.2	1.3	0.5	13.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	411	289	566	366	575	354	301	605	502	309	65
Future Volume (veh/h)	64	411	289	566	366	575	354	301	605	502	309	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.94	1.00		0.97
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	472	332	578	373	0	385	327	658	534	329	69
Peak Hour Factor	0.87	0.87	0.87	0.98	0.98	0.98	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	737	533	660	645		469	394	1235	621	386	81
Arrive On Green	0.05	0.21	0.21	0.19	0.34	0.00	0.13	0.21	0.21	0.18	0.26	0.26
Sat Flow, veh/h	1781	3554	1564	3456	1870	2790	3563	1870	2990	3456	1491	313
Grp Volume(v), veh/h	74	472	332	578	373	0	385	327	658	534	0	398
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1728	1870	1395	1781	1870	1495	1728	0	1804
Q Serve(g_s), s	3.5	10.3	15.2	13.8	13.9	0.0	9.0	14.2	14.4	12.8	0.0	17.9
Cycle Q Clear(g_c), s	3.5	10.3	15.2	13.8	13.9	0.0	9.0	14.2	14.4	12.8	0.0	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	95	737	533	660	645		469	394	1235	621	0	467
V/C Ratio(X)	0.78	0.64	0.62	0.88	0.58		0.82	0.83	0.53	0.86	0.00	0.85
Avail Cap(c_a), veh/h	138	751	539	710	645		523	426	1287	694	0	508
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.8	30.9	23.6	33.5	22.8	0.0	36.0	32.2	19.5	33.9	0.0	30.0
Incr Delay (d2), s/veh	15.6	1.8	2.2	11.3	1.3	0.0	9.3	12.2	0.4	9.8	0.0	12.4
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	1.9	4.5	5.7	6.7	6.1	0.0	4.4	7.6	4.8	6.1	0.0	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	32.7	25.8	44.8	24.1	0.0	45.3	44.4	19.9	43.7	0.0	42.4
LnGrp LOS	E	C	C	D	C		D	D	B	D	A	D
Approach Vol, veh/h		878			951			1370			932	
Approach Delay, s/veh		32.0			36.7			32.9			43.2	
Approach LOS		C			D			C			D	

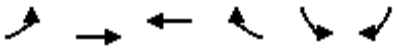
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	22.4	20.8	22.2	15.7	26.5	9.1	33.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.1	19.4	17.5	18.0	12.5	24.0	6.6	28.9
Max Q Clear Time (g_c+I1), s	4.8	16.4	15.8	17.2	11.0	19.9	5.5	15.9
Green Ext Time (p_c), s	0.5	1.5	0.4	0.4	0.2	0.9	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

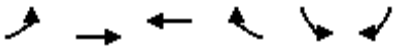
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1539	663	0	845	918
Future Volume (veh/h)	0	1539	663	0	845	918
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1620	729	0	889	966
Peak Hour Factor	0.95	0.95	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1691	2430	0	1291	1042
Arrive On Green	0.00	0.48	0.48	0.00	0.37	0.37
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1620	729	0	889	966
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	26.3	5.2	0.0	13.0	19.8
Cycle Q Clear(g_c), s	0.0	26.3	5.2	0.0	13.0	19.8
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1691	2430	0	1291	1042
V/C Ratio(X)	0.00	0.96	0.30	0.00	0.69	0.93
Avail Cap(c_a), veh/h	0	1693	2432	0	1300	1049
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.1	9.6	0.0	15.8	18.0
Incr Delay (d2), s/veh	0.0	13.3	0.1	0.0	1.5	13.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.8	1.7	0.0	4.4	7.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	28.4	9.7	0.0	17.3	31.5
LnGrp LOS	A	C	A	A	B	C
Approach Vol, veh/h		1620	729		1855	
Approach Delay, s/veh		28.4	9.7		24.7	
Approach LOS		C	A		C	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	33.0	26.9	33.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	22.5	28.5
Max Q Clear Time (g_c+I1), s	28.3	21.8	7.2
Green Ext Time (p_c), s	0.2	0.5	5.2

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

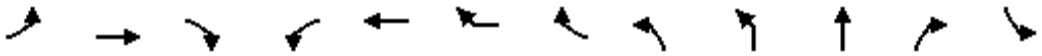


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	738	1649	652	15	0	0
Future Volume (veh/h)	738	1649	652	15	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	761	1700	716	16		
Peak Hour Factor	0.97	0.97	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1095	2983	1285	29		
Arrive On Green	0.32	0.84	0.36	0.36		
Sat Flow, veh/h	3456	3647	3645	79		
Grp Volume(v), veh/h	761	1700	358	374		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1854		
Q Serve(g_s), s	5.4	4.1	4.5	4.5		
Cycle Q Clear(g_c), s	5.4	4.1	4.5	4.5		
Prop In Lane	1.00			0.04		
Lane Grp Cap(c), veh/h	1095	2983	643	671		
V/C Ratio(X)	0.69	0.57	0.56	0.56		
Avail Cap(c_a), veh/h	1542	4504	1174	1225		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.4	0.7	7.1	7.1		
Incr Delay (d2), s/veh	0.8	0.2	0.8	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.1	1.1	1.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.2	0.9	7.9	7.9		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		2461	732			
Approach Delay, s/veh		3.4	7.9			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	28.0	13.4	14.6
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	12.5	18.5
Max Q Clear Time (g_c+I1), s	6.1	7.4	6.5
Green Ext Time (p_c), s	17.2	1.5	3.6

Intersection Summary	
HCM 6th Ctrl Delay	4.5
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	513	758	339	223	391	437	103	136	450	494	171	144
Future Volume (vph)	513	758	339	223	391	437	103	136	450	494	171	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1555	1770	3176	1421			3433	3539	1555	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1555	1770	3176	1421			3433	3539	1555	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	564	833	373	248	434	486	114	149	495	543	188	155
RTOR Reduction (vph)	0	0	222	0	0	126	0	0	0	0	139	0
Lane Group Flow (vph)	564	833	151	248	711	197	0	0	644	543	49	155
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	17.6	17.6	5.0	17.6	17.6			5.5	16.2	16.2	5.0
Effective Green, g (s)	5.0	17.6	17.6	5.0	17.6	17.6			5.5	16.2	16.2	5.0
Actuated g/C Ratio	0.08	0.28	0.28	0.08	0.28	0.28			0.09	0.26	0.26	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	277	1007	442	143	904	404			305	927	407	143
v/s Ratio Prot	c0.16	c0.24		0.14	0.22				c0.19	0.15		0.09
v/s Ratio Perm			0.10			0.14					0.03	
v/c Ratio	2.04	0.83	0.34	1.73	0.79	0.49			2.11	0.59	0.12	1.08
Uniform Delay, d1	28.4	20.7	17.5	28.4	20.4	18.4			28.1	19.9	17.4	28.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	478.7	5.7	0.5	357.9	4.6	0.9			511.1	1.0	0.1	99.5
Delay (s)	507.1	26.4	18.0	386.3	24.9	19.3			539.3	20.8	17.5	127.9
Level of Service	F	C	B	F	C	B			F	C	B	F
Approach Delay (s)		177.8			93.4					263.2		
Approach LOS		F			F					F		

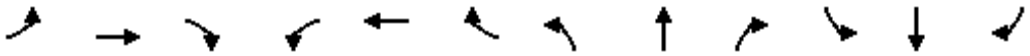
Intersection Summary			
HCM 2000 Control Delay	154.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	61.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	365	155	222
Future Volume (vph)	365	155	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3368		1563
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3368		1563
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	392	167	239
RTOR Reduction (vph)	0	0	178
Lane Group Flow (vph)	559	0	61
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	15.7		15.7
Effective Green, g (s)	15.7		15.7
Actuated g/C Ratio	0.25		0.25
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	855		397
v/s Ratio Prot	c0.17		
v/s Ratio Perm			0.04
v/c Ratio	0.65		0.15
Uniform Delay, d1	20.6		17.9
Progression Factor	1.00		1.00
Incremental Delay, d2	1.8		0.2
Delay (s)	22.4		18.1
Level of Service	C		B
Approach Delay (s)	38.5		
Approach LOS	D		

Intersection Summary

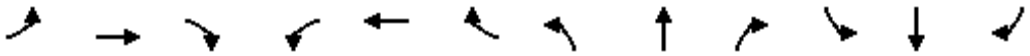


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	774	98	383	359	474	72	285	644	202	422	102
v/c Ratio	0.69	0.99	0.23	0.97	0.41	0.64	0.14	0.27	1.01	0.75	0.75	0.28
Control Delay	66.9	68.2	5.9	84.8	33.2	7.4	26.0	26.6	61.4	56.6	48.4	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	68.2	5.9	84.8	33.2	7.4	26.0	26.6	61.4	56.6	48.4	7.8
Queue Length 50th (ft)	67	261	0	127	102	0	36	75	~310	134	140	0
Queue Length 95th (ft)	#127	#346	26	#222	145	85	71	107	#510	#212	186	32
Internal Link Dist (ft)		287			237			306			851	
Turn Bay Length (ft)	115		115	190			125		120	150		
Base Capacity (vph)	163	785	435	393	878	744	502	1057	639	293	604	378
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	0.66	0.99	0.23	0.97	0.41	0.64	0.14	0.27	1.01	0.69	0.70	0.27

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	495	72	623	464	742	143	341	334	319	658	218
v/c Ratio	0.92	0.74	0.16	0.90	0.44	0.91	0.50	0.56	0.64	0.91	0.91	0.43
Control Delay	94.0	40.4	0.8	53.1	26.2	25.7	38.0	35.8	12.1	65.7	52.2	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	94.0	40.4	0.8	53.1	26.2	25.7	38.0	35.8	12.1	65.7	52.2	7.5
Queue Length 50th (ft)	85	135	0	177	107	126	78	95	16	193	199	0
Queue Length 95th (ft)	#170	165	0	#290	155	#388	140	140	96	#380	#323	58
Internal Link Dist (ft)		287			237			306			851	
Turn Bay Length (ft)	115		115	190			125		120	150		
Base Capacity (vph)	165	752	473	689	1132	843	351	739	569	351	724	503
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	0.92	0.66	0.15	0.90	0.41	0.88	0.41	0.46	0.59	0.91	0.91	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

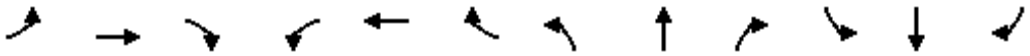
Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	173	752	32	202	344
Future Vol, veh/h	9	173	752	32	202	344
Conflicting Peds, #/hr	5	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	192	826	35	224	382

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1664	831	0	0	864	0
Stage 1	829	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	107	370	-	-	779	-
Stage 1	429	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	76	368	-	-	777	-
Mov Cap-2 Maneuver	76	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	302	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.7	0	4.3
HCM LOS	D		

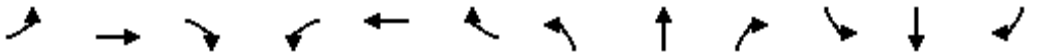
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	76	368	777	-
HCM Lane V/C Ratio	-	-	0.132	0.522	0.289	-
HCM Control Delay (s)	-	-	59.4	25	11.5	-
HCM Lane LOS	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	0.4	2.9	1.2	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	774	98	383	359	474	72	607	322	202	422	102
v/c Ratio	0.62	0.88	0.21	0.87	0.36	0.61	0.19	0.70	0.64	0.70	0.71	0.27
Control Delay	57.9	46.6	5.8	61.1	29.0	6.8	27.8	23.4	15.5	49.8	42.6	7.7
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	57.9	46.6	5.8	61.1	29.0	6.8	27.8	23.4	15.5	49.8	42.6	7.7
Queue Length 50th (ft)	61	230	0	114	89	0	36	115	49	118	124	0
Queue Length 95th (ft)	#127	#346	26	#222	145	85	71	168	129	#212	186	32
Internal Link Dist (ft)		287			237			306			851	
Turn Bay Length (ft)	115		115	190			125		120	150		
Base Capacity (vph)	183	882	474	441	991	778	564	1167	641	329	678	411
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	0.58	0.88	0.21	0.87	0.36	0.61	0.13	0.52	0.50	0.61	0.62	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



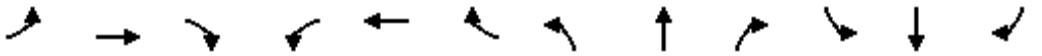
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	650	82	345	323	427	70	241	560	348	188	88
Future Volume (veh/h)	90	650	82	345	323	427	70	241	560	348	188	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	774	75	383	359	95	80	216	504	405	219	5
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.87	0.87	0.87	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	904	397	465	1109	494	396	416	682	576	303	254
Arrive On Green	0.08	0.25	0.25	0.13	0.31	0.31	0.22	0.22	0.22	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1561	3456	3554	1582	1781	1870	3067	3563	1870	1570
Grp Volume(v), veh/h	107	774	75	383	359	95	80	216	504	405	219	5
Grp Sat Flow(s),veh/h/ln	1781	1777	1561	1728	1777	1582	1781	1870	1533	1781	1870	1570
Q Serve(g_s), s	4.7	16.5	3.0	8.6	6.1	3.5	2.9	8.1	12.1	8.5	8.8	0.2
Cycle Q Clear(g_c), s	4.7	16.5	3.0	8.6	6.1	3.5	2.9	8.1	12.1	8.5	8.8	0.2
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	137	904	397	465	1109	494	396	416	682	576	303	254
V/C Ratio(X)	0.78	0.86	0.19	0.82	0.32	0.19	0.20	0.52	0.74	0.70	0.72	0.02
Avail Cap(c_a), veh/h	204	981	431	492	1109	494	692	726	1191	809	425	356
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	36.0	28.2	23.2	33.4	20.9	20.0	25.1	27.1	28.7	31.4	31.6	27.9
Incr Delay (d2), s/veh	10.8	7.2	0.2	10.4	0.2	0.2	0.2	1.0	1.6	1.6	3.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	7.5	1.1	4.1	2.4	1.2	1.2	3.6	4.4	3.7	4.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	35.3	23.4	43.8	21.0	20.1	25.4	28.1	30.3	33.0	35.2	28.0
LnGrp LOS	D	D	C	D	C	C	C	C	C	C	D	C
Approach Vol, veh/h		956			837			800			629	
Approach Delay, s/veh		35.7			31.4			29.2			33.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.1	15.2	24.7		17.3	10.6	29.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.8	11.3	21.9		18.0	9.1	24.1				
Max Q Clear Time (g_c+I1), s		14.1	10.6	18.5		10.8	6.7	8.1				
Green Ext Time (p_c), s		3.5	0.1	1.7		1.7	0.0	2.3				

Intersection Summary												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	664	455	180	70	188	264	111	910	121	225	453	321
Future Volume (veh/h)	664	455	180	70	188	264	111	910	121	225	453	321
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	447	803	186	81	219	0	128	1046	0	253	509	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	502	827	192	101	292		155	1114		268	1340	
Arrive On Green	0.28	0.28	0.28	0.11	0.11	0.00	0.09	0.31	0.00	0.15	0.38	0.00
Sat Flow, veh/h	1781	2936	680	924	2677	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	447	511	478	160	140	0	128	1046	0	253	509	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1746	1824	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	29.9	33.6	33.6	10.6	9.5	0.0	8.8	35.6	0.0	17.5	12.9	0.0
Cycle Q Clear(g_c), s	29.9	33.6	33.6	10.6	9.5	0.0	8.8	35.6	0.0	17.5	12.9	0.0
Prop In Lane	1.00		0.39	0.51		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	502	527	492	199	194		155	1114		268	1340	
V/C Ratio(X)	0.89	0.97	0.97	0.80	0.72		0.83	0.94		0.94	0.38	
Avail Cap(c_a), veh/h	502	527	492	272	265		251	1139		268	1340	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.8	44.1	44.1	54.0	53.5	0.0	55.8	41.5	0.0	52.2	28.1	0.0
Incr Delay (d2), s/veh	17.8	31.7	33.0	11.5	6.0	0.0	11.2	14.2	0.0	39.8	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.4	19.9	18.8	5.5	4.5	0.0	4.3	17.1	0.0	10.6	5.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	75.8	77.1	65.6	59.5	0.0	67.0	55.7	0.0	92.0	28.3	0.0
LnGrp LOS	E	E	E	E	E		E	E		F	C	
Approach Vol, veh/h		1436			300			1174			762	
Approach Delay, s/veh		71.4			62.7			56.9			49.5	
Approach LOS		E			E			E			D	

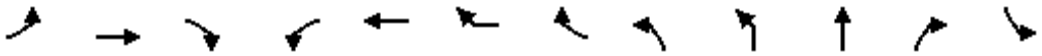
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.2	43.4		39.5	15.3	51.4		18.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.7	39.8		35.0	17.5	41.0		18.5				
Max Q Clear Time (g_c+I1), s	19.5	37.6		35.6	10.8	14.9		12.6				
Green Ext Time (p_c), s	0.0	1.4		0.0	0.1	3.2		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		61.5	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	345	801	284	229	214	385	102	60	464	421	280	118
Future Volume (vph)	345	801	284	229	214	385	102	60	464	421	280	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	375	871	309	249	233	418	111	65	504	458	304	128
RTOR Reduction (vph)	0	0	225	0	0	91	0	0	0	0	231	0
Lane Group Flow (vph)	375	871	84	249	496	175	0	0	569	458	73	128
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	12.3	23.5	23.5	13.7	24.9	24.9			15.9	20.7	20.7	10.8
Effective Green, g (s)	12.3	23.5	23.5	13.7	24.9	24.9			15.9	20.7	20.7	10.8
Actuated g/C Ratio	0.14	0.27	0.27	0.16	0.29	0.29			0.18	0.24	0.24	0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	487	959	429	279	896	413			629	844	377	220
v/s Ratio Prot	0.11	c0.25		c0.14	0.16				c0.17	0.13		0.07
v/s Ratio Perm			0.05			0.12					0.05	
v/c Ratio	0.77	0.91	0.20	0.89	0.55	0.42			0.90	0.54	0.19	0.58
Uniform Delay, d1	35.8	30.6	24.3	35.8	26.2	25.1			34.7	28.9	26.3	35.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	7.4	12.1	0.2	28.0	0.7	0.7			16.5	0.7	0.3	3.9
Delay (s)	43.2	42.6	24.5	63.7	26.9	25.8			51.1	29.6	26.6	39.7
Level of Service	D	D	C	E	C	C			D	C	C	D
Approach Delay (s)		39.2			35.7					38.1		
Approach LOS		D			D					D		

Intersection Summary			
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	86.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	280	96	133
Future Volume (vph)	280	96	133
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3404		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3404		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	304	104	145
RTOR Reduction (vph)	0	0	119
Lane Group Flow (vph)	408	0	26
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	15.6		15.6
Effective Green, g (s)	15.6		15.6
Actuated g/C Ratio	0.18		0.18
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	612		284
v/s Ratio Prot	c0.12		
v/s Ratio Perm			0.02
v/c Ratio	0.67		0.09
Uniform Delay, d1	33.1		29.6
Progression Factor	1.00		1.00
Incremental Delay, d2	2.7		0.1
Delay (s)	35.9		29.8
Level of Service	D		C
Approach Delay (s)	35.3		
Approach LOS	D		

Intersection Summary

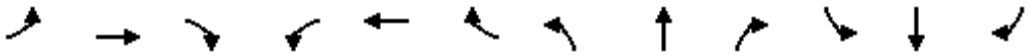
Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	209	483	22	216	734
Future Vol, veh/h	8	209	483	22	216	734
Conflicting Peds, #/hr	5	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	261	519	24	235	798

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1798	525	0	0	549	0
Stage 1	525	-	-	-	-	-
Stage 2	1273	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	88	552	-	-	1021	-
Stage 1	593	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	67	549	-	-	1015	-
Mov Cap-2 Maneuver	67	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	201	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.3	0	2.2
HCM LOS	C		

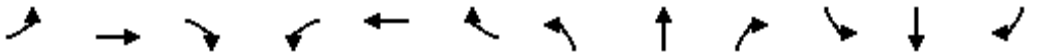
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	67	549	1015	-
HCM Lane V/C Ratio	-	-	0.149	0.476	0.231	-
HCM Control Delay (s)	-	-	67.9	17.4	9.6	-
HCM Lane LOS	-	-	F	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	2.5	0.9	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	495	72	623	464	742	143	468	207	319	658	218
v/c Ratio	0.94	0.75	0.16	0.92	0.45	0.91	0.46	0.75	0.47	0.93	0.93	0.44
Control Delay	98.9	41.3	0.8	56.3	26.8	26.4	36.6	38.3	8.6	69.6	55.5	7.6
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	98.9	41.3	0.8	56.3	26.8	26.4	36.6	38.3	8.6	69.6	55.5	7.6
Queue Length 50th (ft)	87	138	0	182	111	131	78	131	0	198	205	0
Queue Length 95th (ft)	#170	165	0	#290	155	#388	140	191	62	#380	#323	58
Internal Link Dist (ft)		287			237			306			851	
Turn Bay Length (ft)	115		115	190			125		120	150		
Base Capacity (vph)	161	737	468	676	1110	836	344	686	462	344	710	497
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	0.94	0.67	0.15	0.92	0.42	0.89	0.42	0.68	0.45	0.93	0.93	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



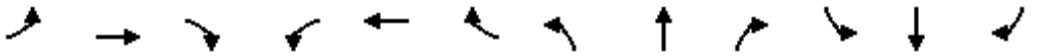
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	391	57	567	422	675	145	296	304	553	327	196
Future Volume (veh/h)	119	391	57	567	422	675	145	296	304	553	327	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.97	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	495	20	623	464	343	159	324	66	614	363	29
Peak Hour Factor	0.79	0.79	0.79	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	672	290	709	1043	459	269	565	231	802	421	349
Arrive On Green	0.10	0.19	0.19	0.21	0.29	0.29	0.15	0.15	0.15	0.23	0.23	0.23
Sat Flow, veh/h	1781	3554	1535	3456	3554	1566	1781	3741	1531	3563	1870	1549
Grp Volume(v), veh/h	151	495	20	623	464	343	159	324	66	614	363	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1535	1728	1777	1566	1781	1870	1531	1781	1870	1549
Q Serve(g_s), s	6.5	10.3	0.8	13.7	8.3	15.5	6.5	6.3	3.0	12.6	14.6	1.2
Cycle Q Clear(g_c), s	6.5	10.3	0.8	13.7	8.3	15.5	6.5	6.3	3.0	12.6	14.6	1.2
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	672	290	709	1043	459	269	565	231	802	421	349
V/C Ratio(X)	0.84	0.74	0.07	0.88	0.44	0.75	0.59	0.57	0.29	0.77	0.86	0.08
Avail Cap(c_a), veh/h	180	816	352	749	1228	541	420	883	361	841	441	366
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	34.6	29.9	26.1	30.2	22.5	25.1	31.0	30.9	29.5	28.4	29.2	24.0
Incr Delay (d2), s/veh	28.5	2.8	0.1	11.2	0.3	4.7	2.1	0.9	0.7	4.1	15.4	0.1
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	4.4	0.3	6.5	3.3	6.0	2.9	2.8	1.1	5.6	8.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.1	32.7	26.2	41.5	22.8	29.8	33.1	31.9	30.2	32.5	44.6	24.1
LnGrp LOS	E	C	C	D	C	C	C	C	C	C	D	C
Approach Vol, veh/h		666			1430			549			1006	
Approach Delay, s/veh		39.4			32.6			32.0			36.6	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.3	20.6	19.3		22.2	12.4	27.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	17.0	18.0		18.5	7.9	27.1				
Max Q Clear Time (g_c+I1), s		8.5	15.7	12.3		16.6	8.5	17.5				
Green Ext Time (p_c), s		2.0	0.4	1.6		1.0	0.0	3.0				

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	356	284	142	148	340	293	179	573	101	220	623	653
Future Volume (veh/h)	356	284	142	148	340	293	179	573	101	220	623	653
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	283	454	154	156	358	0	188	603	0	232	656	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	566	190	203	499		226	745		270	835	
Arrive On Green	0.21	0.21	0.21	0.20	0.20	0.00	0.13	0.21	0.00	0.15	0.23	0.00
Sat Flow, veh/h	1781	2671	898	1040	2556	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	283	317	291	273	241	0	188	603	0	232	656	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1698	1818	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.6	12.5	12.7	11.1	9.8	0.0	8.0	12.6	0.0	9.9	13.5	0.0
Cycle Q Clear(g_c), s	11.6	12.5	12.7	11.1	9.8	0.0	8.0	12.6	0.0	9.9	13.5	0.0
Prop In Lane	1.00		0.53	0.57		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	378	396	360	355	347		226	745		270	835	
V/C Ratio(X)	0.75	0.80	0.81	0.77	0.70		0.83	0.81		0.86	0.79	
Avail Cap(c_a), veh/h	424	445	404	503	491		231	918		272	1000	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.7	29.1	29.2	29.6	29.1	0.0	33.2	29.3	0.0	32.2	27.9	0.0
Incr Delay (d2), s/veh	6.5	9.0	10.6	4.6	2.5	0.0	21.9	4.5	0.0	22.8	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	6.3	6.0	5.0	4.2	0.0	4.6	5.4	0.0	5.6	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	38.1	39.8	34.2	31.7	0.0	55.0	33.8	0.0	55.0	31.4	0.0
LnGrp LOS	D	D	D	C	C		E	C		D	C	
Approach Vol, veh/h		891			514			791			888	
Approach Delay, s/veh		37.7			33.0			38.8			37.6	
Approach LOS		D			C			D			D	

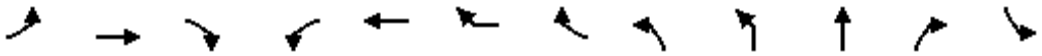
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.3	20.8		21.0	14.3	22.8		19.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	11.9	20.1		18.5	10.1	21.9		21.5				
Max Q Clear Time (g_c+I1), s	11.9	14.6		14.7	10.0	15.5		13.1				
Green Ext Time (p_c), s	0.0	1.7		1.7	0.0	2.1		1.9				

Intersection Summary		
HCM 6th Ctrl Delay	37.2	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	513	758	339	223	391	437	103	136	450	494	171	144
Future Volume (vph)	513	758	339	223	391	437	103	136	450	494	171	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1551	1770	3176	1421			3433	3539	1550	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1551	1770	3176	1421			3433	3539	1550	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	564	833	373	248	434	486	114	149	495	543	188	155
RTOR Reduction (vph)	0	0	279	0	0	140	0	0	0	0	121	0
Lane Group Flow (vph)	564	833	94	248	711	183	0	0	644	543	67	155
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	15.5	22.4	22.4	13.6	20.5	20.5			17.5	24.6	24.6	10.7
Effective Green, g (s)	15.5	22.4	22.4	13.6	20.5	20.5			17.5	24.6	24.6	10.7
Actuated g/C Ratio	0.17	0.25	0.25	0.15	0.23	0.23			0.20	0.28	0.28	0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	595	887	389	269	729	326			672	974	426	212
v/s Ratio Prot	c0.16	c0.24		0.14	0.22				c0.19	0.15		0.09
v/s Ratio Perm			0.06			0.13					0.04	
v/c Ratio	0.95	0.94	0.24	0.92	0.98	0.56			0.96	0.56	0.16	0.73
Uniform Delay, d1	36.5	32.8	26.7	37.3	34.1	30.4			35.5	27.7	24.5	37.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	24.4	17.1	0.3	34.7	27.0	2.2			24.5	0.7	0.2	12.2
Delay (s)	60.9	49.9	27.0	72.0	61.2	32.6			60.1	28.4	24.7	50.1
Level of Service	E	D	C	E	E	C			E	C	C	D
Approach Delay (s)		48.6			56.1					42.7		
Approach LOS		D			E					D		

Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	365	155	222
Future Volume (vph)	365	155	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3367		1563
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3367		1563
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	392	167	239
RTOR Reduction (vph)	0	0	191
Lane Group Flow (vph)	559	0	48
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	17.8		17.8
Effective Green, g (s)	17.8		17.8
Actuated g/C Ratio	0.20		0.20
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	671		311
v/s Ratio Prot	c0.17		
v/s Ratio Perm			0.03
v/c Ratio	0.83		0.15
Uniform Delay, d1	34.3		29.5
Progression Factor	1.00		1.00
Incremental Delay, d2	8.7		0.2
Delay (s)	43.1		29.8
Level of Service	D		C
Approach Delay (s)	40.9		
Approach LOS	D		

Intersection Summary

Appendix D – Existing + Project Alternative 2 Conditions Intersection Level of Service Worksheets

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	150	752	27	164	344
Future Vol, veh/h	9	150	752	27	164	344
Conflicting Peds, #/hr	5	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	163	826	30	182	382

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1580	831	0	0	859	0
Stage 1	829	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	120	370	-	-	782	-
Stage 1	429	-	-	-	-	-
Stage 2	466	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	91	368	-	-	780	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	356	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.8	0	3.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	91	368	780	-
HCM Lane V/C Ratio	-	-	0.108	0.443	0.234	-
HCM Control Delay (s)	-	-	49.3	22.3	11	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	2.2	0.9	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	9	4	145	15	0
Future Vol, veh/h	166	9	4	145	15	0
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	80	80	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	15	5	181	22	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	289	0	474	282
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	192	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1273	-	549	757
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1271	-	545	756
Mov Cap-2 Maneuver	-	-	-	-	545	-
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	837	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	545	-	-	1271	-
HCM Lane V/C Ratio	0.041	-	-	0.004	-
HCM Control Delay (s)	11.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	11	2	6	9	8	23	128	8	4	36	3
Future Vol, veh/h	9	11	2	6	9	8	23	128	8	4	36	3
Conflicting Peds, #/hr	1	0	0	0	0	1	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	55	55	55	68	68	68	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	24	4	11	16	15	34	188	12	6	55	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	351	345	60	351	341	200	62	0	0	205	0	0
Stage 1	72	72	-	267	267	-	-	-	-	-	-	-
Stage 2	279	273	-	84	74	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	604	578	1005	604	581	841	1541	-	-	1366	-	-
Stage 1	938	835	-	738	688	-	-	-	-	-	-	-
Stage 2	728	684	-	924	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	565	557	1003	565	560	836	1538	-	-	1359	-	-
Mov Cap-2 Maneuver	565	557	-	565	560	-	-	-	-	-	-	-
Stage 1	913	829	-	716	667	-	-	-	-	-	-	-
Stage 2	680	663	-	888	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	11.1	1.1	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1538	-	-	584	634	1359	-	-
HCM Lane V/C Ratio	0.022	-	-	0.084	0.066	0.005	-	-
HCM Control Delay (s)	7.4	0	-	11.7	11.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0	-	-

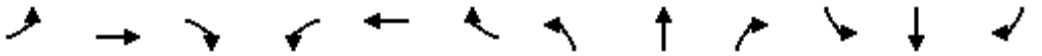
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	112	49	139	0	2	16
Future Vol, veh/h	112	49	139	0	2	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	122	53	151	0	2	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	151	0	-	0	448	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	297	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1430	-	-	-	568	895
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	754	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1430	-	-	-	518	895
Mov Cap-2 Maneuver	-	-	-	-	518	-
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	754	-

Approach	EB	WB	SB
HCM Control Delay, s	5.4	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1430	-	-	-	828
HCM Lane V/C Ratio	0.085	-	-	-	0.024
HCM Control Delay (s)	7.8	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	656	75	96	390	417	140	444	124	310	288	271
Future Volume (veh/h)	353	656	75	96	390	417	140	444	124	310	288	271
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	415	772	0	104	424	0	152	483	0	348	324	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	402	1496		245	851		519	1421		439	1421	
Arrive On Green	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	963	3741	0	311	2129	1585	1056	3647	0	912	3554	1585
Grp Volume(v), veh/h	415	772	0	207	321	0	152	483	0	348	324	0
Grp Sat Flow(s),veh/h/ln	963	1870	0	823	1617	1585	1056	1777	0	912	1777	1585
Q Serve(g_s), s	11.3	7.0	0.0	4.1	6.7	0.0	5.0	4.2	0.0	13.8	2.7	0.0
Cycle Q Clear(g_c), s	18.0	7.0	0.0	11.2	6.7	0.0	7.7	4.2	0.0	18.0	2.7	0.0
Prop In Lane	1.00		0.00	0.50		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	402	1496		449	647		519	1421		439	1421	
V/C Ratio(X)	1.03	0.52		0.46	0.50		0.29	0.34		0.79	0.23	
Avail Cap(c_a), veh/h	402	1496		449	647		519	1421		439	1421	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.1	10.2	0.0	11.2	10.1	0.0	11.5	9.4	0.0	17.0	8.9	0.0
Incr Delay (d2), s/veh	53.5	0.3	0.0	0.7	0.6	0.0	0.3	0.1	0.0	9.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	2.2	0.0	1.1	1.9	0.0	0.9	1.2	0.0	4.2	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	10.5	0.0	11.9	10.7	0.0	11.8	9.5	0.0	26.6	9.0	0.0
LnGrp LOS	F	B		B	B		B	A		C	A	
Approach Vol, veh/h		1187			528			635			672	
Approach Delay, s/veh		32.2			11.2			10.1			18.1	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		9.7		20.0		20.0		13.2				
Green Ext Time (p_c), s		2.3		0.0		0.0		1.5				

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	866	330	113	583	49	580	56	470	68	169	128
Future Volume (veh/h)	128	866	330	113	583	49	580	56	470	68	169	128
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	995	0	133	686	51	681	0	203	72	178	17
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1215		163	1113	83	773	0	344	85	209	252
Arrive On Green	0.10	0.34	0.00	0.09	0.33	0.33	0.22	0.00	0.22	0.16	0.16	0.16
Sat Flow, veh/h	1781	3647	0	1781	3353	249	3563	0	1585	531	1313	1585
Grp Volume(v), veh/h	147	995	0	133	363	374	681	0	203	250	0	17
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1826	1781	0	1585	1844	0	1585
Q Serve(g_s), s	7.6	24.2	0.0	6.9	16.2	16.3	17.5	0.0	10.9	12.5	0.0	0.9
Cycle Q Clear(g_c), s	7.6	24.2	0.0	6.9	16.2	16.3	17.5	0.0	10.9	12.5	0.0	0.9
Prop In Lane	1.00		0.00	1.00		0.14	1.00		1.00	0.29		1.00
Lane Grp Cap(c), veh/h	181	1215		163	590	606	773	0	344	294	0	252
V/C Ratio(X)	0.81	0.82		0.81	0.62	0.62	0.88	0.00	0.59	0.85	0.00	0.07
Avail Cap(c_a), veh/h	277	1559		171	674	693	840	0	374	372	0	320
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.6	28.5	0.0	42.2	26.5	26.5	35.8	0.0	33.3	38.7	0.0	33.8
Incr Delay (d2), s/veh	10.3	2.8	0.0	24.4	1.3	1.3	10.2	0.0	2.1	14.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	10.3	0.0	4.1	6.8	7.0	8.2	0.0	4.3	6.8	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	31.3	0.0	66.6	27.9	27.9	46.0	0.0	35.4	52.8	0.0	33.9
LnGrp LOS	D	C		E	C	C	D	A	D	D	A	C
Approach Vol, veh/h		1142			870			884			267	
Approach Delay, s/veh		33.9			33.8			43.6			51.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	25.0	13.2	36.8	19.6	14.1	35.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.3	9.1	41.5	19.1	14.7	35.9
Max Q Clear Time (g_c+I1), s	19.5	8.9	26.2	14.5	9.6	18.3
Green Ext Time (p_c), s	1.0	0.0	6.1	0.6	0.1	4.2

Intersection Summary	
HCM 6th Ctrl Delay	38.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	750	820	385	911	0	0	0	0	583	2	392
Future Volume (veh/h)	0	750	820	385	911	0	0	0	0	583	2	392
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	815	0	418	990	0				767	0	285
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1183		543	2020	0				979	0	436
Arrive On Green	0.00	0.33	0.00	0.16	0.57	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	815	0	418	990	0				767	0	285
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	11.4	0.0	6.7	9.6	0.0				11.4	0.0	9.1
Cycle Q Clear(g_c), s	0.0	11.4	0.0	6.7	9.6	0.0				11.4	0.0	9.1
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1183		543	2020	0				979	0	436
V/C Ratio(X)	0.00	0.69		0.77	0.49	0.00				0.78	0.00	0.65
Avail Cap(c_a), veh/h	0	2197		656	3150	0				1247	0	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.6	0.0	23.2	7.4	0.0				19.2	0.0	18.4
Incr Delay (d2), s/veh	0.0	0.7	0.0	4.6	0.2	0.0				2.6	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0	2.8	2.6	0.0				4.3	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.3	0.0	27.8	7.6	0.0				21.8	0.0	20.2
LnGrp LOS	A	B		C	A	A				C	A	C
Approach Vol, veh/h		815			1408						1052	
Approach Delay, s/veh		17.3			13.6						21.4	
Approach LOS		B			B						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		13.5	23.6		20.3		37.1					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		10.9	35.5		20.1		50.9					
Max Q Clear Time (g_c+I1), s		8.7	13.4		13.4		11.6					
Green Ext Time (p_c), s		0.4	5.7		2.4		8.5					

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

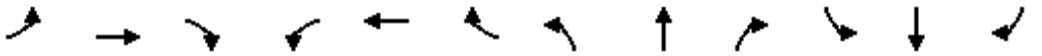
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1560	0	168	1101	0	27
Future Vol, veh/h	1560	0	168	1101	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1696	0	183	1197	0	29

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	848
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	305
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	305
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	18.1
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	305	-	-
HCM Lane V/C Ratio	0.096	-	-
HCM Control Delay (s)	18.1	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	650	60	337	323	427	57	236	555	348	179	88
Future Volume (veh/h)	90	650	60	337	323	427	57	236	555	348	179	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	774	48	374	359	95	66	271	458	405	208	5
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.87	0.87	0.87	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	818	359	410	971	432	559	1174	489	527	277	232
Arrive On Green	0.08	0.23	0.23	0.12	0.27	0.27	0.31	0.31	0.31	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1560	3456	3554	1582	1781	3741	1557	3563	1870	1569
Grp Volume(v), veh/h	107	774	48	374	359	95	66	271	458	405	208	5
Grp Sat Flow(s),veh/h/ln	1781	1777	1560	1728	1777	1582	1781	1870	1557	1781	1870	1569
Q Serve(g_s), s	5.6	20.4	2.3	10.2	7.8	4.4	2.5	5.1	27.2	10.4	10.1	0.3
Cycle Q Clear(g_c), s	5.6	20.4	2.3	10.2	7.8	4.4	2.5	5.1	27.2	10.4	10.1	0.3
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	135	818	359	410	971	432	559	1174	489	527	277	232
V/C Ratio(X)	0.79	0.95	0.13	0.91	0.37	0.22	0.12	0.23	0.94	0.77	0.75	0.02
Avail Cap(c_a), veh/h	170	818	359	410	971	432	577	1211	504	674	354	297
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	43.3	36.1	29.1	41.4	28.0	26.7	23.3	24.1	31.7	39.0	38.9	34.6
Incr Delay (d2), s/veh	18.0	19.6	0.2	24.2	0.2	0.3	0.1	0.1	24.9	4.1	6.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	10.8	0.9	5.6	3.2	1.7	1.1	2.2	13.1	4.8	5.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	55.7	29.3	65.6	28.2	27.0	23.4	24.2	56.6	43.0	45.4	34.7
LnGrp LOS	E	E	C	E	C	C	C	C	E	D	D	C
Approach Vol, veh/h		929			828			795			618	
Approach Delay, s/veh		55.0			45.0			42.8			43.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.4	15.8	26.4		18.6	11.7	30.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.8	11.3	21.9		18.0	9.1	24.1				
Max Q Clear Time (g_c+I1), s		29.2	12.2	22.4		12.4	7.6	9.8				
Green Ext Time (p_c), s		0.7	0.0	0.0		1.4	0.0	2.2				

Intersection Summary		
HCM 6th Ctrl Delay		47.1
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	675	60	17	369	71	85	293	34	68	133	164
Future Volume (veh/h)	188	675	60	17	369	71	85	293	34	68	133	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	734	65	19	410	79	90	312	36	74	145	178
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1075	95	41	614	117	124	408	47	112	184	226
Arrive On Green	0.14	0.33	0.33	0.02	0.21	0.21	0.07	0.25	0.25	0.06	0.24	0.24
Sat Flow, veh/h	1781	3295	292	1781	2974	568	1781	1646	190	1781	763	936
Grp Volume(v), veh/h	204	396	403	19	244	245	90	0	348	74	0	323
Grp Sat Flow(s),veh/h/ln	1781	1777	1809	1781	1777	1765	1781	0	1836	1781	0	1699
Q Serve(g_s), s	5.9	10.2	10.2	0.6	6.7	6.8	2.6	0.0	9.3	2.1	0.0	9.4
Cycle Q Clear(g_c), s	5.9	10.2	10.2	0.6	6.7	6.8	2.6	0.0	9.3	2.1	0.0	9.4
Prop In Lane	1.00		0.16	1.00		0.32	1.00		0.10	1.00		0.55
Lane Grp Cap(c), veh/h	255	580	590	41	367	364	124	0	455	112	0	410
V/C Ratio(X)	0.80	0.68	0.68	0.46	0.66	0.67	0.73	0.00	0.77	0.66	0.00	0.79
Avail Cap(c_a), veh/h	320	756	770	168	605	601	185	0	670	175	0	610
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	15.4	15.4	25.5	19.3	19.3	24.1	0.0	18.5	24.2	0.0	18.8
Incr Delay (d2), s/veh	11.0	1.7	1.7	7.9	2.1	2.2	7.9	0.0	3.1	6.6	0.0	4.1
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	3.0	3.7	3.8	0.3	2.6	2.7	1.3	0.0	3.9	1.0	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	17.1	17.1	33.4	21.4	21.5	32.1	0.0	21.6	30.8	0.0	22.9
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1003			508			438			397	
Approach Delay, s/veh		20.3			21.9			23.7			24.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	17.6	5.7	21.8	8.2	17.3	12.1	15.4
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	5.3	19.3	5.0	22.5	5.5	19.0	9.5	18.0
Max Q Clear Time (g_c+I1), s	4.1	11.3	2.6	12.2	4.6	11.4	7.9	8.8
Green Ext Time (p_c), s	0.0	1.3	0.0	3.5	0.0	1.2	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	207	120	117	728	354	265
Future Volume (veh/h)	207	120	117	728	354	265
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	169	133	827	393	294
Peak Hour Factor	0.71	0.71	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	341	198	171	1732	565	418
Arrive On Green	0.32	0.32	0.10	0.49	0.29	0.29
Sat Flow, veh/h	1076	622	1781	3647	2018	1421
Grp Volume(v), veh/h	462	0	133	827	362	325
Grp Sat Flow(s),veh/h/ln	1702	0	1781	1777	1777	1569
Q Serve(g_s), s	11.7	0.0	3.4	7.2	8.3	8.5
Cycle Q Clear(g_c), s	11.7	0.0	3.4	7.2	8.3	8.5
Prop In Lane	0.63	0.37	1.00			0.91
Lane Grp Cap(c), veh/h	540	0	171	1732	522	461
V/C Ratio(X)	0.86	0.00	0.78	0.48	0.69	0.70
Avail Cap(c_a), veh/h	719	0	290	2426	751	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	20.4	7.9	14.5	14.5
Incr Delay (d2), s/veh	7.7	0.0	7.3	0.2	1.7	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	1.6	1.9	2.9	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.5	0.0	27.7	8.1	16.1	16.5
LnGrp LOS	C	A	C	A	B	B
Approach Vol, veh/h	462			960	687	
Approach Delay, s/veh	22.5			10.8	16.3	
Approach LOS	C			B	B	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	27.0		19.1	8.9	18.1
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	31.5		19.5	7.5	19.5
Max Q Clear Time (g_c+I1), s	9.2		13.7	5.4	10.5
Green Ext Time (p_c), s	5.8		0.9	0.1	2.9

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	664	455	180	63	188	257	111	910	110	214	453	321
Future Volume (veh/h)	664	455	180	63	188	257	111	910	110	214	453	321
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	577	620	0	73	219	0	128	1046	0	240	509	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	542	569		94	301		156	1127		196	1206	
Arrive On Green	0.30	0.30	0.00	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.34	0.00
Sat Flow, veh/h	1781	1870	1585	857	2748	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	577	620	0	156	136	0	128	1046	0	240	509	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1828	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	34.5	34.5	0.0	9.4	8.4	0.0	8.0	32.3	0.0	12.5	12.5	0.0
Cycle Q Clear(g_c), s	34.5	34.5	0.0	9.4	8.4	0.0	8.0	32.3	0.0	12.5	12.5	0.0
Prop In Lane	1.00		1.00	0.47		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	542	569		200	194		156	1127		196	1206	
V/C Ratio(X)	1.06	1.09		0.78	0.70		0.82	0.93		1.22	0.42	
Avail Cap(c_a), veh/h	542	569		290	282		250	1160		196	1206	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.4	39.4	0.0	49.1	48.7	0.0	50.8	37.5	0.0	50.4	28.9	0.0
Incr Delay (d2), s/veh	56.8	64.2	0.0	8.0	4.5	0.0	10.7	12.6	0.0	136.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.2	25.5	0.0	4.7	3.9	0.0	3.9	15.3	0.0	12.9	5.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.2	103.6	0.0	57.2	53.2	0.0	61.5	50.0	0.0	187.0	29.1	0.0
LnGrp LOS	F	F		E	D		E	D		F	C	
Approach Vol, veh/h		1197			292			1174			749	
Approach Delay, s/veh		100.0			55.3			51.3			79.7	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	40.4		39.0	14.5	43.0		16.9
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0
Max Q Clear Time (g_c+I1), s	14.5	34.3		36.5	10.0	14.5		11.4
Green Ext Time (p_c), s	0.0	1.6		0.0	0.1	2.9		0.8

Intersection Summary	
HCM 6th Ctrl Delay	75.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	29.9
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	194	17	17	7	23	56	24	414	6	24	246	86
Future Vol, veh/h	194	17	17	7	23	56	24	414	6	24	246	86
Peak Hour Factor	0.86	0.86	0.86	0.75	0.75	0.75	0.86	0.86	0.86	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	226	20	20	9	31	75	28	481	7	29	300	105
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.8	12.9	42.1	26.8
HCM LOS	C	B	E	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	85%	8%	7%
Vol Thru, %	93%	7%	27%	69%
Vol Right, %	1%	7%	65%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	444	228	86	356
LT Vol	24	194	7	24
Through Vol	414	17	23	246
RT Vol	6	17	56	86
Lane Flow Rate	516	265	115	434
Geometry Grp	1	1	1	1
Degree of Util (X)	0.898	0.543	0.239	0.759
Departure Headway (Hd)	6.366	7.369	7.506	6.409
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	573	493	480	569
Service Time	4.366	5.369	5.524	4.409
HCM Lane V/C Ratio	0.901	0.538	0.24	0.763
HCM Control Delay	42.1	18.8	12.9	26.8
HCM Lane LOS	E	C	B	D
HCM 95th-tile Q	10.7	3.2	0.9	6.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	333	212	411	246	171	226	141	294	149	179	15
Future Volume (veh/h)	66	333	212	411	246	171	226	141	294	149	179	15
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		0.99	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	347	221	478	286	0	260	162	338	184	221	19
Peak Hour Factor	0.96	0.96	0.96	0.86	0.86	0.86	0.87	0.87	0.87	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	705	481	600	584		377	378	1186	303	312	27
Arrive On Green	0.06	0.20	0.20	0.17	0.31	0.00	0.11	0.20	0.20	0.09	0.18	0.18
Sat Flow, veh/h	1781	3554	1578	3456	1870	2790	3563	1870	3147	3456	1695	146
Grp Volume(v), veh/h	69	347	221	478	286	0	260	162	338	184	0	240
Grp Sat Flow(s),veh/h/ln	1781	1777	1578	1728	1870	1395	1781	1870	1573	1728	0	1841
Q Serve(g_s), s	2.0	4.6	6.0	7.1	6.6	0.0	3.7	4.0	4.0	2.7	0.0	6.5
Cycle Q Clear(g_c), s	2.0	4.6	6.0	7.1	6.6	0.0	3.7	4.0	4.0	2.7	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	107	705	481	600	584		377	378	1186	303	0	338
V/C Ratio(X)	0.64	0.49	0.46	0.80	0.49		0.69	0.43	0.29	0.61	0.00	0.71
Avail Cap(c_a), veh/h	194	1202	702	643	777		395	668	1673	331	0	630
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	18.9	15.0	21.1	14.9	0.0	22.9	18.6	11.6	23.4	0.0	20.4
Incr Delay (d2), s/veh	6.3	0.5	0.7	6.6	0.6	0.0	4.7	0.8	0.1	2.7	0.0	2.7
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	1.0	1.8	2.0	3.1	2.6	0.0	1.7	1.7	1.2	1.1	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	19.5	15.7	27.7	15.5	0.0	27.7	19.3	11.8	26.1	0.0	23.1
LnGrp LOS	C	B	B	C	B		C	B	B	C	A	C
Approach Vol, veh/h		637			764			760			424	
Approach Delay, s/veh		19.4			23.1			18.8			24.4	
Approach LOS		B			C			B			C	

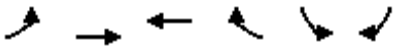
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	15.3	13.7	15.1	10.1	14.3	7.7	21.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	19.0	9.9	18.0	5.9	18.2	5.8	22.1
Max Q Clear Time (g_c+I1), s	4.7	6.0	9.1	8.0	5.7	8.5	4.0	8.6
Green Ext Time (p_c), s	0.0	1.9	0.2	2.2	0.0	0.9	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

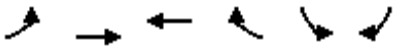
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	741	360	0	991	502
Future Volume (veh/h)	0	741	360	0	991	502
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	872	404	0	1194	605
Peak Hour Factor	0.85	0.85	0.89	0.89	0.83	0.83
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1202	1727	0	1558	1258
Arrive On Green	0.00	0.34	0.34	0.00	0.45	0.45
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	872	404	0	1194	605
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	9.2	2.4	0.0	12.4	6.5
Cycle Q Clear(g_c), s	0.0	9.2	2.4	0.0	12.4	6.5
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1202	1727	0	1558	1258
V/C Ratio(X)	0.00	0.73	0.23	0.00	0.77	0.48
Avail Cap(c_a), veh/h	0	1499	2154	0	1862	1504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.4	10.1	0.0	9.8	8.2
Incr Delay (d2), s/veh	0.0	1.3	0.1	0.0	1.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	0.7	0.0	3.1	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.7	10.2	0.0	11.5	8.5
LnGrp LOS	A	B	B	A	B	A
Approach Vol, veh/h		872	404		1799	
Approach Delay, s/veh		13.7	10.2		10.5	
Approach LOS		B	B		B	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	18.9	23.7	18.9
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	23.0	18.0
Max Q Clear Time (g_c+I1), s	11.2	14.4	4.4
Green Ext Time (p_c), s	3.2	4.9	2.2

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

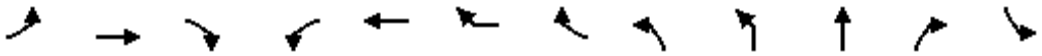


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	309	1430	358	2	0	0
Future Volume (veh/h)	309	1430	358	2	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	372	1723	442	2		
Peak Hour Factor	0.83	0.83	0.81	0.81		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	634	2986	1803	8		
Arrive On Green	0.18	0.84	0.50	0.50		
Sat Flow, veh/h	3456	3647	3721	16		
Grp Volume(v), veh/h	372	1723	216	228		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1867		
Q Serve(g_s), s	2.8	4.2	2.0	2.0		
Cycle Q Clear(g_c), s	2.8	4.2	2.0	2.0		
Prop In Lane	1.00			0.01		
Lane Grp Cap(c), veh/h	634	2986	883	928		
V/C Ratio(X)	0.59	0.58	0.25	0.25		
Avail Cap(c_a), veh/h	1289	4480	1294	1359		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	0.7	4.1	4.1		
Incr Delay (d2), s/veh	0.9	0.2	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.1	0.3	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	0.9	4.2	4.2		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2095	444			
Approach Delay, s/veh		2.7	4.2			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	28.2	9.7	18.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	10.5	20.5
Max Q Clear Time (g_c+I1), s	6.2	4.8	4.0
Green Ext Time (p_c), s	17.4	0.7	2.4

Intersection Summary	
HCM 6th Ctrl Delay	3.0
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	342	801	284	229	214	385	102	60	464	421	280	118
Future Volume (vph)	342	801	284	229	214	385	102	60	464	421	280	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	372	871	309	249	233	418	111	65	504	458	304	128
RTOR Reduction (vph)	0	0	217	0	0	124	0	0	0	0	172	0
Lane Group Flow (vph)	372	871	92	249	496	142	0	0	569	458	132	128
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	17.8	17.8	5.0	17.8	17.8			5.5	14.3	14.3	5.0
Effective Green, g (s)	5.0	17.8	17.8	5.0	17.8	17.8			5.5	14.3	14.3	5.0
Actuated g/C Ratio	0.08	0.30	0.30	0.08	0.30	0.30			0.09	0.24	0.24	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	285	1048	468	147	924	426			314	842	376	147
v/s Ratio Prot	0.11	c0.25		c0.14	0.16				c0.17	c0.13		0.07
v/s Ratio Perm			0.06			0.10					0.08	
v/c Ratio	1.31	0.83	0.20	1.69	0.54	0.33			1.81	0.54	0.35	0.87
Uniform Delay, d1	27.6	19.7	15.8	27.6	17.7	16.5			27.3	20.0	19.0	27.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	160.5	5.7	0.2	339.7	0.6	0.5			377.8	0.7	0.6	39.1
Delay (s)	188.0	25.5	16.0	367.3	18.3	17.0			405.1	20.8	19.6	66.3
Level of Service	F	C	B	F	B	B			F	C	B	E
Approach Delay (s)		62.6			103.9					184.8		
Approach LOS		E			F					F		

Intersection Summary			
HCM 2000 Control Delay	102.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	280	91	133
Future Volume (vph)	280	91	133
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3409		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3409		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	304	99	145
RTOR Reduction (vph)	0	0	112
Lane Group Flow (vph)	403	0	33
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	13.8		13.8
Effective Green, g (s)	13.8		13.8
Actuated g/C Ratio	0.23		0.23
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	782		363
v/s Ratio Prot	0.12		
v/s Ratio Perm			0.02
v/c Ratio	0.52		0.09
Uniform Delay, d1	20.2		18.2
Progression Factor	1.00		1.00
Incremental Delay, d2	0.6		0.1
Delay (s)	20.8		18.3
Level of Service	C		B
Approach Delay (s)	28.9		
Approach LOS	C		

Intersection Summary

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	146	483	16	173	734
Future Vol, veh/h	8	146	483	16	173	734
Conflicting Peds, #/hr	5	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	183	519	17	188	798

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1704	525	0	0	542	0
Stage 1	525	-	-	-	-	-
Stage 2	1179	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	101	552	-	-	1027	-
Stage 1	593	-	-	-	-	-
Stage 2	292	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	82	549	-	-	1021	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	237	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	82	549	1021	-
HCM Lane V/C Ratio	-	-	0.122	0.332	0.184	-
HCM Control Delay (s)	-	-	54.9	14.8	9.3	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	1.4	0.7	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	101	0	2	151	9	0
Future Vol, veh/h	101	0	2	151	9	0
Conflicting Peds, #/hr	0	1	1	0	4	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	79	79	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	0	3	191	12	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	113	0	314	118
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	201	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1476	-	679	934
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	833	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1475	-	674	929
Mov Cap-2 Maneuver	-	-	-	-	674	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	828	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	674	-	-	1475	-
HCM Lane V/C Ratio	0.018	-	-	0.002	-
HCM Control Delay (s)	10.4	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

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	1	1	17	0	0	5	7	59	1	11	77	14
Future Vol, veh/h	1	1	17	0	0	5	7	59	1	11	77	14
Conflicting Peds, #/hr	0	0	1	1	0	0	5	0	2	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	50	50	50	84	84	84	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	21	0	0	10	8	70	1	12	87	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	216	213	101	220	221	73	108	0	0	73	0	0
Stage 1	124	124	-	89	89	-	-	-	-	-	-	-
Stage 2	92	89	-	131	132	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	740	684	954	736	678	989	1483	-	-	1527	-	-
Stage 1	880	793	-	918	821	-	-	-	-	-	-	-
Stage 2	915	821	-	873	787	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	722	670	949	709	664	987	1476	-	-	1524	-	-
Mov Cap-2 Maneuver	722	670	-	709	664	-	-	-	-	-	-	-
Stage 1	870	783	-	911	814	-	-	-	-	-	-	-
Stage 2	900	814	-	844	777	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.7	0.8	0.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1476	-	-	914	987	1524	-	-
HCM Lane V/C Ratio	0.006	-	-	0.026	0.01	0.008	-	-
HCM Control Delay (s)	7.5	0	-	9	8.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

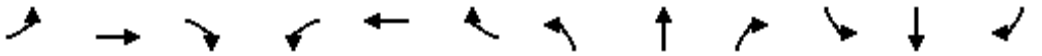
Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	92	68	0	14	95
Future Vol, veh/h	21	92	68	0	14	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	23	100	74	0	15	103

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	220	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	146	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1526	-	-	-	768	988
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	756	988
Mov Cap-2 Maneuver	-	-	-	-	756	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	951
HCM Lane V/C Ratio	0.015	-	-	-	0.125
HCM Control Delay (s)	7.4	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	806	156	136	525	649	126	352	98	284	434	227
Future Volume (veh/h)	294	806	156	136	525	649	126	352	98	284	434	227
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	831	0	145	559	0	138	387	0	312	477	0
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	1598		305	691		422	1454		466	1454	
Arrive On Green	0.43	0.43	0.00	0.43	0.43	0.00	0.41	0.41	0.00	0.41	0.41	0.00
Sat Flow, veh/h	850	3741	0	407	1617	1585	917	3647	0	995	3554	1585
Grp Volume(v), veh/h	303	831	0	145	559	0	138	387	0	312	477	0
Grp Sat Flow(s),veh/h/ln	850	1870	0	407	1617	1585	917	1777	0	995	1777	1585
Q Serve(g_s), s	6.9	9.0	0.0	11.4	16.6	0.0	6.7	4.0	0.0	16.6	5.0	0.0
Cycle Q Clear(g_c), s	23.5	9.0	0.0	20.4	16.6	0.0	11.7	4.0	0.0	20.6	5.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	1598		305	691		422	1454		466	1454	
V/C Ratio(X)	1.28	0.52		0.48	0.81		0.33	0.27		0.67	0.33	
Avail Cap(c_a), veh/h	237	1598		305	691		422	1454		466	1454	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.0	11.6	0.0	19.1	13.8	0.0	15.1	10.8	0.0	17.6	11.1	0.0
Incr Delay (d2), s/veh	153.9	0.3	0.0	1.1	7.1	0.0	0.4	0.1	0.0	3.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	3.1	0.0	1.6	6.2	0.0	1.2	1.3	0.0	3.6	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	179.9	11.9	0.0	20.3	20.9	0.0	15.5	10.9	0.0	21.3	11.2	0.0
LnGrp LOS	F	B		C	C		B	B		C	B	
Approach Vol, veh/h		1134			704			525			789	
Approach Delay, s/veh		56.8			20.8			12.1			15.2	
Approach LOS		E			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		13.7		25.5		22.6		22.4				
Green Ext Time (p_c), s		2.0		0.0		0.0		0.6				

Intersection Summary		
HCM 6th Ctrl Delay	30.9	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	783	259	209	738	53	770	90	422	60	90	100
Future Volume (veh/h)	182	783	259	209	738	53	770	90	422	60	90	100
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		0.99	1.00		1.00	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	851	0	218	769	51	907	0	144	66	99	6
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1022		249	1009	67	1038	0	462	81	122	173
Arrive On Green	0.13	0.29	0.00	0.14	0.30	0.30	0.29	0.00	0.29	0.11	0.11	0.11
Sat Flow, veh/h	1781	3647	0	1781	3381	224	3563	0	1585	733	1100	1563
Grp Volume(v), veh/h	198	851	0	218	404	416	907	0	144	165	0	6
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1829	1781	0	1585	1834	0	1563
Q Serve(g_s), s	11.5	23.7	0.0	12.7	21.8	21.8	25.5	0.0	7.5	9.3	0.0	0.4
Cycle Q Clear(g_c), s	11.5	23.7	0.0	12.7	21.8	21.8	25.5	0.0	7.5	9.3	0.0	0.4
Prop In Lane	1.00		0.00	1.00		0.12	1.00		1.00	0.40		1.00
Lane Grp Cap(c), veh/h	230	1022		249	530	545	1038	0	462	203	0	173
V/C Ratio(X)	0.86	0.83		0.88	0.76	0.76	0.87	0.00	0.31	0.81	0.00	0.03
Avail Cap(c_a), veh/h	292	1297		280	637	655	1310	0	583	315	0	268
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.0	35.2	0.0	44.5	33.6	33.6	35.5	0.0	29.1	45.9	0.0	41.9
Incr Delay (d2), s/veh	18.4	3.8	0.0	23.4	4.5	4.4	5.6	0.0	0.4	9.0	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	10.5	0.0	7.1	9.8	10.1	11.3	0.0	2.8	4.7	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	39.0	0.0	67.8	38.1	38.0	41.2	0.0	29.5	54.8	0.0	42.0
LnGrp LOS	E	D		E	D	D	D	A	C	D	A	D
Approach Vol, veh/h		1049			1038			1051			171	
Approach Delay, s/veh		43.6			44.3			39.6			54.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	35.2	19.2	34.8	16.2	18.1	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.8	16.6	38.5	18.1	17.3	37.8
Max Q Clear Time (g_c+I1), s	27.5	14.7	25.7	11.3	13.5	23.8
Green Ext Time (p_c), s	3.2	0.1	4.7	0.5	0.2	4.3

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	656	677	361	1297	0	0	0	0	552	5	416
Future Volume (veh/h)	0	656	677	361	1297	0	0	0	0	552	5	416
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	763	0	376	1351	0				751	0	306
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1108		510	1938	0				1006	0	447
Arrive On Green	0.00	0.31	0.00	0.15	0.55	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	763	0	376	1351	0				751	0	306
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	9.8	0.0	5.4	14.6	0.0				10.0	0.0	9.0
Cycle Q Clear(g_c), s	0.0	9.8	0.0	5.4	14.6	0.0				10.0	0.0	9.0
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1108		510	1938	0				1006	0	447
V/C Ratio(X)	0.00	0.69		0.74	0.70	0.00				0.75	0.00	0.68
Avail Cap(c_a), veh/h	0	1803		628	2755	0				1398	0	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.8	0.0	21.3	8.7	0.0				17.1	0.0	16.7
Incr Delay (d2), s/veh	0.0	0.8	0.0	3.6	0.5	0.0				1.4	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	3.5	0.0	2.2	3.9	0.0				3.4	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.5	0.0	24.9	9.2	0.0				18.5	0.0	18.5
LnGrp LOS	A	B		C	A	A				B	A	B
Approach Vol, veh/h		763			1727						1057	
Approach Delay, s/veh		16.5			12.6						18.5	
Approach LOS		B			B						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		12.2	20.8		19.2		33.0					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		9.5	26.5		20.5		40.5					
Max Q Clear Time (g_c+I1), s		7.4	11.8		12.0		16.6					
Green Ext Time (p_c), s		0.3	4.5		2.7		11.0					

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

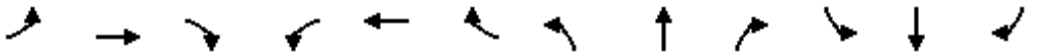
Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1233	0	31	1657	0	162
Future Vol, veh/h	1233	0	31	1657	0	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1298	0	33	1744	0	171

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	649
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	412
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	412
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	19.8
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	412	-	-
HCM Lane V/C Ratio	0.414	-	-
HCM Control Delay (s)	19.8	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	391	32	558	422	675	109	282	292	553	317	196
Future Volume (veh/h)	119	391	32	558	422	675	109	282	292	553	317	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.96	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	495	6	613	464	343	120	310	53	614	352	29
Peak Hour Factor	0.79	0.79	0.79	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	678	293	706	1038	457	259	545	223	801	421	348
Arrive On Green	0.10	0.19	0.19	0.20	0.29	0.29	0.15	0.15	0.15	0.22	0.22	0.22
Sat Flow, veh/h	1781	3554	1535	3456	3554	1566	1781	3741	1530	3563	1870	1549
Grp Volume(v), veh/h	151	495	6	613	464	343	120	310	53	614	352	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1535	1728	1777	1566	1781	1870	1530	1781	1870	1549
Q Serve(g_s), s	6.4	10.1	0.2	13.2	8.2	15.2	4.7	5.9	2.4	12.4	13.8	1.1
Cycle Q Clear(g_c), s	6.4	10.1	0.2	13.2	8.2	15.2	4.7	5.9	2.4	12.4	13.8	1.1
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	183	678	293	706	1038	457	259	545	223	801	421	348
V/C Ratio(X)	0.82	0.73	0.02	0.87	0.45	0.75	0.46	0.57	0.24	0.77	0.84	0.08
Avail Cap(c_a), veh/h	183	833	360	765	1255	553	429	902	369	859	451	373
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	33.7	29.2	25.2	29.5	22.1	24.6	30.0	30.5	29.0	27.9	28.4	23.5
Incr Delay (d2), s/veh	25.2	2.6	0.0	9.9	0.3	4.6	1.3	0.9	0.5	3.9	12.3	0.1
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	3.9	4.3	0.1	6.1	3.2	5.9	2.1	2.7	0.9	5.5	7.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	31.8	25.3	39.5	22.4	29.2	31.3	31.5	29.6	31.8	40.7	23.6
LnGrp LOS	E	C	C	D	C	C	C	C	C	C	D	C
Approach Vol, veh/h		652			1420			483			995	
Approach Delay, s/veh		38.0			31.4			31.2			34.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.7	20.2	19.1		21.8	12.4	26.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	17.0	18.0		18.5	7.9	27.1				
Max Q Clear Time (g_c+I1), s		7.9	15.2	12.1		15.8	8.4	17.2				
Green Ext Time (p_c), s		1.9	0.5	1.6		1.3	0.0	3.1				

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	431	100	68	557	129	52	182	34	41	207	192
Future Volume (veh/h)	144	431	100	68	557	129	52	182	34	41	207	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	490	114	75	612	142	61	214	40	44	220	204
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	908	210	104	745	172	93	449	84	76	251	233
Arrive On Green	0.12	0.32	0.32	0.06	0.26	0.26	0.05	0.29	0.29	0.04	0.28	0.28
Sat Flow, veh/h	1781	2859	661	1781	2857	662	1781	1528	286	1781	885	820
Grp Volume(v), veh/h	164	303	301	75	380	374	61	0	254	44	0	424
Grp Sat Flow(s),veh/h/ln	1781	1777	1744	1781	1777	1742	1781	0	1813	1781	0	1705
Q Serve(g_s), s	5.6	8.8	8.9	2.6	12.6	12.6	2.1	0.0	7.2	1.5	0.0	14.8
Cycle Q Clear(g_c), s	5.6	8.8	8.9	2.6	12.6	12.6	2.1	0.0	7.2	1.5	0.0	14.8
Prop In Lane	1.00		0.38	1.00		0.38	1.00		0.16	1.00		0.48
Lane Grp Cap(c), veh/h	205	564	554	104	463	454	93	0	533	76	0	485
V/C Ratio(X)	0.80	0.54	0.54	0.72	0.82	0.82	0.66	0.00	0.48	0.58	0.00	0.87
Avail Cap(c_a), veh/h	242	564	554	205	511	501	142	0	591	145	0	559
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	17.6	17.6	29.0	21.8	21.8	29.1	0.0	18.1	29.4	0.0	21.3
Incr Delay (d2), s/veh	14.8	1.0	1.1	9.1	9.5	9.9	7.6	0.0	0.7	6.8	0.0	13.1
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	3.1	3.4	3.3	1.3	5.9	5.9	1.1	0.0	2.9	0.8	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	18.6	18.7	38.1	31.3	31.7	36.7	0.0	18.8	36.1	0.0	34.4
LnGrp LOS	D	B	B	D	C	C	D	A	B	D	A	C
Approach Vol, veh/h		768			829			315			468	
Approach Delay, s/veh		23.6			32.1			22.3			34.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	22.9	8.1	24.4	7.8	22.3	11.7	20.8
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	5.1	20.4	7.2	19.3	5.0	20.5	8.5	18.0
Max Q Clear Time (g_c+I1), s	3.5	9.2	4.6	10.9	4.1	16.8	7.6	14.6
Green Ext Time (p_c), s	0.0	1.1	0.0	2.3	0.0	0.9	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	86	150	60	517	671	135
Future Volume (veh/h)	86	150	60	517	671	135
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	190	65	556	737	148
Peak Hour Factor	0.79	0.79	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	141	245	115	1908	1056	212
Arrive On Green	0.24	0.24	0.06	0.54	0.36	0.36
Sat Flow, veh/h	598	1042	1781	3647	3036	591
Grp Volume(v), veh/h	300	0	65	556	445	440
Grp Sat Flow(s),veh/h/ln	1645	0	1781	1777	1777	1756
Q Serve(g_s), s	6.7	0.0	1.4	3.4	8.5	8.5
Cycle Q Clear(g_c), s	6.7	0.0	1.4	3.4	8.5	8.5
Prop In Lane	0.36	0.63	1.00			0.34
Lane Grp Cap(c), veh/h	388	0	115	1908	637	630
V/C Ratio(X)	0.77	0.00	0.57	0.29	0.70	0.70
Avail Cap(c_a), veh/h	748	0	230	2514	826	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	18.0	5.0	10.9	10.9
Incr Delay (d2), s/veh	3.3	0.0	4.3	0.1	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.6	0.7	2.7	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.5	0.0	22.3	5.1	12.6	12.7
LnGrp LOS	B	A	C	A	B	B
Approach Vol, veh/h	300			621	885	
Approach Delay, s/veh	17.5			6.9	12.7	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		25.8		13.8	7.1	18.7
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		28.0		18.0	5.1	18.4
Max Q Clear Time (g_c+I1), s		5.4		8.7	3.4	10.5
Green Ext Time (p_c), s		3.7		0.7	0.0	3.4

Intersection Summary		
HCM 6th Ctrl Delay		11.5
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	356	284	142	130	340	275	179	573	89	208	623	653
Future Volume (veh/h)	356	284	142	130	340	275	179	573	89	208	623	653
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	348	364	0	137	358	0	188	603	0	219	656	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	418		180	504		226	746		258	810	
Arrive On Green	0.22	0.22	0.00	0.19	0.19	0.00	0.13	0.21	0.00	0.14	0.23	0.00
Sat Flow, veh/h	1781	1870	1585	949	2650	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	348	364	0	263	232	0	188	603	0	219	656	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1823	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.6	14.6	0.0	10.6	9.4	0.0	8.0	12.5	0.0	9.3	13.6	0.0
Cycle Q Clear(g_c), s	14.6	14.6	0.0	10.6	9.4	0.0	8.0	12.5	0.0	9.3	13.6	0.0
Prop In Lane	1.00		1.00	0.52		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	398	418		346	338		226	746		258	810	
V/C Ratio(X)	0.87	0.87		0.76	0.69		0.83	0.81		0.85	0.81	
Avail Cap(c_a), veh/h	424	445		505	492		232	920		273	1002	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.1	29.1	0.0	29.8	29.3	0.0	33.1	29.2	0.0	32.4	28.4	0.0
Incr Delay (d2), s/veh	17.2	16.1	0.0	4.0	2.5	0.0	21.8	4.5	0.0	20.7	4.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	8.0	0.0	4.8	4.1	0.0	4.6	5.4	0.0	5.2	5.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	45.2	0.0	33.7	31.8	0.0	54.9	33.7	0.0	53.1	32.5	0.0
LnGrp LOS	D	D		C	C		D	C		D	C	
Approach Vol, veh/h		712			495			791			875	
Approach Delay, s/veh		45.7			32.8			38.7			37.7	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.7	20.8		21.9	14.3	22.2		19.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.3	20.1		18.5	10.1	21.9		21.5
Max Q Clear Time (g_c+I1), s	10.3	14.5		16.6	10.0	15.6		12.6
Green Ext Time (p_c), s	0.0	1.8		0.7	0.0	2.1		1.9

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	30.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	14	21	14	14	24	35	247	7	22	430	163
Future Vol, veh/h	98	14	21	14	14	24	35	247	7	22	430	163
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.87	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	17	26	17	17	29	40	284	8	24	467	177
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.7	10.8	14.9	43.7
HCM LOS	B	B	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	74%	27%	4%
Vol Thru, %	85%	11%	27%	70%
Vol Right, %	2%	16%	46%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	289	133	52	615
LT Vol	35	98	14	22
Through Vol	247	14	14	430
RT Vol	7	21	24	163
Lane Flow Rate	332	164	63	668
Geometry Grp	1	1	1	1
Degree of Util (X)	0.523	0.304	0.12	0.943
Departure Headway (Hd)	5.666	6.662	6.83	5.076
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	631	535	528	709
Service Time	3.743	4.755	4.83	3.137
HCM Lane V/C Ratio	0.526	0.307	0.119	0.942
HCM Control Delay	14.9	12.7	10.8	43.7
HCM Lane LOS	B	B	B	E
HCM 95th-tile Q	3	1.3	0.4	13.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	411	289	556	366	575	354	301	608	502	309	65
Future Volume (veh/h)	64	411	289	556	366	575	354	301	608	502	309	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.94	1.00		0.97
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	472	332	567	373	0	385	327	661	534	329	69
Peak Hour Factor	0.87	0.87	0.87	0.98	0.98	0.98	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	738	534	652	641		469	396	1231	622	387	81
Arrive On Green	0.05	0.21	0.21	0.19	0.34	0.00	0.13	0.21	0.21	0.18	0.26	0.26
Sat Flow, veh/h	1781	3554	1564	3456	1870	2790	3563	1870	2990	3456	1491	313
Grp Volume(v), veh/h	74	472	332	567	373	0	385	327	661	534	0	398
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1728	1870	1395	1781	1870	1495	1728	0	1804
Q Serve(g_s), s	3.5	10.3	15.1	13.5	13.9	0.0	8.9	14.2	14.4	12.7	0.0	17.8
Cycle Q Clear(g_c), s	3.5	10.3	15.1	13.5	13.9	0.0	8.9	14.2	14.4	12.7	0.0	17.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	95	738	534	652	641		469	396	1231	622	0	469
V/C Ratio(X)	0.78	0.64	0.62	0.87	0.58		0.82	0.83	0.54	0.86	0.00	0.85
Avail Cap(c_a), veh/h	139	754	541	713	641		525	428	1282	696	0	510
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.7	30.7	23.5	33.4	22.9	0.0	35.9	32.0	19.6	33.8	0.0	29.8
Incr Delay (d2), s/veh	15.4	1.8	2.2	10.6	1.3	0.0	9.2	11.8	0.4	9.7	0.0	12.0
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	1.9	4.5	5.7	6.5	6.1	0.0	4.4	7.5	4.8	6.0	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	32.5	25.7	44.0	24.2	0.0	45.0	43.8	20.0	43.5	0.0	41.9
LnGrp LOS	E	C	C	D	C		D	D	B	D	A	D
Approach Vol, veh/h		878			940			1373			932	
Approach Delay, s/veh		31.8			36.2			32.7			42.8	
Approach LOS		C			D			C			D	

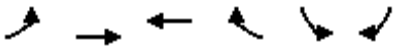
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	22.5	20.5	22.1	15.7	26.6	9.0	33.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.1	19.4	17.5	18.0	12.5	24.0	6.6	28.9
Max Q Clear Time (g_c+I1), s	4.7	16.4	15.5	17.1	10.9	19.8	5.5	15.9
Green Ext Time (p_c), s	0.5	1.5	0.5	0.4	0.2	0.9	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

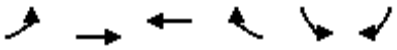
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1525	657	0	845	914
Future Volume (veh/h)	0	1525	657	0	845	914
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1605	722	0	889	962
Peak Hour Factor	0.95	0.95	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1690	2429	0	1291	1042
Arrive On Green	0.00	0.48	0.48	0.00	0.37	0.37
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1605	722	0	889	962
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	25.8	5.2	0.0	13.0	19.7
Cycle Q Clear(g_c), s	0.0	25.8	5.2	0.0	13.0	19.7
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1690	2429	0	1291	1042
V/C Ratio(X)	0.00	0.95	0.30	0.00	0.69	0.92
Avail Cap(c_a), veh/h	0	1696	2436	0	1302	1051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.0	9.6	0.0	15.8	17.9
Incr Delay (d2), s/veh	0.0	12.0	0.1	0.0	1.5	13.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.3	1.6	0.0	4.4	6.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	27.0	9.6	0.0	17.3	30.9
LnGrp LOS	A	C	A	A	B	C
Approach Vol, veh/h		1605	722		1851	
Approach Delay, s/veh		27.0	9.6		24.4	
Approach LOS		C	A		C	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	32.9	26.8	32.9
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	22.5	28.5
Max Q Clear Time (g_c+I1), s	27.8	21.7	7.2
Green Ext Time (p_c), s	0.6	0.6	5.1

Intersection Summary	
HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

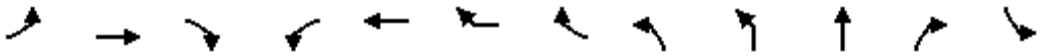


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	733	1640	646	15	0	0
Future Volume (veh/h)	733	1640	646	15	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	756	1691	710	16		
Peak Hour Factor	0.97	0.97	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1093	2980	1280	29		
Arrive On Green	0.32	0.84	0.36	0.36		
Sat Flow, veh/h	3456	3647	3644	80		
Grp Volume(v), veh/h	756	1691	355	371		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1854		
Q Serve(g_s), s	5.3	4.1	4.5	4.5		
Cycle Q Clear(g_c), s	5.3	4.1	4.5	4.5		
Prop In Lane	1.00			0.04		
Lane Grp Cap(c), veh/h	1093	2980	641	669		
V/C Ratio(X)	0.69	0.57	0.55	0.55		
Avail Cap(c_a), veh/h	1551	4529	1180	1231		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.3	0.7	7.1	7.1		
Incr Delay (d2), s/veh	0.8	0.2	0.8	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.1	1.1	1.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.1	0.9	7.9	7.8		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		2447	726			
Approach Delay, s/veh		3.4	7.9			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	27.9	13.3	14.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	12.5	18.5
Max Q Clear Time (g_c+I1), s	6.1	7.3	6.5
Green Ext Time (p_c), s	17.1	1.5	3.6

Intersection Summary	
HCM 6th Ctrl Delay	4.4
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	504	758	339	223	391	437	103	136	450	494	171	144
Future Volume (vph)	504	758	339	223	391	437	103	136	450	494	171	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1555	1770	3176	1421			3433	3539	1555	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1555	1770	3176	1421			3433	3539	1555	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	554	833	373	248	434	486	114	149	495	543	188	155
RTOR Reduction (vph)	0	0	222	0	0	126	0	0	0	0	139	0
Lane Group Flow (vph)	554	833	151	248	711	197	0	0	644	543	49	155
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	17.6	17.6	5.0	17.6	17.6			5.5	16.2	16.2	5.0
Effective Green, g (s)	5.0	17.6	17.6	5.0	17.6	17.6			5.5	16.2	16.2	5.0
Actuated g/C Ratio	0.08	0.28	0.28	0.08	0.28	0.28			0.09	0.26	0.26	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	277	1007	442	143	904	404			305	927	407	143
v/s Ratio Prot	c0.16	c0.24		0.14	0.22				c0.19	0.15		0.09
v/s Ratio Perm			0.10			0.14					0.03	
v/c Ratio	2.00	0.83	0.34	1.73	0.79	0.49			2.11	0.59	0.12	1.08
Uniform Delay, d1	28.4	20.7	17.5	28.4	20.4	18.4			28.1	19.9	17.4	28.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	462.6	5.7	0.5	357.9	4.6	0.9			511.1	1.0	0.1	99.5
Delay (s)	491.0	26.4	18.0	386.3	24.9	19.3			539.3	20.8	17.5	127.9
Level of Service	F	C	B	F	C	B			F	C	B	F
Approach Delay (s)		170.9			93.4					263.2		
Approach LOS		F			F					F		

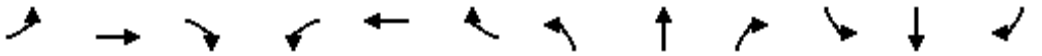
Intersection Summary			
HCM 2000 Control Delay	152.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	61.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	365	149	222
Future Volume (vph)	365	149	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3373		1563
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3373		1563
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	392	160	239
RTOR Reduction (vph)	0	0	178
Lane Group Flow (vph)	552	0	61
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	15.7		15.7
Effective Green, g (s)	15.7		15.7
Actuated g/C Ratio	0.25		0.25
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	856		397
v/s Ratio Prot	c0.16		
v/s Ratio Perm			0.04
v/c Ratio	0.64		0.15
Uniform Delay, d1	20.6		17.9
Progression Factor	1.00		1.00
Incremental Delay, d2	1.7		0.2
Delay (s)	22.2		18.1
Level of Service	C		B
Approach Delay (s)	38.5		
Approach LOS	D		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	664	455	180	63	188	257	111	910	110	214	453	321
Future Volume (veh/h)	664	455	180	63	188	257	111	910	110	214	453	321
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	447	803	186	73	219	0	128	1046	0	240	509	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	533	879	204	94	302		157	1133		199	1216	
Arrive On Green	0.30	0.30	0.30	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.34	0.00
Sat Flow, veh/h	1781	2936	680	857	2748	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	447	511	478	156	136	0	128	1046	0	240	509	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1746	1828	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	26.3	29.6	29.6	9.3	8.3	0.0	7.9	31.9	0.0	12.5	12.3	0.0
Cycle Q Clear(g_c), s	26.3	29.6	29.6	9.3	8.3	0.0	7.9	31.9	0.0	12.5	12.3	0.0
Prop In Lane	1.00		0.39	0.47		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	533	560	523	201	195		157	1133		199	1216	
V/C Ratio(X)	0.84	0.91	0.91	0.78	0.70		0.82	0.92		1.21	0.42	
Avail Cap(c_a), veh/h	548	576	537	293	285		253	1173		199	1216	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.7	37.9	37.9	48.6	48.1	0.0	50.2	36.9	0.0	49.8	28.3	0.0
Incr Delay (d2), s/veh	10.8	18.8	19.8	7.7	4.5	0.0	10.3	11.8	0.0	131.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	16.1	15.2	4.6	3.9	0.0	3.9	14.9	0.0	12.6	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	56.7	57.7	56.2	52.6	0.0	60.5	48.7	0.0	181.1	28.5	0.0
LnGrp LOS	D	E	E	E	D		E	D		F	C	
Approach Vol, veh/h		1436			292			1174			749	
Approach Delay, s/veh		54.2			54.5			50.0			77.4	
Approach LOS		D			D			D			E	

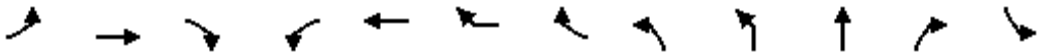
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.0	40.2		38.1	14.4	42.9		16.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0				
Max Q Clear Time (g_c+I1), s	14.5	33.9		31.6	9.9	14.3		11.3				
Green Ext Time (p_c), s	0.0	1.9		2.0	0.1	2.9		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		57.6	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	342	801	284	229	214	385	102	60	464	421	280	118
Future Volume (vph)	342	801	284	229	214	385	102	60	464	421	280	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3121	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	372	871	309	249	233	418	111	65	504	458	304	128
RTOR Reduction (vph)	0	0	225	0	0	90	0	0	0	0	232	0
Lane Group Flow (vph)	372	871	84	249	496	176	0	0	569	458	72	128
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	12.2	23.5	23.5	13.7	25.0	25.0			15.9	20.6	20.6	10.8
Effective Green, g (s)	12.2	23.5	23.5	13.7	25.0	25.0			15.9	20.6	20.6	10.8
Actuated g/C Ratio	0.14	0.27	0.27	0.16	0.29	0.29			0.18	0.24	0.24	0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	483	960	429	280	900	415			630	841	376	220
v/s Ratio Prot	0.11	c0.25		c0.14	0.16				c0.17	0.13		0.07
v/s Ratio Perm			0.05			0.12					0.05	
v/c Ratio	0.77	0.91	0.20	0.89	0.55	0.42			0.90	0.54	0.19	0.58
Uniform Delay, d1	35.8	30.5	24.3	35.7	26.1	25.0			34.6	28.9	26.4	35.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	7.4	12.0	0.2	27.0	0.7	0.7			16.3	0.7	0.3	3.9
Delay (s)	43.3	42.5	24.5	62.8	26.8	25.7			50.9	29.6	26.6	39.7
Level of Service	D	D	C	E	C	C			D	C	C	D
Approach Delay (s)		39.1			35.3					38.0		
Approach LOS		D			D					D		

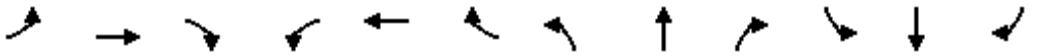
Intersection Summary			
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	280	91	133
Future Volume (vph)	280	91	133
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3409		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3409		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	304	99	145
RTOR Reduction (vph)	0	0	119
Lane Group Flow (vph)	403	0	26
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	15.5		15.5
Effective Green, g (s)	15.5		15.5
Actuated g/C Ratio	0.18		0.18
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	610		283
v/s Ratio Prot	c0.12		
v/s Ratio Perm			0.02
v/c Ratio	0.66		0.09
Uniform Delay, d1	33.1		29.7
Progression Factor	1.00		1.00
Incremental Delay, d2	2.7		0.1
Delay (s)	35.8		29.8
Level of Service	D		C
Approach Delay (s)	35.2		
Approach LOS	D		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	356	284	142	130	340	275	179	573	89	208	623	653
Future Volume (veh/h)	356	284	142	130	340	275	179	573	89	208	623	653
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	283	454	154	137	358	0	188	603	0	219	656	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	573	192	182	508		226	752		259	817	
Arrive On Green	0.21	0.21	0.21	0.19	0.19	0.00	0.13	0.21	0.00	0.15	0.23	0.00
Sat Flow, veh/h	1781	2671	898	949	2650	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	283	317	291	263	232	0	188	603	0	219	656	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1698	1823	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.3	12.2	12.3	10.4	9.2	0.0	7.8	12.2	0.0	9.1	13.2	0.0
Cycle Q Clear(g_c), s	11.3	12.2	12.3	10.4	9.2	0.0	7.8	12.2	0.0	9.1	13.2	0.0
Prop In Lane	1.00		0.53	0.52		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	382	401	364	349	340		226	752		259	817	
V/C Ratio(X)	0.74	0.79	0.80	0.75	0.68		0.83	0.80		0.85	0.80	
Avail Cap(c_a), veh/h	434	456	414	516	503		237	941		279	1025	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.8	28.2	28.3	29.0	28.5	0.0	32.3	28.4	0.0	31.6	27.6	0.0
Incr Delay (d2), s/veh	5.8	8.1	9.6	3.5	2.4	0.0	20.7	4.1	0.0	19.7	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	6.0	5.7	4.6	3.9	0.0	4.4	5.2	0.0	5.0	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	36.3	37.8	32.5	30.9	0.0	53.0	32.5	0.0	51.3	31.4	0.0
LnGrp LOS	C	D	D	C	C		D	C		D	C	
Approach Vol, veh/h		891			495			791			875	
Approach Delay, s/veh		36.0			31.8			37.4			36.3	
Approach LOS		D			C			D			D	

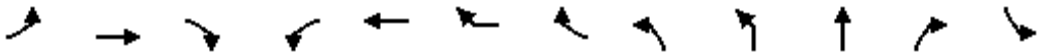
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.5	20.6		20.8	14.1	21.9		19.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	11.9	20.1		18.5	10.1	21.9		21.5				
Max Q Clear Time (g_c+I1), s	11.1	14.2		14.3	9.8	15.2		12.4				
Green Ext Time (p_c), s	0.1	1.8		1.8	0.0	2.2		1.9				

Intersection Summary		
HCM 6th Ctrl Delay		35.8
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	504	758	339	223	391	437	103	136	450	494	171	144
Future Volume (vph)	504	758	339	223	391	437	103	136	450	494	171	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1551	1770	3176	1421			3433	3539	1551	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1551	1770	3176	1421			3433	3539	1551	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	554	833	373	248	434	486	114	149	495	543	188	155
RTOR Reduction (vph)	0	0	279	0	0	140	0	0	0	0	122	0
Lane Group Flow (vph)	554	833	94	248	711	183	0	0	644	543	66	155
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	14.8	22.3	22.3	13.0	20.5	20.5			17.5	24.9	24.9	10.7
Effective Green, g (s)	14.8	22.3	22.3	13.0	20.5	20.5			17.5	24.9	24.9	10.7
Actuated g/C Ratio	0.17	0.25	0.25	0.15	0.23	0.23			0.20	0.28	0.28	0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	571	887	389	258	732	327			675	991	434	213
v/s Ratio Prot	c0.16	c0.24		0.14	0.22				c0.19	0.15		0.09
v/s Ratio Perm			0.06			0.13					0.04	
v/c Ratio	0.97	0.94	0.24	0.96	0.97	0.56			0.95	0.55	0.15	0.73
Uniform Delay, d1	36.8	32.6	26.5	37.7	33.9	30.2			35.3	27.2	24.1	37.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	30.1	17.1	0.3	45.1	26.2	2.1			23.7	0.6	0.2	11.7
Delay (s)	66.9	49.7	26.9	82.8	60.1	32.3			59.0	27.8	24.2	49.4
Level of Service	E	D	C	F	E	C			E	C	C	D
Approach Delay (s)		50.3			57.5					42.0		
Approach LOS		D			E					D		

Intersection Summary			
HCM 2000 Control Delay	47.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	365	149	222
Future Volume (vph)	365	149	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3372		1563
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3372		1563
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	392	160	239
RTOR Reduction (vph)	0	0	190
Lane Group Flow (vph)	552	0	49
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	18.1		18.1
Effective Green, g (s)	18.1		18.1
Actuated g/C Ratio	0.20		0.20
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	686		318
v/s Ratio Prot	c0.16		
v/s Ratio Perm			0.03
v/c Ratio	0.80		0.15
Uniform Delay, d1	33.7		29.1
Progression Factor	1.00		1.00
Incremental Delay, d2	6.8		0.2
Delay (s)	40.5		29.3
Level of Service	D		C
Approach Delay (s)	39.2		
Approach LOS	D		

Intersection Summary

Appendix E – Cumulative Conditions
Intersection Level of Service Worksheets

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	125	698	17	94	311
Future Vol, veh/h	9	125	698	17	94	311
Conflicting Peds, #/hr	5	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	171	767	19	104	346

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1329	772	0	0	789	0
Stage 1	770	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	171	400	-	-	831	-
Stage 1	457	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	398	-	-	829	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	498	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.4	0	2.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	148	398	829	-
HCM Lane V/C Ratio	-	-	0.083	0.43	0.126	-
HCM Control Delay (s)	-	-	31.5	20.7	10	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	2.1	0.4	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	86	9	2	123	14	0
Future Vol, veh/h	86	9	2	123	14	0
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	80	80	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	15	3	154	21	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	158	0	312	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	161	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1422	-	681	895
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	868	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1419	-	678	893
Mov Cap-2 Maneuver	-	-	-	-	678	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	678	-	-	1419	-
HCM Lane V/C Ratio	0.031	-	-	0.002	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	8	0	9	11	23	114	0	4	36	2
Future Vol, veh/h	6	0	8	0	9	11	23	114	0	4	36	2
Conflicting Peds, #/hr	1	0	0	0	0	1	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	55	55	55	68	68	68	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	18	0	16	20	34	168	0	6	55	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	326	312	59	319	313	174	60	0	0	173	0	0
Stage 1	71	71	-	241	241	-	-	-	-	-	-	-
Stage 2	255	241	-	78	72	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	627	603	1007	634	602	869	1544	-	-	1404	-	-
Stage 1	939	836	-	762	706	-	-	-	-	-	-	-
Stage 2	749	706	-	931	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	585	582	1005	607	581	864	1541	-	-	1397	-	-
Mov Cap-2 Maneuver	585	582	-	607	581	-	-	-	-	-	-	-
Stage 1	915	831	-	740	686	-	-	-	-	-	-	-
Stage 2	696	686	-	911	830	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	10.4	1.2	0.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1541	-	-	769	709	1397	-	-
HCM Lane V/C Ratio	0.022	-	-	0.04	0.051	0.004	-	-
HCM Control Delay (s)	7.4	0	-	9.9	10.4	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.2	0	-	-

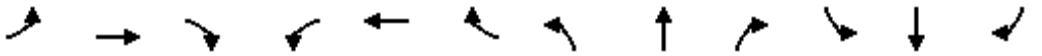
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	49	125	0	0	0
Future Vol, veh/h	0	49	125	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	53	136	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	136	0	-	0	189	136
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	53	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1448	-	-	-	800	913
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	970	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1448	-	-	-	800	913
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	970	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	573	164	53	357	552	116	581	131	427	312	236
Future Volume (veh/h)	324	573	164	53	357	552	116	581	131	427	312	236
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	381	674	0	58	388	0	126	632	0	480	351	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	462	1496		196	1136		504	1421		375	1421	
Arrive On Green	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	996	3741	0	238	2839	1585	1030	3647	0	795	3554	1585
Grp Volume(v), veh/h	381	674	0	222	224	0	126	632	0	480	351	0
Grp Sat Flow(s),veh/h/ln	996	1870	0	1460	1617	1585	1030	1777	0	795	1777	1585
Q Serve(g_s), s	13.7	5.9	0.0	0.1	4.3	0.0	4.2	5.8	0.0	12.2	3.0	0.0
Cycle Q Clear(g_c), s	18.0	5.9	0.0	6.1	4.3	0.0	7.1	5.8	0.0	18.0	3.0	0.0
Prop In Lane	1.00		0.00	0.26		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	462	1496		685	647		504	1421		375	1421	
V/C Ratio(X)	0.82	0.45		0.32	0.35		0.25	0.44		1.28	0.25	
Avail Cap(c_a), veh/h	462	1496		685	647		504	1421		375	1421	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.1	9.9	0.0	9.2	9.4	0.0	11.4	9.9	0.0	19.0	9.0	0.0
Incr Delay (d2), s/veh	11.5	0.2	0.0	0.3	0.3	0.0	0.3	0.2	0.0	145.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	1.8	0.0	1.2	1.2	0.0	0.7	1.6	0.0	18.6	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	10.1	0.0	9.5	9.7	0.0	11.6	10.1	0.0	164.4	9.1	0.0
LnGrp LOS	C	B		A	A		B	B		F	A	
Approach Vol, veh/h		1055			446			758			831	
Approach Delay, s/veh		16.8			9.6			10.3			98.8	
Approach LOS		B			A			B			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		9.1		20.0		20.0		8.1				
Green Ext Time (p_c), s		3.0		0.0		0.0		1.9				

Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	750	132	114	482	49	523	54	462	163	168	4
Future Volume (veh/h)	130	750	132	114	482	49	523	54	462	163	168	4
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	862	0	134	567	50	617	0	274	172	177	1
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1085		165	974	86	730	0	325	184	189	324
Arrive On Green	0.10	0.31	0.00	0.09	0.29	0.29	0.20	0.00	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3647	0	1781	3304	291	3563	0	1585	900	926	1585
Grp Volume(v), veh/h	149	862	0	134	304	313	617	0	274	349	0	1
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1818	1781	0	1585	1825	0	1585
Q Serve(g_s), s	7.6	20.8	0.0	6.9	13.6	13.7	15.5	0.0	15.5	17.5	0.0	0.0
Cycle Q Clear(g_c), s	7.6	20.8	0.0	6.9	13.6	13.7	15.5	0.0	15.5	17.5	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.16	1.00		1.00	0.49		1.00
Lane Grp Cap(c), veh/h	183	1085		165	524	536	730	0	325	374	0	324
V/C Ratio(X)	0.81	0.79		0.81	0.58	0.58	0.85	0.00	0.84	0.93	0.00	0.00
Avail Cap(c_a), veh/h	281	1580		174	684	699	851	0	379	374	0	324
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.0	29.7	0.0	41.6	28.0	28.0	35.7	0.0	35.7	36.5	0.0	29.5
Incr Delay (d2), s/veh	10.2	1.8	0.0	23.9	1.0	1.0	7.0	0.0	14.2	30.3	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	8.7	0.0	4.1	5.7	5.9	7.1	0.0	7.1	10.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	31.5	0.0	65.5	29.0	29.0	42.7	0.0	49.8	66.8	0.0	29.5
LnGrp LOS	D	C		E	C	C	D	A	D	E	A	C
Approach Vol, veh/h		1011			751			891			350	
Approach Delay, s/veh		34.4			35.5			44.9			66.7	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.6	13.1	33.0	23.6	14.1	32.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.3	9.1	41.5	19.1	14.7	35.9
Max Q Clear Time (g_c+I1), s	17.5	8.9	22.8	19.5	9.6	15.7
Green Ext Time (p_c), s	1.6	0.0	5.7	0.0	0.2	3.6

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	419	970	206	773	0	0	0	0	604	2	315
Future Volume (veh/h)	0	419	970	206	773	0	0	0	0	604	2	315
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	455	0	224	840	0				764	0	229
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	849		395	1654	0				1104	0	491
Arrive On Green	0.00	0.24	0.00	0.11	0.47	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	455	0	224	840	0				764	0	229
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	4.5	0.0	2.5	6.6	0.0				7.6	0.0	4.7
Cycle Q Clear(g_c), s	0.0	4.5	0.0	2.5	6.6	0.0				7.6	0.0	4.7
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	849		395	1654	0				1104	0	491
V/C Ratio(X)	0.00	0.54		0.57	0.51	0.00				0.69	0.00	0.47
Avail Cap(c_a), veh/h	0	3148		940	4513	0				1787	0	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.3	0.0	16.8	7.5	0.0				12.1	0.0	11.2
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.3	0.2	0.0				0.8	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	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	0.0	0.9	1.6	0.0				2.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.8	0.0	18.1	7.7	0.0				12.9	0.0	11.8
LnGrp LOS	A	B		B	A	A				B	A	B
Approach Vol, veh/h		455			1064						993	
Approach Delay, s/veh		13.8			9.9						12.7	
Approach LOS		B			A						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		9.1	14.1		16.9		23.2					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		10.9	35.5		20.1		50.9					
Max Q Clear Time (g_c+I1), s		4.5	6.5		9.6		8.6					
Green Ext Time (p_c), s		0.4	3.1		2.9		6.8					

Intersection Summary	
HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

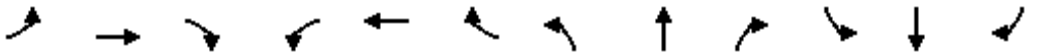
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1388	0	88	998	0	8
Future Vol, veh/h	1388	0	88	998	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1509	0	96	1085	0	9

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	755
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	351
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	351
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	15.5
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	351	-	-
HCM Lane V/C Ratio	0.025	-	-
HCM Control Delay (s)	15.5	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	695	17	262	319	417	40	452	278	408	204	90
Future Volume (veh/h)	89	695	17	262	319	417	40	452	278	408	204	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	106	827	2	291	354	87	46	520	130	474	237	8
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.87	0.87	0.87	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	922	405	351	1012	450	349	733	304	661	347	292
Arrive On Green	0.08	0.26	0.26	0.10	0.28	0.28	0.20	0.20	0.20	0.19	0.19	0.19
Sat Flow, veh/h	1781	3554	1561	3456	3554	1582	1781	3741	1552	3563	1870	1572
Grp Volume(v), veh/h	106	827	2	291	354	87	46	520	130	474	237	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1561	1728	1777	1582	1781	1870	1552	1781	1870	1572
Q Serve(g_s), s	4.1	15.7	0.1	5.8	5.5	2.9	1.5	9.1	5.1	8.7	8.3	0.3
Cycle Q Clear(g_c), s	4.1	15.7	0.1	5.8	5.5	2.9	1.5	9.1	5.1	8.7	8.3	0.3
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	136	922	405	351	1012	450	349	733	304	661	347	292
V/C Ratio(X)	0.78	0.90	0.00	0.83	0.35	0.19	0.13	0.71	0.43	0.72	0.68	0.03
Avail Cap(c_a), veh/h	191	940	413	351	1012	450	469	984	408	917	481	405
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	31.7	25.0	19.2	30.8	19.9	18.9	23.2	26.3	24.7	26.7	26.6	23.3
Incr Delay (d2), s/veh	12.6	11.1	0.0	15.2	0.2	0.2	0.2	1.5	1.0	1.6	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	7.5	0.0	3.0	2.2	1.0	0.6	4.0	1.9	3.7	3.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	36.1	19.2	46.1	20.1	19.1	23.4	27.8	25.6	28.4	28.9	23.3
LnGrp LOS	D	D	B	D	C	B	C	C	C	C	C	C
Approach Vol, veh/h		935			732			696			719	
Approach Delay, s/veh		37.0			30.3			27.1			28.5	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.2	11.6	22.6		17.5	9.8	24.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	7.1	18.5		18.0	7.5	18.1				
Max Q Clear Time (g_c+I1), s		11.1	7.8	17.7		10.7	6.1	7.5				
Green Ext Time (p_c), s		2.4	0.0	0.4		2.0	0.0	1.8				

Intersection Summary												
HCM 6th Ctrl Delay			31.2									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	688	53	17	364	59	86	313	34	55	130	172
Future Volume (veh/h)	188	688	53	17	364	59	86	313	34	55	130	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	748	58	19	404	66	91	333	36	60	141	187
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1068	83	41	613	99	124	430	46	99	178	236
Arrive On Green	0.14	0.32	0.32	0.02	0.20	0.20	0.07	0.26	0.26	0.06	0.24	0.24
Sat Flow, veh/h	1781	3335	258	1781	3059	496	1781	1658	179	1781	728	966
Grp Volume(v), veh/h	204	398	408	19	233	237	91	0	369	60	0	328
Grp Sat Flow(s),veh/h/ln	1781	1777	1816	1781	1777	1778	1781	0	1838	1781	0	1694
Q Serve(g_s), s	5.8	10.3	10.4	0.6	6.4	6.5	2.6	0.0	9.8	1.7	0.0	9.5
Cycle Q Clear(g_c), s	5.8	10.3	10.4	0.6	6.4	6.5	2.6	0.0	9.8	1.7	0.0	9.5
Prop In Lane	1.00		0.14	1.00		0.28	1.00		0.10	1.00		0.57
Lane Grp Cap(c), veh/h	255	569	582	41	356	356	124	0	476	99	0	415
V/C Ratio(X)	0.80	0.70	0.70	0.46	0.66	0.66	0.73	0.00	0.77	0.61	0.00	0.79
Avail Cap(c_a), veh/h	321	759	776	169	608	608	186	0	674	176	0	611
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.8	15.7	15.7	25.4	19.4	19.4	24.0	0.0	18.1	24.3	0.0	18.6
Incr Delay (d2), s/veh	10.8	1.9	1.8	7.9	2.0	2.1	8.0	0.0	3.7	5.9	0.0	4.3
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	2.9	3.8	3.9	0.3	2.5	2.6	1.3	0.0	4.2	0.8	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	17.5	17.5	33.3	21.4	21.5	32.0	0.0	21.7	30.2	0.0	22.9
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1010			489			460			388	
Approach Delay, s/veh		20.6			21.9			23.8			24.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	18.1	5.7	21.4	8.2	17.4	12.0	15.1
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	5.3	19.3	5.0	22.5	5.5	19.0	9.5	18.0
Max Q Clear Time (g_c+I1), s	3.7	11.8	2.6	12.4	4.6	11.5	7.8	8.5
Green Ext Time (p_c), s	0.0	1.3	0.0	3.5	0.0	1.2	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	263	206	897	546	155
Future Volume (veh/h)	62	263	206	897	546	155
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	370	234	1019	607	172
Peak Hour Factor	0.71	0.71	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	97	414	249	1830	792	224
Arrive On Green	0.32	0.32	0.14	0.51	0.29	0.29
Sat Flow, veh/h	307	1304	1781	3647	2810	768
Grp Volume(v), veh/h	458	0	234	1019	397	382
Grp Sat Flow(s),veh/h/ln	1614	0	1781	1777	1777	1708
Q Serve(g_s), s	14.5	0.0	7.0	10.5	10.9	11.0
Cycle Q Clear(g_c), s	14.5	0.0	7.0	10.5	10.9	11.0
Prop In Lane	0.19	0.81	1.00			0.45
Lane Grp Cap(c), veh/h	513	0	249	1830	518	498
V/C Ratio(X)	0.89	0.00	0.94	0.56	0.77	0.77
Avail Cap(c_a), veh/h	586	0	249	2083	645	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	0.0	22.9	8.9	17.4	17.4
Incr Delay (d2), s/veh	14.7	0.0	41.2	0.3	4.3	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	5.5	3.0	4.4	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.2	0.0	64.2	9.1	21.7	22.0
LnGrp LOS	C	A	E	A	C	C
Approach Vol, veh/h	458			1253	779	
Approach Delay, s/veh	32.2			19.4	21.8	
Approach LOS	C			B	C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	32.2		21.6	12.0	20.2
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	31.5		19.5	7.5	19.5
Max Q Clear Time (g_c+I1), s	12.5		16.5	9.0	13.0
Green Ext Time (p_c), s	7.0		0.5	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	721	433	170	61	178	313	112	963	76	262	502	330
Future Volume (veh/h)	721	433	170	61	178	313	112	963	76	262	502	330
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	594	654	0	71	207	0	129	1107	0	294	564	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	566		92	287		157	1152		195	1228	
Arrive On Green	0.30	0.30	0.00	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.35	0.00
Sat Flow, veh/h	1781	1870	1585	875	2729	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	594	654	0	148	130	0	129	1107	0	294	564	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1827	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	34.5	34.5	0.0	9.0	8.0	0.0	8.1	34.8	0.0	12.5	14.1	0.0
Cycle Q Clear(g_c), s	34.5	34.5	0.0	9.0	8.0	0.0	8.1	34.8	0.0	12.5	14.1	0.0
Prop In Lane	1.00		1.00	0.48		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	539	566		192	187		157	1152		195	1228	
V/C Ratio(X)	1.10	1.15		0.77	0.69		0.82	0.96		1.50	0.46	
Avail Cap(c_a), veh/h	539	566		289	281		249	1154		195	1228	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.7	39.7	0.0	49.6	49.2	0.0	51.0	37.8	0.0	50.7	29.0	0.0
Incr Delay (d2), s/veh	69.5	88.4	0.0	7.0	4.5	0.0	11.2	17.8	0.0	251.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.1	29.3	0.0	4.4	3.8	0.0	4.0	17.2	0.0	19.1	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.2	128.1	0.0	56.6	53.7	0.0	62.3	55.6	0.0	302.6	29.3	0.0
LnGrp LOS	F	F		E	D		E	E		F	C	
Approach Vol, veh/h		1248			278			1236			858	
Approach Delay, s/veh		119.1			55.3			56.3			122.9	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	41.5		39.0	14.6	43.9		16.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0
Max Q Clear Time (g_c+I1), s	14.5	36.8		36.5	10.1	16.1		11.0
Green Ext Time (p_c), s	0.0	0.1		0.0	0.1	3.2		0.8

Intersection Summary	
HCM 6th Ctrl Delay	93.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	26.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	167	17	17	6	23	56	24	415	5	24	237	87
Future Vol, veh/h	167	17	17	6	23	56	24	415	5	24	237	87
Peak Hour Factor	0.86	0.86	0.86	0.75	0.75	0.75	0.86	0.86	0.86	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	194	20	20	8	31	75	28	483	6	29	289	106
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.2	12.2	36.1	23.1
HCM LOS	C	B	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	83%	7%	7%
Vol Thru, %	93%	8%	27%	68%
Vol Right, %	1%	8%	66%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	444	201	85	348
LT Vol	24	167	6	24
Through Vol	415	17	23	237
RT Vol	5	17	56	87
Lane Flow Rate	516	234	113	424
Geometry Grp	1	1	1	1
Degree of Util (X)	0.865	0.462	0.223	0.716
Departure Headway (Hd)	6.033	7.122	7.097	6.07
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	599	505	502	594
Service Time	4.091	5.197	5.19	4.131
HCM Lane V/C Ratio	0.861	0.463	0.225	0.714
HCM Control Delay	36.1	16.2	12.2	23.1
HCM Lane LOS	E	C	B	C
HCM 95th-tile Q	9.7	2.4	0.8	5.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	461	254	464	273	198	247	162	480	143	199	15
Future Volume (veh/h)	66	461	254	464	273	198	247	162	480	143	199	15
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		0.99	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	480	265	540	317	0	284	186	552	177	246	19
Peak Hour Factor	0.96	0.96	0.96	0.86	0.86	0.86	0.87	0.87	0.87	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	787	512	593	627		364	399	1216	282	330	26
Arrive On Green	0.06	0.22	0.22	0.17	0.34	0.00	0.10	0.21	0.21	0.08	0.19	0.19
Sat Flow, veh/h	1781	3554	1579	3456	1870	2790	3563	1870	3148	3456	1712	132
Grp Volume(v), veh/h	69	480	265	540	317	0	284	186	552	177	0	265
Grp Sat Flow(s),veh/h/ln	1781	1777	1579	1728	1870	1395	1781	1870	1574	1728	0	1844
Q Serve(g_s), s	2.2	7.0	7.9	8.9	7.8	0.0	4.5	5.0	7.5	2.9	0.0	7.8
Cycle Q Clear(g_c), s	2.2	7.0	7.9	8.9	7.8	0.0	4.5	5.0	7.5	2.9	0.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	103	787	512	593	627		364	399	1216	282	0	356
V/C Ratio(X)	0.67	0.61	0.52	0.91	0.51		0.78	0.47	0.45	0.63	0.00	0.75
Avail Cap(c_a), veh/h	179	1108	654	593	716		364	616	1580	305	0	581
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	20.2	15.9	23.5	15.4	0.0	25.3	19.8	13.2	25.7	0.0	22.0
Incr Delay (d2), s/veh	7.2	0.8	0.8	18.3	0.6	0.0	10.4	0.8	0.3	3.6	0.0	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	1.1	2.8	2.6	4.8	3.1	0.0	2.3	2.1	2.4	1.2	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	21.0	16.7	41.8	16.0	0.0	35.7	20.7	13.5	29.3	0.0	25.1
LnGrp LOS	C	C	B	D	B		D	C	B	C	A	C
Approach Vol, veh/h		814			857			1022			442	
Approach Delay, s/veh		20.7			32.3			21.0			26.7	
Approach LOS		C			C			C			C	

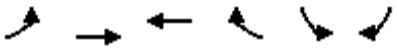
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	16.8	14.4	17.3	10.4	15.6	7.8	23.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	19.0	9.9	18.0	5.9	18.2	5.8	22.1
Max Q Clear Time (g_c+I1), s	4.9	9.5	10.9	9.9	6.5	9.8	4.2	9.8
Green Ext Time (p_c), s	0.0	2.5	0.0	2.6	0.0	0.9	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

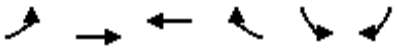
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1051	476	0	968	506
Future Volume (veh/h)	0	1051	476	0	968	506
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1236	535	0	1166	610
Peak Hour Factor	0.85	0.85	0.89	0.89	0.83	0.83
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1279	1838	0	1590	1283
Arrive On Green	0.00	0.36	0.36	0.00	0.46	0.46
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1236	535	0	1166	610
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	17.1	3.7	0.0	13.7	7.6
Cycle Q Clear(g_c), s	0.0	17.1	3.7	0.0	13.7	7.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1279	1838	0	1590	1283
V/C Ratio(X)	0.00	0.97	0.29	0.00	0.73	0.48
Avail Cap(c_a), veh/h	0	1279	1838	0	1590	1283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.7	11.4	0.0	11.0	9.3
Incr Delay (d2), s/veh	0.0	17.6	0.1	0.0	3.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.8	1.2	0.0	4.1	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	33.3	11.5	0.0	14.0	10.6
LnGrp LOS	A	C	B	A	B	B
Approach Vol, veh/h		1236	535		1776	
Approach Delay, s/veh		33.3	11.5		12.9	
Approach LOS		C	B		B	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	22.5	27.5	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	23.0	18.0
Max Q Clear Time (g_c+I1), s	19.1	15.7	5.7
Green Ext Time (p_c), s	0.0	4.3	2.9

Intersection Summary	
HCM 6th Ctrl Delay	19.8
HCM 6th LOS	B

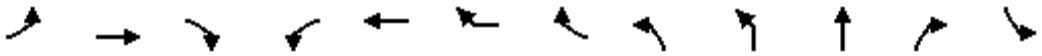


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	482	1544	474	4	0	0
Future Volume (veh/h)	482	1544	474	4	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	581	1860	585	5		
Peak Hour Factor	0.83	0.83	0.81	0.81		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	851	3025	1648	14		
Arrive On Green	0.25	0.85	0.46	0.46		
Sat Flow, veh/h	3456	3647	3704	31		
Grp Volume(v), veh/h	581	1860	288	302		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1865		
Q Serve(g_s), s	4.6	4.9	3.2	3.2		
Cycle Q Clear(g_c), s	4.6	4.9	3.2	3.2		
Prop In Lane	1.00			0.02		
Lane Grp Cap(c), veh/h	851	3025	811	851		
V/C Ratio(X)	0.68	0.61	0.35	0.36		
Avail Cap(c_a), veh/h	1199	4169	1204	1263		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.3	0.7	5.3	5.3		
Incr Delay (d2), s/veh	1.0	0.2	0.3	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.6	0.7		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.3	0.9	5.6	5.6		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2441	590			
Approach Delay, s/veh		3.4	5.6			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	30.3	12.0	18.3
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	10.5	20.5
Max Q Clear Time (g_c+I1), s	6.9	6.6	5.2
Green Ext Time (p_c), s	18.8	0.9	3.2

Intersection Summary	
HCM 6th Ctrl Delay	3.8
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	340	863	338	221	270	373	130	162	494	514	366	152
Future Volume (vph)	340	863	338	221	270	373	130	162	494	514	366	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	370	938	367	240	293	405	141	176	537	559	398	165
RTOR Reduction (vph)	0	0	233	0	0	125	0	0	0	0	157	0
Lane Group Flow (vph)	370	938	134	240	564	150	0	0	713	559	241	165
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.3	16.3	5.0
Effective Green, g (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.3	16.3	5.0
Actuated g/C Ratio	0.08	0.29	0.29	0.08	0.29	0.29			0.09	0.26	0.26	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	275	1022	457	142	908	416			303	925	414	142
v/s Ratio Prot	0.11	c0.27		c0.14	0.18				c0.21	c0.16		0.09
v/s Ratio Perm			0.08			0.10					0.15	
v/c Ratio	1.35	0.92	0.29	1.69	0.62	0.36			2.35	0.60	0.58	1.16
Uniform Delay, d1	28.6	21.4	17.2	28.6	19.2	17.6			28.4	20.2	20.0	28.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	177.7	12.6	0.4	339.0	1.3	0.5			619.1	1.1	2.1	125.6
Delay (s)	206.4	34.0	17.6	367.7	20.5	18.1			647.5	21.3	22.1	154.3
Level of Service	F	C	B	F	C	B			F	C	C	F
Approach Delay (s)		68.5			97.1					288.8		
Approach LOS		E			F					F		

Intersection Summary			
HCM 2000 Control Delay	140.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	333	91	222
Future Volume (vph)	333	91	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.97		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3425		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3425		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	362	99	241
RTOR Reduction (vph)	0	0	180
Lane Group Flow (vph)	461	0	61
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	15.8		15.8
Effective Green, g (s)	15.8		15.8
Actuated g/C Ratio	0.25		0.25
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	868		401
v/s Ratio Prot	0.13		
v/s Ratio Perm			0.04
v/c Ratio	0.53		0.15
Uniform Delay, d1	20.1		18.1
Progression Factor	1.00		1.00
Incremental Delay, d2	0.6		0.2
Delay (s)	20.7		18.2
Level of Service	C		B
Approach Delay (s)	45.4		
Approach LOS	D		

Intersection Summary

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	78	485	14	147	741
Future Vol, veh/h	8	78	485	14	147	741
Conflicting Peds, #/hr	5	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	98	522	15	160	805

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1658	528	0	0	543	0
Stage 1	528	-	-	-	-	-
Stage 2	1130	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	107	550	-	-	1026	-
Stage 1	592	-	-	-	-	-
Stage 2	308	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	547	-	-	1020	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	258	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	1.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	89	547	1020	-
HCM Lane V/C Ratio	-	-	0.112	0.178	0.157	-
HCM Control Delay (s)	-	-	50.5	13	9.2	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.6	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	10	2	87	0	4
Future Vol, veh/h	115	10	2	87	0	4
Conflicting Peds, #/hr	0	1	1	0	4	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	79	79	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	128	11	3	110	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	140	0	255	140
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	120	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1443	-	734	908
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	905	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	729	903
Mov Cap-2 Maneuver	-	-	-	-	729	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	900	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	903	-	-	1442	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	1	17	0	0	19	7	48	1	59	38	5
Future Vol, veh/h	1	1	17	0	0	19	7	48	1	59	38	5
Conflicting Peds, #/hr	0	0	1	1	0	0	5	0	2	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	50	50	50	84	84	84	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	21	0	0	38	8	57	1	66	43	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	276	259	52	266	262	60	54	0	0	60	0	0
Stage 1	183	183	-	76	76	-	-	-	-	-	-	-
Stage 2	93	76	-	190	186	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	676	645	1016	687	643	1005	1551	-	-	1544	-	-
Stage 1	819	748	-	933	832	-	-	-	-	-	-	-
Stage 2	914	832	-	812	746	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	623	610	1010	644	608	1003	1544	-	-	1541	-	-
Mov Cap-2 Maneuver	623	610	-	644	608	-	-	-	-	-	-	-
Stage 1	811	711	-	926	826	-	-	-	-	-	-	-
Stage 2	875	826	-	758	709	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	8.7	0.9	4.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	946	1003	1541	-	-
HCM Lane V/C Ratio	0.005	-	-	0.025	0.038	0.043	-	-
HCM Control Delay (s)	7.3	0	-	8.9	8.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

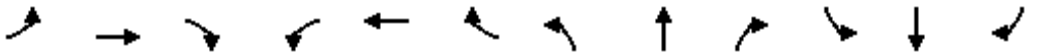
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	102	71	0	18	0
Future Vol, veh/h	0	102	71	0	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	111	77	0	20	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	188	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	111	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1522	-	-	-	801	984
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	914	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	-	-	801	984
Mov Cap-2 Maneuver	-	-	-	-	801	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	914	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1522	-	-	-	801
HCM Lane V/C Ratio	-	-	-	-	0.024
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	856	236	139	541	825	134	406	117	386	454	226
Future Volume (veh/h)	283	856	236	139	541	825	134	406	117	386	454	226
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	882	0	148	576	0	147	446	0	424	499	0
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1598		289	691		412	1454		437	1454	
Arrive On Green	0.43	0.43	0.00	0.43	0.43	0.00	0.41	0.41	0.00	0.41	0.41	0.00
Sat Flow, veh/h	837	3741	0	369	1617	1585	898	3647	0	943	3554	1585
Grp Volume(v), veh/h	292	882	0	148	576	0	147	446	0	424	499	0
Grp Sat Flow(s),veh/h/ln	837	1870	0	369	1617	1585	898	1777	0	943	1777	1585
Q Serve(g_s), s	6.1	9.7	0.0	12.7	17.4	0.0	7.4	4.7	0.0	17.8	5.3	0.0
Cycle Q Clear(g_c), s	23.5	9.7	0.0	22.4	17.4	0.0	12.7	4.7	0.0	22.5	5.3	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	1598		289	691		412	1454		437	1454	
V/C Ratio(X)	1.31	0.55		0.51	0.83		0.36	0.31		0.97	0.34	
Avail Cap(c_a), veh/h	223	1598		289	691		412	1454		437	1454	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.2	11.8	0.0	20.2	14.0	0.0	15.5	11.0	0.0	21.1	11.2	0.0
Incr Delay (d2), s/veh	166.9	0.4	0.0	1.5	8.7	0.0	0.5	0.1	0.0	35.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.1	3.3	0.0	1.7	6.7	0.0	1.3	1.5	0.0	9.3	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	193.1	12.2	0.0	21.7	22.7	0.0	16.1	11.1	0.0	56.5	11.3	0.0
LnGrp LOS	F	B		C	C		B	B		E	B	
Approach Vol, veh/h		1174			724			593			923	
Approach Delay, s/veh		57.2			22.5			12.3			32.1	
Approach LOS		E			C			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		14.7		25.5		24.5		24.4				
Green Ext Time (p_c), s		2.2		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	35.3	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	776	126	213	735	53	829	75	423	134	91	3
Future Volume (veh/h)	195	776	126	213	735	53	829	75	423	134	91	3
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		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	843	0	222	766	51	960	0	209	147	100	0
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	970		243	931	62	1050	0	467	161	109	235
Arrive On Green	0.13	0.27	0.00	0.14	0.28	0.28	0.29	0.00	0.29	0.15	0.15	0.00
Sat Flow, veh/h	1781	3647	0	1781	3380	225	3563	0	1585	1081	735	1585
Grp Volume(v), veh/h	212	843	0	222	403	414	960	0	209	247	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1828	1781	0	1585	1816	0	1585
Q Serve(g_s), s	14.3	27.6	0.0	15.0	25.9	25.9	31.7	0.0	13.1	16.3	0.0	0.0
Cycle Q Clear(g_c), s	14.3	27.6	0.0	15.0	25.9	25.9	31.7	0.0	13.1	16.3	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		1.00	0.60		1.00
Lane Grp Cap(c), veh/h	238	970		243	489	503	1050	0	467	270	0	235
V/C Ratio(X)	0.89	0.87		0.92	0.82	0.82	0.91	0.00	0.45	0.92	0.00	0.00
Avail Cap(c_a), veh/h	253	1123		243	551	567	1134	0	505	270	0	235
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.9	42.2	0.0	51.9	41.4	41.4	41.5	0.0	34.9	51.1	0.0	0.0
Incr Delay (d2), s/veh	28.7	6.7	0.0	35.8	8.9	8.7	10.9	0.0	0.7	33.4	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	12.8	0.0	9.0	12.4	12.7	14.9	0.0	5.1	10.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.6	49.0	0.0	87.7	50.3	50.1	52.4	0.0	35.6	84.6	0.0	0.0
LnGrp LOS	F	D		F	D	D	D	A	D	F	A	A
Approach Vol, veh/h		1055			1039			1169			247	
Approach Delay, s/veh		55.3			58.2			49.4			84.6	
Approach LOS		E			E			D			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	40.4	21.1	37.8	22.6	20.8	38.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.8	16.6	38.5	18.1	17.3	37.8
Max Q Clear Time (g_c+I1), s	33.7	17.0	29.6	18.3	16.3	27.9
Green Ext Time (p_c), s	2.2	0.0	3.7	0.0	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	56.2
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	444	754	180	1360	0	0	0	0	665	5	356
Future Volume (veh/h)	0	444	754	180	1360	0	0	0	0	665	5	356
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	516	0	188	1417	0				855	0	262
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1318		302	1916	0				1068	0	475
Arrive On Green	0.00	0.37	0.00	0.09	0.54	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	516	0	188	1417	0				855	0	262
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	6.0	0.0	2.9	17.1	0.0				12.3	0.0	7.7
Cycle Q Clear(g_c), s	0.0	6.0	0.0	2.9	17.1	0.0				12.3	0.0	7.7
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1318		302	1916	0				1068	0	475
V/C Ratio(X)	0.00	0.39		0.62	0.74	0.00				0.80	0.00	0.55
Avail Cap(c_a), veh/h	0	1687		588	2578	0				1308	0	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.9	0.0	24.6	9.9	0.0				18.0	0.0	16.4
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.1	0.8	0.0				3.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.0	1.2	5.0	0.0				4.5	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.1	0.0	26.7	10.6	0.0				21.0	0.0	17.4
LnGrp LOS	A	B		C	B	A				C	A	B
Approach Vol, veh/h		516			1605						1117	
Approach Delay, s/veh		13.1			12.5						20.2	
Approach LOS		B			B						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		9.4	25.2		21.2		34.6					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		9.5	26.5		20.5		40.5					
Max Q Clear Time (g_c+I1), s		4.9	8.0		14.3		19.1					
Green Ext Time (p_c), s		0.2	3.2		2.4		11.0					

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

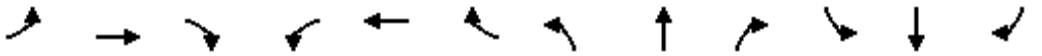
Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1113	0	35	1663	0	39
Future Vol, veh/h	1113	0	35	1663	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1210	0	38	1808	0	42

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	605
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	441
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	441
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	14
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	441	-	-
HCM Lane V/C Ratio	0.096	-	-
HCM Control Delay (s)	14	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	399	25	456	426	783	70	392	156	565	408	240
Future Volume (veh/h)	118	399	25	456	426	783	70	392	156	565	408	240
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		0.99	1.00		0.97	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	505	0	501	468	485	77	431	18	628	453	33
Peak Hour Factor	0.79	0.79	0.79	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	847	378	591	1126	497	292	613	252	771	405	335
Arrive On Green	0.09	0.24	0.00	0.17	0.32	0.32	0.16	0.16	0.16	0.22	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	3456	3554	1567	1781	3741	1536	3563	1870	1548
Grp Volume(v), veh/h	149	505	0	501	468	485	77	431	18	628	453	33
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1567	1781	1870	1536	1781	1870	1548
Q Serve(g_s), s	7.1	10.8	0.0	12.0	8.9	26.2	3.2	9.3	0.8	14.3	18.5	1.5
Cycle Q Clear(g_c), s	7.1	10.8	0.0	12.0	8.9	26.2	3.2	9.3	0.8	14.3	18.5	1.5
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	165	847	378	591	1126	497	292	613	252	771	405	335
V/C Ratio(X)	0.91	0.60	0.00	0.85	0.42	0.98	0.26	0.70	0.07	0.81	1.12	0.10
Avail Cap(c_a), veh/h	165	847	378	687	1126	497	385	809	332	771	405	335
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	28.9	0.0	34.4	23.0	28.9	31.2	33.8	30.2	31.9	33.5	26.8
Incr Delay (d2), s/veh	43.9	1.1	0.0	8.7	0.2	34.3	0.5	1.8	0.1	6.8	81.4	0.1
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	5.0	4.5	0.0	5.6	3.6	14.0	1.4	4.3	0.3	6.7	17.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.4	30.1	0.0	43.1	23.2	63.2	31.7	35.6	30.4	38.6	114.9	27.0
LnGrp LOS	F	C	A	D	C	E	C	D	C	D	F	C
Approach Vol, veh/h		654			1454			526			1114	
Approach Delay, s/veh		42.0			43.4			34.9			69.3	
Approach LOS		D			D			C			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.5	19.1	24.9		23.0	12.4	31.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	17.0	18.0		18.5	7.9	27.1				
Max Q Clear Time (g_c+I1), s		11.3	14.0	12.8		20.5	9.1	28.2				
Green Ext Time (p_c), s		1.8	0.6	1.5		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			49.7									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	433	99	69	571	133	42	183	34	40	192	241
Future Volume (veh/h)	158	433	99	69	571	133	42	183	34	40	192	241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	492	112	76	627	146	49	215	40	43	204	256
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	933	211	102	736	171	80	464	86	74	224	281
Arrive On Green	0.12	0.32	0.32	0.06	0.26	0.26	0.04	0.30	0.30	0.04	0.30	0.30
Sat Flow, veh/h	1781	2873	650	1781	2855	664	1781	1529	284	1781	746	936
Grp Volume(v), veh/h	180	303	301	76	390	383	49	0	255	43	0	460
Grp Sat Flow(s),veh/h/ln	1781	1777	1746	1781	1777	1742	1781	0	1813	1781	0	1682
Q Serve(g_s), s	6.5	9.1	9.2	2.8	13.7	13.8	1.8	0.0	7.5	1.6	0.0	17.3
Cycle Q Clear(g_c), s	6.5	9.1	9.2	2.8	13.7	13.8	1.8	0.0	7.5	1.6	0.0	17.3
Prop In Lane	1.00		0.37	1.00		0.38	1.00		0.16	1.00		0.56
Lane Grp Cap(c), veh/h	221	577	567	102	458	449	80	0	550	74	0	504
V/C Ratio(X)	0.81	0.53	0.53	0.75	0.85	0.85	0.61	0.00	0.46	0.58	0.00	0.91
Avail Cap(c_a), veh/h	230	577	567	195	486	477	135	0	563	138	0	524
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.1	18.1	18.1	30.5	23.2	23.2	30.8	0.0	18.6	31.0	0.0	22.2
Incr Delay (d2), s/veh	19.1	0.9	0.9	10.4	13.0	13.5	7.3	0.0	0.6	7.1	0.0	20.0
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	3.8	3.5	3.5	1.4	6.9	6.8	0.9	0.0	3.0	0.8	0.0	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	19.0	19.1	40.9	36.2	36.7	38.2	0.0	19.2	38.1	0.0	42.2
LnGrp LOS	D	B	B	D	D	D	D	A	B	D	A	D
Approach Vol, veh/h		784			849			304			503	
Approach Delay, s/veh		25.5			36.9			22.2			41.8	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	24.4	8.3	25.9	7.5	24.2	12.7	21.4
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	5.1	20.4	7.2	19.3	5.0	20.5	8.5	18.0
Max Q Clear Time (g_c+I1), s	3.8	9.5	4.8	11.2	3.8	19.3	8.5	15.8
Green Ext Time (p_c), s	0.0	1.0	0.0	2.3	0.0	0.4	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	101	131	148	773	848	108
Future Volume (veh/h)	101	131	148	773	848	108
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	166	159	831	932	119
Peak Hour Factor	0.79	0.79	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	162	210	200	2051	1159	148
Arrive On Green	0.23	0.23	0.11	0.58	0.37	0.37
Sat Flow, veh/h	720	934	1781	3647	3259	404
Grp Volume(v), veh/h	295	0	159	831	523	528
Grp Sat Flow(s),veh/h/ln	1659	0	1781	1777	1777	1792
Q Serve(g_s), s	7.6	0.0	4.0	5.9	12.0	12.0
Cycle Q Clear(g_c), s	7.6	0.0	4.0	5.9	12.0	12.0
Prop In Lane	0.43	0.56	1.00			0.23
Lane Grp Cap(c), veh/h	374	0	200	2051	651	656
V/C Ratio(X)	0.79	0.00	0.80	0.41	0.80	0.80
Avail Cap(c_a), veh/h	656	0	200	2185	718	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	19.7	5.3	13.0	13.0
Incr Delay (d2), s/veh	3.7	0.0	19.8	0.1	6.1	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.5	1.2	4.7	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.4	0.0	39.5	5.4	19.1	19.0
LnGrp LOS	C	A	D	A	B	B
Approach Vol, veh/h	295			990	1051	
Approach Delay, s/veh	20.4			10.9	19.0	
Approach LOS	C			B	B	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	30.8		14.8	9.6	21.2
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	28.0		18.0	5.1	18.4
Max Q Clear Time (g_c+I1), s	7.9		9.6	6.0	14.0
Green Ext Time (p_c), s	5.7		0.6	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	384	290	140	116	375	290	177	625	85	214	656	655
Future Volume (veh/h)	384	290	140	116	375	290	177	625	85	214	656	655
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	366	386	0	122	395	0	186	658	0	225	691	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	402	422		156	536		219	776		258	854	
Arrive On Green	0.23	0.23	0.00	0.19	0.19	0.00	0.12	0.22	0.00	0.15	0.24	0.00
Sat Flow, veh/h	1781	1870	1585	812	2795	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	366	386	0	275	242	0	186	658	0	225	691	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1830	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.4	16.5	0.0	11.7	10.5	0.0	8.4	14.6	0.0	10.1	15.0	0.0
Cycle Q Clear(g_c), s	16.4	16.5	0.0	11.7	10.5	0.0	8.4	14.6	0.0	10.1	15.0	0.0
Prop In Lane	1.00		1.00	0.44		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	402	422		351	341		219	776		258	854	
V/C Ratio(X)	0.91	0.92		0.78	0.71		0.85	0.85		0.87	0.81	
Avail Cap(c_a), veh/h	402	422		479	466		219	870		258	948	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.0	31.0	0.0	31.5	31.0	0.0	35.2	30.8	0.0	34.3	29.4	0.0
Incr Delay (d2), s/veh	24.6	24.4	0.0	5.8	3.1	0.0	25.5	7.2	0.0	25.9	4.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	9.9	0.0	5.5	4.6	0.0	5.0	6.5	0.0	6.0	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	55.4	0.0	37.4	34.1	0.0	60.7	38.0	0.0	60.3	34.3	0.0
LnGrp LOS	E	E		D	C		E	D		E	C	
Approach Vol, veh/h		752			517			844			916	
Approach Delay, s/veh		55.5			35.8			43.0			40.6	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.4	22.4		23.0	14.6	24.2		20.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.9	20.1		18.5	10.1	21.9		21.5
Max Q Clear Time (g_c+I1), s	12.1	16.6		18.5	10.4	17.0		13.7
Green Ext Time (p_c), s	0.0	1.3		0.0	0.0	1.8		1.8

Intersection Summary	
HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	30
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	102	14	19	5	14	25	35	241	7	22	438	160
Future Vol, veh/h	102	14	19	5	14	25	35	241	7	22	438	160
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.87	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	17	23	6	17	30	40	277	8	24	476	174
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.7	10.5	14.5	43.3
HCM LOS	B	B	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	76%	11%	4%
Vol Thru, %	85%	10%	32%	71%
Vol Right, %	2%	14%	57%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	283	135	44	620
LT Vol	35	102	5	22
Through Vol	241	14	14	438
RT Vol	7	19	25	160
Lane Flow Rate	325	167	54	674
Geometry Grp	1	1	1	1
Degree of Util (X)	0.509	0.307	0.1	0.942
Departure Headway (Hd)	5.63	6.625	6.712	5.033
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	638	538	537	714
Service Time	3.701	4.709	4.712	3.091
HCM Lane V/C Ratio	0.509	0.31	0.101	0.944
HCM Control Delay	14.5	12.7	10.5	43.3
HCM Lane LOS	B	B	B	E
HCM 95th-tile Q	2.9	1.3	0.3	13.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	458	282	654	484	711	393	356	731	492	371	65
Future Volume (veh/h)	64	458	282	654	484	711	393	356	731	492	371	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.95	1.00		0.97
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	526	324	667	494	0	427	387	795	523	395	69
Peak Hour Factor	0.87	0.87	0.87	0.98	0.98	0.98	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	705	531	673	636		496	434	1315	602	412	72
Arrive On Green	0.05	0.20	0.20	0.19	0.34	0.00	0.14	0.23	0.23	0.17	0.27	0.27
Sat Flow, veh/h	1781	3554	1563	3456	1870	2790	3563	1870	3006	3456	1543	270
Grp Volume(v), veh/h	74	526	324	667	494	0	427	387	795	523	0	464
Grp Sat Flow(s),veh/h/ln	1781	1777	1563	1728	1870	1395	1781	1870	1503	1728	0	1813
Q Serve(g_s), s	3.7	12.5	15.6	17.3	21.3	0.0	10.5	18.0	18.5	13.2	0.0	22.6
Cycle Q Clear(g_c), s	3.7	12.5	15.6	17.3	21.3	0.0	10.5	18.0	18.5	13.2	0.0	22.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	95	705	531	673	636		496	434	1315	602	0	484
V/C Ratio(X)	0.78	0.75	0.61	0.99	0.78		0.86	0.89	0.60	0.87	0.00	0.96
Avail Cap(c_a), veh/h	131	712	534	673	636		496	434	1315	658	0	484
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.0	33.9	24.9	36.1	26.6	0.0	37.8	33.4	20.1	36.1	0.0	32.4
Incr Delay (d2), s/veh	17.9	4.3	2.0	32.3	6.1	0.0	14.4	20.1	0.8	11.2	0.0	30.4
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	2.1	5.7	5.9	10.1	10.2	0.0	5.5	10.4	6.3	6.4	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	38.1	26.9	68.3	32.6	0.0	52.2	53.5	20.9	47.3	0.0	62.8
LnGrp LOS	E	D	C	E	C		D	D	C	D	A	E
Approach Vol, veh/h		924			1161			1609			987	
Approach Delay, s/veh		35.9			53.2			37.0			54.6	
Approach LOS		D			D			D			D	

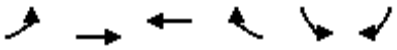
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	25.3	22.0	22.3	17.0	28.5	9.3	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	17.1	19.4	17.5	18.0	12.5	24.0	6.6	28.9
Max Q Clear Time (g_c+I1), s	15.2	20.5	19.3	17.6	12.5	24.6	5.7	23.3
Green Ext Time (p_c), s	0.4	0.0	0.0	0.2	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

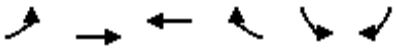
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1684	939	0	820	982
Future Volume (veh/h)	0	1684	939	0	820	982
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1773	1032	0	863	1034
Peak Hour Factor	0.95	0.95	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1688	2425	0	1296	1046
Arrive On Green	0.00	0.47	0.47	0.00	0.38	0.38
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1773	1032	0	863	1034
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	28.5	8.0	0.0	12.5	22.1
Cycle Q Clear(g_c), s	0.0	28.5	8.0	0.0	12.5	22.1
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1688	2425	0	1296	1046
V/C Ratio(X)	0.00	1.05	0.43	0.00	0.67	0.99
Avail Cap(c_a), veh/h	0	1688	2425	0	1296	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.7	10.4	0.0	15.6	18.6
Incr Delay (d2), s/veh	0.0	36.5	0.1	0.0	2.7	25.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.0	2.5	0.0	4.4	9.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	52.2	10.5	0.0	18.3	43.8
LnGrp LOS	A	F	B	A	B	D
Approach Vol, veh/h		1773	1032		1897	
Approach Delay, s/veh		52.2	10.5		32.2	
Approach LOS		D	B		C	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	33.0	27.0	33.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	22.5	28.5
Max Q Clear Time (g_c+I1), s	30.5	24.1	10.0
Green Ext Time (p_c), s	0.0	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	35.0
HCM 6th LOS	C

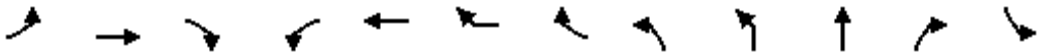


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	736	1772	950	15	0	0
Future Volume (veh/h)	736	1772	950	15	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	759	1827	1044	16		
Peak Hour Factor	0.97	0.97	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1024	3067	1539	24		
Arrive On Green	0.30	0.86	0.43	0.43		
Sat Flow, veh/h	3456	3647	3675	55		
Grp Volume(v), veh/h	759	1827	518	542		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1859		
Q Serve(g_s), s	6.5	4.8	7.7	7.7		
Cycle Q Clear(g_c), s	6.5	4.8	7.7	7.7		
Prop In Lane	1.00			0.03		
Lane Grp Cap(c), veh/h	1024	3067	764	799		
V/C Ratio(X)	0.74	0.60	0.68	0.68		
Avail Cap(c_a), veh/h	1313	3836	999	1046		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.4	0.6	7.5	7.5		
Incr Delay (d2), s/veh	1.7	0.2	1.2	1.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.1	2.0	2.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.1	0.8	8.7	8.7		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2586	1060			
Approach Delay, s/veh		4.1	8.7			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	32.9	14.3	18.6
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	12.5	18.5
Max Q Clear Time (g_c+I1), s	6.8	8.5	9.7
Green Ext Time (p_c), s	18.5	1.2	4.4

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	501	937	295	399	620	540	130	162	520	529	296	177
Future Volume (vph)	501	937	295	399	620	540	130	162	520	529	296	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1555	1770	3223	1421			3433	3539	1555	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1555	1770	3223	1421			3433	3539	1555	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	551	1030	324	443	689	600	144	178	571	581	325	190
RTOR Reduction (vph)	0	0	216	0	0	125	0	0	0	0	151	0
Lane Group Flow (vph)	551	1030	108	443	989	319	0	0	749	581	174	190
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.6	16.6	5.0
Effective Green, g (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.6	16.6	5.0
Actuated g/C Ratio	0.08	0.29	0.29	0.08	0.29	0.29			0.09	0.27	0.27	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	274	1017	447	141	926	408			301	938	412	141
v/s Ratio Prot	0.16	0.29		c0.25	c0.31				c0.22	0.16		0.11
v/s Ratio Perm			0.07			0.22					0.11	
v/c Ratio	2.01	1.01	0.24	3.14	1.07	0.78			2.49	0.62	0.42	1.35
Uniform Delay, d1	28.8	22.3	17.1	28.8	22.3	20.5			28.6	20.2	19.0	28.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	467.6	31.4	0.3	982.2	49.5	9.4			679.6	1.2	0.7	195.9
Delay (s)	496.4	53.7	17.4	1011.0	71.8	29.9			708.2	21.5	19.7	224.7
Level of Service	F	D	B	F	E	C			F	C	B	F
Approach Delay (s)		175.6			283.7					331.9		
Approach LOS		F			F					F		

Intersection Summary			
HCM 2000 Control Delay	228.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	62.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	372	176	222
Future Volume (vph)	372	176	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.95		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3355		1563
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3355		1563
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	400	189	239
RTOR Reduction (vph)	0	0	173
Lane Group Flow (vph)	589	0	66
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	16.1		16.1
Effective Green, g (s)	16.1		16.1
Actuated g/C Ratio	0.26		0.26
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	862		401
v/s Ratio Prot	c0.18		
v/s Ratio Perm			0.04
v/c Ratio	0.68		0.16
Uniform Delay, d1	21.0		18.0
Progression Factor	1.00		1.00
Incremental Delay, d2	2.3		0.2
Delay (s)	23.2		18.2
Level of Service	C		B
Approach Delay (s)	59.6		
Approach LOS	E		

Intersection Summary

Appendix F – Cumulative plus Project Alternative 1 Conditions Intersection Level of Service Worksheets

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	159	698	32	202	311
Future Vol, veh/h	9	159	698	32	202	311
Conflicting Peds, #/hr	5	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	218	767	35	224	346

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1569	772	0	0	805	0
Stage 1	770	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	122	400	-	-	819	-
Stage 1	457	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	88	398	-	-	817	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	320	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.9	0	4.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	88	398	817	-
HCM Lane V/C Ratio	-	-	0.14	0.547	0.275	-
HCM Control Delay (s)	-	-	52.5	24.4	11.1	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	0.5	3.2	1.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	210	9	2	157	14	0
Future Vol, veh/h	210	9	2	157	14	0
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	80	80	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	344	15	3	196	21	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	361	0	557	354
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	203	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1198	-	491	690
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1196	-	488	689
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	828	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	488	-	-	1196	-
HCM Lane V/C Ratio	0.043	-	-	0.002	-
HCM Control Delay (s)	12.7	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	8	0	9	11	23	114	0	4	36	7
Future Vol, veh/h	6	0	8	0	9	11	23	114	0	4	36	7
Conflicting Peds, #/hr	1	0	0	0	0	1	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	55	55	55	68	68	68	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	18	0	16	20	34	168	0	6	55	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	330	316	63	323	321	174	68	0	0	173	0	0
Stage 1	75	75	-	241	241	-	-	-	-	-	-	-
Stage 2	255	241	-	82	80	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	623	600	1002	630	596	869	1533	-	-	1404	-	-
Stage 1	934	833	-	762	706	-	-	-	-	-	-	-
Stage 2	749	706	-	926	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	581	578	1000	602	575	864	1530	-	-	1397	-	-
Mov Cap-2 Maneuver	581	578	-	602	575	-	-	-	-	-	-	-
Stage 1	909	828	-	739	685	-	-	-	-	-	-	-
Stage 2	696	685	-	906	823	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	10.4	1.2	0.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1530	-	-	764	705	1397	-	-
HCM Lane V/C Ratio	0.022	-	-	0.041	0.052	0.004	-	-
HCM Control Delay (s)	7.4	0	-	9.9	10.4	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.2	0	-	-

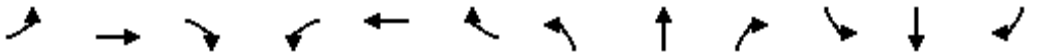
Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	156	49	125	0	6	39
Future Vol, veh/h	156	49	125	0	6	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	170	53	136	0	7	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	136	0	-	0	529	136
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1448	-	-	-	510	913
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	682	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1448	-	-	-	448	913
Mov Cap-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	682	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	802
HCM Lane V/C Ratio	0.117	-	-	-	0.061
HCM Control Delay (s)	7.8	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	583	174	53	388	552	147	581	131	427	312	236
Future Volume (veh/h)	324	583	174	53	388	552	147	581	131	427	312	236
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	381	686	0	58	422	0	160	632	0	480	351	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	1496		187	1167		504	1421		375	1421	
Arrive On Green	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	965	3741	0	220	2917	1585	1030	3647	0	795	3554	1585
Grp Volume(v), veh/h	381	686	0	242	238	0	160	632	0	480	351	0
Grp Sat Flow(s),veh/h/ln	965	1870	0	1520	1617	1585	1030	1777	0	795	1777	1585
Q Serve(g_s), s	13.3	6.1	0.0	0.1	4.7	0.0	5.5	5.8	0.0	12.2	3.0	0.0
Cycle Q Clear(g_c), s	18.0	6.1	0.0	6.1	4.7	0.0	8.5	5.8	0.0	18.0	3.0	0.0
Prop In Lane	1.00		0.00	0.24		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	446	1496		707	647		504	1421		375	1421	
V/C Ratio(X)	0.85	0.46		0.34	0.37		0.32	0.44		1.28	0.25	
Avail Cap(c_a), veh/h	446	1496		707	647		504	1421		375	1421	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.5	9.9	0.0	9.3	9.5	0.0	11.8	9.9	0.0	19.0	9.0	0.0
Incr Delay (d2), s/veh	14.9	0.2	0.0	0.3	0.3	0.0	0.4	0.2	0.0	145.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.9	0.0	1.3	1.3	0.0	1.0	1.6	0.0	18.6	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	10.1	0.0	9.6	9.8	0.0	12.2	10.1	0.0	164.4	9.1	0.0
LnGrp LOS	C	B		A	A		B	B		F	A	
Approach Vol, veh/h		1067			480			792			831	
Approach Delay, s/veh		18.1			9.7			10.5			98.8	
Approach LOS		B			A			B			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		10.5		20.0		20.0		8.1				
Green Ext Time (p_c), s		2.8		0.0		0.0		2.1				

Intersection Summary												
HCM 6th Ctrl Delay			36.1									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	769	153	114	544	49	600	54	462	163	168	4
Future Volume (veh/h)	130	769	153	114	544	49	600	54	462	163	168	4
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	884	0	134	640	50	701	0	274	172	177	1
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1094		164	994	78	781	0	348	176	182	311
Arrive On Green	0.10	0.31	0.00	0.09	0.30	0.30	0.22	0.00	0.22	0.20	0.20	0.20
Sat Flow, veh/h	1781	3647	0	1781	3340	261	3563	0	1585	900	926	1585
Grp Volume(v), veh/h	149	884	0	134	340	350	701	0	274	349	0	1
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1823	1781	0	1585	1825	0	1585
Q Serve(g_s), s	8.0	22.3	0.0	7.2	16.2	16.2	18.6	0.0	15.9	18.5	0.0	0.0
Cycle Q Clear(g_c), s	8.0	22.3	0.0	7.2	16.2	16.2	18.6	0.0	15.9	18.5	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.14	1.00		1.00	0.49		1.00
Lane Grp Cap(c), veh/h	182	1094		164	529	543	781	0	348	358	0	311
V/C Ratio(X)	0.82	0.81		0.82	0.64	0.64	0.90	0.00	0.79	0.98	0.00	0.00
Avail Cap(c_a), veh/h	269	1514		166	655	672	816	0	363	358	0	311
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.8	31.0	0.0	43.4	29.7	29.7	37.0	0.0	35.9	38.9	0.0	31.5
Incr Delay (d2), s/veh	11.8	2.3	0.0	26.1	1.5	1.5	12.4	0.0	10.7	40.8	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	9.6	0.0	4.3	6.9	7.1	9.0	0.0	7.0	12.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	33.4	0.0	69.6	31.2	31.2	49.3	0.0	46.6	79.7	0.0	31.5
LnGrp LOS	D	C		E	C	C	D	A	D	E	A	C
Approach Vol, veh/h		1033			824			975			350	
Approach Delay, s/veh		36.5			37.4			48.6			79.6	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	25.9	13.5	34.5	23.6	14.4	33.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.3	9.1	41.5	19.1	14.7	35.9
Max Q Clear Time (g_c+I1), s	20.6	9.2	24.3	20.5	10.0	18.2
Green Ext Time (p_c), s	0.7	0.0	5.7	0.0	0.1	3.9

Intersection Summary	
HCM 6th Ctrl Delay	45.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	460	970	206	912	0	0	0	0	604	2	383
Future Volume (veh/h)	0	460	970	206	912	0	0	0	0	604	2	383
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	500	0	224	991	0				787	0	278
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	896		383	1672	0				1120	0	498
Arrive On Green	0.00	0.25	0.00	0.11	0.47	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	500	0	224	991	0				787	0	278
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	5.1	0.0	2.6	8.6	0.0				8.1	0.0	6.1
Cycle Q Clear(g_c), s	0.0	5.1	0.0	2.6	8.6	0.0				8.1	0.0	6.1
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	896		383	1672	0				1120	0	498
V/C Ratio(X)	0.00	0.56		0.59	0.59	0.00				0.70	0.00	0.56
Avail Cap(c_a), veh/h	0	3017		901	4325	0				1712	0	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.6	0.0	17.7	8.1	0.0				12.6	0.0	11.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.4	0.3	0.0				0.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.7	0.0	0.9	2.2	0.0				2.3	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.2	0.0	19.1	8.5	0.0				13.4	0.0	12.9
LnGrp LOS	A	B		B	A	A				B	A	B
Approach Vol, veh/h		500			1215						1065	
Approach Delay, s/veh		14.2			10.4						13.3	
Approach LOS		B			B						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		9.1	15.0		17.6		24.2					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		10.9	35.5		20.1		50.9					
Max Q Clear Time (g_c+I1), s		4.6	7.1		10.1		10.6					
Green Ext Time (p_c), s		0.4	3.4		3.0		8.5					

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

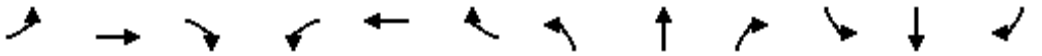
Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1396	0	234	1025	0	66
Future Vol, veh/h	1396	0	234	1025	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1517	0	254	1114	0	72

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	759
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	349
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	349
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	18
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	349	-	-
HCM Lane V/C Ratio	0.206	-	-
HCM Control Delay (s)	18	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	695	79	284	319	417	59	460	285	408	229	90
Future Volume (veh/h)	89	695	79	284	319	417	59	460	285	408	229	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	106	827	76	316	354	87	68	529	138	474	266	8
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.87	0.87	0.87	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	937	412	405	1083	482	371	778	323	656	344	290
Arrive On Green	0.08	0.26	0.26	0.12	0.30	0.30	0.21	0.21	0.21	0.18	0.18	0.18
Sat Flow, veh/h	1781	3554	1561	3456	3554	1582	1781	3741	1553	3563	1870	1572
Grp Volume(v), veh/h	106	827	76	316	354	87	68	529	138	474	266	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1561	1728	1777	1582	1781	1870	1553	1781	1870	1572
Q Serve(g_s), s	4.6	17.7	3.0	7.1	6.1	3.2	2.5	10.4	6.1	9.9	10.7	0.3
Cycle Q Clear(g_c), s	4.6	17.7	3.0	7.1	6.1	3.2	2.5	10.4	6.1	9.9	10.7	0.3
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	136	937	412	405	1083	482	371	778	323	656	344	290
V/C Ratio(X)	0.78	0.88	0.18	0.78	0.33	0.18	0.18	0.68	0.43	0.72	0.77	0.03
Avail Cap(c_a), veh/h	204	981	431	492	1083	482	691	1452	603	808	424	357
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	36.0	28.0	22.6	34.0	21.3	20.3	25.9	29.0	27.3	30.5	30.8	26.5
Incr Delay (d2), s/veh	10.5	9.3	0.2	6.5	0.2	0.2	0.2	1.1	0.9	2.5	6.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	8.3	1.1	3.2	2.4	1.1	1.1	4.6	2.2	4.4	5.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	37.3	22.8	40.5	21.5	20.5	26.1	30.0	28.2	32.9	37.7	26.6
LnGrp LOS	D	D	C	D	C	C	C	C	C	C	D	C
Approach Vol, veh/h		1009			757			735			748	
Approach Delay, s/veh		37.2			29.3			29.3			34.5	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		21.0	13.8	25.4		19.1	10.5	28.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.8	11.3	21.9		18.0	9.1	24.1				
Max Q Clear Time (g_c+I1), s		12.4	9.1	19.7		12.7	6.6	8.1				
Green Ext Time (p_c), s		4.1	0.3	1.2		1.7	0.0	2.2				

Intersection Summary												
HCM 6th Ctrl Delay			33.0									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	750	53	17	383	59	86	313	34	55	130	172
Future Volume (veh/h)	188	750	53	17	383	59	86	313	34	55	130	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	815	58	19	426	66	91	333	36	60	141	187
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1094	78	41	635	98	124	428	46	98	178	236
Arrive On Green	0.14	0.33	0.33	0.02	0.21	0.21	0.07	0.26	0.26	0.06	0.24	0.24
Sat Flow, veh/h	1781	3358	239	1781	3084	475	1781	1658	179	1781	728	966
Grp Volume(v), veh/h	204	431	442	19	244	248	91	0	369	60	0	328
Grp Sat Flow(s),veh/h/ln	1781	1777	1820	1781	1777	1782	1781	0	1838	1781	0	1694
Q Serve(g_s), s	5.9	11.5	11.5	0.6	6.7	6.8	2.7	0.0	9.9	1.8	0.0	9.7
Cycle Q Clear(g_c), s	5.9	11.5	11.5	0.6	6.7	6.8	2.7	0.0	9.9	1.8	0.0	9.7
Prop In Lane	1.00		0.13	1.00		0.27	1.00		0.10	1.00		0.57
Lane Grp Cap(c), veh/h	254	579	593	41	366	367	124	0	474	98	0	413
V/C Ratio(X)	0.80	0.75	0.75	0.46	0.67	0.68	0.74	0.00	0.78	0.61	0.00	0.79
Avail Cap(c_a), veh/h	318	751	769	167	600	602	184	0	666	174	0	604
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	16.0	16.0	25.7	19.5	19.5	24.3	0.0	18.3	24.6	0.0	18.9
Incr Delay (d2), s/veh	11.2	2.9	2.9	7.9	2.1	2.2	8.2	0.0	3.9	6.0	0.0	4.5
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	3.0	4.4	4.5	0.3	2.7	2.7	1.3	0.0	4.2	0.9	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	18.9	18.9	33.6	21.6	21.7	32.5	0.0	22.2	30.6	0.0	23.4
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1077			511			460			388	
Approach Delay, s/veh		21.6			22.1			24.2			24.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	18.2	5.7	21.8	8.2	17.5	12.1	15.5
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	5.3	19.3	5.0	22.5	5.5	19.0	9.5	18.0
Max Q Clear Time (g_c+I1), s	13.8	11.9	2.6	13.5	4.7	11.7	7.9	8.8
Green Ext Time (p_c), s	0.0	1.3	0.0	3.6	0.0	1.2	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	263	206	959	565	155
Future Volume (veh/h)	62	263	206	959	565	155
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	370	234	1090	628	172
Peak Hour Factor	0.71	0.71	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	97	414	247	1836	809	221
Arrive On Green	0.32	0.32	0.14	0.52	0.30	0.30
Sat Flow, veh/h	307	1304	1781	3647	2833	749
Grp Volume(v), veh/h	458	0	234	1090	407	393
Grp Sat Flow(s),veh/h/ln	1614	0	1781	1777	1777	1712
Q Serve(g_s), s	14.7	0.0	7.1	11.6	11.3	11.4
Cycle Q Clear(g_c), s	14.7	0.0	7.1	11.6	11.3	11.4
Prop In Lane	0.19	0.81	1.00			0.44
Lane Grp Cap(c), veh/h	512	0	247	1836	525	506
V/C Ratio(X)	0.89	0.00	0.95	0.59	0.78	0.78
Avail Cap(c_a), veh/h	581	0	247	2066	639	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	23.2	9.1	17.5	17.5
Incr Delay (d2), s/veh	15.1	0.0	43.3	0.4	4.9	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	5.6	3.4	4.7	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.7	0.0	66.5	9.5	22.3	22.6
LnGrp LOS	C	A	E	A	C	C
Approach Vol, veh/h	458			1324	800	
Approach Delay, s/veh	32.7			19.6	22.4	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		32.5		21.7	12.0	20.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		31.5		19.5	7.5	19.5
Max Q Clear Time (g_c+I1), s		13.6		16.7	9.1	13.4
Green Ext Time (p_c), s		7.4		0.5	0.0	2.5

Intersection Summary		
HCM 6th Ctrl Delay		22.8
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	721	433	170	71	178	323	112	963	107	293	502	330
Future Volume (veh/h)	721	433	170	71	178	323	112	963	107	293	502	330
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	594	654	0	83	207	0	129	1107	0	329	564	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	537	564		106	285		157	1149		195	1223	
Arrive On Green	0.30	0.30	0.00	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.34	0.00
Sat Flow, veh/h	1781	1870	1585	978	2620	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	594	654	0	155	135	0	129	1107	0	329	564	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1821	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	34.5	34.5	0.0	9.5	8.4	0.0	8.1	35.0	0.0	12.5	14.2	0.0
Cycle Q Clear(g_c), s	34.5	34.5	0.0	9.5	8.4	0.0	8.1	35.0	0.0	12.5	14.2	0.0
Prop In Lane	1.00		1.00	0.54		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	537	564		198	193		157	1149		195	1223	
V/C Ratio(X)	1.11	1.16		0.78	0.70		0.82	0.96		1.69	0.46	
Avail Cap(c_a), veh/h	537	564		286	279		247	1149		195	1223	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.0	40.0	0.0	49.7	49.2	0.0	51.3	38.1	0.0	51.0	29.3	0.0
Incr Delay (d2), s/veh	71.2	90.4	0.0	8.3	4.6	0.0	11.4	18.4	0.0	332.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.3	29.6	0.0	4.7	3.9	0.0	4.0	17.4	0.0	23.4	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.2	130.4	0.0	58.0	53.8	0.0	62.7	56.5	0.0	383.1	29.5	0.0
LnGrp LOS	F	F		E	D		E	E		F	C	
Approach Vol, veh/h		1248			290			1236			893	
Approach Delay, s/veh		121.2			56.0			57.1			159.8	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	41.5		39.0	14.6	43.9		16.9
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0
Max Q Clear Time (g_c+I1), s	14.5	37.0		36.5	10.1	16.2		11.5
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	3.2		0.8

Intersection Summary	
HCM 6th Ctrl Delay	103.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	29.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	167	17	17	11	23	56	24	430	5	24	237	87
Future Vol, veh/h	167	17	17	11	23	56	24	430	5	24	237	87
Peak Hour Factor	0.86	0.86	0.86	0.75	0.75	0.75	0.86	0.86	0.86	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	194	20	20	15	31	75	28	500	6	29	289	106
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.7	12.7	42.1	24.1
HCM LOS	C	B	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	83%	12%	7%
Vol Thru, %	94%	8%	26%	68%
Vol Right, %	1%	8%	62%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	459	201	90	348
LT Vol	24	167	11	24
Through Vol	430	17	23	237
RT Vol	5	17	56	87
Lane Flow Rate	534	234	120	424
Geometry Grp	1	1	1	1
Degree of Util (X)	0.904	0.47	0.245	0.727
Departure Headway (Hd)	6.097	7.236	7.339	6.169
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	592	495	492	581
Service Time	4.173	5.33	5.339	4.252
HCM Lane V/C Ratio	0.902	0.473	0.244	0.73
HCM Control Delay	42.1	16.7	12.7	24.1
HCM Lane LOS	E	C	B	C
HCM 95th-tile Q	11	2.5	1	6.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	461	254	489	273	198	247	162	488	143	199	15
Future Volume (veh/h)	66	461	254	489	273	198	247	162	488	143	199	15
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		0.99	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	480	265	569	317	0	284	186	561	177	246	19
Peak Hour Factor	0.96	0.96	0.96	0.86	0.86	0.86	0.87	0.87	0.87	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	786	511	591	625		363	403	1221	281	334	26
Arrive On Green	0.06	0.22	0.22	0.17	0.33	0.00	0.10	0.22	0.22	0.08	0.20	0.20
Sat Flow, veh/h	1781	3554	1579	3456	1870	2790	3563	1870	3148	3456	1712	132
Grp Volume(v), veh/h	69	480	265	569	317	0	284	186	561	177	0	265
Grp Sat Flow(s),veh/h/ln	1781	1777	1579	1728	1870	1395	1781	1870	1574	1728	0	1844
Q Serve(g_s), s	2.2	7.0	7.9	9.5	7.9	0.0	4.5	5.0	7.7	2.9	0.0	7.8
Cycle Q Clear(g_c), s	2.2	7.0	7.9	9.5	7.9	0.0	4.5	5.0	7.7	2.9	0.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	103	786	511	591	625		363	403	1221	281	0	360
V/C Ratio(X)	0.67	0.61	0.52	0.96	0.51		0.78	0.46	0.46	0.63	0.00	0.74
Avail Cap(c_a), veh/h	178	1105	652	591	714		363	614	1575	304	0	580
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	20.3	15.9	23.8	15.4	0.0	25.4	19.8	13.3	25.8	0.0	21.9
Incr Delay (d2), s/veh	7.3	0.8	0.8	27.9	0.6	0.0	10.6	0.8	0.3	3.7	0.0	3.0
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	2.8	2.7	5.9	3.1	0.0	2.3	2.1	2.4	1.3	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	21.1	16.8	51.7	16.1	0.0	36.0	20.6	13.5	29.4	0.0	24.9
LnGrp LOS	C	C	B	D	B		D	C	B	C	A	C
Approach Vol, veh/h		814			886			1031			442	
Approach Delay, s/veh		20.8			39.0			21.0			26.7	
Approach LOS		C			D			C			C	

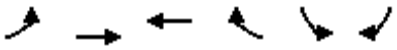
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	17.0	14.4	17.3	10.4	15.8	7.9	23.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	19.0	9.9	18.0	5.9	18.2	5.8	22.1
Max Q Clear Time (g_c+I1), s	4.9	9.7	11.5	9.9	6.5	9.8	4.2	9.9
Green Ext Time (p_c), s	0.0	2.5	0.0	2.6	0.0	0.9	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

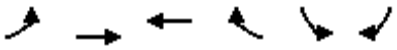
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1059	491	0	968	515
Future Volume (veh/h)	0	1059	491	0	968	515
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1246	552	0	1166	620
Peak Hour Factor	0.85	0.85	0.89	0.89	0.83	0.83
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1279	1838	0	1590	1283
Arrive On Green	0.00	0.36	0.36	0.00	0.46	0.46
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1246	552	0	1166	620
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	17.3	3.9	0.0	13.7	7.7
Cycle Q Clear(g_c), s	0.0	17.3	3.9	0.0	13.7	7.7
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1279	1838	0	1590	1283
V/C Ratio(X)	0.00	0.97	0.30	0.00	0.73	0.48
Avail Cap(c_a), veh/h	0	1279	1838	0	1590	1283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.8	11.5	0.0	11.0	9.4
Incr Delay (d2), s/veh	0.0	19.2	0.1	0.0	3.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.1	1.3	0.0	4.1	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	34.9	11.6	0.0	14.0	10.7
LnGrp LOS	A	C	B	A	B	B
Approach Vol, veh/h		1246	552		1786	
Approach Delay, s/veh		34.9	11.6		12.9	
Approach LOS		C	B		B	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	22.5	27.5	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	23.0	18.0
Max Q Clear Time (g_c+I1), s	19.3	15.7	5.9
Green Ext Time (p_c), s	0.0	4.3	3.0

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

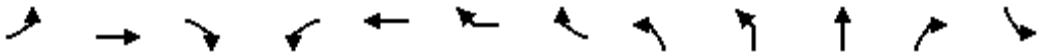


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	485	1549	489	4	0	0
Future Volume (veh/h)	485	1549	489	4	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	584	1866	604	5		
Peak Hour Factor	0.83	0.83	0.81	0.81		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	853	3027	1649	14		
Arrive On Green	0.25	0.85	0.46	0.46		
Sat Flow, veh/h	3456	3647	3705	30		
Grp Volume(v), veh/h	584	1866	297	312		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1865		
Q Serve(g_s), s	4.6	5.0	3.3	3.3		
Cycle Q Clear(g_c), s	4.6	5.0	3.3	3.3		
Prop In Lane	1.00			0.02		
Lane Grp Cap(c), veh/h	853	3027	811	852		
V/C Ratio(X)	0.68	0.62	0.37	0.37		
Avail Cap(c_a), veh/h	1196	4157	1200	1260		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.4	0.7	5.4	5.4		
Incr Delay (d2), s/veh	1.0	0.2	0.3	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.7	0.7		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.3	0.9	5.7	5.6		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2450	609			
Approach Delay, s/veh		3.4	5.7			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	30.3	12.0	18.4
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	10.5	20.5
Max Q Clear Time (g_c+I1), s	7.0	6.6	5.3
Green Ext Time (p_c), s	18.9	0.9	3.3

Intersection Summary	
HCM 6th Ctrl Delay	3.8
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	345	863	338	221	270	373	130	162	494	514	366	152
Future Volume (vph)	345	863	338	221	270	373	130	162	494	514	366	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	375	938	367	240	293	405	141	176	537	559	398	165
RTOR Reduction (vph)	0	0	233	0	0	125	0	0	0	0	157	0
Lane Group Flow (vph)	375	938	134	240	564	150	0	0	713	559	241	165
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.3	16.3	5.0
Effective Green, g (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.3	16.3	5.0
Actuated g/C Ratio	0.08	0.29	0.29	0.08	0.29	0.29			0.09	0.26	0.26	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	275	1022	457	142	908	416			303	925	414	142
v/s Ratio Prot	0.11	c0.27		c0.14	0.18				c0.21	c0.16		0.09
v/s Ratio Perm			0.08			0.10					0.15	
v/c Ratio	1.36	0.92	0.29	1.69	0.62	0.36			2.35	0.60	0.58	1.16
Uniform Delay, d1	28.6	21.4	17.2	28.6	19.2	17.6			28.4	20.2	20.0	28.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	185.3	12.6	0.4	339.0	1.3	0.5			619.1	1.1	2.1	125.6
Delay (s)	214.0	34.0	17.6	367.7	20.5	18.1			647.5	21.3	22.1	154.3
Level of Service	F	C	B	F	C	B			F	C	C	F
Approach Delay (s)		70.6			97.1					288.8		
Approach LOS		E			F					F		

Intersection Summary			
HCM 2000 Control Delay	140.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	333	106	222
Future Volume (vph)	333	106	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3411		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3411		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	362	115	241
RTOR Reduction (vph)	0	0	180
Lane Group Flow (vph)	477	0	61
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	15.8		15.8
Effective Green, g (s)	15.8		15.8
Actuated g/C Ratio	0.25		0.25
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	865		401
v/s Ratio Prot	0.14		
v/s Ratio Perm			0.04
v/c Ratio	0.55		0.15
Uniform Delay, d1	20.2		18.1
Progression Factor	1.00		1.00
Incremental Delay, d2	0.8		0.2
Delay (s)	20.9		18.2
Level of Service	C		B
Approach Delay (s)	45.1		
Approach LOS	D		

Intersection Summary

Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	208	485	22	203	741
Future Vol, veh/h	19	208	485	22	203	741
Conflicting Peds, #/hr	5	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	260	522	24	221	805

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1780	528	0	0	552	0
Stage 1	528	-	-	-	-	-
Stage 2	1252	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	90	550	-	-	1018	-
Stage 1	592	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	70	547	-	-	1012	-
Mov Cap-2 Maneuver	70	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	209	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.7	0	2.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	70	547	1012	-
HCM Lane V/C Ratio	-	-	0.339	0.475	0.218	-
HCM Control Delay (s)	-	-	80.8	17.4	9.5	-
HCM Lane LOS	-	-	F	C	A	-
HCM 95th %tile Q(veh)	-	-	1.3	2.5	0.8	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	179	10	2	217	0	4
Future Vol, veh/h	179	10	2	217	0	4
Conflicting Peds, #/hr	0	1	1	0	4	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	79	79	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	199	11	3	275	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	211	0	491	211
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	285	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1360	-	537	829
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1359	-	533	824
Mov Cap-2 Maneuver	-	-	-	-	533	-
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	758	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	824	-	-	1359	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Control Delay (s)	9.4	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	17	0	0	19	7	48	1	59	38	24
Future Vol, veh/h	1	1	17	0	0	19	7	48	1	59	38	24
Conflicting Peds, #/hr	0	0	1	1	0	0	5	0	2	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	50	50	50	84	84	84	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	21	0	0	38	8	57	1	66	43	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	287	270	63	277	283	60	75	0	0	60	0	0
Stage 1	194	194	-	76	76	-	-	-	-	-	-	-
Stage 2	93	76	-	201	207	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	665	636	1002	675	626	1005	1524	-	-	1544	-	-
Stage 1	808	740	-	933	832	-	-	-	-	-	-	-
Stage 2	914	832	-	801	731	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	612	600	996	632	591	1003	1517	-	-	1541	-	-
Mov Cap-2 Maneuver	612	600	-	632	591	-	-	-	-	-	-	-
Stage 1	800	703	-	926	826	-	-	-	-	-	-	-
Stage 2	875	826	-	747	694	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.7	0.9	3.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1517	-	-	933	1003	1541	-	-
HCM Lane V/C Ratio	0.005	-	-	0.025	0.038	0.043	-	-
HCM Control Delay (s)	7.4	0	-	9	8.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

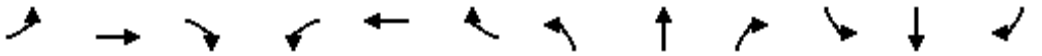
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	102	71	0	22	157
Future Vol, veh/h	70	102	71	0	22	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	76	111	77	0	24	171

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	340	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1522	-	-	-	656	984
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	781	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	-	-	621	984
Mov Cap-2 Maneuver	-	-	-	-	621	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1522	-	-	-	918
HCM Lane V/C Ratio	0.05	-	-	-	0.212
HCM Control Delay (s)	7.5	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	893	273	139	557	825	150	406	117	386	454	226
Future Volume (veh/h)	283	893	273	139	557	825	150	406	117	386	454	226
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	921	0	148	593	0	165	446	0	424	499	0
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1598		277	691		412	1454		437	1454	
Arrive On Green	0.43	0.43	0.00	0.43	0.43	0.00	0.41	0.41	0.00	0.41	0.41	0.00
Sat Flow, veh/h	824	3741	0	341	1617	1585	898	3647	0	943	3554	1585
Grp Volume(v), veh/h	292	921	0	148	593	0	165	446	0	424	499	0
Grp Sat Flow(s),veh/h/ln	824	1870	0	341	1617	1585	898	1777	0	943	1777	1585
Q Serve(g_s), s	5.3	10.3	0.0	13.2	18.2	0.0	8.5	4.7	0.0	17.8	5.3	0.0
Cycle Q Clear(g_c), s	23.5	10.3	0.0	23.5	18.2	0.0	13.8	4.7	0.0	22.5	5.3	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	1598		277	691		412	1454		437	1454	
V/C Ratio(X)	1.39	0.58		0.53	0.86		0.40	0.31		0.97	0.34	
Avail Cap(c_a), veh/h	210	1598		277	691		412	1454		437	1454	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.5	12.0	0.0	21.0	14.2	0.0	15.9	11.0	0.0	21.1	11.2	0.0
Incr Delay (d2), s/veh	203.2	0.5	0.0	2.0	10.5	0.0	0.6	0.1	0.0	35.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.4	3.6	0.0	1.8	7.3	0.0	1.5	1.5	0.0	9.3	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	229.7	12.5	0.0	23.0	24.8	0.0	16.6	11.1	0.0	56.5	11.3	0.0
LnGrp LOS	F	B		C	C		B	B		E	B	
Approach Vol, veh/h		1213			741			611			923	
Approach Delay, s/veh		64.8			24.4			12.6			32.1	
Approach LOS		E			C			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		15.8		25.5		24.5		25.5				
Green Ext Time (p_c), s		2.0		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	38.4	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	850	207	213	767	53	869	75	423	134	91	3
Future Volume (veh/h)	195	850	207	213	767	53	869	75	423	134	91	3
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		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	924	0	222	799	51	1004	0	209	147	100	0
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	1016		233	962	61	1065	0	474	154	105	226
Arrive On Green	0.13	0.29	0.00	0.13	0.28	0.28	0.30	0.00	0.30	0.14	0.14	0.00
Sat Flow, veh/h	1781	3647	0	1781	3391	216	3563	0	1585	1081	735	1585
Grp Volume(v), veh/h	212	924	0	222	419	431	1004	0	209	247	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1830	1781	0	1585	1816	0	1585
Q Serve(g_s), s	14.9	31.8	0.0	15.7	28.0	28.0	34.9	0.0	13.5	17.1	0.0	0.0
Cycle Q Clear(g_c), s	14.9	31.8	0.0	15.7	28.0	28.0	34.9	0.0	13.5	17.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		1.00	0.60		1.00
Lane Grp Cap(c), veh/h	237	1016		233	504	519	1065	0	474	259	0	226
V/C Ratio(X)	0.89	0.91		0.95	0.83	0.83	0.94	0.00	0.44	0.95	0.00	0.00
Avail Cap(c_a), veh/h	243	1078		233	529	545	1089	0	484	259	0	226
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.2	43.7	0.0	54.8	42.6	42.6	43.5	0.0	35.9	54.0	0.0	0.0
Incr Delay (d2), s/veh	31.2	10.9	0.0	45.8	10.3	10.1	15.4	0.0	0.6	43.2	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	15.3	0.0	10.0	13.6	14.0	17.1	0.0	5.3	11.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.3	54.6	0.0	100.6	52.9	52.7	58.8	0.0	36.6	97.2	0.0	0.0
LnGrp LOS	F	D		F	D	D	E	A	D	F	A	A
Approach Vol, veh/h		1136			1072			1213			247	
Approach Delay, s/veh		60.3			62.7			55.0			97.2	
Approach LOS		E			E			D			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	42.4	21.1	40.8	22.6	21.4	40.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.8	16.6	38.5	18.1	17.3	37.8
Max Q Clear Time (g_c+I1), s	36.9	17.7	33.8	19.1	16.9	30.0
Green Ext Time (p_c), s	1.0	0.0	2.5	0.0	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	61.7
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	599	754	180	1432	0	0	0	0	665	5	391
Future Volume (veh/h)	0	599	754	180	1432	0	0	0	0	665	5	391
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	697	0	188	1492	0				867	0	288
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1370		298	1950	0				1061	0	472
Arrive On Green	0.00	0.39	0.00	0.09	0.55	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	697	0	188	1492	0				867	0	288
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	8.8	0.0	3.1	19.1	0.0				13.2	0.0	9.1
Cycle Q Clear(g_c), s	0.0	8.8	0.0	3.1	19.1	0.0				13.2	0.0	9.1
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1370		298	1950	0				1061	0	472
V/C Ratio(X)	0.00	0.51		0.63	0.77	0.00				0.82	0.00	0.61
Avail Cap(c_a), veh/h	0	1607		560	2456	0				1246	0	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	0.0	25.9	10.3	0.0				19.1	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.2	1.1	0.0				3.8	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	3.0	0.0	1.3	5.8	0.0				5.1	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.1	0.0	28.1	11.4	0.0				22.9	0.0	19.1
LnGrp LOS	A	B		C	B	A				C	A	B
Approach Vol, veh/h		697			1680						1155	
Approach Delay, s/veh		14.1			13.3						21.9	
Approach LOS		B			B						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		9.6	27.1		21.9		36.6					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		9.5	26.5		20.5		40.5					
Max Q Clear Time (g_c+I1), s		5.1	10.8		15.2		21.1					
Green Ext Time (p_c), s		0.2	4.2		2.2		11.0					

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

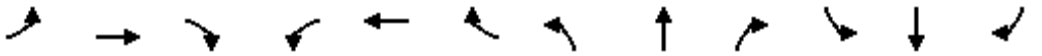
Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1144	0	104	1663	0	269
Future Vol, veh/h	1144	0	104	1663	0	269
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1243	0	113	1808	0	292

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	622
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	430
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	430
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	29.4
HCM LOS		D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	430	-	-
HCM Lane V/C Ratio	0.68	-	-
HCM Control Delay (s)	29.4	-	-
HCM Lane LOS	D	-	-
HCM 95th %tile Q(veh)	5	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	399	57	467	426	783	144	422	182	565	421	240
Future Volume (veh/h)	118	399	57	467	426	783	144	422	182	565	421	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.97	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	505	40	513	468	485	158	464	47	628	468	33
Peak Hour Factor	0.79	0.79	0.79	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	824	357	600	1115	492	307	644	265	763	401	331
Arrive On Green	0.09	0.23	0.23	0.17	0.31	0.31	0.17	0.17	0.17	0.21	0.21	0.21
Sat Flow, veh/h	1781	3554	1540	3456	3554	1567	1781	3741	1538	3563	1870	1547
Grp Volume(v), veh/h	149	505	40	513	468	485	158	464	47	628	468	33
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1777	1567	1781	1870	1538	1781	1870	1547
Q Serve(g_s), s	7.2	11.0	1.8	12.4	9.0	26.6	7.0	10.1	2.3	14.5	18.5	1.5
Cycle Q Clear(g_c), s	7.2	11.0	1.8	12.4	9.0	26.6	7.0	10.1	2.3	14.5	18.5	1.5
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	163	824	357	600	1115	492	307	644	265	763	401	331
V/C Ratio(X)	0.91	0.61	0.11	0.86	0.42	0.99	0.52	0.72	0.18	0.82	1.17	0.10
Avail Cap(c_a), veh/h	163	824	357	680	1115	492	382	801	329	763	401	331
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	38.9	29.7	26.2	34.6	23.4	29.4	32.5	33.8	30.5	32.4	33.9	27.2
Incr Delay (d2), s/veh	46.4	1.4	0.1	9.5	0.3	36.9	1.3	2.4	0.3	7.3	99.4	0.1
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	5.1	4.7	0.6	5.8	3.6	14.4	3.1	4.7	0.8	6.9	19.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.3	31.1	26.3	44.2	23.7	66.4	33.8	36.2	30.8	39.6	133.3	27.4
LnGrp LOS	F	C	C	D	C	E	C	D	C	D	F	C
Approach Vol, veh/h		694			1466			669			1129	
Approach Delay, s/veh		42.4			45.0			35.3			78.1	
Approach LOS		D			D			D			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.4	19.5	24.5		23.0	12.4	31.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	17.0	18.0		18.5	7.9	27.1				
Max Q Clear Time (g_c+I1), s		12.1	14.4	13.0		20.5	9.2	28.6				
Green Ext Time (p_c), s		2.0	0.5	1.5		0.0	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	465	99	69	645	133	42	183	34	40	192	241
Future Volume (veh/h)	158	465	99	69	645	133	42	183	34	40	192	241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	528	112	76	709	146	49	215	40	43	204	256
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	973	205	100	780	161	79	460	86	73	222	279
Arrive On Green	0.12	0.33	0.33	0.06	0.27	0.27	0.04	0.30	0.30	0.04	0.30	0.30
Sat Flow, veh/h	1781	2914	615	1781	2928	603	1781	1529	284	1781	746	936
Grp Volume(v), veh/h	180	321	319	76	430	425	49	0	255	43	0	460
Grp Sat Flow(s),veh/h/ln	1781	1777	1753	1781	1777	1754	1781	0	1813	1781	0	1682
Q Serve(g_s), s	6.6	9.9	10.0	2.8	15.8	15.8	1.8	0.0	7.7	1.6	0.0	17.8
Cycle Q Clear(g_c), s	6.6	9.9	10.0	2.8	15.8	15.8	1.8	0.0	7.7	1.6	0.0	17.8
Prop In Lane	1.00		0.35	1.00		0.34	1.00		0.16	1.00		0.56
Lane Grp Cap(c), veh/h	221	593	585	100	473	467	79	0	546	73	0	501
V/C Ratio(X)	0.82	0.54	0.55	0.76	0.91	0.91	0.62	0.00	0.47	0.59	0.00	0.92
Avail Cap(c_a), veh/h	225	593	585	191	476	469	132	0	550	135	0	513
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.7	18.2	18.2	31.3	23.9	23.9	31.6	0.0	19.1	31.7	0.0	22.8
Incr Delay (d2), s/veh	20.0	1.0	1.1	11.0	21.2	21.6	7.6	0.0	0.6	7.3	0.0	21.5
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	8.9	3.8	3.8	1.5	8.8	8.7	0.9	0.0	3.1	0.8	0.0	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	19.2	19.3	42.2	45.1	45.4	39.1	0.0	19.7	39.0	0.0	44.3
LnGrp LOS	D	B	B	D	D	D	D	A	B	D	A	D
Approach Vol, veh/h		820			931			304			503	
Approach Delay, s/veh		25.7			45.0			22.9			43.9	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	24.7	8.3	26.9	7.5	24.5	12.8	22.4
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	5.1	20.4	7.2	19.3	5.0	20.5	8.5	18.0
Max Q Clear Time (g_c+I1), s	3.6	9.7	4.8	12.0	3.8	19.8	8.6	17.8
Green Ext Time (p_c), s	0.0	1.0	0.0	2.3	0.0	0.2	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	101	131	148	805	922	108
Future Volume (veh/h)	101	131	148	805	922	108
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	166	159	866	1013	119
Peak Hour Factor	0.79	0.79	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	162	210	196	2067	1199	141
Arrive On Green	0.22	0.22	0.11	0.58	0.37	0.37
Sat Flow, veh/h	720	933	1781	3647	3293	376
Grp Volume(v), veh/h	295	0	159	866	562	570
Grp Sat Flow(s),veh/h/ln	1659	0	1781	1777	1777	1798
Q Serve(g_s), s	7.8	0.0	4.1	6.3	13.4	13.5
Cycle Q Clear(g_c), s	7.8	0.0	4.1	6.3	13.4	13.5
Prop In Lane	0.43	0.56	1.00			0.21
Lane Grp Cap(c), veh/h	372	0	196	2067	666	674
V/C Ratio(X)	0.79	0.00	0.81	0.42	0.84	0.85
Avail Cap(c_a), veh/h	643	0	196	2143	704	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	20.2	5.4	13.3	13.3
Incr Delay (d2), s/veh	3.8	0.0	22.3	0.1	8.9	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	2.7	1.3	5.7	5.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.8	0.0	42.5	5.5	22.2	22.1
LnGrp LOS	C	A	D	A	C	C
Approach Vol, veh/h	295			1025	1132	
Approach Delay, s/veh	20.8			11.2	22.2	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		31.5		14.9	9.6	21.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		28.0		18.0	5.1	18.4
Max Q Clear Time (g_c+I1), s		8.3		9.8	6.1	15.5
Green Ext Time (p_c), s		5.9		0.6	0.0	1.9

Intersection Summary		
HCM 6th Ctrl Delay		17.4
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	384	290	140	153	375	327	177	625	101	230	656	655
Future Volume (veh/h)	384	290	140	153	375	327	177	625	101	230	656	655
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	366	386	0	161	395	0	186	658	0	242	691	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	396	416		200	524		216	772		255	848	
Arrive On Green	0.22	0.22	0.00	0.20	0.20	0.00	0.12	0.22	0.00	0.14	0.24	0.00
Sat Flow, veh/h	1781	1870	1585	993	2604	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	366	386	0	295	261	0	186	658	0	242	691	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1821	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.7	16.8	0.0	12.9	11.4	0.0	8.5	14.8	0.0	11.2	15.3	0.0
Cycle Q Clear(g_c), s	16.7	16.8	0.0	12.9	11.4	0.0	8.5	14.8	0.0	11.2	15.3	0.0
Prop In Lane	1.00		1.00	0.55		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	416		366	358		216	772		255	848	
V/C Ratio(X)	0.92	0.93		0.81	0.73		0.86	0.85		0.95	0.81	
Avail Cap(c_a), veh/h	396	416		470	459		216	858		255	935	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.7	31.7	0.0	31.7	31.1	0.0	35.9	31.3	0.0	35.4	29.9	0.0
Incr Delay (d2), s/veh	27.2	27.1	0.0	7.8	4.2	0.0	27.8	7.7	0.0	42.7	5.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	10.4	0.0	6.2	5.1	0.0	5.1	6.7	0.0	7.6	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	58.8	0.0	39.5	35.4	0.0	63.6	39.0	0.0	78.1	35.1	0.0
LnGrp LOS	E	E		D	D		E	D		E	D	
Approach Vol, veh/h		752			556			844			933	
Approach Delay, s/veh		58.8			37.5			44.4			46.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.4	22.6		23.0	14.6	24.4		21.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.9	20.1		18.5	10.1	21.9		21.5
Max Q Clear Time (g_c+I1), s	13.2	16.8		18.8	10.5	17.3		14.9
Green Ext Time (p_c), s	0.0	1.3		0.0	0.0	1.8		1.8

Intersection Summary	
HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	33
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	102	14	19	24	14	25	35	241	15	22	438	160
Future Vol, veh/h	102	14	19	24	14	25	35	241	15	22	438	160
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.87	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	17	23	29	17	30	40	277	17	24	476	174
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.1	11.2	15.6	49
HCM LOS	B	B	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	76%	38%	4%
Vol Thru, %	83%	10%	22%	71%
Vol Right, %	5%	14%	40%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	291	135	63	620
LT Vol	35	102	24	22
Through Vol	241	14	14	438
RT Vol	15	19	25	160
Lane Flow Rate	334	167	77	674
Geometry Grp	1	1	1	1
Degree of Util (X)	0.544	0.318	0.149	0.966
Departure Headway (Hd)	5.855	6.878	6.976	5.162
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	525	516	694
Service Time	3.855	4.898	5	3.256
HCM Lane V/C Ratio	0.54	0.318	0.149	0.971
HCM Control Delay	15.6	13.1	11.2	49
HCM Lane LOS	C	B	B	E
HCM 95th-tile Q	3.3	1.4	0.5	14.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	458	282	667	484	711	393	356	744	492	371	65
Future Volume (veh/h)	64	458	282	667	484	711	393	356	744	492	371	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.95	1.00		0.97
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	526	324	681	494	0	427	387	809	523	395	69
Peak Hour Factor	0.87	0.87	0.87	0.98	0.98	0.98	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	705	531	673	636		496	434	1315	602	412	72
Arrive On Green	0.05	0.20	0.20	0.19	0.34	0.00	0.14	0.23	0.23	0.17	0.27	0.27
Sat Flow, veh/h	1781	3554	1563	3456	1870	2790	3563	1870	3006	3456	1543	270
Grp Volume(v), veh/h	74	526	324	681	494	0	427	387	809	523	0	464
Grp Sat Flow(s),veh/h/ln	1781	1777	1563	1728	1870	1395	1781	1870	1503	1728	0	1813
Q Serve(g_s), s	3.7	12.5	15.6	17.5	21.3	0.0	10.5	18.0	19.0	13.2	0.0	22.6
Cycle Q Clear(g_c), s	3.7	12.5	15.6	17.5	21.3	0.0	10.5	18.0	19.0	13.2	0.0	22.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	95	705	531	673	636		496	434	1315	602	0	484
V/C Ratio(X)	0.78	0.75	0.61	1.01	0.78		0.86	0.89	0.62	0.87	0.00	0.96
Avail Cap(c_a), veh/h	131	712	534	673	636		496	434	1315	658	0	484
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.0	33.9	24.9	36.2	26.6	0.0	37.8	33.4	20.2	36.1	0.0	32.4
Incr Delay (d2), s/veh	17.9	4.3	2.0	37.6	6.1	0.0	14.4	20.1	0.9	11.2	0.0	30.4
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	2.1	5.7	5.9	10.7	10.2	0.0	5.5	10.4	6.5	6.4	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	38.1	26.9	73.8	32.6	0.0	52.2	53.5	21.1	47.3	0.0	62.8
LnGrp LOS	E	D	C	F	C		D	D	C	D	A	E
Approach Vol, veh/h		924			1175			1623			987	
Approach Delay, s/veh		35.9			56.5			37.0			54.6	
Approach LOS		D			E			D			D	

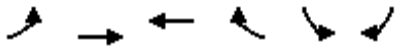
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.2	25.3	22.0	22.3	17.0	28.5	9.3	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	17.1	19.4	17.5	18.0	12.5	24.0	6.6	28.9
Max Q Clear Time (g_c+I1), s	15.2	21.0	19.5	17.6	12.5	24.6	5.7	23.3
Green Ext Time (p_c), s	0.4	0.0	0.0	0.2	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

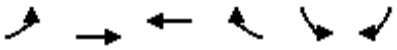
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1714	947	0	820	987
Future Volume (veh/h)	0	1714	947	0	820	987
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1804	1041	0	863	1039
Peak Hour Factor	0.95	0.95	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1688	2425	0	1296	1046
Arrive On Green	0.00	0.47	0.47	0.00	0.38	0.38
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1804	1041	0	863	1039
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	28.5	8.1	0.0	12.5	22.3
Cycle Q Clear(g_c), s	0.0	28.5	8.1	0.0	12.5	22.3
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1688	2425	0	1296	1046
V/C Ratio(X)	0.00	1.07	0.43	0.00	0.67	0.99
Avail Cap(c_a), veh/h	0	1688	2425	0	1296	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.7	10.4	0.0	15.6	18.7
Incr Delay (d2), s/veh	0.0	42.9	0.1	0.0	2.7	26.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.5	2.6	0.0	4.4	9.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	58.6	10.5	0.0	18.3	44.9
LnGrp LOS	A	F	B	A	B	D
Approach Vol, veh/h		1804	1041		1902	
Approach Delay, s/veh		58.6	10.5		32.9	
Approach LOS		E	B		C	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	33.0	27.0	33.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	22.5	28.5
Max Q Clear Time (g_c+I1), s	30.5	24.3	10.1
Green Ext Time (p_c), s	0.0	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

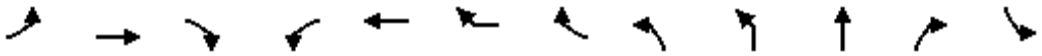


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	747	1791	958	15	0	0
Future Volume (veh/h)	747	1791	958	15	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	770	1846	1053	16		
Peak Hour Factor	0.97	0.97	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1031	3071	1541	23		
Arrive On Green	0.30	0.86	0.43	0.43		
Sat Flow, veh/h	3456	3647	3675	54		
Grp Volume(v), veh/h	770	1846	522	547		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1859		
Q Serve(g_s), s	6.7	4.9	7.9	7.9		
Cycle Q Clear(g_c), s	6.7	4.9	7.9	7.9		
Prop In Lane	1.00			0.03		
Lane Grp Cap(c), veh/h	1031	3071	765	800		
V/C Ratio(X)	0.75	0.60	0.68	0.68		
Avail Cap(c_a), veh/h	1302	3804	991	1037		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	0.6	7.6	7.6		
Incr Delay (d2), s/veh	1.8	0.2	1.3	1.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.1	2.0	2.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.3	0.8	8.9	8.9		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2616	1069			
Approach Delay, s/veh		4.2	8.9			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	33.2	14.4	18.8
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	12.5	18.5
Max Q Clear Time (g_c+I1), s	6.9	8.7	9.9
Green Ext Time (p_c), s	18.7	1.2	4.4

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	520	937	295	399	620	540	130	162	520	529	296	177
Future Volume (vph)	520	937	295	399	620	540	130	162	520	529	296	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1555	1770	3223	1421			3433	3539	1555	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1555	1770	3223	1421			3433	3539	1555	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	571	1030	324	443	689	600	144	178	571	581	325	190
RTOR Reduction (vph)	0	0	216	0	0	125	0	0	0	0	151	0
Lane Group Flow (vph)	571	1030	108	443	989	319	0	0	749	581	174	190
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.7	16.7	5.0
Effective Green, g (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.7	16.7	5.0
Actuated g/C Ratio	0.08	0.29	0.29	0.08	0.29	0.29			0.09	0.27	0.27	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	273	1015	446	141	925	407			301	942	414	141
v/s Ratio Prot	0.17	0.29		c0.25	c0.31				c0.22	0.16		0.11
v/s Ratio Perm			0.07			0.22					0.11	
v/c Ratio	2.09	1.01	0.24	3.14	1.07	0.78			2.49	0.62	0.42	1.35
Uniform Delay, d1	28.9	22.4	17.1	28.9	22.4	20.6			28.6	20.2	19.0	28.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	503.5	32.0	0.3	982.2	49.9	9.5			679.6	1.2	0.7	195.9
Delay (s)	532.4	54.3	17.4	1011.1	72.2	30.0			708.2	21.4	19.7	224.7
Level of Service	F	D	B	F	E	C			F	C	B	F
Approach Delay (s)		189.9			283.9					331.9		
Approach LOS		F			F					F		

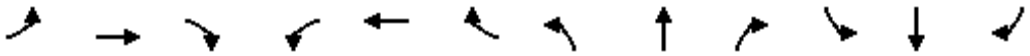
Intersection Summary			
HCM 2000 Control Delay	232.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	62.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	372	184	222
Future Volume (vph)	372	184	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.95		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3349		1563
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3349		1563
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	400	198	239
RTOR Reduction (vph)	0	0	173
Lane Group Flow (vph)	598	0	66
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	16.2		16.2
Effective Green, g (s)	16.2		16.2
Actuated g/C Ratio	0.26		0.26
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	865		403
v/s Ratio Prot	c0.18		
v/s Ratio Perm			0.04
v/c Ratio	0.69		0.16
Uniform Delay, d1	21.0		18.0
Progression Factor	1.00		1.00
Incremental Delay, d2	2.4		0.2
Delay (s)	23.4		18.2
Level of Service	C		B
Approach Delay (s)	59.4		
Approach LOS	E		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	769	153	114	544	49	600	54	462	163	168	4
Future Volume (veh/h)	130	769	153	114	544	49	600	54	462	163	168	4
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	884	0	134	640	50	701	0	274	172	177	1
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	1150		167	1045	82	832	0	370	232	242	1
Arrive On Green	0.10	0.32	0.00	0.09	0.31	0.31	0.23	0.00	0.23	0.13	0.13	0.13
Sat Flow, veh/h	1781	3647	0	1781	3340	261	3563	0	1585	1781	1858	10
Grp Volume(v), veh/h	149	884	0	134	340	350	701	0	274	172	0	178
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1823	1781	0	1585	1781	0	1868
Q Serve(g_s), s	6.7	18.4	0.0	6.1	13.4	13.4	15.4	0.0	13.2	7.6	0.0	7.5
Cycle Q Clear(g_c), s	6.7	18.4	0.0	6.1	13.4	13.4	15.4	0.0	13.2	7.6	0.0	7.5
Prop In Lane	1.00		0.00	1.00		0.14	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	186	1150		167	556	570	832	0	370	232	0	243
V/C Ratio(X)	0.80	0.77		0.80	0.61	0.61	0.84	0.00	0.74	0.74	0.00	0.73
Avail Cap(c_a), veh/h	318	1793		197	776	796	966	0	430	414	0	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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	25.0	0.0	36.5	24.0	24.0	30.1	0.0	29.2	34.4	0.0	34.4
Incr Delay (d2), s/veh	7.7	1.1	0.0	18.1	1.1	1.1	6.1	0.0	5.7	4.6	0.0	4.2
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	3.2	7.4	0.0	3.4	5.5	5.6	6.8	0.0	5.4	3.6	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	26.2	0.0	54.6	25.1	25.1	36.2	0.0	34.9	39.0	0.0	38.6
LnGrp LOS	D	C		D	C	C	D	A	C	D	A	D
Approach Vol, veh/h		1033			824			975			350	
Approach Delay, s/veh		28.7			29.9			35.8			38.8	
Approach LOS		C			C			D			D	

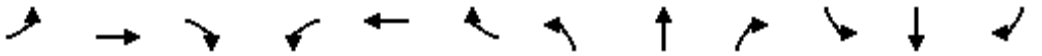
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	23.7	12.2	31.1	15.2	13.1	30.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.3	9.1	41.5	19.1	14.7	35.9
Max Q Clear Time (g_c+I1), s	17.4	8.1	20.4	9.6	8.7	15.4
Green Ext Time (p_c), s	1.8	0.0	6.2	1.1	0.2	4.1

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	721	433	170	71	178	323	112	963	107	293	502	330
Future Volume (veh/h)	721	433	170	71	178	323	112	963	107	293	502	330
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	455	850	175	83	207	0	129	1107	0	329	564	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	903	186	106	285		157	1151		195	1226	
Arrive On Green	0.30	0.30	0.30	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.35	0.00
Sat Flow, veh/h	1781	3008	619	978	2620	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	455	528	497	155	135	0	129	1107	0	329	564	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1757	1821	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	27.4	31.5	31.5	9.4	8.4	0.0	8.1	34.9	0.0	12.5	14.1	0.0
Cycle Q Clear(g_c), s	27.4	31.5	31.5	9.4	8.4	0.0	8.1	34.9	0.0	12.5	14.1	0.0
Prop In Lane	1.00		0.35	0.54		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	534	561	527	198	193		157	1151		195	1226	
V/C Ratio(X)	0.85	0.94	0.94	0.78	0.70		0.82	0.96		1.69	0.46	
Avail Cap(c_a), veh/h	538	565	531	287	280		248	1152		195	1226	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.6	39.0	39.0	49.5	49.1	0.0	51.1	37.9	0.0	50.8	29.1	0.0
Incr Delay (d2), s/veh	12.3	24.2	25.3	8.2	4.5	0.0	11.3	18.0	0.0	330.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	17.8	16.9	4.7	3.9	0.0	4.0	17.2	0.0	23.3	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	63.2	64.2	57.7	53.6	0.0	62.4	55.9	0.0	380.9	29.4	0.0
LnGrp LOS	D	E	E	E	D		E	E		F	C	
Approach Vol, veh/h		1480			290			1236			893	
Approach Delay, s/veh		59.5			55.8			56.6			158.9	
Approach LOS		E			E			E			F	

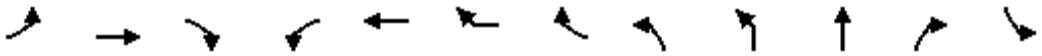
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.0	41.5		38.7	14.6	43.9		16.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0				
Max Q Clear Time (g_c+I1), s	14.5	36.9		33.5	10.1	16.1		11.4				
Green Ext Time (p_c), s	0.0	0.1		0.8	0.1	3.2		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		81.0	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	345	863	338	221	270	373	130	162	494	514	366	152
Future Volume (vph)	345	863	338	221	270	373	130	162	494	514	366	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	375	938	367	240	293	405	141	176	537	559	398	165
RTOR Reduction (vph)	0	0	273	0	0	136	0	0	0	0	250	0
Lane Group Flow (vph)	375	938	94	240	564	139	0	0	713	559	148	165
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	12.3	22.5	22.5	12.0	22.2	22.2			17.8	23.9	23.9	11.1
Effective Green, g (s)	12.3	22.5	22.5	12.0	22.2	22.2			17.8	23.9	23.9	11.1
Actuated g/C Ratio	0.14	0.26	0.26	0.14	0.25	0.25			0.20	0.27	0.27	0.13
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	482	910	407	242	798	365			698	966	432	224
v/s Ratio Prot	0.11	c0.27		c0.14	0.18				c0.21	0.16		0.09
v/s Ratio Perm			0.06			0.10					0.09	
v/c Ratio	0.78	1.03	0.23	0.99	0.71	0.38			1.02	0.58	0.34	0.74
Uniform Delay, d1	36.3	32.5	25.7	37.7	29.7	27.0			34.9	27.5	25.5	36.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	7.7	38.0	0.3	55.3	2.9	0.7			39.6	0.8	0.5	11.9
Delay (s)	44.0	70.5	26.0	93.0	32.6	27.6			74.5	28.3	26.0	48.7
Level of Service	D	E	C	F	C	C			E	C	C	D
Approach Delay (s)		54.9			44.8					47.5		
Approach LOS		D			D					D		

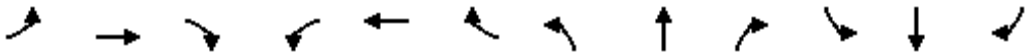
Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	87.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	333	106	222
Future Volume (vph)	333	106	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.96		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3411		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3411		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	362	115	241
RTOR Reduction (vph)	0	0	194
Lane Group Flow (vph)	477	0	47
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	17.2		17.2
Effective Green, g (s)	17.2		17.2
Actuated g/C Ratio	0.20		0.20
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	670		311
v/s Ratio Prot	c0.14		
v/s Ratio Perm			0.03
v/c Ratio	0.71		0.15
Uniform Delay, d1	32.8		29.1
Progression Factor	1.00		1.00
Incremental Delay, d2	3.6		0.2
Delay (s)	36.4		29.3
Level of Service	D		C
Approach Delay (s)	36.8		
Approach LOS	D		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	850	207	213	767	53	869	75	423	134	91	3
Future Volume (veh/h)	195	850	207	213	767	53	869	75	423	134	91	3
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	924	0	222	799	51	1004	0	209	147	100	0
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1051		249	1019	65	1098	0	489	182	191	0
Arrive On Green	0.13	0.30	0.00	0.14	0.30	0.30	0.31	0.00	0.31	0.10	0.10	0.00
Sat Flow, veh/h	1781	3647	0	1781	3391	216	3563	0	1585	1781	1870	0
Grp Volume(v), veh/h	212	924	0	222	419	431	1004	0	209	147	100	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1830	1781	0	1585	1781	1870	0
Q Serve(g_s), s	13.6	28.9	0.0	14.3	25.2	25.2	31.7	0.0	12.3	9.4	5.9	0.0
Cycle Q Clear(g_c), s	13.6	28.9	0.0	14.3	25.2	25.2	31.7	0.0	12.3	9.4	5.9	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	240	1051		249	534	550	1098	0	489	182	191	0
V/C Ratio(X)	0.88	0.88		0.89	0.78	0.78	0.91	0.00	0.43	0.81	0.52	0.00
Avail Cap(c_a), veh/h	264	1172		253	575	593	1184	0	527	276	290	0
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.6	39.1	0.0	49.4	37.4	37.4	38.9	0.0	32.2	51.3	49.7	0.0
Incr Delay (d2), s/veh	26.2	7.4	0.0	29.9	6.6	6.4	10.5	0.0	0.6	9.9	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	13.4	0.0	8.4	11.7	12.0	14.8	0.0	4.7	4.7	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.8	46.5	0.0	79.2	43.9	43.8	49.4	0.0	32.8	61.2	51.9	0.0
LnGrp LOS	E	D		E	D	D	D	A	C	E	D	A
Approach Vol, veh/h		1136			1072			1213			247	
Approach Delay, s/veh		52.0			51.2			46.5			57.4	
Approach LOS		D			D			D			E	

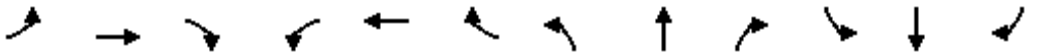
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		40.5	20.8	39.0		16.4	20.2	39.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		38.8	16.6	38.5		18.1	17.3	37.8				
Max Q Clear Time (g_c+I1), s		33.7	16.3	30.9		11.4	15.6	27.2				
Green Ext Time (p_c), s		2.3	0.0	3.6		0.5	0.1	3.8				

Intersection Summary	
HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	384	290	140	153	375	327	177	625	101	230	656	655
Future Volume (veh/h)	384	290	140	153	375	327	177	625	101	230	656	655
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	295	486	152	161	395	0	186	658	0	242	691	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	579	180	201	528		220	778		260	856	
Arrive On Green	0.21	0.21	0.21	0.20	0.20	0.00	0.12	0.22	0.00	0.15	0.24	0.00
Sat Flow, veh/h	1781	2730	848	993	2604	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	295	332	306	295	261	0	186	658	0	242	691	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1708	1821	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.8	13.9	14.0	12.6	11.2	0.0	8.3	14.5	0.0	11.0	15.0	0.0
Cycle Q Clear(g_c), s	12.8	13.9	14.0	12.6	11.2	0.0	8.3	14.5	0.0	11.0	15.0	0.0
Prop In Lane	1.00		0.50	0.55		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	378	397	362	369	360		220	778		260	856	
V/C Ratio(X)	0.78	0.84	0.85	0.80	0.72		0.84	0.85		0.93	0.81	
Avail Cap(c_a), veh/h	404	424	387	480	468		220	875		260	954	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.4	30.8	30.9	31.0	30.4	0.0	35.0	30.6	0.0	34.4	29.2	0.0
Incr Delay (d2), s/veh	9.0	13.0	15.0	7.2	3.9	0.0	24.6	7.1	0.0	37.8	4.7	0.0
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	6.2	7.4	7.0	6.0	5.0	0.0	4.9	6.5	0.0	7.2	6.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	43.8	45.9	38.1	34.3	0.0	59.6	37.6	0.0	72.2	33.9	0.0
LnGrp LOS	D	D	D	D	C		E	D		E	C	
Approach Vol, veh/h		933			556			844			933	
Approach Delay, s/veh		43.1			36.3			42.5			43.9	
Approach LOS		D			D			D			D	

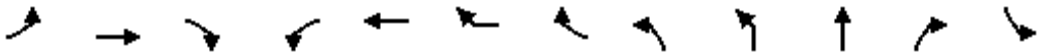
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.4	22.4		21.8	14.6	24.2		21.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	11.9	20.1		18.5	10.1	21.9		21.5				
Max Q Clear Time (g_c+I1), s	13.0	16.5		16.0	10.3	17.0		14.6				
Green Ext Time (p_c), s	0.0	1.4		1.2	0.0	1.9		1.8				

Intersection Summary			
HCM 6th Ctrl Delay		42.0	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	520	937	295	399	620	540	130	162	520	529	296	177
Future Volume (vph)	520	937	295	399	620	540	130	162	520	529	296	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1546	1770	3223	1422			3433	3539	1544	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1546	1770	3223	1422			3433	3539	1544	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	571	1030	324	443	689	600	144	178	571	581	325	190
RTOR Reduction (vph)	0	0	162	0	0	86	0	0	0	0	134	0
Lane Group Flow (vph)	571	1030	162	443	989	358	0	0	749	581	191	190
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	22.6	34.5	34.5	29.5	41.4	41.4			25.5	31.1	31.1	16.9
Effective Green, g (s)	22.6	34.5	34.5	29.5	41.4	41.4			25.5	31.1	31.1	16.9
Actuated g/C Ratio	0.17	0.27	0.27	0.23	0.32	0.32			0.20	0.24	0.24	0.13
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	596	939	410	401	1026	452			673	846	369	230
v/s Ratio Prot	0.17	c0.29		c0.25	0.31				c0.22	0.16		0.11
v/s Ratio Perm			0.10			0.25					0.12	
v/c Ratio	0.96	1.10	0.39	1.10	0.96	0.79			1.11	0.69	0.52	0.83
Uniform Delay, d1	53.2	47.8	39.2	50.2	43.6	40.4			52.2	45.0	42.9	55.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	26.4	59.5	0.6	76.4	19.8	9.2			70.0	2.3	1.2	20.9
Delay (s)	79.7	107.3	39.8	126.6	63.3	49.6			122.2	47.3	44.2	76.0
Level of Service	E	F	D	F	E	D			F	D	D	E
Approach Delay (s)		87.7			75.0					80.6		
Approach LOS		F			E					F		

Intersection Summary			
HCM 2000 Control Delay	81.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	372	184	222
Future Volume (vph)	372	184	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.95		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3349		1562
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3349		1562
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	400	198	239
RTOR Reduction (vph)	0	0	198
Lane Group Flow (vph)	598	0	41
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	22.5		22.5
Effective Green, g (s)	22.5		22.5
Actuated g/C Ratio	0.17		0.17
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	579		270
v/s Ratio Prot	c0.18		
v/s Ratio Perm			0.03
v/c Ratio	1.03		0.15
Uniform Delay, d1	53.8		45.7
Progression Factor	1.00		1.00
Incremental Delay, d2	46.1		0.3
Delay (s)	99.9		45.9
Level of Service	F		D
Approach Delay (s)	82.9		
Approach LOS	F		

Intersection Summary

Appendix G – Cumulative plus Project Alternative 2 Conditions Intersection Level of Service Worksheets

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	136	698	27	164	311
Future Vol, veh/h	9	136	698	27	164	311
Conflicting Peds, #/hr	5	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	186	767	30	182	346

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1485	772	0	0	800	0
Stage 1	770	-	-	-	-	-
Stage 2	715	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	137	400	-	-	823	-
Stage 1	457	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	106	398	-	-	821	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	375	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.1	0	3.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	106	398	821	-
HCM Lane V/C Ratio	-	-	0.116	0.468	0.222	-
HCM Control Delay (s)	-	-	43.4	21.8	10.6	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	2.4	0.8	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	9	2	134	14	0
Future Vol, veh/h	166	9	2	134	14	0
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	80	80	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	15	3	168	21	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	289	0	457	282
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	175	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1273	-	562	757
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1271	-	559	756
Mov Cap-2 Maneuver	-	-	-	-	559	-
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	559	-	-	1271	-
HCM Lane V/C Ratio	0.037	-	-	0.002	-
HCM Control Delay (s)	11.7	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	8	0	9	11	23	114	0	4	36	4
Future Vol, veh/h	6	0	8	0	9	11	23	114	0	4	36	4
Conflicting Peds, #/hr	1	0	0	0	0	1	2	0	5	5	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	55	55	55	68	68	68	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	18	0	16	20	34	168	0	6	55	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	327	313	60	320	316	174	63	0	0	173	0	0
Stage 1	72	72	-	241	241	-	-	-	-	-	-	-
Stage 2	255	241	-	79	75	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	626	602	1005	633	600	869	1540	-	-	1404	-	-
Stage 1	938	835	-	762	706	-	-	-	-	-	-	-
Stage 2	749	706	-	930	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	584	581	1003	606	579	864	1537	-	-	1397	-	-
Mov Cap-2 Maneuver	584	581	-	606	579	-	-	-	-	-	-	-
Stage 1	914	830	-	740	686	-	-	-	-	-	-	-
Stage 2	696	686	-	910	828	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	10.4	1.2	0.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1537	-	-	767	707	1397	-	-
HCM Lane V/C Ratio	0.022	-	-	0.041	0.051	0.004	-	-
HCM Control Delay (s)	7.4	0	-	9.9	10.4	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.2	0	-	-

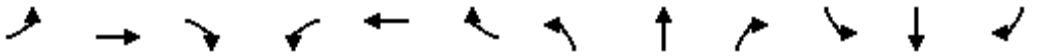
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	112	49	125	0	2	16
Future Vol, veh/h	112	49	125	0	2	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	122	53	136	0	2	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	136	0	-	0	433	136
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	297	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1448	-	-	-	580	913
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	754	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1448	-	-	-	530	913
Mov Cap-2 Maneuver	-	-	-	-	530	-
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	754	-

Approach	EB	WB	SB
HCM Control Delay, s	5.4	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	845
HCM Lane V/C Ratio	0.084	-	-	-	0.023
HCM Control Delay (s)	7.7	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	576	167	53	377	552	136	581	131	427	312	236
Future Volume (veh/h)	324	576	167	53	377	552	136	581	131	427	312	236
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	381	678	0	58	410	0	148	632	0	480	351	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	452	1496		190	1158		504	1421		375	1421	
Arrive On Green	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	0.00
Sat Flow, veh/h	976	3741	0	226	2896	1585	1030	3647	0	795	3554	1585
Grp Volume(v), veh/h	381	678	0	235	233	0	148	632	0	480	351	0
Grp Sat Flow(s),veh/h/ln	976	1870	0	1505	1617	1585	1030	1777	0	795	1777	1585
Q Serve(g_s), s	13.5	6.0	0.0	0.1	4.5	0.0	5.0	5.8	0.0	12.2	3.0	0.0
Cycle Q Clear(g_c), s	18.0	6.0	0.0	6.0	4.5	0.0	8.0	5.8	0.0	18.0	3.0	0.0
Prop In Lane	1.00		0.00	0.25		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	452	1496		702	647		504	1421		375	1421	
V/C Ratio(X)	0.84	0.45		0.34	0.36		0.29	0.44		1.28	0.25	
Avail Cap(c_a), veh/h	452	1496		702	647		504	1421		375	1421	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.3	9.9	0.0	9.3	9.5	0.0	11.6	9.9	0.0	19.0	9.0	0.0
Incr Delay (d2), s/veh	13.5	0.2	0.0	0.3	0.3	0.0	0.3	0.2	0.0	145.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	1.9	0.0	1.2	1.2	0.0	0.9	1.6	0.0	18.6	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	10.1	0.0	9.5	9.8	0.0	12.0	10.1	0.0	164.4	9.1	0.0
LnGrp LOS	C	B		A	A		B	B		F	A	
Approach Vol, veh/h		1059			468			780			831	
Approach Delay, s/veh		17.6			9.7			10.4			98.8	
Approach LOS		B			A			B			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		10.0		20.0		20.0		8.0				
Green Ext Time (p_c), s		2.9		0.0		0.0		2.0				

Intersection Summary												
HCM 6th Ctrl Delay			36.1									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	756	139	114	522	49	573	54	462	163	168	4
Future Volume (veh/h)	130	756	139	114	522	49	573	54	462	163	168	4
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	869	0	134	614	50	672	0	274	172	177	1
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1085		164	981	80	766	0	341	180	185	316
Arrive On Green	0.10	0.31	0.00	0.09	0.29	0.29	0.22	0.00	0.22	0.20	0.20	0.20
Sat Flow, veh/h	1781	3647	0	1781	3328	271	3563	0	1585	900	926	1585
Grp Volume(v), veh/h	149	869	0	134	327	337	672	0	274	349	0	1
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1822	1781	0	1585	1825	0	1585
Q Serve(g_s), s	7.8	21.5	0.0	7.1	15.2	15.3	17.5	0.0	15.7	18.1	0.0	0.0
Cycle Q Clear(g_c), s	7.8	21.5	0.0	7.1	15.2	15.3	17.5	0.0	15.7	18.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.15	1.00		1.00	0.49		1.00
Lane Grp Cap(c), veh/h	182	1085		164	524	537	766	0	341	364	0	316
V/C Ratio(X)	0.82	0.80		0.82	0.62	0.63	0.88	0.00	0.80	0.96	0.00	0.00
Avail Cap(c_a), veh/h	274	1541		169	667	683	830	0	369	364	0	316
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.1	30.6	0.0	42.7	29.2	29.2	36.3	0.0	35.6	37.9	0.0	30.7
Incr Delay (d2), s/veh	11.1	2.1	0.0	25.2	1.2	1.2	10.0	0.0	11.4	36.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	9.1	0.0	4.2	6.5	6.6	8.2	0.0	7.0	11.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	32.6	0.0	67.9	30.4	30.4	46.3	0.0	47.0	74.0	0.0	30.7
LnGrp LOS	D	C		E	C	C	D	A	D	E	A	C
Approach Vol, veh/h		1018			798			946			350	
Approach Delay, s/veh		35.6			36.7			46.5			73.9	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	25.1	13.3	33.7	23.6	14.3	32.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.3	9.1	41.5	19.1	14.7	35.9
Max Q Clear Time (g_c+I1), s	19.5	9.1	23.5	20.1	9.8	17.3
Green Ext Time (p_c), s	1.1	0.0	5.7	0.0	0.1	3.8

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	432	970	206	863	0	0	0	0	604	2	359
Future Volume (veh/h)	0	432	970	206	863	0	0	0	0	604	2	359
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	470	0	224	938	0				779	0	261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	863		390	1655	0				1118	0	497
Arrive On Green	0.00	0.24	0.00	0.11	0.47	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	470	0	224	938	0				779	0	261
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	4.7	0.0	2.5	7.8	0.0				7.8	0.0	5.5
Cycle Q Clear(g_c), s	0.0	4.7	0.0	2.5	7.8	0.0				7.8	0.0	5.5
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	863		390	1655	0				1118	0	497
V/C Ratio(X)	0.00	0.54		0.57	0.57	0.00				0.70	0.00	0.52
Avail Cap(c_a), veh/h	0	3089		922	4429	0				1753	0	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.5	0.0	17.2	7.9	0.0				12.3	0.0	11.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.3	0.3	0.0				0.8	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.0	0.9	2.0	0.0				2.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.0	0.0	18.5	8.2	0.0				13.1	0.0	12.4
LnGrp LOS	A	B		B	A	A				B	A	B
Approach Vol, veh/h		470			1162						1040	
Approach Delay, s/veh		14.0			10.2						12.9	
Approach LOS		B			B						B	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		9.1	14.4		17.3		23.5					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		10.9	35.5		20.1		50.9					
Max Q Clear Time (g_c+I1), s		4.5	6.7		9.8		9.8					
Green Ext Time (p_c), s		0.4	3.2		3.0		7.9					

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

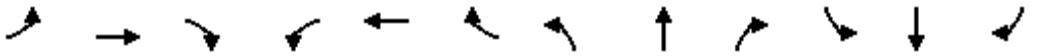
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1391	0	168	1018	0	27
Future Vol, veh/h	1391	0	168	1018	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1512	0	183	1107	0	29

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	756
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	351
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	351
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	16.2
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	351	-	-
HCM Lane V/C Ratio	0.084	-	-
HCM Control Delay (s)	16.2	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	695	57	276	319	417	46	455	280	408	220	90
Future Volume (veh/h)	89	695	57	276	319	417	46	455	280	408	220	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	106	827	50	307	354	87	53	523	132	474	256	8
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.87	0.87	0.87	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	944	415	399	1083	482	369	774	321	646	339	285
Arrive On Green	0.08	0.27	0.27	0.12	0.30	0.30	0.21	0.21	0.21	0.18	0.18	0.18
Sat Flow, veh/h	1781	3554	1561	3456	3554	1582	1781	3741	1553	3563	1870	1572
Grp Volume(v), veh/h	106	827	50	307	354	87	53	523	132	474	256	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1561	1728	1777	1582	1781	1870	1553	1781	1870	1572
Q Serve(g_s), s	4.6	17.4	1.9	6.7	6.0	3.2	1.9	10.1	5.7	9.8	10.1	0.3
Cycle Q Clear(g_c), s	4.6	17.4	1.9	6.7	6.0	3.2	1.9	10.1	5.7	9.8	10.1	0.3
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	136	944	415	399	1083	482	369	774	321	646	339	285
V/C Ratio(X)	0.78	0.88	0.12	0.77	0.33	0.18	0.14	0.68	0.41	0.73	0.76	0.03
Avail Cap(c_a), veh/h	208	998	438	501	1098	489	703	1477	613	822	432	363
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	35.4	27.4	21.7	33.5	20.9	19.9	25.3	28.5	26.8	30.2	30.3	26.3
Incr Delay (d2), s/veh	10.0	8.5	0.1	5.6	0.2	0.2	0.2	1.0	0.8	2.5	5.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	8.0	0.7	3.0	2.4	1.1	0.8	4.5	2.1	4.3	4.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	35.9	21.9	39.1	21.1	20.1	25.5	29.6	27.6	32.7	35.9	26.3
LnGrp LOS	D	D	C	D	C	C	C	C	C	C	D	C
Approach Vol, veh/h		983			748			708			738	
Approach Delay, s/veh		36.2			28.4			28.9			33.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.6	13.5	25.2		18.6	10.4	28.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.8	11.3	21.9		18.0	9.1	24.1				
Max Q Clear Time (g_c+I1), s		12.1	8.7	19.4		12.1	6.6	8.0				
Green Ext Time (p_c), s		4.0	0.3	1.4		1.8	0.1	2.2				

Intersection Summary												
HCM 6th Ctrl Delay			32.2									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	728	53	17	370	59	86	313	34	55	130	172
Future Volume (veh/h)	188	728	53	17	370	59	86	313	34	55	130	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	791	58	19	411	66	91	333	36	60	141	187
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1079	79	41	620	99	124	429	46	99	178	236
Arrive On Green	0.14	0.32	0.32	0.02	0.20	0.20	0.07	0.26	0.26	0.06	0.24	0.24
Sat Flow, veh/h	1781	3350	246	1781	3067	489	1781	1658	179	1781	728	966
Grp Volume(v), veh/h	204	419	430	19	237	240	91	0	369	60	0	328
Grp Sat Flow(s),veh/h/ln	1781	1777	1819	1781	1777	1779	1781	0	1838	1781	0	1694
Q Serve(g_s), s	5.9	11.1	11.1	0.6	6.5	6.6	2.6	0.0	9.8	1.7	0.0	9.6
Cycle Q Clear(g_c), s	5.9	11.1	11.1	0.6	6.5	6.6	2.6	0.0	9.8	1.7	0.0	9.6
Prop In Lane	1.00		0.14	1.00		0.27	1.00		0.10	1.00		0.57
Lane Grp Cap(c), veh/h	255	572	586	41	359	360	124	0	476	99	0	414
V/C Ratio(X)	0.80	0.73	0.73	0.46	0.66	0.67	0.73	0.00	0.78	0.61	0.00	0.79
Avail Cap(c_a), veh/h	320	757	775	169	605	606	185	0	671	175	0	609
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	15.9	15.9	25.5	19.4	19.4	24.1	0.0	18.2	24.4	0.0	18.7
Incr Delay (d2), s/veh	10.9	2.5	2.5	7.9	2.1	2.1	8.0	0.0	3.7	5.9	0.0	4.4
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	3.0	4.2	4.3	0.3	2.6	2.6	1.3	0.0	4.2	0.8	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	18.4	18.4	33.4	21.5	21.6	32.1	0.0	21.9	30.3	0.0	23.1
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1053			496			460			388	
Approach Delay, s/veh		21.2			22.0			23.9			24.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	18.2	5.7	21.5	8.2	17.4	12.1	15.2
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	5.3	19.3	5.0	22.5	5.5	19.0	9.5	18.0
Max Q Clear Time (g_c+I1), s	13.7	11.8	2.6	13.1	4.6	11.6	7.9	8.6
Green Ext Time (p_c), s	0.0	1.3	0.0	3.6	0.0	1.2	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	263	206	937	552	155
Future Volume (veh/h)	62	263	206	937	552	155
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	370	234	1065	613	172
Peak Hour Factor	0.71	0.71	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	97	414	248	1832	797	223
Arrive On Green	0.32	0.32	0.14	0.52	0.29	0.29
Sat Flow, veh/h	307	1304	1781	3647	2817	762
Grp Volume(v), veh/h	458	0	234	1065	400	385
Grp Sat Flow(s),veh/h/ln	1614	0	1781	1777	1777	1709
Q Serve(g_s), s	14.6	0.0	7.0	11.2	11.1	11.1
Cycle Q Clear(g_c), s	14.6	0.0	7.0	11.2	11.1	11.1
Prop In Lane	0.19	0.81	1.00			0.45
Lane Grp Cap(c), veh/h	513	0	248	1832	520	500
V/C Ratio(X)	0.89	0.00	0.94	0.58	0.77	0.77
Avail Cap(c_a), veh/h	584	0	248	2078	643	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	0.0	23.0	9.0	17.4	17.4
Incr Delay (d2), s/veh	14.8	0.0	41.8	0.3	4.5	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	5.5	3.2	4.5	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.4	0.0	64.8	9.4	21.9	22.1
LnGrp LOS	C	A	E	A	C	C
Approach Vol, veh/h	458			1299	785	
Approach Delay, s/veh	32.4			19.3	22.0	
Approach LOS	C			B	C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	32.3		21.6	12.0	20.3
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	31.5		19.5	7.5	19.5
Max Q Clear Time (g_c+I1), s	13.2		16.6	9.0	13.1
Green Ext Time (p_c), s	7.3		0.5	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	721	433	170	64	178	316	112	963	96	282	502	330
Future Volume (veh/h)	721	433	170	64	178	316	112	963	96	282	502	330
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	594	654	0	74	207	0	129	1107	0	317	564	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	566		96	287		157	1152		195	1227	
Arrive On Green	0.30	0.30	0.00	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.35	0.00
Sat Flow, veh/h	1781	1870	1585	901	2701	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	594	654	0	150	131	0	129	1107	0	317	564	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1825	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	34.5	34.5	0.0	9.1	8.1	0.0	8.1	34.9	0.0	12.5	14.1	0.0
Cycle Q Clear(g_c), s	34.5	34.5	0.0	9.1	8.1	0.0	8.1	34.9	0.0	12.5	14.1	0.0
Prop In Lane	1.00		1.00	0.49		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	539	566		194	189		157	1152		195	1227	
V/C Ratio(X)	1.10	1.16		0.77	0.70		0.82	0.96		1.62	0.46	
Avail Cap(c_a), veh/h	539	566		288	280		248	1153		195	1227	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.8	39.8	0.0	49.6	49.2	0.0	51.1	37.9	0.0	50.8	29.1	0.0
Incr Delay (d2), s/veh	69.9	88.9	0.0	7.3	4.5	0.0	11.3	17.9	0.0	303.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.1	29.4	0.0	4.5	3.8	0.0	4.0	17.2	0.0	21.8	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.7	128.7	0.0	57.0	53.7	0.0	62.4	55.8	0.0	353.9	29.3	0.0
LnGrp LOS	F	F		E	D		E	E		F	C	
Approach Vol, veh/h		1248			281			1236			881	
Approach Delay, s/veh		119.7			55.5			56.5			146.1	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	41.5		39.0	14.6	43.9		16.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0
Max Q Clear Time (g_c+I1), s	14.5	36.9		36.5	10.1	16.1		11.1
Green Ext Time (p_c), s	0.0	0.1		0.0	0.1	3.2		0.8

Intersection Summary	
HCM 6th Ctrl Delay	99.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	27.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	167	17	17	8	23	56	24	425	5	24	237	87
Future Vol, veh/h	167	17	17	8	23	56	24	425	5	24	237	87
Peak Hour Factor	0.86	0.86	0.86	0.75	0.75	0.75	0.86	0.86	0.86	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	194	20	20	11	31	75	28	494	6	29	289	106
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.5	12.5	39.6	23.6
HCM LOS	C	B	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	83%	9%	7%
Vol Thru, %	94%	8%	26%	68%
Vol Right, %	1%	8%	64%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	454	201	87	348
LT Vol	24	167	8	24
Through Vol	425	17	23	237
RT Vol	5	17	56	87
Lane Flow Rate	528	234	116	424
Geometry Grp	1	1	1	1
Degree of Util (X)	0.889	0.466	0.234	0.722
Departure Headway (Hd)	6.062	7.183	7.271	6.121
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	597	498	496	586
Service Time	4.133	5.272	5.271	4.197
HCM Lane V/C Ratio	0.884	0.47	0.234	0.724
HCM Control Delay	39.6	16.5	12.5	23.6
HCM Lane LOS	E	C	B	C
HCM 95th-tile Q	10.5	2.4	0.9	6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	461	254	480	273	198	247	162	483	143	199	15
Future Volume (veh/h)	66	461	254	480	273	198	247	162	483	143	199	15
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		0.99	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	480	265	558	317	0	284	186	555	177	246	19
Peak Hour Factor	0.96	0.96	0.96	0.86	0.86	0.86	0.87	0.87	0.87	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	787	511	592	626		364	401	1218	282	331	26
Arrive On Green	0.06	0.22	0.22	0.17	0.33	0.00	0.10	0.21	0.21	0.08	0.19	0.19
Sat Flow, veh/h	1781	3554	1579	3456	1870	2790	3563	1870	3148	3456	1712	132
Grp Volume(v), veh/h	69	480	265	558	317	0	284	186	555	177	0	265
Grp Sat Flow(s),veh/h/ln	1781	1777	1579	1728	1870	1395	1781	1870	1574	1728	0	1844
Q Serve(g_s), s	2.2	7.0	7.9	9.2	7.8	0.0	4.5	5.0	7.6	2.9	0.0	7.8
Cycle Q Clear(g_c), s	2.2	7.0	7.9	9.2	7.8	0.0	4.5	5.0	7.6	2.9	0.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	103	787	511	592	626		364	401	1218	282	0	357
V/C Ratio(X)	0.67	0.61	0.52	0.94	0.51		0.78	0.46	0.46	0.63	0.00	0.74
Avail Cap(c_a), veh/h	179	1107	654	592	715		364	615	1578	305	0	581
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	20.2	15.9	23.7	15.4	0.0	25.3	19.8	13.2	25.7	0.0	21.9
Incr Delay (d2), s/veh	7.2	0.8	0.8	23.7	0.6	0.0	10.4	0.8	0.3	3.6	0.0	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	1.1	2.8	2.6	5.4	3.1	0.0	2.3	2.1	2.4	1.2	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	21.0	16.7	47.3	16.0	0.0	35.8	20.6	13.5	29.3	0.0	25.0
LnGrp LOS	C	C	B	D	B		D	C	B	C	A	C
Approach Vol, veh/h		814			875			1025			442	
Approach Delay, s/veh		20.7			36.0			21.0			26.7	
Approach LOS		C			D			C			C	

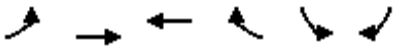
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	16.9	14.4	17.3	10.4	15.7	7.8	23.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	19.0	9.9	18.0	5.9	18.2	5.8	22.1
Max Q Clear Time (g_c+I1), s	4.9	9.6	11.2	9.9	6.5	9.8	4.2	9.8
Green Ext Time (p_c), s	0.0	2.5	0.0	2.6	0.0	0.9	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

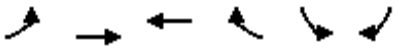
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1054	486	0	968	512
Future Volume (veh/h)	0	1054	486	0	968	512
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1240	546	0	1166	617
Peak Hour Factor	0.85	0.85	0.89	0.89	0.83	0.83
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1279	1838	0	1590	1283
Arrive On Green	0.00	0.36	0.36	0.00	0.46	0.46
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1240	546	0	1166	617
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	17.2	3.8	0.0	13.7	7.7
Cycle Q Clear(g_c), s	0.0	17.2	3.8	0.0	13.7	7.7
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1279	1838	0	1590	1283
V/C Ratio(X)	0.00	0.97	0.30	0.00	0.73	0.48
Avail Cap(c_a), veh/h	0	1279	1838	0	1590	1283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.7	11.5	0.0	11.0	9.4
Incr Delay (d2), s/veh	0.0	18.2	0.1	0.0	3.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.9	1.2	0.0	4.1	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	34.0	11.6	0.0	14.0	10.7
LnGrp LOS	A	C	B	A	B	B
Approach Vol, veh/h		1240	546		1783	
Approach Delay, s/veh		34.0	11.6		12.9	
Approach LOS		C	B		B	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	22.5	27.5	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	23.0	18.0
Max Q Clear Time (g_c+I1), s	19.2	15.7	5.8
Green Ext Time (p_c), s	0.0	4.3	2.9

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	B

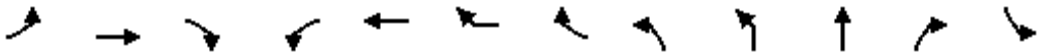


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	483	1546	484	4	0	0
Future Volume (veh/h)	483	1546	484	4	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	582	1863	598	5		
Peak Hour Factor	0.83	0.83	0.81	0.81		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	852	3026	1649	14		
Arrive On Green	0.25	0.85	0.46	0.46		
Sat Flow, veh/h	3456	3647	3705	30		
Grp Volume(v), veh/h	582	1863	294	309		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1865		
Q Serve(g_s), s	4.6	5.0	3.3	3.3		
Cycle Q Clear(g_c), s	4.6	5.0	3.3	3.3		
Prop In Lane	1.00			0.02		
Lane Grp Cap(c), veh/h	852	3026	811	852		
V/C Ratio(X)	0.68	0.62	0.36	0.36		
Avail Cap(c_a), veh/h	1197	4163	1202	1262		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.3	0.7	5.4	5.4		
Incr Delay (d2), s/veh	1.0	0.2	0.3	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.7	0.7		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.3	0.9	5.6	5.6		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2445	603			
Approach Delay, s/veh		3.4	5.6			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	30.3	12.0	18.3
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	10.5	20.5
Max Q Clear Time (g_c+I1), s	7.0	6.6	5.3
Green Ext Time (p_c), s	18.8	0.9	3.3

Intersection Summary	
HCM 6th Ctrl Delay	3.8
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	342	863	338	221	270	373	130	162	494	514	366	152
Future Volume (vph)	342	863	338	221	270	373	130	162	494	514	366	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	372	938	367	240	293	405	141	176	537	559	398	165
RTOR Reduction (vph)	0	0	233	0	0	125	0	0	0	0	157	0
Lane Group Flow (vph)	372	938	134	240	564	150	0	0	713	559	241	165
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.3	16.3	5.0
Effective Green, g (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.3	16.3	5.0
Actuated g/C Ratio	0.08	0.29	0.29	0.08	0.29	0.29			0.09	0.26	0.26	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	275	1022	457	142	908	416			303	925	414	142
v/s Ratio Prot	0.11	c0.27		c0.14	0.18				c0.21	c0.16		0.09
v/s Ratio Perm			0.08			0.10					0.15	
v/c Ratio	1.35	0.92	0.29	1.69	0.62	0.36			2.35	0.60	0.58	1.16
Uniform Delay, d1	28.6	21.4	17.2	28.6	19.2	17.6			28.4	20.2	20.0	28.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	180.8	12.6	0.4	339.0	1.3	0.5			619.1	1.1	2.1	125.6
Delay (s)	209.4	34.0	17.6	367.7	20.5	18.1			647.5	21.3	22.1	154.3
Level of Service	F	C	B	F	C	B			F	C	C	F
Approach Delay (s)		69.3			97.1					288.8		
Approach LOS		E			F					F		

Intersection Summary			
HCM 2000 Control Delay	140.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	333	101	222
Future Volume (vph)	333	101	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.97		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3415		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3415		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	362	110	241
RTOR Reduction (vph)	0	0	180
Lane Group Flow (vph)	472	0	61
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	15.8		15.8
Effective Green, g (s)	15.8		15.8
Actuated g/C Ratio	0.25		0.25
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	866		401
v/s Ratio Prot	0.14		
v/s Ratio Perm			0.04
v/c Ratio	0.55		0.15
Uniform Delay, d1	20.1		18.1
Progression Factor	1.00		1.00
Incremental Delay, d2	0.7		0.2
Delay (s)	20.8		18.2
Level of Service	C		B
Approach Delay (s)	45.2		
Approach LOS	D		

Intersection Summary

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	145	485	16	160	741
Future Vol, veh/h	8	145	485	16	160	741
Conflicting Peds, #/hr	5	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	181	522	17	174	805

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1686	528	0	0	545	0
Stage 1	528	-	-	-	-	-
Stage 2	1158	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	103	550	-	-	1024	-
Stage 1	592	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	84	547	-	-	1018	-
Mov Cap-2 Maneuver	84	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	247	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	84	547	1018	-
HCM Lane V/C Ratio	-	-	0.119	0.331	0.171	-
HCM Control Delay (s)	-	-	53.6	14.8	9.3	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	1.4	0.6	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	10	2	154	0	4
Future Vol, veh/h	130	10	2	154	0	4
Conflicting Peds, #/hr	0	1	1	0	4	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	79	79	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	144	11	3	195	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	156	0	356	156
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	205	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1424	-	642	890
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1423	-	638	885
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	824	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	885	-	-	1423	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Control Delay (s)	9.1	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	17	0	0	19	7	48	1	59	38	15
Future Vol, veh/h	1	1	17	0	0	19	7	48	1	59	38	15
Conflicting Peds, #/hr	0	0	1	1	0	0	5	0	2	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	50	50	50	84	84	84	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	21	0	0	38	8	57	1	66	43	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	282	265	58	272	273	60	65	0	0	60	0	0
Stage 1	189	189	-	76	76	-	-	-	-	-	-	-
Stage 2	93	76	-	196	197	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	670	640	1008	680	634	1005	1537	-	-	1544	-	-
Stage 1	813	744	-	933	832	-	-	-	-	-	-	-
Stage 2	914	832	-	806	738	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	618	605	1002	638	599	1003	1530	-	-	1541	-	-
Mov Cap-2 Maneuver	618	605	-	638	599	-	-	-	-	-	-	-
Stage 1	805	708	-	926	826	-	-	-	-	-	-	-
Stage 2	875	826	-	752	702	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	8.7	0.9	3.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1530	-	-	939	1003	1541	-	-
HCM Lane V/C Ratio	0.005	-	-	0.025	0.038	0.043	-	-
HCM Control Delay (s)	7.4	0	-	8.9	8.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

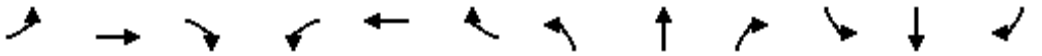
Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	102	71	0	14	95
Future Vol, veh/h	21	102	71	0	14	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	23	111	77	0	15	103

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	234	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1522	-	-	-	754	984
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	-	-	742	984
Mov Cap-2 Maneuver	-	-	-	-	742	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1522	-	-	-	944
HCM Lane V/C Ratio	0.015	-	-	-	0.126
HCM Control Delay (s)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	875	255	139	545	825	138	406	117	386	454	226
Future Volume (veh/h)	283	875	255	139	545	825	138	406	117	386	454	226
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	902	0	148	580	0	152	446	0	424	499	0
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	1598		282	691		412	1454		437	1454	
Arrive On Green	0.43	0.43	0.00	0.43	0.43	0.00	0.41	0.41	0.00	0.41	0.41	0.00
Sat Flow, veh/h	834	3741	0	355	1617	1585	898	3647	0	943	3554	1585
Grp Volume(v), veh/h	292	902	0	148	580	0	152	446	0	424	499	0
Grp Sat Flow(s),veh/h/ln	834	1870	0	355	1617	1585	898	1777	0	943	1777	1585
Q Serve(g_s), s	5.9	10.0	0.0	13.1	17.6	0.0	7.7	4.7	0.0	17.8	5.3	0.0
Cycle Q Clear(g_c), s	23.5	10.0	0.0	23.1	17.6	0.0	13.0	4.7	0.0	22.5	5.3	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	1598		282	691		412	1454		437	1454	
V/C Ratio(X)	1.33	0.56		0.52	0.84		0.37	0.31		0.97	0.34	
Avail Cap(c_a), veh/h	220	1598		282	691		412	1454		437	1454	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.3	11.9	0.0	20.6	14.1	0.0	15.6	11.0	0.0	21.1	11.2	0.0
Incr Delay (d2), s/veh	174.9	0.5	0.0	1.8	9.1	0.0	0.6	0.1	0.0	35.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	3.4	0.0	1.8	6.8	0.0	1.4	1.5	0.0	9.3	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	201.3	12.3	0.0	22.4	23.1	0.0	16.2	11.1	0.0	56.5	11.3	0.0
LnGrp LOS	F	B		C	C		B	B		E	B	
Approach Vol, veh/h		1194			728			598			923	
Approach Delay, s/veh		58.5			23.0			12.4			32.1	
Approach LOS		E			C			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		28.0		27.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		23.5		22.5		23.5				
Max Q Clear Time (g_c+I1), s		15.0		25.5		24.5		25.1				
Green Ext Time (p_c), s		2.1		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	35.9	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	795	168	213	742	53	838	75	423	134	91	3
Future Volume (veh/h)	195	795	168	213	742	53	838	75	423	134	91	3
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		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	864	0	222	773	51	970	0	209	147	100	0
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	983		240	940	62	1053	0	469	159	108	233
Arrive On Green	0.13	0.28	0.00	0.13	0.28	0.28	0.30	0.00	0.30	0.15	0.15	0.00
Sat Flow, veh/h	1781	3647	0	1781	3383	223	3563	0	1585	1081	735	1585
Grp Volume(v), veh/h	212	864	0	222	406	418	970	0	209	247	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1829	1781	0	1585	1816	0	1585
Q Serve(g_s), s	14.4	28.6	0.0	15.2	26.4	26.4	32.5	0.0	13.2	16.6	0.0	0.0
Cycle Q Clear(g_c), s	14.4	28.6	0.0	15.2	26.4	26.4	32.5	0.0	13.2	16.6	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		1.00	0.60		1.00
Lane Grp Cap(c), veh/h	238	983		240	494	508	1053	0	469	267	0	233
V/C Ratio(X)	0.89	0.88		0.93	0.82	0.82	0.92	0.00	0.45	0.93	0.00	0.00
Avail Cap(c_a), veh/h	250	1110		240	545	561	1121	0	499	267	0	233
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.5	42.6	0.0	52.7	41.7	41.7	42.0	0.0	35.2	51.9	0.0	0.0
Incr Delay (d2), s/veh	29.4	7.6	0.0	38.4	9.1	8.9	11.8	0.0	0.7	35.9	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	13.4	0.0	9.3	12.6	13.0	15.4	0.0	5.1	10.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.9	50.2	0.0	91.1	50.8	50.6	53.8	0.0	35.9	87.8	0.0	0.0
LnGrp LOS	F	D		F	D	D	D	A	D	F	A	A
Approach Vol, veh/h		1076			1046			1179			247	
Approach Delay, s/veh		56.4			59.2			50.6			87.8	
Approach LOS		E			E			D			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	40.9	21.1	38.6	22.6	21.0	38.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.8	16.6	38.5	18.1	17.3	37.8
Max Q Clear Time (g_c+I1), s	34.5	17.2	30.6	18.6	16.4	28.4
Green Ext Time (p_c), s	2.0	0.0	3.5	0.0	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	57.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	524	754	180	1377	0	0	0	0	665	5	364
Future Volume (veh/h)	0	524	754	180	1377	0	0	0	0	665	5	364
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	609	0	188	1434	0				857	0	268
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1331		301	1924	0				1066	0	474
Arrive On Green	0.00	0.37	0.00	0.09	0.54	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	3741	0	3456	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	609	0	188	1434	0				857	0	268
Grp Sat Flow(s),veh/h/ln	0	1777	0	1728	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	7.3	0.0	3.0	17.5	0.0				12.5	0.0	8.0
Cycle Q Clear(g_c), s	0.0	7.3	0.0	3.0	17.5	0.0				12.5	0.0	8.0
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1331		301	1924	0				1066	0	474
V/C Ratio(X)	0.00	0.46		0.62	0.75	0.00				0.80	0.00	0.57
Avail Cap(c_a), veh/h	0	1668		582	2550	0				1294	0	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.3	0.0	24.9	10.0	0.0				18.3	0.0	16.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.1	0.9	0.0				3.1	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	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.0	1.2	5.1	0.0				4.6	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.6	0.0	27.0	10.8	0.0				21.4	0.0	17.7
LnGrp LOS	A	B		C	B	A				C	A	B
Approach Vol, veh/h		609			1622						1125	
Approach Delay, s/veh		13.6			12.7						20.5	
Approach LOS		B			B						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		9.4	25.6		21.4		35.1					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s		9.5	26.5		20.5		40.5					
Max Q Clear Time (g_c+I1), s		5.0	9.3		14.5		19.5					
Green Ext Time (p_c), s		0.2	3.7		2.4		11.0					

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

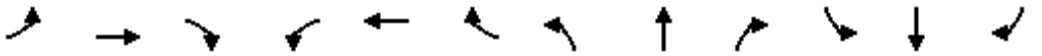
Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1132	0	31	1667	0	162
Future Vol, veh/h	1132	0	31	1667	0	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	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	1230	0	34	1812	0	176

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	615
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.94
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.32
Pot Cap-1 Maneuver	-	-		0	434
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	434
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	18.8
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	434	-	-
HCM Lane V/C Ratio	0.406	-	-
HCM Control Delay (s)	18.8	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	1.9	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	399	32	459	426	783	108	407	169	565	411	240
Future Volume (veh/h)	118	399	32	459	426	783	108	407	169	565	411	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.97	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	505	9	504	468	485	119	447	33	628	457	33
Peak Hour Factor	0.79	0.79	0.79	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	838	363	593	1121	494	299	629	258	767	403	333
Arrive On Green	0.09	0.24	0.24	0.17	0.32	0.32	0.17	0.17	0.17	0.22	0.22	0.22
Sat Flow, veh/h	1781	3554	1541	3456	3554	1567	1781	3741	1537	3563	1870	1547
Grp Volume(v), veh/h	149	505	9	504	468	485	119	447	33	628	457	33
Grp Sat Flow(s),veh/h/ln	1781	1777	1541	1728	1777	1567	1781	1870	1537	1781	1870	1547
Q Serve(g_s), s	7.1	10.9	0.4	12.2	8.9	26.4	5.1	9.7	1.6	14.4	18.5	1.5
Cycle Q Clear(g_c), s	7.1	10.9	0.4	12.2	8.9	26.4	5.1	9.7	1.6	14.4	18.5	1.5
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	164	838	363	593	1121	494	299	629	258	767	403	333
V/C Ratio(X)	0.91	0.60	0.02	0.85	0.42	0.98	0.40	0.71	0.13	0.82	1.14	0.10
Avail Cap(c_a), veh/h	164	838	363	684	1121	494	383	805	331	767	403	333
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	38.7	29.3	25.2	34.5	23.2	29.2	31.9	33.8	30.4	32.1	33.7	27.0
Incr Delay (d2), s/veh	45.1	1.2	0.0	9.0	0.2	35.6	0.9	2.1	0.2	7.0	87.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	4.6	0.1	5.7	3.6	14.2	2.2	4.5	0.6	6.8	17.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.8	30.5	25.3	43.5	23.4	64.8	32.7	35.9	30.6	39.1	120.8	27.2
LnGrp LOS	F	C	C	D	C	E	C	D	C	D	F	C
Approach Vol, veh/h		663			1457			599			1118	
Approach Delay, s/veh		42.4			44.1			35.0			72.1	
Approach LOS		D			D			C			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.9	19.2	24.8		23.0	12.4	31.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	17.0	18.0		18.5	7.9	27.1				
Max Q Clear Time (g_c+I1), s		11.7	14.2	12.9		20.5	9.1	28.4				
Green Ext Time (p_c), s		1.9	0.6	1.5		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			50.6									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	440	99	69	609	133	42	183	34	40	192	241
Future Volume (veh/h)	158	440	99	69	609	133	42	183	34	40	192	241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	500	112	76	669	146	49	215	40	43	204	256
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.85	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	950	212	101	760	166	80	462	86	73	223	279
Arrive On Green	0.12	0.33	0.33	0.06	0.26	0.26	0.04	0.30	0.30	0.04	0.30	0.30
Sat Flow, veh/h	1781	2883	642	1781	2894	631	1781	1529	284	1781	746	936
Grp Volume(v), veh/h	180	307	305	76	410	405	49	0	255	43	0	460
Grp Sat Flow(s),veh/h/ln	1781	1777	1748	1781	1777	1748	1781	0	1813	1781	0	1682
Q Serve(g_s), s	6.6	9.3	9.4	2.8	14.8	14.8	1.8	0.0	7.6	1.6	0.0	17.6
Cycle Q Clear(g_c), s	6.6	9.3	9.4	2.8	14.8	14.8	1.8	0.0	7.6	1.6	0.0	17.6
Prop In Lane	1.00		0.37	1.00		0.36	1.00		0.16	1.00		0.56
Lane Grp Cap(c), veh/h	221	586	576	101	466	459	80	0	548	73	0	502
V/C Ratio(X)	0.82	0.52	0.53	0.75	0.88	0.88	0.61	0.00	0.47	0.59	0.00	0.92
Avail Cap(c_a), veh/h	227	586	576	193	480	473	134	0	556	136	0	518
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	18.1	18.1	30.9	23.5	23.6	31.2	0.0	18.9	31.4	0.0	22.5
Incr Delay (d2), s/veh	19.6	0.9	0.9	10.7	16.7	17.1	7.5	0.0	0.6	7.2	0.0	20.8
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	3.8	3.6	3.6	1.4	7.8	7.7	0.9	0.0	3.1	0.8	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	18.9	19.0	41.6	40.2	40.7	38.7	0.0	19.5	38.6	0.0	43.3
LnGrp LOS	D	B	B	D	D	D	D	A	B	D	A	D
Approach Vol, veh/h		792			891			304			503	
Approach Delay, s/veh		25.6			40.6			22.6			42.9	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	24.6	8.3	26.5	7.5	24.4	12.8	22.0
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	5.1	20.4	7.2	19.3	5.0	20.5	8.5	18.0
Max Q Clear Time (g_c+I1), s	3.6	9.6	4.8	11.4	3.8	19.6	8.6	16.8
Green Ext Time (p_c), s	0.0	1.0	0.0	2.2	0.0	0.3	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	101	131	148	780	886	108
Future Volume (veh/h)	101	131	148	780	886	108
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	166	159	839	974	119
Peak Hour Factor	0.79	0.79	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	162	210	197	2060	1181	144
Arrive On Green	0.22	0.22	0.11	0.58	0.37	0.37
Sat Flow, veh/h	720	934	1781	3647	3277	389
Grp Volume(v), veh/h	295	0	159	839	543	550
Grp Sat Flow(s),veh/h/ln	1659	0	1781	1777	1777	1795
Q Serve(g_s), s	7.7	0.0	4.0	6.0	12.8	12.8
Cycle Q Clear(g_c), s	7.7	0.0	4.0	6.0	12.8	12.8
Prop In Lane	0.43	0.56	1.00			0.22
Lane Grp Cap(c), veh/h	373	0	197	2060	659	666
V/C Ratio(X)	0.79	0.00	0.81	0.41	0.82	0.83
Avail Cap(c_a), veh/h	649	0	197	2162	710	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	20.0	5.3	13.1	13.1
Incr Delay (d2), s/veh	3.8	0.0	21.1	0.1	7.4	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.6	1.3	5.2	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.6	0.0	41.1	5.5	20.5	20.5
LnGrp LOS	C	A	D	A	C	C
Approach Vol, veh/h	295			998	1093	
Approach Delay, s/veh	20.6			11.1	20.5	
Approach LOS	C			B	C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	31.2		14.8	9.6	21.6
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	28.0		18.0	5.1	18.4
Max Q Clear Time (g_c+I1), s	8.0		9.7	6.0	14.8
Green Ext Time (p_c), s	5.7		0.6	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	384	290	140	135	375	309	177	625	89	218	656	655
Future Volume (veh/h)	384	290	140	135	375	309	177	625	89	218	656	655
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	366	386	0	142	395	0	186	658	0	229	691	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	419		179	530		218	774		256	851	
Arrive On Green	0.22	0.22	0.00	0.20	0.20	0.00	0.12	0.22	0.00	0.14	0.24	0.00
Sat Flow, veh/h	1781	1870	1585	908	2694	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	366	386	0	285	252	0	186	658	0	229	691	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1825	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.6	16.7	0.0	12.3	11.0	0.0	8.5	14.7	0.0	10.4	15.2	0.0
Cycle Q Clear(g_c), s	16.6	16.7	0.0	12.3	11.0	0.0	8.5	14.7	0.0	10.4	15.2	0.0
Prop In Lane	1.00		1.00	0.50		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	399	419		359	350		218	774		256	851	
V/C Ratio(X)	0.92	0.92		0.79	0.72		0.85	0.85		0.89	0.81	
Avail Cap(c_a), veh/h	399	419		475	462		218	864		256	942	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.3	31.4	0.0	31.6	31.1	0.0	35.6	31.0	0.0	34.8	29.7	0.0
Incr Delay (d2), s/veh	25.9	25.7	0.0	6.8	3.7	0.0	26.6	7.5	0.0	30.0	5.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	10.1	0.0	5.9	4.9	0.0	5.1	6.6	0.0	6.4	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	57.1	0.0	38.4	34.7	0.0	62.2	38.5	0.0	64.8	34.7	0.0
LnGrp LOS	E	E		D	C		E	D		E	C	
Approach Vol, veh/h		752			537			844			920	
Approach Delay, s/veh		57.2			36.7			43.7			42.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.4	22.5		23.0	14.6	24.3		20.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.9	20.1		18.5	10.1	21.9		21.5
Max Q Clear Time (g_c+I1), s	12.4	16.7		18.7	10.5	17.2		14.3
Green Ext Time (p_c), s	0.0	1.3		0.0	0.0	1.8		1.8

Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	31.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	102	14	19	15	14	25	35	243	7	22	438	160
Future Vol, veh/h	102	14	19	15	14	25	35	243	7	22	438	160
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.87	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	17	23	18	17	30	40	279	8	24	476	174
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.8	10.8	14.8	46
HCM LOS	B	B	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	76%	28%	4%
Vol Thru, %	85%	10%	26%	71%
Vol Right, %	2%	14%	46%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	285	135	54	620
LT Vol	35	102	15	22
Through Vol	243	14	14	438
RT Vol	7	19	25	160
Lane Flow Rate	328	167	66	674
Geometry Grp	1	1	1	1
Degree of Util (X)	0.519	0.31	0.125	0.954
Departure Headway (Hd)	5.702	6.697	6.856	5.098
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	629	533	526	708
Service Time	3.781	4.792	4.856	3.161
HCM Lane V/C Ratio	0.521	0.313	0.125	0.952
HCM Control Delay	14.8	12.8	10.8	46
HCM Lane LOS	B	B	B	E
HCM 95th-tile Q	3	1.3	0.4	13.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	458	282	657	484	711	393	356	746	492	371	65
Future Volume (veh/h)	64	458	282	657	484	711	393	356	746	492	371	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.95	1.00		0.97
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	526	324	670	494	0	427	387	811	523	395	69
Peak Hour Factor	0.87	0.87	0.87	0.98	0.98	0.98	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	705	531	673	636		496	434	1315	602	412	72
Arrive On Green	0.05	0.20	0.20	0.19	0.34	0.00	0.14	0.23	0.23	0.17	0.27	0.27
Sat Flow, veh/h	1781	3554	1563	3456	1870	2790	3563	1870	3006	3456	1543	270
Grp Volume(v), veh/h	74	526	324	670	494	0	427	387	811	523	0	464
Grp Sat Flow(s),veh/h/ln	1781	1777	1563	1728	1870	1395	1781	1870	1503	1728	0	1813
Q Serve(g_s), s	3.7	12.5	15.6	17.4	21.3	0.0	10.5	18.0	19.0	13.2	0.0	22.6
Cycle Q Clear(g_c), s	3.7	12.5	15.6	17.4	21.3	0.0	10.5	18.0	19.0	13.2	0.0	22.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	95	705	531	673	636		496	434	1315	602	0	484
V/C Ratio(X)	0.78	0.75	0.61	1.00	0.78		0.86	0.89	0.62	0.87	0.00	0.96
Avail Cap(c_a), veh/h	131	712	534	673	636		496	434	1315	658	0	484
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.0	33.9	24.9	36.1	26.6	0.0	37.8	33.4	20.2	36.1	0.0	32.4
Incr Delay (d2), s/veh	17.9	4.3	2.0	33.4	6.1	0.0	14.4	20.1	0.9	11.2	0.0	30.4
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	2.1	5.7	5.9	10.3	10.2	0.0	5.5	10.4	6.5	6.4	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	38.1	26.9	69.5	32.6	0.0	52.2	53.5	21.1	47.3	0.0	62.8
LnGrp LOS	E	D	C	E	C		D	D	C	D	A	E
Approach Vol, veh/h		924			1164			1625			987	
Approach Delay, s/veh		35.9			53.9			37.0			54.6	
Approach LOS		D			D			D			D	

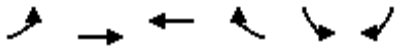
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.2	25.3	22.0	22.3	17.0	28.5	9.3	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	17.1	19.4	17.5	18.0	12.5	24.0	6.6	28.9
Max Q Clear Time (g_c+I1), s	15.2	21.0	19.4	17.6	12.5	24.6	5.7	23.3
Green Ext Time (p_c), s	0.4	0.0	0.0	0.2	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

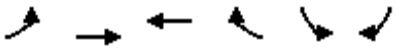
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1699	941	0	820	983
Future Volume (veh/h)	0	1699	941	0	820	983
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1788	1034	0	863	1035
Peak Hour Factor	0.95	0.95	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1688	2425	0	1296	1046
Arrive On Green	0.00	0.47	0.47	0.00	0.38	0.38
Sat Flow, veh/h	0	3741	5443	0	3456	2790
Grp Volume(v), veh/h	0	1788	1034	0	863	1035
Grp Sat Flow(s),veh/h/ln	0	1777	1702	0	1728	1395
Q Serve(g_s), s	0.0	28.5	8.0	0.0	12.5	22.1
Cycle Q Clear(g_c), s	0.0	28.5	8.0	0.0	12.5	22.1
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1688	2425	0	1296	1046
V/C Ratio(X)	0.00	1.06	0.43	0.00	0.67	0.99
Avail Cap(c_a), veh/h	0	1688	2425	0	1296	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.7	10.4	0.0	15.6	18.6
Incr Delay (d2), s/veh	0.0	39.5	0.1	0.0	2.7	25.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.7	2.6	0.0	4.4	9.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	55.3	10.5	0.0	18.3	44.0
LnGrp LOS	A	F	B	A	B	D
Approach Vol, veh/h		1788	1034		1898	
Approach Delay, s/veh		55.3	10.5		32.3	
Approach LOS		E	B		C	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	33.0	27.0	33.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	22.5	28.5
Max Q Clear Time (g_c+I1), s	30.5	24.1	10.0
Green Ext Time (p_c), s	0.0	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

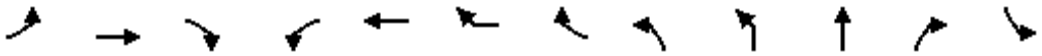


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	742	1782	952	15	0	0
Future Volume (veh/h)	742	1782	952	15	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	765	1837	1046	16		
Peak Hour Factor	0.97	0.97	0.91	0.91		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1028	3069	1539	24		
Arrive On Green	0.30	0.86	0.43	0.43		
Sat Flow, veh/h	3456	3647	3675	55		
Grp Volume(v), veh/h	765	1837	519	543		
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1859		
Q Serve(g_s), s	6.6	4.8	7.8	7.8		
Cycle Q Clear(g_c), s	6.6	4.8	7.8	7.8		
Prop In Lane	1.00			0.03		
Lane Grp Cap(c), veh/h	1028	3069	763	799		
V/C Ratio(X)	0.74	0.60	0.68	0.68		
Avail Cap(c_a), veh/h	1309	3823	996	1042		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	0.6	7.6	7.6		
Incr Delay (d2), s/veh	1.7	0.2	1.2	1.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.1	2.0	2.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.2	0.8	8.8	8.8		
LnGrp LOS	B	A	A	A		
Approach Vol, veh/h		2602	1062			
Approach Delay, s/veh		4.2	8.8			
Approach LOS		A	A			

Timer - Assigned Phs	4	7	8
Phs Duration (G+Y+Rc), s	33.0	14.3	18.7
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	35.5	12.5	18.5
Max Q Clear Time (g_c+I1), s	6.8	8.6	9.8
Green Ext Time (p_c), s	18.6	1.2	4.4

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

HCM 6th Edition methodology does not support more than 4 approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	511	937	295	399	620	540	130	162	520	529	296	177
Future Volume (vph)	511	937	295	399	620	540	130	162	520	529	296	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1555	1770	3223	1421			3433	3539	1555	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1555	1770	3223	1421			3433	3539	1555	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	562	1030	324	443	689	600	144	178	571	581	325	190
RTOR Reduction (vph)	0	0	216	0	0	125	0	0	0	0	151	0
Lane Group Flow (vph)	562	1030	108	443	989	319	0	0	749	581	174	190
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.6	16.6	5.0
Effective Green, g (s)	5.0	18.0	18.0	5.0	18.0	18.0			5.5	16.6	16.6	5.0
Actuated g/C Ratio	0.08	0.29	0.29	0.08	0.29	0.29			0.09	0.27	0.27	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	274	1017	447	141	926	408			301	938	412	141
v/s Ratio Prot	0.16	0.29		c0.25	c0.31				c0.22	0.16		0.11
v/s Ratio Perm			0.07			0.22					0.11	
v/c Ratio	2.05	1.01	0.24	3.14	1.07	0.78			2.49	0.62	0.42	1.35
Uniform Delay, d1	28.8	22.3	17.1	28.8	22.3	20.5			28.6	20.2	19.0	28.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	485.5	31.4	0.3	982.2	49.5	9.4			679.6	1.2	0.7	195.9
Delay (s)	514.3	53.7	17.4	1011.0	71.8	29.9			708.2	21.5	19.7	224.7
Level of Service	F	D	B	F	E	C			F	C	B	F
Approach Delay (s)		182.7			283.7					331.9		
Approach LOS		F			F					F		

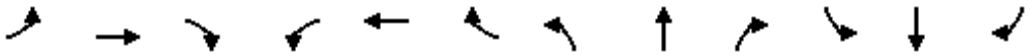
Intersection Summary			
HCM 2000 Control Delay	230.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	62.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	372	178	222
Future Volume (vph)	372	178	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.95		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3354		1563
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3354		1563
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	400	191	239
RTOR Reduction (vph)	0	0	173
Lane Group Flow (vph)	591	0	66
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	16.1		16.1
Effective Green, g (s)	16.1		16.1
Actuated g/C Ratio	0.26		0.26
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	862		401
v/s Ratio Prot	c0.18		
v/s Ratio Perm			0.04
v/c Ratio	0.69		0.16
Uniform Delay, d1	21.0		18.0
Progression Factor	1.00		1.00
Incremental Delay, d2	2.3		0.2
Delay (s)	23.2		18.2
Level of Service	C		B
Approach Delay (s)	59.6		
Approach LOS	E		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	756	139	114	522	49	573	54	462	163	168	4
Future Volume (veh/h)	130	756	139	114	522	49	573	54	462	163	168	4
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	869	0	134	614	50	672	0	274	172	177	1
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	1142		168	1033	84	814	0	362	234	244	1
Arrive On Green	0.10	0.32	0.00	0.09	0.31	0.31	0.23	0.00	0.23	0.13	0.13	0.13
Sat Flow, veh/h	1781	3647	0	1781	3328	271	3563	0	1585	1781	1858	10
Grp Volume(v), veh/h	149	869	0	134	327	337	672	0	274	172	0	178
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1822	1781	0	1585	1781	0	1868
Q Serve(g_s), s	6.5	17.6	0.0	5.9	12.5	12.5	14.4	0.0	12.9	7.4	0.0	7.3
Cycle Q Clear(g_c), s	6.5	17.6	0.0	5.9	12.5	12.5	14.4	0.0	12.9	7.4	0.0	7.3
Prop In Lane	1.00		0.00	1.00		0.15	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	187	1142		168	552	566	814	0	362	234	0	245
V/C Ratio(X)	0.80	0.76		0.80	0.59	0.60	0.83	0.00	0.76	0.74	0.00	0.73
Avail Cap(c_a), veh/h	327	1840		202	796	816	991	0	441	425	0	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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	24.4	0.0	35.6	23.4	23.4	29.4	0.0	28.8	33.5	0.0	33.4
Incr Delay (d2), s/veh	7.6	1.1	0.0	17.0	1.0	1.0	4.9	0.0	5.9	4.4	0.0	4.0
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	3.1	7.1	0.0	3.3	5.1	5.2	6.2	0.0	5.2	3.5	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	25.5	0.0	52.5	24.4	24.4	34.3	0.0	34.8	37.9	0.0	37.5
LnGrp LOS	D	C		D	C	C	C	A	C	D	A	D
Approach Vol, veh/h		1018			798			946			350	
Approach Delay, s/veh		28.0			29.1			34.4			37.7	
Approach LOS		C			C			C			D	

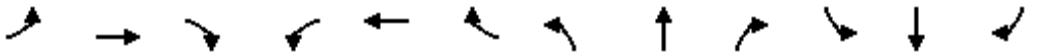
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.8	12.0	30.3		15.0	12.9	29.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		22.3	9.1	41.5		19.1	14.7	35.9				
Max Q Clear Time (g_c+I1), s		16.4	7.9	19.6		9.4	8.5	14.5				
Green Ext Time (p_c), s		1.9	0.0	6.2		1.1	0.2	4.0				

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	721	433	170	64	178	316	112	963	96	282	502	330
Future Volume (veh/h)	721	433	170	64	178	316	112	963	96	282	502	330
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	455	850	175	74	207	0	129	1107	0	317	564	0
Peak Hour Factor	0.97	0.97	0.97	0.86	0.86	0.86	0.87	0.87	0.87	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	536	905	186	96	287		157	1154		196	1230	
Arrive On Green	0.30	0.30	0.30	0.11	0.11	0.00	0.09	0.32	0.00	0.11	0.35	0.00
Sat Flow, veh/h	1781	3008	619	901	2701	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	455	528	497	150	131	0	129	1107	0	317	564	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1757	1825	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	27.3	31.3	31.3	9.1	8.1	0.0	8.1	34.7	0.0	12.5	14.0	0.0
Cycle Q Clear(g_c), s	27.3	31.3	31.3	9.1	8.1	0.0	8.1	34.7	0.0	12.5	14.0	0.0
Prop In Lane	1.00		0.35	0.49		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	536	563	529	194	189		157	1154		196	1230	
V/C Ratio(X)	0.85	0.94	0.94	0.77	0.69		0.82	0.96		1.62	0.46	
Avail Cap(c_a), veh/h	541	568	533	289	281		249	1156		196	1230	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.3	38.7	38.7	49.5	49.0	0.0	50.9	37.7	0.0	50.6	28.9	0.0
Incr Delay (d2), s/veh	12.1	23.7	24.7	7.2	4.5	0.0	11.1	17.5	0.0	300.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	17.7	16.8	4.5	3.8	0.0	4.0	17.1	0.0	21.8	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	62.4	63.5	56.7	53.6	0.0	62.1	55.2	0.0	351.3	29.1	0.0
LnGrp LOS	D	E	E	E	D		E	E		F	C	
Approach Vol, veh/h		1480			281			1236			881	
Approach Delay, s/veh		58.8			55.2			55.9			145.1	
Approach LOS		E			E			E			F	

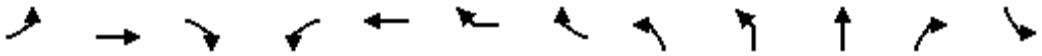
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.0	41.4		38.7	14.6	43.9		16.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	37.0		34.5	15.9	33.6		18.0				
Max Q Clear Time (g_c+I1), s	14.5	36.7		33.3	10.1	16.0		11.1				
Green Ext Time (p_c), s	0.0	0.2		0.9	0.1	3.2		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		77.2	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	342	863	338	221	270	373	130	162	494	514	366	152
Future Volume (vph)	342	863	338	221	270	373	130	162	494	514	366	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1583	1770	3146	1441			3433	3539	1583	1770
Peak-hour factor, PHF	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)	372	938	367	240	293	405	141	176	537	559	398	165
RTOR Reduction (vph)	0	0	273	0	0	136	0	0	0	0	250	0
Lane Group Flow (vph)	372	938	94	240	564	139	0	0	713	559	148	165
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	12.2	22.5	22.5	12.0	22.3	22.3			17.8	23.8	23.8	11.1
Effective Green, g (s)	12.2	22.5	22.5	12.0	22.3	22.3			17.8	23.8	23.8	11.1
Actuated g/C Ratio	0.14	0.26	0.26	0.14	0.26	0.26			0.20	0.27	0.27	0.13
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	479	911	407	243	802	367			699	963	431	224
v/s Ratio Prot	0.11	c0.27		c0.14	0.18				c0.21	0.16		0.09
v/s Ratio Perm			0.06			0.10					0.09	
v/c Ratio	0.78	1.03	0.23	0.99	0.70	0.38			1.02	0.58	0.34	0.74
Uniform Delay, d1	36.3	32.5	25.6	37.6	29.5	26.8			34.8	27.5	25.5	36.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	7.7	37.7	0.3	53.7	2.8	0.7			39.2	0.9	0.5	11.9
Delay (s)	44.0	70.1	25.9	91.4	32.4	27.5			74.0	28.4	26.0	48.6
Level of Service	D	E	C	F	C	C			E	C	C	D
Approach Delay (s)		54.6			44.2					47.3		
Approach LOS		D			D					D		

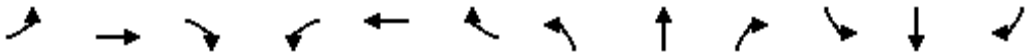
Intersection Summary			
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	333	101	222
Future Volume (vph)	333	101	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frt	0.97		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3415		1583
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3415		1583
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	362	110	241
RTOR Reduction (vph)	0	0	194
Lane Group Flow (vph)	472	0	47
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	17.1		17.1
Effective Green, g (s)	17.1		17.1
Actuated g/C Ratio	0.20		0.20
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	668		309
v/s Ratio Prot	c0.14		
v/s Ratio Perm			0.03
v/c Ratio	0.71		0.15
Uniform Delay, d1	32.8		29.1
Progression Factor	1.00		1.00
Incremental Delay, d2	3.4		0.2
Delay (s)	36.2		29.4
Level of Service	D		C
Approach Delay (s)	36.7		
Approach LOS	D		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	795	168	213	742	53	838	75	423	134	91	3
Future Volume (veh/h)	195	795	168	213	742	53	838	75	423	134	91	3
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		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	864	0	222	773	51	970	0	209	147	100	0
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	1020		251	988	65	1088	0	484	185	194	0
Arrive On Green	0.14	0.29	0.00	0.14	0.29	0.29	0.31	0.00	0.31	0.10	0.10	0.00
Sat Flow, veh/h	1781	3647	0	1781	3383	223	3563	0	1585	1781	1870	0
Grp Volume(v), veh/h	212	864	0	222	406	418	970	0	209	147	100	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1829	1781	0	1585	1781	1870	0
Q Serve(g_s), s	12.9	25.3	0.0	13.5	23.2	23.2	28.7	0.0	11.6	8.9	5.6	0.0
Cycle Q Clear(g_c), s	12.9	25.3	0.0	13.5	23.2	23.2	28.7	0.0	11.6	8.9	5.6	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	242	1020		251	519	534	1088	0	484	185	194	0
V/C Ratio(X)	0.88	0.85		0.88	0.78	0.78	0.89	0.00	0.43	0.80	0.52	0.00
Avail Cap(c_a), veh/h	279	1239		268	608	626	1252	0	557	292	307	0
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.8	37.1	0.0	46.6	35.9	35.9	36.6	0.0	30.7	48.4	46.9	0.0
Incr Delay (d2), s/veh	23.1	4.8	0.0	26.6	5.6	5.5	7.6	0.0	0.6	7.8	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	11.4	0.0	7.7	10.6	10.9	13.0	0.0	4.5	4.4	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.9	41.9	0.0	73.1	41.5	41.4	44.2	0.0	31.3	56.1	49.0	0.0
LnGrp LOS	E	D		E	D	D	D	A	C	E	D	A
Approach Vol, veh/h		1076			1046			1179			247	
Approach Delay, s/veh		47.4			48.2			41.9			53.2	
Approach LOS		D			D			D			D	

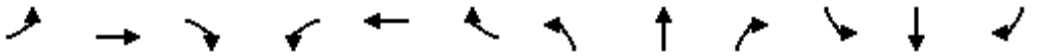
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		38.2	20.1	36.2		15.9	19.5	36.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		38.8	16.6	38.5		18.1	17.3	37.8				
Max Q Clear Time (g_c+I1), s		30.7	15.5	27.3		10.9	14.9	25.2				
Green Ext Time (p_c), s		3.0	0.1	4.4		0.5	0.1	4.1				

Intersection Summary		
HCM 6th Ctrl Delay	46.2	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	384	290	140	135	375	309	177	625	89	218	656	655
Future Volume (veh/h)	384	290	140	135	375	309	177	625	89	218	656	655
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	295	486	152	142	395	0	186	658	0	229	691	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	581	181	180	534		222	780		262	859	
Arrive On Green	0.21	0.21	0.21	0.20	0.20	0.00	0.12	0.22	0.00	0.15	0.24	0.00
Sat Flow, veh/h	1781	2730	848	908	2694	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	295	332	306	285	252	0	186	658	0	229	691	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1708	1825	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.6	13.7	13.9	12.0	10.7	0.0	8.3	14.4	0.0	10.2	14.8	0.0
Cycle Q Clear(g_c), s	12.6	13.7	13.9	12.0	10.7	0.0	8.3	14.4	0.0	10.2	14.8	0.0
Prop In Lane	1.00		0.50	0.50		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	379	398	364	362	352		222	780		262	859	
V/C Ratio(X)	0.78	0.83	0.84	0.79	0.71		0.84	0.84		0.87	0.80	
Avail Cap(c_a), veh/h	407	427	390	485	472		222	882		262	961	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.0	30.5	30.5	30.8	30.3	0.0	34.6	30.3	0.0	33.8	28.9	0.0
Incr Delay (d2), s/veh	8.7	12.6	14.5	6.2	3.3	0.0	23.4	6.8	0.0	26.3	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	7.3	6.9	5.7	4.7	0.0	4.8	6.4	0.0	6.0	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	43.0	45.0	37.0	33.7	0.0	58.1	37.1	0.0	60.1	33.5	0.0
LnGrp LOS	D	D	D	D	C		E	D		E	C	
Approach Vol, veh/h		933			537			844			920	
Approach Delay, s/veh		42.3			35.5			41.7			40.1	
Approach LOS		D			D			D			D	

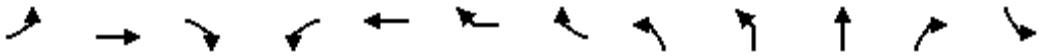
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.4	22.3		21.7	14.6	24.1		20.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	11.9	20.1		18.5	10.1	21.9		21.5				
Max Q Clear Time (g_c+I1), s	12.2	16.4		15.9	10.3	16.8		14.0				
Green Ext Time (p_c), s	0.0	1.4		1.3	0.0	1.9		1.9				

Intersection Summary			
HCM 6th Ctrl Delay		40.4	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	511	937	295	399	620	540	130	162	520	529	296	177
Future Volume (vph)	511	937	295	399	620	540	130	162	520	529	296	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	0.91			0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99			1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95	0.85			1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)	3433	3539	1547	1770	3223	1422			3433	3539	1546	1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)	3433	3539	1547	1770	3223	1422			3433	3539	1546	1770
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.93
Adj. Flow (vph)	562	1030	324	443	689	600	144	178	571	581	325	190
RTOR Reduction (vph)	0	0	176	0	0	93	0	0	0	0	145	0
Lane Group Flow (vph)	562	1030	148	443	989	351	0	0	749	581	180	190
Confl. Peds. (#/hr)			5	5							6	6
Confl. Bikes (#/hr)			1			1	1					
Turn Type	Prot	NA	Perm	Prot	NA	Perm		Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	8			5	5	2		1
Permitted Phases			4			8					2	
Actuated Green, G (s)	19.7	31.5	31.5	26.5	38.3	38.3			23.5	28.2	28.2	15.8
Effective Green, g (s)	19.7	31.5	31.5	26.5	38.3	38.3			23.5	28.2	28.2	15.8
Actuated g/C Ratio	0.16	0.26	0.26	0.22	0.32	0.32			0.20	0.23	0.23	0.13
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	563	928	406	390	1028	453			672	831	363	233
v/s Ratio Prot	0.16	c0.29		c0.25	0.31				c0.22	0.16		0.11
v/s Ratio Perm			0.10			0.25					0.12	
v/c Ratio	1.00	1.11	0.37	1.14	0.96	0.78			1.11	0.70	0.49	0.82
Uniform Delay, d1	50.1	44.2	36.1	46.8	40.1	37.0			48.2	42.0	39.7	50.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	37.2	64.5	0.6	88.0	19.4	8.1			70.6	2.6	1.1	19.3
Delay (s)	87.3	108.7	36.7	134.7	59.6	45.1			118.8	44.6	40.8	70.0
Level of Service	F	F	D	F	E	D			F	D	D	E
Approach Delay (s)		90.3			73.9					77.5		
Approach LOS		F			E					E		

Intersection Summary			
HCM 2000 Control Delay	80.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	372	178	222
Future Volume (vph)	372	178	222
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.5		4.5
Lane Util. Factor	0.95		1.00
Frpb, ped/bikes	1.00		0.99
Flpb, ped/bikes	1.00		1.00
Frt	0.95		0.85
Flt Protected	1.00		1.00
Satd. Flow (prot)	3353		1562
Flt Permitted	1.00		1.00
Satd. Flow (perm)	3353		1562
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	400	191	239
RTOR Reduction (vph)	0	0	198
Lane Group Flow (vph)	591	0	41
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)		1	1
Turn Type	NA		Perm
Protected Phases	6		
Permitted Phases			6
Actuated Green, G (s)	20.5		20.5
Effective Green, g (s)	20.5		20.5
Actuated g/C Ratio	0.17		0.17
Clearance Time (s)	4.5		4.5
Vehicle Extension (s)	3.0		3.0
Lane Grp Cap (vph)	572		266
v/s Ratio Prot	c0.18		
v/s Ratio Perm			0.03
v/c Ratio	1.03		0.15
Uniform Delay, d1	49.8		42.4
Progression Factor	1.00		1.00
Incremental Delay, d2	46.4		0.3
Delay (s)	96.2		42.6
Level of Service	F		D
Approach Delay (s)	78.8		
Approach LOS	E		

Intersection Summary

Appendix H – C/CAG VMT Estimation Tool Output

C/CAG VMT Estimation Tool Report

Project Details

Timestamp of Analysis: October 28, 2022, 01:38:06 PM

Project Name: 455 Hickey Blvd

Project Description: Office project in Daly City

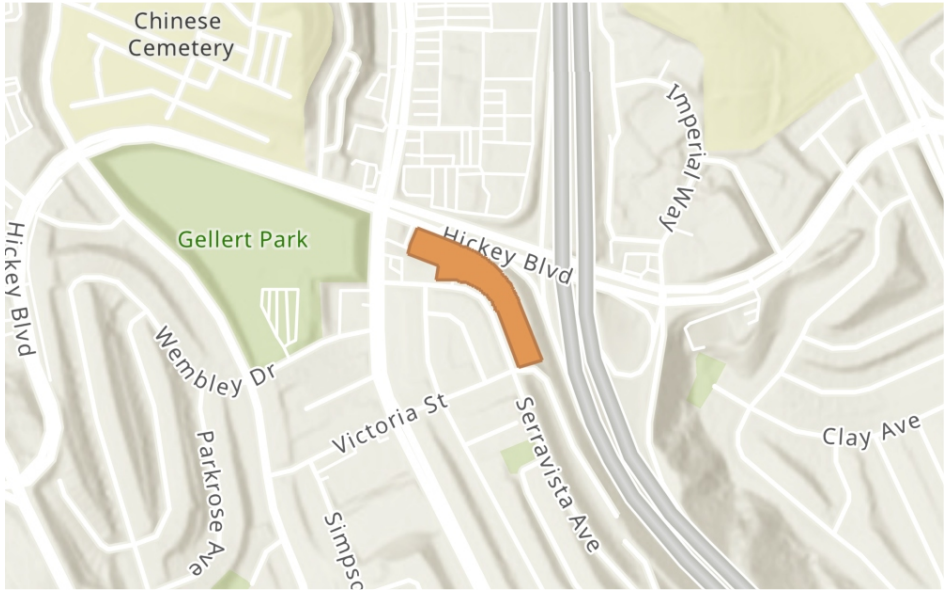
Project Location

jurisdiction:
Daly City

apn	TAZ
091341140	1918

Inside a TPA?

Yes (Pass)



Analysis Details

Data Version: C/CAG Travel Model

Analysis Methodology: TAZ

Baseline Year: 2015

Project Land Use

Residential:

Single Family DU:

Multifamily DU:

Total DUs: 0

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 0 %

Parking:

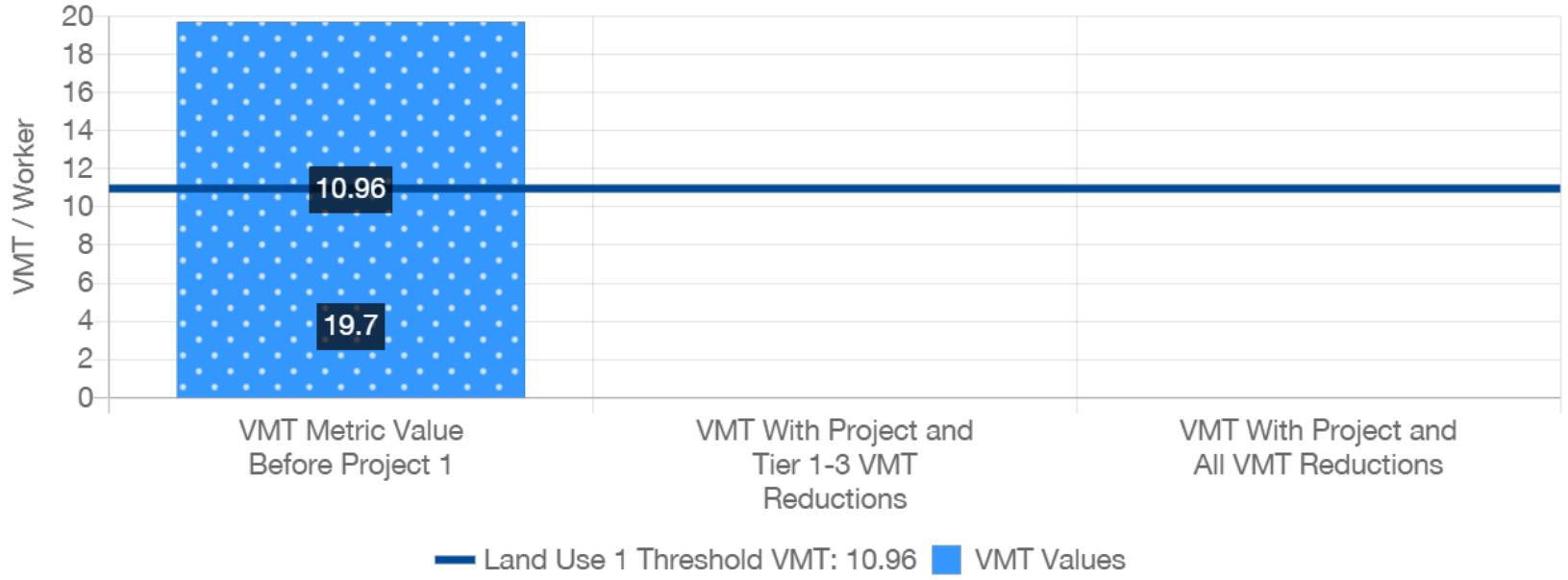
Motor Vehicle Parking:

Bicycle Parking:

Office Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Office
VMT Without Project 1:	Home-Based Work VMT per Employee
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	12.9
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

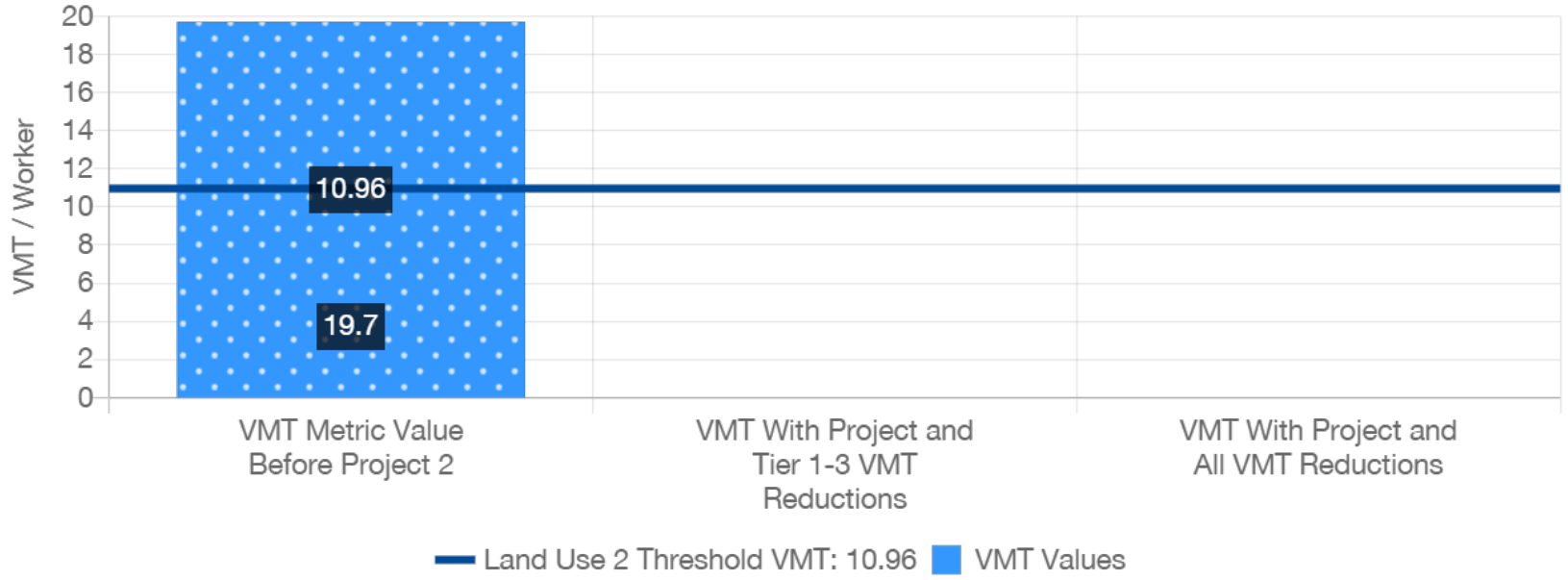
	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	19.7	null	null
Low VMT Screening Analysis	No (Fail)	null	null



Industrial Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 2:	Industrial
VMT Without Project 2:	Home-Based Work VMT per Employee
VMT Baseline Description 2:	City Average
VMT Baseline Value 2:	12.9
VMT Threshold Description 2:	-15%
Land Use 2 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	19.7	null	null
Low VMT Screening Analysis	No (Fail)	null	null



Appendix I – C/CAG TDM Checklist

C/CAG TDM Checklist

ccagtdm.org

Non-Residential (Office, Industrial, Institutional) Land Use: Large Project

500+ ADT; ~50,000+ sq ft

About this Form

Any new development project anticipated to generate at least 100 average daily trips is subject to the C/CAG TDM Policy and must complete a TDM Checklist and implement associated measures to mitigate traffic impacts. Read more at ccagtdm.org

Questions?
support@ccagtdm.org

A Applicant Information

Project Address	Contact First and Last Name
Parcel Number / Application Date (D D M M Y Y Y Y)	Contact Phone Address
Project Jurisdiction	Contact Email Address

B Trip Reduction Target

Select one option based on your project's distance to high quality transit

Read more about high quality transit at ccagtdm.org/high-quality-transit

Identify your project type

◉ **TOD**	☐ **Transit Proximate**	☐ **Non-Transit Proximate**
Less than 1/2-mile from high quality transit service	1/2 to 3 miles from high quality transit service	More than 3 miles from high quality transit service
25% Trip Reduction Required	**35%** Trip Reduction Required	**35%** Trip Reduction Required

C Required Measures

You must select all measures that apply for your project type

Click on each measure's title for more information

	Measure	Project Types	Percentage	Yes
1	**M1 - Free/Preferential Parking for Carpools** Provide free or preferential parking, including reserved spaces or spaces near an entrance or other desirable location, to incentivize ridesharing.	ALL	1%	☑
2	**M3 - TDM Coordinator/Contact Person** Provide TDM coordinator/liaison for tenants. May be contracted through 3rd party provider, such as Commute.org.	ALL	0.5%	☑
3	**M4 - Actively Participate in Commute.org or Transportation Management Association (TMA) Equivalent** Obtain certification of registration from Commute.org or equivalent TMA incorporation documents. Select only one based on Project Type	TOD & Non-transit Proximate Transit Proximate	6.5% 16.5%	☑ ☐
4	**M5 - Carpool or Vanpool Program** Establish carpool/vanpool program for tenants and register program with Commute.org.	ALL	2%	☑
5	**M6 - Transit or Ridesharing Passes/Subsidies** Offer tenants passes or subsidies for monthly public transit or ridesharing costs incurred, equivalent to 30% of value or $50 - whichever is lower.	ALL	10%	☑
6	**M7 - Pre-Tax Transportation Benefits** Offer option for tenants to participate in a pre-tax transit program to encourage the use of sustainable transportation modes and leverage pre-tax income to pay for commute trip costs.	ALL	1%	☑
7	**M8 - Secure Bicycle Storage** Comply with CalGREEN minimum bicycle parking requirements.	ALL	1%	☑
8	**M9 - Design Streets to Encourage Bike/Ped Access** Design adjacent streets or roadways to facilitate multimodal travel.	ALL	1%	☑
9	**M25 - Showers, Lockers, and Changing Rooms for Cyclists** These amenities serve as end of trip facilities for employees arriving by bike or other active transportation forms.	ALL	2%	☑
10	**Total from Required Measures** Sum percentages from each selected measure from rows 1-9		25 %	

Form Continues on Page 2 →

D Additional Recommended

Select enough to meet the trip reduction target from section B

Click on each measure's title for more information

	Measure	Project Types	Percentage	Yes
11	**M12 - Flex Time, Compressed Work Week, Telecommute** Flex time allows employees some flexibility in their daily work schedules. Compressed work week allows employees to work fewer but longer days. Telecommuting functions similarly, allowing employees to work from home rather than the office, reducing vehicle travel on the days they work remotely.	ALL	5%	☐
12	**M14 - Paid Parking at Market Rate** Offer hourly/daily parking rates proportional to monthly rate or equivalent to cost of transit fare.	ALL	25%	☐
13	**M15 - Reduced Parking** Provide off-street parking at least 10% below locally-required minimums, or else below the locally-permitted parking maximums. Consideration may be required of potential spillover parking into surrounding areas.	ALL	10%	☐
14	**M16 - Short-Term Daily Parking** Offer daily or hourly parking rates that are proportional to the monthly rate or approximately the cost of a transit fare.	ALL	2%	☐
15	**M17 - Developer TDM Fee/TDM Fund** Voluntary impact fee payment on a per unit or square footage basis, to fund the implementation of TDM programs.	ALL	4%	☐
16	**M18 - Car Share On-Site** Provide on-site car share or vehicle fleets.	ALL	1%	☐
17	**M19 - Land Dedication or Capital Improvements for Transit** Contribute space on, or adjacent to, the project site for transit improvements. Select one or more Bus Pullout Space 1% ☐ Bus Shelter 1% ☐ Visual/Electrical Improvements (i.e., Lighting, Signage) 1% ☐ Other (i.e., Micromobility Parking Zone, TNC Loading Zone) 1% ☐	ALL →	☐ % Total percentages selected	☐
18	**M20 - Shuttle Program/Shuttle Consortium/Fund Transit Service** Establish a shuttle service to regional transit hubs or commercial centers. Shuttle service should be provided free of charge to employees and guests.	Non-transit Proximate	10%	☐
19	**M21 - Bike/Scooter Share On-Site** Allocate space for bike/scooter share parking.	All	1%	☐
20	**M22 - Active Transportation Subsidies** Offer biking/walking incentives to tenants, such as gift card/product raffles.	All	2%	☐
21	**M23 - Gap Closure** Construct or enhance quality of biking and walking facilities to/from site to existing trails, bikeways, and/or adjacent streets.	All	7%	☐
22	**M24 - Bike Repair Station** Offer on-site bike repair space/tools in visible, secure area.	All	0.5%	☐
23	**M26 - Pedestrian Oriented Uses & Amenities on Ground Floor** Provide on-site, visible amenities to tenants and guests, such as cafes, gyms, childcare, retail.	All	3%	☐
24	**Total from Additional Measures** Sum percentages from each selected measure from rows 11 - 23		0 %	

E Project Totals

Percentage from Required Measures (Section C Row 10): 25 %

\+ Percentage from Additional Measures (Section D Row 24): 0 %

Total Percentage from all Selected Measures (Sum of required and additional measures): 25 %

Trip Reduction Target (Copy from Section B): 25 %

Total Percentage from all selected measures must be greater than or equal to Trip Reduction Target

F Submit Checklist

See ccagtdm.org/submission for how to submit this form.

Questions?

Email Us
support@ccagtdm.org

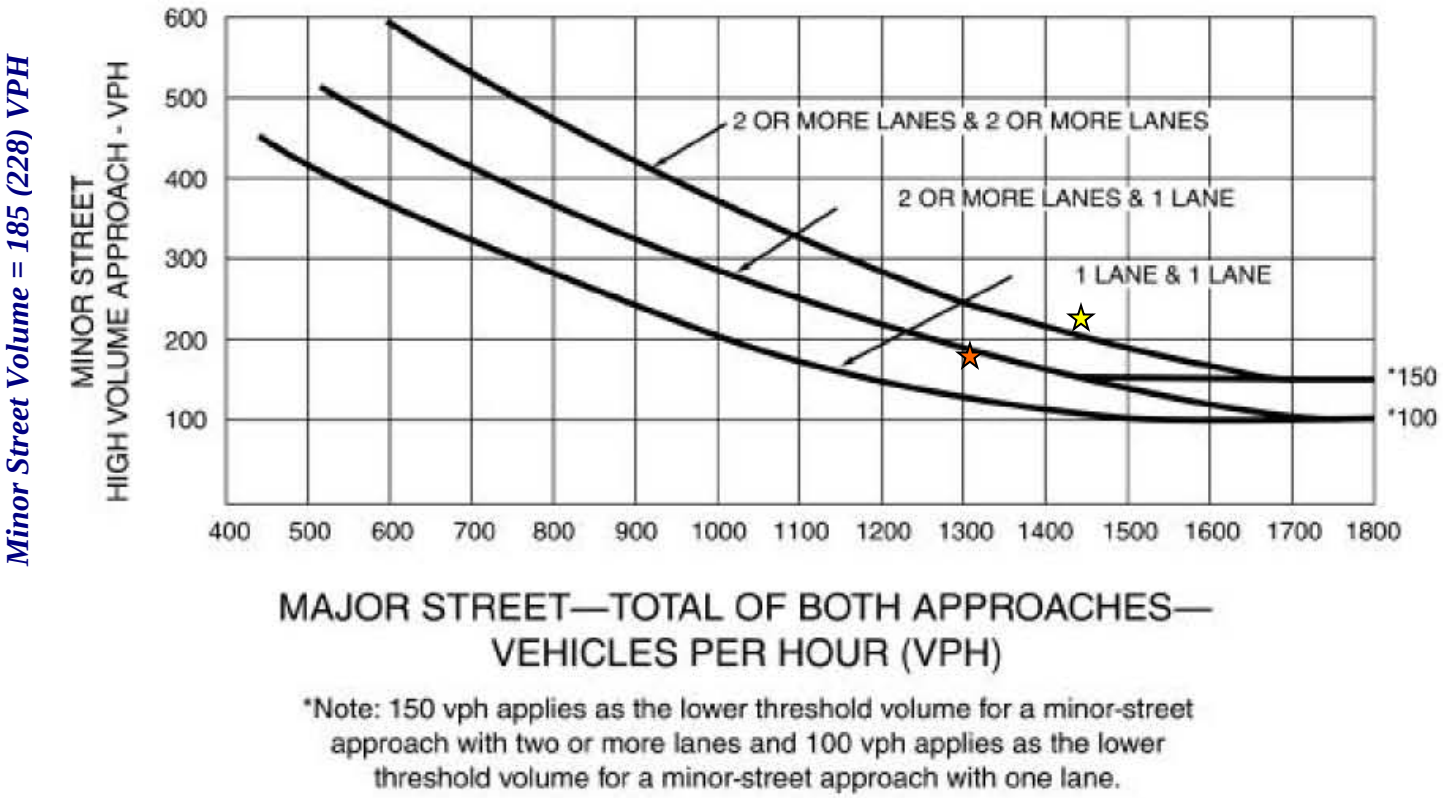
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ccagtdm.org

Appendix J – Signal Warrant Analysis Worksheet

Peak Hour Warrant (Urban Areas)

Intersection: #1 Serravista Avenue & Gellert Boulevard
Scenario: Existing + Project Alternative 1 Conditions

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Minor Street Volume = 185 (228) VPH

Major Street Volume = 1312 (1446) VPH

★ ***AM Peak Hour***

★ ***PM Peak Hour***

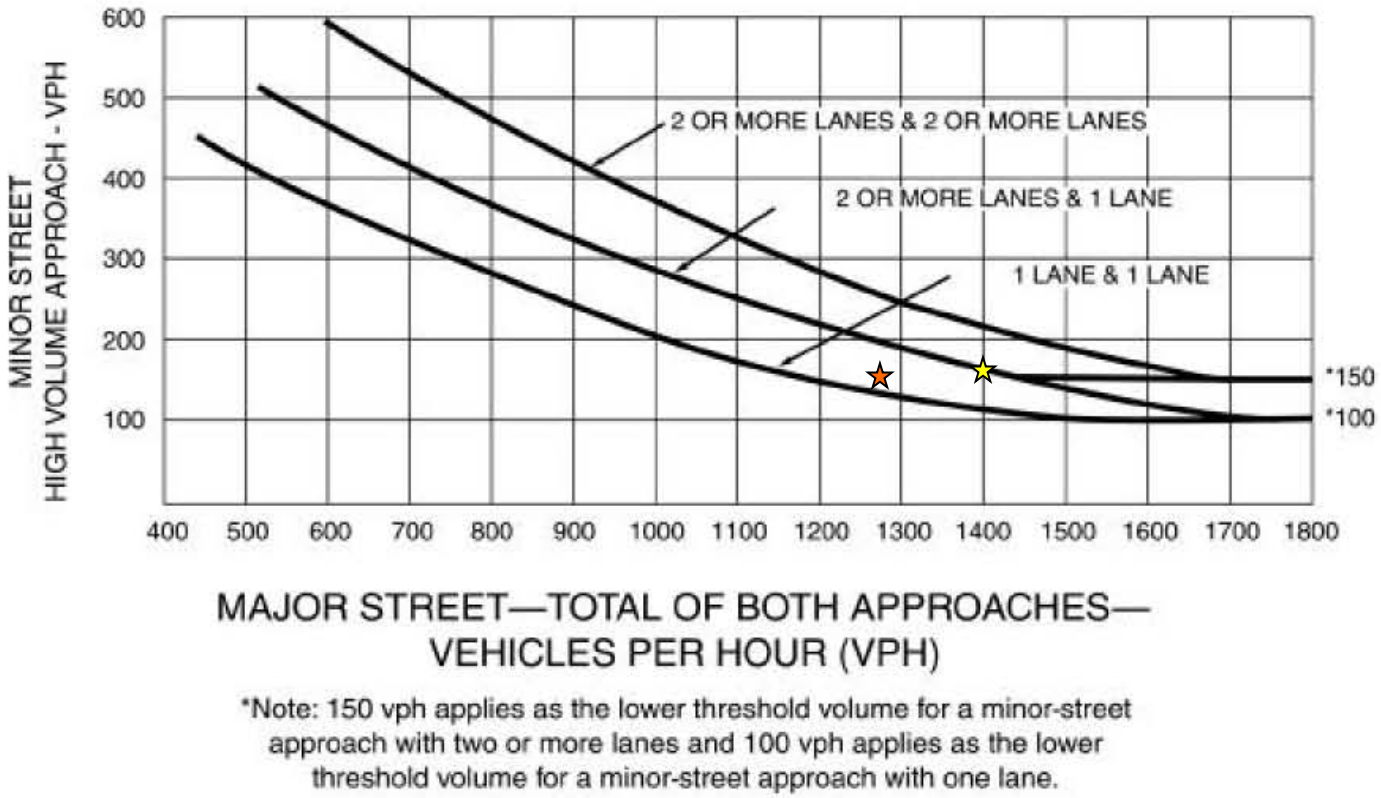
A signal is WARRANTED in the a.m. Peak Hour
A signal is WARRANTED in the p.m. Peak Hour

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Urban Areas)

Intersection: #1 Serravista Avenue & Gellert Boulevard
Scenario: Existing + Project Alternative 2 Conditions

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Minor Street Volume = 160 (160) VPH

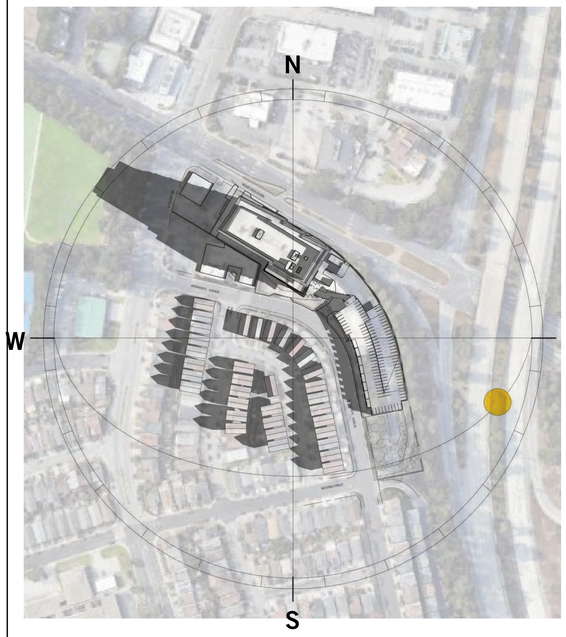
Major Street Volume = 1275 (1404) VPH

★ ***AM Peak Hour***

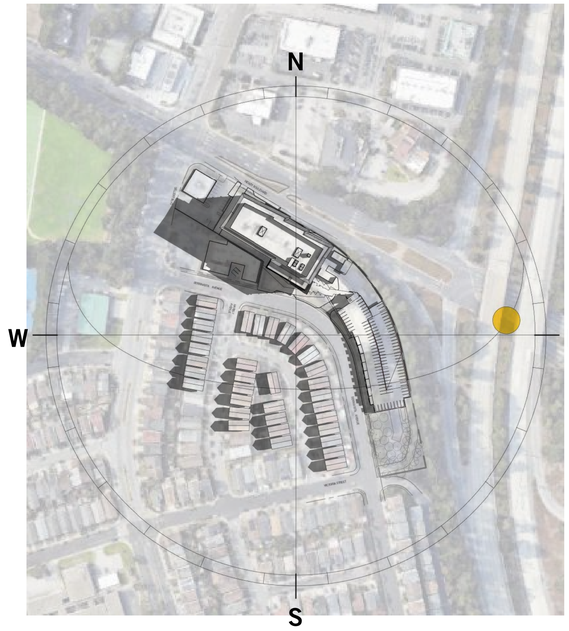
★ ***PM Peak Hour***

A signal is WARRANTED in the a.m. Peak Hour
A signal is WARRANTED in the p.m. Peak Hour

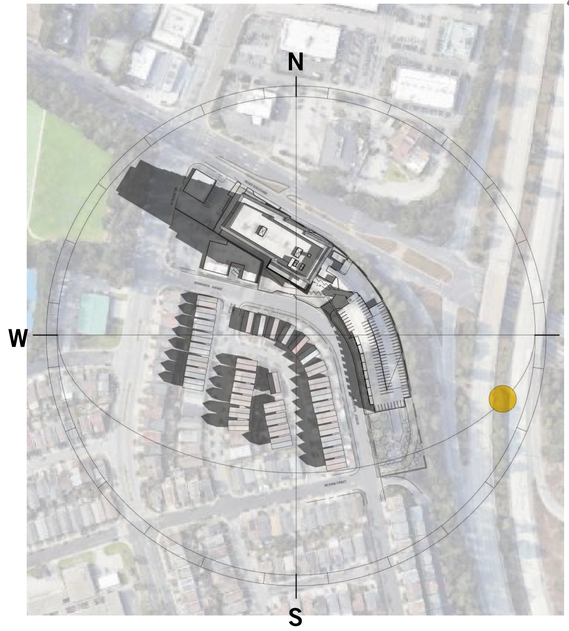
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3



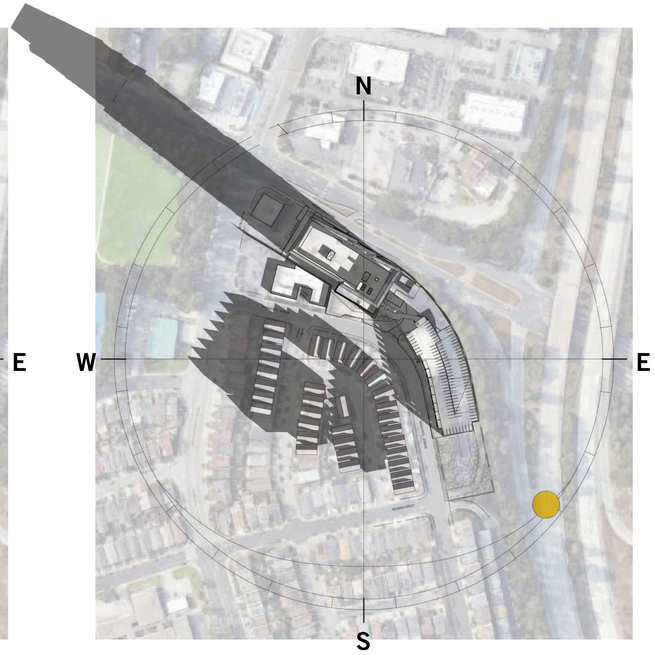
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9AM



SUMMER SOLSTICE
9AM



FALL EQUINOX
9AM



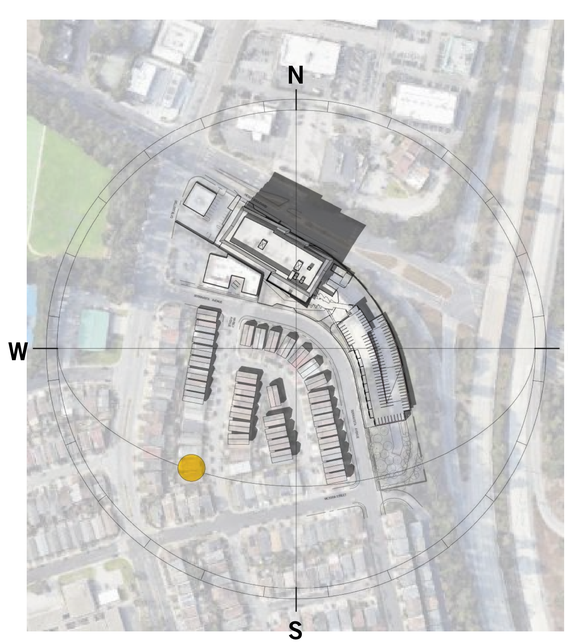
WINTER SOLSTICE
9AM



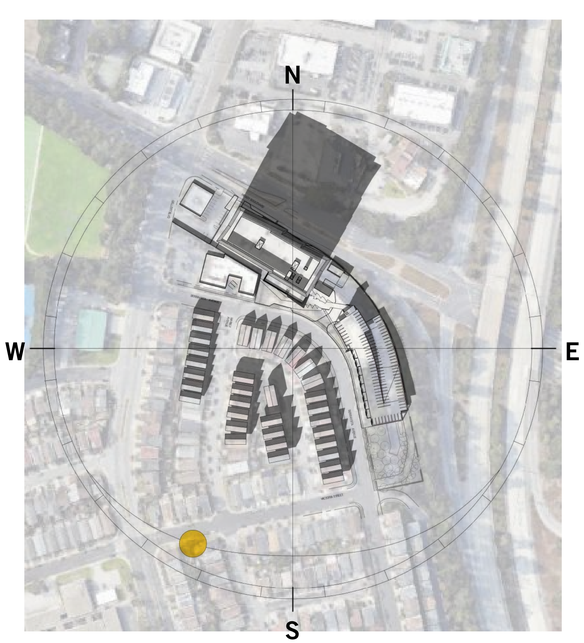
SPRING EQUINOX
3PM



SUMMER SOLSTICE
3PM



FALL EQUINOX
3PM



WINTER SOLSTICE
3PM

DES ARCHITECTS ENGINEERS

KING ASSET MANAGEMENT

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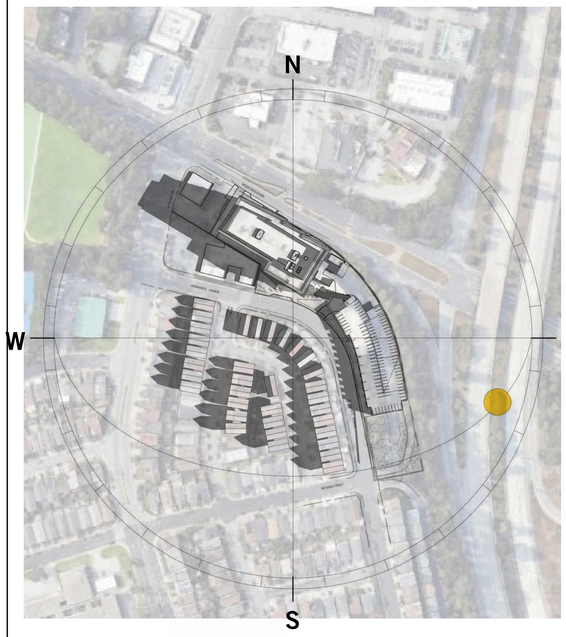
SHADOW STUDIES - TECH OFFICE

455 HICKEY, DALY CITY, CA

1

10071.003

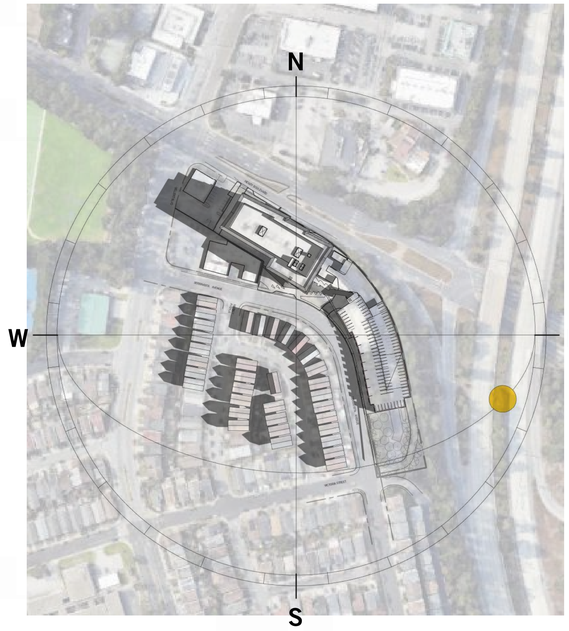
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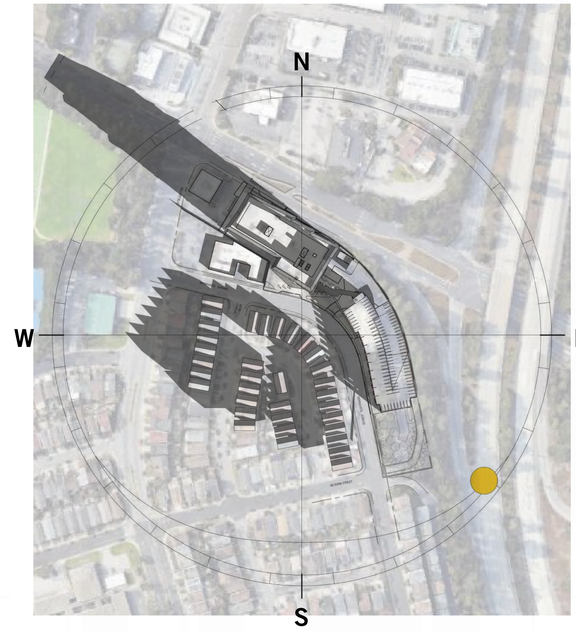
SPRING EQUINOX
9AM



SUMMER SOLSTICE
9AM



FALL EQUINOX
9AM



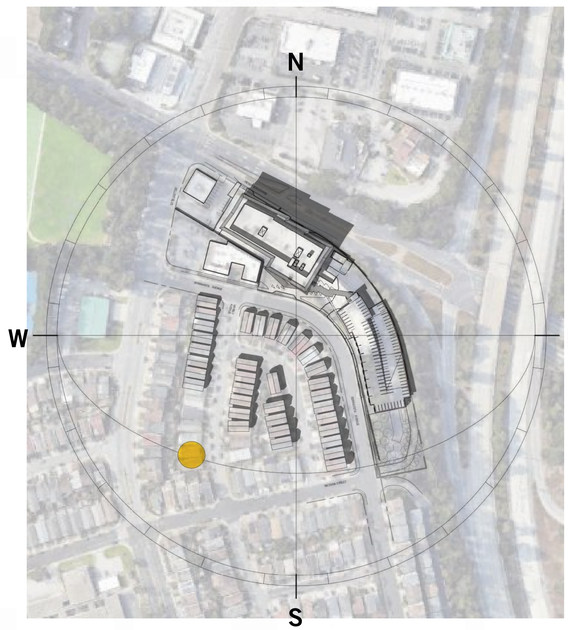
WINTER SOLSTICE
9AM



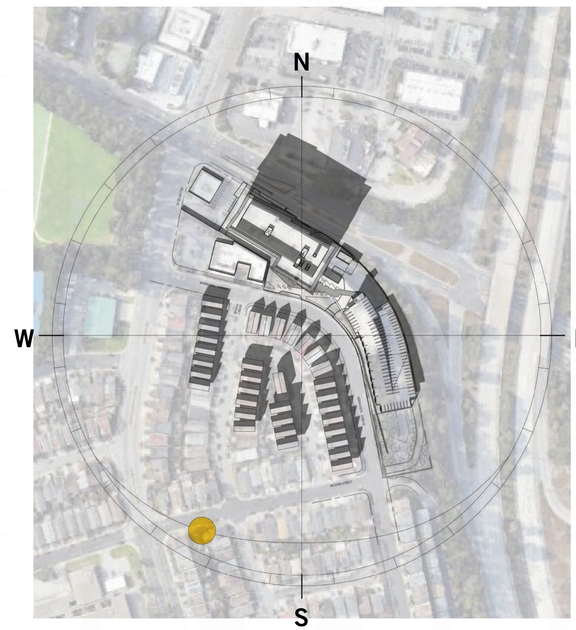
SPRING EQUINOX
3PM



SUMMER SOLSTICE
3PM



FALL EQUINOX
3PM



WINTER SOLSTICE
3PM

DES ARCHITECTS ENGINEERS

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SHADOW STUDIES - MEDICAL OFFICE

455 HICKEY, DALY CITY, CA

2

10071.003

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SHADOW STUDY MEMO

455 Hickey
05/22/2024

Subject: Shadow Study for 455 Hickey Blvd, Daly City, CA

A shadow study was conducted for the 455 Hickey to assess the potential impacts on the existing streets and properties. The study includes both development scenarios: 8-story technical office development and 5-story medical office.

The shadow study was conducted using a combination of satellite images, digital mapping tools, and 3d modeling and simulation software. Data was collected for different times of the day, including 9am and 3pm during the spring equinox, summer solstice, fall equinox, and winter solstice, to capture variations in shadow patterns throughout the year.

In the morning, shadows from the new building structure are casting primarily towards the northwest side, over a portion of the adjacent shopping center and Hickey Boulevard. No shadow impacts on the existing residential homes to the south of project site. During the winter seasons, shadows from the new development tilt slightly toward the north-direction, but generally over public right of ways up the hill. The shadows from the low-angle sun recede gradually as the morning progresses. In the afternoon, shadows from the new building shift towards the east as the sun moves westward, over a portion of Hickey Boulevard and the commercial buildings across the street to the north of the project site.

The shadow study concludes that there's minimal impact over existing residential neighborhoods. Only a portion of the public ROW and adjacent commercial uses will be shaded for part of the day.

MITIGATED NEGATIVE DECLARATION

I. DESCRIPTION OF PROJECT

Date: May 21, 2024

File Nos: PD-10-22-015932 and DR-04-18-13424

APN: 091-341-140

Project Title: 455 Hickey Boulevard Office Redevelopment Project

Project Location: The approximately 3.2-acre project site is located at 455 Hickey Boulevard in Daly City.

Project Applicant(s): DES Architects + Engineers
Attn: Bei Xu
399 Bradford Street, Suite 300
Redwood City, CA 94063

Project Description: The project applicant proposes to demolish the existing 80,652-square-foot five-story office building and 112,500 square foot three-level parking garage to construct one of two development options: (1) Office Building or (2) Medical Office Building. Under the Office Building development option, the project would construct a 280,000-square-foot and eight-story office building above three levels of podium parking. Under the Medical Office development option, the project would construct a 180,000-square-foot and five-story medical office building above three levels of podium parking. A total of 900 parking spaces would be provided under either development option. The project includes a Planned Development (PD) Rezone from Light Commercial (C1), Planned Development (PD8A) and Commercial Office (CO) to a new PD number and a Lot Merger. The Lot Merger would modify the General Plan designation of the northwest portion of project site from the existing Retail and Office (C-RO) to Commercial Office (C-O).

II. DETERMINATION

In accordance with the City of Daly City procedures for compliance with the California Environmental Quality Act (CEQA), the City has completed an Initial Study to determine whether the proposed project may have a significant adverse effect on the environment. On the basis of that study, the City makes the following determination:

- Although the project, as proposed, could have had a significant effect on the environment, there will not be a significant effect in this case because mitigation measures are included in the project which will reduce all identified potential impacts to less than significant levels, and, therefore, this **MITIGATED NEGATIVE DECLARATION** (MND) has been prepared.

III. CONDITIONS (MITIGATION MEASURES)

A. Air Quality

MM AIR-1.1: BAAQMD Best Management Practices: During any construction period ground disturbance, the applicant shall ensure that the project contractor implements measures to control dust. Implementation of the measures recommended by BAAQMD and listed below would reduce the fugitive dust associated with grading and new construction to a less-than-significant level. The contractor shall implement the following best management practices for the entire duration of construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

The best management practices listed above shall be printed on all construction documents, contracts, and project plans. The project applicant and/or contractor shall submit the construction documents,

contracts, and project plans to the Director of Economic Community Development or the Director's designee for review and approval prior to the issuance of a demolition or grading permit, whichever occurs earliest.

MM AIR-2.1: Prior to the issuance of any demolition or grading permits (whichever occurs earliest), the project applicant shall submit a construction management plan to the Director of Economic and Community Development or Director's designee for review and approval. The construction management plan shall demonstrate that off-road equipment used during construction (including on-site and off-site within a right-of-way) would achieve a fleet-wide average reduction of 45 percent in particulate matter exhaust. The construction management plan that is based on either option 1 or 2 (as described in detail below) shall be accompanied by a letter signed by an air quality specialist, verifying that the equipment included in the plan meets the standards described below. Verification shall include modeling the emissions of the construction management plan to ensure the 45 percent reduction in particular matter exhaust is attained. The project applicant shall submit the final construction management plan and verification letter to the Director of Economic and Community Development or Director's designee for review and approval. The construction management plan shall include, but not be limited to the following:

- List of activities and estimated timing.
- Equipment that would be used for each activity.
- Manufacturer's specifications for each piece of equipment that provides the emissions level; or the manufacturer's specifications for devices that would be added to each piece of equipment to ensure the emissions level meet the thresholds in the mitigation measure.
- How the construction contractor will ensure that the measures listed are monitored.
- How the construction contractor will remedy any exceedance of the thresholds.
- How often and the method the construction contractor will use to report compliance with this mitigation measure.

In order to achieve the 45 percent particular matter exhaust reduction, the project would include either option 1 or 2:

(1) Tier 4 Emission Equipment. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet at least U.S. EPA Tier 4 interim emission standards for particulate matter (PM_{10} and $PM_{2.5}$). If use of Tier 4 interim equipment is not available, alternatively (or in combination) use equipment that meets United States EPA emission standards for Tier 2 or 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 45 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment. As another alternative, the use of electrical or non-diesel fueled equipment may be used in substitution of diesel equipment.

(2) Alternative Construction Operations Plan. Alternatively, the project applicant may develop another construction operations plan demonstrating that the construction equipment used on-site would achieve a reduction in construction diesel particulate matter emissions by 45 percent or greater. Elements of the plan could include a combination of the following measures:

- Implementation of Tier 4 rated or alternatively fueled equipment,
- Installation of electric power lines during early construction phases to avoid use of diesel generators and compressors,
- Use of electrically powered equipment,
- Forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered,
- Change in construction build-out plans to lengthen phases, and
- Implementation of different building techniques that result in less diesel equipment usage.

All measures of the final construction management plan shall be printed on all construction documents, contracts, and project plans. The construction documents, contracts, and project plans shall be submitted to the Director of Economic and Community Development of Director's designee for review and approval. The construction management plan shall be implemented by the project's contractor for all phases of construction.

B. Biological Resources

MM BIO-1.1: Avoidance. The project applicant shall notify the Director of Economic and Community Development or Director's designee of the approximate start and end dates of site disturbance activities prior to the issuance of any demolition or grading permits (whichever occurs earliest). The project applicant shall schedule demolition and construction activities to avoid the nesting season, if feasible. The nesting season for most birds, including most raptors in the San Francisco Bay area, extends from February 1st through August 31st (inclusive). The Director of Economic and Community Development or Director's designee shall confirm that the construction activities would start outside of the nesting season.

MM BIO-1.2: Pre-construction Surveys. If demolition and construction cannot be scheduled between September 1st and January 31st (inclusive), pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests shall be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of construction activities during the breeding season (February 1st through August 31st inclusive), and prior to any tree removal, or approval of any grading or demolition permits (whichever occurs earliest). During this survey, the ornithologist shall inspect all trees and other possible nesting habitats immediately adjacent to the construction areas for nests. If active nests are discovered close to work areas, MM BIO-1.3 shall be initiated. The results of the pre-construction surveys shall be described in the report required by MM BIO-1.4.

MM BIO-1.3: Construction Free Buffer. If the ornithologist determines that an active nest is sufficiently close to work areas to be disturbed by construction, the ornithologist shall determine the extent of a construction free buffer zone to be established around the nest, typically 250 feet, to ensure that raptor or migratory bird nests shall not be disturbed during project construction. The construction free buffer zones shall be described in the report required by MM BIO-1.4. The construction free buffer zones shall be observed by the project contractor during all phases of construction.

MM BIO-1.4: Report of Survey and Buffer. Prior to any tree removal, or approval of any grading or demolition permits (whichever occurs first), the ornithologist shall submit a report indicating the results

of the survey and any designated buffer zones to the satisfaction of the Director of Economic and Community Development or Director's designee, prior to the removal of trees and issuance of a grading permit or demolition permit. The project applicant shall submit the final report to the Director of Economic and Community Development or Director's designee for review and approval.

C. Cultural Resources

MM CUL-1.1: Undiscovered Archaeological Resources. If evidence of an archaeological site or other suspected cultural resource as defined by CEQA Guideline Section 15064.5, including darkened soil representing past human activity ("midden"), that could conceal material remains (e.g., worked stone, worked bone, fired clay vessels, faunal bone, hearths, storage pits, or burials) is discovered during construction related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the Director of Economic and Community Development or Director's designee shall be notified. The project sponsor shall hire a qualified archaeologist to conduct a field investigation. The City's Director of Economic and Community Development or Director's designee shall consult with the archaeologist to assess the significance of the find. Impacts to any significant resources shall be mitigated to a less-than-significant level through data recovery or other methods determined adequate by a qualified archaeologist and that are consistent with the Secretary of the Interior's Standards for Archaeological documentation. Any identified cultural resources shall be recorded on the appropriate DPR 523 (A-J) form and filed with the NWIC.

MM CUL-1.2: Report of Archaeological Resources. If archaeological resources are identified, a final report summarizing the discovery of cultural materials shall be submitted to the City's Director of Economic and Community Development or Director's designee prior to issuance of certificate of occupancy. This report shall contain a description of the mitigation program that was implemented and its results, including a description of the monitoring and testing program, a list of the resources found and conclusion, and a description of the disposition/curation of the resources.

MM CUL-2.1: Human Remains. If human remains are discovered during project construction, all ground-disturbing activity within 100 feet of the resources shall be halted and the City's Director of Economic and Community Development or Director's designee and the San Mateo County coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The project sponsor shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The Director of Economic and Community Development or Director's designee shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of State law, as set forth in CEQA Guidelines section 15064.5(e) and Public Resources Code section 5097.98. The project sponsor shall implement approved mitigation, to be verified by the Director of Economic and Community Development or Director's designee, before the resumption of ground-disturbing activities within 100 feet of where the remains were discovered.

D. *Geology and Soils*

MM GEO-1.1: Unique Paleontological and/or Geologic Features and Reporting. Should a unique paleontological resource, site, or unique geological feature be identified at the project site during any phase of construction, all ground disturbing activities within 25 feet shall cease and the City's Director of Economic and Community Development or Director's designee shall be notified immediately. A qualified paleontologist shall evaluate the find and prescribe recommend appropriate treatment specific to the find. Work may proceed on other parts of the project site while treatment for paleontological resources or geologic features is implemented. Treatment may include, but is not limited to, preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The project applicant shall be responsible for implementing the recommendations of the qualified paleontologist. Upon completion of the paleontological assessment, a report shall be submitted to the Director of Economic and Community Development or Director's designee and, if paleontological materials are recovered, a paleontological repository, such as the University of California Museum of Paleontology.

E. *Noise and Vibration*

MM NOI-1.1: Construction Noise Best Management Practices. In accordance with the City's General Plan and Municipal Code, construction activities would be completed with incorporation of the following best management practices (BMPs) to further reduce potential temporary construction noise impacts. The applicant shall incorporate the following practices into the construction documents to be implemented by the project contractor:

- Construction activities shall be limited to the hours between 8:00 am and 5:00 pm, Monday through Friday, and prohibited on weekends and holidays in accordance with the City's General Plan, unless permission is granted by the City Council and the City Manager to conduct construction outside the allowable hours with a development permit or other planning approval.
- Construct temporary noise barriers, where feasible, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a five dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps.
- At a minimum, the construction contractor shall implement the following control measures: improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds.
- Equipment used for project construction shall be hydraulically or electrically powered impact tools (e.g., jack hammers) wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Where use of pneumatically-powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. A muffler could lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of five dBA. Quieter procedures shall be used (such as drilling rather than impact equipment) wherever feasible.

- The construction contractor shall not allow any construction equipment, trucks, or vehicles to idle.
- Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from residential receptors.
- Route construction-related traffic along major roadways and as far as feasible from sensitive receptors.
- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- The contractor shall prepare a detailed construction schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.
- The construction noise BMPs shall be printed on all construction documents, contracts, and project plans. The project applicant and/or contractor shall submit the construction documents, contracts, and project plans to the Director of Economic Community Development or the Director's designee for review and approval prior to the issuance of a demolition or grading permit, whichever occurs earliest. The project applicant and contractors shall implement all measures for the entire duration of construction.

MM NOI-2.1: Construction Vibration Measures. The following measures shall be printed on all construction documents, contracts, and project plans and implemented during all phases of construction to reduce vibration impacts from construction activities to a less-than-significant level:

- A list of all heavy construction equipment to be used for this project known to produce high vibration levels (e.g., tracked vehicles, vibratory compaction, jackhammers, hoe rams, clam shovel drop, and vibratory roller, etc.) shall be submitted to the City by the contractor. This list shall be used to identify equipment and activities that would potentially generate substantial vibration and to define the level of effort for reducing vibration levels below the thresholds.
- Place operating equipment on the construction site as far as possible from vibration-sensitive receptors.

- Smaller equipment to minimize vibration levels to below 0.3 in/sec PPV shall be used at the property lines. For example, a smaller vibratory roller, such as the Caterpillar model CP433E vibratory compactor, could be used when compacting materials within 20 feet of the adjacent conventional building.
- Avoid using vibratory rollers and clam shovel drops near sensitive areas.
- Select demolition methods not involving impact tools.
- Modify/design or identify alternative construction methods to reduce vibration levels below the limits.
- Avoid dropping heavy equipment and use alternative methods for breaking up existing pavement, such as a pavement grinder, instead of dropping heavy objects, within 20 feet of the adjacent conventional building.
- Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such person shall be clearly posted on the construction site.

IV. FINDING

The City of Daly City hereby finds that the proposed project could have a significant effect on the environment; however, there would not be a significant effect in this case because mitigation measures summarized above and described in the Initial Study are included in the project which will reduce all identified potential impacts to less than significant levels.

V. LEAD AGENCY REPRESENTATIVE

5-9-24

Michael Van Lonkhuysen, Planning Manager Date

VI. CONTACT INFORMATION

For additional information, please contact Sam C. Fielding at the City of Daly City Planning Division at (650) 991-8156.

Written comments may be sent to Sam C. Fielding via email at sfielding@dalycity.org or at City of Daly City Planning Division, 333 90th Street, Daly City, CA 94015.

Mitigation Monitoring and Reporting Program

455 Hickey Boulevard Office Project
File Nos. PD-10-22-015932 and DR-04-18-13424

May 2024

PREFACE

Section 21081.6 of the California Environmental Quality Act (CEQA) requires a Lead Agency to adopt a Mitigation Monitoring and Reporting Program (MMRP) whenever it approves a project for which measures have been required to mitigate or avoid significant effects on the environment. The purpose of the monitoring and reporting program is to ensure compliance with the mitigation measures during project implementation.

The Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the 455 Hickey Boulevard Office Project concluded that the implementation of the project could result in significant effects on the environment and mitigation measures were incorporated into the proposed project or are required as a condition of project approval. This MMRP addresses those measures in terms of how and when they will be implemented.

This document does *not* discuss those subjects for which the IS/MND concluded that the impacts from implementation of the project would be less than significant.

I, CHARLES KING, the applicant, on the behalf of KING ASSET, hereby agree to fully implement the mitigation measures described below which have been developed in conjunction with the preparation of an IS/MND for my proposed project. I understand that these mitigation measures or substantially similar measures will be adopted as conditions of approval with my development permit request to avoid or significantly reduce potential environmental impacts to a less than significant level.

Project Applicant's Signature _____

455 Hickey Bouelvard Office Project

File Nos. PD-10-22-015932 and DR-04-18-13424

Initial Study/Mitigated Negative Declaration

RESPONSES TO PUBLIC COMMENTS

July 15, 2024

CEQA Lead Agency:

City of Daly City
Planning Division
333 90th Street
Daly City, CA 94015
(650) 991-8033

In Consultation with:

DAVID J. POWERS & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & PLANNERS

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Appendix A: Draft Comment Letters

Section 1.0 Introduction

The Initial Study/Mitigated Negative Declaration (IS/MND) for the 455 Hickey Boulevard Office project was prepared in compliance with the requirements of the California Environmental Quality Act (CEQA). The 30-day public circulation period for the IS/MND started May 21, 2024 and ended June 20, 2024. The following pages contain responses to comments submitted by agencies, organizations, and individuals during the IS/MND public review period. Copies of the comment letters are attached to this document in Appendix A.

Pursuant to CEQA Guidelines §15073.5, the recirculation of the MND is required when the document must be "substantially revised" after public notice of its availability. A "substantial revision" is defined as:

(1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance; or
(2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.

CEQA does not require formal responses to comments on an IS/MND and the decision-making body shall adopt the proposed MND only if it finds on the basis of the whole record before it, that there is no substantial evidence that the project will have a significant effect on the environment and the MND reflects the lead agency's independent judgment and analysis [CEQA Guidelines §15074(b)].

Section 2.0 Responses to Comments Received on Draft IS/MND

Comments are organized under headings containing the source of the letter and its date. The specific comments from each of the letters and/or emails are presented, with each response to that specific comment directly following. Copies of the letters and emails received by the City of Daly City are included in their entirety in Appendix A of this document. Comments received on the Draft IS/MND are listed below.

Comment Letter and Commenter **Page of Response**

Federal and State Agencies 3

A. California Department of Transportation – District 4 (dated June 19, 2024) 3

Organizations, Businesses, and Individuals 5

B. Alan Uy (dated May 31, 2024)..... 5

C. Helen Chan (dated June 3, 2024) 7

Federal and State Agencies

A. California Department of Transportation – District 4 (dated June 19, 2024)

Comment A.1: Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the 455 Hickey Boulevard Office Redevelopment Project. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities. The following comments are based on our review of the May 2024 MND.

Please note this correspondence does not indicate an official position by Caltrans on this project and is for informational purposes only.

Project Understanding

The proposed project will demolish the existing five-story office building and three-level parking garage to construct one of two development options: (1) Office Building or (2) Medical Office Building. Under the Office Building development option, the project would construct a 280,000-square-foot and eight-story office building above three levels of podium parking. Under the Medical Office development option, the project would construct a 180,000-square-foot and five-story medical office building above three levels of podium parking. A total of 900 parking spaces would be provided under either development option. The project site is located directly adjacent to the southbound Interstate 280 (I-280) on-ramp from Hickey Blvd.

Travel Demand Analysis

The project vehicle miles traveled (VMT) analysis and significance determination are undertaken in a manner consistent with the City/County Association of Governments of San Mateo County (C/CAG) VMT analysis guidelines. Per the MND, this project is found to have a less than significant VMT impact. Caltrans commends the Lead Agency for requiring a Travel Demand Management (TDM) plan prior to project approval. The proposed measures identified in the TDM plan should be documented with annual monitoring reports to demonstrate effectiveness.

Response A.1: The commenter correctly mentions the project is required to implement a TDM plan, which is identified as a condition of approval in *Section 4.17 Transportation* on page 162 of the IS/MND. The approved TDM plan must be provided to the City prior to the issuance of building permits. Monitoring of the TDM checklist measures would be completed pursuant to the C/CAG Transportation Demand Management Policy Implementation Guidelines, which require that the TDM measures be monitored and certified two years after the initial occupancy of the proposed office building and then monitored again every two years for the initial six years of occupancy. After the first six years of occupancy, the review of the TDM

will occur every three years for the next 14 years until post-occupancy year 20.[1] The commenter does not identify any concerns with the adequacy of the IS/MND; therefore, no further response or additional CEQA analysis is required.

Comment A.2: Construction-Related Impacts

Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. To apply, please visit Caltrans Transportation Permits (link). Prior to construction, coordination may be required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to the State Transportation Network (STN).

Response A.2: The commenter states that a transportation permit would be required for the movement of oversized or excessive load vehicles on State roadways. The project applicant would work with Caltrans to meet any permit issuance requirements prior to the initiation of project construction.

Comment A.3: Equitable Access

If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users.

Response A.3: The project would not modify any Caltrans facilities. Similar to Response A.2, the project applicant would work with Caltrans prior to the initiation of project construction to ensure that all Caltrans requirements are implemented to avoid conflicts with Caltrans facilities.

Comment A.4: Encroachment Permit

Please be advised that any permanent work or temporary traffic control that encroaches onto Caltrans' Right of Way (ROW) requires a Caltrans-issued encroachment permit. As part of the encroachment permit submittal process, you may be asked by the Office of Encroachment Permits to submit a completed encroachment permit application package, digital set of plans clearly delineating Caltrans' ROW, digital copy of signed, dated and stamped (include stamp expiration date) traffic control plans, this comment letter, your response to the comment letter, and where applicable, the following items: new or amended Maintenance Agreement (MA), approved Design Standard Decision Document (DSDD), approved encroachment exception request, and/or airspace lease agreement.

[1] City/County Association of Governments of San Mateo County. "Transportation Demand Management Policy Implementation Guide." April 2022. Page 4. Accessed June 20, 2024. https://ccagtdm.org/wp-content/uploads/2022/04/CCAG_TDM-Policy-Update_Implementation-Guide_FINAL_4-19-2022_v11_CLEAN.pdf

The checklist TR-0416 (link) is used to determine the appropriate Caltrans review process for encroachment projects. The Office of Encroachment Permit requires 100% complete design plans and supporting documents to review and circulate the permit application package. To obtain more information and download the permit application, please visit Caltrans Encroachment Permits (link). Your application package may be emailed to D4Permits@dot.ca.gov.

Response A.4: Refer to Response A.2 above.

Organizations, Businesses, and Individuals

B. Alan Uy (dated May 31, 2024)

Comment B.1: Good afternoon Michael Van Lonkhuysen

I am a resident living near Gellert Park and I bike, walk, take transit, and drive near the project area. I'm in support of the redevelopment of 455 Hickey Boulevard, but not without imploring the City or developer to do more in terms of bicycle, pedestrian, and transit access, mobility, and safety. I'd like to recommend the following:

- Upgrade the northbound bike facility on Gellert Boulevard, between Hickey Boulevard and Serravista Avenue, to a Class IV facility. At the very least, a buffered bike lane should be here, as it's already shown as a Class II bike lane in the attachments. Additionally, with a shared through/right NB lane, there is an opportunity to also make the SE corner of Gellert/Hickey into a protected corner to improve safety and comfort for people walking and biking.
- The east side crosswalk of Gellert/Serravista should be upgraded to a continental crosswalk. There are many people crossing here to access the plaza and businesses across Hickey, which may increase with this redevelopment project. I appreciate the report's consideration for installing bulb-outs with hopefully tighter curb radii.
- The Samtrans 122 (to SSF BART) bus stop doesn't have a shelter or any bus stop amenities, despite being the main bus stop servicing Gellert Park. Please improve the amenities and lighting at this bus stop (and for Samtrans 130 which the attachment noted isn't even marked as a bus stop). This will likely see more people, particularly vulnerable pedestrians, using this stop.
- Is there a way to upgrade the bike facility on Hickey Boulevard, east of Gellert Boulevard? A curbside bikeway separated by buffers and posts at the very least, there are few east-west connections on bike.
- Can the proposed driveway at Hickey Boulevard also serve the large parking garage to minimize queueing on NB Gellert and congestion on neighborhood streets? This would create better circulation as most of the traffic is expected to come from I-280.
- Lastly, is such a large parking structure necessary? Daly City seems to allot more parking spaces per square foot than others.

Both Hickey Boulevard and Gellert Boulevard are on the City's high-injury network. This is an opportunity to improve traffic safety and also comfort for people biking, walking, and taking transit.

Response B.1: The comment provides a list of roadway, pedestrian, and transit infrastructure improvements as a recommendation. As mentioned by the commenter, the project would implement the following roadway, pedestrian, and transit improvements as mentioned under Section 3.2.10 Utility and Right-of-Way Improvements (refer to page 24 of the IS/MND):

- Install flashing pedestrian crossing system at the intersection of Gellert Boulevard at Serravista Avenue for the crosswalk on the south approach.
- Install pedestrian bulb-outs at the northeast, southeast and southwest corners of Gellert Boulevard at Serravista Avenue.
- Provide an approved Travel Demand Management (TDM) plan and implement any required measures to meet City/County Association of Governments of San Mateo County's TDM Policy.
- Improve the bus stop on Hickey Boulevard fronting the project site in coordination with SamTrans.
- Remove the Stop bar and legend for the southbound left-turn lane at Gellert Boulevard at Serravista Avenue.

The infrastructure improvements listed above are also conditions of approval for this project and described in *Section 4.17 Transportation* of the IS/MND. The City will consider upgrading the east side crosswalk of Gellert Boulevard and Serravista Avenue to a continental crosswalk. To include this pedestrian facility improvement as part of the project, text has been added on pages 24 and 162 of the IS/MND. Furthermore, the City will require additional improvements to the bus stops located along Hickey Boulevard and the southern segment of Gellert Boulevard between Hickey Boulevard and Serravista Avenue as part of the project. The bus improvements have been added on pages 24 and 163 of the IS/MND. Refer to Section 3.0 Draft IS/MND Text Revisions to see the text revisions. These text revisions do not change the analysis, adequacy, or the findings of the IS/MND.

Overall, this comment does not raise any new CEQA issues or address the adequacy of the IS/MND. No further response or additional CEQA analysis is required.

C. Helen Chan (dated June 3, 2024)

Comment C.1: Mr. Sam Fielding

Writing to voice my disapproval of the construction of a behemoth building – literally in my backyard. Am concerned about the noise, pollution & traffic nightmare it will create. Know this is already a "done deal" & any voice of opposition will be tossed away for money talks.

We have electricity blackouts often during the rainy season. When it rains and when it is windy, the chances of a power outage in the Serramonte district of Daly City is high. Have experienced 6-7 hours without electricity. Have you sat down with PG&E with a problem like this??

Used to have a view from my backyard. Been living here for over 50 years. When I bought this home back in the 70's, my agent told me that they can never build there – but his statement proved wrong.

Know I can't do anything about this for I have no power. I can only comment.

Response C.1: This comment expresses opposition to the project, is included in the record, and will be considered by the decisions makers prior to taking action on the project. Air quality, noise, and transportation impacts are discussed in *Section 4.3 Air Quality*, *Section 4.13 Noise*, and *Section 4.17 Transportation* of the IS/MND with mitigation measures identified for air quality and noise. Mitigation measures MM AIR-1.1 and MM AIR-2.1 would reduce air quality construction impacts related to fugitive dust emissions and diesel exhaust emissions, respectively (refer to pages 50, 54, and 55 of the IS/MND for the full mitigation measures). The project would be required to implement MM NOI-1.1 to reduce noise levels during construction (refer to pages 131 and 132 of the IS/MND for the full mitigation measure). No mitigation measures were identified for transportation impacts. Therefore, environmental impacts associated with air quality, noise, and transportation were evaluated in the IS/MND and mitigation measures were included where necessary. Accordingly, no revision to the IS/MND is warranted and no additional CEQA analysis is required.

Section 3.0 Draft IS/MND Text Revisions

This section contains revisions to the text of the 455 Hickey Boulevard Office Project IS/MND dated May 2024. Revised or new language is underlined. All deletions are shown with a ~~line through the text~~.

Page 24 Section 3.2.10 Utilities and Right-of-Way Improvements, the following text is **ADDED:**

The project would implement the following roadway, pedestrian, and transit improvements:

- Install flashing pedestrian crossing system at the intersection of Gellert Boulevard at Serravista Avenue for the crosswalk on the south approach.
- Install pedestrian bulb-outs at the northeast, southeast and southwest corners of Gellert Boulevard at Serravista Avenue.
- Provide an approved Travel Demand Management (TDM) plan and implement any required measures to meet City/County Association of Governments of San Mateo County's TDM Policy.
- Improve the bus stop on Hickey Boulevard fronting the project site in coordination with SamTrans~~.~~, including adding a bus shelter (if determined feasible), providing a right-of-way easement to widen the sidewalk, and building a retaining wall for the bus shelter.
- Improve the bus stop with a bus shelter on the southbound segment of Gellert Boulevard between Hickey Boulevard and Serravista Avenue in coordination with Samtrans and City staff.
- Remove the Stop bar and legend for the southbound left-turn lane at Gellert Boulevard at Serravista Avenue.
- Paint a continental crosswalk at the east side of the Gellert Boulevard and Serravista Avenue intersection.

Page 162 Section 4.17 Transportation, the following text is **ADDED**:

Condition of Approval:

- Install flashing pedestrian crossing system at the intersection of Gellert Boulevard at Serravista Avenue for the crosswalk on the south approach.
- Install pedestrian bulb-outs at the northeast, southeast and southwest corners of Gellert Boulevard at Serravista Avenue.
- Paint a continental crosswalk at the east side of the Gellert Boulevard and Serravista Avenue intersection.

Page 163 Section 4.17 Transportation, the following text is **REVISED**:

Condition of Approval:

- Improve the bus stop on Hickey Boulevard fronting the project site in coordination with SamTrans~~.~~, including adding a bus shelter (if determined feasible), providing a right-of-way easement to widen the sidewalk, and building a retaining wall for the bus shelter.
- Improve the bus stop with a bus shelter on the southbound segment of Gellert Boulevard between Hickey Boulevard and Serravista Avenue in coordination with Samtrans and City staff.

Section 4.0 Conclusion

The comments received on the IS/MND did not raise any new issues about the project's environmental impacts or provide information indicating the project would result in new environmental impacts or impacts substantially greater in severity than disclosed in the IS/MND. Minor clarifications were added to the text of the IS/MND (refer to Section 3.0 Draft IS/MND Text Revisions). The text revisions do not constitute a "substantial revision" pursuant to CEQA Guidelines §15073.5 and recirculation of the MND is not required.

Appendix A: Comment Letters

California Department of Transportation

DISTRICT 4
OFFICE OF REGIONAL AND COMMUNITY PLANNING
P.O. BOX 23660, MS–10D | OAKLAND, CA 94623-0660
www.dot.ca.gov

June 19, 2024

SCH #: 2024050927
GTS #: 04-SM-2022-00578
GTS ID: 28264
Co/Rt/Pm: SM/280/24.181

Sam C. Fielding, Associate Planner
City of Daly City
333 90th Street
Daly City, CA 94015

Re: 455 Hickey Boulevard Office Redevelopment Project – Mitigated Negative Declaration (MND)

Dear Sam Fielding:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the 455 Hickey Boulevard Office Redevelopment Project. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities. The following comments are based on our review of the May 2024 MND.

Please note this correspondence does not indicate an official position by Caltrans on this project and is for informational purposes only.

Project Understanding
The proposed project will demolish the existing five-story office building and three-level parking garage to construct one of two development options: (1) Office Building or (2) Medical Office Building. Under the Office Building development option, the project would construct a 280,000-square-foot and eight-story office building above three levels of podium parking. Under the Medical Office development option, the project would construct a 180,000-square-foot and five-story medical office building above three levels of podium parking. A total of 900 parking spaces would be provided under either development option. The project site is located directly adjacent to the southbound Interstate 280 (I-280) on-ramp from Hickey Blvd.

Travel Demand Analysis
The project vehicle miles traveled (VMT) analysis and significance determination are undertaken in a manner consistent with the City/County Association of Governments

of San Mateo County (C/CAG) VMT analysis guidelines. Per the MND, this project is found to have a less than significant VMT impact. Caltrans commends the Lead Agency for requiring a Travel Demand Management (TDM) plan prior to project approval. The proposed measures identified in the TDM plan should be documented with annual monitoring reports to demonstrate effectiveness.

Construction-Related Impacts
Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. To apply, please visit Caltrans Transportation Permits (*link*). Prior to construction, coordination may be required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to the State Transportation Network (STN).

Equitable Access
If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users.

Encroachment Permit
Please be advised that any permanent work or temporary traffic control that encroaches onto Caltrans' Right of Way (ROW) requires a Caltrans-issued encroachment permit. As part of the encroachment permit submittal process, you may be asked by the Office of Encroachment Permits to submit a completed encroachment permit application package, digital set of plans clearly delineating Caltrans' ROW, digital copy of signed, dated and stamped (include stamp expiration date) traffic control plans, this comment letter, your response to the comment letter, and where applicable, the following items: new or amended Maintenance Agreement (MA), approved Design Standard Decision Document (DSDD), approved encroachment exception request, and/or airspace lease agreement.

The checklist TR-0416 (*link*) is used to determine the appropriate Caltrans review process for encroachment projects. The Office of Encroachment Permit requires 100% complete design plans and supporting documents to review and circulate the permit application package. To obtain more information and download the permit application, please visit Caltrans Encroachment Permits (*link*). Your application package may be emailed to D4Permits@dot.ca.gov.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Luana Chen,

Transportation Planner, via LDR-D4@dot.ca.gov. For future early coordination opportunities or project referrals, please contact LDR-D4@dot.ca.gov.

Sincerely,

for YUNSHENG LUO
Branch Chief, Local Development Review
Office of Regional and Community Planning

c: State Clearinghouse

From: Alan Uy <[redacted]>
Sent: Friday, May 31, 2024 6:18 PM
To: Michael Van Lonkhuysen <mvanlonkhuysen@dalycity.org>
Subject: [EXTERNAL] Planning Commission Public Comment

CAUTION: EXTERNAL SENDER. Verify before you respond, click links or open attachments. Questions? Contact ISD.

Good afternoon Michael Van Lonkhuysen,

I am a resident living near Gellert Park and I bike, walk, take transit, and drive near the project area. I'm in support of the redevelopment of 455 Hickey Boulevard, but not without imploring the City or developer to do more in terms of bicycle, pedestrian, and transit access, mobility, and safety. I'd like to recommend the following:

- Upgrade the northbound bike facility on Gellert Boulevard, between Hickey Boulevard and Serravista Avenue, to a Class IV facility. At the very least, a buffered bike lane should be here, as it's already shown as a Class II bike lane in the attachments. Additionally, with a shared through/right NB lane, there is an opportunity to also make the SE corner of Gellert/Hickey into a protected corner to improve safety and comfort for people walking and biking.
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- The Samtrans 122 (to SSF BART) bus stop doesn't have a shelter or any bus stop amenities, despite being the main bus stop servicing Gellert Park. Please improve the amenities and lighting at this bus stop (and for Samtrans 130 which the attachment noted isn't even marked as a bus stop). This will likely see more people, particularly vulnerable pedestrians, using this stop.
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- Can the proposed driveway at Hickey Boulevard also serve the large parking garage to minimize queueing on NB Gellert and congestion on neighborhood streets? This would create better circulation as most of the traffic is expected to come from I-280.
- Lastly, is such a large parking structure necessary? Daly City seems to allot more parking spaces per square foot than others.

Both Hickey Boulevard and Gellert Boulevard are on the City's high-injury network. This is an opportunity to improve traffic safety and also comfort for people biking, walking, and taking transit.

Thank you for your consideration,
Alan Uy

[redacted] FRANCISCO CA 940

3 JUN 2024 PM 5 L





RECEIVED
JUN 05 2024
ECON/COM DEV DEPT

Sam C. Fielding, Associate Planner
City of Daly City - Planning Division
333 - 90th St - Second Flor
Daly City, CA 94015

6-3-2024

RECEIVED
JUN 05 2024
ECON DEPT

Mr. Sam Fielding

Writing to voice my disapproval of the construction of a behemoth bldg - literally in my backyard. Am concerned about the noise, pollution & traffic nightmare it will create. Know this is already a "done deal" & any voice of opposition will be tossed away for money rules.

We have electricity blackouts often during the rainy season. When it rains and when it is windy, the chances of a power outage in this Serramonte section of Daly City is high. Have experienced 6-7 hrs without electricity. Have you sat down with PG&E with a problem like this??

Used to have a view from my backyard. Been living here for over 50 years. When I bought this home back in the 70's, my agent told me they can never build there — but his statement proved wrong.

Know I can't do anything about this for I have no power. I can only comment.

Helen Chan

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF DALY CITY AMENDING THE DALY CITY ZONING MAP BY AMENDING ORDINANCE NO. 1316 RE: PLANNED DEVELOPMENT STANDARDS FOR PD-8B

(APN 091-341-140)
455 Hickey Boulevard

BE IT ORDAINED by the City Council of the City of Daly City, as follows:

Section 1. Findings. The City Council of the City of Daly City finds that, as conditioned, Planned Development PD 10-22-015932, amending Planned Development PD-8 is in compliance with Title 17 of the Daly City Municipal Code (Zoning Ordinance), as well as the General Plan of the City of Daly City, as amended and as to each element of the Daly City General Plan. Approval of the zone change will not be detrimental to the health, safety, morals, comfort and general welfare of persons residing in or working in the neighborhood. The City Council further finds that the amendment to the Planned Development PD-8 zoning to accommodate the project, will not be detrimental to the surrounding areas or result in substantial environmental damage or disturbance or be injurious or detrimental to the property and improvements in the neighborhood or the general welfare of the City of Daly City. The City Council further finds that adoption of PD-8B, which will allow the construction of either: (1) an eight-story, 166-foot-tall commercial office building over a three-story parking podium; or (2) a five-story, 118-foot tall, medical office building with a total of 180,000 square feet and would be placed within the same building footprint as the commercial office, will not be detrimental to the surrounding areas or result in substantial environmental damage or disturbance or be injurious or detrimental to the property and improvements in the neighborhood or the general welfare of the City of Daly City. Under either alternative, the entire site would be rezoned from PD8A to new Planned Development zoning that would permit the project at the heights proposed.

Section 2. Environmental Compliance – Mitigation Monitoring Program.

The City Council has reviewed the proposal under the requirements of the California Environmental Quality Act (CEQA) and has determined, that a Mitigated Negative Declaration is the appropriate level of environmental review. The Daly City Planning Commission and City staff recommend that a Mitigated Negative Declaration per Section 15070(a) of the CEQA Guidelines be adopted for this project.

The City Council approves the Mitigation Monitoring and Reporting Program (MMRP) for this project and hereinafter finds that the mitigated negative declaration, to and including the MMRP complies and conforms with the California Environmental Quality Act and the Guidelines implementing the Act.

Section 3. Zoning Reclassification. The zoning as designated upon the "Official Zoning Map" of the City of Daly City, as adopted by Daly City Ordinance No. 635, and thereafter amended

from time to time, is hereby changed as to the parcel identified on the attached map incorporated herein by this reference, to Planned Development Zoning PD-8sssB, which hereinafter provides for a change of boundary on the "Official Zoning Map" and the establishment of specific standards for development on the subject property. All improvement shall comply with the approved Planned Development Standards hereinafter adopted for Planned Development PD-8B.

DRAFT

PLANNED DEVELOPMENT STANDARDS
PLANNED DEVELOPMENT ZONE PD-8B

455 HICKEY BOULEVARD OFFICE BUILDING AND PARKING STRUCTURE REDEVELOPMENT

The purpose and intent of these Planned Development Standards is to establish a Planned Development Zoning District for PD-8B, which encompasses the entire project site.

I. GENERAL

1. The Design Review approval shall be effective for five years, unless otherwise extended by the City Council.

2. When these planned development standards conflict with other sections of the Zoning Ordinance, these standards prevail only to the extent of the conflict. Where these planned development standards do not provide regulations, the Zoning Ordinance shall apply as to the most similar land use or standard.

3. Any modifications to plans approved by the City Council shall require an amendment of the original PD approval and shall be subject to separate approval by the Planning Commission and City Council. Minor changes of the approved plans due to code requirements or conditions of approval may be approved by the Planning Division.

4. All structures, landscape areas, required facilities and amenities shall be maintained in a neat, safe, and healthful condition, subject to improvement and upgrading of plans as required by this Planned Development approval.

5. The property owners of PD-8B shall seek to provide a balanced mix of Commercial Office and/or Medical Office uses with compatible peak hours and parking needs.

II. PERMITTED USES

A. The following uses are permitted as part of Planned Development Zone PD-8B:

Commercial Office

Medical Office

Ancillary uses related to Commercial and Medical Office

DRAFT

B. When a use is not specifically listed, it shall be assumed that when the unlisted use is similar to nor more objectionable than a permitted use, such use shall be permitted in the district to the same requirements of the most similarly listed use.

II. DEVELOPMENT STANDARDS

A. Parking

1. Property owners shall implement measures to manage the parking during the peak hours. The plan may include such measures as valet parking, incentives to carpooling and disincentives to parking in the residential areas near the development.

2. The total number of on-site parking spaces required for the 455 Hickey Boulevard Commercial Office or Medical Office shall be a total of 900 parking spaces. This requirement shall be based on three parking space per 1,000 square feet within the property.

3. Secure bicycle parking shall be provided at strategic locations throughout the property including the ground floor of any parking structure. A total of eight short-term bicycle parking spaces and 46 long term parking spaces shall be provided.

4. The parking areas shall conform to plans approved as part of the preliminary plan for PD-8B and shall be maintained in accordance with City standards.

B. Signage

A. New Signage for the project should enhance the building facades. All signage shall adhere to the requirements of Chapter 17.32.200 Permitted signs in commercial and industrial districts of the Daly City Municipal Code.

B. All signage shall require a Building Permit submittal and review for approval by City staff.

C. Circulation

1. All deliveries shall gain access to the project site by way of the Serravista Avenue driveway to access the singular loading area east of the building within the service yard.

    a. Deliveries to the development by large semi-type trucks shall not take place during peak traffic hours. Smaller delivery vehicles may deliver at all hours.
    b. The property owners shall provide an approved Transportation Demand Management (TDM) plan and implement any required measures to meet City/County Association of Governments of San Mateo County's TDM Policy.

c. Site access and parking for the project (under either option) would include two entry points for employees and visitors to access the podium parking and the parking structure. Access to the podium parking would be provided primarily from Hickey Boulevard with drop-off at the interior lobby. Access to the parking structure east of the office building would be provided primarily via a private driveway off Serravista Avenue. A curbside drop-off space would be provided on Serravista Avenue, connecting the sidewalk and the new entry plaza leading to the building's main lobby.

D. Landscaping

1. All landscaping improvements shall conform to the approved landscaping plan and with Section 17.41 (Landscaping) of the Zoning Ordinance.

a. Landscaping shall be installed in accordance with approved plans and maintained in a neat, clean and healthful condition.

b. In general, all shrubs or any vegetation at points of ingress or egress shall be maintained at a height of no greater than 30 inches. Trees must be trimmed in a manner to maintain a site clearance underneath the branches of five feet from grade.

c. Landscaping shall be planted at the base of any monument signs and shall be maintained in a healthy growing condition and be replaced as necessary. The plants shall include a variety of flowering evergreen shrubs and flowering ground cover.

E. Architecture/Site Design

1. Architectural design of all structures and facades, all materials and colors, and all landscaping shall comply with plans approved by a Design Review Permit.

a. Once approved, any major architectural modification shall be subject to approval by a Design Review Permit, except that minor changes may be approved administratively by the Planning Division.

b. All roof equipment shall be screened from view from the surrounding streets.

c. The Planning Division shall approve the design and location of all trash or storage enclosures and other proposed fencing or walls.

d. All ground mounted appurtenances, such as transformers or air conditioning units shall be undergrounded.

F. Maintenance

1. A maintenance plan for on-site litter control shall be submitted by the applicant and approved by the City. The litter control maintenance plan shall include provision for on-going maintenance required for the project use. The maintenance plan shall be recorded as part of the PD-8B planned development standards. The maintenance plan shall include the following standards:

    b. The entire development area shall be maintained in a neat, safe, and healthful condition.

    c. A garbage disposal plan approved by the Planning Division and the Streets Division shall specify that:

        i. All trash shall be confined in approved receptacles and enclosures.

        ii. All unenclosed materials, equipment and/or supplies of any kind shall be maintained within approved enclosure areas. Any stacked or stored items shall not exceed the height of the enclosure.

        iii. All trash and storage enclosures shall be properly maintained in accordance with approved plans.

        iv. The applicant shall prepare an agreement to implement a weekly litter cleanup plan for all open areas, planters and public sidewalks adjacent to the development. All waste materials generated by the development, such as cardboard boxes, skids, garbage, litter, etc., must be stored in the enclosure for disposal. No waste material shall be visible at anytime. All enclosures shall be designed to conceal the contents. All enclosures should be kept clean and free of odor at all times.

G. Lighting

1. All exterior lighting shall be in accordance with precise plans and shall be adequately maintained according to approved standards.

2. Site lighting shall be directed downward to protect adjacent residential neighborhoods from glare.

H. Building Area Limitation

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1. There shall be no additional square footage allowed in PD-8B beyond what is permitted through approval of the precise plan. Minor additions or alterations to square footage for any given designated use (+/- 2%) may be approved by the Planning Division if such changes are to meet specific code requirements and do not affect the overall mass of the building.

2. The Commercial Office alternative shall include a 280,000 square feet commercial office building over a three-story, 347,500 square feet, parking podium with additional parking structure constructed east of the building. The general distribution of allowable square footage shall be in substantial accordance with the Precise Plan.

3. The Medical Office alternative shall include 180,000 square feet medical office use building over a three-story parking, 347,500 square feet, podium with additional parking structure constructed east of the building. The general distribution of allowable square footage shall be in substantial accordance with the Precise Plan.

I. Maximum Permitted Building Height

1. Building height for the Commercial Office building shall be an eight-story,166-foot tall, office building over three-story parking podium and three-story Parking structure located east of building.

2. Building height for the Medical Office building shall be a five-story, 118-foot tall, building over three-story parking podium and three-story parking structure located east of building.

J. Building Setbacks

1. Front setback: 11 ft.
   Side setbacks: 0 ft.
   Rear setback: 0 ft.

K. **Floor Area Ratio (FAR)**

1. 2.0 FAR

Section 4. Summary Publication: Pursuant to the provisions of Government Code Section 36933, a summary of this Ordinance shall be prepared by the City Attorney. At least five (5) days prior to the Council meeting at which this Ordinance is scheduled to be adopted, the City Clerk shall (1) publish the summary, and (2) post in the City Clerk's office a certified copy of this Ordinance. Within fifteen (15) days after the adoption of this ordinance, the City Clerk shall (1) publish the summary, and (2) post in the City Clerk's office a certified copy of the full text of this

Ordinance along with the names of those City Council members voting for and against this ordinance or otherwise voting. This Ordinance shall become effective thirty (30) days from and after its adoption.

Section 5. Environmental Determination: The City Council has reviewed the proposal under the requirements of the California Environmental Quality Act (CEQA) and has determined, that a Mitigated Negative Declaration is the appropriate level of environmental review. The Daly City Planning Commission and City staff recommend that a Mitigated Negative Declaration per Section 15070(a) of the CEQA Guidelines be adopted for this project. The City Council approves the Mitigation Monitoring and Reporting Program (MMRP) for this project and hereinafter finds that the mitigated negative declaration, to and including the MMRP complies and conforms with the California Environmental Quality Act and the Guidelines implementing the Act.

Section 6. Severability: If any section, subsection or sentence of this Ordinance is found by a court of competent jurisdiction to be invalid or unlawful, the City Council finds and declares that the remainder of this Ordinance would be and is enforceable and would have been adopted notwithstanding the finding of invalidity as to any section, subsection or sentence.

Introduced this _____day of _____ 2024.

Passed and adopted as an Ordinance of the City of Daly City at a regular meeting of the City Council of the City of Daly City held on the _____ day of _____ 2024, by the following vote:

AYES, Councilmembers_____

_____

NOES, Councilmembers_____

ABSENT, Councilmembers:_____

_____

CITY CLERK OF THE CITY OF DALY CITY

APPROVED:

_____

MAYOR OF THE CITY OF DALY CITY

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