



March 17, 2020

Mr. Jason Williams
Croix Estate Winery
c/o Venge Vineyards
4708 Silverado Trail
Calistoga, CA 94515

Trip Generation Study for the Croix Estate Winery Project

Dear Mr. Williams;

As requested, W-Trans has prepared a trip generation study for the proposed modifications to the Conditional Use Permit for Croix Estate Winery located at 1406 Wood Road in the County of Sonoma. The purpose of this letter is to address the anticipated increase in project-generated traffic due to the proposed increase in production.

Existing Conditions

The study area consists of Wood Road, which runs along the frontage of the project site in the County of Sonoma. Wood Road generally runs east-west and is classified as a residential street. Along the project frontage, the road has two 12-foot travel lanes.

Project Description

The proposed project would include increasing production from the currently-permitted level of 5,000 cases annually to 10,000 cases. Additionally, the project includes construction of a new 13,000 square foot barrel storage building, with six parking spaces to be added to the existing supply. As shown on the enclosed site plan, the project will take access via the existing driveway and a connection to other on-site facilities. There are no proposed increases in staffing levels, annual events, or maximum daily guests compared to what was approved under UPE06-0022.

- File Number: UPE17-0049
- Address: 1406 Wood Road, Fulton CA
- APN: 034-030-032
- Project Name: Croix Estate Winery
- Applicant Name: Jason Williams
- Property Owner Name: Venge Land Ventures

Trip Generation

The trip generation associated with the current production level was estimated using data provided by winery staff. The County's Winery Trip Generation form was filled out for both existing and proposed conditions and is enclosed for reference. It is noted that the form was only completed for truck trips as the project would result in no anticipated changes in traffic levels for all other aspects of the existing operation.

Based on the data provided it is estimated that at its permitted production level the winery currently generates an average of two trucks trips per day related to production. The proposed increase in production would be expected to result in a total of three truck trips daily on average, which is one net new trip per day. Even if this new trip occurs during a peak hour, the proposed project is anticipated to generate fewer than 10 new trips during any peak hour, therefore under the County of Sonoma's *Guidelines for Traffic Impact Studies*, a full traffic study is not required, though operational conditions were further considered.

Project Conditions

As noted above, the project would be expected to add an average of one new truck trip per day to the surrounding street network over existing volumes. To account for the fact that the trips would be made by large trucks, which have a more substantial impact on traffic variables such as headway, speed, density, etc. than standard passenger vehicles, a passenger car equivalent (PCE) factor was applied. Assuming a PCE factor of three passenger cars per truck, the proposed project would have a net impact similar to one that generates three passenger car trips.

Operation of the critical intersection of River Road/Fulton Road, which is northeast of the project site, was reviewed. As reported in the *Traffic Impact Study for the Sutter Hospital Expansion*, W-Trans, in 2017 River Road/Fulton Road was operating acceptably at LOS D or better during the weekday peak hours. As shown on the enclosed calculations, during the weekday p.m. peak hour this intersection was operating at LOS D with an overall delay of 40.2, which is 14.8 seconds below the delay at the LOS E threshold. Based on the low trip generation with the proposed increase in production together with the current operation at the lower end of the delay for the LOS D range, it is reasonable to expect that operation would remain acceptable upon adding the one project-generated truck trip. Copies of the "existing conditions" calculations for River Road/Fulton Road are enclosed for reference.

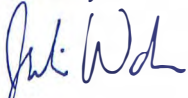
Finding – Because the proposed project would be expected to generate fewer than 10 new peak hour trips and River Road/Fulton Road is operating acceptably at LOS D or better during the weekday peak hours, per County of Sonoma *Guidelines for Traffic Impact Studies*, no further operational analysis is required.

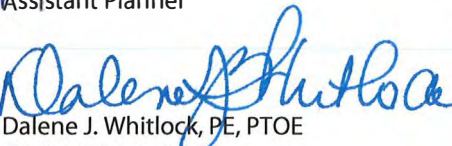
Conclusions and Recommendations

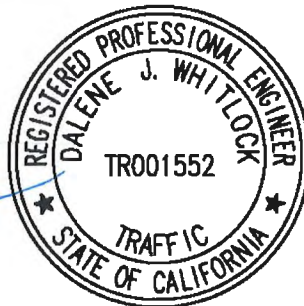
- The proposed project would allow production to increase from the current level of 5,000 cases annually to 10,000 cases. Based on the proposed increase in production, it is anticipated that an average of one net new truck trip would be generated daily. Applying a conservative PCE factor, this equates to three new passenger vehicles trips a day on average.
- Since the project would generate only one new truck trip, or three passenger vehicles, a day and the critical nearby intersection is operating acceptably the project is anticipated to have a minimal or no effect on traffic operation.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,


 Julia Walker
 Assistant Planner

















 Dalene J. Whitlock, PE, PTOE
 Senior Principal



DJW/jaw/SOX692.L1

Enclosures: Site Plan; Sonoma County's Winery Trip Generation Form; Existing Conditions Calculations

Symbol Legend

-  Elevation Reference (drawing #/ sheet #)
-  Section Reference (drawing #/ sheet #)
-  Vantage Point
-  Datum or Spot Elevation Point
-  Grid Line
-  Detail Reference (drawing #/ sheet #)
- Room Name**
-  Room Number
-  Door Symbol
-  Window Symbol
-  Louver Symbol
-  Wall Tag
-  Hose Stations
-  Glycol Stations
-  Electrical Stations
-  Forklift Charging Stations

Sheet Index

- ARCHITECTURAL DRAWINGS:**
- A0.01 Cover Sheet
 - A0.06 Existing & Proposed Site Plan
 - A1.01 Existing Floor Plan- House
 - A1.02 Proposed Floor Plan- Admin Building
 - A1.03 Proposed Floor Plan- Tasting Pavilion
 - A1.04 Proposed Floor Plans- Barrel Storage
 - A2.01 Elevations - House/Admin Building
 - A2.02 Elevations - Tasting Pavilion
 - A2.03 Elevations - Barrel Storage Building
 - A3.01 Proposed Sections - Tasting Pavilion
 - A3.02 Proposed Sections- Barrel Storage
- CIVIL DRAWINGS:**
- C1 Overall Site Plan
 - C2 Preliminary Grading & Drainage Plan

Project Team

- CLIENT:**
- Croix Estate**
 Jason J. Williams
 General Manager
 4709 Silverado Trail
 Calistoga, CA 94515
 T: 707.942.9100
 C: 707.738.7665
 F: 707.942.9121
 E: jason@vengevineyards.com
- ARCHITECT:**
- MH Architects**
 Matt Hollis
 Stephanie Strawhacker
 2325 3rd St. Suite 224
 San Francisco, CA 94107
 T: 415.977.0194
 E: matt@matt Hollis.com
 E: stephanie@matt Hollis.com
- GENERAL CONTRACTOR:**
- Titan Builders Corporation**
 Jason Yeakey
 1036 Clark Street
 Napa, CA 94559
 T: 707.4868663
 E: jasonpy@comcast.net
- CIVIL ENGINEER:**
- Munselle Civil Engineering**
 Cort Munselle, P.E.
 513 Center Street
 Healdsburg, CA 95448
 T: 707.395.0968
 E: cort@munsellecivil.com

Project Summary

Scope is restricted to new winery buildings: Barrel Building, 11,916 S.F. and Tasting Pavilion, 1,546 S.F.; a change of use for existing residential structure to commercial use; an increase of 5,000 cases to 10,000 cases for winery and an increase from 2 to 8 full time employees. No change in amount for guests or events.

All work shall comply with 2016 versions of California Building Code (CBC), California Residential Code (CRC), California Plumbing Code (CPC), California Mechanical Code (CMC), California Electrical Code (CEC), California Energy Code, California Green Building Standards Code (CGBS), California Fire Code (CFC, if applicable), 2016 California Energy Efficiency Standards (CEES), Sonoma County and all applicable local codes.

- Site Information**
- Site Address: 1406 Wood Road, Fulton, CA 95439
- APN #: 034-030-032
- Lot Size: 10 acres
- Building Code Information**
- Zoning Group: DA B6 10, SR VOH
- Use Group/ Occupancy: 0353 [Winery With Vineyards]
- Building Type: Type I B and Type V B
- Flood Zone: No
- Elementary School District: Piner/Olivet Union
- High School District: Santa Rosa City
- Supervisory District: District - 4
- Fire District: Rincon Valley FPD

Square Footage

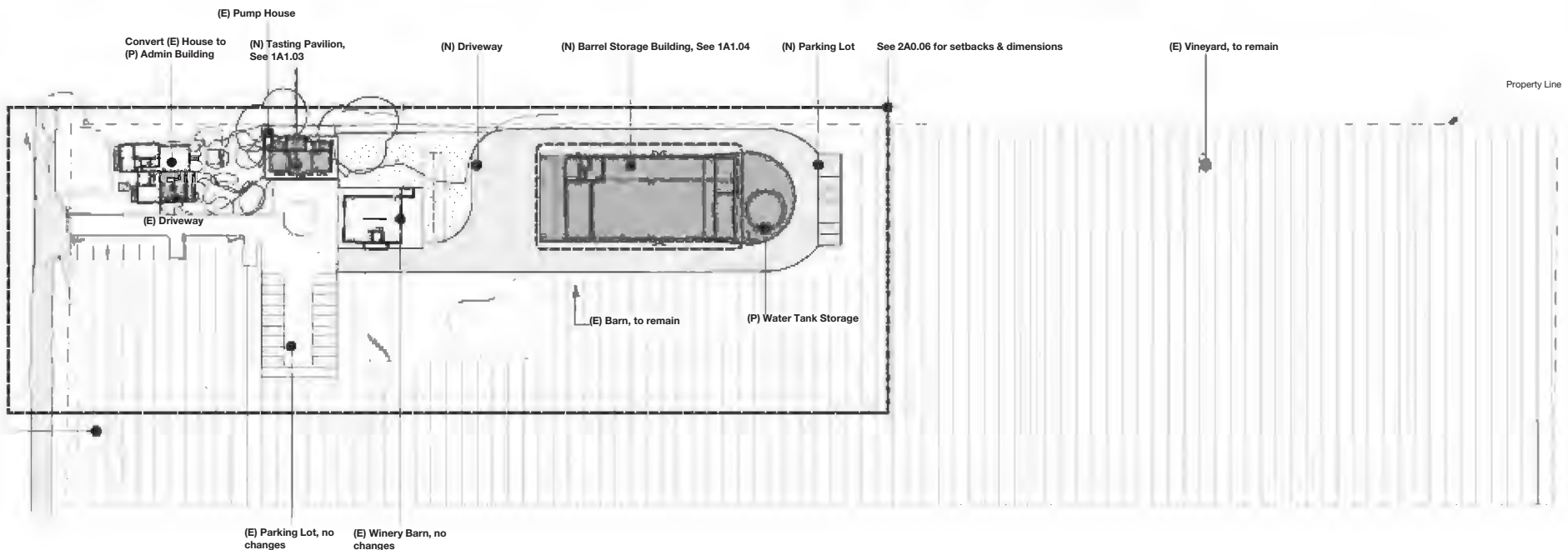
Barrel Storage Building, Type I-B

| Conditioned Spaces: | | Unconditioned Spaces: | |
|------------------------------|-----------|--------------------------------|-----------|
| Unisex WC: | 75 S.F. | Fermentation: | 2680 S.F. |
| Winemaker Office/ Lab: | 246 S.F. | Utility Enclosure: | 786 S.F. |
| Case Good Storage: | 365 S.F. | Crush Pad: | 2498 S.F. |
| Barrel Storage: | 5266 S.F. | Outdoor Storage: | 0 S.F. |
| Conditioned S.F. = 5952 S.F. | | Unconditioned S.F. = 5964 S.F. | |
| Total S.F. = 11568 S.F. | | | |

Tasting Pavilion, Type V-B

Total Wine Cases: 10,000 (Existing Use Permit: 5,000 cases)

| Conditioned Spaces: | | Unconditioned Spaces: | |
|-------------------------|------------|-----------------------|---------|
| Tasting Room: | 378 S.F. | Mechanical Room | 98 S.F. |
| Private Tasting Room A: | 279 S.F. | | |
| Private Tasting Room B: | 279 S.F. | | |
| Case Good Storage | 96 S.F. | | |
| Staff Workstations: | 92 S.F. | | |
| Restroom: | 108 S.F. | | |
| Conditioned S.F. = | 1,232 S.F. | | |
| Total S.F. = 1,330 S.F. | | | |



MH ARCHITECTS
 2325 3rd st. studio 426
 san francisco, ca 94107
 info@matt Hollis.com
 matt Hollis.com
 415 977 0194



CROIX ESTATE WINERY
 New Winery Buildings
 1406 Wood Road
 Fulton, CA 95439
 APN 034-030-032

| PUBLISH | DATE |
|----------------------|----------|
| Use Permit | 10/10/17 |
| Use Permit Revisions | 2/5/18 |
| Use Permit Rev II | 3/25/19 |

This drawing is the property of MH Architects. Any unauthorized use in part or in whole without written permission is prohibited.

Date: 3.25.19
 Drawn by: SS
 Project No: 1613
 Scale: S.A.D.

Cover Sheet

SHEET NO:
A0.01



MH ARCHITECTS
 2325 3rd st. studio 428
 san francisco, ca 94107
 info@matthollis.com
 matthollis.com
 415 977 0194



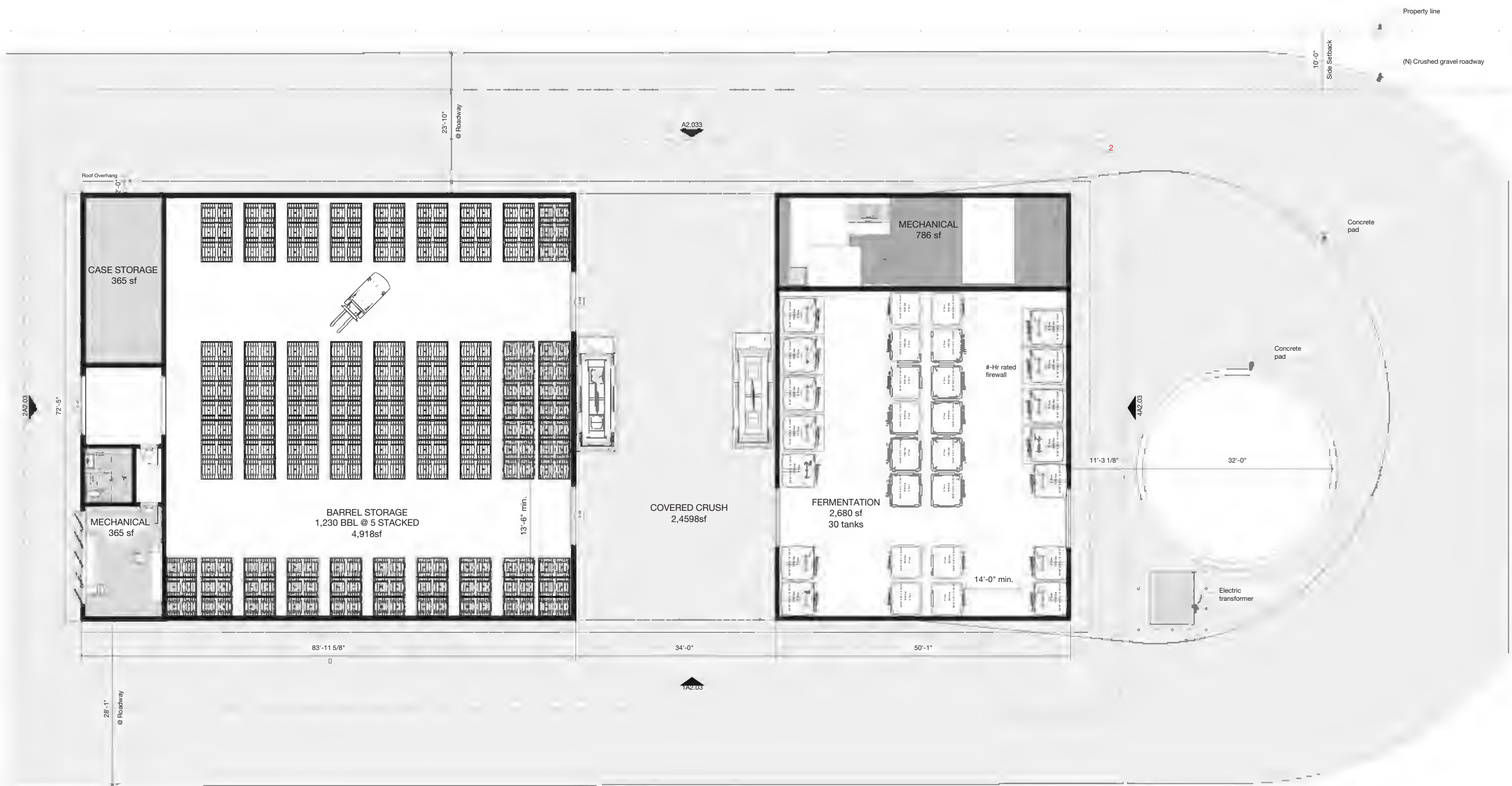
CROIX ESTATE WINERY
 New Winery Buildings
 1406 Wood Road
 Fulton, CA 95439
 APN 034-030-032

PUBLISH DATE
 Use Permit 10/10/17
 Use Permit Revisions 2/5/18
 Use Permit Rev II 2 3/25/19

This drawing is the property of MH Architects. Any unauthorized use in part or in whole without written permission is prohibited.
 Date: 3.25.19
 Drawn by: SS
 Project No: 1613
 Scale: 1/8" = 1'-0"

Floor Plan:
 Barrel Storage

SHEET NO:
A1.04



1 Barrel Storage Floor Plan
 Scale: 1/8" = 1'-0"

Winery Trip Generation

Winery: Croix Estate Winery
Location: 1406 Wood Road, Fulton CA
Annual Full Production: 10000 cases

Truck traffic associated with winery operations (average ADT during period of activity)

| Item Description | Existing | Proposed | |
|--|-------------|-------------|-------------|
| | | Average | Harvest |
| Grape Importation Truck loads per year: 0.14; 0.14 truck(s) at 12 tons/truck Dates of Activity: September through September | 0.00 | 0.00 | 0.01 |
| Juice Importation Truck loads per year: None Dates of Activity: through | 0.00 | 0.00 | 0.00 |
| Juice/Fruit Exportation Truck loads per year: None Dates of Activity: through | 0.00 | 0.00 | 0.00 |
| Pomace Disposal Truck loads per year: 0 Dates of Activity: October through November Disposed: | 0.57 | 0.00 | 0.00 |
| Bottle Delivery Truck loads per year: 5.68 truck(s) at 1760 cases/truck Dates of Activity: January through March | 0.09 | 0.18 | 0.00 |
| Barrel Delivery Truck loads per year: 1.32 truck(s) at 100 barrels/truck Dates of Activity: October through November | 0.03 | 0.06 | 0.06 |
| Finished Wine Transportation to storage/sales Truck loads per year: 5.68 truck(s) at 1760 cases/truck Dates of Activity: March through March | 0.27 | 0.54 | 0.00 |
| Less Backhauls Truck loads per year: 0 Dates of Activity: | 0.00 | 0.00 | 0.00 |
| Miscellaneous trips Truck loads per year: 239.05 trucks Dates of Activity: January through December | 0.95 | 1.90 | 1.90 |
| Totals | 1.92 | 2.68 | 1.97 |

SUMMARY

| Item Description | Existing | Average | Harvest |
|-----------------------------------|----------|----------|----------|
| Winery Operations (truck traffic) | 2 | 3 | 2 |
| Totals | 2 | 3 | 2 |

Variation in ADT during the course of a typical full production year (Proposed Project Trips)























| Generator | January | February | March | April | May | June |
|--------------------|----------|----------|----------|----------|----------|----------|
| Trucks | 2.08 | 2.08 | 2.62 | 1.90 | 1.90 | 1.90 |
| Total Trips | 2 | 2 | 3 | 2 | 2 | 2 |

| Month | July | August | September | October | November | December |
|--------------------|----------|-------------|-------------|-------------|----------|----------|
| Trucks | 1.90 | 1.90 | 1.91 | 1.96 | 1.96 | 1.90 |
| Total Trips | 2 | 2 | 2 | 2 | 2 | 2 |

Note: Months indicated in **bold** represent harvest season.

HCM 2010 Signalized Intersection Summary
1: Fulton Rd & River Rd

08/11/2017

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 78 | 561 | 36 | 180 | 362 | 27 | 64 | 461 | 215 | 26 | 263 | 66 |
| Future Volume (veh/h) | 78 | 561 | 36 | 180 | 362 | 27 | 64 | 461 | 215 | 26 | 263 | 66 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 82 | 591 | 32 | 189 | 381 | 22 | 67 | 485 | 127 | 27 | 277 | 29 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 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 | 106 | 919 | 50 | 199 | 1096 | 63 | 85 | 629 | 534 | 43 | 585 | 497 |
| Arrive On Green | 0.06 | 0.27 | 0.27 | 0.11 | 0.32 | 0.32 | 0.05 | 0.34 | 0.34 | 0.02 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1774 | 3415 | 185 | 1774 | 3402 | 196 | 1774 | 1863 | 1583 | 1774 | 1863 | 1583 |
| Grp Volume(v), veh/h | 82 | 306 | 317 | 189 | 198 | 205 | 67 | 485 | 127 | 27 | 277 | 29 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1830 | 1774 | 1770 | 1828 | 1774 | 1863 | 1583 | 1774 | 1863 | 1583 |
| Q Serve(g_s), s | 2.8 | 9.5 | 9.5 | 6.6 | 5.3 | 5.3 | 2.3 | 14.5 | 3.6 | 0.9 | 7.5 | 0.8 |
| Cycle Q Clear(g_c), s | 2.8 | 9.5 | 9.5 | 6.6 | 5.3 | 5.3 | 2.3 | 14.5 | 3.6 | 0.9 | 7.5 | 0.8 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 106 | 476 | 493 | 199 | 570 | 589 | 85 | 629 | 534 | 43 | 585 | 497 |
| V/C Ratio(X) | 0.78 | 0.64 | 0.64 | 0.95 | 0.35 | 0.35 | 0.79 | 0.77 | 0.24 | 0.63 | 0.47 | 0.06 |
| Avail Cap(c_a), veh/h | 256 | 853 | 882 | 199 | 796 | 822 | 114 | 897 | 763 | 114 | 897 | 763 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.9 | 20.1 | 20.1 | 27.6 | 16.1 | 16.1 | 29.3 | 18.5 | 14.9 | 30.1 | 17.2 | 14.9 |
| Incr Delay (d2), s/veh | 11.5 | 1.5 | 1.4 | 48.8 | 0.4 | 0.4 | 23.0 | 2.6 | 0.2 | 14.6 | 0.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 13.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 4.8 | 4.9 | 6.8 | 2.6 | 2.7 | 1.7 | 7.9 | 1.6 | 0.6 | 3.9 | 0.4 |
| LnGrp Delay(d),s/veh | 40.4 | 21.6 | 21.5 | 90.3 | 16.5 | 16.5 | 52.4 | 21.1 | 15.1 | 44.7 | 17.8 | 15.0 |
| LnGrp LOS | D | C | C | F | B | B | D | C | B | D | B | B |
| Approach Vol, veh/h | | 705 | | | 592 | | | 679 | | | 333 | |
| Approach Delay, s/veh | | 23.7 | | | 40.0 | | | 23.1 | | | 19.8 | |
| Approach LOS | | C | | | D | | | C | | | B | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 5.5 | 25.0 | 11.0 | 20.8 | 7.0 | 23.5 | 7.7 | 24.1 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 30.0 | 7.0 | 30.0 | 4.0 | 30.0 | 9.0 | 28.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 16.5 | 8.6 | 11.5 | 4.3 | 9.5 | 4.8 | 7.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.5 | 0.0 | 5.2 | 0.0 | 5.4 | 0.0 | 5.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | | 27.1 | | | | | | | | |
| HCM 2010 LOS | | | | C | | | | | | | | |

HCM 2010 Signalized Intersection Summary

1: Fulton Rd & River Rd

08/11/2017

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 84 | 452 | 182 | 221 | 516 | 24 | 110 | 473 | 224 | 88 | 570 | 52 |
| Future Volume (veh/h) | 84 | 452 | 182 | 221 | 516 | 24 | 110 | 473 | 224 | 88 | 570 | 52 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 88 | 476 | 186 | 233 | 543 | 19 | 116 | 498 | 137 | 93 | 600 | 15 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 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 | 112 | 601 | 233 | 270 | 1152 | 40 | 143 | 721 | 613 | 118 | 694 | 590 |
| Arrive On Green | 0.06 | 0.24 | 0.24 | 0.15 | 0.33 | 0.33 | 0.08 | 0.39 | 0.39 | 0.07 | 0.37 | 0.37 |
| Sat Flow, veh/h | 1774 | 2494 | 968 | 1774 | 3489 | 122 | 1774 | 1863 | 1583 | 1774 | 1863 | 1583 |
| Grp Volume(v), veh/h | 88 | 337 | 325 | 233 | 275 | 287 | 116 | 498 | 137 | 93 | 600 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1692 | 1774 | 1770 | 1841 | 1774 | 1863 | 1583 | 1774 | 1863 | 1583 |
| Q Serve(g_s), s | 5.1 | 18.5 | 18.8 | 13.4 | 12.9 | 12.9 | 6.7 | 23.2 | 6.0 | 5.4 | 31.0 | 0.6 |
| Cycle Q Clear(g_c), s | 5.1 | 18.5 | 18.8 | 13.4 | 12.9 | 12.9 | 6.7 | 23.2 | 6.0 | 5.4 | 31.0 | 0.6 |
| Prop In Lane | 1.00 | | 0.57 | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 112 | 427 | 408 | 270 | 584 | 608 | 143 | 721 | 613 | 118 | 694 | 590 |
| V/C Ratio(X) | 0.78 | 0.79 | 0.80 | 0.86 | 0.47 | 0.47 | 0.81 | 0.69 | 0.22 | 0.79 | 0.86 | 0.03 |
| Avail Cap(c_a), veh/h | 205 | 510 | 488 | 324 | 629 | 655 | 171 | 824 | 700 | 153 | 806 | 685 |
| 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 | 48.3 | 37.2 | 37.3 | 43.5 | 27.8 | 27.8 | 47.3 | 26.8 | 21.5 | 48.1 | 30.4 | 20.8 |
| Incr Delay (d2), s/veh | 11.2 | 6.9 | 7.6 | 18.1 | 0.6 | 0.6 | 21.2 | 2.1 | 0.2 | 18.5 | 8.7 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 10.0 | 9.7 | 8.4 | 6.4 | 6.6 | 4.1 | 12.4 | 2.7 | 3.3 | 17.6 | 0.3 |
| LnGrp Delay(d),s/veh | 59.5 | 44.1 | 44.9 | 64.5 | 28.4 | 28.4 | 68.5 | 28.9 | 21.7 | 66.6 | 39.0 | 20.8 |
| LnGrp LOS | E | D | D | E | C | C | E | C | C | E | D | C |
| Approach Vol, veh/h | | 750 | | | 795 | | | 751 | | | 708 | |
| Approach Delay, s/veh | | 46.2 | | | 39.0 | | | 33.7 | | | 42.3 | |
| Approach LOS | | D | | | D | | | C | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 10.9 | 44.4 | 19.6 | 29.2 | 12.4 | 42.8 | 10.6 | 38.2 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 9.0 | 46.0 | 19.0 | 30.0 | 10.0 | 45.0 | 12.0 | 37.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.4 | 25.2 | 15.4 | 20.8 | 8.7 | 33.0 | 7.1 | 14.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.9 | 0.2 | 4.4 | 0.0 | 5.9 | 0.1 | 6.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | | 40.2 | | | | | | | | |
| HCM 2010 LOS | | | | D | | | | | | | | |