

## List of Exhibits

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<b><u>Exhibit B</u></b>	<u>Washington County Sheriff Service Provider Letter</u>
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13502 Hamburger Lane  
Baldwin Park, Ca 91706-5885  
626-813-8200



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June 1, 2022

Washington County  
Department of Land Use & Transportation  
155 N. 1<sup>st</sup> Avenue, #350-13  
Hillsboro, OR 97124

Re: Development Application  
Proposed 3,885 Square Foot In-N-Out Burger Restaurant with Drive Thru  
10505 & 10565 SW Beaverton Hillsdale Highway, Beaverton, OR

To Whom It May Concern:

In-N-Out Burger is excited to be exploring the potential of a new, single-story In-N-Out Burger restaurant with drive-through service and outdoor patio seating (and associated site improvements to include new asphalt parking lot and new street frontage and interior landscaping) at the properties located at 10505 & 10565 SW Beaverton Hillsdale Highway.

The property is currently an operating Hawaiian Time BBQ drive thru restaurant and an Azteca Mexican Restaurant sit-down restaurant, which, if our project is approved, are both proposed to be closed and demolished along with the corresponding site improvements to make way for our brand new development. The total site area is approximately 2.136 acres, or approximately 93,045 square-feet. This well-sized and well-apportioned property is uniquely large as a result of the initial feedback from the first Neighborhood Meeting conducted for the project where community members raised concerns that the original site of just the Hawaiian Time BBQ property was not perceived as large enough to accommodate the demand of an In-N-Out Burger. As a result, In-N-Out Burger went back to renegotiate for the much larger site (nearly double in size) contemplated in this application and introduced this larger development in our second Neighborhood Meeting conducted in May 2021.

The existing property uses of a restaurant with drive thru service and a sit down restaurant, therefore we are not proposing a change in use for the property. We are however reducing the density of the development significantly – the existing square footage of the two users is 9,598 (3,555 and 6,043 for the Hawaiian Time and Azteca restaurants, respectively) versus our proposed new development of 3,885 square feet. The properties are currently accessed via three existing curb cuts off of SW Beaverton Hillsdale Highway and one curb cut on Laurel Avenue. We are proposing to close one driveway off of SW Beaverton Hillsdale Highway, reducing the access points to a total of two and we propose to use the Laurel Avenue driveway as an emergency access only. A locked gate with a Knox box is proposed at this access point.

This property on SW Beaverton Hillsdale Highway is east of Highway 217. The surrounding properties are all retail commercial sites with a Chick Fil A drive through restaurant immediately to our west, a neighborhood shopping center anchored by a specialty grocery store and restaurants across the street to our south, small retail users to our immediate east, and a mix of small offices and residential uses to our north on Laurel Avenue.

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Our proposed site layout is purposeful in orienting the building to maximize a pedestrian-friendly environment with our front doors facing directly onto the public right of way creating easy access for pedestrians and bicyclists alike. Our drive through lane wraps behind the building away from view of the public street and can accommodate 24 cars within the queue – the longest of any of our existing Oregon locations – in addition to ample interior parking lot driveway area to accommodate overflow drive through lines, if necessary during peak periods. Our proposed In-N-Out building construction is with a “Bone China White” stucco finish and a classic Pro-Ledge White dry-stacked stone wainscot around the entire perimeter of the building. Archways throughout the building and our drive through canopy integrate changes in plane and wall thicknesses and are further enhanced by detailed cornices at each of their columns. Tower elements at a maximum height of 23’-0” are also incorporated into the building, including at the customer entrances, to provide vertical relief and visually-pleasing focal points. Parapets for areas of flat roof are at an elevation of approximately 19’-10” which provides ample screening of the rooftop kitchen and mechanical equipment. The top of the drive-thru canopy roof is approximately 13’-7” in height. The detached, covered patio provides for ample outdoor dining for the leisure of our customers and incorporates the Pro-Ledge White stone wainscot around the base of the patio columns to match the design, look and aesthetic of the building.

The restaurant will operate 7 days a week from 10:30 AM to 1:00 AM Sunday through Thursday, and 10:30 AM to 1:30 AM Friday and Saturday. Staff will range between 10 to 15 associates per shift, 3 shifts per day. Deliveries will be made by In-N-Out owned and operated vehicles. Deliveries will only be made after the restaurant is closed to the public per strict company policy.

At this preliminary stage, I believe we have identified a proposed project that: 1. complies with Washington County’s Land Use Ordinance; 2. is compatible and harmonious with the commercial retail developments that surround the site; 3. is designed with an optimal site and drive through layout that promotes walkability and encourages the majority of the traffic circulation towards the interior of our proposed site; 4. is an aesthetically-pleasing building designed with architectural enhancements that are timeless and always well-maintained with In-N-Out’s reputation for meticulously clean and well-lit sites; and finally, 5. enhances a prominent area along a major corridor with a family-owned establishment that provides a delicious product that is unmatched in quality to the community, well-paying jobs, and added revenue to the County and this community. To that end, with the County’s consensus and/or confirmation of these findings, we hope to pursue this project quickly and efficiently.

We submitted a narrative addressing the approval criteria on July 8, 2021. We subsequently submitted a response to your October 1, 2021 Incompleteness Determination on February 25, 2022. The attached narrative incorporates the information provided in both submissions into one complete narrative for ease of review.

If you should have any questions, concerns, or comments, please do not hesitate to contact me. Thank you.

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Respectfully,

Cassie Ruiz  
Development Manager  
626-813-8226  
caruiz@innout.com

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*Applicable Sections of Washington County's Community Development Code, as listed in as listed in Articles III and IV, are implemented and incorporated into this project as follows:*

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❖ **312-1, Intent and Purpose [of the OC zone].**

Intent and Purpose" statement of the OC Zone is not an applicable approval standard for the Application because it is not listed as an approval criterion. Nevertheless, the Application is not contrary to the OC Zone's intent and purpose because it does not propose a use not allowed by the OC Zone.

❖ **312-2, Uses Permitted Under a Type I Procedure.**

❖ **312-3, Uses Permitted Under a Type II Procedure.**

❖ **312-4, Uses Permitted Under a Type III Procedure.**

The Application does not propose a Type I, II or III use in the OC Zone. Only non-required off-street parking and a non-required driveway are located in the OC Zone, both of which are accessory uses.

❖ **312-5, Prohibited Uses.**

The Application does not propose any uses or structures not specifically authorized in the OC zone, including a Drive-In establishment. CDC Section 430-41, "Drive-in or Drive-up Establishments," lists the dimensional and physical standards for such uses. All of the required dimensional and physical improvements for the Drive-In use are located in the CBD Zone and not the OC Zone.

❖ **312-6, Dimensional Requirements.**

• **312-6.1, Lot Area.**

The portion of the Site located in the OC zone contains a total of approximately 31,247 SF.

• **312-6.2, Yard Requirements.**

No structures are proposed on the OC-zoned lot, so no setbacks are required.

• **312-6.3, Height.**

No building is proposed in the OC Zone

• **312-6.5, Lot Dimensions.**

The three lots constituting the Site are existing legal lots. The lots meet the average lot width of 85 feet. The average lot depth is 85 feet and the lot widths at the access points on the two public streets are 40 feet.

❖ **313-1, Intent and Purpose.**

The Intent and Purpose statement of the CBD zone is not an approval criterion because it is not listed as an approval criterion. Nevertheless, the Application is not contrary to and meets the CBD zone’s purpose and intent because it provides the community with a retail use.

❖ **313-2, Uses Permitted Through a Type I Procedure.**

The Application does not propose a Type I use.

❖ **313-3 Uses Permitted Through Type II Procedure.**

The Application proposes one Type II use: An eating and drinking establishment with a drive-in or drive-up window, subject to CDC 430-41 (CDC 313-3.6); however, the Applicant is electing to elevate this application to a Type III Procedure.

❖ **313-6.1 Minimum Lot Area. The minimum lot area shall be 8,500 square feet.**

The proposed property subject to development is comprised of three tax lots, each of which exceed the 8,500 square foot minimum lot, and collectively comprise 97,701 gross square feet. AS a result, the CBD-zoned lot meets the minimum lot size of 8500 SF.

❖ **313.62 Minimum Yard Requirements – 20’ front yard for buildings that are 35’ in height or less.**

The Application provides for a twenty-foot front yard setback for the building on SW Beaverton Hillsdale Highway. The Site Plan does not propose a building adjacent to SW Laurel Road, a second front yard setback. CDC 106-113.1.

❖ **313-6.3 Height. Maximum height =100’**

*The maximum height of the tallest point of our proposed building is 23’, which is less than the 100-foot maximum building height.*

❖ **313-6.4 Lot Dimensions. Minimum average lot width = 85’. Width at access point =40’. Minimum lot depth = 85’.**

Project landscape coverage: 25.1%. The CBD-zoned lot meets the minimum average lot width and depth and the required access point width.

❖ **406-2.1 Provide Facilities for the disabled pursuant to the Uniform Building Code edition in effect at this time.**

Paths of travel are provided to/from all adjoining rights of way on SW Beaverton Hillsdale Highway and Laurel Ave, as well as required accessible parking spaces.

❖ **406-2.2 Incorporate design features which reflect or complement the surrounding structural and architectural character through building style and materials.**

The site layout is complimentary to the surrounding developments with the proposed additional right-of-way to match the frontage improvements that were completed by the adjacent Chick-Fil-A. Our development will extend the bicycle lane and pedestrian sidewalk along the entire frontage of

our proposed development. Building design and materials are proposed as a classic and neutral Bone China White stucco and Pro-Ledge White stone wainscot.

- ❖ **406-2.4 Arrange structures and use areas for compatibility with adjacent developments and surrounding land uses, using the following design and siting techniques: locate and design structures and uses not to obscure or degrade identified scenic views or vistas from adjacent properties and public thoroughfares, considering setbacks, building height, bulk and landscaping; orient major service activity areas (e.g. loading and delivery areas) of the proposed development away from existing dwellings; “street furniture” such as bus shelters, streetlights, drinking fountains, benches and mailboxes shall be similar in design and materials to the buildings of the development.**

To promote walkability and current plans of increasing pedestrian and bicycle-friendly developments, our current site layout provides for our building’s main customer entrance to face the SW Beaverton Hillsdale right-of-way. This is an attractive and aesthetically-pleasing elevation visible to the public without being obstructed by cars and parking lots. We have also incorporated an attractive landscaping setback to highlight this frontage area. The covered patio area and additional patio tables are similarly placed in a convenient location along the street frontage for easy access to and from the public right-of-way. Service activity areas are located within the interior of the site and well behind all landscape screenings and setbacks.

- ❖ **406-3.1 Where possible lay out streets and building lots for multi-family, commercial, industrial and institutional developments to allow buildings maximum solar access, using techniques such as: East-west street direction so that the principal building facades will face south; make configuration of lots to allow orientation of the front or rear of buildings within 20 degrees of true south in order to maximize potential solar access.**

Our proposed building lays out in the east-west with the main customer entrance facing south.

- ❖ **406-3.2 Where possible, design multi-family, commercial, industrial and institutional buildings conducive to energy efficiency and conservation.**

Our proposed development includes a dining area that maximizes natural daylight for purposes of lighting, includes automatic lighting equipment that adjusts to natural daylight, includes a weather-resistant exterior wall and foundation envelope, and utilizes energy-efficient equipment.

- ❖ **406-6.1 Mixed Solid Waste and Recyclables Storage Facilities. Non-residential buildings shall provide a minimum storage area of 10 square feet plus: 10 square feet/1,000 GFA (Retail)**

Our proposed trash enclosure is approximately 450 square feet. Minimum calculation =  $(10 + (10 \times 3.885)) = 48.885$  square feet. Our trash enclosure will house both solid waste and recyclables in one enclosure to include a 4 cubic-yard compostable bin, 4 cubic-yard recycling bin as well as two compactor bins.

- ❖ **406-6.4 Location, Design and Access Standards for Storage Areas:**

**A. Location Standards: (1)To encourage its use, the storage area for source-separated recyclables shall be co-located with the storage area for residual mixed solid waste.(2)Indoor and outdoor storage areas shall comply with Uniform Building Code requirements.(3)Storage area space requirements can be satisfied with a single location or multiple locations, and can combine both interior and exterior locations.(4)Exterior storage areas shall be located in central and visible locations on the site to enhance security for users.(5)Exterior storage areas can be located in a**

*parking area, if the proposed use provides at least the minimum number of parking spaces required for the use after deducting the area used for storage.(6)The storage area shall be accessible for collection vehicles and located so that the storage area will not obstruct pedestrian or vehicle traffic movement on the site or on public or private streets adjacent to the site.(7)Exterior storage areas shall comply with the yard requirements of the primary district and the sight triangle requirements of Section 418-3.*

*B. Design Standards:(1)The floor area of an interior or exterior storage area required by Section 406-6 shall be excluded from the calculation of lot coverage and from the calculation of building floor area for purposes of determining minimum storage requirements.(2)The dimensions of the storage area shall accommodate containers consistent with current methods of local collection.(3)Storage containers shall meet Uniform Fire Code standards and be made and covered with waterproof materials or situated in a covered area.(4)Exterior storage areas shall meet the enclosure and screening and buffering requirements of Section 403-2.3 E (3). Gate openings which allow access to users and haulers shall be provided. Gate openings for haulers shall be a minimum of 12 feet wide and shall be capable of being secured in a closed and open position. (5)Storage area(s) and containers shall be clearly labeled to indicate the type of materials accepted.*

*C. Access Standards: (1) Access to storage areas can be limited for security reasons. However, the storage area shall be accessible to users at convenient times of the day, and to collection service personnel on the day and approximate time they are scheduled to provide collection service. (2)Storage areas shall be paved and designed to be easily accessible to collection trucks and equipment, considering paving, grade of storage areas and vehicle access. A minimum of 12 feet horizontal clearance and 14 feet of vertical clearance is required if the storage area is covered. (3)Storage areas shall be accessible to collection vehicles without requiring backing out onto a public or private street (includes alleys). If only a single access point is available to the storage area, adequate turning radius shall be provided to allow collection vehicles to safely exit the site in a forward motion. (4)Curbside collection of solid waste and recyclables from individual dwelling units in single-family attached buildings containing five or more units on a public or private street (includes alleys) may be permitted by the solid waste coordinator.*

The location of the trash enclosure is identified on Sheet C30. It is an exterior storage area that is highly visible and convenient for building operations. The enclosure includes lighting and does not obstruct any pedestrian or vehicular paths of travel. Access will be available during any operating hours and will be paved. The enclosure is fully enclosed with three walls, lockable swing gates at the front for collection, and a roof. The enclosure will be of the same proposed building materials to match our building (Bone China White stucco with a Pro Ledge White dry-stacked stone wainscot) and is screened with landscaping along the rear and sides of the enclosure.

- ❖ **407-1.4 For new development, the minimum area required for landscaping shall be 15% of the land area.**

Our development proposes 23,326 square feet proposes a landscaped area in excess of the requirement of 14,178 square feet.

- ❖ **407-1.7 The following interior landscaping requirements shall apply to all parking areas for ten or more vehicles: A. Ten square feet of landscaping per parking space excluding perimeter landscaping; B. Landscaped islands shall be a minimum of 120 square feet.**



The proposed development includes 94 parking spaces, requiring a minimum of 940 square feet of landscaping excluding perimeter landscaping. The landscape area excluding the frontage landscape requirement is 18,492 square feet.

- ❖ **407-2.1 Allowable Landscaping Materials: A. Trees, shrubs, ground cover, vines, flowers, and lawns; B. Brick, bark, timber, decorative rock or other decorative materials provided that materials other than planting materials are not to exceed 25% of the total area of landscaping; and, C. Features including fountains, pools, artwork, walls, and fences.**

Sheet LPP.1 is a proposed landscaping planting plan composed entirely of a mixture of groundcover, trees, shrubs and turf areas.

- ❖ **407-4 Landscaping Plans are required to be submitted as part of a development application, except for detached and duplex dwelling units located within the R-5, R-6 and Agricultural Districts.**

Sheet LPP.1 is included with this application.

- ❖ **407-6.1 The landscaping located within and adjacent to access roads and parking areas shall consist of a mixture of ground covers, shrubs and trees; 407-6.2 Landscaped areas shall be located to provide shade for parking lots and to create small clusters of parking.; 407-6.3 In addition to pedestrian ways, parking areas and access roads shall be separated from the exterior wall of a structure with landscaping except where loading and access ways exist.; 407-6.4A minimum 5-foot landscape strip shall be created along any parking lot boundary, including access roads, except where the use of joint parking or a zero setback is approved.; 407-6.5 Landscape "islands" located within parking areas shall maintain a minimum width and length dimension of 5 feet (see Section 407-1.6).; 407-6.6 Entryways into parking lots shall be bordered by a minimum 5-foot-wide landscape strip.**

See Sheet LPP.1.

- ❖ **408-2, Applicability.**

CDC 408-2, "Applicability," applies to Type II and Type III developments within the UGB.

Section 408-2 deals with the applicability of the Neighborhood Circulation requirements. Subsection B (CDC 408-2.1.B) states that the neighborhood circulation requirements apply as follows:

"To all Type II and Type III development except for the **uses** listed below."

As a result, the subsection is specifically calling out the uses in which the Neighborhood Circulation requirements do not apply to, not particular *zones* or *districts*.

408-2.1.B(5) then applies the circulation requirements to the Development of General Commercial and Industrial property "except for the **uses**" listed below. Again, there is no mention of General Commercial *District* or Industrial *Districts*. From the way the code is structured (and in particular, its distinction between the terms "districts" (referring to zoning), "uses," and "property," we think the best way to read this is that the exceptions listed in subsection 5 apply to the following list of uses to "property" that is being used for general commercial uses.

The list of uses in subsections 5(a) through 5(j) is as follows:

- (a) Campground (430-25);
- (b) Campus Development uses as defined in 381-4.3;
- (c) Convenience Grocery (430-35);
- (d) **Eating and Drinking Establishment;**
- (e) Industrial Business Park (430-71) and permitted Accessory Uses (320-3.2);
- (f) Lodging Places;
- (g) Park and Ride Facility (430-89);
- (h) Public Building;
- (i) Services Establishments; and
- (j) Transit Center (430-137).

CDC 106-73 defines “eating and drinking establishment” as any establishment which is required to have an Oregon State Health Division Restaurant License (“License”). Therefore, the proposed use qualifies as an eating and drinking establishment because it is required to have a License and is exempt from CDC 408. For these reasons, the parking in connection with an “eating and drinking establishment” on a “property” characterized by general commercial uses, is exempt from the neighborhood circulation requirements.

- ❖ ***410 Grading and Drainage. Grading applications may be processed through a two-step procedure consisting of a preliminary review (grading plan) and a final review (grading permit). For development review through the Type II and III procedure, preliminary grading plans are to be submitted with the development application.***

Sheet C33 County Entitlement Grading and Drainage Plan is included with this application.

- ❖ ***411-5 Screening and Buffering Matrix. Site is a Commercial Business District abutting an Office Commercial District. 0’ Screening and Buffering Requirement.***

No screen or buffer requirement per this section.

- ❖ ***413-3 Off Street Parking Lot Design. Standard 90° Parking stall: 8.5’ width, 18’ depth. Aisle Width 24’. Bumper Overhang 3’***

Parking stalls are all proposed as standard 90° stalls with a minimum width of 8.5’ and depth of 18’ (stalls 21-44 are 15’ depth with a 3’ bumper overhang, as allowable by this section). All aisle widths are in excess of the 24’ minimum by this section.

- ❖ ***413-3.5 Pedestrian Access. In parking lots for customers, residents or employees of 50 or more spaces and two or more rows of parking stalls, separate internal pedestrian connections shall be provided consistent with 408-10 to minimize vehicular-pedestrian conflicts and allow safe pedestrian movement within the lot.***

An interior pedestrian path of travel is clearly marked on Sheet C30.

- ❖ ***413-4.1 All required off-street parking and loading areas inside the urban growth boundary shall be surfaced with concrete or asphaltic material to conform with either of the following standards: A. a minimum of 4 inches of concrete for vehicles and 6 inches for commercial vehicles or trucks; or B. Two inches of asphalt overlaying a 6” base (compacted) of crushed stone.***

The entire parking area is proposed paved with asphaltic pavement, with a minimum 4" of asphalt over 6" Class II base.

- ❖ **413-4.5 All required off-street parking areas shall be constructed with curbs of concrete or asphalt.**

All proposed curbs are concrete.

- ❖ **413-4.6 Parking spaces in paved parking areas having more than three stalls are to be marked with paint striping, a minimum of 2" in width.**

All parking stalls will be striped with a 2" minimum width.

- ❖ **413-4.8. The finished grade of a parking lot is not to exceed 5% slope.**

Per Sheet C33, the parking lot does not exceed 5% slope.

- ❖ **413-6.1 Minimum Off-Street Parking Requirements. Drive-in restaurant or similar drive-in used for the sale of beverages, food or refreshments for consumption off the premises: 5 per 1,000 square feet of gross floor area.**

Calculation:  $5 * 3.885 = 19$  stalls. Our development exceeds the minimum parking required, with a proposed count of 94 parking stalls.

- ❖ **413-6.3 Maximum Off-Street Parking Requirements. Drive-in restaurant or similar drive-in used for the sale of beverages, food or refreshments for consumption off the premises: 12.4 per 1,000 square feet of gross floor area.**

Calculation:  $12.4 * 3.885 = 48$  stalls. Our development exceeds the maximum parking allowed, with a proposed count of 94 parking stalls. See next item below.

- ❖ **413.6.6 In either Zone A or B, the Review Authority may approve through a Type II procedure off-street parking in excess of the maximum parking standards based on findings that: A. The nature of the development will result in a higher-off street parking demand relative to similar uses in the same parking zone; and B. To the greatest degree practicable, the development includes the implementation of opportunities for shared parking, parking structures, utilization of public parking spaces and other appropriate demand management programs.**

We request consideration for an increase in the allowance of allowable parking. As you can see in the application materials, there is concern among the community regarding the potential for high drive through traffic demand and the perceived potential for the drive through customers to affect surrounding roads and neighborhoods. To alleviate that demand, available parking spaces that allows customers to enter the restaurant and pick up their order is the most effective alternative. Having parking spaces available to customers during peak demand times is critical to ensuring smooth operations. This will also allow us to dedicate 12-20 stalls as Associate Parking (which is a concern among the Laurel Avenue residents). The comments received from community members during the Neighborhood Meeting is a desire to have as many parking stalls as we can in order to ensure adequate parking for employees as well as to accommodate customers.

- ❖ **414-2 Signs - Commercial and Institutional Districts. Community Business District Maximum area per face 72 square feet. (35 mph traffic speed or more, 4 or more traffic lanes).**

Our proposed sign face is 35 square feet.

- ❖ **414-2.3 A freestanding sign shall not be located in a required side or rear yard. A Freestanding sign may project up to the street right-of-way provided there is a minimum ground clearance of 8'-6".**

Ground clearance provided by our freestanding sign is 23'.

- ❖ **414-2.4 Freestanding signs shall not exceed 28' in height from ground level.**

Total overall height is 28'.

- ❖ **415, Lighting.**

CDC 415-1 provides that CDC 415 applies only to new developments of attached units. The Application does not propose attached units, so CDC 415 does not apply to the Application.

- ❖ **418, Setbacks.**

CDC 418, "Setbacks," regulates obstructions in required yards. No such obstructions are proposed.

- ❖ **429-6 Minimum number of long-term bicycle parking = 2 spaces. Minimum number of short-term bicycle parking = 2 spaces or one space for each 5,000 square feet of gross floor space.**

Our site plan provides 2 long term bicycle parking and 4 short-term bicycle parking spaces.

- ❖ **429-7 Bicycle Parking Location. A. Short term parking must be located onsite and within 50' of a well-used building entrance. Bicycle parking shall have direct access to public right-of-way, existing and proposed bikeways and the main entrance of the principal use. B. Long-term parking shall be located in a secure, well-lighted area no farther from a well-used building entrance than the nearest long-term motor vehicle parking space. C. All bicycle parking facilities shall be separate from motor vehicle parking and maneuvering by a barrier or a minimum of 5". Areas set aside for required bicycle parking must be clearly marked and reserved for bicycle parking only. Bicycle parking shall not obstruct pedestrian walkways.**

Both bicycle parking areas are located onsite and with direct access from the proposed bicycle lane along SW Beaverton Hillsdale Highway, near our patio and customer front entrance. It is not within any motor vehicle parking areas and does not obstruct pedestrian walkways.

- ❖ **430-41.1(A)-(C), Access.**

The Application proposes to reduce the three existing driveways on SW Beaverton-Hillsdale Highway to two driveways. Consolidation of access with adjoining developed uses is not possible because the ownerships are different and those properties are fully developed.

Two driveways are proposed on SW Beaverton-Hillsdale Highway. The west driveway is proposed to be a right-in/right-out with a "pork-chop" design to restrict vehicle-turning movements and the east driveway is proposed to be a full-turning movement driveway. The two proposed driveways on SW Beaverton-Hillsdale Highway, classified as a County "Urban Principal Arterial, Other," do not impact residential land uses and are located on a higher classification street.

Considering the four factors in CDC 430-41.1(A)(1)-(4), access to SW Beaverton-Hillsdale Highway is appropriate. The Site size warrants two access driveways. The road classifications do not prohibit two driveways. Sight distance is appropriate considering allowed miles per hour. Adjacent development will not be adversely affected by the proposed driveways.

The Application also proposes one driveway to SW Laurel Road as a gated, emergency access-only access point. The Applicant proposes to restrict access to SW Laurel Road because it is classified as a County "Local Road" and residential land uses are located to the north and east on SW Laurel Road.

The Site Plan clearly marks the driveway entrances and exits.

❖ **430-41.2, Drive-in Facilities.**

The Application is not part of a larger commercial center. The Drive-In facilities are fully located in the parking lot in the CBD zone.

❖ **430-41.2, Lighting.**

This standard applies only to Drive-In facilities in the OC zone. The Drive-In facilities are located in the CBD zone and not the OC zone.

❖ **430-41.4, Hours of Operation.**

This standard applies only to Drive-In facilities in the OC zone. The Drive-In facilities are located in the CBD zone and not the OC zone.

❖ **501-2.1 and 2.2, Applicability.**

CDC Article V applies to the proposed development and property line adjustment.

❖ **501-8.1.A, Critical Services.**

**Exhibits D, E and F** show that adequate water, sewer, and fire protection can be provided to the proposed development prior to occupancy.

❖ **501-8.1.B, Access Level of Access.**

The Application proposes to improve SW Beaverton-Hillsdale Highway to the required standards as shown in **Exhibit A**.

❖ **501-8.1.C, Adequate Drainage.**

The Application proposes to provide adequate drainage as shown in **Exhibit N**.

❖ **501-8.2.A(1), Essential Services.**

**Exhibits B and C** show that adequate levels of service from the appropriate sheriff department and transit agency will be provided to the proposed development. Schools are not affected by the Application. With respect to ODOT, the Applicant has submitted its Access Management Report to ODOT for review and approval. In the event the aforementioned approval is not received from ODOT prior to approval of this Application, this criteria can be satisfied with appropriate conditions of approval.

❖ **501-8.2.B, Adequate Levels of Arterial and Collector Roads.**

The Applicant will pay the Transportation Development Tax.

❖ **501-8.2.B-J, Additional Requirements.**

Subsections B(1) – (5) are satisfied.

Subsection B(6) is inapplicable.

Subsection C is satisfied because the Applicant will install street lighting, if necessary. SW Beaverton-Hillsdale Highway does not presently include street lighting on its north side adjacent to the Site. As a result, the Applicant does not believe that new street lighting along SW Beaverton-Hillsdale Highway adjacent to the Site is necessary.

Subsection D is not applicable because the Site is not within a planned transit corridor.

Subsection E is not applicable because the Application does not propose gravel roads.

Subsection F is not applicable because future Collector or Arterial street alignments are not shown on the County's Transportation System Plan (the "TSP") at the Site.

Subsection G is satisfied because the Application proposes a half-street improvement on SW Beaverton-Hillsdale Highway.

Subsections H-L are not applicable.

❖ **501-8.3.A and B, Desirable Services.**

This standard is not applicable because park and trail facilities are not required.

❖ **501-8.4, Dedication of Right-of-Way.**

This standard is satisfied through the dedication of required right-of-way to SW Beaverton-Hillsdale Highway and SW Laurel Road as shown on the Site Plan.

❖ **501.8.5.A-H, Access to Public Roads.**

The Application proposes three driveways (an emergency-only driveway on SW Laurel Road and two driveways on SW Beaverton-Hillsdale Highway) that meet Subsection A.

Subsection B(1) is satisfied for the driveway on SW Laurel Road.

Subsection B(4)(b) is satisfied because the Applicant has submitted its Access Management Report to ODOT for approval of the two driveways on SW Beaverton-Hillsdale Highway. In the event the aforementioned approval is not received from ODOT prior to approval of this Application, this criteria can be satisfied with appropriate conditions of approval.

Subsections C-E are not applicable.

Subsection F, "Sight Distance," is satisfied.

Subsections G and H are feasible to be satisfied.

❖ **502-3, Sidewalk Standards.**

CDC 502-3.1 is satisfied because the Application proposes to construct sidewalks along SW Beaverton-Hillsdale Highway and SW Laurel Road consistent with County standards.

❖ **CDC 605-1, Property Line Adjustment.**

❖ **CDC 605-1.1.A(2).**

The Property Line Adjustment involves two or more existing parcels with two land use districts. The predominant land use district is CBD and the minimum lot size is 8500 SF. The reduced parcel will not be less than 8500 SF.

❖ **605-1.1.B(1).**

Both properties meet or exceed the minimum lot size in the applicable district.

❖ **605-1.2.A-C.**

**Exhibit S** contains the required information.

❖ **605-1.33.**

The proposed property line adjustment complies with the applicable CDC standards and does not result in a violation of the setback standards. The proposed property line adjustment complies with CDC 501-8.5 because each resulting parcel will have lawful access to a public road.

❖ **605-1.4.**

The Applicant will comply with the survey requirements.

❖ **605-1.5.**

The Applicant will comply with the filing and recording requirements.

❖ **"Raleigh Hills-Garden Home Community Plan."**

The Raleigh Hills-Garden Home Community Plan (the "CP") is part of the County's "Comprehensive Framework Plan for the Urban Area," which applies to the Site.

The Application is a “Limited Land Use Decision” as defined in ORS 197.015(12)(a)(B) because it proposes a final decision on a site within the UGB for a use that is permitted outright, including site review and design review. Type II uses are presumed to be appropriate in the district. CDC 202-2.1. Type II uses include those identified uses in the CDC as Type II uses. CDC 202-2.2.A. The proposed use is a Type II use in the CBD zone.

**A. CP General Design Element (“GDE”) 11.**

CP GDE 11 provides as follows:

**“11. Proposed new commercial uses and expansion of existing uses along either Canyon Road or Beaverton-Hillsdale Highway shall be evaluated against the community plan goal to discourage strip commercial development. Designs shall include features such as shared access, orientation, parking, signage and landscaping, as required by the Community Development Code, which mitigate the detrimental effects of commercial strip development.”**

CP GDE 11 applies to new commercial uses on Beaverton-Hillsdale Highway. This new commercial development is not strip commercial development, an undefined term in the CDC. The proposed use is not a strip commercial development because it is a single use with interior parking and driveways. The reduction of the number of existing driveways on SW Beaverton-Hillsdale Highway and proposed sign and landscaping which meet applicable CDC standards all mitigate any detrimental effects of commercial strip development.

**B. CP GDE 13.**

CP GDE 13 provides as follows:

**“13. Where the impact of noise and lighting associated with commercial or industrial uses adjacent to residential areas does not meet the standards in the Community Development Code, the commercial development shall be subject to limited hours of operation.”**

CP GDE 13 addresses the impacts of noise and lighting from commercial uses to adjacent residential areas that do not meet applicable CDC standards. CDC 430-41.4 limits the hours of operation of drive-in facilities in the OC zone but not the CBD zone. The Application’s drive-in facilities are not located within the OC zone, so the proposed use meets the applicable CDC standards. The Application satisfies CDC 423-6, “Noise,” because it is feasible to satisfy the standards in Washington County Code of Ordinances Chapter 8.24, “Noise.”

CDC 415, “Lighting,” does not apply to the Application as explained above.

**C. CP GDE 15.**

CP GDE 15 provides as follows:

**“15. New access onto Arterials and Collectors shall be limited as detailed in the Community Development Code provisions on Circulation and Access. Shared or**



**consolidated access shall be required prior to issuance of a development permit for land divisions or structures located adjacent to these facilities, unless demonstrated to be unfeasible.”**

CP GDE 15 provides for limited new access onto an arterial street, such as SW Beaverton-Hillsdale Highway, as provided for in CDC 510-8.5.B(4)(b). Shared or consolidated access is required unless demonstrated to be infeasible. Shared access with adjacent uses is infeasible because of different ownerships and because those existing uses are fully developed. The Application proposes to reduce the number of driveways onto SW Beaverton-Hillsdale Highway from three driveways to two driveways.

CDC 501-8.5.B(4)(b) provides that access onto arterials that are state highways are subject to Oregon Department of Transportation (“ODOT”) approval. This standard is addressed in Part 6.1, above.

#### **D. Subarea Design Elements, Subarea 2, SDE 4, Area of Special Concern (“ASC”) H.**

ASC H provides as follows:

**“4. Land designated for commercial uses adjacent to Canyon Road and Beaverton-Hillsdale Highway comprises *Area of Special Concern H*. In order to promote the elimination of those strip commercial features which are vehicle and pedestrian traffic safety hazards and the addition of features which will enhance the business advantage and overall appearance of the subarea, the following standards shall apply to development of structures, land divisions and significant remodeling of existing structures within this area.**

**“a. Access drives and curb cuts shall be consolidated and, if feasible, shared between adjoining parcels.**

**“b. Where no curb cuts onto Canyon Road or Beaverton-Hillsdale Highway now exist, new direct access shall be allowed only for an interim use until alternative access is completed, pursuant to access management provisions in the Comprehensive Framework Plan and Community Development Code.**

**“c. A safe and convenient means of pedestrian circulation shall be provided to each use. The pedestrian system shall provide access from each use to the property line of adjacent uses and from the use to the nearest public transit facility or stop. The design of new pedestrian facilities shall complement the design of those already constructed in adjacent uses.**

**“d. A landscape buffer area shall be established and maintained along that portion of the property abutting SW Canyon Road or Beaverton-Hillsdale Highway. This landscaping shall be done at least to the level of Type 1 Screening and Buffering Standards in the Community Development Code.**

**“e. Business identification and directional signs shall be brought into conformance with sign standards in the Community Development Code and consolidated whenever feasible.”**

The Site is designated for commercial use and is located on SW Beaverton-Hillsdale Highway.

Subsection (a) provides for consolidation and, if feasible, shared driveways with adjoining parcels. The Application proposes to consolidate three driveways into two driveways on SW Beaverton-Hillsdale Highway. Shared driveways with the adjacent developed parcels are not feasible because of different ownerships and because those properties are fully developed.

Subsection (b) is not applicable because it applies to sites without existing driveways to SW Beaverton-Hillsdale Highway.

Subsection (c) requires a pedestrian system for access from the proposed use to the property line of adjacent uses and to the nearest transit stop. The Site Plan shows sidewalk connections to each of the three adjacent uses on the east, north and west. The nearest transit stop is at the northeast corner of the intersection of SW 107<sup>th</sup> Avenue and SW Beaverton-Hillsdale Highway. The Application proposes to construct a sidewalk connecting to the existing sidewalk on the adjacent Chick-fil-A sidewalk leading to the transit stop.

Subsection (d) requires a landscape buffer meeting the Type I screening and buffering standard in CDC 411-6.1 on the Site’s frontage on SW Beaverton-Hillsdale Highway. The Site Plan shows the 10 foot landscaping buffer area without a fence containing the required canopy and understory trees location and the landscaping meeting the Type I standard.

CDC 411, “Screening and Buffering,” establishes screening and buffering requirements for the OC-zoned part of the Site and the adjacent OC-zoned lot to the north. CDC 411-5, “Screening and Buffering Matrix,” does not require screening and buffering adjacent to the OC-zoned lot to the north. The properties to the east and west are in the City of Beaverton (the “City”). CDC 411-5 does not establish screening and buffering adjacent to properties in the City. Screening and buffering is not required when lots are separated by public streets or roads. CDC 411-3.2.C. No additional parking lot or driveway screening or buffering is required.

Subsection (e) requires that business and directional signs meet CDC sign standards. It is feasible for the Application to meet these standards.

❖ **Service Provider Letters**

Service Provider Letters from Clean Water Services, (“CWS”), TVFRD, Westside Water District, Tualatin Hills Parks and Recreation District (“THPRD”), Washington County Health and Human Services (“HHS”), Solid Waste & Recycling are attached as **Exhibits D-H**.

❖ **City of Beaverton Service Provider Letter**

The City of Beaverton Service Provider Letter is attached as **Exhibit U**.

❖ **Neighborhood Meeting Materials**

The required neighborhood meeting materials are attached as **Exhibit T**. **Exhibit T** shows that the Applicant satisfied CDC 203-3, “Neighborhood Meeting.” The Applicant held the required neighborhood meeting before the County deemed the Application complete. CDC 203-3.3.

❖ **Completed Traffic Impact Statement (“TIS”)**

The TIS is **Exhibit I**.

❖ **Traffic Study**

The traffic study addressing Incompleteness Items 7.a-7.c is **Exhibit J**.

❖ **Beaverton-Hillsdale Highway Dedication**

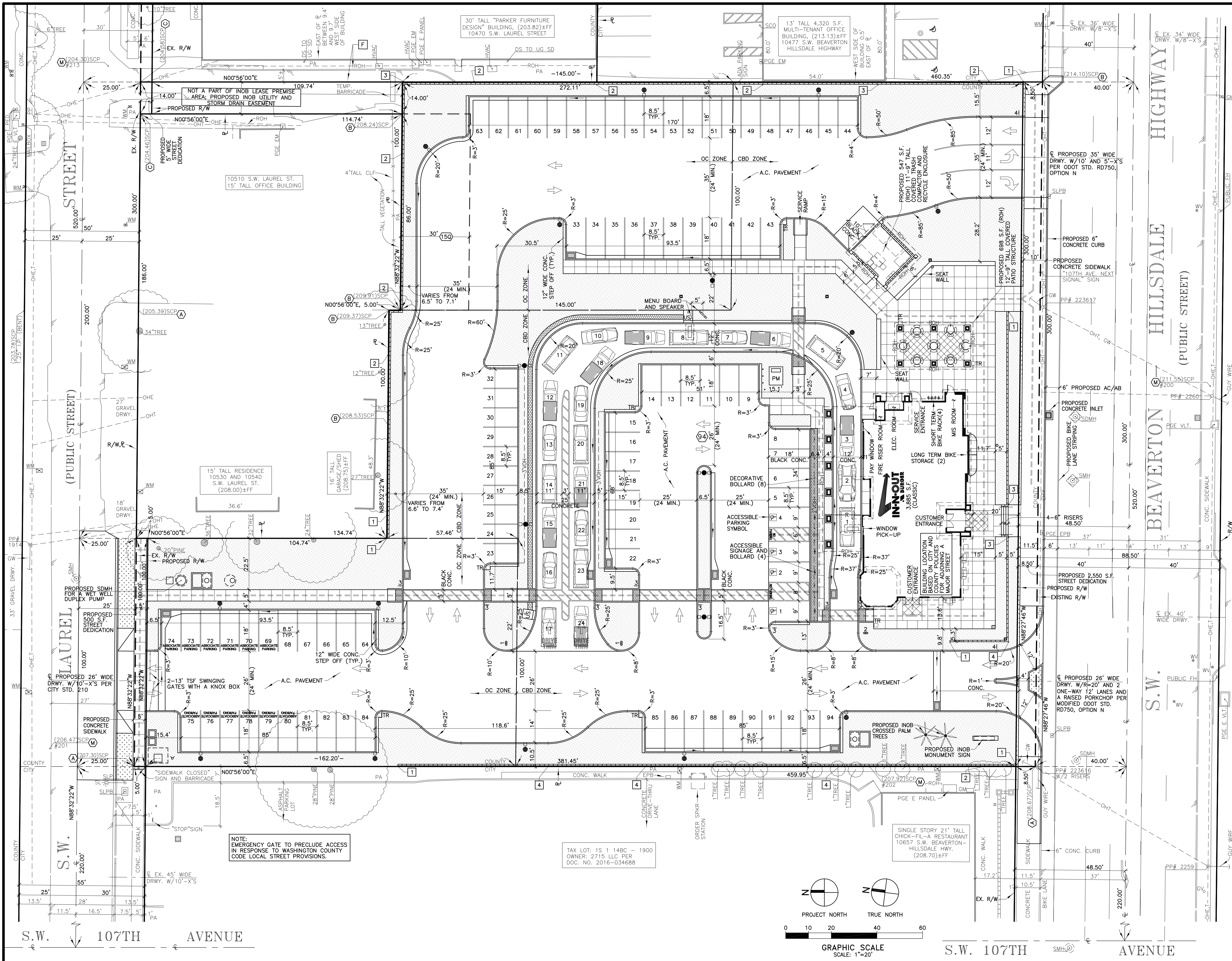
The Site Plan showing that the required dedication is consistent with the TSP is **Exhibit A**.

**Conclusion.**

The County can find that the Application satisfies the applicable CDC and CP standards.

## **List of Exhibits**

- Exhibit A** Proposed Site Plan, Sheet C30.0
- Exhibit B** Washington County Sheriff Service Provider Letter
- Exhibit C** TriMet Service Provider Letter
- Exhibit D** CWS Service Provider Letter
- Exhibit E** West Slope Water District Service Provider Letter
- Exhibit F** Tualatin Valley Fire and Rescue District Service Provider Letter
- Exhibit G** THPRD Service Provider Letter
- Exhibit H** Washington County HHS Service Provider Letter
- Exhibit I** Traffic Impact Statement
- Exhibit J** Traffic Study
- Exhibit K** Traffic Management Plan
- Exhibit L** Existing Site Plan
- Exhibit M** Grading and Drainage Plan
- Exhibit N** Storm Drain and Utility Plan
- Exhibit O** Drainage Analysis Plan
- Exhibit P** Boundary and Easement Plan
- Exhibit Q** Landscape Planting Plan
- Exhibit R** Site Construction Concept Details Plan
- Exhibit S** Property Line Adjustment Map
- Exhibit T** Neighborhood Meeting Materials
- Exhibit U** City of Beaverton Service Provider Letter
- Exhibit V** Elevations



- ### LEGEND
- NEW 24"x36" CONCRETE DRAIN BOX INLET WITH A FLOOR PLUS FOSSIL FILTER INSERT FOR THE PRE-TREATMENT OF STORMWATER RUNOFF.
  - PROPOSED INOB INSTALLED AND MAINTAINED 22'-6" TALL FIXTURE HEIGHT LIGHT POLE ON TOP OF A 30" TALL 24" DIAMETER CONCRETE BASE FOR A TOTAL HEIGHT OF 25' TALL.
  - PROPOSED INOB INSTALLED AND MAINTAINED LANDSCAPED PLANTER AND IRRIGATION SYSTEM ON SITE, INCLUDING AREA UNDER BUILDING ROOF OVERHANG (ROH) AND VEHICLE OVERHANG (VOH) CONSISTING OF APPROXIMATELY 23,326 SQUARE FEET (25.1%).
  - BLACK TRUNCATED DOMES DETECTABLE WARNING STRIP.
  - VEHICLE DETECTOR LOOP.
  - PROPERTY LINE.
  - OUTDOOR SEATING PATIO TABLE WITH UMBRELLA (4 SEATS).
  - OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (4 SEATS).
  - OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (2 SEATS).
  - NEW 3" TALL 18"x24" LIT "DRIVE THRU" DIRECTIONAL SIGN.
  - NEW 3" TALL 18"x24" LIT "THANK YOU, DO NOT ENTER" DIRECTIONAL SIGN.
  - NEW PEDESTRIAN CROSSWALK SIGN.
  - NEW ACCESSIBILITY ENTRY SIGN.
  - IN-N-OUT BURGER.
  - PROPOSED TAN COLOR SPLIT-FACE CMU WALL AND 2" CAP.
  - EXPOSED HEIGHT OF PROPOSED CMU RETAINING WALL IN FEET WITH A 46" TALL TUBE STEEL FENCE (TSF) ON TOP WHEN THE EXPOSED HEIGHT IS GREATER THAN 30".
  - LOC INOB LIMITS OF PROPOSED CONSTRUCTION.
  - LL PROPOSED INOB LEASE PREMISES LINE.
  - VOH VEHICLE OVERHANG WITH NO OBSTRUCTIONS INCLUDING LIGHT POLES, TREES AND SIGNAGE.
  - ADA ACCESSIBLE PATH OF TRAVEL. ACCESSIBLE PATH OF TRAVEL IS NOT LESS THAN 4 FEET WIDE, AND DOES NOT EXCEED A RUNNING SLOPE OF 1:20 (5%) OR A CROSS SLOPE IN EXCESS OF 1:50 (2%). REFER TO SHEET C33 FOR SPECIFIC SLOPES AND GRADES.
  - PGE ELECTRIC PAD MOUNT TRANSFORMER WITH BOLLARDS.
  - TR PORTABLE TRASH RECEPTACLE ON A MINIMUM 24"x24"x4" CONCRETE PAD.
  - NEW CONCRETE SIDEWALK.
  - REFER TO THE BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTIONS SHOWN ON SHEET C36.
  - (150) SIMPLIFIED PLOTTABLE EASEMENT DESCRIPTION SHOWN ON SHEET C36.
  - (US) DRIVE-THRU CATWALK CONCRETE PAD WITH UMBRELLA STAND PER DETAIL "11" SHOWN ON SHEET C...
  - PROPOSED 18" TO 27" TALL 22" WIDE STUCCO COVERED SEAT/SCREEN WALL WITH A PRECAST CONCRETE CAP.
  - PROPOSED INOB INSTALLED AND MAINTAINED OFFSITE STREET LANDSCAPE PLANTER AND IRRIGATION SYSTEM CONSISTING OF APPROXIMATELY 429 SQUARE FEET IN S.W. LAUREL STREET AND 266 SQUARE FEET IN S.W. BEAVERTON-HILLSDALE HIGHWAY.
  - REFER TO SHEET C36 FOR ENCROACHMENT NOTES.
  - PROPOSED PRECAST CONCRETE MODULAR WETLANDS UNIT WETLANDMOD-6-8-5'-0"-V STORMWATER BIOFILTRATION SYSTEM.
  - 24" WIDE MATTED INOB ASSOCIATE WALKWAY PER CONSISTING OF APPROXIMATELY 360 SQUARE FEET.
  - CF CURB FACE.

- ### GENERAL NOTES
- IN-N-OUT BURGER GROSS SITE AREA: 97,701 SQ. FT. OR 2.243 ACRES.  
 PROPOSED 5' LAUREL STREET DEDICATION: 570 SQ. FT. OR 0.013 ACRES.  
 PROPOSED 8.5' BEAVERTON-HILLSDALE HIGHWAY DEDICATION: 2,550 SQ. FT. OR 0.059 ACRES.  
 MINUS NET FLAG STRIP AT NORTHEAST CORNER: 1,536 SQ. FT. OR 0.035 ACRES.  
 NET SITE AREA: 93,045 SQ. FT. OR 2.136 ACRES.
  - EXISTING COUNTY ZONE: CBD (COMMUNITY BUSINESS DISTRICT) FOR TAX LOTS 15114BC02000, 15114BC02400 AND 15114BC02401 FRONTING S.W. BEAVERTON-HILLSDALE HIGHWAY. OC (OFFICE COMMERCIAL DISTRICT) FOR TAX LOT 15114BC02100 FRONTING S.W. LAUREL STREET.
  - GENERAL LAND DESIGNATION:
  - EXISTING LAND USE: ONE-STORY 3,555 SQUARE FOOT "HAWAIIAN TIME" RESTAURANT WITH A SINGLE 170' LONG DRIVE-THRU LANE AND 81 SURFACE STRIPED AND UNSTRIPED PARKING SPACES FOR THE PROPERTY AT 10565 S.W. BEAVERTON-HILLSDALE HIGHWAY.  
  
 ONE-STORY 6,043 SQUARE FOOT "AZTECA MEXICAN RESTAURANT" AND 60 SURFACE STRIPED PARKING SPACES FOR THE PROPERTY AT 10505 S.W. BEAVERTON-HILLSDALE HIGHWAY.
  - SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA PLUS OUTDOOR PATIO SEATING AREA = 24 MINIMUM PARKING SPACES REQUIRED.  
 12.4 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA PLUS OUTDOOR PATIO SEATING AREA = 58 MAXIMUM PARKING SPACES
  - IN-N-OUT BURGER URBAN BUILDING AREA = 3,885 S.F.  
 INDOOR SEATING = 84 SEATS.  
 OUTDOOR SEATING = 34 SEATS (10 TABLES).  
 OUTDOOR SEATING AREA = 698 S.F. STRUCTURE PLUS 64 S.F. EACH FOR 0-4 SEAT TABLES (0 S.F.) PLUS 20 S.F. FOR 3-2 SEAT TABLES (60 S.F.) = 758 S.F.
  - REQUIRED LANDSCAPE AREA WITHIN PROPERTY (15%) = 14,178 S.F.
  - LANDSCAPE AREA PROVIDED WITHIN PROPERTY = 23,326 S.F. (25.1%).
- | DESCRIPTION  | EXISTING | REQUIRED | PROPOSED |
|--|----------|----------|----------|
| 1. STANDARD SPACE (8.5'x18' PLUS A 2' VOH)   | 0        | 0        | 4        |
| 2. STANDARD SPACE (8.5'x15' PLUS A 3' VOH)   | 0        | 0        | 18       |
| 3. STANDARD SPACE (8.5'x18')   | 137      | 55       | 68       |
| 4. ACCESSIBLE VAN (17'x18' PLUS A 2' VOH)  | 0        | 1        | 1        |
| 5. ACCESSIBLE SPACE (15'x18' PLUS A 2' VOH)  | 4        | 2        | 3        |
| 7. TOTAL   | 141      | 58       | 94       |
| 8. IN-N-OUT BURGER DRIVE THRU VEHICLE QUEUE (20' LONG INOB VEHICLE)  | 0        | 0        | 24       |
| 9. SHORT-TERM BICYCLE PARKING WITHIN DESIGNATED BIKE RACK.   | 0        | 2        | 4        |
| 10. LONG-TERM BICYCLE PARKING WITHIN A LOCKABLE PERMANENTLY ANCHORED LOCKER ON A CONCRETE SLAB-AMERICAN BICYCLE SECURITY COMPANY BIKE-SHIELD MODEL 302, FINISH: MEDIUM GRAY. | 0        | 2        | 2        |
10. ALL NEW SIGNS SHALL BE APPROVED BY A SEPARATE CITY PERMIT.
11. COUNTY TAX LOT: 15114BC02100, 15114BC02000, 15114BC02400 AND 15114BC02401.

SHEET INDEX OF COUNTY ENTITLEMENT DRAWINGS	
NO.	SHEET TITLE
C30.0	COUNTY ENTITLEMENT NEW SITE PLAN
C31.0	COUNTY ENTITLEMENT TRAFFIC MANAGEMENT PLAN
C31.1	COUNTY ENTITLEMENT EXISTING SITE PLAN
C32	COUNTY ENTITLEMENT DEMOLITION PLAN
C33	COUNTY ENTITLEMENT GRADING AND DRAINAGE PLAN
C34	COUNTY ENTITLEMENT STORM DRAIN AND UTILITY PLAN
C35	COUNTY ENTITLEMENT DRAINAGE ANALYSIS SITE PLAN
C36	COUNTY ENTITLEMENT TOPOGRAPHY SURVEY MAP
C37	COUNTY ENTITLEMENT BOUNDARY AND EASEMENT MAP
LPP.1	COUNTY ENTITLEMENT LANDSCAPE PLANTING PLAN
LOC.1	COUNTY ENTITLEMENT SITE CONSTRUCTION CONCEPT DETAILS PLAN

DEVELOPER:  
**IN-N-OUT BURGER**  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

**Underground Service Alert**  
 Call: Toll Free  
**811**  
 TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

▲	
▲	
▲	
▲	
▲	

GHA PROJECT NO. ---  
**GHA**  
 Architecture/Development  
 14901 Quorum Drive  
 Suite 300  
 Dallas Texas 75254  
 Ph: (972) 239-8884  
 Fax: (972) 239-5054

CIVIL ENGINEER:  
**MSI ENGINEERING, INC.**  
 CIVIL ENGINEERS AND LAND SURVEYORS SPECIALIZING IN SITE DEVELOPMENT  
 301 NORTH SAN DIMAS AVENUE, SAN DIMAS, CA 91773  
 (909) 305-2395 FAX (909) 305-2397

*Aaron D. Pellow*  
**AARON D. PELLOW** R.C.E. 91119  
 01-26-2022 DATE

REGISTERED PROFESSIONAL ENGINEER  
 91119  
 OREGON  
 MARCH 03 2011  
**AARON D. PELLOW**  
 EXPIRES: 12-31-2022

**IN-N-OUT BURGER**  
 10505 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
 BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT NEW SITE PLAN**

**C30.0**

Exhibit A  
 Page 1 of 1  
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**WASHINGTON COUNTY**

Dept. of Land Use & Transportation  
Planning and Development Services  
Current Planning  
155 N. 1<sup>st</sup> Avenue, #350-13  
Hillsboro, OR 97124  
Ph. (503) 846-8761 Fax (503) 846-2908  
http://www.co.washington.or.us

**Request For Statement Of Service  
Availability For Sheriff / Police Services**

PRE-APPLICATION DATE: 08/10/2020

**Service Provider: PLEASE RETURN THIS FORM TO:  
APPLICANT:**

COMPANY: IN-N-OUT Burgers, A California Corporation  
CONTACT: Cassie Ruiz  
ADDRESS: 13502 Hamburger Lane  
Baldwin Park, CA 91706  
PHONE: (626) 813-8226

WASHINGTON COUNTY SHERIFF

**OWNER(S):**

NAME: LYNN IRENE ANGEL FAMILY LTD PARTNERSHIP  
ADDRESS: 550 SW PARK AVENUE  
PORTLAND, OR 97205  
PHONE: (503)407-7707

Property Desc.: Tax Map(s): \_\_\_\_\_ Lot Number(s):  
1S114BC02000, 1S114BC02400  
1S114BC02401, 1S114BC02100

Site Size: 2.243 acres

Site Address: 10565 & 10505 SW Beaverton Hillsdale Hwy, Beaverton OR 97005

Nearest cross street (or directions to site):  
SW Beaverton Hillsdale Hwy & SW 107th Ave

PROPOSED PROJECT NAME: IN-N-OUT Burger

PROPOSED DEVELOPMENT ACTION: (DEVELOPMENT REVIEW, SUBDIVISION, MINOR PARTITION, SPECIAL USE)

DEMOLITION OF THE TWO EXISTING RESTAURANT USES ON THE PROPERTY AND THE DEVELOPMENT OF A 3,885 SQUARE FOOT IN-N-OUT BURGER RESTAURANT WITH DRIVE THROUGH SERVICE AND OUTDOOR SEATING

EXISTING USE: Commercial - Restaurant

PROPOSED USE: Commercial - Restaurant

IF RESIDENTIAL:

NO. OF DWELLING UNITS: \_\_\_\_\_  
SINGLE FAM. \_\_\_\_\_ MULTI-FAM. \_\_\_\_\_

IF INDUSTRIAL/COMMERCIAL:

TYPE OF USE: Restaurant  
NO. OF SQ. FT. (GROSS FLOOR AREA) 3,885

IF INSTITUTIONAL:

NO. SQ. FT. \_\_\_\_\_  
NO. STUDENTS/EMPLOYEES/MEMBERS: \_\_\_\_\_

**\*\*\*\*\* ATTENTION SERVICE PROVIDER \*\*\*\*\***

**PLEASE INDICATE THE LEVEL OF SERVICE AVAILABLE TO THE SITE (ADEQUATE OR INADEQUATE).  
RETURN THIS COMPLETED FORM TO THE APPLICANT AS LISTED ABOVE.**

(Do NOT return this form to Washington County. The applicant will submit the completed form with their Land Development Application submittal).

SERVICE LEVEL IS **ADEQUATE** TO SERVE THE PROPOSED PROJECT. (Use additional sheets if necessary.)

Please indicate what improvements, or revisions to the proposal are needed for you to provide adequate service to this project.

SIGNATURE: Kelly Degman POSITION: Lieutenant DATE: 2/12/2022

SERVICE LEVEL IS **INADEQUATE** TO SERVICE THE PROPOSED PROJECT.

If the present or future service level is inadequate, please provide information documenting your inability to provide an adequate level of service. Please also provide information regarding whether the use of alternative means can be employed to provide an adequate service level. Documentation of adequacy and alternatives to provide an adequate service level may include but not be limited to the following:

- 1. Contracting with private agency; 2. Contracting with other public agency; 3. Impact fees; 4. Any combination of these or other alternatives.

SIGNATURE: \_\_\_\_\_ POSITION: \_\_\_\_\_ DATE: \_\_\_\_\_



**WASHINGTON COUNTY**  
 Dept. of Land Use & Transportation  
 Planning and Development Services  
 Current Planning  
 155 N. 1<sup>st</sup> Avenue, #350-13  
 Hillsboro, OR 97124  
 Ph. (503) 846-8761 Fax (503) 846-2908  
 http://www.co.washington.or.us

**Transit Availability Statement  
 (Applicant to Complete)**

*Please Note: In accordance with a letter dated January 15, 2013, from the Director of TriMet Policy & Planning, this Transit Availability Statement shall serve as a functional replacement to the Service Provider Letter required from TriMet pursuant to Section 501-8.2.A.(1).*

Transit information shall be obtained from TriMet's web site. Maps can be found at [www.trimet.org](http://www.trimet.org) (click on "Maps & Schedules" and then "Interactive System Map") or directly at <http://ride.trimet.org/?tool=routes#/>. The interactive map will display any transit routes and stops near the site. **Please print the map and attach it to this form.**

PRE-APPLICATION DATE: 08/10/2020

**\*\*\* Applicant: Please complete this form yourself using the links listed at the left. Submit the completed form with your land use application. Please do not send this in prior to application submittal.**

**OWNER(S):**

NAME: LYNN IRENE ANGEL FAMILY LTD PARTNERSHIP

ADDRESS: 550 SW PARK AVENUE  
PORTLAND, OR 97205

PHONE: (503)407-7707

Property Desc.: Tax Map(s): \_\_\_\_\_ Lot Number(s):  
 \_\_\_\_\_ 1S114BC02000, 1S114BC02400  
 \_\_\_\_\_ 1S114BC02401, 1S114BC02100

Site Size: 2.243 acres  
10565 & 10505 SW Beaverton Hillsdale Hwy, Beaverton OR 97005

Site Address: \_\_\_\_\_

Nearest cross street (or directions to site):  
SW Beaverton Hillsdale Hwy & SW 107th Ave

PROPOSED PROJECT NAME: IN-N-OUT Burger

PROPOSED DEVELOPMENT ACTION: (DEVELOPMENT REVIEW, SUBDIVISION, PARTITION, SPECIAL USE)  
DEMOLITION OF THE TWO EXISTING RESTAURANT USES ON THE PROPERTY AND THE DEVELOPMENT OF A 3,885 SQUARE FOOT IN-N-OUT BURGER RESTAURANT WITH DRIVE THROUGH SERVICE AND OUTDOOR SEATING

EXISTING USE: Commercial - Restaurant PROPOSED USE: Commercial - Restaurant

IF RESIDENTIAL:	IF INDUSTRIAL/COMMERCIAL:	IF INSTITUTIONAL:
NO. OF DWELLING UNITS: _____	TYPE OF USE: <u>Restaurant</u>	NO. SQ. FT. _____
SINGLE FAM. _____ MULTI-FAM. _____	NO. OF SQ. FT. (GROSS FLOOR AREA) <u>3,885</u>	NO. STUDENTS/EMPLOYEES/MEMBERS: _____

Highway and SW 107th Avenue was recently constructed in conjunction with the neighboring Chick Fil A development.

**TRANSIT AVAILABILITY/IMPROVEMENTS:**

a) Name/number of nearest transit line(s): Bus 54 and stop(s): SW Beaverton-Hillsdale & 107th Ave

b) Are any transit stops located within 300 feet of the development site?: Yes

c) Please describe improvements proposed, if any, to new or existing transit stops, or proposed improvements to access to existing transit facilities: The existing bus stop for Bus 54 located at the NEC of SW Beaverton Hillsdale

Our project does not propose any changes to the newly constructed street improvements, however we are proposing to perform street frontage improvements along the entire frontage length of SW Beaverton Hillsdale Highway to match the condition to our west where the bus stop is located. These improvements include street widening by 10' and the accommodation of a new bike lane. This will improve the access to the existing bus stop by providing a longer area of the street widened width to accommodate the bus stop.

**Please Note:** *If the development is located within 300 feet of a transit stop and/or any improvements are proposed per c) above, Current Planning Services will forward a copy of the application to TriMet for review upon application acceptance for processing.*

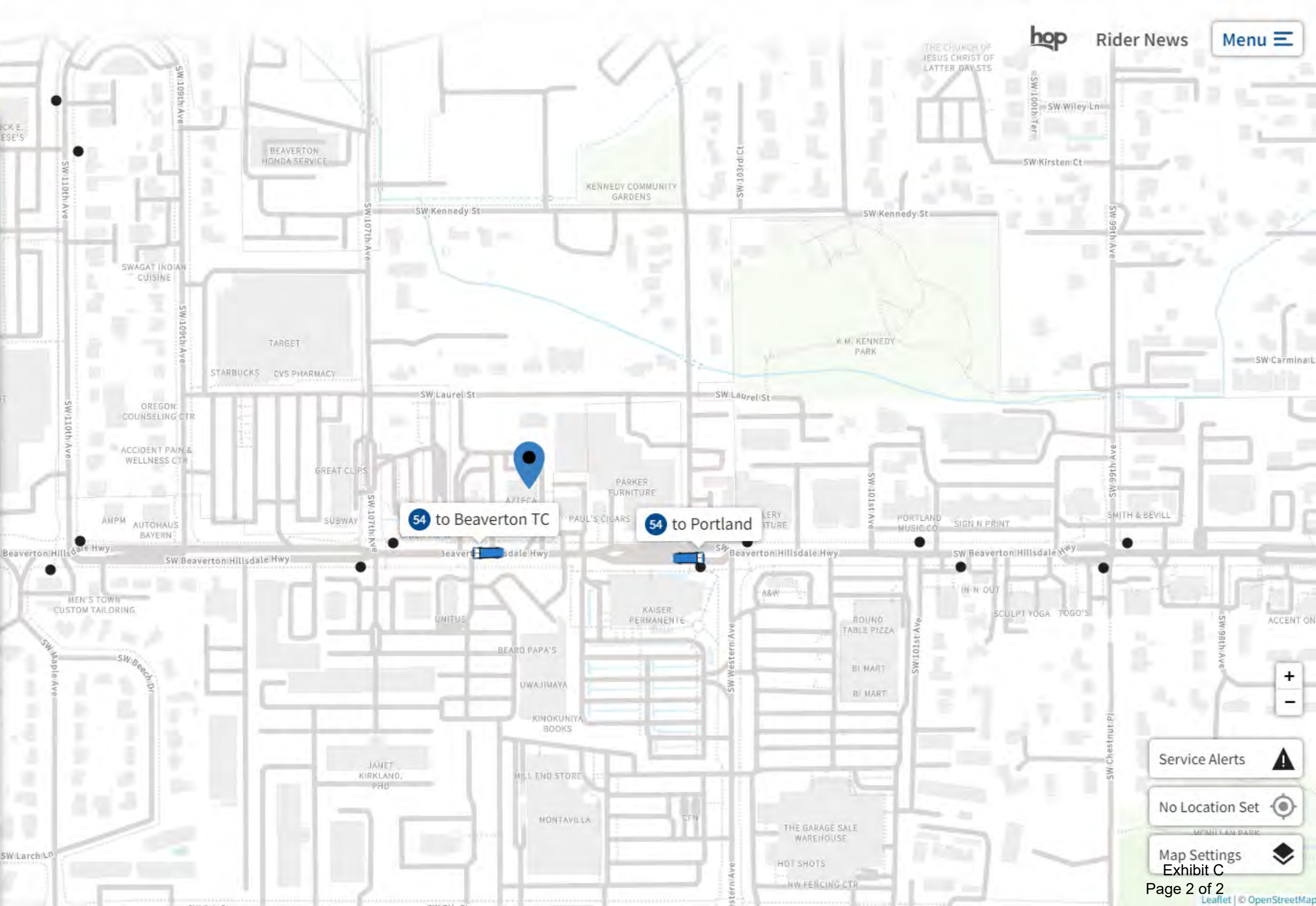


Service Nearby

10505 SW Beaverton Hillsdale Hwy

Go Here Start Here

- Nearby
- 54 to Beaverton TC Due ☆
  - 54 to Portland Due ☆
  - 54 to Portland 27 min ☆
  - 54 to Portland 26 min ☆
  - 54 to Beaverton TC 27 min ☆
  - 54 to Beaverton TC 26 min ☆
  - 53 to Beaverton TC 16 min ☆
  - 54 to Portland Due ☆
  - 54 to Beaverton TC Due ☆
  - 53 to Beaverton TC via Allen & King Scheduled at 5:59am ☆
  - 54 to Portland 25 min ☆
  - to Beaverton TC via Allen & King Scheduled at ☆



Service Alerts ⚠

No Location Set 📍

Map Settings Exhibit C



# SENSITIVE AREA PRE-SCREENING SITE ASSESSMENT

Clean Water Services File Number 22-000527

1. **Jurisdiction:** Washington County

2. **Property Information** (example: 1S234AB01400)

Tax lot ID(s): 1S114BC02000, 1S114BC02400, 1S114BC02401

**OR Site Address:** 10565 & 10505 SW Beaverton Hillsdale Hwy

City, State, Zip: Beaverton, Oregon, 97005

Nearest cross street: SW Beaverton Hillsdale Hwy & SW 107th Ave

4. **Development Activity** (check **all** that apply)

- Addition to single family residence (rooms, deck, garage)
- Lot line adjustment       Minor land partition
- Residential condominium     Commercial condominium
- Residential subdivision       Commercial subdivision
- Single lot commercial       Multi lot commercial
- Other \_\_\_\_\_

3. **Owner Information**

Name: \_\_\_\_\_

Company: Lynn Irene Angel Family LTD Partnership

Address: 550 SW park Avenue

City, State, Zip: Portland, Oregon, 97205

Phone/fax: (503) 407-7707

Email: \_\_\_\_\_

4. **Applicant Information**

Name: Cassie Ruiz

Company: IN-N-OUT Burger

Address: 13502 Hamburger Lane

City, State, Zip: Baldwin Park, CA, 91706

Phone/fax: 6268138226

Email: CaRuiz@innout.com

6. **Will the project involve any off-site work?**     Yes     No     Unknown

Location and description of off-site work: \_\_\_\_\_

7. **Additional comments or information that may be needed to understand your project:** \_\_\_\_\_

**This application does NOT replace Grading and Erosion Control Permits, Connection Permits, Building Permits, Site Development Permits, DEQ 1200-C Permit or other permits as issued by the Department of Environmental Quality, Department of State Lands and/or Department of the Army COE. All required permits and approvals must be obtained and completed under applicable local, state, and federal law.**

By signing this form, the Owner or Owner's authorized agent or representative, acknowledges and agrees that employees of Clean Water Services have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related to the project site. I certify that I am familiar with the information contained in this document, and to the best of my knowledge and belief, this information is true, complete, and accurate.

Print/type name Cassie Ruiz

Print/type title Development Manager

Signature ONLINE SUBMITTAL

Date 2/4/2022

## FOR DISTRICT USE ONLY

- Sensitive areas potentially exist on site or within 200' of the site. **THE APPLICANT MUST PERFORM A SITE ASSESSMENT PRIOR TO ISSUANCE OF A SERVICE PROVIDER LETTER.** If Sensitive Areas exist on the site or within 200 feet on adjacent properties, a Natural Resources Assessment Report may also be required.
- Based on review of the submitted materials and best available information sensitive areas do not appear to exist on site or within 200' of the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider Letter as required by Resolution and Order 19-5, Section 3.02.1, as amended by Resolution and Order 19-22. All required permits and approvals must be obtained and completed under applicable local, State and federal law.
- Based on review of the submitted materials and best available information the above referenced project will not significantly impact the existing or potentially sensitive area(s) found near the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect additional water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider Letter as required by Resolution and Order 19-5, Section 3.02.1, as amended by Resolution and Order 19-22. All required permits and approvals must be obtained and completed under applicable local, state and federal law.
- THIS SERVICE PROVIDER LETTER IS NOT VALID UNLESS \_\_\_\_\_ CWS APPROVED SITE PLAN(S) ARE ATTACHED.**
- The proposed activity does not meet the definition of development or the lot was platted after 9/9/95 ORS 92.040(2). **NO SITE ASSESSMENT OR SERVICE PROVIDER LETTER IS REQUIRED.**

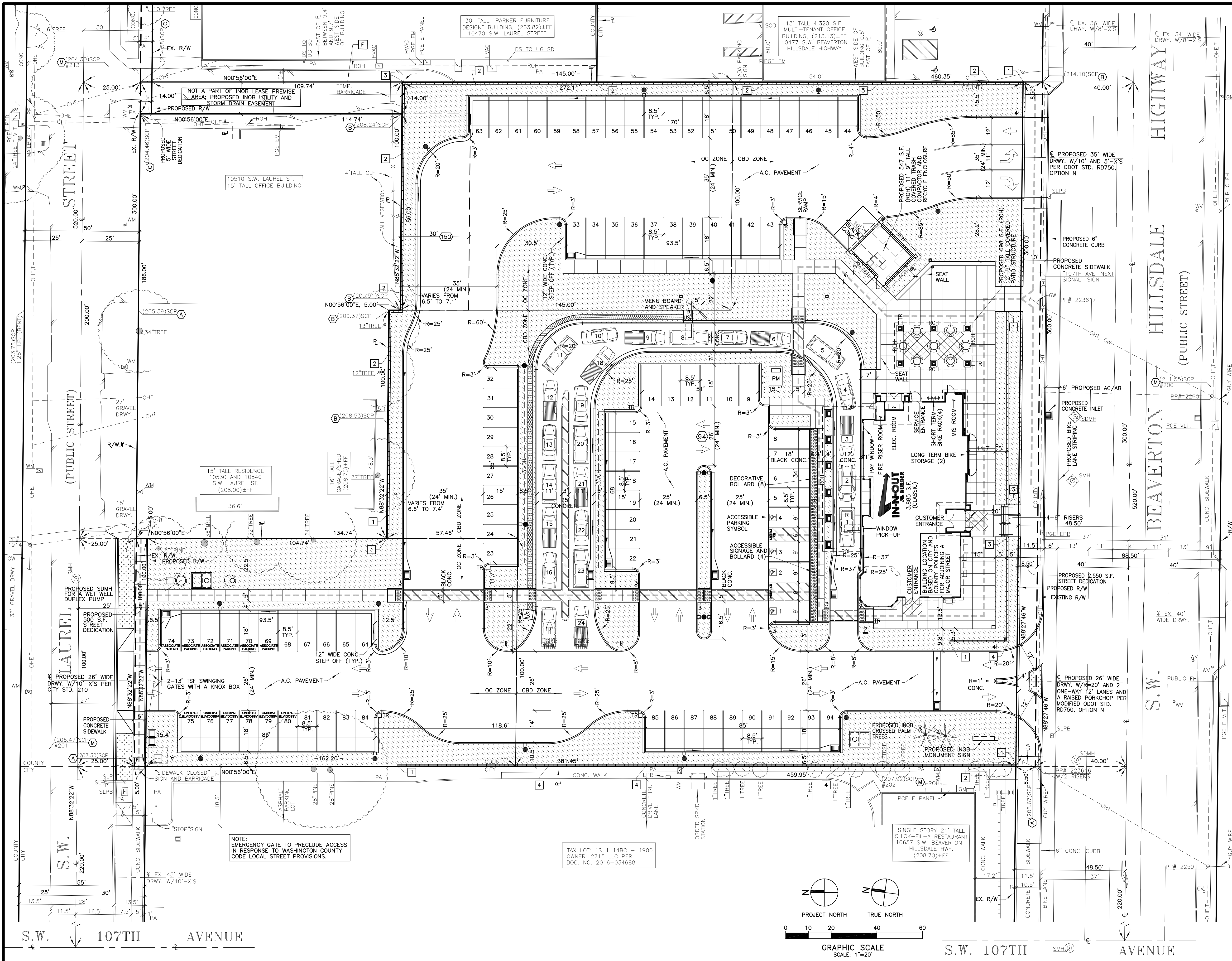
Reviewed by Nicholas Crossett

Date 2/14/22

Once complete, email to: [SPLReview@cleanwaterservices.org](mailto:SPLReview@cleanwaterservices.org) • Fax: (503) 681-4439

OR mail to: SPL Review, Clean Water Services, 2550 SW Hillsboro Highway, Hillsboro, Oregon 97123

Revised 2/2020



- ### LEGEND
- NEW 24"x36" CONCRETE DRAIN BOX INLET WITH A FLOOR PLUS FOSSIL FILTER INSERT FOR THE PRE-TREATMENT OF STORMWATER RUNOFF.
  - PROPOSED INOB INSTALLED AND MAINTAINED 22'-6" TALL FIXTURE HEIGHT LIGHT POLE ON TOP OF A 30" TALL 24" DIAMETER CONCRETE BASE FOR A TOTAL HEIGHT OF 25' TALL.
  - PROPOSED INOB INSTALLED AND MAINTAINED LANDSCAPED PLANTER AND IRRIGATION SYSTEM ON SITE, INCLUDING AREA UNDER BUILDING ROOF OVERHANG (ROH) AND VEHICLE OVERHANG (VOH) CONSISTING OF APPROXIMATELY 23,326 SQUARE FEET (25.1%).
  - BLACK TRUNCATED DOMES DETECTABLE WARNING STRIP.
  - VEHICLE DETECTOR LOOP.
  - PROPERTY LINE.
  - OUTDOOR SEATING PATIO TABLE WITH UMBRELLA (4 SEATS).
  - OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (4 SEATS).
  - OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (2 SEATS).
  - NEW 3" TALL 18"x24" LIT "DRIVE THRU" DIRECTIONAL SIGN.
  - NEW 3" TALL 18"x24" LIT "THANK YOU, DO NOT ENTER" DIRECTIONAL SIGN.
  - NEW PEDESTRIAN CROSSWALK SIGN.
  - NEW ACCESSIBILITY ENTRY SIGN.
  - INOB IN-N-OUT BURGER.
  - PROPOSED TAN COLOR SPLIT-FACE CMU WALL AND 2" CAP.
  - EXPOSED HEIGHT OF PROPOSED CMU RETAINING WALL IN FEET WITH A 46" TALL TUBE STEEL FENCE (TSF) ON TOP WHEN THE EXPOSED HEIGHT IS GREATER THAN 30".
  - LOC INOB LIMITS OF PROPOSED CONSTRUCTION.
  - LL PROPOSED INOB LEASE PREMISES LINE.
  - VOH VEHICLE OVERHANG WITH NO OBSTRUCTIONS INCLUDING LIGHT POLES, TREES AND SIGNAGE.
  - ADA ACCESSIBLE PATH OF TRAVEL. ACCESSIBLE PATH OF TRAVEL IS NOT LESS THAN 4 FEET WIDE, AND DOES NOT EXCEED A RUNNING SLOPE OF 1:20 (5%) OR A CROSS SLOPE IN EXCESS OF 1:50 (2%). REFER TO SHEET C33 FOR SPECIFIC SLOPES AND GRADES.
  - PGE ELECTRIC PAD MOUNT TRANSFORMER WITH BOLLARDS.
  - PORTABLE TRASH RECEPTACLE ON A MINIMUM 24"x24"x4" CONCRETE PAD.
  - NEW CONCRETE SIDEWALK.
  - REFER TO THE BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTIONS SHOWN ON SHEET C36.
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  - PROPOSED INOB INSTALLED AND MAINTAINED OFFSITE STREET LANDSCAPE PLANTER AND IRRIGATION SYSTEM CONSISTING OF APPROXIMATELY 429 SQUARE FEET IN S.W. LAUREL STREET AND 266 SQUARE FEET IN S.W. BEAVERTON-HILLSDALE HIGHWAY.
  - REFER TO SHEET C36 FOR ENCROACHMENT NOTES.
  - PROPOSED PRECAST CONCRETE MODULAR WETLANDS UNIT WETLANDMOD-6-8-5'-0"-V STORMWATER BIOFILTRATION SYSTEM.
  - 24" WIDE MATTED INOB ASSOCIATE WALKWAY PER --- CONSISTING OF APPROXIMATELY 360 SQUARE FEET.
  - CF CURB FACE.

- ### GENERAL NOTES
- IN-N-OUT BURGER GROSS SITE AREA: 97,701 SQ. FT. OR 2.243 ACRES.  
PROPOSED 5' LAUREL STREET DEDICATION: 570 SQ. FT. OR 0.013 ACRES.  
PROPOSED 8.5' BEAVERTON-HILLSDALE HIGHWAY DEDICATION: 2,550 SQ. FT. OR 0.059 ACRES.  
MINUS NET FLAG STRIP AT NORTHEAST CORNER: 1,536 SQ. FT. OR 0.035 ACRES.  
NET SITE AREA: 93,045 SQ. FT. OR 2.136 ACRES.
  - EXISTING COUNTY ZONE: CBD (COMMUNITY BUSINESS DISTRICT) FOR TAX LOTS 15114BC02000, 15114BC02400 AND 15114BC02401 FRONTING S.W. BEAVERTON-HILLSDALE HIGHWAY. OC (OFFICE COMMERCIAL DISTRICT) FOR TAX LOT 15114BC02100 FRONTING S.W. LAUREL STREET.
  - GENERAL LAND DESIGNATION:
  - EXISTING LAND USE: ONE-STORY 3,555 SQUARE FOOT "HAWAIIAN TIME" RESTAURANT WITH A SINGLE 170' LONG DRIVE-THRU LANE AND 81 SURFACE STRIPED AND UNSTRIPED PARKING SPACES FOR THE PROPERTY AT 10565 S.W. BEAVERTON-HILLSDALE HIGHWAY.  
  
ONE-STORY 6,043 SQUARE FOOT "AZTECA MEXICAN RESTAURANT" AND 60 SURFACE STRIPED PARKING SPACES FOR THE PROPERTY AT 10505 S.W. BEAVERTON-HILLSDALE HIGHWAY.
  - 5 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA PLUS OUTDOOR PATIO SEATING AREA = 24 MINIMUM PARKING SPACES REQUIRED.  
12.4 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA PLUS OUTDOOR PATIO SEATING AREA = 58 MAXIMUM PARKING SPACES
  - IN-N-OUT BURGER URBAN BUILDING AREA = 3,885 S.F.  
INDOOR SEATING = 84 SEATS.  
OUTDOOR SEATING = 34 SEATS (10 TABLES).  
OUTDOOR SEATING AREA = 698 S.F. STRUCTURE PLUS 64 S.F. EACH FOR 0-4 SEAT TABLES (0 S.F.) PLUS 20 S.F. FOR 3-2 SEAT TABLES (60 S.F.) = 758 S.F.
  - REQUIRED LANDSCAPE AREA WITHIN PROPERTY (15%) = 13,957 S.F.
  - LANDSCAPE AREA PROVIDED WITHIN PROPERTY = 23,326 S.F. (25.1%).
  - IN-N-OUT BURGER PARKING SPACE DETAILED SUMMARY TABLE
- | DESCRIPTION   | EXISTING | REQUIRED | PROPOSED |
|---|----------|----------|----------|
| 1. STANDARD SPACE (8.5'x18' PLUS A 2' VOH)  | 0        | 0        | 4        |
| 2. STANDARD SPACE (8.5'x15' PLUS A 3' VOH)  | 0        | 0        | 18       |
| 3. STANDARD SPACE (8.5'x18')  | 137      | 55       | 68       |
| 4. ACCESSIBLE VAN (17'x18' PLUS A 2' VOH)   | 0        | 1        | 1        |
| 5. ACCESSIBLE SPACE (15'x18' PLUS A 2' VOH)   | 4        | 2        | 3        |
| 7. TOTAL  | 141      | 58       | 94       |
| 8. IN-N-OUT BURGER DRIVE THRU VEHICLE QUEUE (20' LONG INOB VEHICLE)   | 0        | 0        | 24       |
| 9. SHORT-TERM BICYCLE PARKING WITHIN DESIGNATED BIKE RACK.  | 0        | 2        | 4        |
| 10. LONG-TERM BICYCLE PARKING WITHIN A LOCKABLE PERMANENTLY ANCHORED LOCKER ON A CONCRETE SLAB-AMERICAN BICYCLE SECURITY COMPANY BIKE-SHELL MODEL 302, FINISH: MEDIUM GRAY. | 0        | 2        | 2        |
- ALL NEW SIGNS SHALL BE APPROVED BY A SEPARATE CITY PERMIT.
  - COUNTY TAX LOT: 15114BC02100, 15114BC02000, 15114BC02400 AND 15114BC02401.

### SHEET INDEX OF COUNTY ENTITLEMENT DRAWINGS

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C35	COUNTY ENTITLEMENT DRAINAGE ANALYSIS SITE PLAN
C36	COUNTY ENTITLEMENT TOPOGRAPHY SURVEY MAP
C37	COUNTY ENTITLEMENT BOUNDARY AND EASEMENT MAP
LPP.1	COUNTY ENTITLEMENT LANDSCAPE PLANTING PLAN
LOC.1	COUNTY ENTITLEMENT SITE CONSTRUCTION CONCEPT DETAILS PLAN

DEVELOPER:  
IN-N-OUT BURGER  
13502 HAMBURGER LANE  
BALDWIN PARK, CA 91706  
CONTACT: CASSIE RUIZ  
PHONE: 626 813-8226

Underground Service Alert  
Call: Toll Free  
**811**  
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

GHA PROJECT NO. ---

Architecture/Development  
14901 Quorum Drive  
Suite 300  
Dallas Texas 75254  
Ph: (972) 239-8884  
Fax: (972) 239-5054

CIVIL ENGINEER:  
**MSI ENGINEERING, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS SPECIALIZING IN SITE DEVELOPMENT  
301 NORTH SAN DIMAS AVENUE, SAN DIMAS, CA 91773  
909) 305-2395 FAX (909) 305-2397

*Aaron D. Pellow*  
AARON D. PELLOW R.C.E. 91119 DATE 01-26-2022

**IN-N-OUT BURGER**  
10505 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT NEW SITE PLAN**

**C30.0**

Exhibit D - JN 2009-2001-C30.0c9p0  
Page 2 of 2



WASHINGTON COUNTY

Dept. of Land Use & Transportation
Planning and Development Services
Current Planning
155 N. 1st Avenue, #350-13
Hillsboro, OR 97124
Ph. (503) 846-8761 Fax (503) 846-2908
http://www.co.washington.or.us

Request For Statement Of Service Availability (Service Provider Letter)

PRE-APPLICATION DATE: 08/10/2020

Service Provider: PLEASE RETURN THIS FORM TO: APPLICANT:

COMPANY: IN-N-OUT Burgers, A California Corporation
CONTACT: Cassie Ruiz
ADDRESS: 13502 Hamburger Lane
Baldwin Park, CA 91706
PHONE: (626) 813-8226

- WATER DISTRICT: West Slope Water District
FIRE DISTRICT:
CITY OF:
CLEAN WATER SERVICES (Sanitary Sewer)

OWNER(S):

NAME: LYNN IRENE ANGEL FAMILY LTD PARTNERSHIP
ADDRESS: 550 SW PARK AVENUE
PORTLAND, OR 97205
PHONE: (503)407-7707

Additionally, you'll need our separate, individual request forms titled:

- Clean Water Services (Surface Water Mgmt.)
Tri-Met
School
Sheriff / Police
Tualatin Hills Park & Recreation District

Property Desc.: Tax Map(s): Lot Number(s):
1S114BC02000, 1S114BC02400
1S114BC02401, 1S114BC02100

Site Size: 2.243 acres

Site Address: 10565 & 10505 SW Beaverton Hillsdale Hwy, Beaverton OR 97005

Nearest cross street (or directions to site):
SW Beaverton Hillsdale Hwy & SW 107th Ave

PROPOSED PROJECT NAME: IN-N-OUT Burger

PROPOSED DEVELOPMENT ACTION: (DEVELOPMENT REVIEW, SUBDIVISION, MINOR PARTITION, SPECIAL USE)

DEMOLITION OF THE TWO EXISTING RESTAURANT USES ON THE PROPERTY AND THE DEVELOPMENT OF A 3,885 SQUARE FOOT IN-N-OUT BURGER RESTAURANT WITH DRIVE THROUGH SERVICE AND OUTDOOR SEATING

EXISTING USE: Commercial - Restaurant

PROPOSED USE: Commercial - Restaurant

IF RESIDENTIAL:

NO. OF DWELLING UNITS:
SINGLE FAM. MULTI-FAM.

IF INDUSTRIAL/COMMERCIAL:

TYPE OF USE: Restaurant
NO. OF SQ. FT. (GROSS FLOOR AREA) 3,885

IF INSTITUTIONAL:

NO. SQ. FT.
NO. STUDENTS/EMPLOYEES/MEMBERS:

\*\*\*\*\* ATTENTION SERVICE PROVIDER \*\*\*\*\*

PLEASE INDICATE THE LEVEL OF SERVICE AVAILABLE TO THE SITE (ADEQUATE OR INADEQUATE). RETURN THIS COMPLETED FORM TO THE APPLICANT AS LISTED ABOVE.

(Do NOT return this form to Washington County. The applicant will submit the completed form with their Land Development Application submittal).

SERVICE LEVEL IS ADEQUATE TO SERVE THE PROPOSED PROJECT. (Use additional sheets if necessary.)

Please indicate what improvements, or revisions to the proposal are needed for you to provide adequate service to this project.

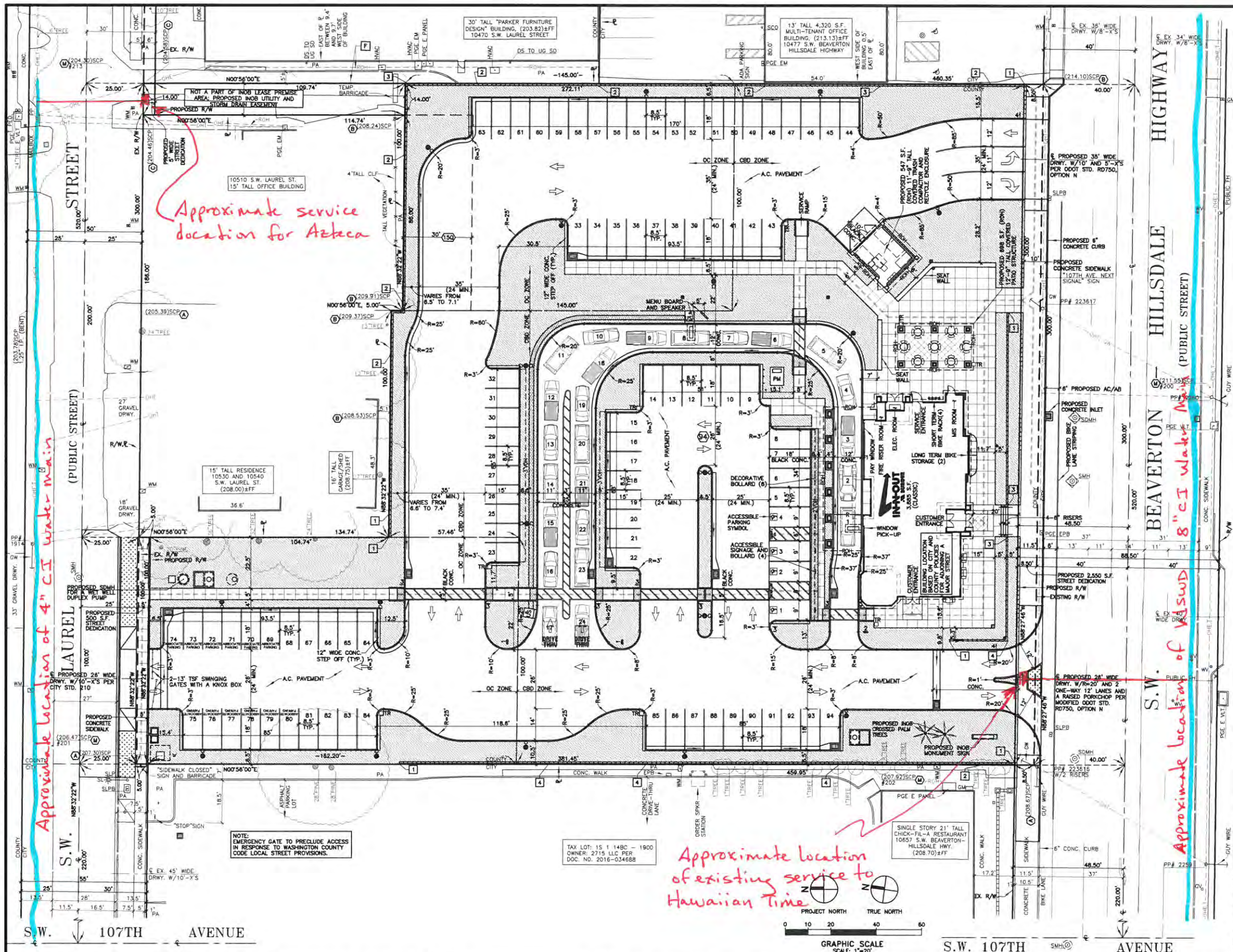
SERVICE TO PROPERTY (HAWAIIAN TIME) IS FROM 8" CI ON BEAVERTON - HILLSDALE HWY
SERVICE TO AZTECA PROPERTY FROM LAUREL ST. (4" CI). EXISTING HAWAIIAN TIME
TIME SERVICE WILL NEED TO BE RELOCATED. ANY 6" FIRE SERVICE WOULD NEED TO
BE FROM 8" B/W HWY MAIN OR 8" DI EXTENSION ON LAUREL FROM 107th AVE

SIGNATURE: [Signature] POSITION: General Manager DATE: 2/2/22

SERVICE LEVEL IS INADEQUATE TO SERVE THE PROPOSED PROJECT.

Please indicate why the service level is inadequate.

SIGNATURE: POSITION: DATE:



- LEGEND**
- NEW 24"x36" CONCRETE DRAIN BOX INLET WITH A FLOGARD PLUS FOSSIL FILTER INSERT FOR THE PRE-TREATMENT OF STORMWATER RUNOFF.
  - PROPOSED INOB INSTALLED AND MAINTAINED 22"-8" TALL FIXTURE HEIGHT LIGHT POLE ON TOP OF A 30" TALL 24" DIAMETER CONCRETE BASE FOR A TOTAL HEIGHT OF 25" TALL.
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  - VEHICLE DETECTOR LOOP.
  - PROPERTY LINE.
  - OUTDOOR SEATING PATIO TABLE WITH UMBRELLA (4 SEATS).
  - OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (4 SEATS).
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  - NEW 3" TALL 18"x24" UT "THANK YOU, DO NOT ENTER" DIRECTIONAL SIGN.
  - NEW PEDESTRIAN CROSSWALK SIGN.
  - NEW ACCESSIBILITY ENTRY SIGN.
  - INOB IN-N-OUT BURGER.
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  - EXPOSED HEIGHT OF PROPOSED CMU RETAINING WALL IN FEET WITH A 48" TALL TUBE STEEL FENCE (TSF) ON TOP WHEN THE EXPOSED HEIGHT IS GREATER THAN 30".
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  - PROPOSED PRECAST CONCRETE MODULAR WETLANDS UNIT WETLAND#00-6-6-5-07-Y UNDER STORMWATER FLOW FILTRATION SYSTEM.
  - 24" WIDE MATTED INOB ASSOCIATE WALKWAY PER DETAIL "12" SHOWN ON SHEET C36.
  - 2" WIDE MATTED INOB ASSOCIATE WALKWAY PER DETAIL "12" SHOWN ON SHEET C36.
  - CF CURB FACE.

- GENERAL NOTES**
- IN-N-OUT BURGER GROSS SITE AREA: 97,701 SQ. FT. OR 2.243 ACRES.  
PROPOSED 5' LAUREL STREET DEDICATION: 570 SQ. FT. OR 0.013 ACRES.  
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  - IN-N-OUT BURGER URBAN BUILDING AREA = 3,885 S.F.  
INDOOR SEATING = 84 SEATS.  
OUTDOOR SEATING = 34 SEATS (10 TABLES).  
OUTDOOR SEATING AREA = 898 S.F. STRUCTURE PLUS 84 S.F. EACH FOR 0-4 SEAT TABLES (0 S.F.) PLUS 20 S.F. FOR 3-2 SEAT TABLES (80 S.F.) = 758 S.F.
  - REQUIRED LANDSCAPE AREA WITHIN PROPERTY (15%) = 13,967 S.F.
  - LANDSCAPE AREA PROVIDED WITHIN PROPERTY = 23,326 S.F. (25.1%).

IN-N-OUT BURGER PARKING SPACE DETAILED SUMMARY TABLE

DESCRIPTION	EXISTING	REQUIRED	PROPOSED
1. STANDARD SPACE (8.5'x18' PLUS A 2' VOH)	0	0	4
2. STANDARD SPACE (8.5'x15' PLUS A 3' VOH)	0	0	18
3. STANDARD SPACE (8.5'x18')	137	55	68
4. ACCESSIBLE VAN (17'x18' PLUS A 2' VOH)	0	1	1
5. ACCESSIBLE SPACE (15'x18' PLUS A 2' VOH)	4	2	3
7. TOTAL	141	58	94
8. IN-N-OUT BURGER DRIVE THRU VEHICLE QUEUE (20' LONG INOB VEHICLE)	0	0	24
9. SHORT-TERM BICYCLE PARKING WITHIN DESIGNATED BIKE RACK.	0	2	4
10. LONG-TERM BICYCLE PARKING WITHIN A LOCKABLE PERMANENTLY ANCHORED LOCKER ON A CONCRETE SLAB-AMERICAN BICYCLE SECURITY COMPANY BIKE-SHELL MODEL 302, FINISH: MEDIUM GRAY.	0	2	2

10. ALL NEW SIGNS SHALL BE APPROVED BY A SEPARATE CITY PERMIT.  
11. COUNTY TAX LOT: 15114BC02100, 15114BC02000, 15114BC02400 AND 15114BC02401.

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C34	COUNTY ENTITLEMENT STORM DRAIN AND UTILITY PLAN
C35	COUNTY ENTITLEMENT DRAINAGE ANALYSIS SITE PLAN
C36	COUNTY ENTITLEMENT TOPOGRAPHY SURVEY MAP
C37	COUNTY ENTITLEMENT BOUNDARY AND EASEMENT MAP
LPP.1	COUNTY ENTITLEMENT LANDSCAPE PLANTING PLAN
LCC.1	COUNTY ENTITLEMENT SITE CONSTRUCTION CONCEPT DETAILS PLAN



**Underground Service Alert**  
Call: Toll Free 811  
TWO WORKING DAYS BEFORE YOU DIG

**REVISIONS**


**GHA PROJECT NO.**  
**GHA**  
Architecture/Development  
14801 Quorum Drive  
Suite 300  
Dallas Texas 75254  
Ph: (972) 239-8864  
Fax: (972) 239-5054

**CIVIL ENGINEER:**  
**MSI ENGINEERING, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS SPECIALIZING IN SITE DEVELOPMENT  
301 NORTH SAN DIMAS AVENUE, SAN DIMAS, CA 91773  
(909) 305-2395 FAX (909) 305-2397  
AARON D. PELLOW R.C.E. 91119  
01-28-2022 DATE  
EXPIRES: 12-31-2022



**IN-N-OUT BURGER**  
10505 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT NEW SITE PLAN**  
Exhibit E **C30.0**  
Page 2 of 2



**WASHINGTON COUNTY**

Dept of Land Use & Transportation  
Planning and Development Services  
Current Planning  
155 N 1<sup>st</sup> Avenue, #350-13  
Hillsboro, OR 97124  
Ph (503) 846-8761 Fax (503) 846-2908  
http://www.co.washington.or.us

**Request For Statement Of Service  
Availability (Service Provider Letter)**

PRE-APPLICATION DATE: 08/10/2020

**Service Provider: PLEASE RETURN THIS FORM TO:  
APPLICANT:**

COMPANY: IN-N-OUT Burgers, A California Corporation  
CONTACT: Cassie Ruiz  
ADDRESS: 13502 Hamburger Lane  
Baldwin Park, CA 91706  
PHONE: (626) 813-8226

- WATER DISTRICT: \_\_\_\_\_
- FIRE DISTRICT: Tualatin Valley Fire & Rescue
- CITY OF: \_\_\_\_\_
- CLEAN WATER SERVICES (Sanitary Sewer)

**OWNER(S):**

NAME: LYNN IRENE ANGEL FAMILY LTD PARTNERSHIP  
ADDRESS: 550 SW PARK AVENUE  
PORTLAND, OR 97205  
PHONE: (503)407-7707

Additionally, you'll need our separate, individual request forms titled:

- ◆ Clean Water Services (Surface Water Mgmt.)
- ◆ Tri-Met
- ◆ School
- ◆ Sheriff / Police
- ◆ Tualatin Hills Park & Recreation District

Property Desc.: Tax Map(s) \_\_\_\_\_ Lot Number(s): 1S114BC02000, 1S114BC02400  
1S114BC02401, 1S114BC02100

Site Size: 2 243 acres

Site Address: 10565 & 10505 SW Beaverton Hillsdale Hwy, Beaverton OR 97005

Nearest cross street (or directions to site):  
SW Beaverton Hillsdale Hwy & SW 107th Ave

PROPOSED PROJECT NAME: IN-N-OUT Burger

PROPOSED DEVELOPMENT ACTION: (DEVELOPMENT REVIEW, SUBDIVISION, MINOR PARTITION, SPECIAL USE)  
DEMOLITION OF THE TWO EXISTING RESTAURANT USES ON THE PROPERTY AND THE DEVELOPMENT OF A 3 885 SQUARE FOOT IN-N-OUT BURGER RESTAURANT WITH DRIVE THROUGH SERVICE AND OUTDOOR SEATING

EXISTING USE: Commercial - Restaurant PROPOSED USE: Commercial - Restaurant

**IF RESIDENTIAL:**

NO. OF DWELLING UNITS: \_\_\_\_\_  
SINGLE FAM \_\_\_\_\_ MULTI-FAM \_\_\_\_\_

**IF INDUSTRIAL/COMMERCIAL:**

TYPE OF USE: Restaurant  
NO. OF SQ. FT. (GROSS FLOOR AREA) 3,885

**IF INSTITUTIONAL:**

NO. SQ. FT. \_\_\_\_\_  
NO. STUDENTS/EMPLOYEES/MEMBERS: \_\_\_\_\_

**\*\*\*\*\*ATTENTION SERVICE PROVIDER\*\*\*\*\***

**PLEASE INDICATE THE LEVEL OF SERVICE AVAILABLE TO THE SITE (ADEQUATE OR INADEQUATE).  
RETURN THIS COMPLETED FORM TO THE APPLICANT AS LISTED ABOVE.**

(Do NOT return this form to Washington County. The applicant will submit the completed form with their Land Development Application submittal).

- SERVICE LEVEL IS ADEQUATE TO SERVE THE PROPOSED PROJECT. (Use additional sheets if necessary.)  
Please indicate what improvements, or revisions to the proposal are needed for you to provide adequate service to this project.

TVF&R verified this project is located within our emergency response area and we will provide service. The scope of this project will require a service provider permit through TVF&R. Please submit fire service plans for review and approval to TVF&R's new construction portal located at [www.tvf.com/portal/enter-public-records-7/service-provider-permit-for-washington-co](http://www.tvf.com/portal/enter-public-records-7/service-provider-permit-for-washington-co)

SIGNATURE: \_\_\_\_\_

POSITION: DFM II

DATE: 2/15/22

- SERVICE LEVEL IS INADEQUATE TO SERVICE THE PROPOSED PROJECT

Please indicate why the service level is inadequate.

SIGNATURE \_\_\_\_\_

POSITION \_\_\_\_\_

DATE \_\_\_\_\_



**WASHINGTON COUNTY**  
 Dept. of Land Use & Transportation  
 Planning and Development Services  
 Current Planning  
 155 N. 1<sup>st</sup> Avenue, #350-13  
 Hillsboro, OR 97124  
 Ph. (503) 846-8761 Fax (503) 846-2908  
 http://www.co.washington.or.us

**Request For Statement Of Service  
 Availability THPRD**

TUALATIN HILLS PARK & REC. DISTRICT

PRE-APPLICATION DATE: 08/10/2020

**Service Provider: PLEASE RETURN THIS FORM TO:  
 APPLICANT:**

COMPANY: IN-N-OUT Burgers, A California Corporation  
 CONTACT: Cassie Ruiz  
 ADDRESS: 13502 Hamburger Lane  
Baldwin Park, CA 91706  
 PHONE: (626) 813-8226

**OWNER(S):**

NAME: LYNN IRENE ANGEL FAMILY LTD PARTNERSHIP  
 ADDRESS: 550 SW PARK AVENUE  
PORTLAND, OR 97205  
 PHONE: (503)407-7707

Property Desc.: Tax Map(s): \_\_\_\_\_ Lot Number(s):  
1S114BC02000, 1S114BC02400  
 \_\_\_\_\_  
1S114BC02401, 1S114BC02100

Site Size: 2.243 acres  
 Site Address: 10565 & 10505 SW Beaverton Hillsdale Hwy, Beaverton OR 97005  
 Nearest cross street (or directions to site):  
SW Beaverton Hillsdale Hwy & SW 107th Ave

PROPOSED PROJECT NAME: IN-N-OUT Burger

PROPOSED DEVELOPMENT ACTION: (DEVELOPMENT REVIEW, SUBDIVISION, MINOR PARTITION, SPECIAL USE)  
DEMOLITION OF THE TWO EXISTING RESTAURANT USES ON THE PROPERTY AND THE DEVELOPMENT OF A 3,885 SQUARE FOOT IN-N-OUT BURGER RESTAURANT WITH DRIVE THROUGH SERVICE AND OUTDOOR SEATING

EXISTING USE: Commercial - Restaurant PROPOSED USE: Commercial - Restaurant

IF RESIDENTIAL: \_\_\_\_\_ IF INDUSTRIAL/COMMERCIAL: \_\_\_\_\_ IF INSTITUTIONAL: \_\_\_\_\_  
 NO. OF DWELLING UNITS: \_\_\_\_\_ TYPE OF USE: Restaurant NO. SQ. FT.: \_\_\_\_\_  
 SINGLE FAM. \_\_\_\_\_ MULTI-FAM. \_\_\_\_\_ NO. OF SQ. FT. (GROSS FLOOR AREA) 3,885 NO. STUDENTS/EMPLOYEES/MEMBERS: \_\_\_\_\_

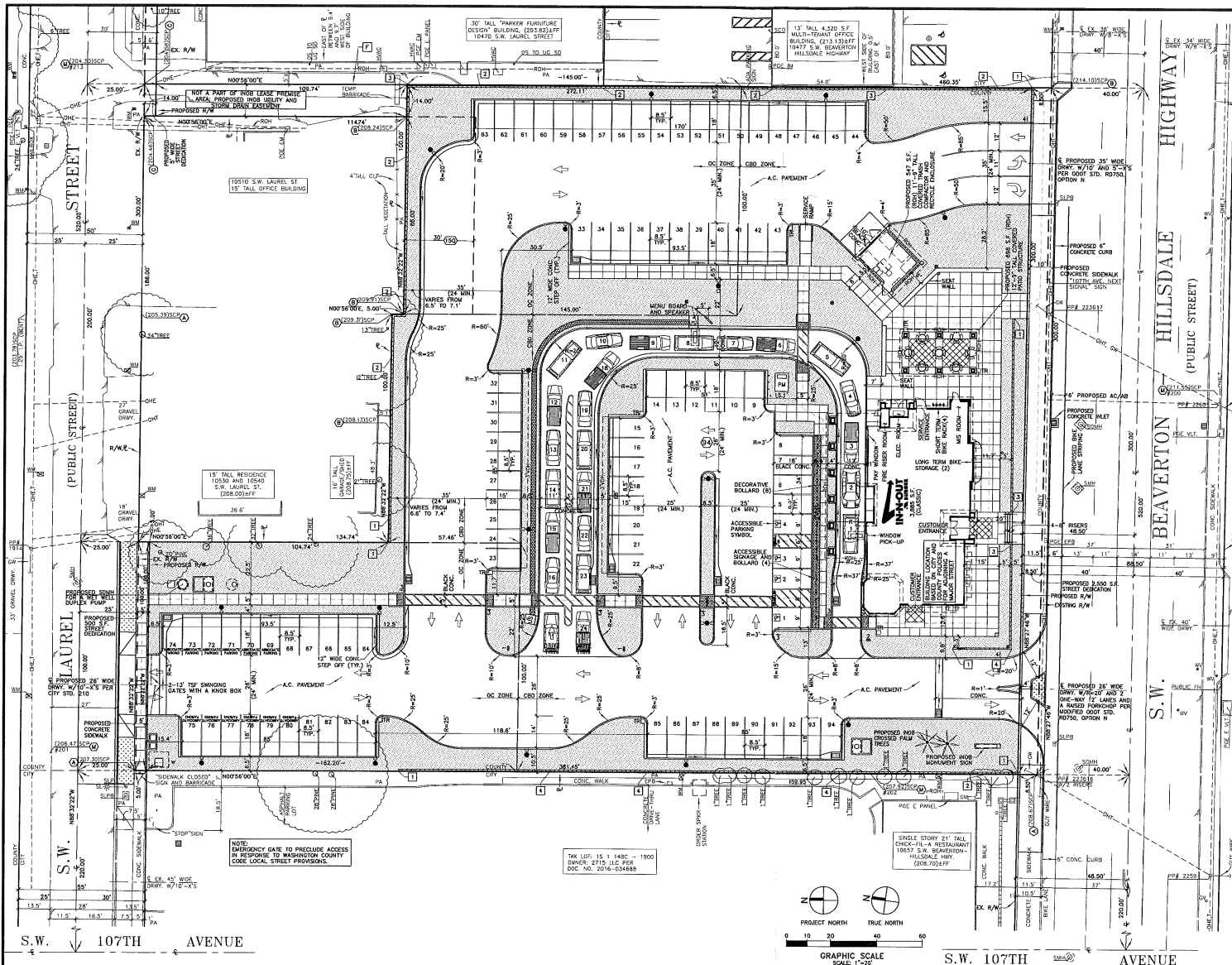
**\*\*\*\*\*ATTENTION SERVICE PROVIDER\*\*\*\*\***  
**PLEASE INDICATE THE LEVEL OF SERVICE AVAILABLE TO THE SITE (ADEQUATE OR INADEQUATE).**  
**RETURN THIS COMPLETED FORM TO THE APPLICANT AS LISTED ABOVE.**  
 (Do NOT return this form to Washington County. The applicant will submit the completed form with their Land Development Application submittal).

- SERVICE LEVEL IS **ADEQUATE** TO SERVE THE PROPOSED PROJECT. (Use additional sheets if necessary.)  
 Please indicate what improvements, or revisions to the proposal are needed for you to provide adequate service to this project.
- This project is **IN** the THPRD.
- This project is **OUT** of the THPRD.  
 This project **IS** required to annex into the THPRD service district prior to plat recordation.  
 This project **IS NOT** required to annex.

SIGNATURE: \_\_\_\_\_ POSITION: Planner II DATE: 2/2/2022

- SERVICE LEVEL IS **INADEQUATE** TO SERVE THE PROPOSED PROJECT.  
 Please indicate why the service level is inadequate.

SIGNATURE: \_\_\_\_\_ POSITION: \_\_\_\_\_ DATE: \_\_\_\_\_



- ### LEGEND
- NEW 24"x36" CONCRETE DRAIN BOX INLET WITH A FLOOR PLUS FOSSEL FILTER INSET FOR THE USE-TREATMENT OF STORMWATER RUNOFF.
  - PROPOSED INOB INSTALLED AND MAINTAINED 22'-6" TALL PATIUM HEIGHT LIGHT POLE ON TOP OF 30" TALL 24" DIAMETER CONCRETE BASE FOR A TOTAL HEIGHT OF 25' TALL.
  - PROPOSED INOB INSTALLED AND MAINTAINED LANDSCAPED PLANTER AND IRRIGATION SYSTEM INCLUDING AREA UNDER BUILDING ROOF OVERHANG (ROOH) AND VEHICLE OVERHANG (VOH) CONSISTING OF APPROXIMATELY 23,326 SQUARE FEET (23.3).
  - BLACK TRUNCATED DOMES DETECTABLE WALKING SURF.
  - VEHICLE DETECTOR LOOP.
  - PROPERTY LINE.
  - OUTDOOR SEATING PATIO TABLE WITH UMBRELLA (4 SEATS).
  - OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (4 SEATS).
  - OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (2 SEATS).
  - NEW 3' TALL 18"x24" LIT "DOWE THRU" DIRECTIONAL SIGN.
  - NEW 3' TALL 18"x24" LIT "THANK YOU, DO NOT ENTER" DIRECTIONAL SIGN.
  - NEW PEDESTRIAN CROSSWALK SIGN.
  - NEW ACCESSIBILITY ENTRY SIGN.
  - IN-N-OUT BURGER.
  - PROPOSED TAN COLOR SPLAT-FACE CMU WALL AND 2" GAP.
  - PROPOSED HEIGHT OF PROPOSED CMU RETAINING WALL IN FEET WITH A 48" TALL RISE STEEL FENCE (20') ON TOP WHEN THE EXPOSED HEIGHT IS GREATER THAN 30".
  - LOC INOB LIMITS OF PROPOSED CONSTRUCTION.
  - PROPOSED INOB LEASE PREMISES LINE.
  - VEHICLE OVERHANG WITH NO OBSTRUCTIONS INCLUDING LIGHT POLES, TREES AND SIGNAGE.
  - ADA ACCESSIBLE PATH OF TRAVEL.
  - ACCESSIBLE PATH OF TRAVEL IS NOT LESS THAN 4 FEET WIDE AND DOES NOT EXCEED A RUNNING SLOPE OF 1:20 (5%) ON A SLOPE SLOPE IN EXCESS OF 1:50 (2%). REFER TO SHEET C33 FOR SLOPES, SLOPES AND GRADES.
  - PORTABLE TRASH RECEPTACLE WITH BOLLARDS.
  - NEW CONCRETE SIDEWALK.
  - REFER TO THE BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTIONS SHOWN ON SHEET C36.
  - SIMPLIFIED PLOTTABLE EASEMENT.
  - DRIVE-THRU CANVAS CONCRETE PAD WITH UMBRELLA STAND PER DETAIL "1" SHOWN ON SHEET C36.
  - PROPOSED 18" TO 27" TALL 22" WIDE STUCCO COVERED SEAT/SCREEN WALL WITH A PRECAST CONCRETE CAP.
  - PROPOSED INOB INSTALLED AND MAINTAINED OFFICE STREET LANDSCAPED PLANTER AND IRRIGATION SYSTEM CONSISTING OF APPROXIMATELY 23,326 SQUARE FEET IN S.W. BEAVERTON-HILLSDALE HIGHWAY.
  - REFER TO SHEET C36 FOR ENCROACHMENT NOTES.
  - PROPOSED PRECAST CONCRETE MODULAR WETLANDS UNIT W/ETLANDS-8-B-30-05-V STORMWATER DISTRIBUTION SYSTEM.
  - 24" WIDE HATCHED INOB ACCESSIBLE WALKWAY PER DETAIL "1" CONSISTING OF APPROXIMATELY 3,360 SQUARE FEET.
  - CF CURB FACE.

- ### GENERAL NOTES
- IN-N-OUT BURGER GROSS SITE AREA: 97,701 SQ. FT. OR 2.243 ACRES. 570 SQ. FT. OR 0.013 ACRES. PROPOSED 8.5' BEAVERTON-HILLSDALE HIGHWAY DEDICATION: 2,550 SQ. FT. OR 0.059 ACRES. 1,525 SQ. FT. OR 0.035 ACRES. NET SITE AREA: 83,645 SQ. FT. OR 2.136 ACRES.
  - EXISTING COUNTY ZONE: CBD (COMMUNITY BUSINESS DISTRICT) FOR TAX LOTS 151148C0200 AND 151148C0202 AND 151148C0203 FRONTING S.W. BEAVERTON-HILLSDALE HIGHWAY. (OFFICE COMMERCIAL DISTRICT) FOR TAX LOT 151148C0210 FRONTING S.W. LAUREL STREET.
  - EXISTING LAND DESIGNATION: 1. GENERAL LAND USE: ONE-3,555 SQUARE FOOT "HARBANIAN TIME" RESTAURANT WITH A SINGLE 170' LONG DRIVE-THRU LANE AND BI SURFACE STRIPED AND UNSTRIPED PARKING SPACES FOR THE PROPERTY AT 10505 S.W. BEAVERTON-HILLSDALE HIGHWAY. ONE-STORY 6,043 SQUARE FOOT "ATECA MEXICAN RESTAURANT" AND 60 SURFACE STRIPED PARKING SPACES FOR THE PROPERTY AT 10505 S.W. BEAVERTON-HILLSDALE HIGHWAY.
  - 5.3 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA PLUS OUTDOOR PATIO SEATING AREA = 25 MAXIMUM PARKING SPACES REQUIRED. 12.4 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA PLUS OUTDOOR PATIO SEATING AREA = 25 MAXIMUM PARKING SPACES REQUIRED.
  - IN-N-OUT BURGER URBAN BUILDING AREA = 3,885 S.F. INDOOR SEATING = 84 SEATS. OUTDOOR SEATING AREA = 208 S.F. STRUCTURE PLUS 64 S.F. EACH FOR 0-4 SEAT TABLES (0 S.F.) PLUS 20 S.F. FOR 3-2 SEAT TABLES (0 S.F.) = 728 S.F.
  - REQUIRED LANDSCAPE AREA WITHIN PROPERTY = 13,857 S.F.
  - LANDSCAPE AREA PROVIDED WITHIN PROPERTY = 23,326 S.F. (23.1%).

### IN-N-OUT BURGER PARKING SPACE DETAILED SUMMARY TABLE

DESCRIPTION	EXISTING	REQUIRED	PROPOSED
1. STANDARD SPACE (8.5'x18' PLUS A 2' VOH)	0	0	4
2. STANDARD SPACE (8.5'x18' PLUS A 3' VOH)	0	0	18
3. STANDARD SPACE (8.5'x18')	137	55	68
4. ACCESSIBLE VAN (17'x18' PLUS A 2' VOH)	0	1	1
5. ACCESSIBLE SPACE (15'x18' PLUS A 2' VOH)	4	2	3
6. TOTAL	141	58	94
8. IN-N-OUT BURGER DRIVE THRU VEHICLE QUEUE (20' LONG INOB VEHICLE)	0	0	24
9. SHORT-TERM BICYCLE PARKING WITHIN DESIGNATED BIKE RACK	0	2	4
10. LONG-TERM BICYCLE PARKING WITHIN A LOCKABLE PERMANENTLY ANCHORED LOCKING CONCRETE SLAB-AMERICAN BICYCLE SECURITY COMPANY (ABC-SL) MODEL 302, FINISH: MEDIUM GRAY.	0	0	2

- ALL NEW SIGNS SHALL BE APPROVED BY A SEPARATE CITY PERMIT.
- COUNTY TAX LOT: 151148C02100, 151148C02200, 151148C02300 AND 151148C02400.

### SHEET INDEX OF COUNTY ENTITLEMENT DRAWINGS

NO.	SHEET TITLE
C30.0	COUNTY ENTITLEMENT NEW SITE PLAN
C30.1	COUNTY ENTITLEMENT TRAFFIC MANAGEMENT PLAN
C31	COUNTY ENTITLEMENT EXISTING SITE PLAN
C32	COUNTY ENTITLEMENT DEMOLITION PLAN
C33	COUNTY ENTITLEMENT GRADING AND DRAINAGE PLAN
C34	COUNTY ENTITLEMENT STORM DRAIN AND UTILITY PLAN
C35	COUNTY ENTITLEMENT DRAINAGE ANALYSIS SITE PLAN
C36	COUNTY ENTITLEMENT TOPOGRAPHY SURVEY MAP
C37	COUNTY ENTITLEMENT BOUNDARY AND EASEMENT MAP
LPV.1	COUNTY ENTITLEMENT LANDSCAPE PLANTING PLAN
LOC.1	COUNTY ENTITLEMENT SITE CONSTRUCTION CONCEPT DETAILS PLAN

DEVELOPER:  
IN-N-OUT BURGER  
13502 HAMBURGER LANE  
BALDWIN PARK, CA 91706  
CONTACT: CASSIE RUIZ  
PHONE: 626 813-8226

Underground Service Alert  
Call: Toll Free  
**811**  
TWO WORKING DAYS BEFORE YOU GO

REVISIONS

GHA PROJECT NO. \_\_\_\_\_  
**GHA**  
Architecture/Development  
14901 Northwest Blvd.  
Suite 300  
Dallas Texas 75254  
Ph: (972) 238-8684  
Fax: (972) 238-0584

CIVIL ENGINEER:  
**MSI ENGINEERING, INC.**  
ARCHITECTURE/DEVELOPMENT  
301 NORTH SAN DNAS AVENUE, SAN DNAS, CA. 91977  
(800) 985-2205 FAX (905) 955-2597  
*Aaron D. Fellow*  
AARON D. FELLOW R.C.E. 91119  
01-28-2022 DATE  
EXPRES-10313022

**IN-N-OUT BURGER**  
10505 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT NEW SITE PLAN**

**C30.0**



**WASHINGTON COUNTY**

Dept. of Land Use & Transportation  
Planning and Development Services  
Current Planning  
155 N. 1<sup>st</sup> Avenue, #350-13  
Hillsboro, OR 97124  
Ph. (503) 846-8761 Fax (503) 846-2908  
http://www.co.washington.or.us

**Request for Statement of Service  
Availability (Service Provider Letter)**

Washington County Health & Human  
Services Solid Waste & Recycling  
Program

Mixed solid waste and recyclables storage  
requirements apply to new multi-unit and single  
family attached residential buildings with five or  
more units and to new commercial, industrial  
and institutional construction inside the UGB.

This letter serves to comply with the submittal  
requirements of Washington County CDC §406-  
7.6.

PRE-APPLICATION DATE: 08/10/2020

**Service Provider: PLEASE RETURN THIS FORM TO:  
APPLICANT:**

COMPANY: IN-N-OUT Burgers, A California Corporation  
CONTACT: Cassie Ruiz  
ADDRESS: 13502 Hamburger Lane  
Baldwin Park, CA 91706  
PHONE: (626) 813-8226

**OWNER(S):**

NAME: LYNN IRENE ANGEL FAMILY LTD PARTNERSHIP  
ADDRESS: 550 SW PARK AVENUE  
PORTLAND, OR 97205  
PHONE: (503)407-7707

Property Desc.: Tax Map(s): \_\_\_\_\_ Lot Number(s):  
1S114BC02000, 1S114BC02400  
1S114BC02401, 1S114BC02100

Site Size: 2.243 acres  
Site Address: 10565 & 10505 SW Beaverton Hillsdale Hwy,  
Beaverton OR 97005  
Nearest Cross Street (or directions to site):  
SW Beaverton Hillsdale Hwy & SW 107th Ave

**Applicant: Please include with this form to-scale site plans showing dimensional details and the location of the mixed solid waste and recyclables storage facility, and a site circulation plan showing the proposed path of access to the facility (11" x 17" minimum).**

PROPOSED PROJECT NAME: IN-N-OUT Burger

PROPOSED DEVELOPMENT ACTION: (DEVELOPMENT REVIEW, SUBDIVISION, MINOR PARTITION, SPECIAL USE)  
DEMOLITION OF THE TWO EXISTING RESTAURANT USES ON THE PROPERTY AND THE DEVELOPMENT OF A 3,885 SQUARE FOOT  
IN-N-OUT BURGER RESTAURANT WITH DRIVE THROUGH SERVICE AND OUTDOOR SEATING

EXISTING USE: Commercial - Restaurant PROPOSED USE: Commercial - Restaurant

IF RESIDENTIAL: NO. OF DWELLING UNITS: \_\_\_\_\_ SINGLE FAM. \_\_\_\_\_ MULTI-FAM. \_\_\_\_\_  
IF INDUSTRIAL/COMMERCIAL: TYPE OF USE: Restaurant NO. OF SQ. FT. (GROSS FLOOR AREA) 3,885  
IF INSTITUTIONAL: NO. SQ. FT. \_\_\_\_\_ NO. STUDENTS/EMPLOYEES/MEMBERS: \_\_\_\_\_

**Washington County Health & Human Services Solid Waste & Recycling Program Response:**

SERVICE LEVEL IS **ADEQUATE** TO SERVE THE PROPOSED PROJECT.

SIGNATURE: [Signature] POSITION: Operation Supervisor  
Solid Waste & Recycling DATE: 2/11/2022

SERVICE LEVEL IS **INADEQUATE** TO SERVICE THE PROPOSED PROJECT.

Please indicate why the service level is inadequate, and indicate what improvements or revisions to the proposal are needed for you to provide adequate service to this project. (Use additional sheets if necessary.)

SIGNATURE: \_\_\_\_\_ POSITION: \_\_\_\_\_ DATE: \_\_\_\_\_

Comments: Conditional approval: Minimum gate access is 12 ft per Code 406-6.4 to allow adequate access to the bins. Applicant has committed to staff rolling  
rolling out the bins for the hauler to facilitate access. If that condition changes the access gates to the enclosure would need to be revised meet the code.





## WASHINGTON COUNTY TRAFFIC IMPACT STATEMENT WAIVER

### "STATEMENT OF UNDERSTANDING"

Resolution & Order 86-95 indicates that a Traffic Impact Statement (TIS) is to be prepared for a land use application for a development that would increase traffic by more than 40 ADT. The TIS was created by Resolution & Order 83-219 to ensure that adequate technical information is available to make findings of fact on the transportation development regulations under the Comprehensive Framework Plan.

A TIS prepared by County staff is one option to ensure that the information needed for review of the County's transportation development regulations is provided. As an alternative, applicants may, at their own option, forego a TIS prepared by County staff and provide the necessary technical information and traffic analysis in their application materials. The applicant recognizes that he/she is solely responsible for researching the required transportation requirements, incorporating the requirements into their proposal, and submitting a complete application containing the necessary traffic information. The applicant further recognizes that failure to provide complete and correct information will result in the application being deemed incomplete for review.

I have read and understand the above statement.

Tax Map: \_\_\_\_\_ Tax Lot(s): 1S114BC02000, 1S114BC02400  
1S114BC02401, 1S114BC02100

APPLICANT: In-N-Out Burgers, a California corporation

  
\_\_\_\_\_  
APPLICANT'S SIGNATURE

2/25/22  
\_\_\_\_\_  
DATE

## MEMORANDUM

---

Date: January 26, 2022 Project #: 25622-4

To: Jinde Zhu, PE, Stacy Shettler, PE, & Steve Shane, Washington County  
Avi Tayar, PE, Marah Danielson, & Tony Rikli, PE, Oregon Department of  
Transportation (ODOT)  
Cassie Ruiz, In-N-Out Burger  
Mike Robinson, Schwabe

From: Julia Kuhn, PE & Chris Brehmer, PE

Project: In-N-Out Burger – Washington County Site

Subject: Access Alternatives Review

---

In-N-Out Burger is proposing a new restaurant to the northeast of the SW Beaverton Hillsdale Highway/SW 170<sup>th</sup> Avenue intersection in Washington County. Today the site is occupied by a 3,555 square foot Hawaiian Time Restaurant and a 6,043 square foot Azteca Restaurant<sup>1</sup>, both of which have continued to operate even during COVID-19 restrictions. The two restaurants are served by three accesses on SW Beaverton Hillsdale Highway and one on SW Laurel Street. As proposed, the two restaurants will be replaced by a 3,885 square foot In-N-Out Burger that is served by two accesses on SW Beaverton Hillsdale Highway, including a right-in-right-out access on the west side of the site and a full movement access on the east side of the site. A gated, emergency only access will be provided via SW Laurel Street.

In review of the proposed site plan, ODOT staff has requested an evaluation of alternative access configurations to serve the future In-N-Out Burger site. Accordingly, this memorandum summarizes the following topics:

- Trip generation and assignment for the proposed In-N-Out Burger;
- Calculation of “existing” and background opening year 2023 traffic volumes;
- Comparison of year 2023 intersection operations under the various access options being evaluated;
- Queuing considerations;
- Crash data and analyses relative to the access points;

---

<sup>1</sup> Existing restaurant sizes provided through the ALTA survey.

- SW Laurel Street considerations;
- On-Site Drive-through queuing and,
- Recommendations.

The alternative access configurations evaluated include:

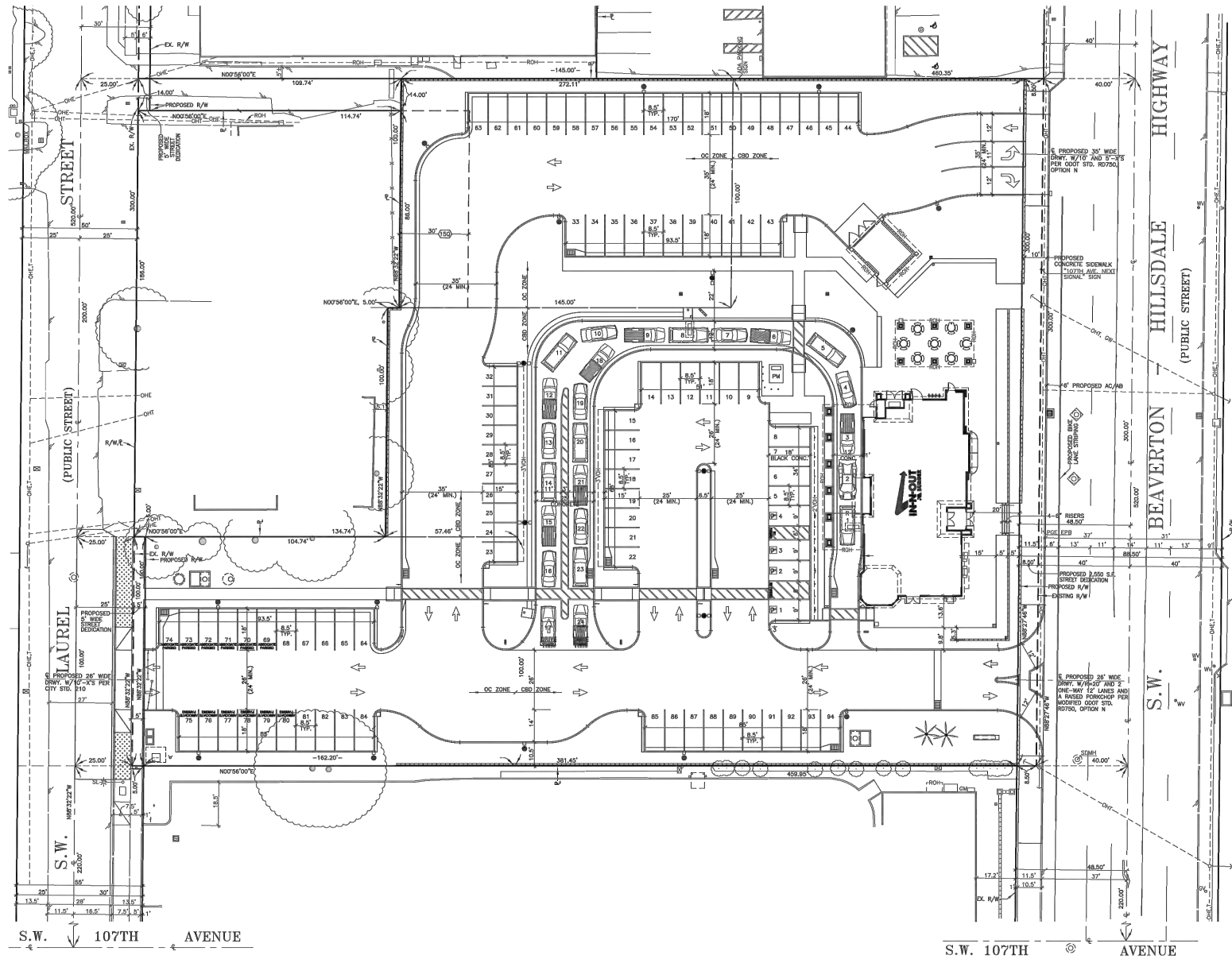
- Scenario 1 – Proposed Site Plan;
- Scenario 2 – Inbound East Access – under this scenario, outbound left-turns would be allowed onto SW Laurel Street, right-in-right-out movements would be provided at the west access on SW Beaverton-Hillsdale (B-H) Highway, and left-in-right-in movements would be provided at the east access on SW B-H Highway; and;
- Scenario 3 – Inbound and Outbound East Access – under this scenario, outbound left-turns would be allowed onto SW Laurel Street, right-in-right-out movements would be provided at the west access on SW B-H Highway, and left-in-right-in-right-out movements would be provided at the east access on SW B-H Highway.

Figure 1 illustrates the proposed site plan whereas Figure 2 illustrates the lane configurations assumed under each of the access alternatives considered. As shown in Figure 2, this evaluation considers intersection operations and queuing related to the following locations:

1. SW 107<sup>th</sup> Avenue/SW Laurel Street
2. Site Access/SW Laurel Street
3. SW 107<sup>th</sup> Avenue/SW B-H Highway
4. Hawaiian Time West Site Access/SW B-H Highway
5. Uwajimaya Access/SW B-H Highway (this intersection was analyzed to help inform queuing considerations in center two-way left-turn lane along SW B-H Highway)
6. Hawaiian Time East Site Access/SW B-H Highway
7. Azteca Site Access/SW B-H Highway

As summarized herein, the operations and queuing associated with the proposed site plan does not represent any material difference between the scenarios considered nor does it materially change the results associated with the background condition. Accordingly, we conclude that the proposed access scenario is appropriate. The remainder of this memorandum presents the findings of the evaluation.

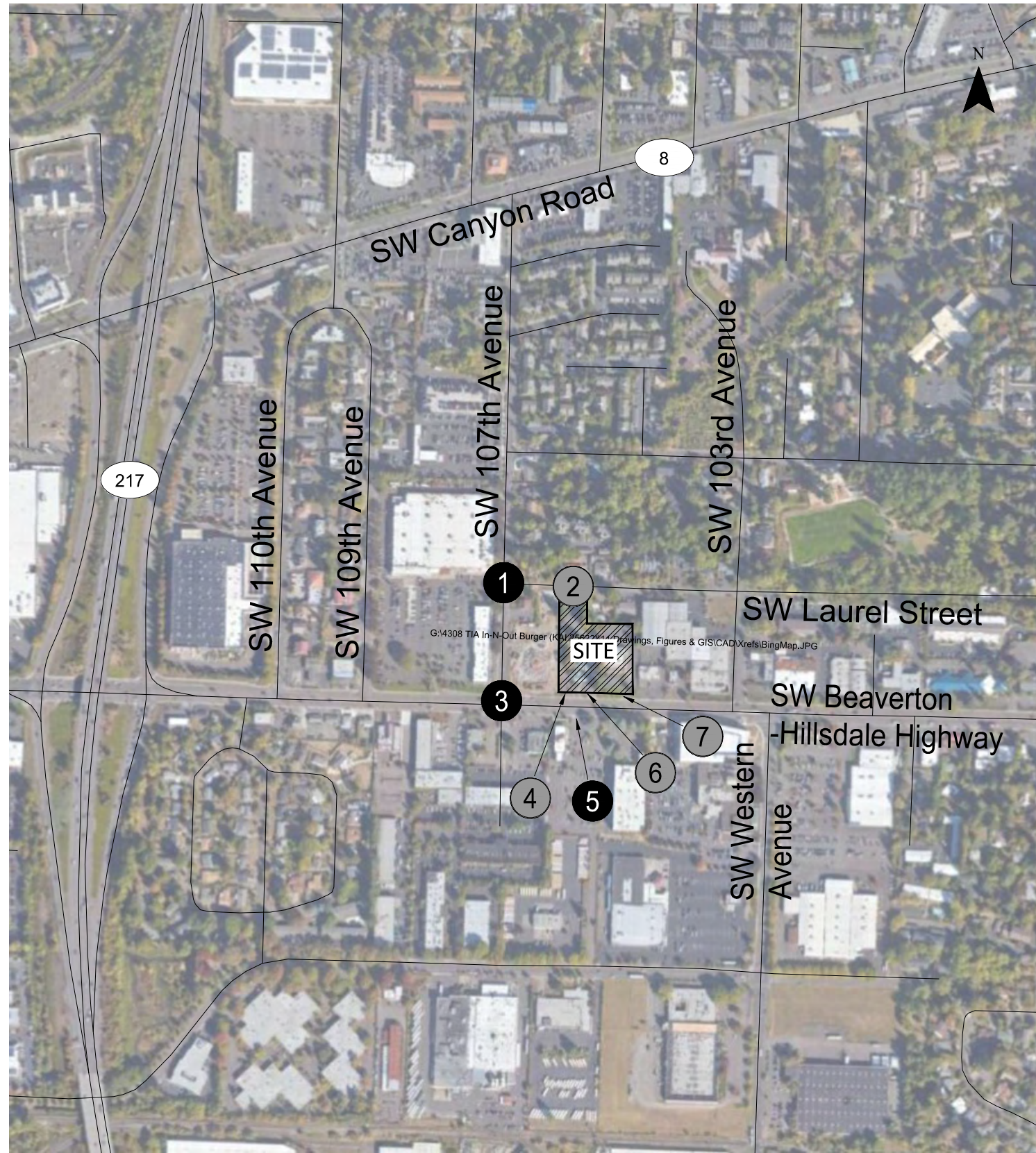
H:\25125622 - In-N-Out Burger\Washington county\Figs\25622\_Figures\_NP\_2021-11-09.dwg Jan 27, 2022 - 9:20am - jhenriksen Layout Tab: Proposed Site Plan



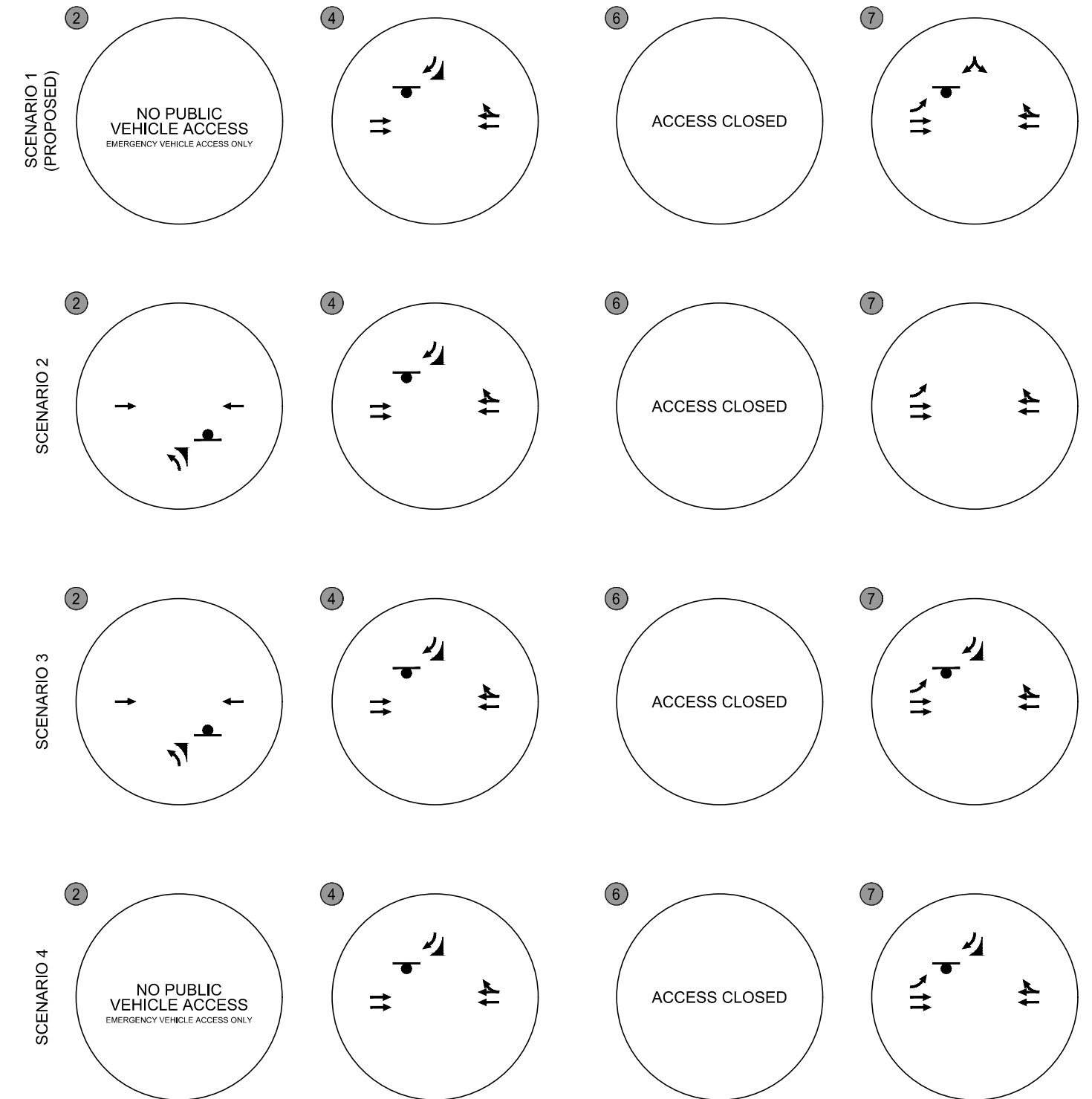
Proposed Site Plan  
Washington County, Oregon

Figure  
1

RECEIVED FROM IN-N-OUT BURGER, DATED: 01-24-2022



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● - Study Intersections  
 ■ - Site Access

Site Access Scenarios  
 Lane Configurations and Traffic Control Devices  
 Washington County, Oregon

Figure  
 2

### Vehicular Trip Generation and Assignment

The change in the estimated site trip generation was calculated based on rates included in the *Trip Generation Manual, 10<sup>th</sup> Edition* (as published by the Institute of Transportation Engineers, ITE) and a trip generation study performed by Gandddini Group, Inc. on behalf of In-N-Out-Burger<sup>2</sup>. For reference purposes, Table 1 presents the estimated change in vehicular trip generation of the site assuming the two existing restaurants were operating at capacity and/or re-occupied by a similar user. As noted previously, both restaurants have continued to operate, even during COVID-19 restrictions.

**Table 1. Anticipated Site Trip Generation Change\***

Land Use	ITE Code	Size (sq ft)	Total Daily Trips	Weekday PM Peak Hour		
				Total Trips	In	Out
Existing Hawaiian Time Restaurant						
Fast Food	934	3,555	1,674	116	60	56
Existing Azteca						
High Turnover/Sit Down	932	6,043	678	59	37	22
Existing Site Trips			2,352	175	97	78
Proposed In-N-Out						
Fast Food	In-N-Out Data	3,885	1,894	162	85	77
Change in Driveway Trips			-458	-13	-12	-1

\*Does not include pass-by trips.

As will be discussed later in this memorandum, we obtained traffic counts at the study intersections and access points in September 2021 when businesses were open and schools were in-session. For the purposes of the access analyses, we removed the counted vehicular trips associated with the Azteca and Hawaiian Time restaurants and then added in the new trips that could be generated by In-N-Out Burger. We did not assume the trip generation rates for the two operating restaurants shown in Table 1 in our analysis, rather we used the actual drive way trips.

For ease of review, Table 2 presents the In-N-Out Burger trip generation only.

**Table 2. In-N-Out Burger Trip Generation**

Land Use	Size (sq ft)	Total Daily Trips	Weekday PM Peak Hour		
			Total Trips	In	Out
In-N-Out Burger	3,885	1,894	162	85	77
Pass-By Trips (50%)		928	80	42	38
<i>Pass-by along B-H (20%)</i>		378	32	17	15
<i>Diverted from OR 217 (30%)</i>		550	48	25	23
Net New Trips		1,516	130	68	62

<sup>2</sup> Refer to May 21, 2021 Transportation Memo in Appendix A for further documentation.

The distribution of site-generated trips was estimated based on a review of existing traffic patterns as well as nearby residential and employment areas. Figures 3 – 5 illustrate the estimated trip distribution pattern and assignment of the trips associated with the proposed In-N-Out Burger for the three access scenarios being evaluated. The following assumptions were made of the 50 percent pass-by trips:

- 30 percent were assumed to be diverted from Oregon 217 (thereby evaluated as “new” trips to all study intersections);
- 15 percent of the pass-by trips were assumed to be westbound on B-H Highway; and,
- 5 percent of the pass-by trips were assumed to be eastbound on B-H Highway.

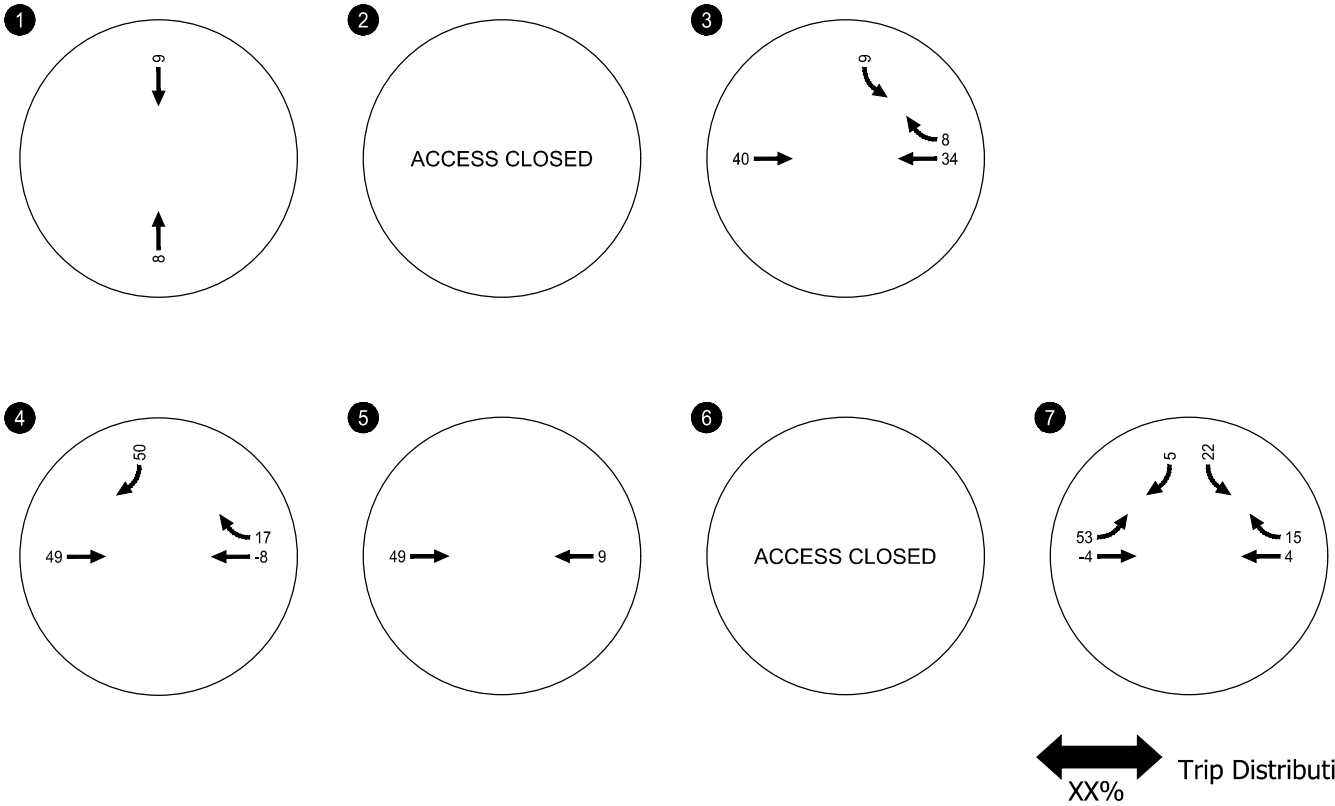
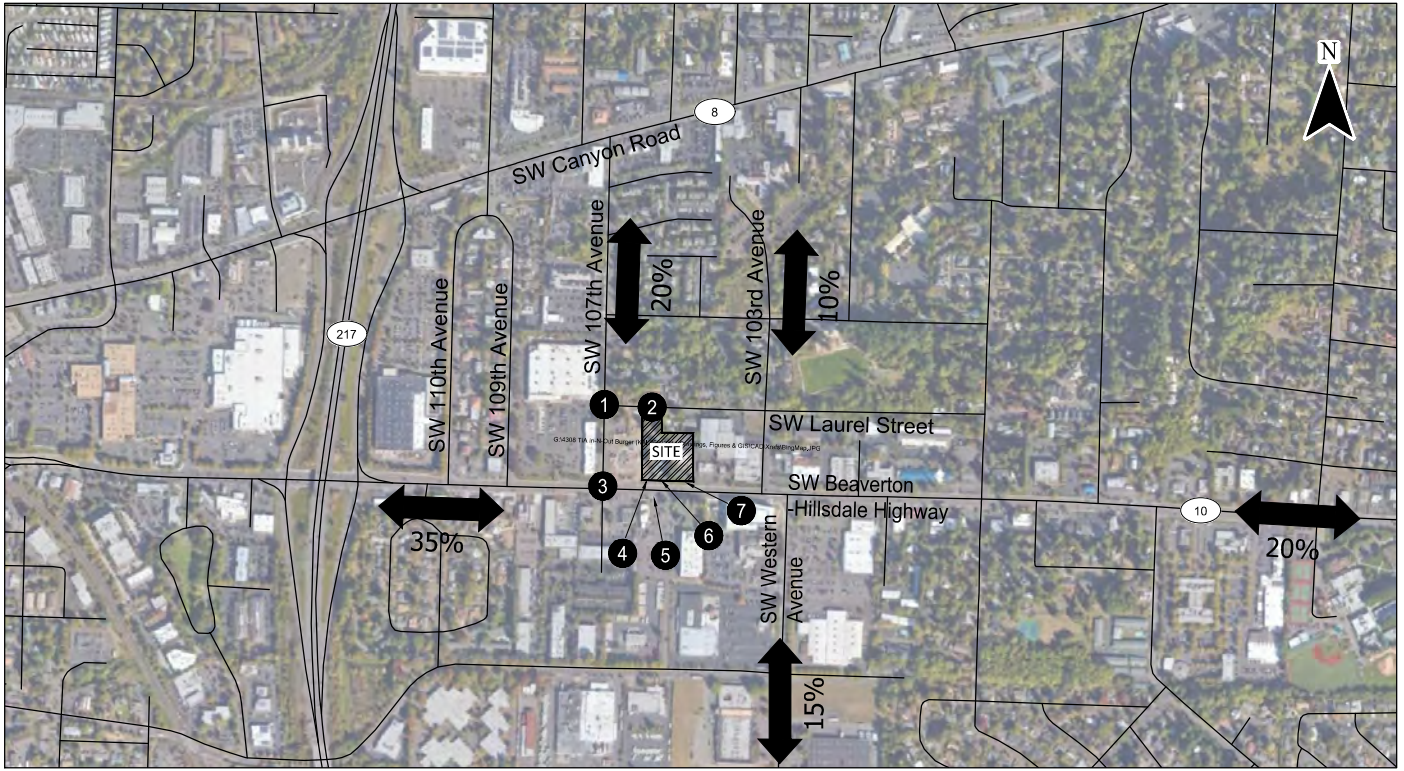
As such, the pass-by trips are effectively reduced to 20 percent when considering the study intersections (i.e., 32 trips of the 162 trips during the weekday PM peak hour).

### ***Operational Standards***

The intersection operational analyses presented in this report were conducted using the procedures outlined in the *Highway Capacity Manual, 6<sup>th</sup> Edition*. Intersection performance was evaluated in comparison to applicable Washington County and ODOT metrics.

Washington County maintains SW 107<sup>th</sup> Avenue and SW Laurel Road. The County has defined operating standards as a volume-to-capacity (V/C) ratio of no greater than 0.99 assuming a peak hour (60-minute analysis) period.

ODOT maintains the study intersections along B-H Highway. ODOT’s mobility target for the study intersections is a V/C no greater than 0.99 during the peak 15-minutes.



**XX%** Trip Distribution

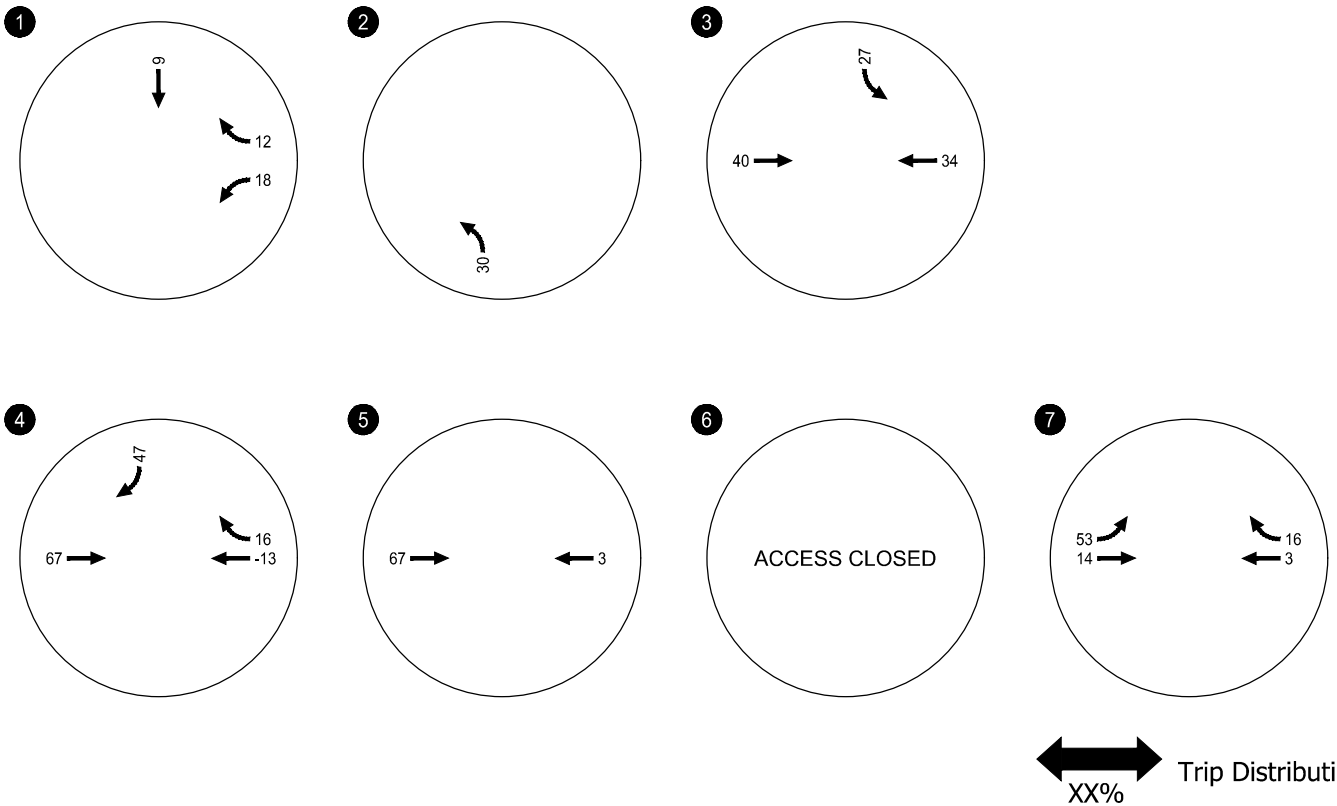
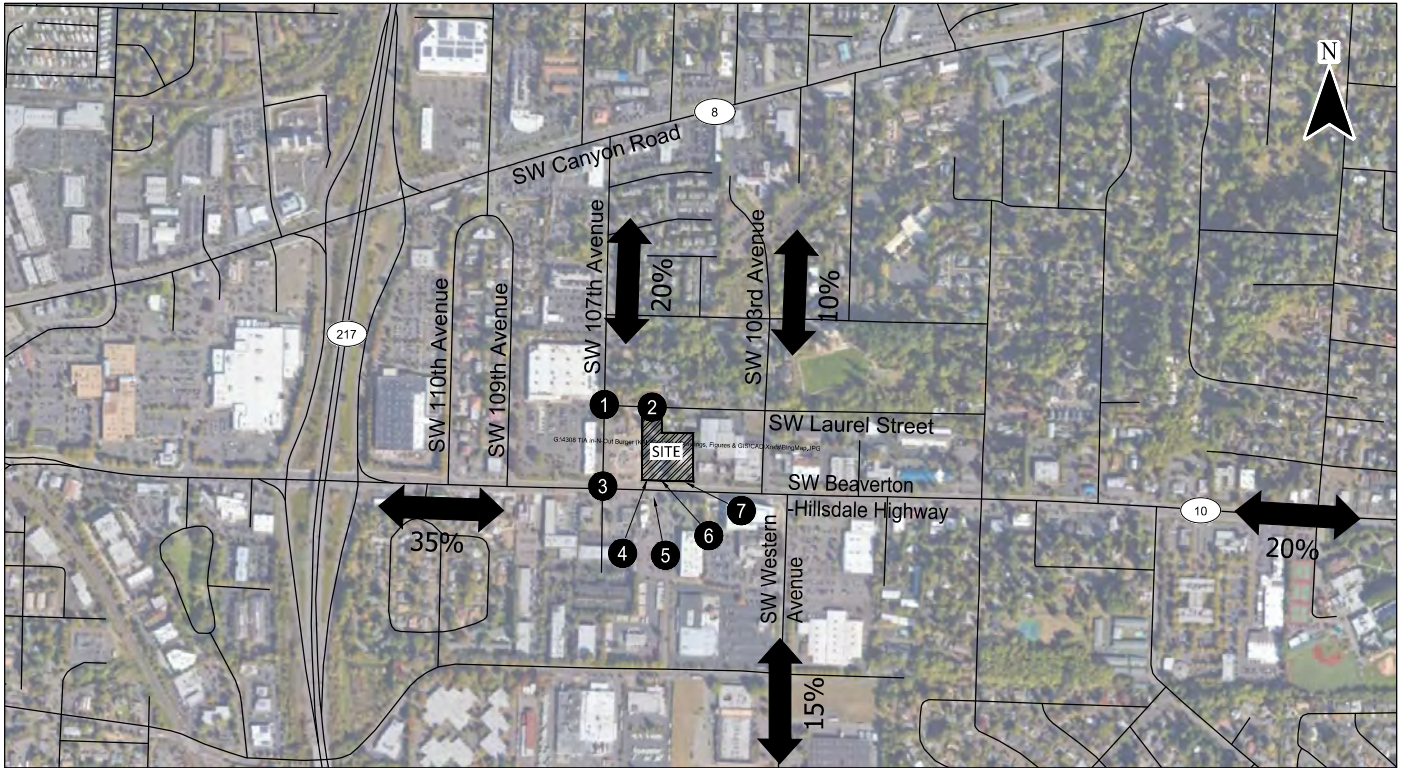
**Trip Distribution & Trip Assignment (Scenario 1)  
Weekday PM Peak Hour  
Washington County, Oregon**

**Figure  
3**

*Note:  
Negative trip numbers reflect pass-by  
trips from the surrounding roadways*

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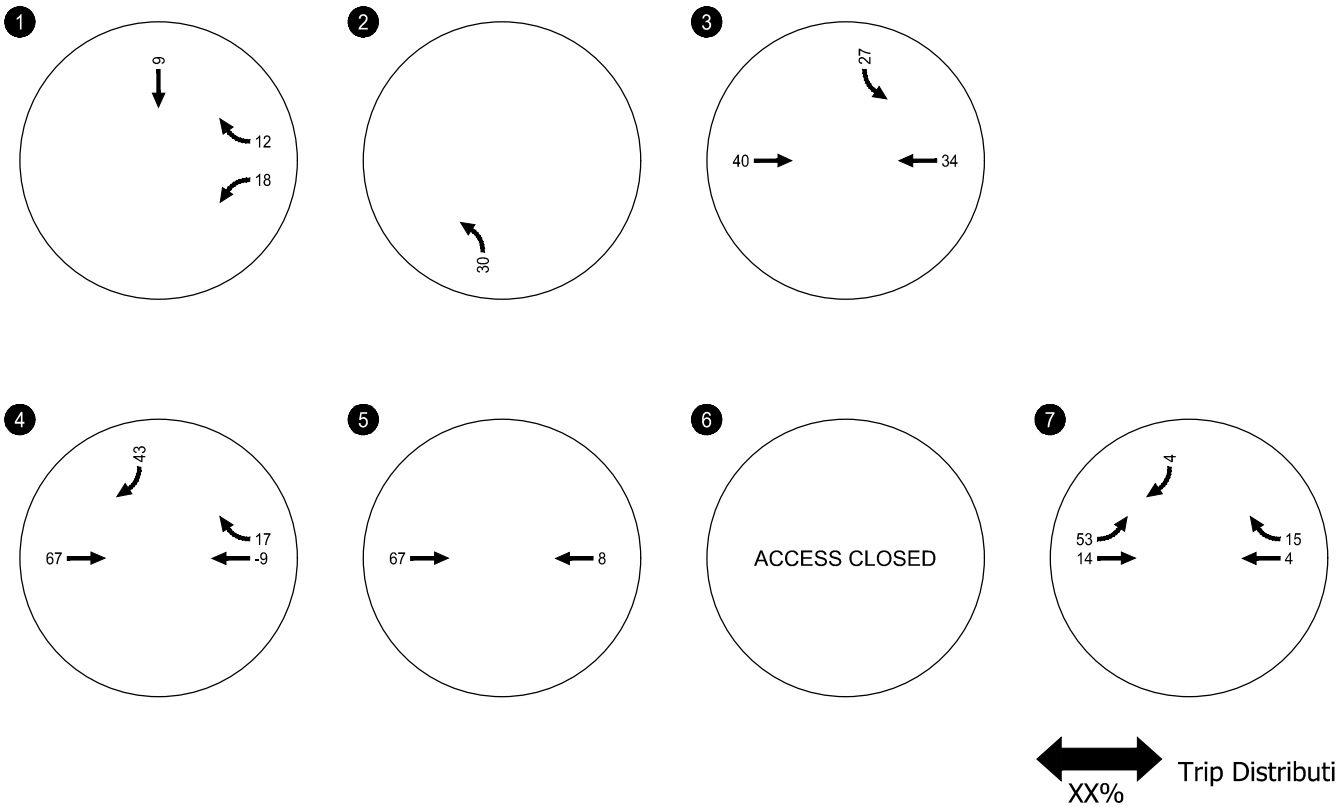
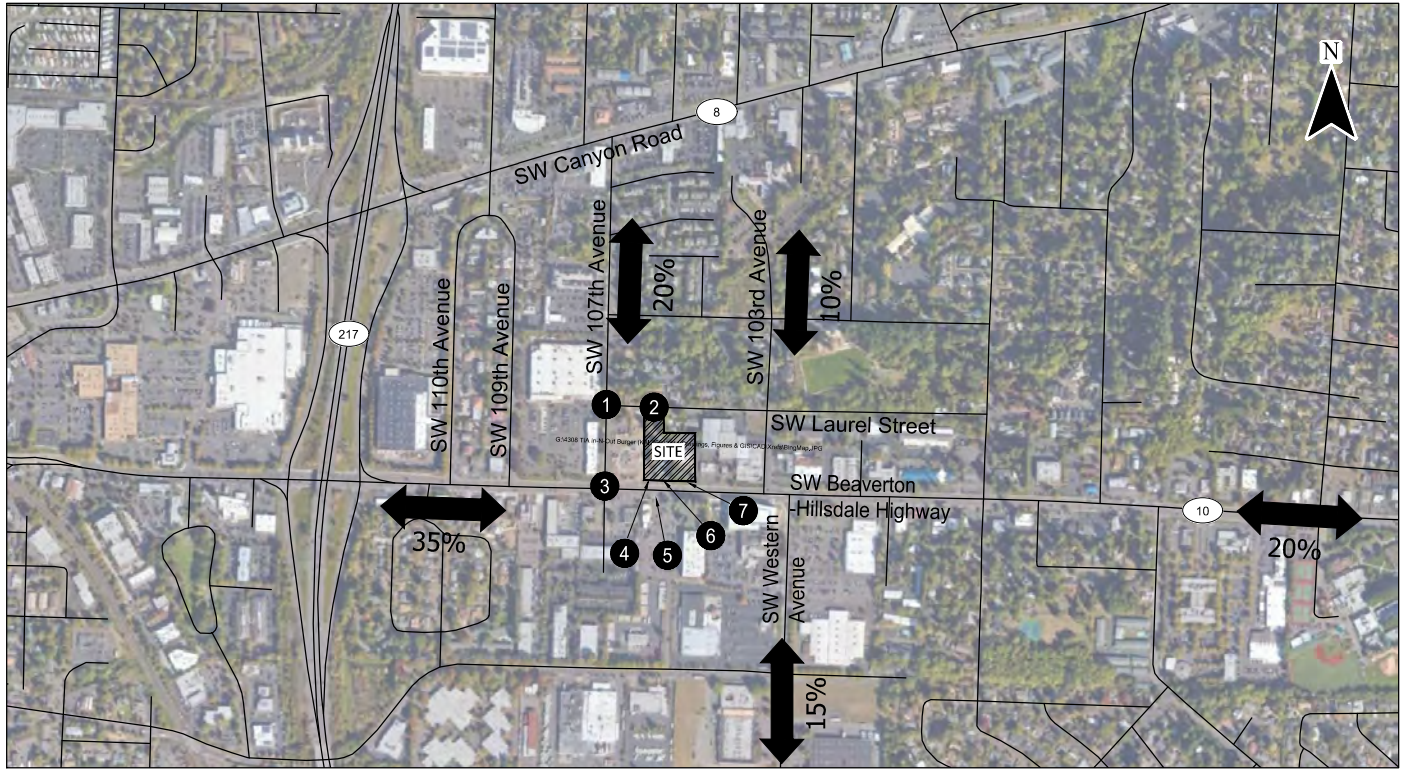


**Trip Distribution & Trip Assignment (Scenario 2)**  
**Weekday PM Peak Hour**  
**Washington County, Oregon**

**Figure 4**

*Note:*  
 Negative trip numbers reflect pass-by trips from the surrounding roadways

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**Trip Distribution & Trip Assignment (Scenario 3)**  
**Weekday PM Peak Hour**  
**Washington County, Oregon**

**Figure 5**

*Note:*  
 Negative trip numbers reflect pass-by trips from the surrounding roadways

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**Year 2021 and Year 2023 Background Traffic**

Weekday PM peak traffic counts at the study intersections and accesses were collected on September 21, 2021 when schools were in-session and businesses were open and in-restaurant dining was allowed within Washington County. Both restaurants were operating at the time of the counts. These traffic counts were compared to counts recorded in November 2016 as part of the Chick-fil-A Traffic Impact Study as well as to previously collected data available via ODOT’s website enabling a comparison of current counts to pre-COVID counts at the same locations. Based on the review of the two data sources, the September 2021 traffic counts were not adjusted further to account for COVID-related traffic adjustments. The 2021 traffic counts and the information used to assess these counts versus pre-COVID conditions are provided in Appendix B.

As noted above, the traffic accessing the existing four site driveways (three for Hawaiian Time and one for Azteca) were collected as part of the 2021 counts. For the purposes of calculating year 2023 traffic volumes for use in the access evaluation, the traffic measured using the four site driveways was removed from the traffic volumes and the resultant volumes were increased by two percent per year.

Figure 6 reflects the year 2023 background traffic volumes assuming the existing restaurants are still in operation (at the level of site trips measured in September 2021). This figure also reflects the existing lane configurations and traffic control devices as well as the projected intersection operations at the intersections and access points. As shown in the figure, all study intersections are anticipated to meet the mobility targets assuming year 2023 weekday PM peak hour conditions but without occupancy of the In-N-Out Burger.

Table 3 provides a summary of westbound and southbound approach 95<sup>th</sup> percentile queue estimates associated with the SW 107<sup>th</sup> Avenue/SW B-H Highway traffic signal as they relate to both the site access points on the highway and the SW Laurel Street/SW 107<sup>th</sup> Avenue intersection. This information is used as a basis of comparison for the access alternative evaluation. As shown, with the anticipated operations of the SW 107<sup>th</sup> Avenue/SW B-H Highway intersection, southbound queues are anticipated to extend nearly to the SW Laurel Street/SW 107<sup>th</sup> Avenue intersection. The westbound through queues at the intersection are also anticipated to extend beyond both the existing Hawaiian Time accesses but not to the existing Azteca access.

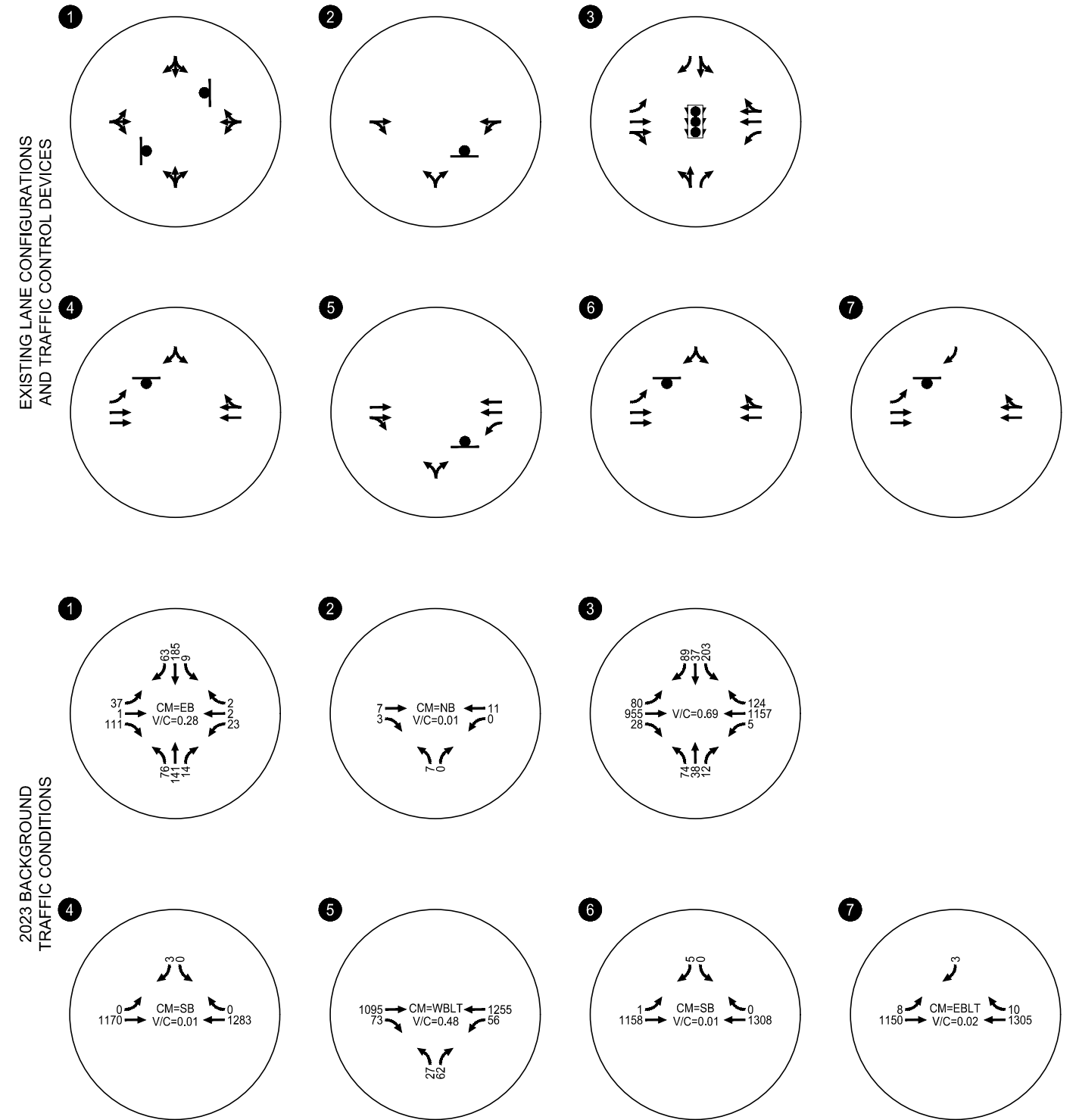
**Table 3. Estimated 95<sup>th</sup> Percentile Queues at SW 107<sup>th</sup> Avenue/SW B-H Highway (2023 Background PM)**

Intersection movement	Storage Provided (feet)	Estimated Queue (feet)	Storage Adequate?
Southbound Right-turn	105	125	Extends beyond striped storage
Southbound Left-Through	400	325	Yes
Westbound Through/Right	195*	400	Extends beyond existing Access
Westbound Through	195*	400	
Westbound Left-turn	140	25	Yes

\*Reflects distance to west site access

### ***Year 2023 Intersection Operations Comparison***

Based on the traffic volumes reflected in Figure 6, “total traffic” volumes were calculated for each of the access scenarios assuming occupancy of the In-N-Out Burger and using the trip generation rates reflected in Table 2. The volumes and intersection operations are reflected in Figures 7 – 9. As shown, all study intersections are anticipated to continue to satisfy the respective ODOT and Washington County mobility targets. *Appendix “C” contains the operations analysis worksheets.*

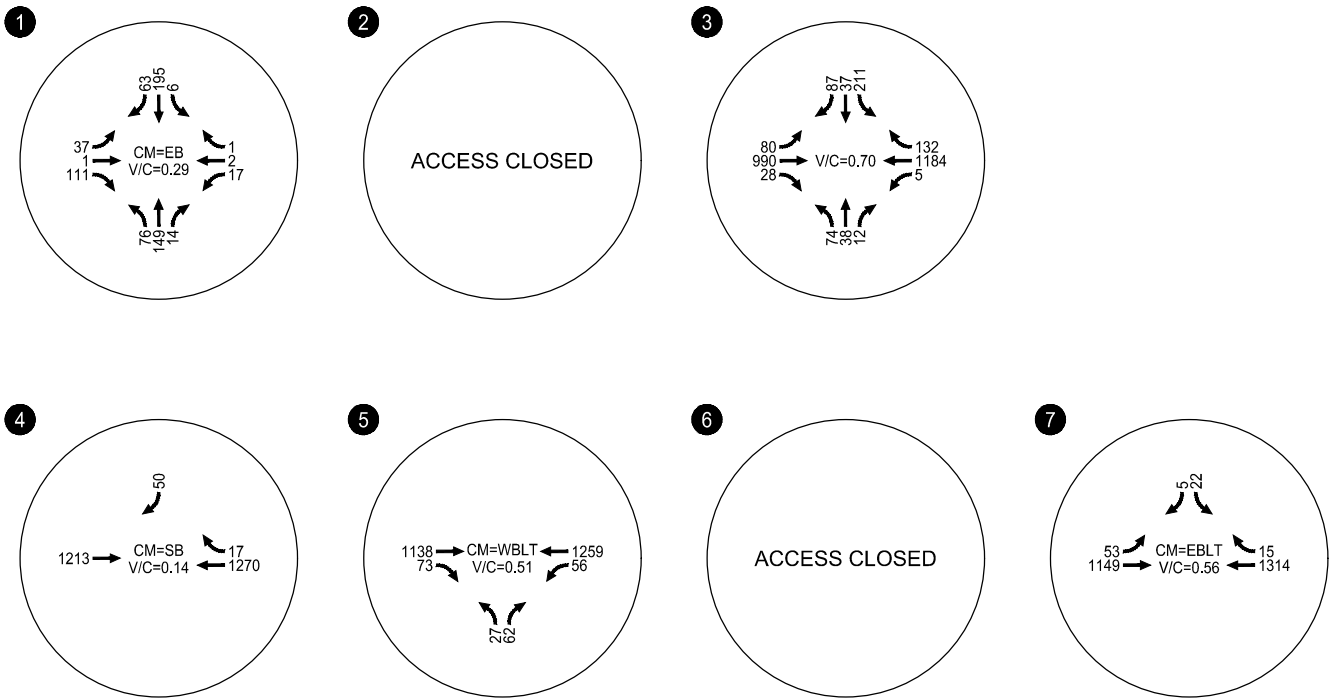


- STOP SIGN  
 - TRAFFIC SIGNAL

CM = CRITICAL MOVEMENT (UNSIGNALIZED)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Existing Lane Configurations and Traffic Control Devices & 2023 Background Conditions (Weekday PM Peak Hour) Washington County, Oregon

Figure 6

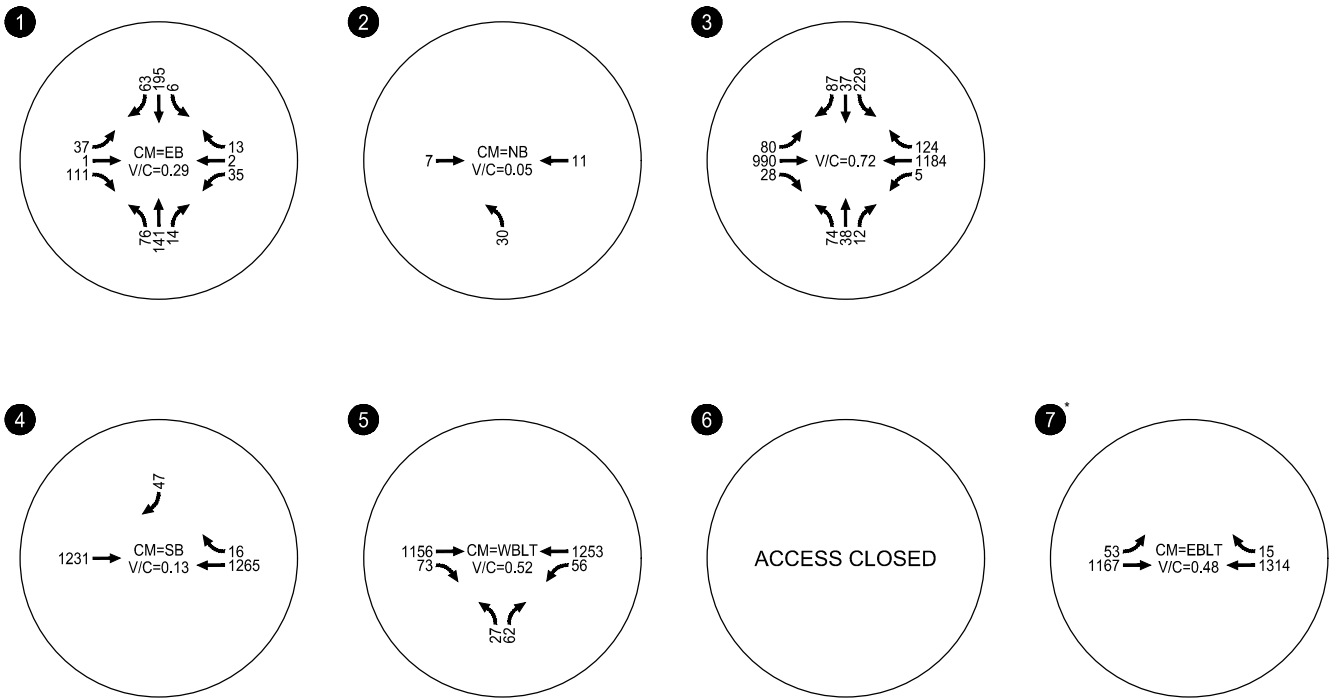


2023 Total Traffic Conditions (Scenario 1)  
 Weekday PM Peak Hour  
 Washington County, Oregon

Figure  
 7

CM = CRITICAL MOVEMENT (UNSIGNALIZED)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

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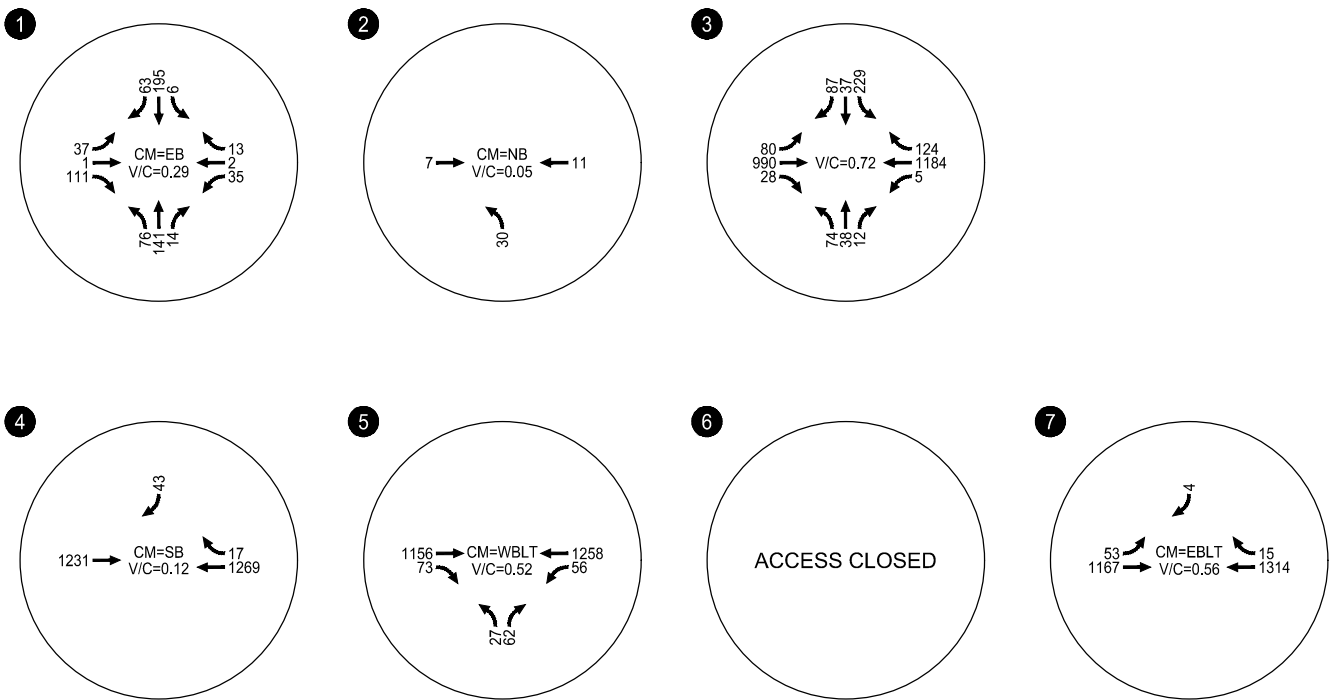


\* Analyzed using HCH 2000 procedures

2023 Total Traffic Conditions (Scenario 2)  
Weekday PM Peak Hour  
Washington County, Oregon

Figure  
8

CM = CRITICAL MOVEMENT (UNSIGNALIZED)  
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO



2023 Total Traffic Conditions (Scenario 3)  
 Weekday PM Peak Hour  
 Washington County, Oregon

Figure  
 9

CM = CRITICAL MOVEMENT (UNSIGNALIZED)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO



**Queuing Considerations**

Table 4 provides a summary of westbound and southbound approach 95<sup>th</sup> percentile queue estimates associated with the SW 107<sup>th</sup> Avenue/SW B-H Highway traffic signal as they relate to both the site access points on the highway as well as the proximity of the SW Laurel Street/SW 107<sup>th</sup> Avenue intersection to the signal. This information is provided for each of the access scenarios considered. In reviewing the queuing estimates its also helpful to note that the proposed east site access on SW B-H Highway is approximately 185 feet to the east of the west site access. Additionally, for ease of review, the queuing information presented in Table 3 is also shown in Table 4 to assess the changes between the background conditions and the various access scenarios being considered. As shown, the signalized intersection queuing results are not materially different between the background and each scenario considered.

**Table 4. Comparison of Estimated 95<sup>th</sup> Percentile Queues at SW 107<sup>th</sup> Avenue/SW B-H Highway (2023 Total Traffic PM Peak Hour)**

Intersection movement	Storage Provided (feet)	Estimated Queue (feet)	Storage Adequate?
2023 Background			
Southbound Right-turn	105	125	Extends beyond striped storage
Southbound Left-Through	400	325	Yes
Westbound Through/Right	195*	400	Extends beyond West Access
Westbound Through	195*	400	
Westbound Left-turn	140	25	Yes
Scenario 1 - Proposed Site Plan			
Southbound Right-turn	105	125	Extends beyond striped storage
Southbound Left-Through	400	325	Yes
Westbound Through/Right	195*	400	Extends beyond West Access
Westbound Through	195*	425	
Westbound Left-turn	140	25	Yes
Scenario 2 - Inbound East Access			
Southbound Right-turn	105	125	Extends beyond striped storage
Southbound Left-Through	400	350	Yes
Westbound Through/Right	195*	425	Extends beyond West Access
Westbound Through	195*	425	
Westbound Left-turn	140	25	Yes
Scenario 3 - Inbound and Outbound East Access			
Southbound Right-turn	105	125	Extends beyond striped storage
Southbound Left-Through	400	350	Yes
Westbound Through/Right	195*	425	Extends beyond West Access
Westbound Through	195*	425	
Westbound Left-turn	140	25	Yes

\*Reflects distance to west site access

In addition to the queuing associated with the traffic signal, we also evaluated the potential for queuing in the center two-way left-turn lane (TWLTL) on SW B-H Highway to the east of the SW 107<sup>th</sup> Avenue signal as it relates to the site access points. The accesses are spaced at the approximate distances shown below to the east of the signal:

- Existing west site access (Intersection #4) = approximately 195 feet to the east of the signal on the northside of SW B-H Highway;
- Uwajimaya Access (Intersection #5) = approximately 225 feet to the east of the signal on the southside of SW B-H Highway;
- Existing central site access (existing east Hawaiian Time access, Intersection #6) = approximately 280 feet to the east of the signal on the northside of SW B-H Highway (this access will be eliminated as part of site redevelopment); and,
- Existing east (existing Azteca, Intersection #6) site access = approximately 445 feet to the east of the signal on the northside of SW B-H Highway.

In particular, we examined the queuing between the Uwajimaya access and the east site access under the three scenarios being considered. Note the westbound left-turn queue reported at the Uwajimaya access represents the maximum queue observed, the 95<sup>th</sup> percentile westbound left-turn queue is 50 feet (two vehicles). The results of this analysis are shown in Table 5.

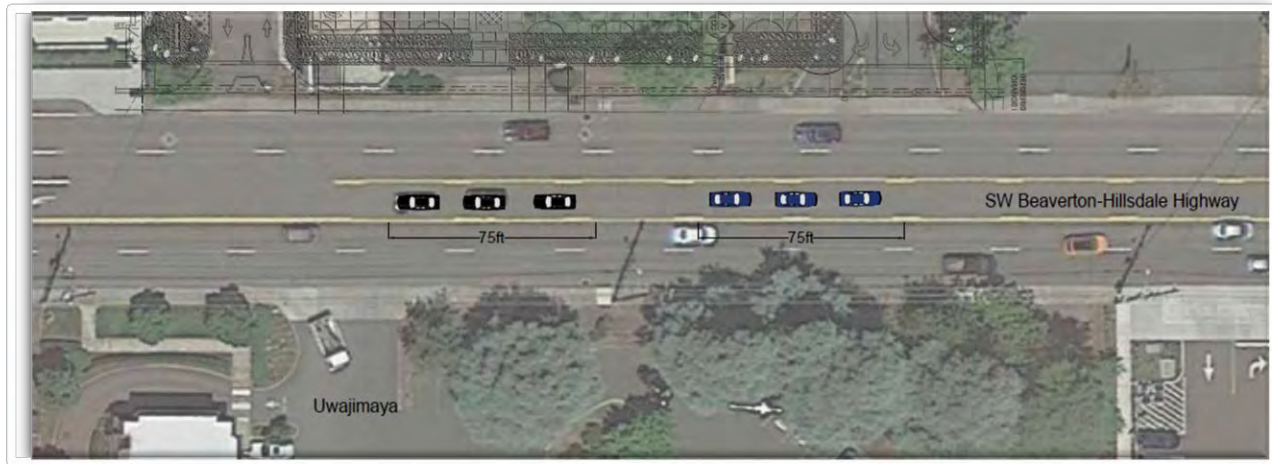
**Table 5. Comparison of Estimated 95<sup>th</sup> Percentile Queues on SW B-H Highway**

Access	Distance from Signal	Estimated Queue in TWLTL	Queuing Interaction between two Accesses?
2023 without Site Redevelopment			
Uwajimaya Westbound Left	225	75*	75 feet provided between queues
East Site Access Eastbound Left	400	25	
Scenario 1 - Proposed Site Plan			
Uwajimaya Westbound Left	225	75*	25 feet provided between queues
East Site Access Eastbound Left	400	75	
Scenario 2 - Inbound East Access			
Uwajimaya Westbound Left	225	75*	25 feet provided between queues
East Site Access Eastbound Left	400	75	
Scenario 3 - Inbound and Outbound East Access			
Uwajimaya Westbound Left	225	75*	25 feet provided between queues
East Site Access Eastbound Left	400	75	

\*75 feet (three vehicles) reflects maximum queue observed, 95<sup>th</sup> percentile queue is 50 feet (two vehicles)

As shown in the table, the Uwajimaya access on the south side of the highway and the East In-N-Out Burger Access on the north side of the highway are both anticipated to have up to approximately 3 vehicles (75 feet) in queue. With 175 feet between the two accesses, this leaves the potential for approximately one car length between the back of queues should they occur simultaneously as graphically represented in Exhibit 1.

**Exhibit 1: Estimated 95<sup>th</sup> Percentile Queues on SW B-H Highway**



**Aerial Image Source: Google Earth**

**Crash Data and Analyses**

ODOT provided crash records for the period from January 1, 2015 through December 31, 2019. The crash type classifications at the intersections and the site access points were reviewed to assess whether crash patterns might be identifiable and to provide considerations related to the access scenarios being evaluated. Table 6 shows the reported crashes by type and severity. *Appendix “D” contains the detailed crash summary worksheets.*

**Table 6. Intersection Crash History (January 1, 2015 through December 31, 2019)**

Study Intersection	Collision Type						Severity		Total Crashes
	Rear-end	Turning	Angle	Fixed	Ped	Side-Swipe	PDO <sup>1</sup>	Injury	
SW Laurel Street/SW 107 <sup>th</sup> Avenue	0	0	0	0	0	0	0	0	0
Site Access/SW Laurel Street	0	0	0	0	0	0	0	0	0
SW 107 <sup>th</sup> Avenue/SW B-H Highway	6	13	0	0	2	1	6	16	22
Uwajimaya Access/SW B-H Highway	0	6	0	0	0	0	3	3	6
West Site (Hawaiian Time) Access/SW B-H Highway	0	0	0	0	0	0	0	0	0
East Site (Hawaiian Time) Access/SW B-H Highway	0	1	0	0	0	0	0	1	1
Azteca Site Access/SW B-H Highway	0	1	0	0	0	0	0	1	1

<sup>1</sup> PDO – Property damage only

Intersection crash rates calculated and compared to statewide crash rate performance thresholds. For this analysis, the critical crash rate was calculated and compared to the 90<sup>th</sup> percentile crash rates for urban intersections by traffic control and 3 versus 4-legged configurations (as appropriate). This is shown in Table 7.

**Table 7. Intersection Crash Rate Assessment**

Study Intersection	Total Crashes	Observed Crash Rate	90 <sup>th</sup> Percentile Crash Rate by Land Type and Traffic Control	Observed Crash Rate > Critical Crash Rate?
SW Laurel Street/SW 107 <sup>th</sup> Avenue	0	0.00	0.408	No
Site Access/SW Laurel Street	0	0.00	0.293	No
SW 107 <sup>th</sup> Avenue/SW B-H Highway	22	0.45	0.860	No
Uwajimaya Access/SW B-H Highway	6	0.13	0.293	No
West Site Access (Hawaiian Time)/SW B-H Highway	0	0.00	0.293	No
East Site Access (Hawaiian Time)/SW B-H Highway	1	0.02	0.293	No
Azteca Site Access/SW B-H Highway	1	0.02	0.293	No

Table 7 shows that the intersection crash rates are below the 90<sup>th</sup> percentile crash rates.

Washington County maintains a database of intersection crashes and ranks the listing on a biennial cycle. A review of the Washington County Safety Priority Index System (SPIS, 2016 – 2018) list revealed that the SW 107<sup>th</sup> Avenue/SW Beaverton-Hillsdale is ranked 91<sup>st</sup> of 370 intersections ranked and that no specific actions have been identified to suggest changes to the intersection.

Based on the available ODOT crash data and Washington County SPIS data, no safety-based mitigations are recommended as part of the site re-occupancy and/or the access scenario evaluation.

***SW Laurel Street Considerations***

A field review revealed that landscaping and shrubbery have the potential to limit sight lines for a westbound motorist on SW Laurel Street facing north (right) or south (left). Exhibits 2 and 3 show this intersection from the westbound approach. Vehicles at the westbound approach today pull up beyond the stop sign to see around existing landscaping. Regardless of the proposed site redevelopment, the landscaping should be appropriately maintained at this intersection to provide adequate intersection sight distance.

**Exhibit 2. Looking North at the Intersection of SW Laurel Street and SW 107<sup>th</sup> Avenue**



**Exhibit 3. Looking North at the Intersection of SW Laurel Street and SW 107<sup>th</sup> Avenue**



**On-Site Drive Through Queuing**

On behalf of In-N-Out Burger, the Gandddini Group, Inc. also measured on-site queuing associated with the drive-through facilities at nine In-N-Out Burger restaurants in California and Texas. The results are reflected in Table 8 and are further documented in Appendix A.

**Table 8. In-N-Out Burger Drive-Through Queuing Data**

City	State	Size (sq ft)	Drive Through Capacity (Vehicles)	Weekday Mid-day Max (Vehicles)	Weekday Mid-day Ave (Vehicles)	Weekday PM Max (Vehicles)	Weekday PM Ave (Vehicles)	Saturday Mid-day Max (Vehicles)	Saturday Mid-day Ave (Vehicles)
Fort Worth	TX	3,750	21	14	12	17	13	15	13
Redwood City	CA	3,750	14	n/a	n/a	16	15	21	20
Rocklin	CA	3,750	13	n/a	n/a	12	8	14	12
Vacaville	CA	3,750	12	n/a	n/a	18	14	29	23
Fairfield	CA	3,750	14	n/a	n/a	17	12	23	17
Long Beach	CA	3,600	16	11	15	12	7	16	13
Los Angeles	CA	3,800	12	20	22	20	16	23	20
Corona	CA	Not Available	14	15	18	24	18	24	20
Highland	CA	Not Available	15	16	18	21	18	22	20
Average		3,736	15	15	17	17	13	21	18
Maximum		3,750	21	20	22	24	18	29	23

As shown in the table, the average maximum queue was 21 vehicles (occurring midday Saturday) with the maximum observed queue at 29 vehicles (also occurred on a Saturday). We note that the Saturday mid-day queue estimate for Vacaville is considerably higher than any other site or time period analyzed.

The proposed site has been designed to maximize on-site queuing space available for customers using the drive through. Two order lines are provided, with the drive through queue merging to one lane before the pick-up window. The drive through is expected to store approximately 24 vehicles within the dedicated drive-through area on-site based on the size and spacing of typical customer vehicles (refer to Figure 2). The results in Table 8 support the on-site queue drive through storage proposed.

Additional temporary queuing area is available on site and drive through queue lines can be provided within the parking area by In-N-Out Burger Associates if needed. It can be expected that opening period peak queues will initially exceed the 24 designated drive-through spaces. Additional assessment of queue storage needs and opportunities will be addressed through a Traffic Management Plan to be prepared for the site (refer to May 2021 memorandum in Appendix A for further details).

### ***Conclusions from Access Evaluation***

As discussed above, the operations and queuing associated with the proposed site plan does not represent any material difference between the scenarios considered nor does it materially change the results associated with the background condition. Accordingly, we conclude that the proposed access scenario is appropriate.

Please let us know if you need any additional information as you review the information presented herein.

### **LIST OF APPENDICES**

- A. May 21, 2021 Transportation Memo
- B. Existing Traffic Counts and COVID-Adjustment Calculations
- C. 2023 Intersection Operations
- D. Crash Data

Appendix A May 21, 2021 Transportation  
Memo



## MEMORANDUM

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Date: May 21, 2021

Project #: 25622-4

To: Jinde Zhu, PE, Washington County  
Jabra Khasho, PE, City of Beaverton  
Avi Tayar, PE & Marcela Rodriguez, PE, Oregon Department of Transportation (ODOT)  
Cassie Yee, In-N-Out Burger

From: Julia Kuhn, PE & Chris Brehmer, PE

Project: In-N-Out Burger – Washington County Site

Subject: Transportation Memo

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In-N-Out Burger is proposing a new restaurant to the northeast of the SW Beaverton Hillsdale Highway/SW 170<sup>th</sup> Avenue intersection in Washington County. Today the site is occupied by a 3,555 square foot Hawaiian Time Restaurant and a 6,043 square foot Azteca Restaurant<sup>1</sup>. The two restaurants are served by three accesses on SW Beaverton Hillsdale Highway and one on SW Laurel Road. As proposed, the two restaurants will be replaced by a 3,885 square foot In-N-Out Burger that is served by two accesses on SW Beaverton Hillsdale Highway, including a right-in-right-out access on the west side of the site and a full movement access on the east side of the site. A gated, emergency only access will be provided via SW Laurel Road.

Based on the change in vehicular trip-making, the redevelopment of the site does not trigger the preparation of an Access Report per Washington County guidelines nor does it meet the traffic volume-based change of use criteria established by Oregon Department of Transportation (ODOT) guidelines that would require preparation of a Traffic Impact Study. To inform the site plan application, this memorandum summarizes the change in vehicular trip-making associated with site redevelopment as well as transportation-related recommendations.

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<sup>1</sup> Existing restaurant sizes provided through the ALTA survey.

## DESCRIPTION OF THE PROPOSED REDEVELOPMENT

Upon redevelopment, the site will be rebuilt to include a 3,885 square foot In-N-Out Burger with indoor and outdoor seating. A drive through lane will be provided on the north side of the building with the capacity to queue 32 vehicles during “typical” conditions and an additional 23 vehicles during high demand periods (representing a 55-car on-site drive through storage area<sup>2</sup>). In addition, 76 vehicular parking spaces will be provided to the east and north of the building. The three existing SW Beaverton Hillsdale Highway accesses will be replaced with one right-in-right-out access near the western boundary of the site and one full access on the eastern boundary of the site. The SW Laurel access will be converted to a gated access that can only be used by emergency vehicles.

As part of a multi-store strategy in the Portland Metro area, occupancy of the new restaurant is anticipated in 2022. The site plan is attached to this memo.

### *Trip Generation Estimates*

The change in the estimated site trip generation was calculated based on rates included in the *Trip Generation Manual, 10<sup>th</sup> Edition* (as published by the Institute of Transportation Engineers, ITE) and a trip generation study performed by Gandddini Group, Inc. on behalf of In-N-Out-Burger.

Table 1 presents the anticipated change in vehicular trip generation using data presented from In-N-Out Burger. In addition, as shown in the table, the restaurants are not during the weekday AM peak hour<sup>3</sup> so no change in weekday AM peak hour trips are anticipated. The In-N-Out rates shown are based on a comparison of the measured vehicular trip making at seven sites in California and Texas. A summary included in Appendix A. *Note that Table 1 does not account for any pass-by trips associated with the restaurants as the analyses focused solely on the change in total site access trips.*

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<sup>2</sup> There is room on-site to provide 23 additional queue spaces in a second temporary queue lane during opening conditions.

<sup>3</sup> <http://www.hawaiiantime.com/locations-1> and <https://www.aztecamex.com/locations/>

**Table 1. Anticipated Site Trip Generation Change\***

Land Use	ITE Code	Size (sq ft)	Total Daily Trips	Weekday PM Peak Hour		
				Total Trips	In	Out
Existing Hawaiian Time Restaurant						
Fast Food	934	3,555	1,674	116	60	56
Existing Azteca						
High Turnover/Sit Down	932	6,043	678	59	37	22
Existing Site Trips			2,352	175	97	78
Proposed In-N-Out						
Fast Food	INO Data	3,885	1,894	162	85	77
Change in Driveway Trips			-458	-13	-12	-1

\*Does not include pass-by trips.

As shown, the total trips (not accounting for any pass-by trip making) is anticipated to decrease on a daily and weekday PM peak hour basis. With the revised site plan, all trips will enter/exit the site via SW Beaverton Hillsdale Highway, which carries more than 2,700 vehicles during the weekday PM peak hour and more than 30,000 vehicles per day.

For a facility carrying this level of traffic, Washington County’s Resolution and Order 86-95 requires preparation of an access report associated with an increase of 500 or more daily trips and/or 10 percent daily trip increase on an adjacent roadway or intersection. Based on a decrease in trip-making, the need for an Access Report is not triggered by site redevelopment.

Further, Oregon Administrative Rule (OAR) 734-051-3020<sup>4</sup> establishes the trip generation thresholds associated with ODOT’s change of use. These include:

*2) Changes of Use Requiring an Application for State Highway Approach. Except as provided under section (5) of this rule, a new application is required for a change of use when any one of the following:*

*(a) The number of peak hour trips increases by fifty (50) trips or more from that of the property’s prior use and the increase represents a twenty (20) percent or greater increase in the number of peak hour trips from that of the property’s prior use; or*

*(b) The average daily trips increases by five hundred (500) trips or more from that of the property’s prior use and the increase represents a twenty (20) percent or greater increase in the average daily trips from that of the property’s prior use; or*

---

<sup>4</sup> [OAR 734-051-3020 - Change of Use of a Private Connection \(2014\) \(public.law\)](#)

*(c) The daily use of a connection increases by ten (10) or more vehicles with a gross vehicle weight rating of twenty-six thousand (26,000) pounds or greater; or*

*(d) ODOT demonstrates that safety or operational concerns related to the connection are occurring as identified in OAR 734-051-4020 (Standards and Criteria for Approval of Private Approaches)(3); or*

*(e) The connection does not meet the stopping sight distance standards, as measured in feet, of ten (10) times the speed limit established in ORS 811.111 (Violating a speed limit) or the designated speed posted under 810.180 (Designation of maximum speeds) for the highway as measured in miles per hour, or ten (10) times the 85th percentile speed of the highway where the 85th percentile speed is higher or lower than the speed limit established in 811.111 (Violating a speed limit) or the designated speed posted under 810.180 (Designation of maximum speeds).*

As noted in Table 1, the redevelopment of the two restaurants as one In-N-Out Burger would result in a decrease in trip-making associated with the two properties. Further, the redevelopment is not anticipated to increase large truck trips to the property (instead, it is possible a reduction could be realized recognizing deliveries to a single restaurant should be fewer in number than the potential deliveries associated with two different restaurants with different supply vendors). As such, we conclude that ODOT's trip generation thresholds are not met per the change in use policy. Further, preliminary review suggests that adequate stopping sight distance should be possible to achieve for the proposed right-turn only west access and the full movement east access per ODOT's Change of Use criteria (e) above.

## TRAFFIC MANAGEMENT PLAN

In-N-Out Burger opens its stores with a carefully crafted Traffic Management Plan (TMP) specific to the surrounding street network, the adjacent land uses, the number of stores in the market, and collaboration with agency staff and emergency service providers. These TMPs are prepared in detail at the time in which opening is anticipated to be sure that they reflect the conditions anticipated when the store will be opened. In-N-Out Burger brings in their "all-star" team to open stores. This team's responsibilities solely lie in traveling to new stores to staff operations during opening conditions and to then train the local staff that will take over once it is appropriate to do so for the market. Off-site traffic management is handled by licensed traffic management firms and/or law enforcement personnel retained by In-N-Out Burger to facilitate opening period operations.

Based on In-N-Out Burger's experience at others stores as well as our experience in developing TMPs for other clients, we propose to address opening period conditions using a Performance Based TMP approach. Specific transportation management actions will be identified for each of the performance metrics and would include specific tactical measures to be implemented by the designated professional traffic control firm, law enforcement personnel or other party identified in the plan.

We propose that the County consider imposing conditions of approval related to the preparation and implementation of a TMP for the site. The County could consider condition language similar to that currently being refined for the proposed City of Hillsboro In-N-Out Burger site. Using key aspects of the draft condition Hillsboro site condition as a template, the condition language might read:

1. *Six months prior to issuance of the certificate of occupancy, the Applicant shall develop and submit a performance-based Traffic Management Plan (TMP) to the Washington County Department of Land Use and Transportation. This TMP shall define performance metrics, management actions, and corresponding triggers related to on-site and access operations and specify a tiered traffic management system that addresses a range of vehicular traffic demands, including opening conditions. The performance metrics shall be defined within the TMP through coordination with Washington County, the Oregon Department of Transportation (ODOT), and City of Beaverton staff to enable evaluation of the objective of ensuring that motor vehicles entering and exiting the site do not queue onto Highway 217, Beaverton-Hillsdale Highway, SW 107<sup>th</sup> Avenue, or SW Laurel Street. The TMP shall consist of traffic control, emergency vehicle accessibility, communication protocols, coordination with emergency responders, permits, the frequency of the traffic observations during operations, metrics on which TMP tier to implement based on the most recent traffic observation, and other needs to address the safety of the adjacent and nearby public roadways with the Washington County, City and ODOT consultation. The TMP shall cover SW Beaverton Hillsdale Highway (SW Lombard Avenue to SW 91<sup>st</sup> Avenue), SW 107<sup>th</sup> Avenue (SW Canyon Road to SW Beaverton-Hillsdale Highway), SW Canyon Road (Highway 217 to SW 91<sup>st</sup> Avenue), and Highway 217 (Walker Road to Denney Road). Compliance to be verified by Washington County Department of Land Use and Transportation.*
2. *Prior to issuance of the Certificate of Occupancy, the applicant shall obtain approval of the performance-based Traffic Management Plan (TMP) from the Washington County Department of Land Use and Transportation. In addition to the County-approved TMP, the applicant shall provide documentation of purchase/renting of temporary traffic control devices and contracts executed with a traffic control contractor to implement the TMP. Compliance to be verified by the Washington County Department of Land Use and Transportation.*
3. *Prior to issuance of the Certificate of Occupancy, the applicant shall implement the County-approved performance-based Traffic Management Plan (TMP).*

## RECOMMENDATIONS

Subject to approval by the Washington County, the primary recommendations of our review of site redevelopment are summarized below.

- Six months prior to issuance of the certificate of occupancy, the Applicant shall develop and submit a performance-based Traffic Management Plan (TMP) to Washington County. This TMP shall define performance metrics, management actions, and corresponding triggers related to on-site and access operations and specify a tiered traffic management system that addresses a range of vehicular traffic demands, including opening conditions. The performance metrics shall be defined within the TMP through coordination with the Washington County, the Oregon Department of Transportation (ODOT), and City of Beaverton staff.
- Prior to issuance of the Certificate of Occupancy, the applicant shall obtain approval of and subsequently implement the County-approved performance-based TMP.
- Site landscaping, above-ground utilities, and site signage should be located and maintained such that they provide minimum required sight lines within the site as well as at the site driveway on SW Laurel Road per applicable Washington County requirements and on SW Beaverton-Hillsdale Highway per applicable Oregon Department of Transportation requirements.

Please let us know if you have any questions regarding our analyses or findings.

## LIST OF APPENDICES

- A. Trip Generation Data

## TECHNCIAL MEMORANDUM

**TO:** Ms. Cassie Yee, Project Manager | IN-N-OUT BURGER

**FROM:** Giancarlo Ganddini, Principal Traffic Engineer | GANDDINI GROUP, INC.

**DATE:** September 14, 2020

**SUBJECT:** In-N-Out Trip Generation Study  
(GGI Project No. 19276)

The purpose of this trip generation study is to determine trip generation rates specific to In-N-Out restaurants and to provide a recommended storage length for the drive-through lane.

### TRIP GENERATION RATE CALCULATIONS

To determine a trip generation rate specific to In-N-Out fast-food restaurants, a new trip count survey was conducted in July 2020 at an In-N-Out in Fort Worth, Texas as shown in Figure 1. The new trip count survey data was combined with other historic trip count survey data previously collected at various locations in Northern and Southern California to derive the average trip generation rates. These restaurant locations were selected as survey sites because they are generally comparable to the proposed project in terms of the building size, site configuration, and typical operations. In total, the survey sites used as the basis for calculating average trip generation rates include the following seven existing In-N-Out restaurant locations:

- Fort Worth, TX – 4620 South Hulen Street, Fort Worth, TX 76132
- Redwood City, CA – 949 Veterans Boulevard, Redwood City, CA 94063
- Rocklin, CA – 5490 Crossings Drive, Rocklin, CA 95677
- Vacaville, CA – 170 Nut Tree Parkway, Vacaville, CA 95687
- Fairfield, CA – 1364 Holiday Lane, Fairfield, CA 94534
- Long Beach, CA – 6391 East Pacific Coast Highway, Long Beach, CA 90815
- Los Angeles, CA – 9149 South Sepulveda Boulevard, CA 90045

The new trip generation surveys were collected one hour before and one hour after store hours of operation (9:30 AM - 2:00 AM) on a Thursday and Saturday. The peak hour trip generation data used in this analysis has been taken from the highest hour within the weekday PM peak period (4:00 PM to 7:00 PM) and Saturday mid-day peak period (11:00 AM to 4:00 PM). The weekday PM peak hour was observed to occur from 5:45 PM to 6:45 PM and the Saturday mid-day peak hour was observed to occur from 12:15 PM to 1:15 PM. AM peak period data are not presented because In-N-Out restaurants do not serve breakfast and will not be operational during the typical AM commute peak period from 7:00 AM - 9:00 AM. Although the new trip count survey was conducted during the COVID-19 pandemic, the trip count results are within the range of trips observed by the historical trip counts at other locations prior to the pandemic. Detailed traffic count worksheets and trip generation calculations are contained in Appendix A.

Table 2 summarizes the In-N-Out trip generation survey data. As shown in Table 2, the surveyed In-N-Out trip rates are higher than standard trip rates for “fast-food restaurant with drive through window” that are published in the Institute of Transportation Engineer (ITE) [Trip Generation Manual](#) (10th Edition, 2017), with

exception of the Saturday daily rate. Therefore, it is more conservative to utilize the surveyed In-N-Out trip rates to estimate the proposed project trip generation forecasts, with exception of the Saturday daily rate that is slightly lower than the ITE Saturday daily trip rate.

## **DRIVE-THROUGH LANE QUEUEING ASSESSMENT**

The drive-through lane queue assessment provides a recommended storage capacity for the drive through lane based on the average peak queue lengths observed from new and historic surveys of comparable In-N-Out sites. In addition to the seven locations used for the trip generation surveys, historic drive through queue data was available at the following two additional locations and included in this analysis for a total of nine survey locations for the drive through queueing assessment:

- Corona, CA – 2305 Compton Avenue, Corona, CA 92881
- Highland, CA – 28009 Greenspot Road, Highland, CA 92346

The drive-through vehicular queues were observed and documented in 15-minute intervals from 5:00 PM to 7:00 PM on a typical weekday and from 12:00 PM to 2:00 PM on a typical Saturday; based on the trip generation data, these survey windows capture the periods of peak demand. Appendix A includes the drive-through lane queueing survey data.

Table 2 summarizes the peak drive-through lane queue lengths observed at the nine In-N-Out survey locations. As shown in Table 2, the average peak drive through queue length is 15 vehicles on a weekday and 16 vehicles on Saturday.

Based on the surveyed average peak queue length, a minimum storage capacity of 16 vehicles for the drive-through lane is recommended for the proposed In-N-Out projects to accommodate the average queue length during peak lunch and dinner periods. As shown on Figure 2, the drive through queue may occasionally exceed the drive through lane storage capacity by 1-3 vehicles during the weekday and Saturday peak lunch hours; however, more than adequate drive through storage capacity would be provided during the remaining non-peak hours of operation. It is recommended that the proposed project utilize a floating menu/ordering staff during the peak periods to help minimize the drive-through queue.

## **CONCLUSION**

It is recommended that In-N-Out projects utilize the surveyed In-N-Out trip rates to estimate the proposed project trip generation forecasts, with exception of the Saturday daily rate that is slightly lower than the ITE Saturday daily trip rate.

A minimum storage capacity of 16 vehicles for the drive-through lane is recommended for In-N-Out projects. It is also recommended that the proposed project utilize a floating menu/ordering staff during the peak periods to help minimize the drive-through queue.

Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.



**Table 1  
In-N-Out Site Survey and Average Trip Generation Rate Calculations**

Surveyed Trips										
Survey Site Location			Weekday PM Peak			Weekday Daily	Saturday Mid-Day			Saturday Daily
No.	City	Size <sup>1</sup>	In	Out	Total		In	Out	Total	
1	Fort Worth, TX <sup>2</sup>	3.750 TSF	86	83	169	1,984	112	102	214	2,046
2	Redwood City, CA <sup>3</sup>	3.750 TSF	66	75	141	2,225	152	149	301	2,929
3	Rocklin, CA <sup>3</sup>	3.750 TSF	84	75	159	1,720	88	96	184	1,761
4	Vacaville, CA <sup>3</sup>	3.750 TSF	87	65	152	1,879	94	103	197	2,244
5	Fairfield, CA <sup>3</sup>	3.750 TSF	75	57	132	1,662	105	103	208	2,081
6	Long Beach, CA <sup>3</sup>	3.600 TSF	69	73	142	n/a	121	114	235	n/a
7	Los Angeles, CA <sup>3</sup>	3.800 TSF	127	111	238	n/a	224	200	424	n/a
Average Surveyed Trips		3.736 TSF	85	77	162	1,894	128	124	252	2,212

Surveyed Site Trip Rates										
Survey Site Location			Weekday PM Peak			Weekday Daily	Saturday Mid-Day			Saturday Daily
No.	City	Size <sup>1</sup>	In	Out	Total		In	Out	Total	
1	Fort Worth, TX <sup>2</sup>	3.750 TSF	22.93	22.13	45.06	529.07	29.87	27.20	57.07	545.60
2	Redwood City, CA <sup>3</sup>	3.750 TSF	17.60	20.00	37.60	593.33	40.53	39.73	80.26	781.07
3	Rocklin, CA <sup>3</sup>	3.750 TSF	22.40	20.00	42.40	458.67	23.47	25.60	49.07	469.60
4	Vacaville, CA <sup>3</sup>	3.750 TSF	23.20	17.33	40.53	501.07	25.07	27.47	52.54	598.40
5	Fairfield, CA <sup>3</sup>	3.750 TSF	20.00	15.20	35.20	443.20	28.00	27.47	55.47	554.93
6	Long Beach, CA <sup>3</sup>	3.600 TSF	19.17	20.28	39.45	n/a	33.61	31.67	65.28	n/a
7	Los Angeles, CA <sup>3</sup>	3.800 TSF	33.42	29.21	62.63	n/a	58.95	52.63	111.58	n/a
Average Surveyed Trip Rates		3.736 TSF	22.67	20.59	43.26	505.07	34.21	33.11	67.32	589.92
Typical Fast-Food Restaurant with Drive-Thru Window (ITE 934) <sup>4</sup>		TSF	16.99	15.68	32.67	470.95	26.47	28.68	55.15	616.12
Difference			+5.68	+4.91	+10.59	+34.12	+7.74	+4.43	+12.17	-26.20
Percent Difference			33%	31%	32%	7%	29%	15%	22%	-4%

Notes:

- (1) TSF = Thousand Square Feet
- (2) 2020 survey conducted at In-N-Out located at 4620 South Hulen Street, Fort Worth, TX.
- (3) Historic survey conducted at various In-N-Out locations in California.
- (4) ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017; XXX = Land Use Code

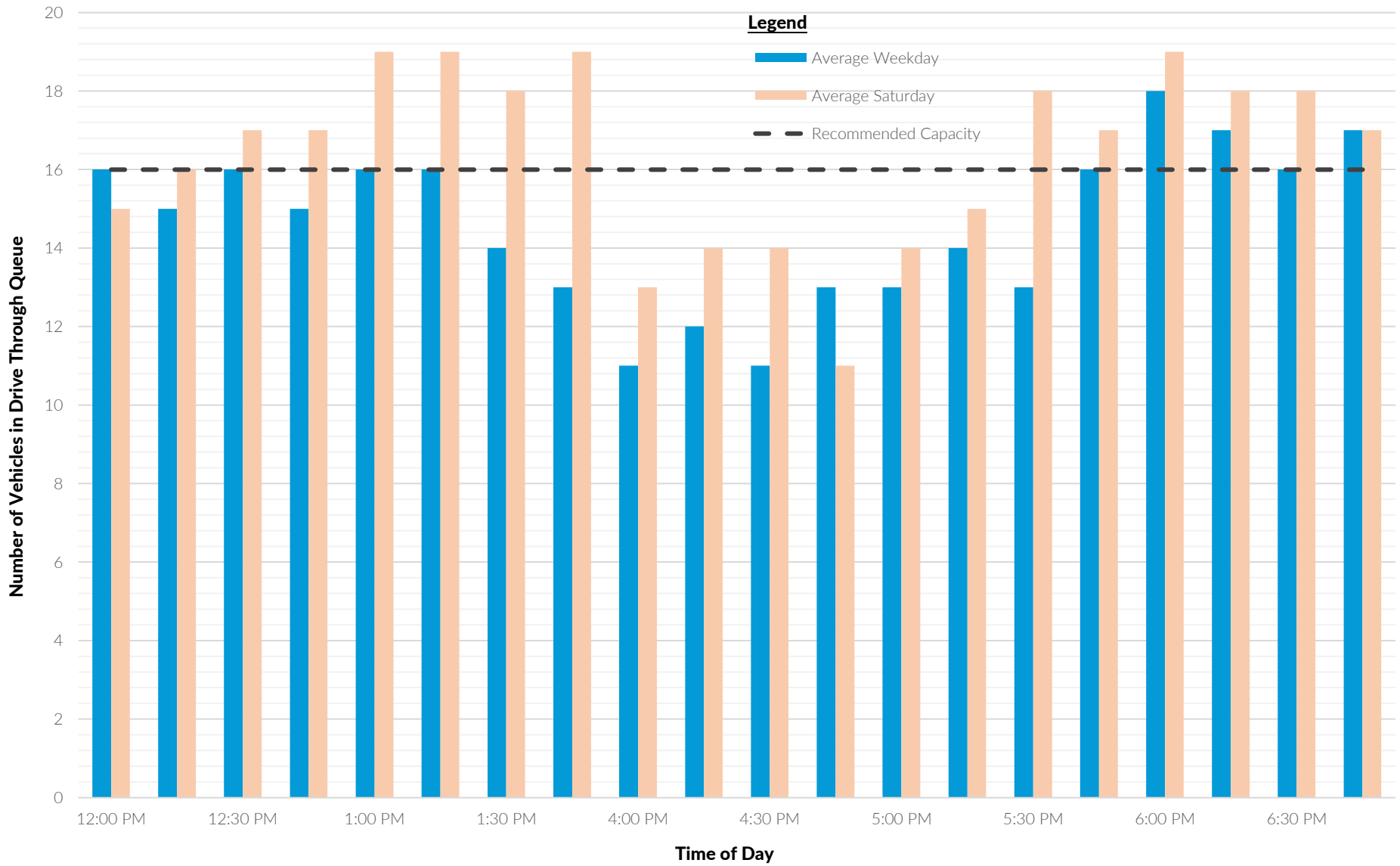
n/a = not available

**Table 2**  
**Survey Site Drive-Through Queue Summary**

Time Period	Peak Number of Vehicles in Drive Through Queue																			
	1 - Fort Worth, TX		2 - Redwood City		3 - Rocklin		4 - Vacaville		5 - Fairfield		6 - Long Beach		7 - Los Angeles		8 - Corona		9 - Highland		Average	
	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday
12:00 PM - 12:15 PM	11	12		18		10		20		13	15	16	20	20	15	13	18	16	16	15
12:15 PM - 12:30 PM	12	10		21		13		19		18	15	14	18	16	14	16	18	20	15	16
12:30 PM - 12:45 PM	14	10		20		12		15		17	13	16	21	20	13	20	17	20	16	17
12:45 PM - 1:00 PM	14	13		18		11		23		18	8	10	19	20	14	22	18	21	15	17
1:00 PM - 1:15 PM	10	14		21		12		22		23	12	15	22	23	16	22	18	18	16	19
1:15 PM - 1:30 PM	12	15		20		14		28		17	13	16	21	22	18	23	14	20	16	19
1:30 PM - 1:45 PM	13	14		19		13		27		15	8	10	20	20	17	24	13	20	14	18
1:45 PM - 2:00 PM	11	15		21		12		29		18	7	9	20	20	14	23	13	22	13	19
4:00 PM - 4:15 PM			14		5		11		5		6	8	17	10	15	18	15	14	11	13
4:15 PM - 4:30 PM			16		8		14		8		5	10	15	14	11	16	16	15	12	14
4:30 PM - 4:45 PM			16		7		16		9		3	8	12	18	9	16	14	14	11	14
4:45 PM - 5:00 PM			15		6		17		16		6	5	10	8	15	16	17	15	13	11
5:00 PM - 5:15 PM	12	15	14		8		13		17		5	9	9	8	18	23	19	15	13	14
5:15 PM - 5:30 PM	11	15	14		9		11		16		7	10	14	9	21	24	19	18	14	15
5:30 PM - 5:45 PM	11	15	15		11		13		8		7	10	17	20	16	24	18	22	13	18
5:45 PM - 6:00 PM	16	17	15		12		18		17		5	9	19	19	18	23	21	17	16	17
6:00 PM - 6:15 PM	16	22									12	13	20	20	23	18	21	23	18	19
6:15 PM - 6:30 PM	17	20									7	9	19	19	24	23	19	19	17	18
6:30 PM - 6:45 PM	10	16									10	10	20	20	24	23	18	19	16	18
6:45 PM - 7:00 PM	13	13									12	14	18	18	23	20	17	19	17	17
Maximum	17	22	16	21	12	14	18	29	17	23	15	16	22	23	24	24	21	23	18	19
85th Percentile	15.5	16.8	16.0	21.0	10.9	13.0	17.0	28.0	17.0	18.0	13.0	15.2	20.2	20.0	23.0	23.2	19.0	21.2	16.2	19.0
Average	12.7	14.8	14.9	19.8	8.3	12.1	14.1	22.9	12.0	17.4	8.8	11.1	17.6	17.2	16.9	20.4	17.2	18.4	14.6	16.4



**Figure 1**  
**Survey Site Location - 4620 South Hulen Street, Fort Worth, TX**



**Figure 2**  
Average Drive-Through Queue

**APPENDIX A**  
**IN-N-OUT SITE SURVEY DATA**

**Weekday Trip Count Summary**

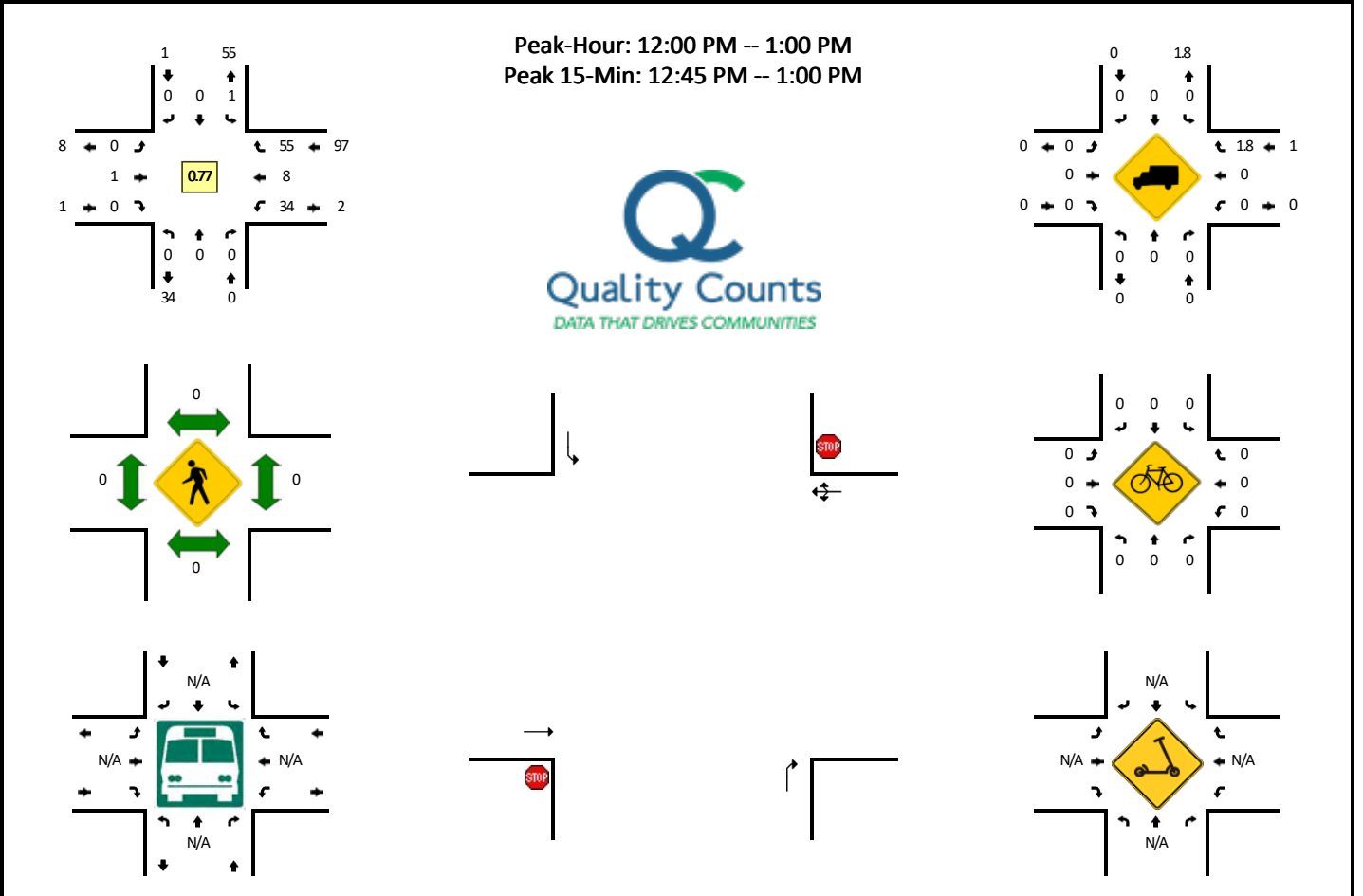
Time Period	Thursday (7/9/20)							Hourly Total
	North Driveway		South Driveway		Both Driveways			
	In	Out	In	Out	In	Out	Total	
9:30 AM	0	0	0	0	0	0	0	13
9:45 AM	0	0	2	1	2	1	3	30
10:00 AM	0	2	2	0	2	2	4	51
10:15 AM	0	2	4	0	4	2	6	79
10:30 AM	0	4	11	2	11	6	17	109
10:45 AM	0	7	16	1	16	8	24	146
11:00 AM	2	12	15	3	17	15	32	174
11:15 AM	0	17	18	1	18	18	36	190
11:30 AM	3	17	26	8	29	25	54	215
11:45 AM	1	24	23	4	24	28	52	216
12:00 PM	0	22	24	2	24	24	48	221
12:15 PM	0	24	33	4	33	28	61	216
12:30 PM	1	20	27	7	28	27	55	200
12:45 PM	1	31	23	2	24	33	57	196
1:00 PM	1	14	23	5	24	19	43	200
1:15 PM	0	15	24	6	24	21	45	208
1:30 PM	0	23	25	3	25	26	51	200
1:45 PM	2	24	26	9	28	33	61	199
2:00 PM	0	20	29	2	29	22	51	178
2:15 PM	2	20	14	1	16	21	37	161
2:30 PM	0	16	24	10	24	26	50	157
2:45 PM	1	17	16	6	17	23	40	142
3:00 PM	1	13	18	2	19	15	34	130
3:15 PM	1	17	14	1	15	18	33	132
3:30 PM	1	17	15	2	16	19	35	124
3:45 PM	0	9	15	4	15	13	28	110
4:00 PM	1	16	16	3	17	19	36	109
4:15 PM	1	13	10	1	11	14	25	102
4:30 PM	0	9	9	3	9	12	21	109
4:45 PM	1	7	16	3	17	10	27	126
5:00 PM	1	10	18	0	19	10	29	142
5:15 PM	2	14	14	2	16	16	32	162
5:30 PM	0	16	17	5	17	21	38	166
5:45 PM	0	16	24	3	24	19	43	169
6:00 PM	1	19	25	4	26	23	49	165
6:15 PM	1	15	17	3	18	18	36	143
6:30 PM	0	18	18	5	18	23	41	146
6:45 PM	0	13	19	7	19	20	39	150
7:00 PM	1	13	13	0	14	13	27	146
7:15 PM	0	17	14	8	14	25	39	159
7:30 PM	0	15	27	3	27	18	45	152
7:45 PM	1	17	15	2	16	19	35	142
8:00 PM	1	14	16	9	17	23	40	145
8:15 PM	0	13	16	3	16	16	32	134
8:30 PM	0	10	22	3	22	13	35	129
8:45 PM	1	19	15	3	16	22	38	117
9:00 PM	0	13	14	2	14	15	29	97
9:15 PM	0	10	12	5	12	15	27	88
9:30 PM	0	8	12	3	12	11	23	78
9:45 PM	0	6	12	0	12	6	18	76
10:00 PM	0	13	6	1	6	14	20	75
10:15 PM	0	5	12	0	12	5	17	76
10:30 PM	0	11	7	3	7	14	21	90
10:45 PM	0	4	12	1	12	5	17	90
11:00 PM	0	9	8	4	8	13	21	92
11:15 PM	0	11	16	4	16	15	31	81
11:30 PM	0	13	8	0	8	13	21	63
11:45 PM	0	9	7	3	7	12	19	52
12:00 AM	0	3	6	1	6	4	10	46
12:15 AM	0	7	6	0	6	7	13	39
12:30 AM	0	5	5	0	5	5	10	28
12:45 AM	0	8	5	0	5	8	13	23
1:00 AM	0	2	1	0	1	2	3	10
1:15 AM	0	0	1	1	1	1	2	-
1:30 AM	0	2	1	2	1	4	5	-
1:45 AM	0	0	0	0	0	0	0	-
<b>TOTAL</b>	<b>29</b>	<b>810</b>	<b>959</b>	<b>186</b>	<b>988</b>	<b>996</b>	<b>1984</b>	<b>-</b>
<b>Trip Generation Summary</b>					<b>In</b>	<b>Out</b>	<b>Total</b>	
Mid-Day Peak Hour (12:00 PM - 1:00 PM)					109	112	221	
PM Peak Hour (5:45 PM - 6:45 PM)					86	83	169	
Daily					-	-	1984	

Note:

Mid-Day peak hour taken between 11:00 AM - 4:00 PM and PM peak hour taken between 4:00 PM - 7:00 PM.

**LOCATION:** Mall Loop -- North In & Out Dwy  
**CITY/STATE:** Fort Worth, TX

**QC JOB #:** 15248613  
**DATE:** Thu, Jul 9 2020



15-Min Count Period Beginning At	Mall Loop (Northbound)				Mall Loop (Southbound)				North In & Out Dwy (Eastbound)				North In & Out Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	4	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4	0	7	
11:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	4	0	8	0	14	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	5	4	8	0	17	
11:30 AM	0	0	0	0	2	0	0	0	0	0	1	0	3	0	14	0	20	
11:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	8	1	15	0	25	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	1	15	0	22	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	11	3	10	0	24	
12:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	7	2	11	0	21	
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	10	2	19	0	32	
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	6	1	7	0	15
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	1	9	0	15	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	3	14	0	23	
1:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	9	2	13	0	26	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	9	1	10	0	20	
2:15 PM	0	0	0	0	1	0	0	0	0	0	1	0	8	0	12	0	22	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	2	10	0	16	
2:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	6	1	10	0	18	
3:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	5	0	8	0	14	
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	6	0	11	0	18	
3:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	7	0	10	0	18	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	5	0	9	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	8	0	8	0	17	
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	6	1	6	0	14	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	1	4	0	9	
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	6	0	8	
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	5	0	5	0	11	
5:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	5	0	9	0	16	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	16	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	1	8	0	16	
6:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	8	0	11	0	20	
6:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	8	0	7	0	16	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	3	9	0	18	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	1	7	0	13	

15-Min Count Period Beginning At	Mall Loop (Northbound)				Mall Loop (Southbound)				North In & Out Dwy (Eastbound)				North In & Out Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	7	1	5	0	14	61
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	1	10	0	17	62
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	3	7	0	15	59
7:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	6	4	7	0	18	64
8:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	5	0	9	0	15	65
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	0	6	0	13	61
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	1	2	0	10	56
8:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	12	0	7	0	20	58
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	1	6	0	13	56
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	0	3	0	10	53
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	8	51
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	1	1	0	6	37
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	10	0	3	0	13	37
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	5	32
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	5	0	11	35
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	4	33
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	1	2	0	9	29
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	3	0	11	35
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	10	0	3	0	13	37
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	0	2	0	9	42
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3	36
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	0	7	32
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	0	5	24
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	8	23
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	22
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	12
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	0	0	0	4	0	0	40	8	76	0	128	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
<i>Comments:</i>																		

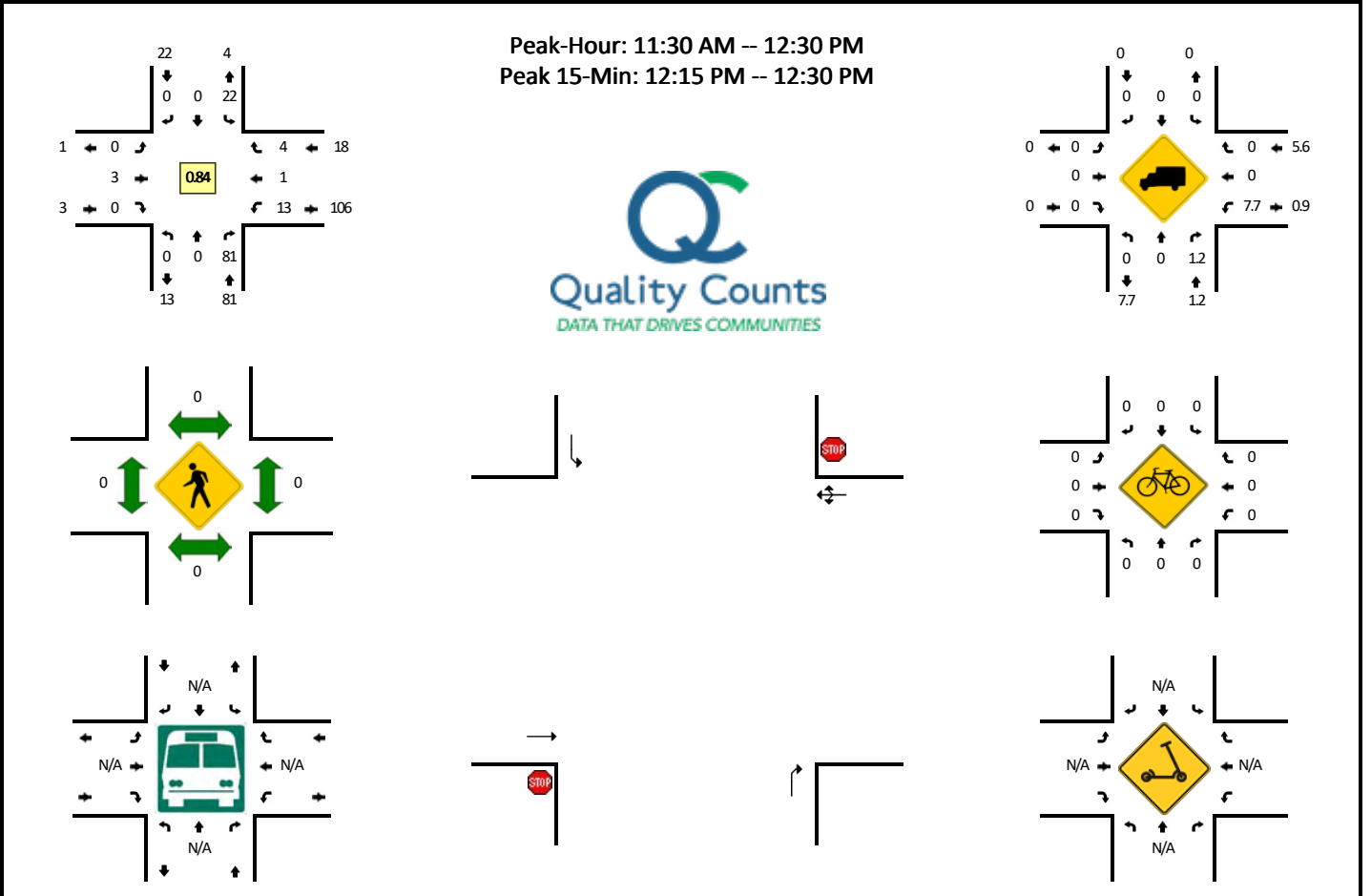
Report generated on 7/21/2020 1:58 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212



**LOCATION:** Mall Loop -- South In & Out Dwy  
**CITY/STATE:** Fort Worth, TX

**QC JOB #:** 15248615  
**DATE:** Thu, Jul 9 2020



15-Min Count Period Beginning At	Mall Loop (Northbound)				Mall Loop (Southbound)				South In & Out Dwy (Eastbound)				South In & Out Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	3	
10:00 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
10:15 AM	0	0	2	0	1	0	0	0	0	1	0	0	0	0	0	0	4	
10:30 AM	0	0	8	0	3	0	0	0	0	0	0	0	1	0	1	0	13	
10:45 AM	0	0	12	0	4	0	0	0	0	0	0	0	0	0	1	0	17	
11:00 AM	0	0	15	0	0	0	0	0	0	0	0	0	1	0	2	0	18	
11:15 AM	0	0	17	0	1	0	0	0	0	0	0	0	1	0	0	0	19	
11:30 AM	0	0	17	0	7	0	0	0	0	2	0	0	7	1	0	0	34	
11:45 AM	0	0	16	0	6	0	0	0	0	1	0	0	4	0	0	0	27	
12:00 PM	0	0	21	0	3	0	0	0	0	0	0	0	1	0	1	0	26	
12:15 PM	0	0	27	0	6	0	0	0	0	0	0	0	1	0	3	0	37	
12:30 PM	0	0	22	0	3	0	0	0	0	2	0	0	7	0	0	0	34	
12:45 PM	0	0	19	0	4	0	0	0	0	0	0	0	2	0	0	0	25	
1:00 PM	0	0	18	0	5	0	0	0	0	0	0	0	4	0	1	0	28	
1:15 PM	0	0	22	0	2	0	0	0	0	0	0	0	5	0	1	0	30	
1:30 PM	0	0	23	0	2	0	0	0	0	0	0	0	2	0	1	0	28	
1:45 PM	0	0	21	0	5	0	0	0	0	0	0	0	7	1	1	0	35	
2:00 PM	0	0	26	0	3	0	0	0	0	0	0	0	2	0	0	0	31	
2:15 PM	0	0	11	0	3	0	0	0	0	0	0	0	1	0	0	0	15	
2:30 PM	0	0	22	0	2	0	0	0	0	0	0	0	7	0	3	0	34	
2:45 PM	0	0	14	0	2	0	0	0	0	0	0	0	5	1	0	0	22	
3:00 PM	0	0	15	0	3	0	0	0	0	0	0	0	1	0	1	0	20	
3:15 PM	0	0	13	0	1	0	0	0	0	0	0	0	1	0	0	0	15	
3:30 PM	0	0	13	0	2	0	0	0	0	0	0	0	1	1	0	0	17	
3:45 PM	0	0	13	0	2	0	0	0	0	0	0	0	2	0	2	0	19	
4:00 PM	0	0	13	0	3	0	0	0	0	0	0	0	2	0	1	0	19	
4:15 PM	0	0	5	0	5	0	0	0	0	0	0	0	1	0	0	0	11	
4:30 PM	0	0	7	0	1	0	0	0	0	1	0	0	3	0	0	0	12	
4:45 PM	0	0	12	0	4	0	0	0	0	0	0	0	3	0	0	0	19	
5:00 PM	0	0	13	0	5	0	0	0	0	0	0	0	0	0	0	0	18	
5:15 PM	0	0	12	0	2	0	0	0	0	0	0	0	1	0	1	0	16	
5:30 PM	0	0	13	0	4	0	0	0	0	0	0	0	4	0	1	0	22	
5:45 PM	0	0	22	0	0	0	0	0	0	2	0	0	1	1	1	0	27	
6:00 PM	0	0	24	0	0	0	0	0	0	1	0	0	2	0	2	0	29	
6:15 PM	0	0	16	0	0	0	0	0	0	1	0	0	2	0	1	0	20	
6:30 PM	0	0	16	0	2	0	0	0	0	0	0	0	4	0	1	0	23	
6:45 PM	0	0	16	0	3	0	0	0	0	0	0	0	5	1	1	0	26	

15-Min Count Period Beginning At	Mall Loop (Northbound)				Mall Loop (Southbound)				South In & Out Dwy (Eastbound)				South In & Out Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 PM	0	0	11	0	2	0	0	0	0	0	0	0	0	0	0	0	13	82
7:15 PM	0	0	11	0	3	0	0	0	0	0	0	0	7	0	1	0	22	84
7:30 PM	0	0	24	0	3	0	0	0	0	0	0	0	2	0	1	0	30	91
7:45 PM	0	0	13	0	2	0	0	0	0	0	0	0	2	0	0	0	17	82
8:00 PM	0	0	12	0	4	0	0	0	0	0	0	0	8	1	0	0	25	94
8:15 PM	0	0	15	0	1	0	0	0	0	0	0	0	2	1	0	0	19	91
8:30 PM	0	0	18	0	4	0	0	0	0	0	0	0	2	0	1	0	25	86
8:45 PM	0	0	14	0	0	0	0	0	0	1	0	0	2	1	0	0	18	87
9:00 PM	0	0	13	0	1	0	0	0	0	0	0	0	1	0	1	0	16	78
9:15 PM	0	0	7	0	5	0	0	0	0	0	0	0	4	0	1	0	17	76
9:30 PM	0	0	10	0	1	0	0	0	0	1	0	0	1	0	2	0	15	66
9:45 PM	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12	60
10:00 PM	0	0	5	0	1	0	0	0	0	0	0	0	0	1	0	0	7	51
10:15 PM	0	0	9	0	3	0	0	0	0	0	0	0	0	0	0	0	12	46
10:30 PM	0	0	6	0	1	0	0	0	0	0	0	0	2	0	1	0	10	41
10:45 PM	0	0	8	0	4	0	0	0	0	0	0	0	1	0	0	0	13	42
11:00 PM	0	0	7	0	1	0	0	0	0	0	0	0	3	0	1	0	12	47
11:15 PM	0	0	11	0	5	0	0	0	0	0	0	0	4	0	0	0	20	55
11:30 PM	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	53
11:45 PM	0	0	6	0	1	0	0	0	0	0	0	0	3	0	0	0	10	50
12:00 AM	0	0	5	0	1	0	0	0	0	0	0	0	1	0	0	0	7	45
12:15 AM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	31
12:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	28
12:45 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	23
1:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	17
1:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	13
1:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	3	11
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	108	0	24	0	0	0	0	0	0	0	4	0	12	0	148	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
<i>Comments:</i>																		

Report generated on 7/21/2020 1:58 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**Saturday Trip Count Summary**

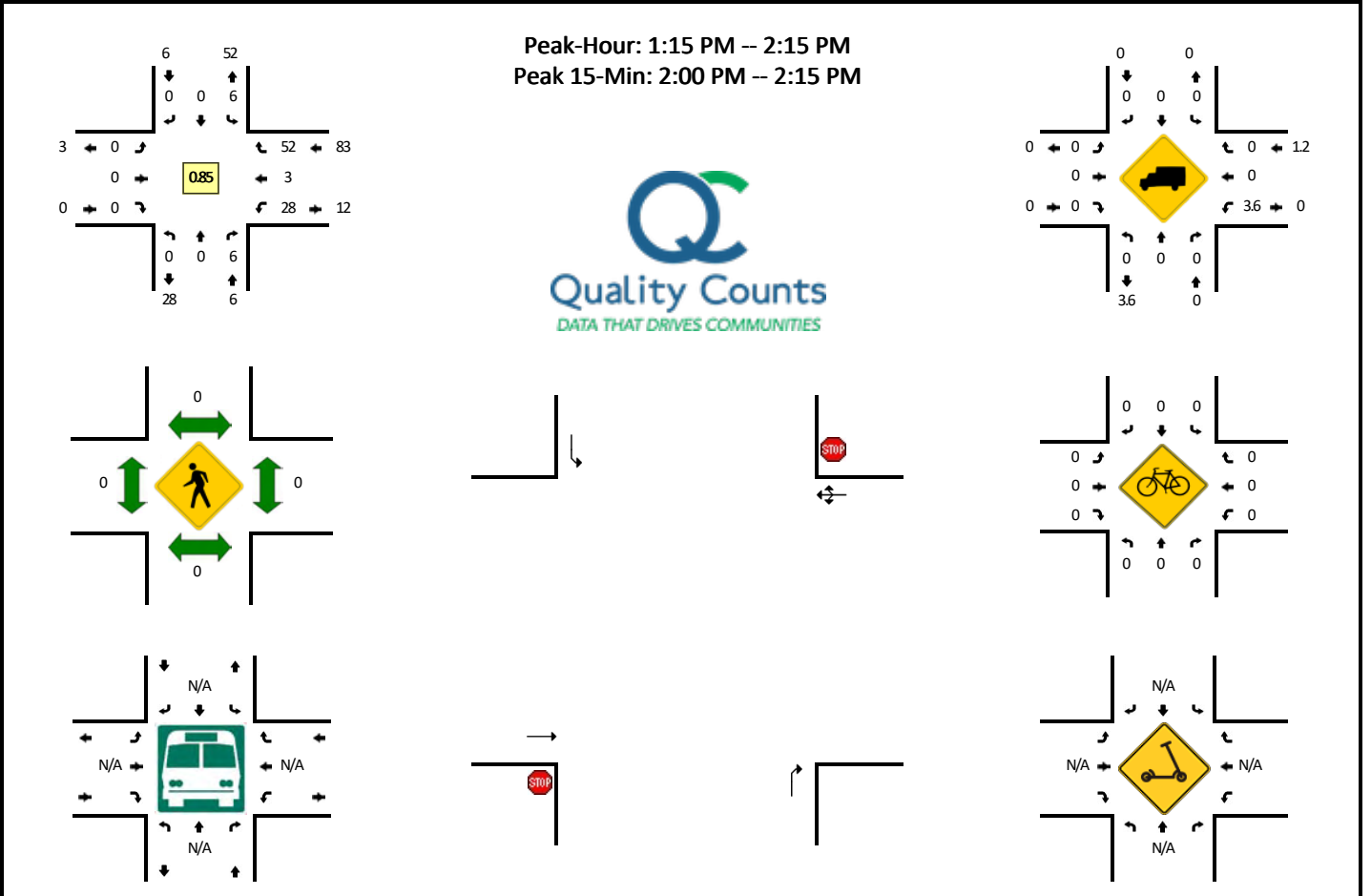
Time Period	Saturday (7/11/20)							Hourly Total
	North Driveway		South Driveway		Both Driveways			
	In	Out	In	Out	In	Out	Total	
9:30 AM	0	1	1	0	1	1	2	22
9:45 AM	0	2	3	0	3	2	5	27
10:00 AM	0	1	2	1	2	2	4	36
10:15 AM	0	3	5	3	5	6	11	71
10:30 AM	0	2	4	1	4	3	7	92
10:45 AM	2	2	8	2	10	4	14	125
11:00 AM	1	8	22	8	23	16	39	159
11:15 AM	0	17	14	1	14	18	32	168
11:30 AM	0	15	21	4	21	19	40	187
11:45 AM	2	19	23	4	25	23	48	203
12:00 PM	0	20	27	1	27	21	48	212
12:15 PM	1	21	25	4	26	25	51	214
12:30 PM	3	22	25	6	28	28	56	203
12:45 PM	0	19	32	6	32	25	57	186
1:00 PM	5	18	21	6	26	24	50	181
1:15 PM	3	21	13	3	16	24	40	176
1:30 PM	3	15	18	3	21	18	39	177
1:45 PM	2	23	25	2	27	25	52	183
2:00 PM	4	24	14	3	18	27	45	171
2:15 PM	0	17	18	6	18	23	41	181
2:30 PM	1	19	19	6	20	25	45	180
2:45 PM	1	16	19	4	20	20	40	175
3:00 PM	3	19	29	4	32	23	55	182
3:15 PM	3	16	14	7	17	23	40	155
3:30 PM	3	19	16	2	19	21	40	157
3:45 PM	3	15	20	9	23	24	47	156
4:00 PM	3	13	12	0	15	13	28	153
4:15 PM	0	19	20	3	20	22	42	175
4:30 PM	1	14	19	5	20	19	39	173
4:45 PM	4	12	21	7	25	19	44	180
5:00 PM	4	16	22	8	26	24	50	173
5:15 PM	1	14	18	7	19	21	40	156
5:30 PM	3	20	16	7	19	27	46	151
5:45 PM	4	15	15	3	19	18	37	150
6:00 PM	1	12	17	3	18	15	33	144
6:15 PM	2	11	17	5	19	16	35	156
6:30 PM	2	21	16	6	18	27	45	157
6:45 PM	1	14	15	1	16	15	31	139
7:00 PM	1	18	21	5	22	23	45	128
7:15 PM	0	18	16	2	16	20	36	116
7:30 PM	0	12	13	2	13	14	27	108
7:45 PM	0	6	11	3	11	9	20	114
8:00 PM	0	13	16	4	16	17	33	125
8:15 PM	0	11	16	1	16	12	28	122
8:30 PM	0	10	16	7	16	17	33	118
8:45 PM	2	13	15	1	17	14	31	109
9:00 PM	1	10	15	4	16	14	30	106
9:15 PM	0	16	6	2	6	18	24	104
9:30 PM	0	9	15	0	15	9	24	116
9:45 PM	0	12	14	2	14	14	28	119
10:00 PM	0	10	15	3	15	13	28	118
10:15 PM	0	13	16	7	16	20	36	112
10:30 PM	0	12	12	3	12	15	27	99
10:45 PM	0	13	14	0	14	13	27	100
11:00 PM	0	10	10	2	10	12	22	85
11:15 PM	0	14	9	0	9	14	23	71
11:30 PM	0	13	12	3	12	16	28	59
11:45 PM	0	6	4	2	4	8	12	41
12:00 AM	0	0	5	3	5	3	8	40
12:15 AM	0	0	10	1	10	1	11	45
12:30 AM	0	0	7	3	7	3	10	42
12:45 AM	0	4	6	1	6	5	11	36
1:00 AM	0	6	6	1	6	7	13	26
1:15 AM	0	6	2	0	2	6	8	-
1:30 AM	0	2	2	0	2	2	4	-
1:45 AM	0	1	0	0	0	1	1	-
<b>TOTAL</b>	<b>70</b>	<b>813</b>	<b>950</b>	<b>213</b>	<b>1020</b>	<b>1026</b>	<b>2046</b>	<b>-</b>
<b>Trip Generation Summary</b>					<b>In</b>	<b>Out</b>	<b>Total</b>	
Mid-Day Peak Hour (12:15 PM - 1:15 PM)					112	102	214	
Daily					-	-	2046	

Note:

Mid-Day peak hour taken between 11:00 AM - 4:00 PM.

**LOCATION:** Mall Loop -- North In & Out Dwy  
**CITY/STATE:** Fort Worth, TX

**QC JOB #:** 15248614  
**DATE:** Sat, Jul 11 2020



15-Min Count Period Beginning At	Mall Loop (Northbound)				Mall Loop (Southbound)				North In & Out Dwy (Eastbound)				North In & Out Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	7
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	8
10:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	4	10
11:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	4	0	4	0	9	18
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	5	1	11	0	17	32
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	11	0	15	45
11:45 AM	0	0	1	0	0	0	0	0	0	0	1	0	8	0	11	0	21	62
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	14	0	20	73
12:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	5	1	15	0	22	78
12:30 PM	0	0	1	0	2	0	0	0	0	0	0	0	8	0	14	0	25	88
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	1	13	0	19	86
1:00 PM	0	0	2	0	3	0	0	0	0	0	0	0	7	1	10	0	23	89
1:15 PM	0	0	3	0	0	0	0	0	0	0	0	0	8	0	13	0	24	91
1:30 PM	0	0	1	0	2	0	0	0	0	0	0	0	6	1	8	0	18	84
1:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	6	1	16	0	25	90
2:00 PM	0	0	1	0	3	0	0	0	0	0	0	0	8	1	15	0	28	95
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	0	10	0	17	88
2:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	7	2	10	0	20	90
2:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	6	0	10	0	17	82
3:00 PM	0	0	1	0	2	0	0	0	0	0	0	0	6	2	11	0	22	76
3:15 PM	0	0	1	0	1	0	0	0	0	0	1	0	6	0	10	0	19	78
3:30 PM	0	0	0	0	2	0	0	0	0	0	1	0	8	0	11	0	22	80
3:45 PM	0	0	1	0	2	0	0	0	0	0	0	0	5	0	10	0	18	81
4:00 PM	0	0	0	0	1	0	0	0	0	0	2	0	6	0	7	0	16	75
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	11	0	19	75
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	3	1	10	0	15	68
4:45 PM	0	0	1	0	3	0	0	0	0	0	0	0	2	1	9	0	16	66
5:00 PM	0	0	2	0	2	0	0	0	0	0	0	0	5	1	10	0	20	70
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	8	2	4	0	15	66
5:30 PM	0	0	1	0	1	0	0	0	0	0	1	0	6	1	13	0	23	74
5:45 PM	0	0	0	0	2	0	0	0	0	0	2	0	5	1	9	0	19	77
6:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	6	0	6	0	13	70
6:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	3	1	7	0	13	68
6:30 PM	0	0	0	0	1	0	0	0	0	0	1	0	11	1	9	0	23	68
6:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	3	1	10	0	15	64

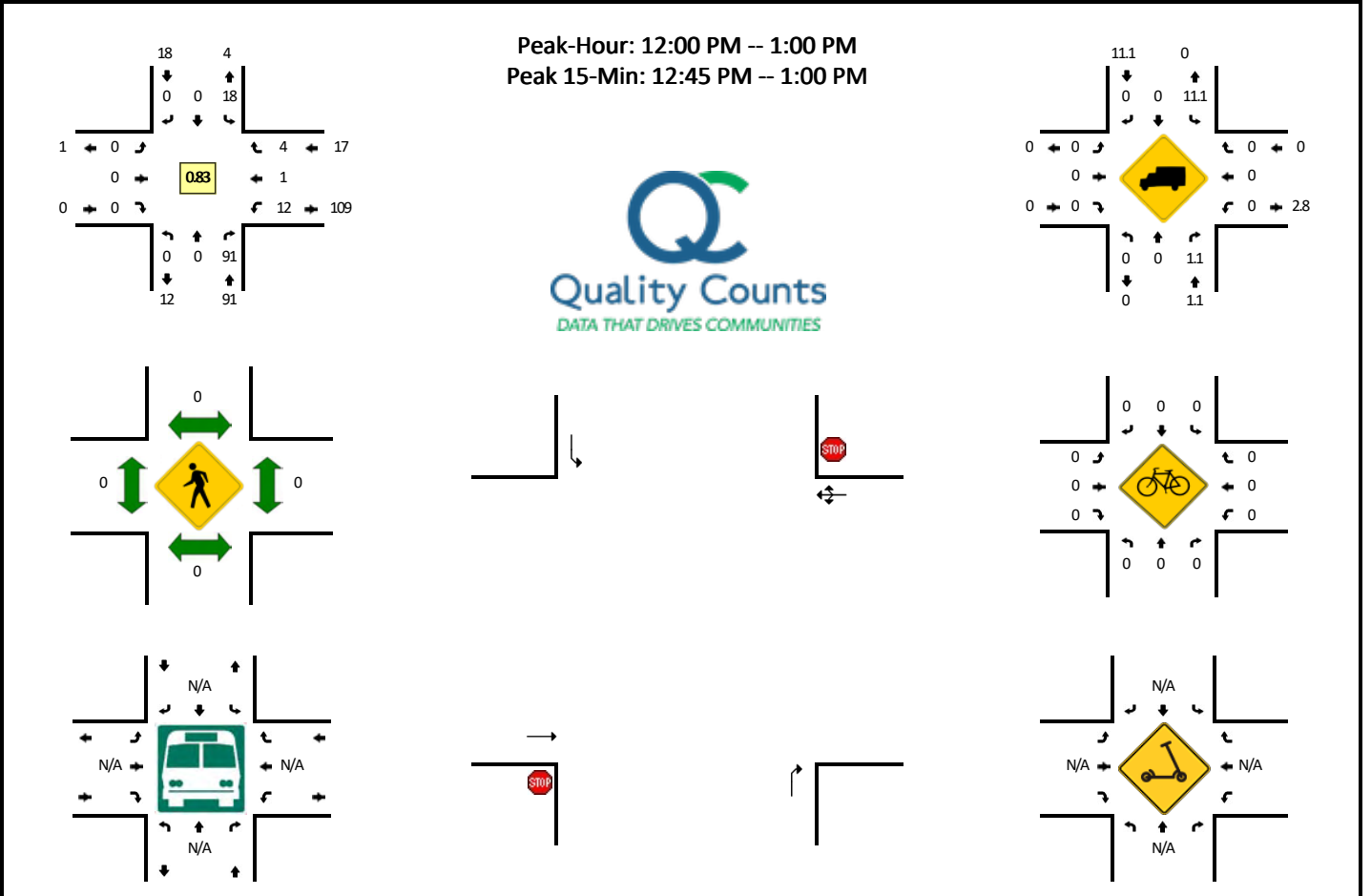
15-Min Count Period Beginning At	Mall Loop (Northbound)				Mall Loop (Southbound)				North In & Out Dwy (Eastbound)				North In & Out Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	6	1	11	0	19	70
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	10	0	18	75
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	12	64
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0	6	55
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	10	0	13	49
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	1	6	0	11	42
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	6	0	10	40
8:45 PM	0	0	1	0	0	0	0	0	0	1	0	0	11	0	2	0	15	49
9:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	5	1	4	0	11	47
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	1	10	0	16	52
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	4	0	9	51
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	1	4	0	12	48
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	8	0	10	47
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	1	7	0	13	44
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	1	8	0	12	47
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	1	5	0	13	48
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	0	3	0	10	48
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	6	0	14	49
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	5	0	13	50
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	43
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	4	4
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	6	10
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	6	16
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	18
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	15
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	4	0	12	0	0	0	0	0	0	0	32	4	60	0	112	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
<i>Comments:</i>																		

Report generated on 7/21/2020 1:58 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Mall Loop -- South In & Out Dwy  
**CITY/STATE:** Fort Worth, TX

**QC JOB #:** 15248616  
**DATE:** Sat, Jul 11 2020



15-Min Count Period Beginning At	Mall Loop (Northbound)				Mall Loop (Southbound)				South In & Out Dwy (Eastbound)				South In & Out Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
9:45 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	3	
10:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	3	
10:15 AM	0	0	3	0	1	0	0	0	0	0	1	0	0	0	2	0	8	15
10:30 AM	0	0	3	0	1	0	0	0	0	0	0	0	0	1	0	0	5	19
10:45 AM	0	0	5	0	3	0	0	0	0	0	0	0	0	2	0	0	10	26
11:00 AM	0	0	21	0	1	0	0	0	0	0	0	0	0	7	0	1	30	53
11:15 AM	0	0	12	0	2	0	0	0	0	0	0	0	0	0	0	1	15	60
11:30 AM	0	0	16	0	5	0	0	0	0	0	0	0	0	3	0	1	25	80
11:45 AM	0	0	16	0	7	0	0	0	0	0	0	0	0	4	0	0	27	97
12:00 PM	0	0	21	0	6	0	0	0	0	0	0	0	0	1	0	0	28	95
12:15 PM	0	0	19	0	6	0	0	0	0	0	0	0	0	3	0	1	29	109
12:30 PM	0	0	23	0	2	0	0	0	0	0	0	0	0	5	0	1	31	115
12:45 PM	0	0	28	0	4	0	0	0	0	0	0	0	0	3	1	2	38	126
1:00 PM	0	0	19	0	2	0	0	0	0	0	0	0	0	5	0	1	27	125
1:15 PM	0	0	12	0	1	0	0	0	0	0	0	0	0	2	0	1	16	112
1:30 PM	0	0	17	0	1	0	0	0	0	0	0	0	0	2	0	1	21	102
1:45 PM	0	0	20	0	5	0	0	0	0	0	0	0	0	2	0	0	27	91
2:00 PM	0	0	10	0	4	0	0	0	0	0	0	0	0	1	0	2	17	81
2:15 PM	0	0	15	0	3	0	0	0	0	0	0	0	0	1	0	5	24	89
2:30 PM	0	0	14	0	5	0	0	0	0	0	0	0	0	5	0	1	25	93
2:45 PM	0	0	12	0	7	0	0	0	0	0	0	0	0	2	0	2	23	89
3:00 PM	0	0	24	0	5	0	0	0	0	0	0	0	0	2	0	2	33	105
3:15 PM	0	0	10	0	4	0	0	0	0	0	0	0	0	4	0	3	21	102
3:30 PM	0	0	13	0	1	0	0	0	0	0	2	0	0	0	0	2	18	95
3:45 PM	0	0	15	0	5	0	0	0	0	0	0	0	0	6	0	3	29	101
4:00 PM	0	0	8	0	3	0	0	0	0	0	1	0	0	0	0	0	12	80
4:15 PM	0	0	15	0	5	0	0	0	0	0	0	0	0	2	0	1	23	82
4:30 PM	0	0	14	0	5	0	0	0	0	0	0	0	0	3	0	2	24	88
4:45 PM	0	0	12	0	9	0	0	0	0	0	0	0	0	5	0	2	28	87
5:00 PM	0	0	19	0	3	0	0	0	0	0	0	0	0	6	0	2	30	105
5:15 PM	0	0	17	0	1	0	0	0	0	0	0	0	0	5	0	2	25	107
5:30 PM	0	0	14	0	2	0	0	0	0	0	0	0	0	5	0	2	23	106
5:45 PM	0	0	11	0	4	0	0	0	0	0	0	0	0	1	0	2	18	96
6:00 PM	0	0	15	0	2	0	0	0	0	0	0	0	0	1	1	1	20	86
6:15 PM	0	0	17	0	0	0	0	0	0	0	0	0	0	1	1	3	22	83
6:30 PM	0	0	13	0	1	0	0	0	0	0	2	0	0	5	0	1	22	82
6:45 PM	0	0	11	0	4	0	0	0	0	0	0	0	0	1	0	0	16	80

15-Min Count Period Beginning At	Mall Loop (Northbound)				Mall Loop (Southbound)				South In & Out Dwy (Eastbound)				South In & Out Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 PM	0	0	18	0	3	0	0	0	0	0	0	0	5	0	0	0	26	86
7:15 PM	0	0	14	0	2	0	0	0	0	0	0	0	2	0	0	0	18	82
7:30 PM	0	0	12	0	1	0	0	0	0	0	0	0	1	0	1	0	15	75
7:45 PM	0	0	9	0	2	0	0	0	0	0	0	0	1	0	2	0	14	73
8:00 PM	0	0	14	0	2	0	0	0	0	0	0	0	4	0	0	0	20	67
8:15 PM	0	0	13	0	2	0	0	0	0	0	1	0	0	0	1	0	17	66
8:30 PM	0	0	15	0	1	0	0	0	0	0	0	0	6	1	0	0	23	74
8:45 PM	0	0	10	0	5	0	0	0	0	0	0	0	1	0	0	0	16	76
9:00 PM	0	0	15	0	0	0	0	0	0	0	0	0	3	0	1	0	19	75
9:15 PM	0	0	5	0	1	0	0	0	0	0	0	0	1	0	1	0	8	66
9:30 PM	0	0	12	0	3	0	0	0	0	0	0	0	0	0	0	0	15	58
9:45 PM	0	0	13	0	1	0	0	0	0	0	0	0	1	0	1	0	16	58
10:00 PM	0	0	15	0	0	0	0	0	0	0	0	0	2	0	1	0	18	57
10:15 PM	0	0	14	0	2	0	0	0	0	0	0	0	6	0	1	0	23	72
10:30 PM	0	0	11	0	1	0	0	0	0	0	0	0	2	0	1	0	15	72
10:45 PM	0	0	12	0	1	0	0	0	0	0	1	0	0	0	0	0	14	70
11:00 PM	0	0	8	0	2	0	0	0	0	0	0	0	0	0	2	0	12	64
11:15 PM	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9	50
11:30 PM	0	0	12	0	0	0	0	0	0	0	0	0	3	0	0	0	15	50
11:45 PM	0	0	3	0	1	0	0	0	0	0	0	0	2	0	0	0	6	42
12:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	3	0	0	0	8	38
12:15 AM	0	0	8	0	2	0	0	0	0	0	0	0	1	0	0	0	11	40
12:30 AM	0	0	7	0	0	0	0	0	0	0	0	0	3	0	0	0	10	35
12:45 AM	0	0	6	0	0	0	0	0	0	0	0	0	1	0	0	0	7	36
1:00 AM	0	0	6	0	0	0	0	0	0	0	0	0	1	0	0	0	7	35
1:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	26
1:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	18
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	112	0	16	0	0	0	0	0	0	0	12	4	8	0	152	
Heavy Trucks	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		
<i>Comments:</i>																		

Report generated on 7/21/2020 1:58 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212



Site Code: 15248617  
 Date: 7/9/2020  
 Time: 12pm-2pm

Time	Queue	15-Min Peak
12:00 PM	10	
12:01 PM	10	
12:02 PM	8	
12:03 PM	9	
12:04 PM	7	
12:05 PM	7	
12:06 PM	9	
12:07 PM	9	
12:08 PM	10	
12:09 PM	9	
12:10 PM	9	
12:11 PM	9	
12:12 PM	10	
12:13 PM	11	
12:14 PM	10	11
12:15 PM	10	
12:16 PM	9	
12:17 PM	7	
12:18 PM	7	
12:19 PM	5	
12:20 PM	3	
12:21 PM	6	
12:22 PM	8	
12:23 PM	9	
12:24 PM	9	
12:25 PM	9	
12:26 PM	11	
12:27 PM	12	
12:28 PM	11	
12:29 PM	11	12
12:30 PM	10	
12:31 PM	10	
12:32 PM	9	
12:33 PM	9	
12:34 PM	7	
12:35 PM	7	
12:36 PM	7	
12:37 PM	7	
12:38 PM	9	
12:39 PM	9	
12:40 PM	9	
12:41 PM	9	
12:42 PM	9	
12:43 PM	14	
12:44 PM	12	14
12:45 PM	12	
12:46 PM	14	
12:47 PM	14	
12:48 PM	10	
12:49 PM	12	
12:50 PM	10	
12:51 PM	11	
12:52 PM	9	
12:53 PM	10	
12:54 PM	9	
12:55 PM	10	
12:56 PM	8	
12:57 PM	8	
12:58 PM	5	
12:59 PM	6	14
1:00 PM	6	



Site Code: 15248617  
 Date: 7/9/2020  
 Time: 12pm-2pm

Time	Queue	15-Min Peak
1:01 PM	6	
1:02 PM	8	
1:03 PM	7	
1:04 PM	5	
1:05 PM	4	
1:06 PM	3	
1:07 PM	8	
1:08 PM	7	
1:09 PM	7	
1:10 PM	5	
1:11 PM	5	
1:12 PM	3	
1:13 PM	7	
1:14 PM	10	10
1:15 PM	8	
1:16 PM	8	
1:17 PM	11	
1:18 PM	12	
1:19 PM	12	
1:20 PM	10	
1:21 PM	9	
1:22 PM	9	
1:23 PM	11	
1:24 PM	10	
1:25 PM	9	
1:26 PM	8	
1:27 PM	12	
1:28 PM	10	
1:29 PM	8	12
1:30 PM	8	
1:31 PM	11	
1:32 PM	9	
1:33 PM	10	
1:34 PM	10	
1:35 PM	9	
1:36 PM	10	
1:37 PM	9	
1:38 PM	10	
1:39 PM	11	
1:40 PM	9	
1:41 PM	13	
1:42 PM	12	
1:43 PM	10	
1:44 PM	9	13
1:45 PM	10	
1:46 PM	9	
1:47 PM	11	
1:48 PM	11	
1:49 PM	10	
1:50 PM	8	
1:51 PM	8	
1:52 PM	7	
1:53 PM	8	
1:54 PM	8	
1:55 PM	8	
1:56 PM	9	
1:57 PM	11	
1:58 PM	8	
1:59 PM	10	11





Site Code: 15248618  
 Date: 7/9/2020  
 Time: 5pm-7pm

Time	Queue	15-Min Peak
5:00 PM	8	
5:01 PM	9	
5:02 PM	9	
5:03 PM	11	
5:04 PM	9	
5:05 PM	8	
5:06 PM	9	
5:07 PM	9	
5:08 PM	10	
5:09 PM	10	
5:10 PM	11	
5:11 PM	12	
5:12 PM	10	
5:13 PM	9	
5:14 PM	9	12
5:15 PM	10	
5:16 PM	9	
5:17 PM	7	
5:18 PM	7	
5:19 PM	8	
5:20 PM	8	
5:21 PM	8	
5:22 PM	11	
5:23 PM	10	
5:24 PM	10	
5:25 PM	9	
5:26 PM	9	
5:27 PM	10	
5:28 PM	10	
5:29 PM	10	11
5:30 PM	11	
5:31 PM	11	
5:32 PM	11	
5:33 PM	11	
5:34 PM	9	
5:35 PM	9	
5:36 PM	9	
5:37 PM	7	
5:38 PM	6	
5:39 PM	5	
5:40 PM	4	
5:41 PM	5	
5:42 PM	9	
5:43 PM	7	
5:44 PM	8	11
5:45 PM	10	
5:46 PM	10	
5:47 PM	11	
5:48 PM	12	
5:49 PM	12	
5:50 PM	13	
5:51 PM	14	
5:52 PM	15	
5:53 PM	16	
5:54 PM	15	
5:55 PM	15	
5:56 PM	13	
5:57 PM	13	
5:58 PM	13	
5:59 PM	13	16
6:00 PM	14	



Site Code: 15248618  
 Date: 7/9/2020  
 Time: 5pm-7pm

Time	Queue	15-Min Peak
6:01 PM	12	
6:02 PM	10	
6:03 PM	8	
6:04 PM	7	
6:05 PM	8	
6:06 PM	8	
6:07 PM	9	
6:08 PM	9	
6:09 PM	9	
6:10 PM	8	
6:11 PM	13	
6:12 PM	14	
6:13 PM	16	
6:14 PM	16	16
6:15 PM	17	
6:16 PM	16	
6:17 PM	15	
6:18 PM	14	
6:19 PM	14	
6:20 PM	16	
6:21 PM	13	
6:22 PM	12	
6:23 PM	13	
6:24 PM	11	
6:25 PM	12	
6:26 PM	12	
6:27 PM	13	
6:28 PM	12	
6:29 PM	12	17
6:30 PM	10	
6:31 PM	10	
6:32 PM	8	
6:33 PM	9	
6:34 PM	7	
6:35 PM	6	
6:36 PM	4	
6:37 PM	5	
6:38 PM	3	
6:39 PM	5	
6:40 PM	6	
6:41 PM	7	
6:42 PM	6	
6:43 PM	5	
6:44 PM	6	10
6:45 PM	7	
6:46 PM	8	
6:47 PM	7	
6:48 PM	7	
6:49 PM	8	
6:50 PM	7	
6:51 PM	6	
6:52 PM	6	
6:53 PM	8	
6:54 PM	10	
6:55 PM	8	
6:56 PM	10	
6:57 PM	11	
6:58 PM	13	
6:59 PM	13	13



Site Code: 15248619  
 Date: 7/11/2020  
 Time: 12pm-2pm

Time	Queue	15-Min Peak
12:00 PM	5	
12:01 PM	5	
12:02 PM	7	
12:03 PM	12	
12:04 PM	10	
12:05 PM	9	
12:06 PM	7	
12:07 PM	9	
12:08 PM	8	
12:09 PM	9	
12:10 PM	7	
12:11 PM	9	
12:12 PM	6	
12:13 PM	7	
12:14 PM	6	12
12:15 PM	5	
12:16 PM	6	
12:17 PM	5	
12:18 PM	7	
12:19 PM	8	
12:20 PM	8	
12:21 PM	7	
12:22 PM	8	
12:23 PM	7	
12:24 PM	9	
12:25 PM	7	
12:26 PM	8	
12:27 PM	8	
12:28 PM	9	
12:29 PM	10	10
12:30 PM	10	
12:31 PM	7	
12:32 PM	8	
12:33 PM	10	
12:34 PM	9	
12:35 PM	8	
12:36 PM	9	
12:37 PM	9	
12:38 PM	8	
12:39 PM	7	
12:40 PM	7	
12:41 PM	8	
12:42 PM	8	
12:43 PM	7	
12:44 PM	6	10
12:45 PM	7	
12:46 PM	7	
12:47 PM	9	
12:48 PM	10	
12:49 PM	10	
12:50 PM	12	
12:51 PM	13	
12:52 PM	10	
12:53 PM	10	
12:54 PM	10	
12:55 PM	10	
12:56 PM	6	
12:57 PM	8	
12:58 PM	9	
12:59 PM	12	13
1:00 PM	11	



Site Code: 15248619  
 Date: 7/11/2020  
 Time: 12pm-2pm

Time	Queue	15-Min Peak
1:01 PM	9	
1:02 PM	10	
1:03 PM	11	
1:04 PM	8	
1:05 PM	9	
1:06 PM	12	
1:07 PM	14	
1:08 PM	13	
1:09 PM	14	
1:10 PM	14	
1:11 PM	13	
1:12 PM	13	
1:13 PM	14	
1:14 PM	13	14
1:15 PM	14	
1:16 PM	11	
1:17 PM	13	
1:18 PM	14	
1:19 PM	15	
1:20 PM	15	
1:21 PM	15	
1:22 PM	15	
1:23 PM	13	
1:24 PM	15	
1:25 PM	12	
1:26 PM	12	
1:27 PM	11	
1:28 PM	13	
1:29 PM	11	15
1:30 PM	13	
1:31 PM	12	
1:32 PM	12	
1:33 PM	13	
1:34 PM	12	
1:35 PM	14	
1:36 PM	11	
1:37 PM	13	
1:38 PM	13	
1:39 PM	12	
1:40 PM	13	
1:41 PM	14	
1:42 PM	13	
1:43 PM	14	
1:44 PM	13	14
1:45 PM	13	
1:46 PM	14	
1:47 PM	14	
1:48 PM	14	
1:49 PM	13	
1:50 PM	11	
1:51 PM	12	
1:52 PM	15	
1:53 PM	15	
1:54 PM	12	
1:55 PM	12	
1:56 PM	12	
1:57 PM	14	
1:58 PM	13	
1:59 PM	13	15



Site Code: 15248620  
 Date: 7/11/2020  
 Time: 5pm-7pm

Time	Queue	15-Min Peak
5:00 PM	13	
5:01 PM	12	
5:02 PM	12	
5:03 PM	12	
5:04 PM	12	
5:05 PM	13	
5:06 PM	15	
5:07 PM	14	
5:08 PM	13	
5:09 PM	10	
5:10 PM	10	
5:11 PM	14	
5:12 PM	14	
5:13 PM	14	
5:14 PM	13	15
5:15 PM	12	
5:16 PM	12	
5:17 PM	12	
5:18 PM	12	
5:19 PM	12	
5:20 PM	13	
5:21 PM	14	
5:22 PM	13	
5:23 PM	14	
5:24 PM	14	
5:25 PM	13	
5:26 PM	15	
5:27 PM	15	
5:28 PM	15	
5:29 PM	14	15
5:30 PM	15	
5:31 PM	15	
5:32 PM	14	
5:33 PM	15	
5:34 PM	14	
5:35 PM	12	
5:36 PM	12	
5:37 PM	11	
5:38 PM	15	
5:39 PM	13	
5:40 PM	13	
5:41 PM	12	
5:42 PM	11	
5:43 PM	11	
5:44 PM	12	15
5:45 PM	11	
5:46 PM	14	
5:47 PM	14	
5:48 PM	13	
5:49 PM	15	
5:50 PM	15	
5:51 PM	14	
5:52 PM	14	
5:53 PM	13	
5:54 PM	17	
5:55 PM	15	
5:56 PM	16	
5:57 PM	16	
5:58 PM	16	
5:59 PM	16	17
6:00 PM	16	



Site Code: 15248620  
 Date: 7/11/2020  
 Time: 5pm-7pm

Time	Queue	15-Min Peak
6:01 PM	16	
6:02 PM	15	
6:03 PM	15	
6:04 PM	15	
6:05 PM	15	
6:06 PM	14	
6:07 PM	17	
6:08 PM	22	
6:09 PM	22	
6:10 PM	19	
6:11 PM	22	
6:12 PM	21	
6:13 PM	21	
6:14 PM	20	22
6:15 PM	19	
6:16 PM	20	
6:17 PM	19	
6:18 PM	17	
6:19 PM	18	
6:20 PM	17	
6:21 PM	18	
6:22 PM	19	
6:23 PM	18	
6:24 PM	15	
6:25 PM	15	
6:26 PM	14	
6:27 PM	13	
6:28 PM	15	
6:29 PM	15	20
6:30 PM	14	
6:31 PM	15	
6:32 PM	15	
6:33 PM	15	
6:34 PM	16	
6:35 PM	15	
6:36 PM	15	
6:37 PM	14	
6:38 PM	12	
6:39 PM	11	
6:40 PM	12	
6:41 PM	11	
6:42 PM	10	
6:43 PM	9	
6:44 PM	9	16
6:45 PM	9	
6:46 PM	9	
6:47 PM	10	
6:48 PM	10	
6:49 PM	8	
6:50 PM	9	
6:51 PM	8	
6:52 PM	8	
6:53 PM	8	
6:54 PM	10	
6:55 PM	12	
6:56 PM	13	
6:57 PM	12	
6:58 PM	11	
6:59 PM	11	13

Table 6 – In-N-Out Burger Site Traffic Survey and Trip Rate Calculation

Survey Site Location		Size (TSF)*	Measured Weekday Trips				Measured Saturday Trips			
No.	City		Weekday Daily	PM Peak Hour			Saturday Daily	Mid-Day (MD) Peak Hour		
				Total	In	Out		Total	In	Out
1	Long Beach <sup>1</sup>	3,600	n/a	142	69	73	n/a	235	121	114
2	Millbrae <sup>1</sup>	3,750	5,137	235	128	107	5,281	421	215	206
3	Redwood City <sup>1</sup>	3,750	2,225	141	66	75	2,929	301	152	149
4	Rocklin <sup>1</sup>	3,750	1,720	159	84	75	1,761	184	88	96
5	Vacaville <sup>1</sup>	3,750	1,879	152	87	65	2,244	197	94	103
6	Fairfield <sup>1</sup>	3,750	1,662	132	75	57	2,081	208	105	103
<b>Average</b>		<b>3,725</b>	<b>2,525</b>	<b>160</b>	<b>85</b>	<b>75</b>	<b>2,859</b>	<b>258</b>	<b>129</b>	<b>129</b>
Calculated In-N-Out Trip Rates <sup>2</sup> (Trips/TSF)			673.33	42.95	22.82	20.13	762.40	69.26	34.63	34.63
7	Vallejo (Proposed)	<b>3,867</b>	<b>2,604</b>	<b>166</b>	<b>88</b>	<b>78</b>	<b>2,948</b>	<b>268</b>	<b>134</b>	<b>134</b>

Typical Trip Rates for Fast-Food Restaurant With Drive-Thru (ITE 934) <sup>3</sup>	496.12	32.65	16.98	15.67	722.03	59.00	30.09	28.91
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**Note:** (See Appendix D for survey data sheets)

- \* TSF = Thousand Square Feet
- <sup>1</sup> The site locations are not fully isolated; therefore, trip counts at the site access points likely included some trips associated with adjacent land uses, resulting in slightly overstated trip generation counts and a conservative analysis.
- <sup>2</sup> Average trip rates per thousand square feet calculated based on the average trips of the 6 survey locations.
- <sup>3</sup> Institute of Transportation Engineers (ITE), Trip Generation Manual, 9th Edition, 2014.

## 4.2 Pass-By Trip Reduction Adjustment

As documented in the ITE *Trip Generation Manual* (9th Edition, 2012), a pass-by trip reduction adjustment is applicable to fast-food restaurant land uses located along busy arterial highways attracting vehicle trips already on the roadway; this is particularly the case when the roadway is experiencing peak operating conditions. For example, during the weekday PM peak hour, a motorist already traveling along Redwood Parkway between work and home or other destinations may stop and eat at the proposed restaurant before continuing to his intended destination. A pass-by discount under this example would reduce or eliminate both the inbound trip and the outbound trip from the surrounding roadway circulation system since the vehicle was already traveling on the roadway. Without the pass-by trip discount, two trips would be generated: an inbound trip to the project site, and an outbound trip from the project site.

Table 16 – Drive-Through Lane Vehicular Queue Observations

Day	Time	Observed* Drive-Through Queue						Average Queue
		Long Beach	Millbrae	Redwood City	Rocklin	Vacaville	Fairfield	
Weekday	4:00 - 4:15 PM	6	13	14	5	11	5	9
	4:15 - 4:30 PM	5	14	16	8	14	8	11
	4:30 - 4:45 PM	3	15	16	7	16	9	11
	4:45 - 5:00 PM	6	14	15	6	17	16	12
	5:00 - 5:15 PM	5	13	14	8	13	17	12
	5:15 - 5:30 PM	7	15	14	9	11	16	12
	5:30 - 5:45 PM	7	16	15	11	13	8	12
	5:45 - 6:00 PM	5	15	15	12	18	17	14
	Peak Queue	<b>7</b>	<b>16</b>	<b>16</b>	<b>12</b>	<b>18</b>	<b>17</b>	<b>14</b>
Saturday	12:00 - 12:15 PM	16	14	18	10	20	13	15
	12:15 - 12:30 PM	14	15	21	13	19	18	17
	12:30 - 12:45 PM	16	14	20	12	15	17	16
	12:45 - 1:00 PM	10	14	18	11	23	18	16
	1:00 - 1:15 PM	15	14	21	12	22	23	18 <sup>1</sup>
	1:15 - 1:30 PM	16	13	20	14	28	17	18 <sup>1</sup>
	1:30 - 1:45 PM	10	14	19	13	27	15	16
	1:45 - 2:00 PM	9	15	21	12	29	18	17
	Peak Queue	<b>16</b>	<b>15</b>	<b>21</b>	<b>14</b>	<b>29</b>	<b>23</b>	<b>20<sup>1</sup></b>

Note: (\*See Appendix N for survey data sheets)

<sup>1</sup> The average maximum observed drive-through queue is longer than the proposed drive-through lane adjacent to the proposed building, which has a minimum storage of 17 vehicles. Additional vehicles may queue on-site along the parking aisle (see Exhibit 22).

During the peak periods when the drive-through lane queue exceeds the storage length, In-N-Out will provide personnel to take food orders at the end of the drive-through queue to facilitate circulation and minimize the drive-through queue. The standard operational procedure for In-N-Out is to deploy associates with handheld wireless order tablets as soon as the queue exceeds 8 vehicles at the menu board, which will help facilitate efficient movements through the queue and direct traffic as needed. The staging for the overflow drive-through queue could be addressed by the store associates implementing traffic control measures to align the traffic to line up along the parking aisle to avoid spilling onto the street. Exhibit 22 shows the recommended traffic control measures including signage and pavement marking.

Another option is that the store associates could direct the overflow queuing vehicles to park at vacant parking spaces when the drive-through queue length reach the capacity of 17 vehicles. The drive-through queue length would be monitored by store associates so that the queue length will not exceed 17 vehicles and that the parking lot circulation aisles will remain clear.

To determine forecast trip generation of the proposed In-N-Out restaurant, trip generation sample surveys were conducted in May 2012 at the following three existing In-N-Out restaurants located in the Cities of Redondo Beach, Long Beach, and Los Angeles:

- Existing In-N-Out located at 6391 East Pacific Coast Highway, Long Beach, CA;
- Existing In-N-Out located at 9149 South Sepulveda Boulevard, Los Angeles, CA; and
- Existing In-N-Out located at 3801 Inglewood Avenue, Redondo Beach, CA.

The In-N-Out trip generation sample surveys were collected during the same time periods evaluated in this analysis (weekday 11:30 a.m. to 1:30 p.m., weekday 4:00 p.m. to 6:00 p.m., Saturday 11:30 a.m. to 1:30 p.m. and Saturday 4:00 p.m. to 6:00 p.m.). The trip generation data used in this analysis were taken from the highest hour within each peak period counted. Detailed traffic count data sheets are contained in Appendix A.

Table 8 summarizes the weekday peak hour trip generation for the surveyed In-N-Out locations.

**Table 8  
In-N-Out Weekday Trip Generation Survey Count Summary**

Survey Location	Size (tsf)	Weekday AM Peak Hour Trips			Weekday Mid-Day Peak Hour Trips			Weekday PM Peak Hour Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
Redondo Beach In-N-Out	2.8	0	0	0	136	135	271	94	89	183
Long Beach In-N-Out	3.6	0	0	0	138	135	273	69	73	142
Los Angeles In-N-Out	3.8	0	0	0	196	159	355	127	111	238
<b>Average In-N-Out Weekday Trip Generation</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>157</b>	<b>143</b>	<b>300</b>	<b>97</b>	<b>91</b>	<b>188</b>

**Source:** Observed data.

**Note:** tsf = thousand square feet.

As shown in Table 8, the surveyed In-N-Out restaurants currently generate approximately an average of 300 weekday mid-day peak hour trips and an average of 188 weekday p.m. peak hour trips. It should be noted the surveyed locations included outdoor seating patios similar to the proposed project.

Table 9 summarizes the Saturday peak hour trip generation for the surveyed In-N-Out locations.

**Table 9  
In-N-Out Saturday Trip Generation Survey Count Summary**

Survey Location	Size (tsf)	Saturday AM Peak Hour Trips			Saturday Mid-Day Peak Hour Trips			Saturday PM Peak Hour Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
Redondo Beach In-N-Out	2.8	0	0	0	164	146	310	141	149	290
Long Beach In-N-Out	3.6	0	0	0	121	114	235	90	89	179
Los Angeles In-N-Out	3.8	0	0	0	224	200	424	119	113	232
<b>Average In-N-Out Saturday Trip Generation</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>170</b>	<b>153</b>	<b>323</b>	<b>117</b>	<b>117</b>	<b>234</b>

**Source:** Observed data.

**Note:** tsf = thousand square feet.

As shown in Table 9, the surveyed In-N-Out restaurants currently generate approximately an average of 323 Saturday mid-day peak hour trips and an average of 234 Saturday p.m. peak hour trips. It should be noted the surveyed locations included outdoor seating patios similar to the proposed project.

*Pass-by Trip Reduction*

As documented in ITE's *Trip Generation Handbook (Institute of Transportation Engineers, 2<sup>nd</sup> Edition, 2004)*, a pass-by trip reduction is applicable to fast food restaurant with drive-through and high turnover sit-down restaurant land uses located along busy arterial highways attracting vehicle trips already on the roadway; this is particularly the case when the roadway is experiencing peak operating conditions. For example, during the mid-day or p.m. peak hour, a motorist already traveling along Sepulveda Boulevard (SR-1) between work and home or other destinations may stop at the proposed project site. A pass-by discount under this example would reduce/eliminate both the inbound trip and the outbound trip from the surrounding roadway circulation system since the vehicle was already traveling on the roadway. Without the pass-by trip discount, two trips would be generated: an inbound trip to the project site, and an outbound trip from the project site.

Table 10 summarizes the pass-by trip reductions applicable to the proposed project land uses identified by Caltrans and utilized in this analysis which are conservatively lower than the pass-by trip reductions identified by ITE. For example, while ITE identifies a fast food restaurant with drive through pass-by trip reduction of 49 percent in the weekday mid-day peak and 50 percent in the weekday p.m. peak, Caltrans has identified a pass-by discount of 10 percent in the weekday mid-day peak and 25 percent in the weekday p.m. peak. Also, while ITE identifies a high turn over sit-down restaurant with pass-by trip reduction of 43 percent in the weekday mid-day peak and 43 percent in the weekday p.m. peak, Caltrans has identified a pass-by discount of 10 percent in the weekday mid-day peak and 25 percent in the weekday p.m. peak.

As shown in Table 61, with the addition of a second left-turn lane at the westbound Mariposa Avenue approach at Sepulveda Boulevard (SR-1), the left-turn movement queue is forecast to not queue back beyond the Ralphs Shopping Center for either forecast opening year without project conditions or forecast opening year with project conditions.

As also shown in Table 61, the westbound right-turn and through queue is forecast to slightly increase assuming the addition of a second westbound left-turn lane; this is a result of changing the traffic signal phasing from a permitted left-turn phase with a single left-turn lane (current traffic signal phasing) to a protected left-turn phase to accommodate dual side-by-side westbound left turn lanes.

### IN-N-OUT BURGER DRIVE-THROUGH QUEUE ANALYSIS

An analysis has been prepared to evaluate the adequacy of the vehicular queue storage area provided for the proposed In-N-Out Burger drive-through as shown on the project site.

To forecast the vehicular queue at the proposed In-N-Out Burger, RBF has conducted sample survey field observations of vehicular queues at the following three existing In-N-Out Burger restaurants:

- Existing In-N-Out located at 6391 East Pacific Coast Highway, Long Beach, CA;
- Existing In-N-Out located at 9149 South Sepulveda Boulevard, Los Angeles, CA; and
- Existing In-N-Out located at 3801 Inglewood Avenue, Redondo Beach, CA.

The vehicular queues were observed and documented in 15-minute intervals from 10:00 a.m. to 12:00 midnight on a typical weekday and a typical Saturday in May 2012.

Table 62 summarizes the collected drive-through vehicular queue data collected at the three sample survey field In-N-Out restaurants.

**Table 62  
Existing In-N-Out Restaurants  
Summary of Drive-Through Vehicular Queue Observations**

No.	Time	Weekday Observed Queue (Vehicles)				Saturday Observed Queue (Vehicles)			
		Long Beach In-N-Out	Los Angeles In-N-Out	Redondo Beach In-N-Out	Average	Long Beach In-N-Out	Los Angeles In-N-Out	Redondo Beach In-N-Out	Average
1	10:00 AM	0	0	4	1	0	0	0	0
2	10:15 AM	5	2	8	5	4	3	7	3
3	10:30 AM	8	5	6	6	7	4	8	4
4	10:45 AM	7	6	6	6	9	6	5	5
5	11:00 AM	3	6	11	6	7	8	8	6
6	11:15 AM	6	12	21	12	8	11	10	7
7	11:30 AM	7	16	23	13	9	12	15	9
8	11:45 AM	14	19	21	17	16	18	16	12
9	12:00 PM	15	20	23	18	16	20	16	13
10	12:15 PM	15	18	26	19	14	16	20	13
11	12:30 PM	13	21	11	15	16	20	31	16
12	12:45 PM	8	19	11	12	10	20	33	16



No.	Time	Weekday Observed Queue (Vehicles)				Saturday Observed Queue (Vehicles)			
		Long Beach In-N-Out	Los Angeles In-N-Out	Redondo Beach In-N-Out	Average	Long Beach In-N-Out	Los Angeles In-N-Out	Redondo Beach In-N-Out	Average
13	1:00 PM	12	<b>22</b>	17	17	15	23	35	<b>18</b>
14	1:15 PM	13	21	16	15	16	22	<b>36</b>	<b>18</b>
15	1:30 PM	8	20	11	11	10	20	31	15
16	1:45 PM	7	20	9	11	9	20	28	14
17	2:00 PM	8	21	10	13	12	21	26	15
18	2:15 PM	7	21	8	12	13	<b>26</b>	23	16
19	2:30 PM	8	<b>22</b>	15	15	9	22	21	13
20	2:45 PM	6	21	13	13	8	21	18	11
21	3:00 PM	6	18	10	11	9	18	12	9
22	3:15 PM	5	17	12	11	9	17	14	10
23	3:30 PM	4	16	14	11	6	17	8	9
24	3:45 PM	5	18	13	12	9	9	19	9
25	4:00 PM	6	17	16	12	8	10	22	10
26	4:15 PM	5	15	19	12	10	14	26	11
27	4:30 PM	3	12	17	10	8	18	24	12
28	4:45 PM	6	10	18	11	5	8	18	9
29	5:00 PM	5	9	22	11	9	8	14	9
30	5:15 PM	7	14	24	13	10	9	13	10
31	5:30 PM	7	17	23	14	10	20	20	12
32	5:45 PM	5	19	16	12	9	19	19	12
33	6:00 PM	12	20	18	15	13	20	25	13
34	6:15 PM	7	19	23	14	9	19	18	12
35	6:30 PM	10	20	25	16	10	20	22	13
36	6:45 PM	12	18	26	17	14	18	19	12
37	7:00 PM	10	17	23	16	12	19	23	12
38	7:15 PM	11	18	27	17	13	20	22	12
39	7:30 PM	7	19	19	16	9	21	24	12
40	7:45 PM	6	20	21	16	9	22	25	14
41	8:00 PM	8	21	23	17	10	21	22	12
42	8:15 PM	6	19	22	15	9	22	23	13
43	8:30 PM	9	19	18	13	11	18	19	12
44	8:45 PM	10	20	<b>28</b>	18	12	17	18	11
45	9:00 PM	12	18	27	<b>19</b>	13	16	12	11
46	9:15 PM	<b>16</b>	19	16	17	<b>17</b>	19	13	11
47	9:30 PM	14	20	17	17	15	18	9	10
48	9:45 PM	15	19	16	17	10	20	14	9
49	10:00 PM	14	21	15	17	12	19	20	11
50	10:15 PM	13	17	18	16	14	18	23	12

No.	Time	Weekday Observed Queue (Vehicles)				Saturday Observed Queue (Vehicles)			
		Long Beach In-N-Out	Los Angeles In-N-Out	Redondo Beach In-N-Out	Average	Long Beach In-N-Out	Los Angeles In-N-Out	Redondo Beach In-N-Out	Average
51	10:30 PM	12	16	19	<i>16</i>	13	19	26	<i>13</i>
52	10:45 PM	12	14	16	<i>14</i>	11	18	22	<i>12</i>
53	11:00 PM	11	16	15	<i>14</i>	9	21	21	<i>13</i>
54	11:15 PM	13	17	13	<i>14</i>	10	17	23	<i>12</i>
55	11:30 PM	9	15	12	<i>12</i>	8	16	19	<i>10</i>
56	11:45 PM	8	13	11	<i>11</i>	6	14	12	<i>7</i>
<b>Queue</b>		<b>16</b>	<b>22</b>	<b>28</b>	<b><i>19</i></b>	<b>17</b>	<b>26</b>	<b>36</b>	<b><i>18</i></b>

**Note:** Maximum queue value shown in **bold**; average queue value shown in **bold italics**.

As shown in Table 62, the maximum vehicular queue at each of the three observed locations is as follows:

- Long Beach In-N-Out: 16 vehicles on a typical weekday occurring at 9:15 p.m., and 17 vehicles on a typical Saturday occurring at 9:15 p.m.
- Los Angeles In-N-Out: 22 vehicles on a typical weekday occurring at 1:00 p.m. and 2:30 p.m., 26 vehicles on a typical Saturday occurring at 2:15 p.m.
- Redondo Beach In-N-Out: 28 vehicles on a typical weekday occurring at 8:45 p.m., 36 vehicles on a typical Saturday occurring at 1:15 p.m.

As also shown in Table 62, the average maximum vehicular queue at the three observed locations is 19 vehicles on a typical weekday and 18 vehicles on a typical Saturday.

It is important to note the Redondo Beach In-N-Out restaurant sample survey location is located at the Inglewood Avenue/I-405 interchange with high visibility and easy access with one of the busiest freeways in the nation, and therefore would be expected to generate higher traffic volumes and correspondingly higher vehicular queues than the proposed In-N-Out restaurant. Drive-through queue lengths at the Los Angeles In-N-Out restaurant sample survey location at Sepulveda Boulevard (SR-1) north of Los Angeles International Airport (LAX) would most likely represent similar drive-through queue lengths expected to occur at the proposed In-N-Out restaurant.

It should be noted the drive-through queue and its potential to affect the Queen Esther Square Shopping Center is more critical during the weekday mid-day lunch period since a number of businesses in the retail center would be closed during the evening. Additionally, the substantial daytime employee population generated by the large employment base in El Segundo is significantly diminished during weekday evening hours and Saturday/weekend hours.

Based on the proposed project site plan (*Gerdes, Henrichson & Associates, 12/11/2012*), the proposed project provides vehicular queue storage capacity for approximately 23 vehicles. Therefore, adequate vehicular queue storage is forecast to be provided for the proposed In-N-Out drive-through based on sample survey of other In-N-Out drive-through queues.

05.16.2012

Wednesday, May 16th, 2012

CITY: Los Angeles

PROJECT: In-N-Out Burger

AM Period	IN	OUT	MAXIMUM QUEUE	PM Period	IN	OUT	MAXIMUM QUEUE
00:00				12:00	39	35	20
00:15				12:15	48	36	18
00:30				12:30	52	37	21
00:45				12:45	57	41	19
					196	149	
01:00				13:00	39	45	22
01:15				13:15	36	46	21
01:30				13:30	35	41	20
01:45				13:45	X	X	20
					110	132	
02:00				14:00			21
02:15				14:15			21
02:30				14:30			22
02:45				14:45			21
03:00				15:00			18
03:15				15:15			17
03:30				15:30			16
03:45				15:45			18
04:00				16:00	31	24	17
04:15				16:15	18	18	15
04:30				16:30	27	28	12
04:45				16:45	33	22	10
					109	92	
05:00				17:00	34	30	9
05:15				17:15	25	33	14
05:30				17:30	36	23	17
05:45				17:45	32	25	19
					127	111	
06:00				18:00	30	36	20
06:15				18:15			19
06:30				18:30			20
06:45				18:45			18
07:00				19:00			17
07:15				19:15			18
07:30				19:30			19
07:45				19:45			20
08:00				20:00			21
08:15				20:15			19
08:30				20:30			19
08:45				20:45			20
09:00				21:00			18
09:15				21:15			19
09:30				21:30			20
09:45				21:45			19
10:00			0	22:00			21
10:15			2	22:15			17
10:30			5	22:30			16
10:45			6	22:45			14
11:00			6	23:00			16
11:15			12	23:15			17
11:30	28	32	16	23:30			15
11:45	31	59	29	23:45	61	120	19
							13
<b>Total Vol.</b>	<b>59</b>	<b>61</b>				<b>542</b>	<b>484</b>

Daily Totals		
IN		OUT
601		545

PACIFIC TRAFFIC & TRANSIT DATA SERVICES

05/19/12		CITY: Los Angeles		PROJECT: In-N-Out Burger			
AM Period	IN	OUT	MAXIMUM QUEUE	PM Period	IN	OUT	MAXIMUM QUEUE
00:00				12:00	49	38	20
00:15				12:15	49	41	16
00:30				12:30	51	43	20
00:45				12:45	66	215 57 179	20
01:00				13:00	53	49	23
01:15				13:15	54	51	22
01:30				13:30	49	54	20
01:45				13:45	X 156	X 154	20
02:00				14:00			21
02:15				14:15			26
02:30				14:30			22
02:45				14:45			21
03:00				15:00			18
03:15				15:15			17
03:30				15:30			17
03:45				15:45			9
04:00				16:00	28	24	10
04:15				16:15	37	20	14
04:30				16:30	38	25	18
04:45				16:45	25 128	34 103	8
05:00				17:00	15	26	8
05:15				17:15	28	30	9
05:30				17:30	43	24	20
05:45				17:45	33 119	33 113	19
06:00				18:00	35	38	20
06:15				18:15	X	X	19
06:30				18:30	X	X	20
06:45				18:45	X 35	X 38	18
07:00				19:00			19
07:15				19:15			20
07:30				19:30			21
07:45				19:45			22
08:00				20:00			21
08:15				20:15			22
08:30				20:30			18
08:45				20:45			17
09:00				21:00			16
09:15				21:15			19
09:30				21:30			18
09:45				21:45			20
10:00				22:00			19
10:15			3	22:15			18
10:30			4	22:30			19
10:45			6	22:45			18
11:00			8	23:00			21
11:15			11	23:15			17
11:30	31	46	12	23:30			16
11:45	42 73	35 81	18	23:45			14
<b>Total Vol.</b>	<b>73</b>	<b>81</b>			<b>653</b>	<b>587</b>	

Daily Totals	
IN	OUT
726	668

PACIFIC TRAFFIC & TRANSIT DATA SERVICES

AM Period	IN	OUT	MAXIMUM QUEUE	PM Period	IN	OUT	MAXIMUM QUEUE		
00:00				12:00	31	25	15		
00:15				12:15	30	15	15		
00:30				12:30	52	50	13		
00:45				12:45	25	138	29	119	8
01:00				13:00	29	29	12		
01:15				13:15	32	27	13		
01:30				13:30	18	23	8		
01:45				13:45	X	79	X	79	7
02:00				14:00			8		
02:15				14:15			7		
02:30				14:30			8		
02:45				14:45			6		
03:00				15:00			6		
03:15				15:15			5		
03:30				15:30			4		
03:45				15:45			5		
04:00				16:00	16	19	6		
04:15				16:15	12	17	5		
04:30				16:30	14	14	3		
04:45				16:45	16	58	10	60	6
05:00				17:00	19	14	5		
05:15				17:15	20	19	7		
05:30				17:30	19	19	7		
05:45				17:45	11	69	21	73	5
06:00				18:00	17	20	12		
06:15				18:15	X	X	7		
06:30				18:30	X	X	10		
06:45				18:45	X	17	X	20	12
07:00				19:00			10		
07:15				19:15			11		
07:30				19:30			7		
07:45				19:45			6		
08:00				20:00			8		
08:15				20:15			6		
08:30				20:30			9		
08:45				20:45			10		
09:00				21:00			12		
09:15				21:15			16		
09:30				21:30			14		
09:45				21:45			15		
10:00				22:00			14		
10:15			5	22:15			13		
10:30			8	22:30			12		
10:45			7	22:45			12		
11:00			3	23:00			11		
11:15			6	23:15			13		
11:30	19	25	7	23:30			9		
11:45	21	40	27	52	14	23:45	8		
<b>Total Vol.</b>	<b>40</b>	<b>52</b>			<b>361</b>	<b>351</b>			

Daily Total
IN 401
OUT 361

PACIFIC TRAFFIC & TRANSIT DATA SERVICES

Saturday, May 19, 2012

CITY: Long Beach

PROJECT: In N Out Burger

AM Period	IN	OUT	MAXIMUM QUEUE	PM Period	IN	OUT	MAXIMUM QUEUE		
00:00				12:00	17	17	16		
00:15				12:15	34	20	14		
00:30				12:30	22	30	16		
00:45				12:45	32	105	37	104	10
01:00				13:00	33	27	15		
01:15				13:15	29	23	16		
01:30				13:30	29	33	10		
01:45				13:45	X	91	X	83	9
02:00				14:00			12		
02:15				14:15			13		
02:30				14:30			9		
02:45				14:45			8		
03:00				15:00			9		
03:15				15:15			9		
03:30				15:30			6		
03:45				15:45			9		
04:00				16:00	21	25	8		
04:15				16:15	22	16	10		
04:30				16:30	21	25	8		
04:45				16:45	24	88	24	90	5
05:00				17:00	19	19	9		
05:15				17:15	19	21	10		
05:30				17:30	28	25	10		
05:45				17:45	18	84	19	84	9
06:00				18:00	23	18	13		
06:15				18:15			9		
06:30				18:30			10		
06:45				18:45	X	23	X	18	14
07:00				19:00			12		
07:15				19:15			13		
07:30				19:30			9		
07:45				19:45			9		
08:00				20:00			10		
08:15				20:15			9		
08:30				20:30			11		
08:45				20:45			12		
09:00				21:00			13		
09:15				21:15			17		
09:30				21:30			15		
09:45				21:45			10		
10:00				22:00			12		
10:15			4	22:15			14		
10:30			7	22:30			13		
10:45			9	22:45			11		
11:00			7	23:00			9		
11:15			8	23:15			10		
11:30	25	16	9	23:30			8		
11:45	27	52	18	34	16	23:45	6		
<b>Total Vol.</b>	<b>52</b>	<b>34</b>			<b>391</b>	<b>379</b>			

Daily Total
IN 443
OUT 391

PACIFIC TRAFFIC & TRANSIT DATA SERVICES

Prepared by

AM Period	IN	OUT	MAXIMUM QUEUE	PM Period	IN	OUT	MAXIMUM QUEUE
00:00				12:00	32	24	23
00:15				12:15	42	42	26
00:30				12:30	36	29	11
00:45				12:45	27	137 38 133	11
01:00				13:00	31	26	17
01:15				13:15	28	23	16
01:30				13:30	32	31	11
01:45				13:45	X 91	X 80	9
02:00				14:00			10
02:15				14:15			8
02:30				14:30			15
02:45				14:45			13
03:00				15:00			10
03:15				15:15			12
03:30				15:30			14
03:45				15:45			13
04:00				16:00	17	16	16
04:15				16:15	18	19	19
04:30				16:30	29	24	17
04:45				16:45	18 82	23 82	18
05:00				17:00	28	23	22
05:15				17:15	19	19	24
05:30				17:30	24	21	23
05:45				17:45	28 99	21 84	16
06:00				18:00	13	26	18
06:15				18:15	X	X	23
06:30				18:30	X	X	25
06:45				18:45	X 13	X 26	26
07:00				19:00			23
07:15				19:15			27
07:30				19:30			19
07:45				19:45			21
08:00				20:00			23
08:15				20:15			22
08:30				20:30			18
08:45				20:45			28
09:00				21:00			27
09:15				21:15			16
09:30				21:30			17
09:45				21:45			16
10:00			4	22:00			15
10:15			8	22:15			18
10:30			6	22:30			19
10:45			6	22:45			16
11:00			11	23:00			15
11:15			21	23:15			13
11:30	24	34	23	23:30			12
11:45	25 49	37 71	21	23:45			11

Total Vol. 49 71

422 405

<b>Daily Total</b>	
<b>IN</b>	<b>471</b>
<b>OUT</b>	<b>476</b>

PACIFIC TRAFFIC & TRANSIT DATA SERVICES

May 19 th, 2012

Saturday, May 19th,2012

CITY: Redondo Beach

PROJECT: IN N OUT

AM Period	IN	OUT	MAXIMUM QUEUE	PM Period	IN	OUT	MAXIMUM QUEUE			
00:00				12:00	26	28	16			
00:15				12:15	36	34	20			
00:30				12:30	29	25	31			
00:45				12:45	49	140	40	127	33	
01:00				13:00	48	42	35			
01:15				13:15	38	39	36			
01:30				13:30	40	58	31			
01:45				13:45	X	126	X	139	28	
02:00				14:00			26			
02:15				14:15			23			
02:30				14:30			21			
02:45				14:45			18			
03:00				15:00			12			
03:15				15:15			14			
03:30				15:30			8			
03:45				15:45			19			
04:00				16:00	46	40	22			
04:15				16:15	45	38	26			
04:30				16:30	31	31	24			
04:45				16:45	19	141	40	149	18	
05:00				17:00	33	25	14			
05:15				17:15	24	27	13			
05:30				17:30	28	27	20			
05:45				17:45	23	108	34	113	19	
06:00				18:00	35	26	25			
06:15				18:15	X	X	18			
06:30				18:30	X	X	22			
06:45				18:45	X	35	X	26	19	
07:00				19:00			23			
07:15				19:15			22			
07:30				19:30			24			
07:45				19:45			25			
08:00				20:00			22			
08:15				20:15			23			
08:30				20:30			19			
08:45				20:45			18			
09:00				21:00			12			
09:15				21:15			13			
09:30				21:30			9			
09:45				21:45			14			
10:00			0	22:00			20			
10:15			7	22:15			23			
10:30			8	22:30			26			
10:45			5	22:45			22			
11:00			8	23:00			21			
11:15			10	23:15			23			
11:30	24	34	15	23:30			19			
11:45	25	49	37	23:45			71	16	23:45	12

Total Vol. 49 71

550 554

<b>Daily Total</b>	
<b>IN</b>	<b>599</b>
<b>OUT</b>	<b>625</b>

PACIFIC TRAFFIC & TRANSIT DATA SERVICES



**Table 1**  
**Drive-Through Lane Queue Observation**

Time	Saturday		Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Hourly Peak Queue	Hourly Average Queue	Hourly 85th Percentile Queue
	12/2/2017		12/3/2017		12/4/2017		12/5/2017		12/6/2017		12/7/2017		12/8/2017				
	Corona	Highland	Corona	Highland	Corona	Highland	Corona	Highland	Corona	Highland	Corona	Highland	Corona	Highland			
10:30-10:45	7	4	5	6	6	6	5	5	6	4	5	4	6	6	7	5.4	6.0
10:45-11:00	14	5	11	7	14	8	7	7	12	6	7	7	8	11	14	8.9	12.1
11:00-11:15	7	6	9	9	17	11	11	9	12	9	9	10	10	14	17	10.2	12.1
11:15-11:30	9	14	13	11	14	17	15	10	12	13	11	14	17	15	17	13.2	15.1
11:30-11:45	9	12	17	16	14	15	15	14	15	15	16	14	16	16	17	14.6	16.0
11:45-12:00	11	13	19	18	17	14	10	14	14	14	16	14	15	17	19	14.7	17.1
12:00-12:15	13	16	17	18	12	18	13	17	18	14	15	18	23	19	23	16.5	18.1
12:15-12:30	16	20	18	20	17	17	13	17	18	15	14	18	24	21	24	17.7	20.1
12:30-12:45	20	20	23	20	20	16	13	19	16	15	13	17	23	21	23	18.3	21.1
12:45-1:00	22	21	24	19	15	13	17	18	13	11	14	18	17	20	24	17.3	21.1
1:00-1:15	22	18	24	19	14	14	11	17	13	7	16	18	14	19	24	16.1	19.2
1:15-1:30	23	20	23	19	11	11	14	13	16	10	18	14	15	14	23	15.8	20.2
1:30-1:45	24	20	22	18	11	14	11	13	15	10	17	13	16	16	24	15.7	20.1
1:45-2:00	23	22	17	17	10	14	10	18	13	3	14	13	15	18	23	14.8	18.2
2:00-2:15	22	17	18	15	15	13	11	15	16	14	10	16	15	17	22	15.3	17.1
2:15-2:30	23	17	17	17	17	18	16	16	16	15	13	19	13	18	23	16.8	18.1
2:30-2:45	24	14	23	18	18	14	15	13	12	14	13	16	13	15	24	15.9	18.3
2:45-3:00	20	17	14	15	12	15	14	12	10	13	13	18	15	15	20	14.5	17.1
3:00-3:15	20	16	18	16	18	18	23	14	17	12	14	16	16	18	23	16.9	18.1
3:15-3:30	17	18	14	19	15	18	19	12	18	13	14	14	18	18	19	16.2	18.1
3:30-3:45	17	14	16	19	18	17	17	10	11	17	16	19	17	19	19	16.2	19.0
3:45-4:00	15	12	17	16	16	18	12	11	15	16	14	18	15	17	18	15.1	17.1
4:00-4:15	18	14	20	14	12	15	9	14	12	14	15	15	17	13	20	14.4	17.1
4:15-4:30	16	15	18	14	16	13	10	16	9	12	11	16	11	19	19	14.0	16.1
4:30-4:45	16	14	17	16	17	15	14	14	10	15	9	14	11	17	17	14.2	17.0
4:45-5:00	16	15	17	18	14	18	12	15	16	14	15	17	13	16	18	15.4	17.1
5:00-5:15	23	15	15	19	16	15	13	14	23	13	18	19	13	15	23	16.5	19.2
5:15-5:30	24	18	17	20	23	13	12	13	18	17	21	19	16	19	24	17.9	21.1
5:30-5:45	24	22	23	19	16	16	13	19	16	16	16	18	23	19	24	18.6	23.0
5:45-6:00	23	17	23	18	15	20	13	19	17	18	18	21	15	20	23	18.4	21.1
6:00-6:15	18	23	24	21	12	20	12	18	18	20	23	21	19	23	24	19.4	23.0
6:15-6:30	23	19	24	21	15	19	17	17	23	13	24	19	17	22	24	19.5	23.1 *
6:30-6:45	23	19	25	20	23	19	19	23	17	23	16	24	18	17	25 *	20.4 *	23.1 *
6:45-7:00	20	19	25	19	24	18	17	15	17	14	23	17	15	18	25 *	18.6	23.1 *
7:00-7:15	23	21	24	17	23	16	18	14	14	13	13	16	17	19	24	17.7	23.0
7:15-7:30	15	19	24	18	16	15	15	15	16	15	17	21	18	20	24	17.4	20.1
7:30-7:45	14	17	23	18	12	12	14	16	13	12	16	19	23	21	23	16.4	21.1
7:45-8:00	16	15	23	19	14	15	12	17	13	17	20	19	24	19	24	17.4	20.2
8:00-8:15	15	18	15	20	14	18	12	13	14	18	17	14	23	18	23	16.4	18.1
8:15-8:30	16	19	15	17	15	13	13	16	12	16	14	14	17	17	19	15.3	17.0
8:30-8:45	17	21	16	15	14	13	14	13	10	17	15	12	16	17	21	15.0	17.0
8:45-9:00	14	19	14	14	14	12	10	13	14	19	15	14	13	15	19	14.3	15.2
9:00-9:15	17	20	12	16	14	11	12	14	11	18	13	15	15	18	20	14.7	18.0
9:15-9:30	12	20	10	16	15	14	9	15	11	16	15	19	15	17	20	14.6	17.1
9:30-9:45	16	18	13	17	11	15	8	12	8	14	10	18	16	16	18	13.7	17.1
9:45-10:00	12	17	15	16	9	12	8	11	11	12	13	16	11	16	17	12.8	16.0
10:00-10:15	13	20	12	13	14	10	7	10	12	13	13	15	12	14	20	12.7	14.1
10:15-10:30	12	19	9	12	9	9	6	10	11	15	13	14	15	14	19	12.0	15.0
10:30-10:45	14	18	13	12	11	8	6	8	7	14	11	11	15	14	18	11.6	14.1
10:45-11:00	19	18	11	13	9	7	7	7	8	10	9	11	14	14	19	11.2	14.2
11:00-11:15	20	15	8	15	8	8	6	7	6	11	8	10	13	11	20	10.4	15.0
11:15-11:30	16	17	12	16	6	7	5	8	5	9	7	9	11	12	17	10.0	16.0
11:30-11:45	14	19	10	12	7	6	4	6	4	7	5	8	11	10	19	8.8	12.1
11:45-12:00	12	16	8	9	5	5	4	5	5	8	6	9	11	9	16	8.0	11.1
12:00-12:15	11	16	5	8	5	5	3	6	4	6	4	7	11	8	16	7.1	11.0
12:15-12:30	11	15	7	7	4	4	3	4	3	5	3	5	11	7	15	6.4	11.0
12:30-12:45	13	9	6	5	3	3	3	3	2	3	3	4	11	3	13	5.1	9.1
12:45-1:00	13	8	4	4	2	2	2	2	2	2	2	2	11	5	13	4.4	8.2
Site Peak Queue	24	23	25	21	24	20	23	19	23	20	24	21	24	23			
Site Average Queue	16.8	16.6	16.1	15.5	13.4	13.1	11.3	12.6	12.5	12.6	13.3	14.6	15.2	15.8			
Site 85th Percentile Queue	23.0	20.0	23.0	19.0	17.0	18.0	15.5	17.0	17.0	16.5	17.5	19.0	18.0	19.0			

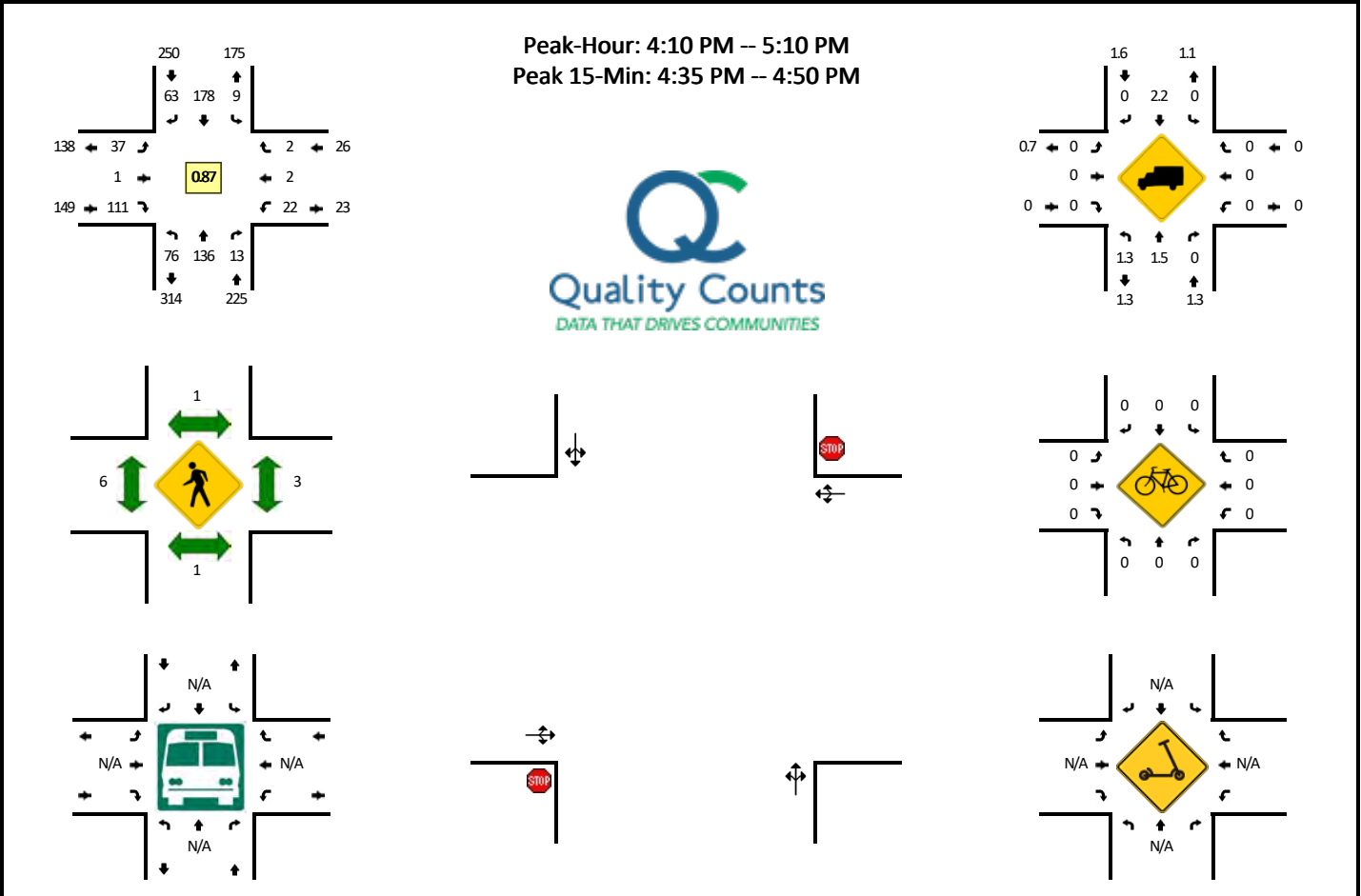
**Table 2**  
**Estimated Project Drive-Through Lane Queue Demand**

Time	Peak Queue	Average Queue	85th Percentile Queue	Queue Exceeds 15-Vehicle Capacity
10:30-10:45	7	5.4	6.0	-
10:45-11:00	14	8.9	12.1	-
11:00-11:15	17	10.2	12.1	-
11:15-11:30	17	13.2	15.1	-
11:30-11:45	17	14.6	16.0	1
11:45-12:00	19	14.7	17.1	2
12:00-12:15	23	16.5	18.1	3
12:15-12:30	24	17.7	20.1	5
12:30-12:45	23	18.3	21.1	6
12:45-1:00	24	17.3	21.1	6
1:00-1:15	24	16.1	19.2	4
1:15-1:30	23	15.8	20.2	5
1:30-1:45	24	15.7	20.1	5
1:45-2:00	23	14.8	18.2	3
2:00-2:15	22	15.3	17.1	2
2:15-2:30	23	16.8	18.1	3
2:30-2:45	24	15.9	18.3	3
2:45-3:00	20	14.5	17.1	2
3:00-3:15	23	16.9	18.1	3
3:15-3:30	19	16.2	18.1	3
3:30-3:45	19	16.2	19.0	4
3:45-4:00	18	15.1	17.1	2
4:00-4:15	20	14.4	17.1	2
4:15-4:30	19	14.0	16.1	1
4:30-4:45	17	14.2	17.0	2
4:45-5:00	18	15.4	17.1	2
5:00-5:15	23	16.5	19.2	4
5:15-5:30	24	17.9	21.1	6
5:30-5:45	24	18.6	23.0	8
5:45-6:00	23	18.4	21.1	6
6:00-6:15	24	19.4	23.0	8
6:15-6:30	24	19.5	23.1 *	8
6:30-6:45	25 *	20.4 *	23.1 *	8
6:45-7:00	25 *	18.6	23.1 *	8
7:00-7:15	24	17.7	23.0	8
7:15-7:30	24	17.4	20.1	5
7:30-7:45	23	16.4	21.1	6
7:45-8:00	24	17.4	20.2	5
8:00-8:15	23	16.4	18.1	3
8:15-8:30	19	15.3	17.0	2
8:30-8:45	21	15.0	17.0	2
8:45-9:00	19	14.3	15.2	-
9:00-9:15	20	14.7	18.0	3
9:15-9:30	20	14.6	17.1	2
9:30-9:45	18	13.7	17.1	2
9:45-10:00	17	12.8	16.0	1
10:00-10:15	20	12.7	14.1	-
10:15-10:30	19	12.0	15.0	-
10:30-10:45	18	11.6	14.1	-
10:45-11:00	19	11.2	14.2	-
11:00-11:15	20	10.4	15.0	-
11:15-11:30	17	10.0	16.0	1
11:30-11:45	19	8.8	12.1	-
11:45-12:00	16	8.0	11.1	-
12:00-12:15	16	7.1	11.0	-
12:15-12:30	15	6.4	11.0	-
12:30-12:45	13	5.1	9.1	-
12:45-1:00	13	4.4	8.2	-

## Appendix B Existing Traffic Counts and COVID-Adjustment Calculations

**LOCATION:** SW 107th Ave -- SW Laurel Rd  
**CITY/STATE:** Beaverton, OR

**QC JOB #:** 15567101  
**DATE:** Tue, Sep 21 2021

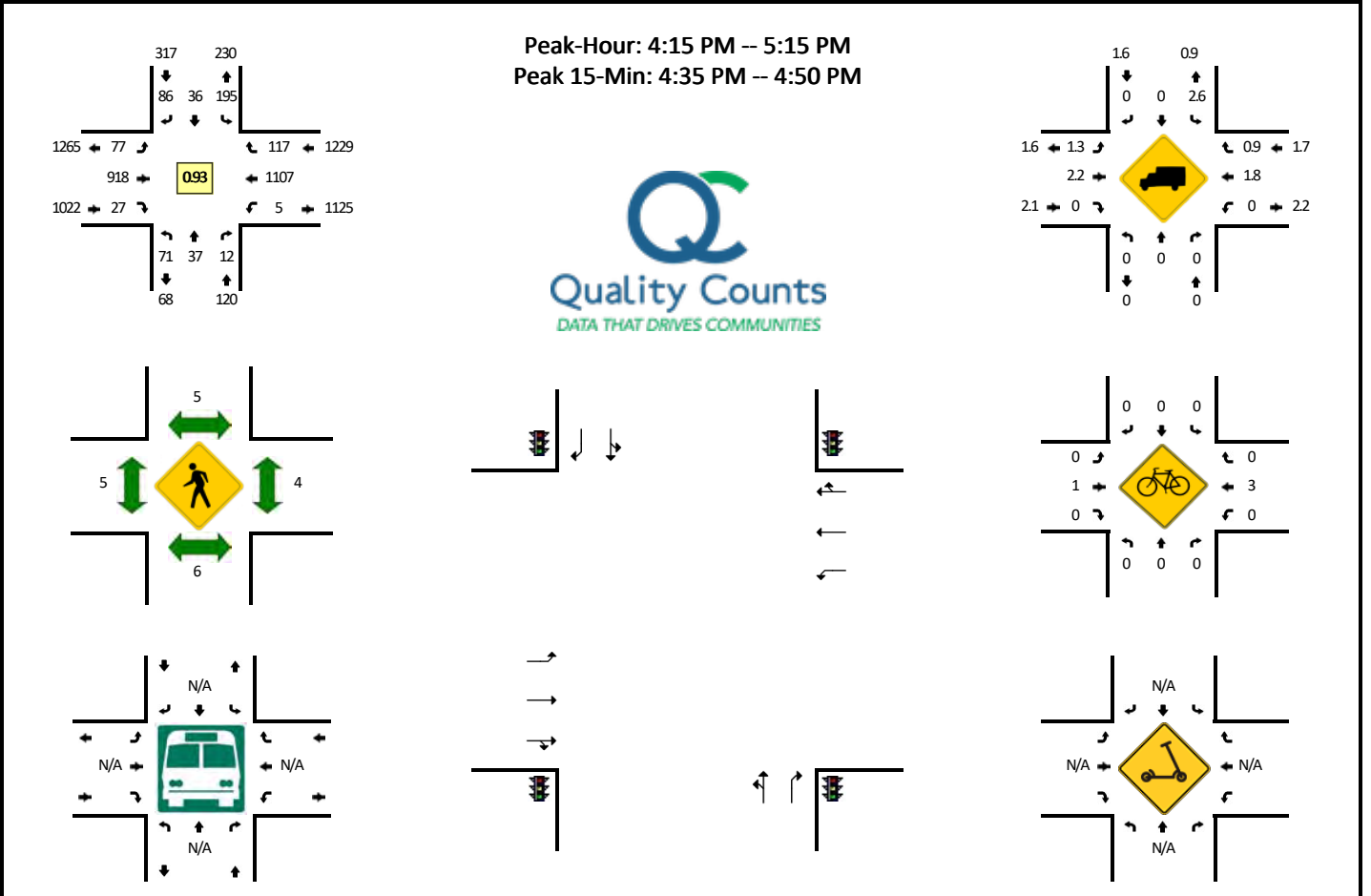


5-Min Count Period Beginning At	SW 107th Ave (Northbound)				SW 107th Ave (Southbound)				SW Laurel Rd (Eastbound)				SW Laurel Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	12	1	0	2	11	7	0	2	0	4	0	3	0	1	0	50	
4:05 PM	10	13	0	0	1	7	2	0	5	0	12	0	0	0	0	0	50	
4:10 PM	3	12	0	0	0	13	7	0	2	0	3	0	2	0	0	0	42	
4:15 PM	5	6	2	2	2	24	9	0	3	0	3	0	3	0	0	0	59	
4:20 PM	2	8	2	0	0	14	0	0	4	0	11	0	4	0	0	0	45	
4:25 PM	5	9	1	0	1	15	7	0	2	0	11	0	1	0	0	0	52	
4:30 PM	6	11	1	0	1	15	3	0	5	0	9	0	4	0	0	0	55	
4:35 PM	7	8	1	0	0	17	6	0	4	0	16	0	0	0	0	0	59	
4:40 PM	11	15	1	0	4	14	2	0	3	0	11	0	2	1	0	0	64	
4:45 PM	3	20	0	0	0	20	4	0	6	0	9	0	1	0	0	0	63	
4:50 PM	6	6	1	0	0	11	4	0	3	0	9	0	4	0	1	0	45	
4:55 PM	10	14	0	0	0	8	10	0	3	0	11	0	0	0	0	0	56	640
5:00 PM	8	14	1	0	0	18	5	0	1	0	10	0	1	0	1	0	59	649
5:05 PM	7	13	3	1	1	9	6	0	1	1	8	0	0	1	0	0	51	650
5:10 PM	1	10	0	0	0	10	3	0	5	0	8	0	0	0	0	0	37	645
5:15 PM	3	16	0	0	1	14	5	0	4	0	11	0	3	0	2	0	59	645
5:20 PM	4	8	0	0	1	12	4	0	2	1	11	0	2	0	0	0	45	645
5:25 PM	9	6	0	0	2	15	4	0	4	1	8	0	1	0	1	0	51	644
5:30 PM	6	8	0	0	1	15	7	0	4	0	9	0	0	0	1	0	51	640
5:35 PM	1	13	0	0	0	11	3	0	0	0	7	0	1	0	0	0	36	617
5:40 PM	8	6	0	0	0	11	7	0	3	0	10	0	2	0	2	0	49	602
5:45 PM	8	11	1	0	3	16	8	0	3	0	13	0	2	0	0	0	65	604
5:50 PM	2	8	0	0	1	18	3	0	2	2	6	0	3	1	0	0	46	605
5:55 PM	6	14	0	0	4	12	6	0	1	0	7	0	1	0	1	0	52	601
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	84	172	8	0	16	204	48	0	52	0	144	0	12	4	0	0	744	
Heavy Trucks	0	0	0		0	8	0		0	0	0		0	0	0		8	
Buses																		
Pedestrians		0				0				0				8			8	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

**LOCATION:** SW 107th Ave -- SW Beaverton Hillsdale Hwy  
**CITY/STATE:** Beaverton, OR

**QC JOB #:** 15567102  
**DATE:** Tue, Sep 21 2021

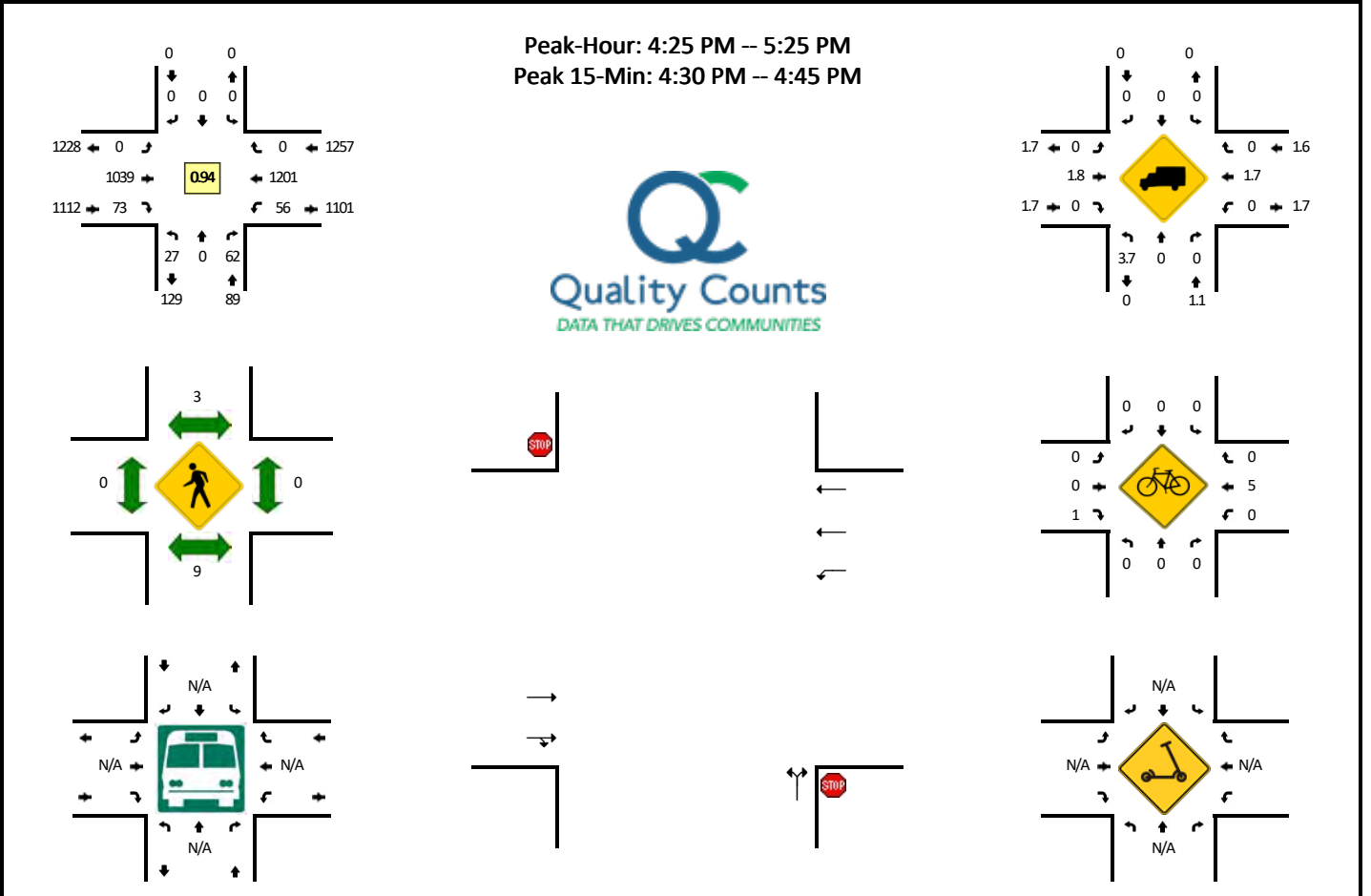


5-Min Count Period Beginning At	SW 107th Ave (Northbound)				SW 107th Ave (Southbound)				SW Beaverton Hillsdale Hwy (Eastbound)				SW Beaverton Hillsdale Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	7	0	0	17	1	7	0	7	73	1	0	1	89	11	0	217	
4:05 PM	5	2	0	0	7	2	6	0	6	69	1	0	0	118	9	0	225	
4:10 PM	6	2	2	0	11	2	10	0	8	61	2	0	1	87	13	0	205	
4:15 PM	7	3	0	0	14	2	11	0	6	73	4	0	1	104	10	0	235	
4:20 PM	8	1	4	0	19	1	6	0	6	81	1	0	0	72	7	0	206	
4:25 PM	4	3	0	0	28	4	7	0	5	75	1	0	0	86	11	0	224	
4:30 PM	8	4	0	0	16	2	4	0	7	90	2	0	1	88	8	0	230	
4:35 PM	4	5	1	0	13	3	10	0	14	82	1	1	0	94	10	0	238	
4:40 PM	4	3	0	0	21	2	7	0	6	70	2	0	0	108	12	0	235	
4:45 PM	3	4	0	0	17	5	15	0	5	89	1	0	0	97	12	0	248	
4:50 PM	4	1	1	0	22	5	6	0	4	69	5	0	0	74	6	0	197	
4:55 PM	4	3	1	0	8	2	5	0	8	70	3	0	0	88	9	0	201	2661
5:00 PM	10	6	2	0	10	2	7	0	4	82	2	0	0	86	12	0	223	2667
5:05 PM	7	3	2	0	15	4	1	0	8	56	3	0	1	100	10	0	210	2652
5:10 PM	8	1	1	0	12	4	7	0	3	81	2	0	2	110	10	0	241	2688
5:15 PM	8	7	1	0	25	4	6	0	4	74	1	0	0	86	2	0	218	2671
5:20 PM	5	1	1	0	14	2	6	0	6	58	1	0	0	94	7	0	195	2660
5:25 PM	4	1	1	0	17	4	7	0	9	74	1	0	1	89	9	0	217	2653
5:30 PM	4	2	1	0	18	4	4	0	8	74	2	1	0	91	12	0	221	2644
5:35 PM	1	4	1	0	10	2	4	0	3	76	0	0	1	106	13	0	221	2627
5:40 PM	3	2	2	0	16	5	4	0	12	79	1	0	2	79	3	0	208	2600
5:45 PM	0	0	0	0	21	0	6	0	8	78	1	0	0	100	12	0	226	2578
5:50 PM	3	0	0	0	17	1	6	0	10	87	1	0	2	83	7	0	217	2598
5:55 PM	2	3	1	0	17	3	8	0	6	65	2	0	4	84	7	0	202	2599
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	44	48	4	0	204	40	128	0	100	964	16	4	0	1196	136	0	2884	
Heavy Trucks	0	0	0	0	8	0	0	0	0	20	0	0	0	28	0	0	56	
Buses																		
Pedestrians		8				0				0				4			12	
Bicycles	0	0	0		0	0	0		0	4	0		0	0	0		4	
Scoters																		

*Comments:*

**LOCATION:** Uwajimaya Entrance -- Beaverton Hillsdale Hwy  
**CITY/STATE:** Beaverton, OR

**QC JOB #:** 15567103  
**DATE:** Tue, Sep 21 2021

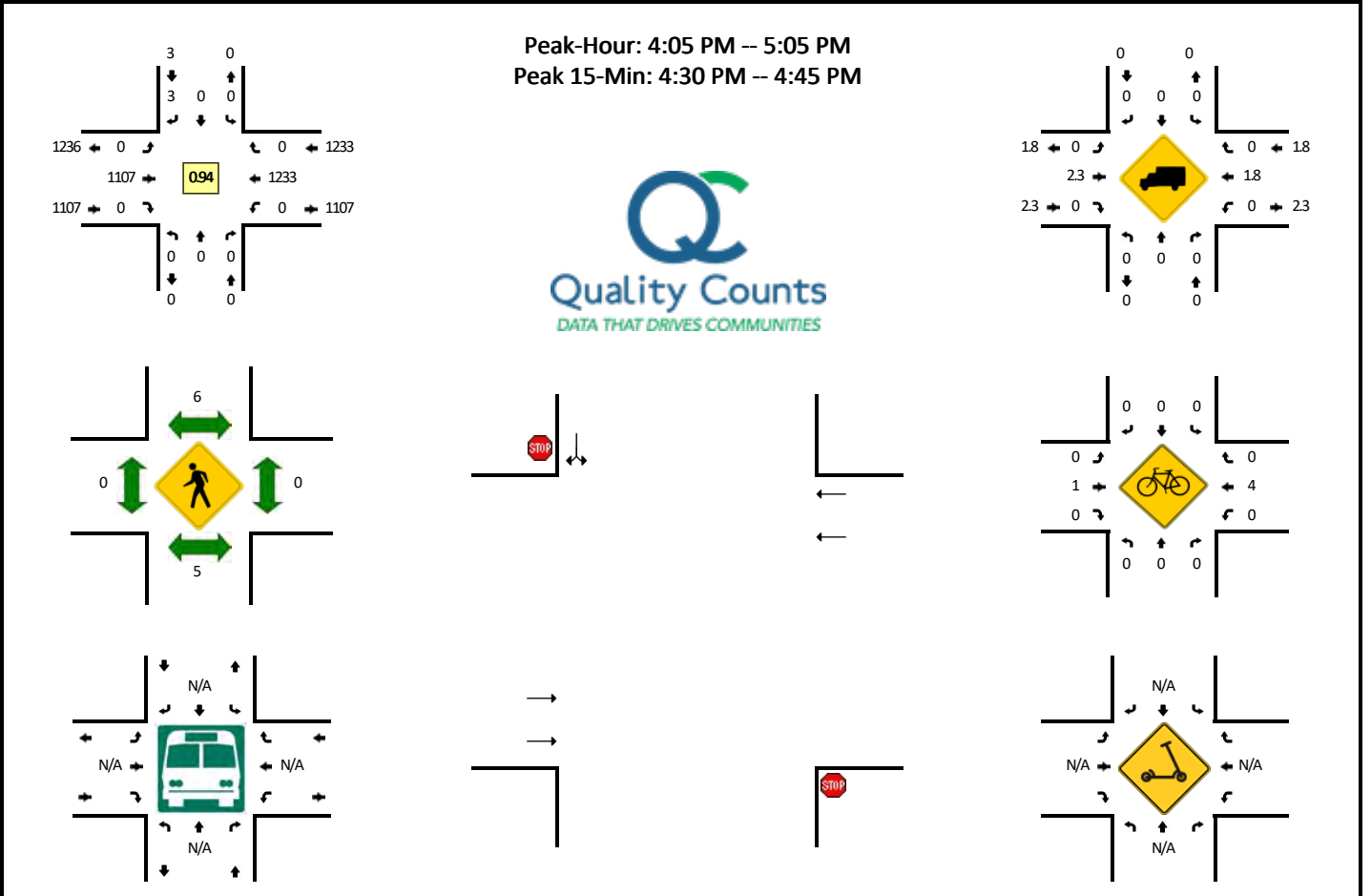


5-Min Count Period Beginning At	Uwajimaya Entrance (Northbound)				Uwajimaya Entrance (Southbound)				Beaverton Hillsdale Hwy (Eastbound)				Beaverton Hillsdale Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	0	2	0	0	0	0	0	0	82	8	0	2	98	0	0	195	
4:05 PM	2	0	4	0	0	0	0	0	0	73	5	0	5	125	0	0	214	
4:10 PM	1	0	6	0	0	0	0	0	0	68	6	0	3	105	0	0	189	
4:15 PM	2	0	1	0	0	0	0	0	0	78	9	0	3	103	0	0	196	
4:20 PM	0	0	4	0	0	0	0	0	0	98	4	0	3	78	0	0	187	
4:25 PM	1	0	3	0	0	0	0	0	0	94	11	0	6	95	0	0	210	
4:30 PM	2	0	6	0	0	0	0	0	0	94	10	0	6	97	0	0	215	
4:35 PM	5	0	8	0	0	0	0	0	0	92	7	0	3	105	0	0	220	
4:40 PM	4	0	6	0	0	0	0	0	0	82	8	0	4	112	0	0	216	
4:45 PM	1	0	10	0	0	0	0	0	0	96	4	0	5	99	0	0	215	
4:50 PM	1	0	4	0	0	0	0	0	0	94	5	0	4	94	0	0	202	
4:55 PM	3	0	1	0	0	0	0	0	0	72	6	0	2	88	0	0	172	2431
5:00 PM	2	0	3	0	0	0	0	0	0	88	5	0	3	103	0	0	204	2440
5:05 PM	2	0	2	0	0	0	0	0	0	68	6	0	3	102	0	0	183	2409
5:10 PM	1	0	5	0	0	0	0	0	0	88	4	0	6	115	0	0	219	2439
5:15 PM	5	0	8	0	0	0	0	0	0	96	3	0	6	95	0	0	213	2456
5:20 PM	0	0	6	0	0	0	0	0	0	75	4	0	8	96	0	0	189	2458
5:25 PM	4	0	6	0	0	0	0	0	0	85	5	0	5	93	0	0	198	2446
5:30 PM	5	0	6	0	0	0	0	0	0	90	5	0	2	102	0	0	210	2441
5:35 PM	0	0	4	0	0	0	0	0	0	78	7	0	3	118	0	0	210	2431
5:40 PM	6	0	7	0	0	0	0	0	0	94	5	0	4	77	0	0	193	2408
5:45 PM	3	0	4	0	0	0	0	0	0	92	10	0	4	106	0	0	219	2412
5:50 PM	2	0	10	0	0	0	0	0	0	101	4	0	2	98	0	0	217	2427
5:55 PM	8	0	3	0	0	0	0	0	0	81	4	0	2	84	0	0	182	2437
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	44	0	80	0	0	0	0	0	0	1072	100	0	52	1256	0	0	2604	
Heavy Trucks	4	0	0	0	0	0	0	0	0	24	0	0	0	12	0	0	40	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0			0	0		0	0	0		0	
Scoters																		

*Comments:*

**LOCATION:** Hawaiian Time West Dwy -- Beaverton Hillsdale Hwy  
**CITY/STATE:** Beaverton, OR

**QC JOB #:** 15567104  
**DATE:** Tue, Sep 21 2021

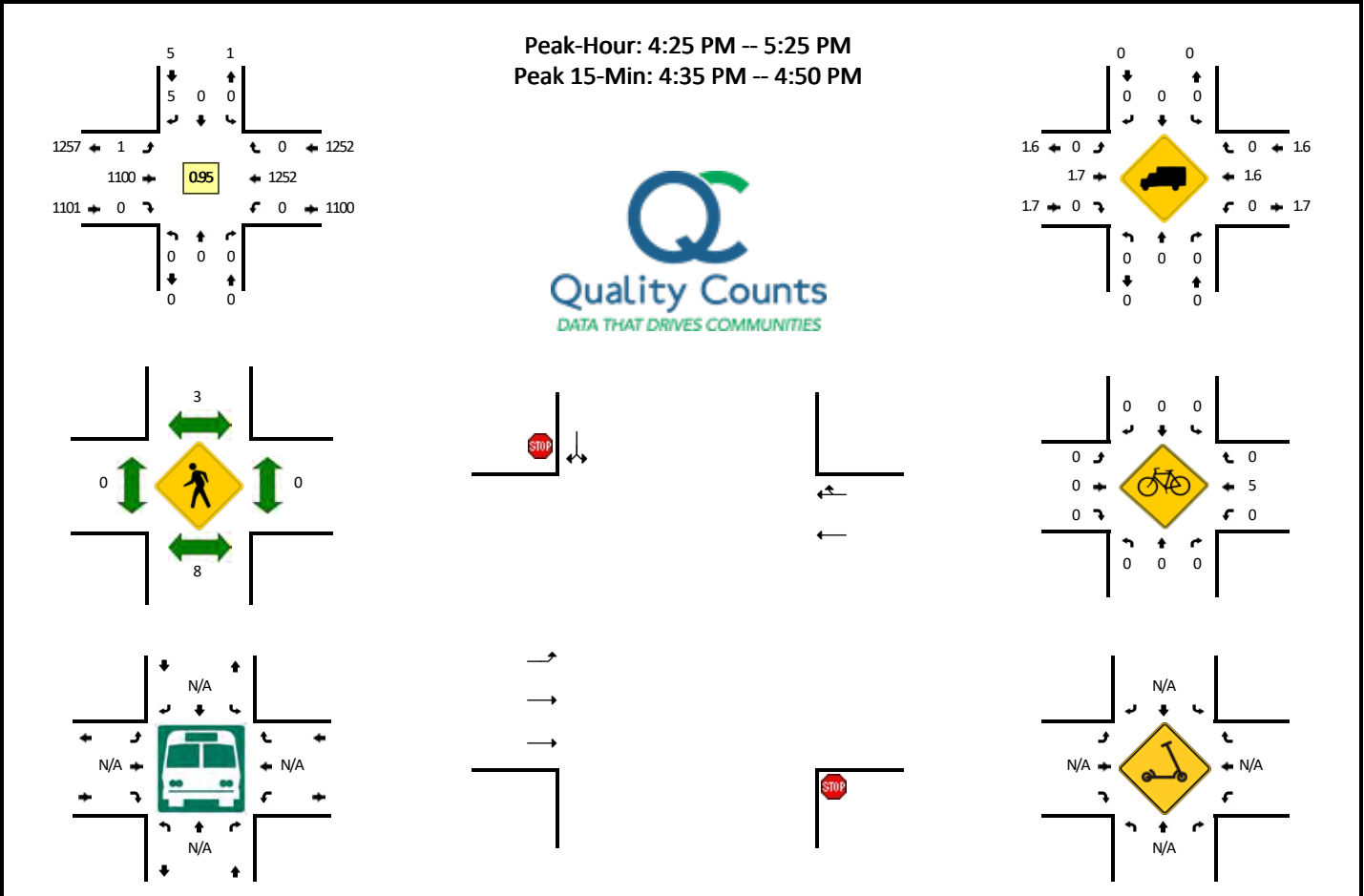


5-Min Count Period Beginning At	Hawaiian Time West Dwy (Northbound)				Hawaiian Time West Dwy (Southbound)				Beaverton Hillsdale Hwy (Eastbound)				Beaverton Hillsdale Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	1	0	0	88	0	0	0	101	0	0	190	
4:05 PM	0	0	0	0	0	0	1	0	0	76	0	0	0	129	0	0	206	
4:10 PM	0	0	0	0	0	0	1	0	0	75	0	0	0	106	0	0	182	
4:15 PM	0	0	0	0	0	0	0	0	0	86	0	0	0	108	0	0	194	
4:20 PM	0	0	0	0	0	0	0	0	0	106	0	0	0	79	0	0	185	
4:25 PM	0	0	0	0	0	0	0	0	0	103	0	0	0	97	0	0	200	
4:30 PM	0	0	0	0	0	0	1	0	0	107	0	0	0	97	0	0	205	
4:35 PM	0	0	0	0	0	0	0	0	0	96	0	0	0	113	0	0	209	
4:40 PM	0	0	0	0	0	0	0	0	0	92	0	0	0	114	0	0	206	
4:45 PM	0	0	0	0	0	0	0	0	0	97	0	0	0	105	0	0	202	
4:50 PM	0	0	0	0	0	0	0	0	0	97	0	0	0	87	0	0	184	
4:55 PM	0	0	0	0	0	0	0	0	0	80	0	0	0	91	0	0	171	2334
5:00 PM	0	0	0	0	0	0	0	0	0	92	0	0	0	107	0	0	199	2343
5:05 PM	0	0	0	0	0	0	1	0	0	75	0	0	0	103	0	0	179	2316
5:10 PM	0	0	0	0	0	0	0	0	0	90	0	0	0	118	0	0	208	2342
5:15 PM	0	0	0	0	0	0	0	0	0	97	0	0	0	97	0	0	194	2342
5:20 PM	0	0	0	0	0	0	0	0	0	77	0	0	0	95	0	0	172	2329
5:25 PM	0	0	0	0	0	0	0	0	0	87	0	0	0	97	0	0	184	2313
5:30 PM	0	0	0	0	0	0	0	0	0	94	0	0	0	106	0	0	200	2308
5:35 PM	0	0	0	0	0	0	0	0	0	88	0	0	0	119	0	0	207	2306
5:40 PM	0	0	0	0	0	0	0	0	0	97	0	0	0	76	0	0	173	2273
5:45 PM	0	0	0	0	0	0	0	0	0	99	0	0	0	110	0	0	209	2280
5:50 PM	0	0	0	0	0	0	0	0	0	104	0	0	0	100	0	0	204	2300
5:55 PM	0	0	0	0	0	0	0	0	0	84	0	0	0	91	0	0	175	2304
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	4	0	0	1180	0	0	0	1296	0	0	2480	
Heavy Trucks	0	0	0	0	0	0	0	0	0	24	0	0	0	24	0	0	48	
Buses																		
Pedestrians		4				0				0				0			4	
Bicycles	0	0	0		0	0	0		0	4	0		0	0	0		4	
Scoters																		

*Comments:*

**LOCATION:** Hawaiian Time East Dwy -- Beaverton Hillsdale Hwy  
**CITY/STATE:** Beaverton, OR

**QC JOB #:** 15567105  
**DATE:** Tue, Sep 21 2021



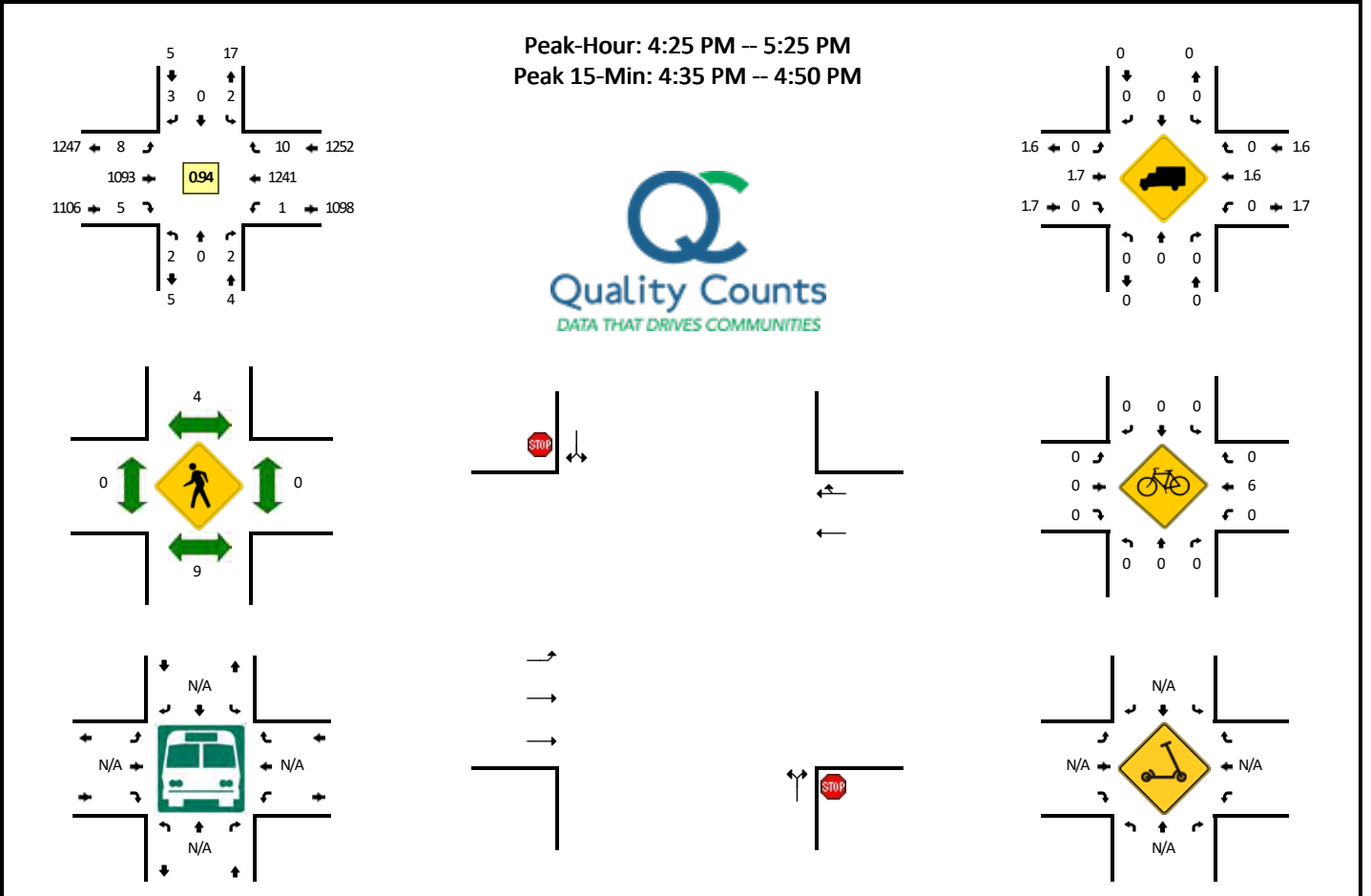
5-Min Count Period Beginning At	Hawaiian Time East Dwy (Northbound)				Hawaiian Time East Dwy (Southbound)				Beaverton Hillsdale Hwy (Eastbound)				Beaverton Hillsdale Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	84	0	0	0	100	0	0	184	
4:05 PM	0	0	0	0	1	0	0	0	0	77	0	0	0	130	1	0	209	
4:10 PM	0	0	0	0	0	0	1	0	0	74	0	0	0	107	1	0	183	
4:15 PM	0	0	0	0	0	0	0	0	0	79	0	0	0	106	1	0	186	
4:20 PM	0	0	0	0	0	0	0	0	0	102	0	0	0	81	0	0	183	
4:25 PM	0	0	0	0	0	0	0	0	0	97	0	0	0	101	0	0	198	
4:30 PM	0	0	0	0	0	0	1	0	1	99	0	0	0	102	0	0	203	
4:35 PM	0	0	0	0	0	0	0	0	0	100	0	0	0	108	0	0	208	
4:40 PM	0	0	0	0	0	0	0	0	0	88	0	0	0	116	0	0	204	
4:45 PM	0	0	0	0	0	0	1	0	0	106	0	0	0	103	0	0	210	
4:50 PM	0	0	0	0	0	0	0	0	0	98	0	0	0	98	0	0	196	
4:55 PM	0	0	0	0	0	0	0	0	0	73	0	0	0	90	0	0	163	2327
5:00 PM	0	0	0	0	0	0	0	0	0	91	0	0	0	106	0	0	197	2340
5:05 PM	0	0	0	0	0	0	1	0	0	70	0	0	0	104	0	0	175	2306
5:10 PM	0	0	0	0	0	0	0	0	0	93	0	0	0	121	0	0	214	2337
5:15 PM	0	0	0	0	0	0	2	0	0	104	0	0	0	99	0	0	205	2356
5:20 PM	0	0	0	0	0	0	0	0	0	81	0	0	0	104	0	0	185	2358
5:25 PM	0	0	0	0	0	0	0	0	0	91	0	0	0	98	2	0	191	2351
5:30 PM	0	0	0	0	0	0	0	0	0	96	0	0	0	104	0	0	200	2348
5:35 PM	0	0	0	0	2	0	0	0	0	82	0	0	0	121	0	0	205	2345
5:40 PM	0	0	0	0	0	0	1	0	3	98	0	0	0	80	0	0	182	2323
5:45 PM	0	0	0	0	0	0	1	0	0	96	0	0	0	109	0	0	206	2319
5:50 PM	0	0	0	0	0	0	1	0	0	111	0	0	0	99	1	0	212	2335
5:55 PM	0	0	0	0	0	0	0	0	1	83	0	0	0	86	0	0	170	2342
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	4	0	0	1176	0	0	0	1308	0	0	2488	
Heavy Trucks	0	0	0	0	0	0	0	0	0	24	0	0	0	24	0	0	48	
Buses																		
Pedestrians		12				0				0				0			12	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:



**LOCATION:** Azteca Dwy -- Beaverton Hillsdale Hwy  
**CITY/STATE:** Beaverton, OR

**QC JOB #:** 15567106  
**DATE:** Tue, Sep 21 2021

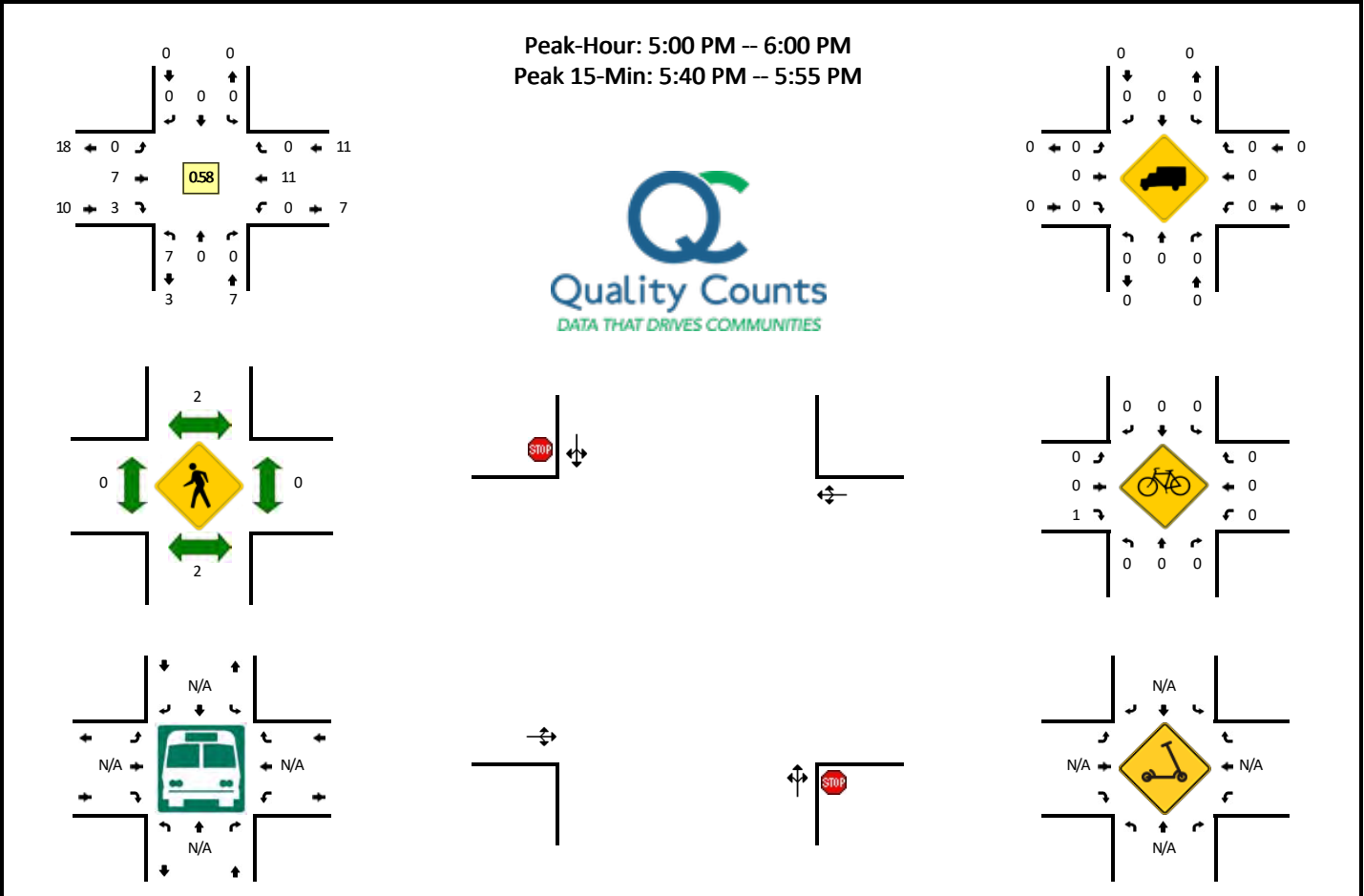


5-Min Count Period Beginning At	Azteca Dwy (Northbound)				Azteca Dwy (Southbound)				Beaverton Hillsdale Hwy (Eastbound)				Beaverton Hillsdale Hwy (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	0	0	0	1	0	0	0	0	0	81	1	0	0	100	2	0	185	
4:05 PM	0	0	1	0	0	0	0	0	0	0	81	0	0	0	135	0	1	218	
4:10 PM	0	0	0	0	0	0	0	0	0	0	73	1	1	0	106	0	1	182	
4:15 PM	0	0	0	0	0	0	0	0	0	1	79	0	0	0	108	1	0	189	
4:20 PM	0	0	0	0	0	0	0	0	0	0	100	0	0	0	81	0	0	181	
4:25 PM	0	0	0	0	0	0	1	0	0	0	99	0	0	0	103	0	0	203	
4:30 PM	0	0	1	0	0	0	0	0	0	1	96	0	1	0	98	0	0	197	
4:35 PM	0	0	0	0	0	0	0	0	0	0	104	0	0	0	107	0	1	212	
4:40 PM	0	0	0	0	1	0	1	0	0	2	82	0	0	0	115	0	0	201	
4:45 PM	1	0	0	0	1	0	0	0	0	1	102	1	0	0	106	2	0	214	
4:50 PM	0	0	0	0	0	0	1	0	0	0	101	2	0	0	88	2	0	194	
4:55 PM	0	0	0	0	0	0	0	0	0	0	75	0	0	0	91	0	0	166	2342
5:00 PM	0	0	0	0	0	0	0	0	0	0	91	1	0	0	105	1	0	198	2355
5:05 PM	0	0	1	0	0	0	0	0	0	1	69	0	0	0	105	2	0	178	2315
5:10 PM	1	0	0	0	0	0	0	0	0	2	86	0	0	0	122	0	0	211	2344
5:15 PM	0	0	0	0	0	0	0	0	0	0	107	1	0	0	98	1	0	207	2362
5:20 PM	0	0	0	0	0	0	0	0	0	0	81	0	0	0	103	2	0	186	2367
5:25 PM	0	0	1	0	0	0	0	0	0	0	88	0	0	0	100	0	0	189	2353
5:30 PM	0	0	1	0	0	0	1	0	0	0	99	0	0	0	104	2	0	207	2363
5:35 PM	0	0	1	0	0	0	1	0	0	1	81	0	0	0	119	0	0	203	2354
5:40 PM	0	0	0	0	0	0	1	0	0	1	94	0	1	0	76	1	0	174	2327
5:45 PM	0	0	0	0	1	0	0	0	0	0	98	0	0	0	108	1	0	208	2321
5:50 PM	0	0	1	0	0	0	0	0	0	1	109	0	1	0	99	2	0	213	2340
5:55 PM	0	0	0	0	1	0	0	0	0	1	83	0	0	0	87	1	0	173	2347
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	4	0	0	0	8	0	4	0	12	1152	4	0	0	1312	8	4	2508		
Heavy Trucks	0	0	0	0	0	0	0	0	0	20	0	0	0	24	0	0	44		
Buses																			
Pedestrians		12				0				0				0			12		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scoters																			

*Comments:*

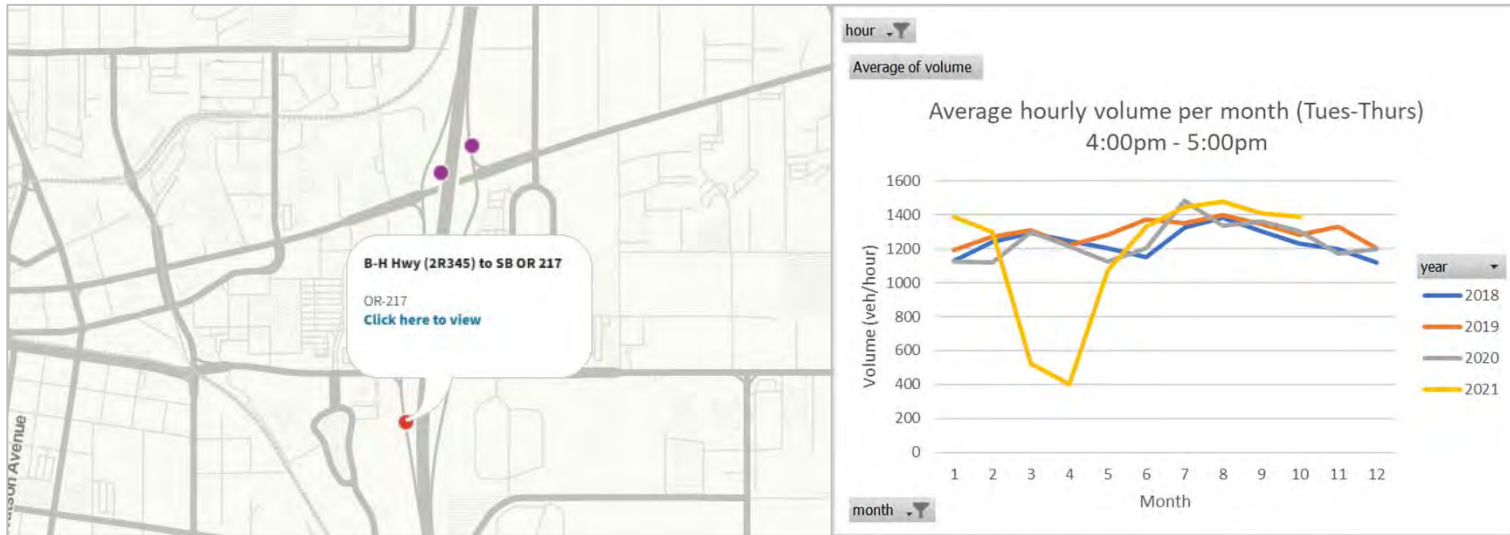
**LOCATION:** Hawaiian Time North Dwy -- SW Laurel Rd  
**CITY/STATE:** West Slope, OR

**QC JOB #:** 15567109  
**DATE:** Tue, Sep 21 2021



5-Min Count Period Beginning At	Hawaiian Time North Dwy (Northbound)				Hawaiian Time North Dwy (Southbound)				SW Laurel Rd (Eastbound)				SW Laurel Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:10 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5	
4:20 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	
4:25 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
4:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:40 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	3	0	0	5	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	23
5:05 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	26
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
5:15 PM	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	4	23
5:20 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21
5:25 PM	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3	22
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	20
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	21
5:40 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	18
5:45 PM	1	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	5	23
5:50 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	5	26
5:55 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	28
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	0	0	0	0	0	0	0	0	8	12	0	0	16	0	0	48	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians		0				4				0				0			4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

*Comments:*



Date Range ? Time Range ? Quantities ? Configuration ? Select Lane: ?

Start: 10/21/2018 Start: 15:00 1st: Volume (VPLPH) Resolution: 1hr Lane: all

End: 10/21/2021 End: 18:59 2nd: Volume (VPLPH) Group: No

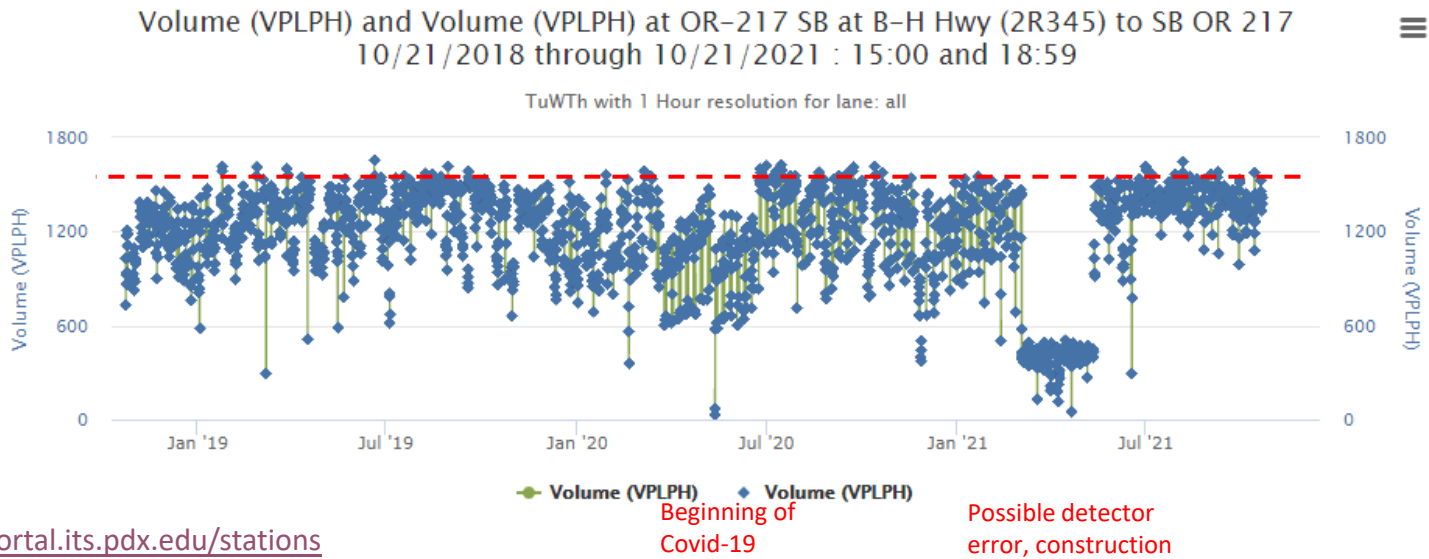
Sun Mon **Tue** **Wed** **Thu** Fri Sat

Update Charts

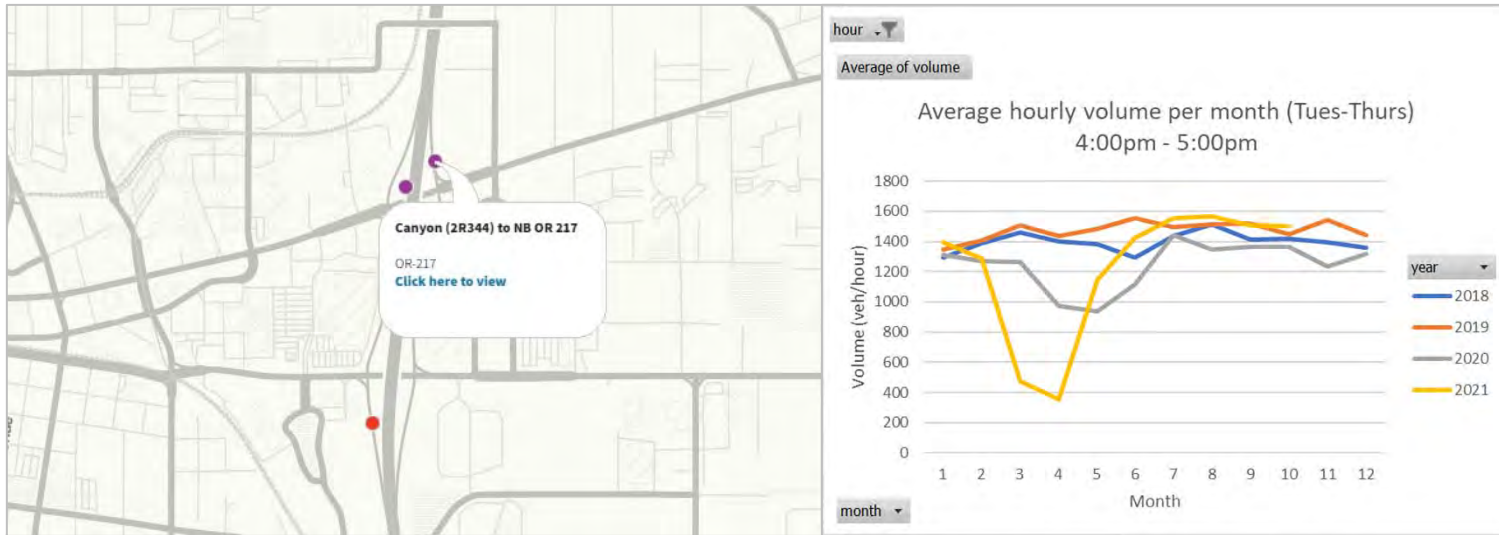
Downstream Station: Canyon (2DS062) @ SB OR 217 MP1.5 →

Opposite Direction: N/A ↔

←Upstream Station: Allen (2R341) to SB OR 217



Source: <https://portal.its.pdx.edu/stations>



Date Range ? Time Range ? Quantities ? Configuration ? Select Lane: ?

Start: 10/21/2018 Start: 15:00 1st: Volume (VPLPH) Resolution: 1hr Lane: all

End: 10/21/2021 End: 18:59 2nd: Volume (VPLPH) Group: No

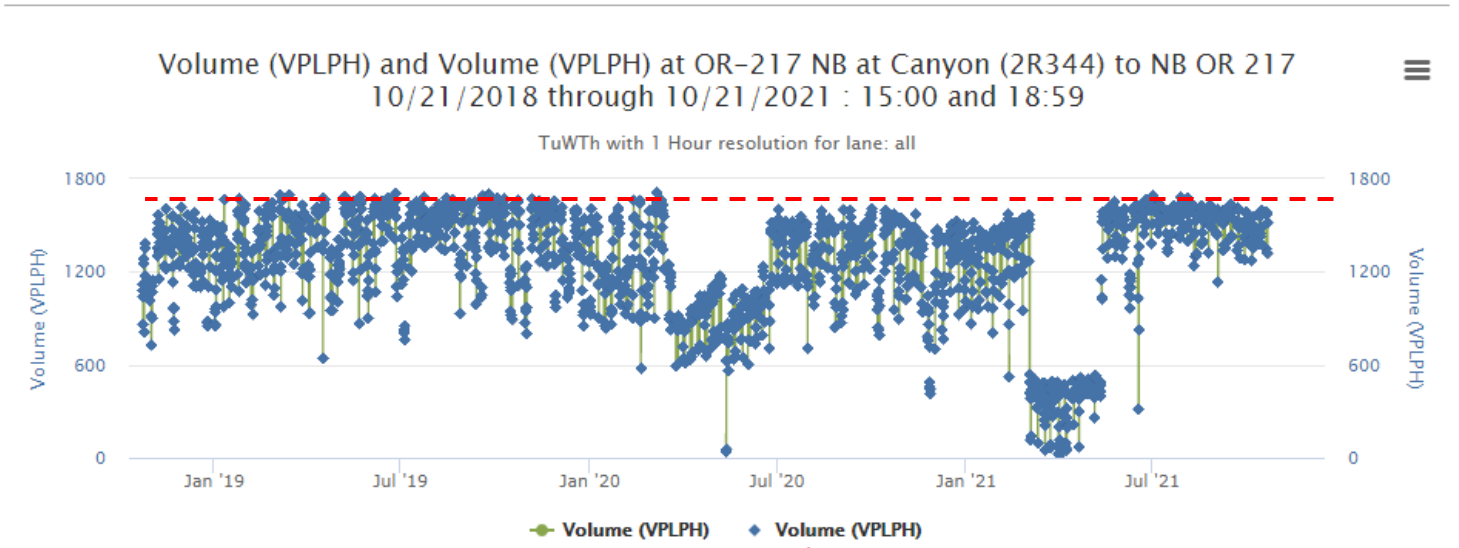
Sun Mon Tue Wed Thu Fri Sat

Update Charts

Downstream Station: Canyon (2D5062) @ NB OR 217 MP1.5

Opposite Direction: N/A

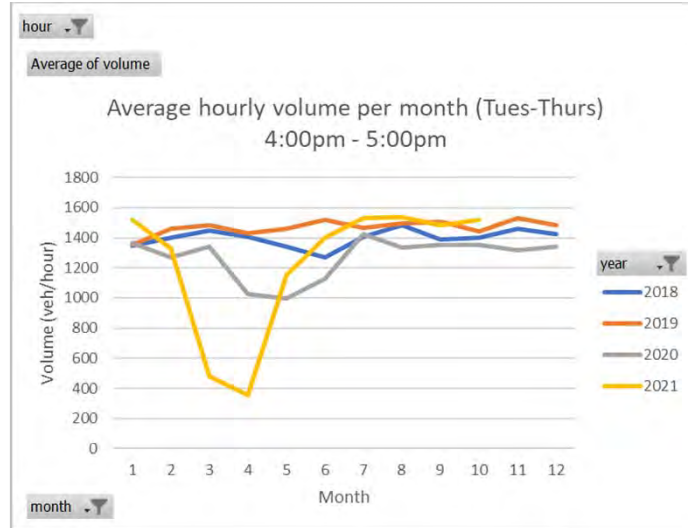
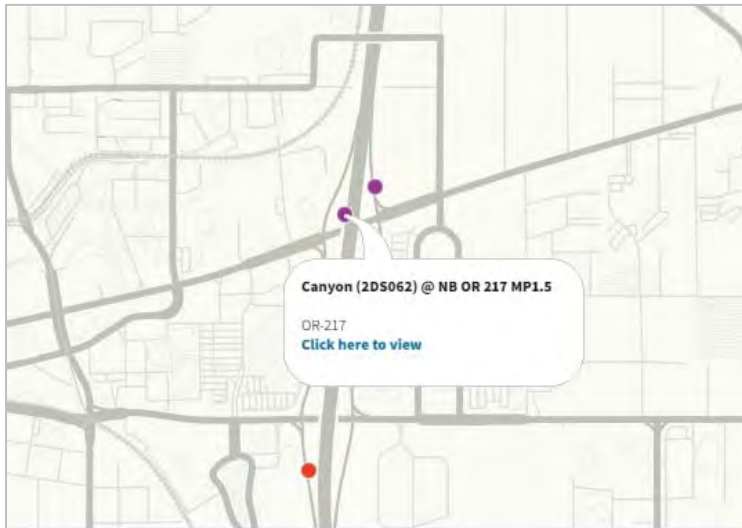
← Upstream Station: Walker (2R339) to NB OR 217



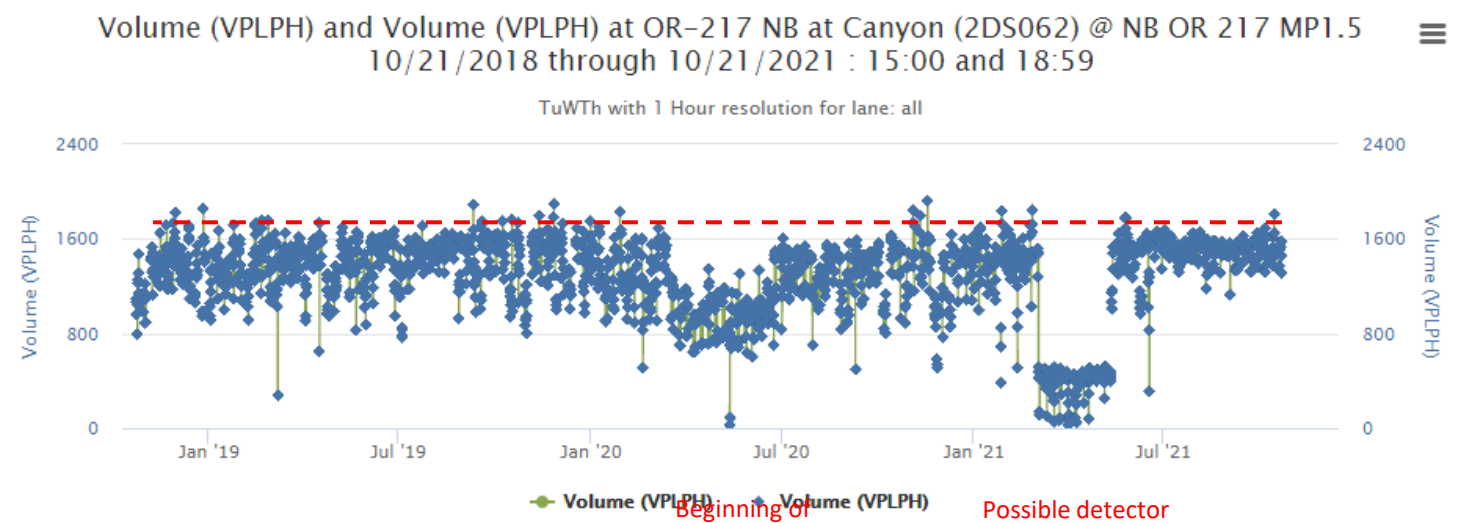
Beginning of  
Covid-19

Possible detector  
error, construction

Source: <https://portal.its.pdx.edu/stations>



**Date Range** ?      **Time Range** ?      **Quantities** ?      **Configuration** ?      **Select Lane:** ?  
 Start: 10/21/2018      Start: 15:00      1st: Volume (VPLPH)      Resolution: 1hr      Lane: all  
 End: 10/21/2021      End: 18:59      2nd: Volume (VPLPH)      Group: No  
 Sun Mon **Tue** **Wed** **Thu** Fri Sat  
 Update Charts      Downstream Station: Allen (2R340) to NB OR 217 →      Opposite Direction: N/A ↔      ← Upstream Station: Canyon (2R344) to NB OR 217



Beginning of Covid-19      Possible detector error, construction

Source: <https://portal.its.pdx.edu/stations>

## Appendix C 2023 Intersection Operations

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	1	111	23	2	2	76	141	14	9	185	63
Future Vol, veh/h	37	1	111	23	2	2	76	141	14	9	185	63
Conflicting Peds, #/hr	1	0	1	1	0	1	6	0	3	3	0	6
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	-	-	1	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	1	1	0	0	2	0
Mvmt Flow	43	1	128	26	2	2	87	162	16	10	213	72

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	622	630	256	682	658	174	291	0	0	181	0	0
Stage 1	275	275	-	347	347	-	-	-	-	-	-	-
Stage 2	347	355	-	335	311	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	402	401	788	367	387	875	1276	-	-	1407	-	-
Stage 1	736	686	-	673	638	-	-	-	-	-	-	-
Stage 2	673	633	-	683	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	371	365	784	286	352	872	1270	-	-	1404	-	-
Mov Cap-2 Maneuver	371	365	-	286	352	-	-	-	-	-	-	-
Stage 1	677	676	-	621	588	-	-	-	-	-	-	-
Stage 2	617	584	-	565	653	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.2		18.1		2.6		0.3	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1270	-	-	611	305	1404	-
HCM Lane V/C Ratio	0.069	-	-	0.28	0.102	0.007	-
HCM Control Delay (s)	8	0	-	13.2	18.1	7.6	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0.2	-	-	1.1	0.3	0	-

**Intersection**

Int Delay, s/veh 2.2

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	7	3	0	11	7	0
Future Vol, veh/h	7	3	0	11	7	0
Conflicting Peds, #/hr	0	2	2	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	58	58	58	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	5	0	19	12	0

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	19	0	36	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	19	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1611	-	982	1068
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1009	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1608	-	980	1066
Mov Cap-2 Maneuver	-	-	-	-	980	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	1009	-

**Approach** EB WB NB

HCM Control Delay, s	0	0	8.7
HCM LOS			A

**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	980	-	-	1608	-
HCM Lane V/C Ratio	0.012	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



HCM 6th Signalized Intersection Summary  
 3: SW 107th Ave & SW Beaverton Hillsdale Hwy

25622 In-N-Out Burger  
 10/27/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕	↗		↕	↗
Traffic Volume (veh/h)	80	955	28	5	1157	124	74	38	12	203	37	89
Future Volume (veh/h)	80	955	28	5	1157	124	74	38	12	203	37	89
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		0.97	1.00		0.99	0.99		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	1885	1870	1870	1900	1870	1870	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	1027	30	5	1244	133	80	41	13	218	40	96
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	2	2	0	2	2	0	0	0	0	0	0
Cap, veh/h	294	2410	70	370	2119	226	263	126	324	303	45	324
Arrive On Green	0.03	0.68	0.68	0.01	0.66	0.66	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1795	3523	103	1810	3230	344	1054	620	1598	1224	225	1598
Grp Volume(v), veh/h	86	518	539	5	682	695	121	0	13	258	0	96
Grp Sat Flow(s),veh/h/ln	1795	1777	1849	1810	1777	1798	1674	0	1598	1448	0	1598
Q Serve(g_s), s	1.8	15.6	15.6	0.1	25.7	26.0	0.0	0.0	0.8	13.5	0.0	6.1
Cycle Q Clear(g_c), s	1.8	15.6	15.6	0.1	25.7	26.0	7.2	0.0	0.8	20.7	0.0	6.1
Prop In Lane	1.00		0.06	1.00		0.19	0.66		1.00	0.84		1.00
Lane Grp Cap(c), veh/h	294	1215	1265	370	1165	1179	389	0	324	349	0	324
V/C Ratio(X)	0.29	0.43	0.43	0.01	0.59	0.59	0.31	0.00	0.04	0.74	0.00	0.30
Avail Cap(c_a), veh/h	511	1215	1265	437	1165	1179	512	0	453	465	0	453
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	9.7	8.5	8.5	7.5	11.5	11.6	41.0	0.0	38.5	46.4	0.0	40.6
Incr Delay (d2), s/veh	0.5	1.1	1.1	0.0	2.2	2.2	0.5	0.0	0.1	4.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	9.8	10.1	0.1	15.2	15.4	5.7	0.0	0.6	12.5	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	9.5	9.5	7.6	13.7	13.8	41.5	0.0	38.5	50.7	0.0	41.1
LnGrp LOS	B	A	A	A	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1143			1382			134				354
Approach Delay, s/veh		9.6			13.7			41.2				48.1
Approach LOS		A			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	86.6		28.3	8.5	83.2		28.3				
Change Period (Y+Rc), s	4.5	4.5		4.0	4.5	4.5		4.0				
Max Green Setting (Gmax), s	5.1	67.9		34.0	18.5	54.5		34.0				
Max Q Clear Time (g_c+I1), s	2.1	17.6		22.7	3.8	28.0		9.2				
Green Ext Time (p_c), s	0.0	8.5		1.5	0.1	11.1		0.7				

Intersection Summary

HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑↑	↑↑		↘	
Traffic Vol, veh/h	0	1170	1283	0	0	3
Future Vol, veh/h	0	1170	1283	0	0	3
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	0	1245	1365	0	0	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1371	0	-	0	1994 689
Stage 1	-	-	-	-	1371 -
Stage 2	-	-	-	-	623 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	507	-	-	-	54 393
Stage 1	-	-	-	-	205 -
Stage 2	-	-	-	-	503 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	504	-	-	-	53 391
Mov Cap-2 Maneuver	-	-	-	-	151 -
Stage 1	-	-	-	-	204 -
Stage 2	-	-	-	-	500 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	504	-	-	-	391
HCM Lane V/C Ratio	-	-	-	-	0.008
HCM Control Delay (s)	0	-	-	-	14.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

**Intersection**

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	1095	73	56	1255	27	62
Future Vol, veh/h	1095	73	56	1255	27	62
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	0	0	2	4	0
Mvmt Flow	1165	78	60	1335	29	66

**Major/Minor**

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1252	0	2001
Stage 1	-	-	-	-	1213
Stage 2	-	-	-	-	788
Critical Hdwy	-	-	6.9	-	6.88
Critical Hdwy Stg 1	-	-	-	-	5.88
Critical Hdwy Stg 2	-	-	-	-	5.88
Follow-up Hdwy	-	-	6.9	-	3.54
Pot Cap-1 Maneuver	-	-	125	-	51
Stage 1	-	-	-	-	240
Stage 2	-	-	-	-	403
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	124	-	26
Mov Cap-2 Maneuver	-	-	-	-	113
Stage 1	-	-	-	-	238
Stage 2	-	-	-	-	208

**Approach**

	EB	WB	NB
HCM Control Delay, s	0	2.5	31
HCM LOS			D

**Minor Lane/Major Mvmt**

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	231	-	-	124	-
HCM Lane V/C Ratio	0.41	-	-	0.48	-
HCM Control Delay (s)	31	-	-	58.3	-
HCM Lane LOS	D	-	-	F	-
HCM 95th %tile Q(veh)	1.9	-	-	2.2	-

**Notes**

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1158	1308	0	0	5
Future Vol, veh/h	1	1158	1308	0	0	5
Conflicting Peds, #/hr	3	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	1	1219	1377	0	0	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1380	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	503	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	502	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	502	-	-	-	390
HCM Lane V/C Ratio	0.002	-	-	-	0.013
HCM Control Delay (s)	12.2	-	-	-	14.4
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	1150	1305	10	2	3
Future Vol, veh/h	8	1150	1305	10	2	3
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	9	1223	1388	11	2	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1403	0	0 2028 704
Stage 1	-	-	- 1398 -
Stage 2	-	-	- 630 -
Critical Hdwy	4.1	-	- 6.8 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.8 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	493	-	- 51 384
Stage 1	-	-	- 198 -
Stage 2	-	-	- 498 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	491	-	- 50 383
Mov Cap-2 Maneuver	-	-	- 145 -
Stage 1	-	-	- 194 -
Stage 2	-	-	- 496 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	491	-	-	-	383
HCM Lane V/C Ratio	0.017	-	-	-	0.008
HCM Control Delay (s)	12.5	-	-	-	14.5
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	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	37	1	111	17	2	1	76	149	14	6	195	63
Future Vol, veh/h	37	1	111	17	2	1	76	149	14	6	195	63
Conflicting Peds, #/hr	1	0	1	1	0	1	6	0	3	3	0	6
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	-	-	1	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	1	1	0	0	2	0
Mvmt Flow	43	1	128	20	2	1	87	171	16	7	224	72

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	636	644	267	696	672	183	302	0	0	190	0	0
Stage 1	280	280	-	356	356	-	-	-	-	-	-	-
Stage 2	356	364	-	340	316	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	393	394	777	359	380	865	1265	-	-	1396	-	-
Stage 1	731	683	-	666	633	-	-	-	-	-	-	-
Stage 2	666	627	-	679	659	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	364	359	773	279	346	862	1259	-	-	1393	-	-
Mov Cap-2 Maneuver	364	359	-	279	346	-	-	-	-	-	-	-
Stage 1	672	675	-	613	583	-	-	-	-	-	-	-
Stage 2	611	577	-	562	652	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	13.4		18.2		2.6		0.2			
HCM LOS	B		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1259	-	-	601	295	1393	-
HCM Lane V/C Ratio	0.069	-	-	0.285	0.078	0.005	-
HCM Control Delay (s)	8.1	0	-	13.4	18.2	7.6	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0.2	-	-	1.2	0.3	0	-

HCM 6th Signalized Intersection Summary  
 3: SW 107th Ave & SW Beaverton Hillsdale Hwy

25622 In-N-Out Burger  
 10/27/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↖	↖		↖	↖
Traffic Volume (veh/h)	80	990	28	5	1184	132	74	38	12	211	37	87
Future Volume (veh/h)	80	990	28	5	1184	132	74	38	12	211	37	87
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		0.97	1.00		0.99	0.99		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	1885	1870	1870	1900	1870	1870	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	1065	30	5	1273	142	80	41	13	227	40	94
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	2	2	0	2	2	0	0	0	0	0	0
Cap, veh/h	281	2394	67	352	2091	232	270	129	332	311	45	332
Arrive On Green	0.03	0.68	0.68	0.01	0.65	0.65	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1795	3527	99	1810	3215	357	1060	621	1599	1231	217	1599
Grp Volume(v), veh/h	86	536	559	5	701	714	121	0	13	267	0	94
Grp Sat Flow(s),veh/h/ln	1795	1777	1849	1810	1777	1795	1681	0	1599	1447	0	1599
Q Serve(g_s), s	1.9	16.7	16.7	0.1	27.3	27.7	0.0	0.0	0.8	14.3	0.0	5.9
Cycle Q Clear(g_c), s	1.9	16.7	16.7	0.1	27.3	27.7	7.2	0.0	0.8	21.5	0.0	5.9
Prop In Lane	1.00		0.05	1.00		0.20	0.66		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	281	1206	1255	352	1156	1167	399	0	332	356	0	332
V/C Ratio(X)	0.31	0.44	0.44	0.01	0.61	0.61	0.30	0.00	0.04	0.75	0.00	0.28
Avail Cap(c_a), veh/h	497	1206	1255	419	1156	1167	514	0	453	465	0	453
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	10.4	8.9	8.9	7.9	12.1	12.2	40.5	0.0	38.0	46.1	0.0	40.0
Incr Delay (d2), s/veh	0.6	1.2	1.1	0.0	2.4	2.4	0.4	0.0	0.0	4.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	10.3	10.7	0.1	16.0	16.3	5.6	0.0	0.6	13.0	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	10.1	10.0	7.9	14.5	14.6	40.9	0.0	38.0	50.9	0.0	40.5
LnGrp LOS	B	B	B	A	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1181			1420			134			361	
Approach Delay, s/veh		10.1			14.5			40.6			48.2	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	86.0		28.9	8.5	82.6		28.9				
Change Period (Y+Rc), s	4.5	4.5		4.0	4.5	4.5		4.0				
Max Green Setting (Gmax), s	5.1	67.9		34.0	18.5	54.5		34.0				
Max Q Clear Time (g_c+1), s	11.2	18.7		23.5	3.9	29.7		9.2				
Green Ext Time (p_c), s	0.0	8.9		1.4	0.1	11.2		0.7				

Intersection Summary

HCM 6th Ctrl Delay		17.9										
HCM 6th LOS			B									

**Intersection**

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	1213	1270	17	0	50
Future Vol, veh/h	0	1213	1270	17	0	50
Conflicting Peds, #/hr	6	0	0	6	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	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	0	1290	1351	18	0	53

**Major/Minor**

	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

**Approach**

	EB	WB	SB
HCM Control Delay, s	0	0	15.7
HCM LOS			C

**Minor Lane/Major Mvmt**

	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	390
HCM Lane V/C Ratio	-	-	-	0.136
HCM Control Delay (s)	-	-	-	15.7
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5



Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↗	
Traffic Vol, veh/h	1138	73	56	1259	27	62
Future Vol, veh/h	1138	73	56	1259	27	62
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	0	0	2	4	0
Mvmt Flow	1211	78	60	1339	29	66

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1298	0	2049
Stage 1	-	-	-	-	1259
Stage 2	-	-	-	-	790
Critical Hdwy	-	-	6.9	-	6.88
Critical Hdwy Stg 1	-	-	-	-	5.88
Critical Hdwy Stg 2	-	-	-	-	5.88
Follow-up Hdwy	-	-	6.9	-	3.54
Pot Cap-1 Maneuver	-	-	118	-	47
Stage 1	-	-	-	-	227
Stage 2	-	-	-	-	402
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	117	-	23
Mov Cap-2 Maneuver	-	-	-	-	106
Stage 1	-	-	-	-	225
Stage 2	-	-	-	-	196

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	33.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	219	-	-	117	-
HCM Lane V/C Ratio	0.432	-	-	0.509	-
HCM Control Delay (s)	33.4	-	-	64.1	-
HCM Lane LOS	D	-	-	F	-
HCM 95th %tile Q(veh)	2	-	-	2.3	-

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	53	1149	1314	15	22	5
Future Vol, veh/h	53	1149	1314	15	22	5
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	56	1222	1398	16	23	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1418	0	0 2133 711
Stage 1	-	-	- 1410 -
Stage 2	-	-	- 723 -
Critical Hdwy	6.9	-	- 6.8 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.8 -
Follow-up Hdwy	6.9	-	- 3.5 3.3
Pot Cap-1 Maneuver	100	-	- 43 380
Stage 1	-	-	- 195 -
Stage 2	-	-	- 447 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	100	-	- ~ 19 379
Mov Cap-2 Maneuver	-	-	- 70 -
Stage 1	-	-	- 85 -
Stage 2	-	-	- 445 -

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	70.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	100	-	-	-	82
HCM Lane V/C Ratio	0.564	-	-	-	0.35
HCM Control Delay (s)	79.8	-	-	-	70.9
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	2.6	-	-	-	1.3

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	1	111	35	2	13	76	141	14	6	195	63
Future Vol, veh/h	37	1	111	35	2	13	76	141	14	6	195	63
Conflicting Peds, #/hr	1	0	1	1	0	1	6	0	3	3	0	6
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	-	-	1	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	1	1	0	0	2	0
Mvmt Flow	43	1	128	40	2	15	87	162	16	7	224	72

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	634	635	267	687	663	174	302	0	0	181	0	0
Stage 1	280	280	-	347	347	-	-	-	-	-	-	-
Stage 2	354	355	-	340	316	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	395	399	777	364	384	875	1265	-	-	1407	-	-
Stage 1	731	683	-	673	638	-	-	-	-	-	-	-
Stage 2	667	633	-	679	659	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	360	363	773	283	350	872	1259	-	-	1404	-	-
Mov Cap-2 Maneuver	360	363	-	283	350	-	-	-	-	-	-	-
Stage 1	672	675	-	620	588	-	-	-	-	-	-	-
Stage 2	602	583	-	562	652	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	13.4		17.4		2.7		0.2			
HCM LOS	B		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1259	-	-	598	347	1404	-
HCM Lane V/C Ratio	0.069	-	-	0.286	0.166	0.005	-
HCM Control Delay (s)	8.1	0	-	13.4	17.4	7.6	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0.2	-	-	1.2	0.6	0	-

Intersection						
Int Delay, s/veh	5.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	7	0	0	11	30	0
Future Vol, veh/h	7	0	0	11	30	0
Conflicting Peds, #/hr	0	2	2	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	58	58	58	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	0	0	19	52	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	31
Stage 1	-	-	-	-	12
Stage 2	-	-	-	-	19
Critical Hdwy	-	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	-	-	3.5
Pot Cap-1 Maneuver	-	0	0	-	988
Stage 1	-	0	0	-	1016
Stage 2	-	0	0	-	1009
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	988
Mov Cap-2 Maneuver	-	-	-	-	988
Stage 1	-	-	-	-	1016
Stage 2	-	-	-	-	1009

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	988	-	-
HCM Lane V/C Ratio	0.052	-	-
HCM Control Delay (s)	8.8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

HCM 6th Signalized Intersection Summary  
 3: SW 107th Ave & SW Beaverton Hillsdale Hwy

25622 In-N-Out Burger  
 10/27/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘			↖	↖		↖	↖
Traffic Volume (veh/h)	80	990	28	5	1184	124	74	38	12	229	37	87
Future Volume (veh/h)	80	990	28	5	1184	124	74	38	12	229	37	87
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		0.97	1.00		0.99	0.99		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	1885	1870	1870	1900	1870	1870	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	1065	30	5	1273	133	80	41	13	246	40	94
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	2	2	0	2	2	0	0	0	0	0	0
Cap, veh/h	276	2350	66	342	2064	215	286	137	352	330	45	352
Arrive On Green	0.03	0.67	0.67	0.01	0.64	0.64	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1795	3527	99	1810	3239	337	1073	623	1599	1243	202	1599
Grp Volume(v), veh/h	86	536	559	5	696	710	121	0	13	286	0	94
Grp Sat Flow(s),veh/h/ln	1795	1777	1849	1810	1777	1799	1696	0	1599	1446	0	1599
Q Serve(g_s), s	1.9	17.3	17.3	0.1	28.0	28.4	0.0	0.0	0.8	16.1	0.0	5.8
Cycle Q Clear(g_c), s	1.9	17.3	17.3	0.1	28.0	28.4	7.0	0.0	0.8	23.0	0.0	5.8
Prop In Lane	1.00		0.05	1.00		0.19	0.66		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	276	1184	1232	342	1132	1146	424	0	352	374	0	352
V/C Ratio(X)	0.31	0.45	0.45	0.01	0.61	0.62	0.29	0.00	0.04	0.76	0.00	0.27
Avail Cap(c_a), veh/h	491	1184	1232	410	1132	1146	520	0	453	465	0	453
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	11.1	9.6	9.6	8.5	13.0	13.0	39.2	0.0	36.8	45.4	0.0	38.7
Incr Delay (d2), s/veh	0.6	1.3	1.2	0.0	2.5	2.5	0.4	0.0	0.0	5.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	10.8	11.1	0.1	16.5	16.9	5.5	0.0	0.6	13.8	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	10.8	10.8	8.5	15.5	15.6	39.5	0.0	36.8	51.2	0.0	39.1
LnGrp LOS	B	B	B	A	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1181			1411			134				380
Approach Delay, s/veh		10.9			15.5			39.3				48.2
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	84.4		30.4	8.6	81.0		30.4				
Change Period (Y+Rc), s	4.5	4.5		4.0	4.5	4.5		4.0				
Max Green Setting (Gmax), s	5.1	67.9		34.0	18.5	54.5		34.0				
Max Q Clear Time (g_c+I1), s	2.1	19.3		25.0	3.9	30.4		9.0				
Green Ext Time (p_c), s	0.0	8.9		1.4	0.1	10.9		0.7				

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	1231	1265	16	0	47
Future Vol, veh/h	0	1231	1265	16	0	47
Conflicting Peds, #/hr	6	0	0	6	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	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	0	1310	1346	17	0	50

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	391
HCM Lane V/C Ratio	-	-	-	0.128
HCM Control Delay (s)	-	-	-	15.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.4

**Intersection**

Int Delay, s/veh	2.6					
<b>Movement</b>	<b>EBT</b>	<b>EBR</b>	<b>WBL</b>	<b>WBT</b>	<b>NBL</b>	<b>NBR</b>
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Vol, veh/h	1156	73	56	1253	27	62
Future Vol, veh/h	1156	73	56	1253	27	62
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	0	0	2	4	0
Mvmt Flow	1230	78	60	1333	29	66

<b>Major/Minor</b>	<b>Major1</b>	<b>Major2</b>	<b>Minor1</b>		
Conflicting Flow All	0	0	1317	0	2065
Stage 1	-	-	-	-	1278
Stage 2	-	-	-	-	787
Critical Hdwy	-	-	6.9	-	6.88
Critical Hdwy Stg 1	-	-	-	-	5.88
Critical Hdwy Stg 2	-	-	-	-	5.88
Follow-up Hdwy	-	-	6.9	-	3.54
Pot Cap-1 Maneuver	-	-	115	-	46
Stage 1	-	-	-	-	222
Stage 2	-	-	-	-	404
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	114	-	22
Mov Cap-2 Maneuver	-	-	-	-	103
Stage 1	-	-	-	-	220
Stage 2	-	-	-	-	191

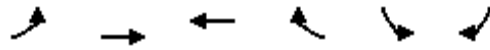
<b>Approach</b>	<b>EB</b>	<b>WB</b>	<b>NB</b>
HCM Control Delay, s	0	2.9	34.5
HCM LOS			D

<b>Minor Lane/Major Mvmt</b>	<b>NBLn1</b>	<b>EBT</b>	<b>EBR</b>	<b>WBL</b>	<b>WBT</b>
Capacity (veh/h)	214	-	-	114	-
HCM Lane V/C Ratio	0.442	-	-	0.523	-
HCM Control Delay (s)	34.5	-	-	66.9	-
HCM Lane LOS	D	-	-	F	-
HCM 95th %tile Q(veh)	2.1	-	-	2.4	-

**Notes**  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis  
 7: Beaverton Hillsdale Hwy & Azteca Dwy

25622 In-N-Out Burger  
 10/27/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↗			
Traffic Volume (veh/h)	53	1167	1313	16	0	0
Future Volume (Veh/h)	53	1167	1313	16	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	56	1241	1397	17	0	0
Pedestrians					4	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)		476	540			
pX, platoon unblocked	0.88				0.90	0.88
vC, conflicting volume	1418				2142	711
vC1, stage 1 conf vol					1410	
vC2, stage 2 conf vol					732	
vCu, unblocked vol	1204				1446	401
tC, single (s)	*6.9				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	*6.9				3.5	3.3
p0 queue free %	52				100	100
cM capacity (veh/h)	117				187	532

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	56	620	620	931	483
Volume Left	56	0	0	0	0
Volume Right	0	0	0	0	17
cSH	117	1700	1700	1700	1700
Volume to Capacity	0.48	0.36	0.36	0.55	0.28
Queue Length 95th (ft)	54	0	0	0	0
Control Delay (s)	61.1	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	2.6			0.0	
Approach LOS					

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization	46.8%		ICU Level of Service A
Analysis Period (min)	15		

\* User Entered Value



Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	1	111	35	2	13	76	141	14	6	195	63
Future Vol, veh/h	37	1	111	35	2	13	76	141	14	6	195	63
Conflicting Peds, #/hr	1	0	1	1	0	1	6	0	3	3	0	6
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	-	-	1	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	1	1	0	0	2	0
Mvmt Flow	43	1	128	40	2	15	87	162	16	7	224	72

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	634	635	267	687	663	174	302	0	0	181	0	0
Stage 1	280	280	-	347	347	-	-	-	-	-	-	-
Stage 2	354	355	-	340	316	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	395	399	777	364	384	875	1265	-	-	1407	-	-
Stage 1	731	683	-	673	638	-	-	-	-	-	-	-
Stage 2	667	633	-	679	659	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	360	363	773	283	350	872	1259	-	-	1404	-	-
Mov Cap-2 Maneuver	360	363	-	283	350	-	-	-	-	-	-	-
Stage 1	672	675	-	620	588	-	-	-	-	-	-	-
Stage 2	602	583	-	562	652	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	13.4		17.4		2.7		0.2			
HCM LOS	B		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1259	-	-	598	347	1404	-
HCM Lane V/C Ratio	0.069	-	-	0.286	0.166	0.005	-
HCM Control Delay (s)	8.1	0	-	13.4	17.4	7.6	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0.2	-	-	1.2	0.6	0	-

Intersection						
Int Delay, s/veh	5.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	7	0	0	11	30	0
Future Vol, veh/h	7	0	0	11	30	0
Conflicting Peds, #/hr	0	2	2	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	58	58	58	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	0	0	19	52	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	31
Stage 1	-	-	-	-	12
Stage 2	-	-	-	-	19
Critical Hdwy	-	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	-	-	3.5
Pot Cap-1 Maneuver	-	0	0	-	988
Stage 1	-	0	0	-	1016
Stage 2	-	0	0	-	1009
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	988
Mov Cap-2 Maneuver	-	-	-	-	988
Stage 1	-	-	-	-	1016
Stage 2	-	-	-	-	1009

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	988	-	-
HCM Lane V/C Ratio	0.052	-	-
HCM Control Delay (s)	8.8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

HCM 6th Signalized Intersection Summary  
 3: SW 107th Ave & SW Beaverton Hillsdale Hwy

25622 In-N-Out Burger  
 10/27/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘			↖	↖		↖	↖
Traffic Volume (veh/h)	80	990	28	5	1184	124	74	38	12	229	37	87
Future Volume (veh/h)	80	990	28	5	1184	124	74	38	12	229	37	87
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		0.97	1.00		0.99	0.99		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	1885	1870	1870	1900	1870	1870	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	1065	30	5	1273	133	80	41	13	246	40	94
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	2	2	0	2	2	0	0	0	0	0	0
Cap, veh/h	276	2350	66	342	2064	215	286	137	352	330	45	352
Arrive On Green	0.03	0.67	0.67	0.01	0.64	0.64	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1795	3527	99	1810	3239	337	1073	623	1599	1243	202	1599
Grp Volume(v), veh/h	86	536	559	5	696	710	121	0	13	286	0	94
Grp Sat Flow(s),veh/h/ln	1795	1777	1849	1810	1777	1799	1696	0	1599	1446	0	1599
Q Serve(g_s), s	1.9	17.3	17.3	0.1	28.0	28.4	0.0	0.0	0.8	16.1	0.0	5.8
Cycle Q Clear(g_c), s	1.9	17.3	17.3	0.1	28.0	28.4	7.0	0.0	0.8	23.0	0.0	5.8
Prop In Lane	1.00		0.05	1.00		0.19	0.66		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	276	1184	1232	342	1132	1146	424	0	352	374	0	352
V/C Ratio(X)	0.31	0.45	0.45	0.01	0.61	0.62	0.29	0.00	0.04	0.76	0.00	0.27
Avail Cap(c_a), veh/h	491	1184	1232	410	1132	1146	520	0	453	465	0	453
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	11.1	9.6	9.6	8.5	13.0	13.0	39.2	0.0	36.8	45.4	0.0	38.7
Incr Delay (d2), s/veh	0.6	1.3	1.2	0.0	2.5	2.5	0.4	0.0	0.0	5.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	10.8	11.1	0.1	16.5	16.9	5.5	0.0	0.6	13.8	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	10.8	10.8	8.5	15.5	15.6	39.5	0.0	36.8	51.2	0.0	39.1
LnGrp LOS	B	B	B	A	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1181			1411			134				380
Approach Delay, s/veh		10.9			15.5			39.3				48.2
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	84.4		30.4	8.6	81.0		30.4				
Change Period (Y+Rc), s	4.5	4.5		4.0	4.5	4.5		4.0				
Max Green Setting (Gmax), s	5.1	67.9		34.0	18.5	54.5		34.0				
Max Q Clear Time (g_c+I1), s	2.1	19.3		25.0	3.9	30.4		9.0				
Green Ext Time (p_c), s	0.0	8.9		1.4	0.1	10.9		0.7				

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

**Intersection**

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	1231	1269	17	0	43
Future Vol, veh/h	0	1231	1269	17	0	43
Conflicting Peds, #/hr	6	0	0	6	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	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	0	1310	1350	18	0	46

**Major/Minor**

	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

**Approach**

	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

**Minor Lane/Major Mvmt**

	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	390
HCM Lane V/C Ratio	-	-	-	0.117
HCM Control Delay (s)	-	-	-	15.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	1156	73	56	1258	27	62
Future Vol, veh/h	1156	73	56	1258	27	62
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	0	0	2	4	0
Mvmt Flow	1230	78	60	1338	29	66

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1317	0	2067
Stage 1	-	-	-	-	1278
Stage 2	-	-	-	-	789
Critical Hdwy	-	-	6.9	-	6.88
Critical Hdwy Stg 1	-	-	-	-	5.88
Critical Hdwy Stg 2	-	-	-	-	5.88
Follow-up Hdwy	-	-	6.9	-	3.54
Pot Cap-1 Maneuver	-	-	115	-	46
Stage 1	-	-	-	-	222
Stage 2	-	-	-	-	403
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	114	-	22
Mov Cap-2 Maneuver	-	-	-	-	103
Stage 1	-	-	-	-	220
Stage 2	-	-	-	-	191

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	34.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	214	-	-	114	-
HCM Lane V/C Ratio	0.442	-	-	0.523	-
HCM Control Delay (s)	34.5	-	-	66.9	-
HCM Lane LOS	D	-	-	F	-
HCM 95th %tile Q(veh)	2.1	-	-	2.4	-

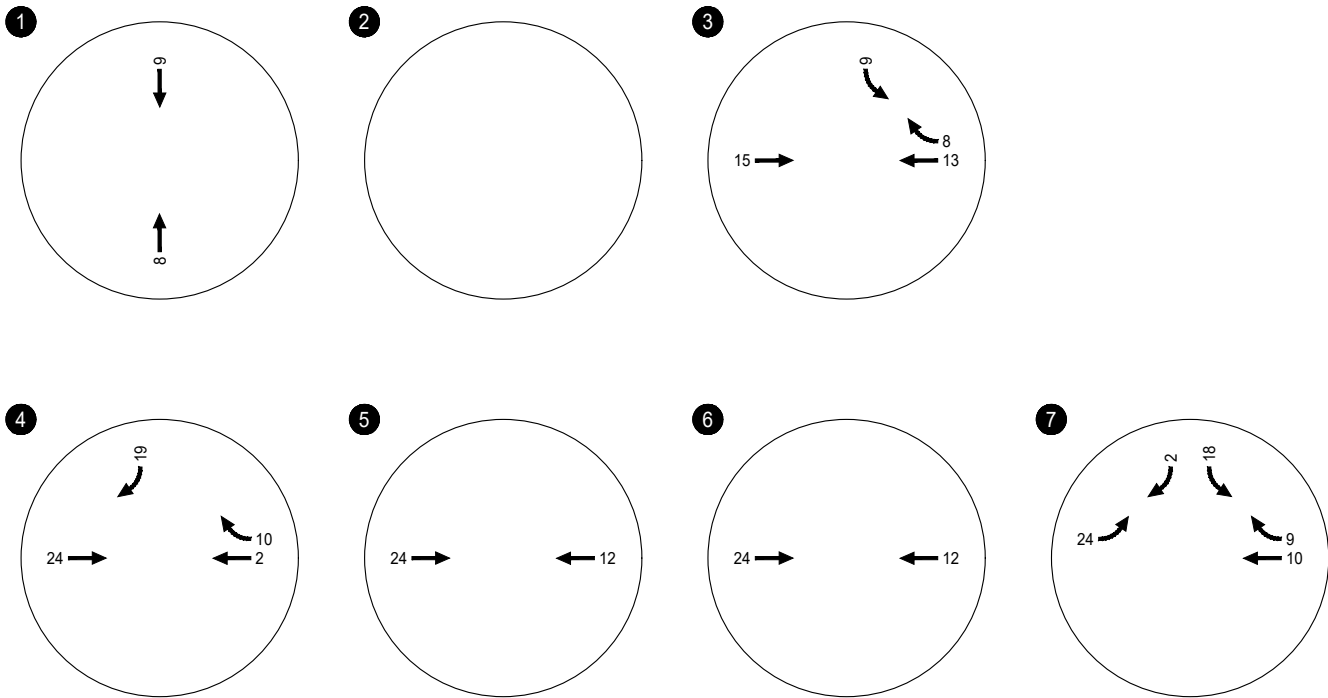
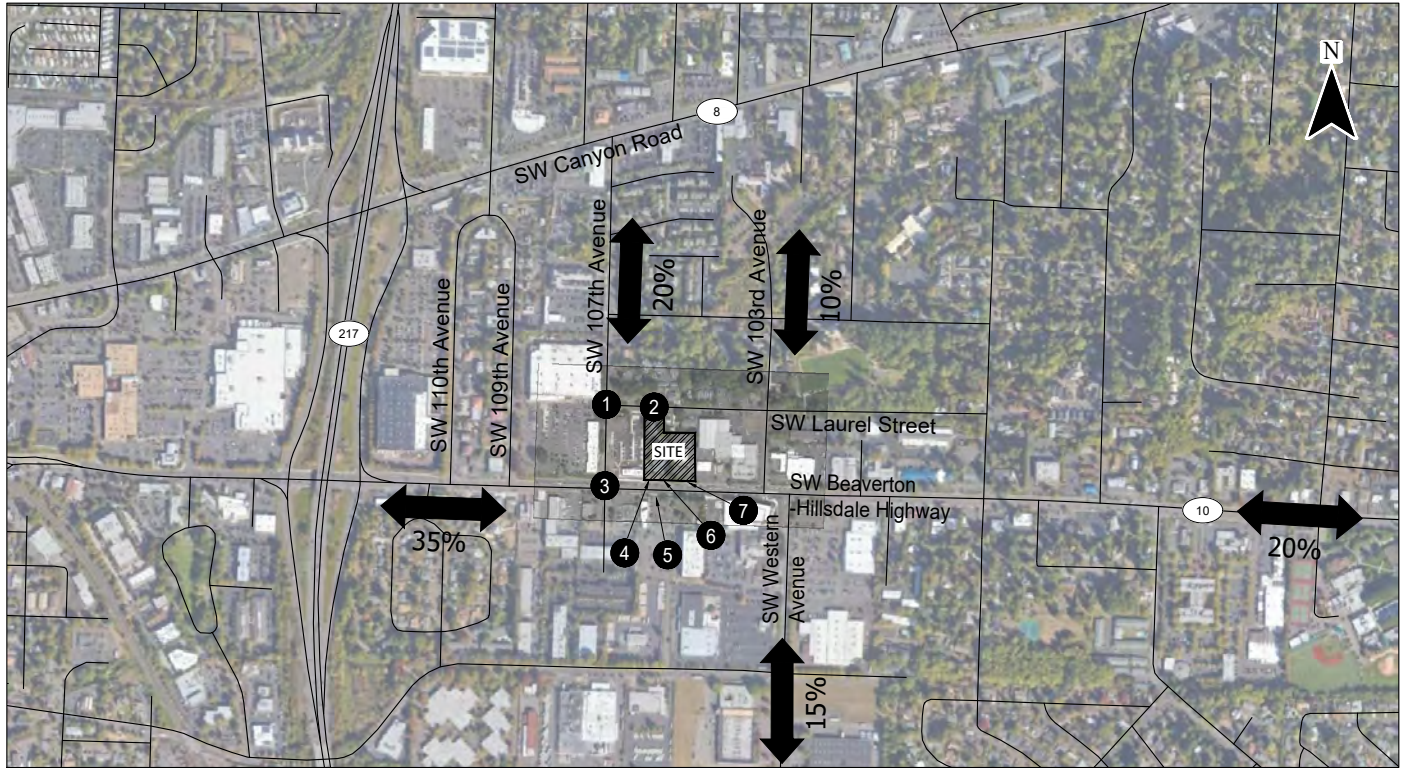
Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑			↗
Traffic Vol, veh/h	53	1167	1314	15	0	4
Future Vol, veh/h	53	1167	1314	15	0	4
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	56	1241	1398	16	0	4

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1418	0	-	0	-	711
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.9	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	6.9	-	-	-	-	3.3
Pot Cap-1 Maneuver	100	-	-	-	0	380
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	100	-	-	-	-	379
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	14.6
HCM LOS			B

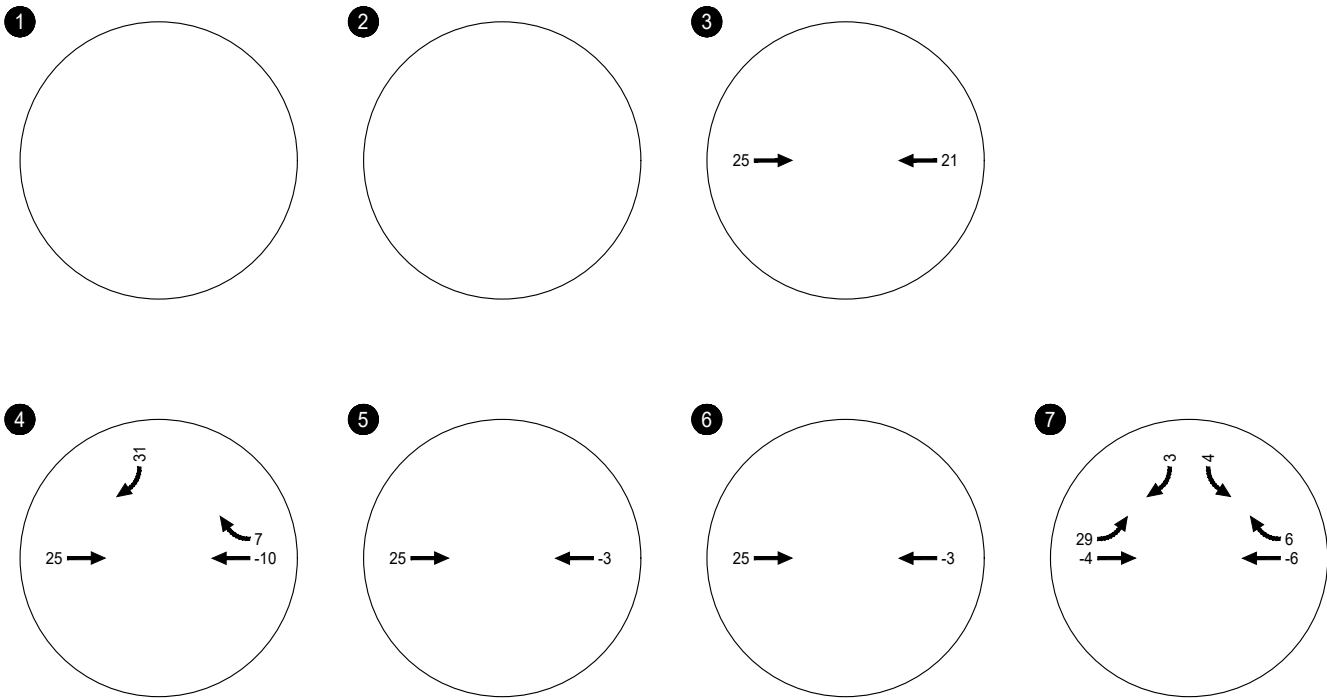
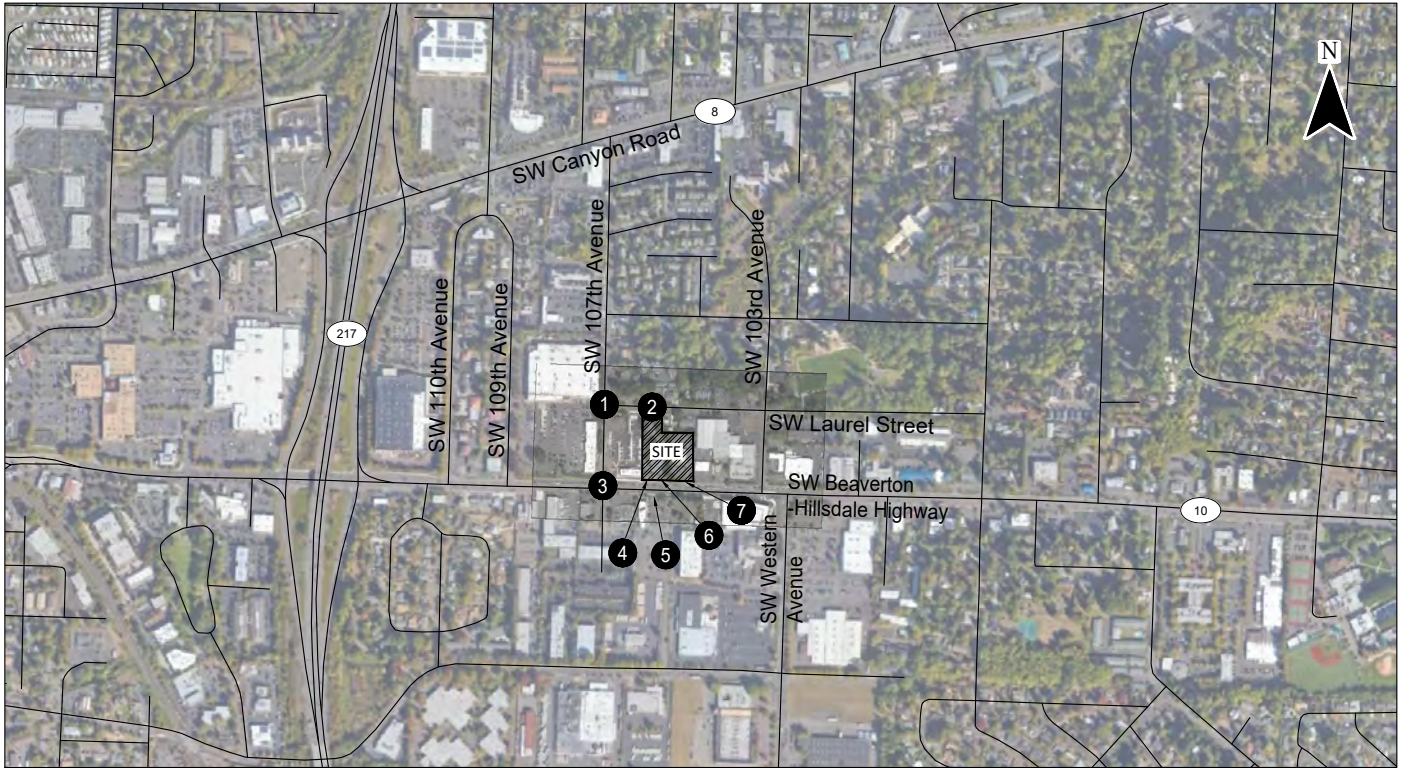
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	100	-	-	-	379
HCM Lane V/C Ratio	0.564	-	-	-	0.011
HCM Control Delay (s)	79.8	-	-	-	14.6
HCM Lane LOS	F	-	-	-	B
HCM 95th %tile Q(veh)	2.6	-	-	-	0



Estimated Trip Assignment (Net New): Scenario 1  
 Weekday PM Peak Hour  
 Washington County, Oregon

Figure  
 C-1

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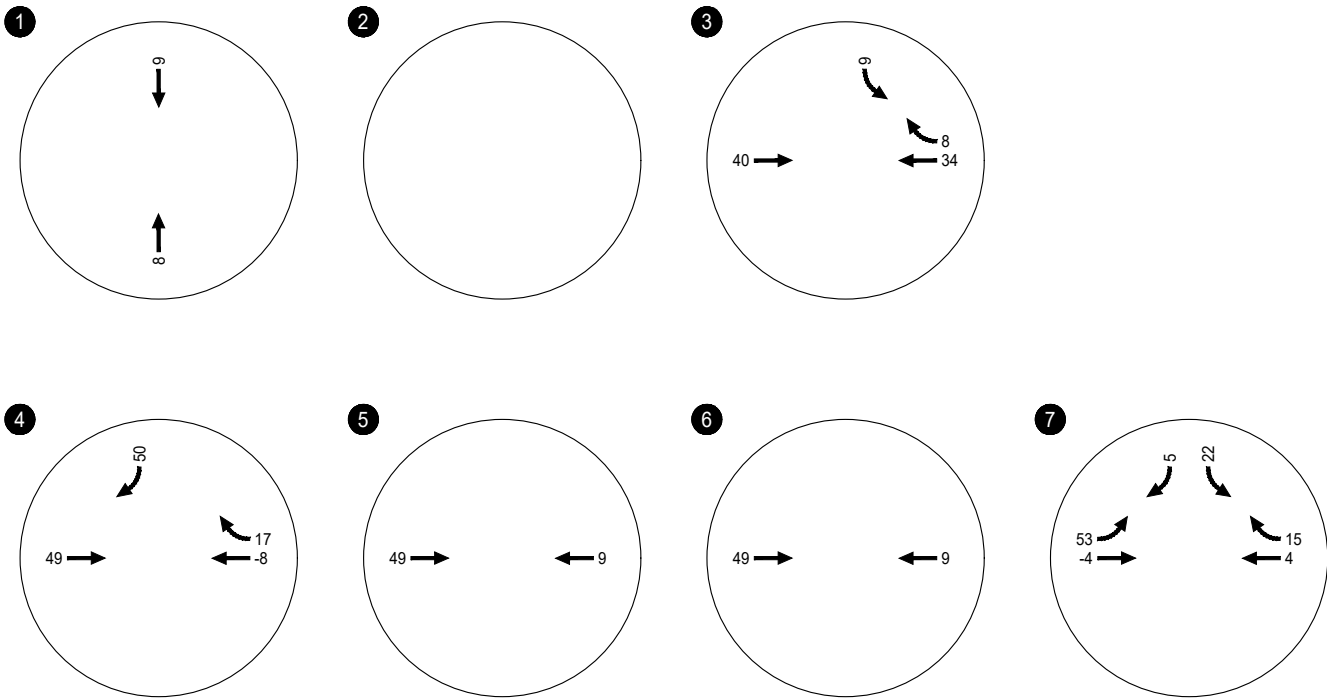
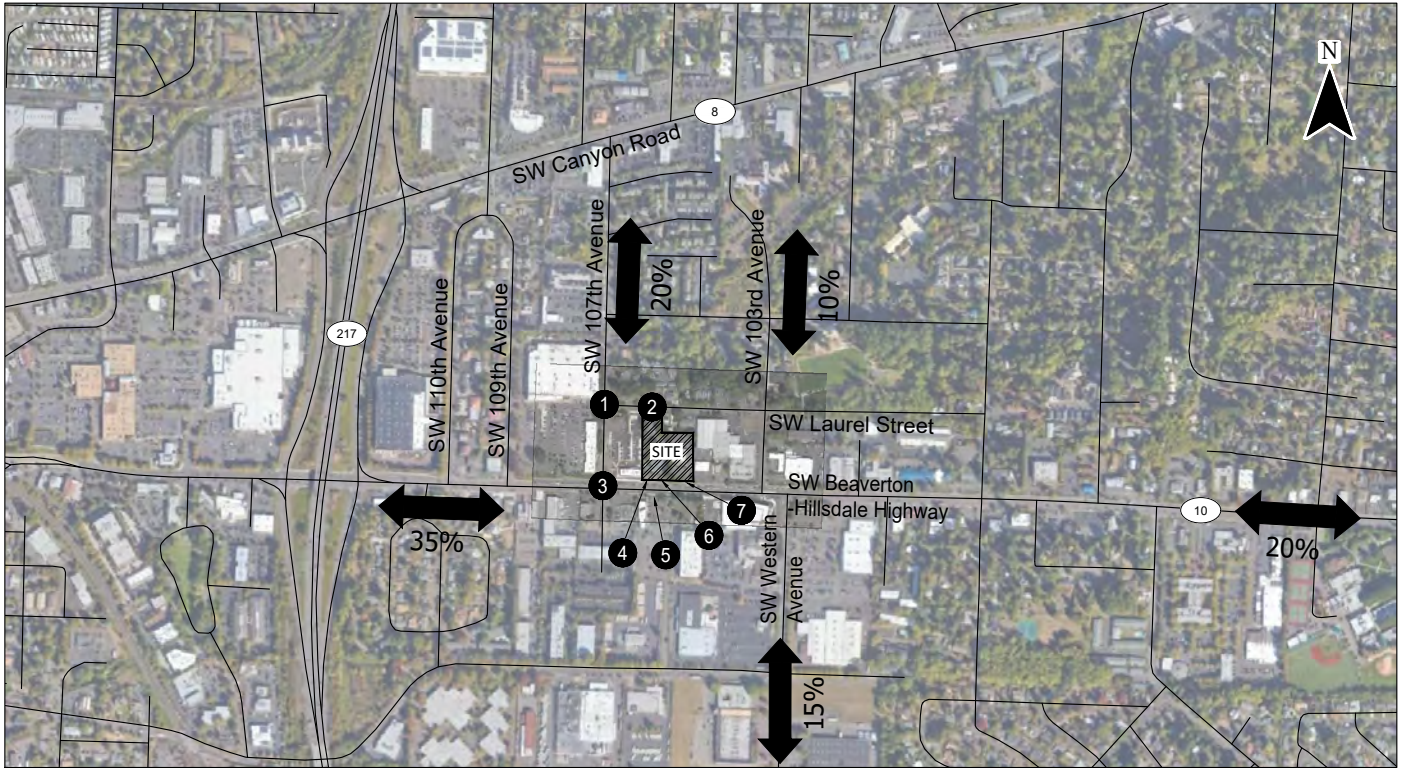
**Estimated Trip Assignment (Pass-by & Diverted): Scenario 1**  
**Weekday PM Peak Hour**  
**Washington County, Oregon**

**Figure C-2**

*Note:*  
 Negative trip numbers reflect pass-by trips from the surrounding roadways

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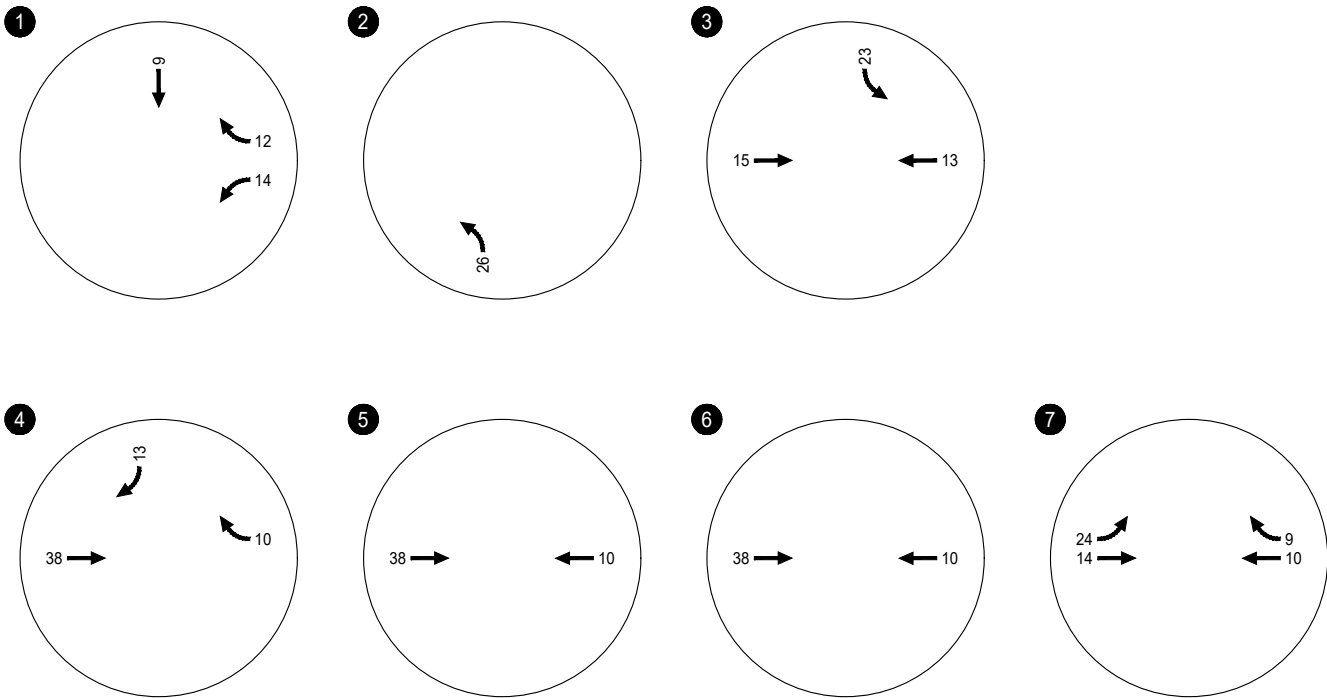
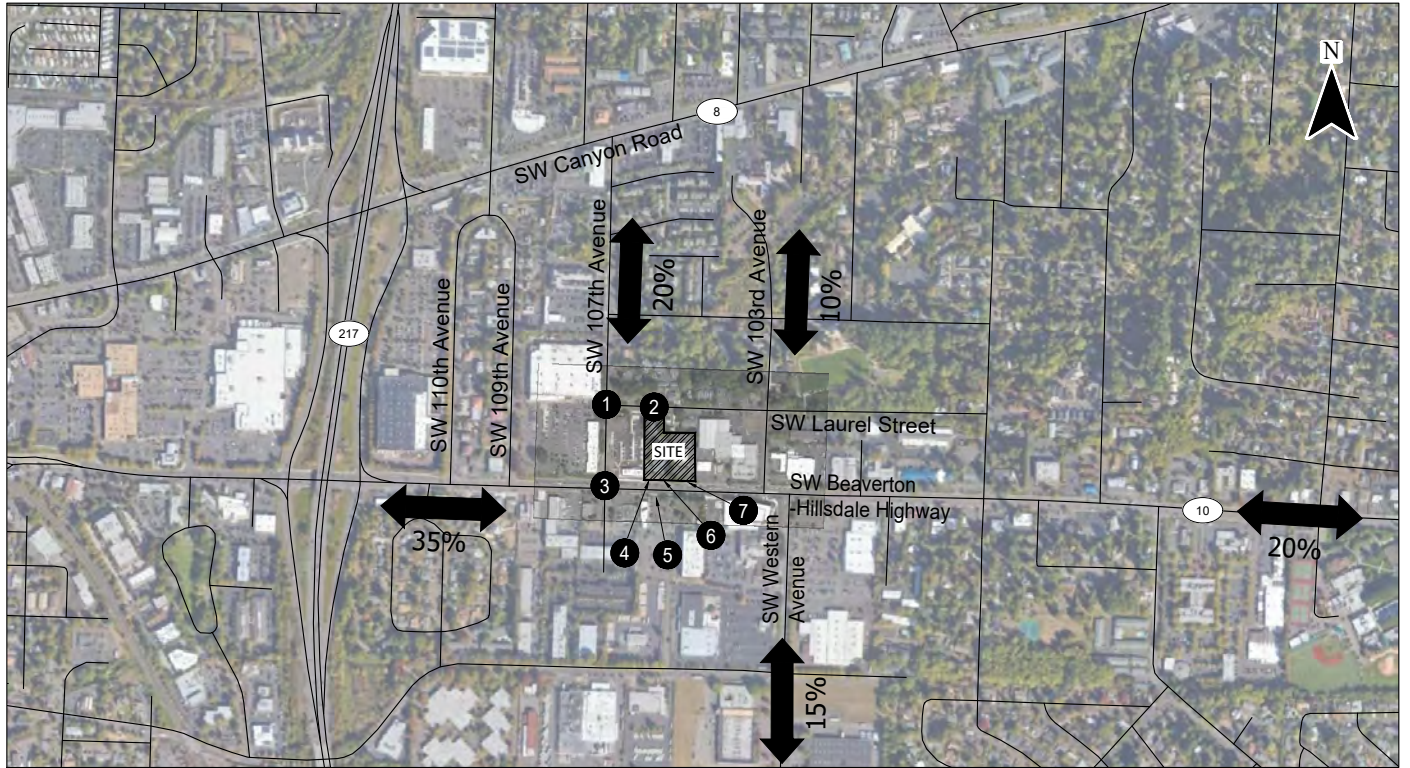


Estimated Trip Assignment (Total): Scenario 1  
 Weekday PM Peak Hour  
 Washington County, Oregon

Figure  
 C-3

Note:  
 Negative trip numbers reflect pass-by  
 trips from the surrounding roadways

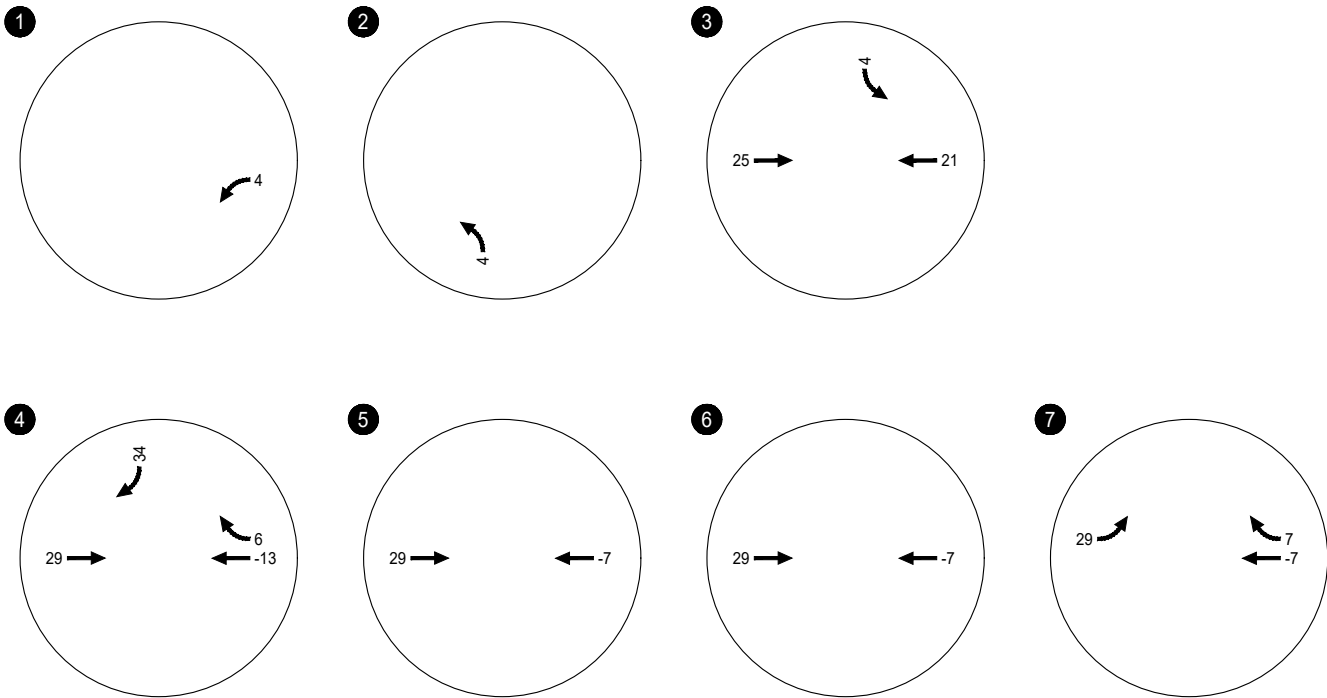
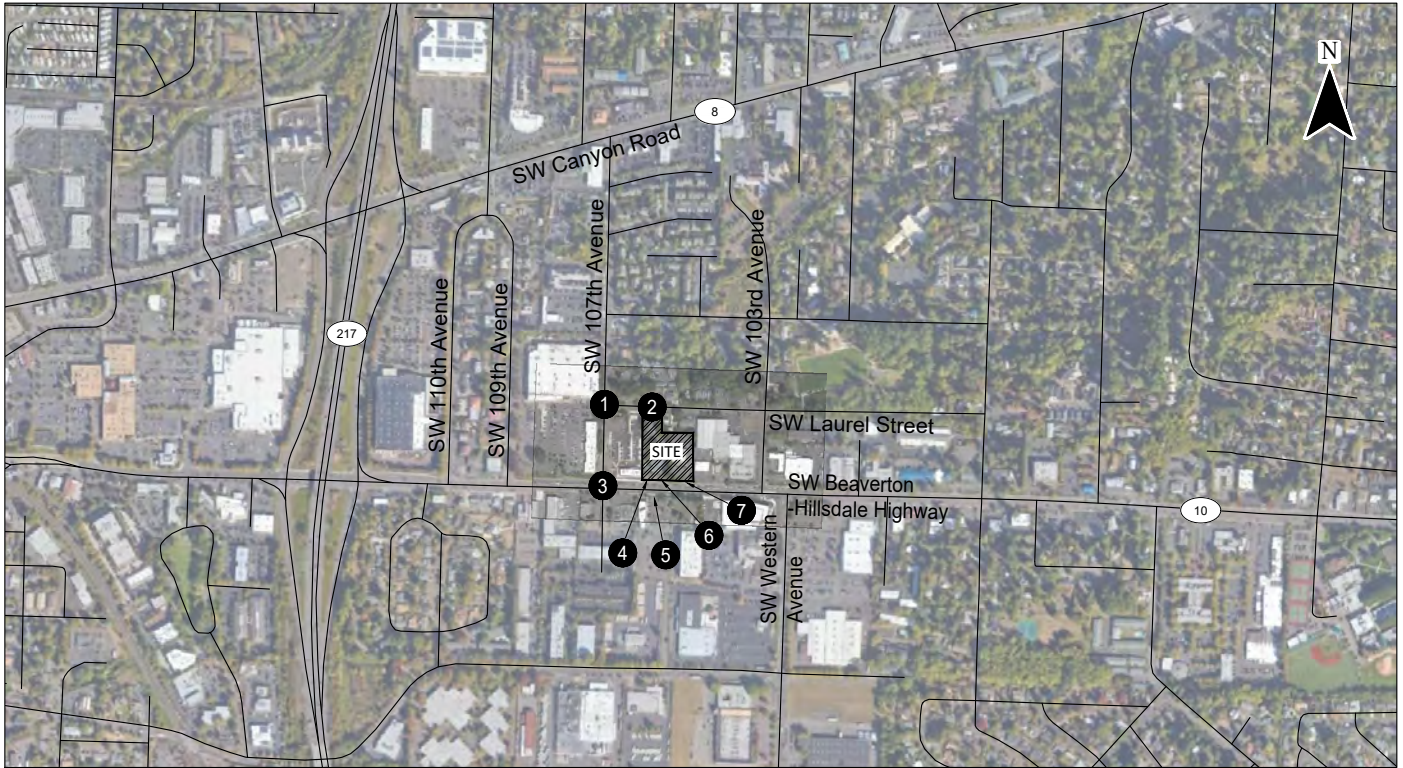
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Estimated Trip Assignment (Net New): Scenario 2  
 Weekday PM Peak Hour  
 Washington County, Oregon

Figure  
 C-4

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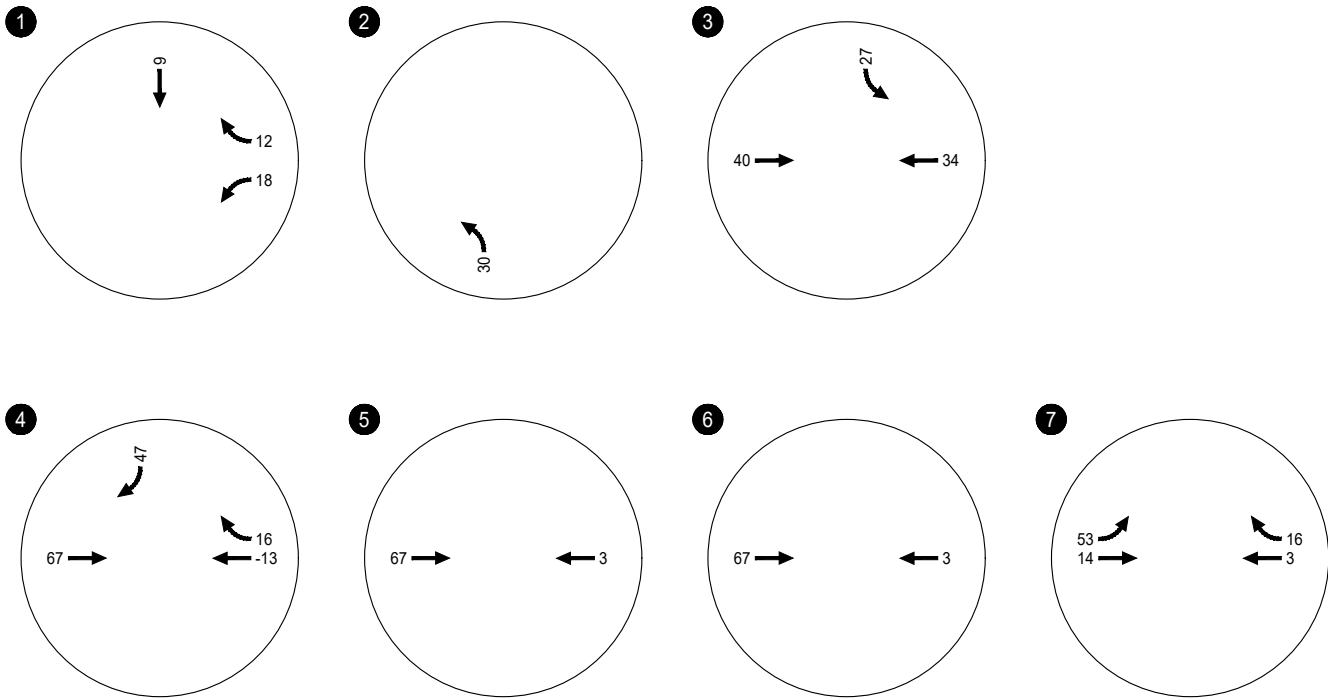
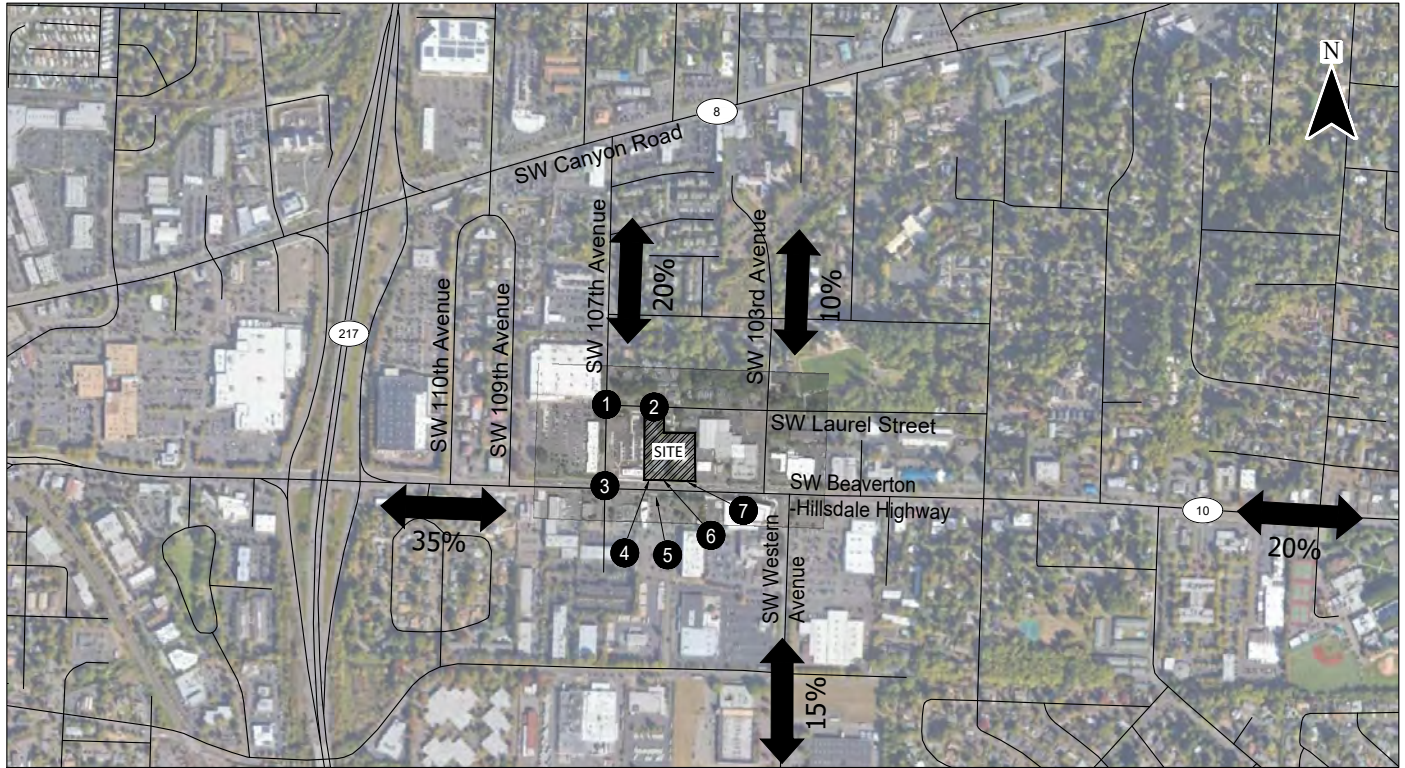


**Estimated Trip Assignment (Pass-by & Diverted): Scenario 2**  
**Weekday PM Peak Hour**  
**Washington County, Oregon**

**Figure C-5**

*Note:*  
 Negative trip numbers reflect pass-by trips from the surrounding roadways

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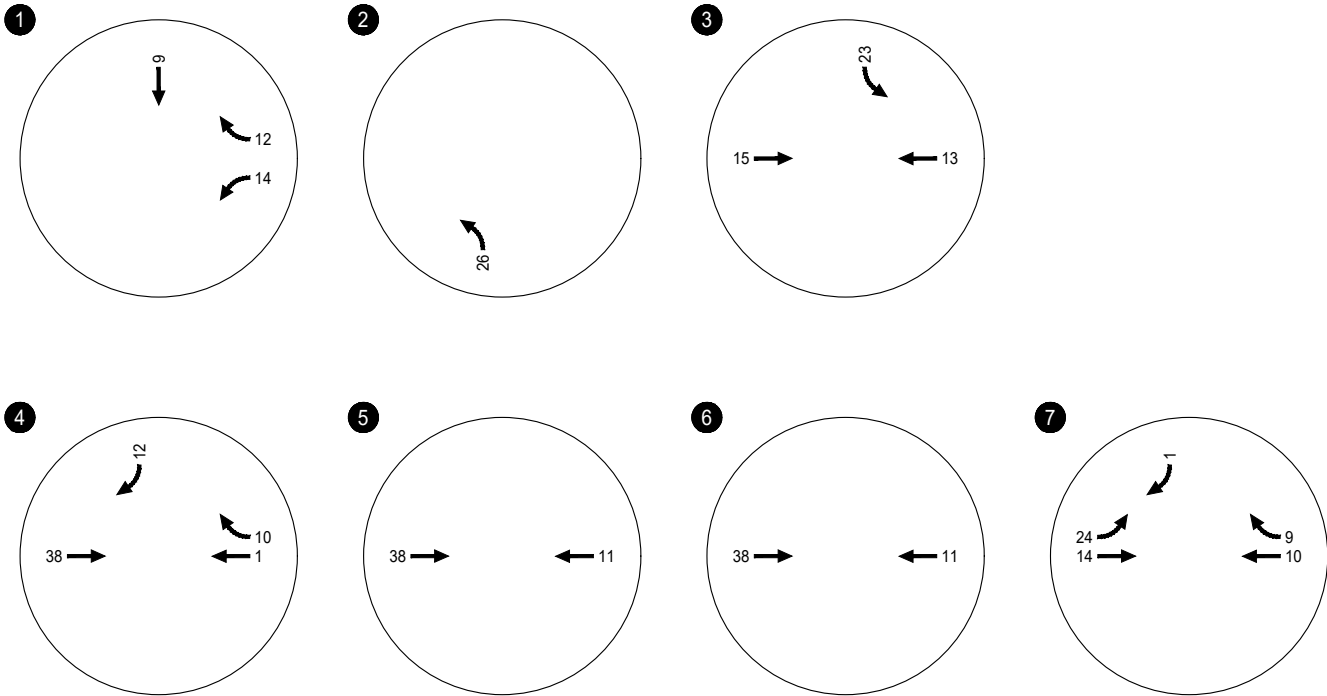
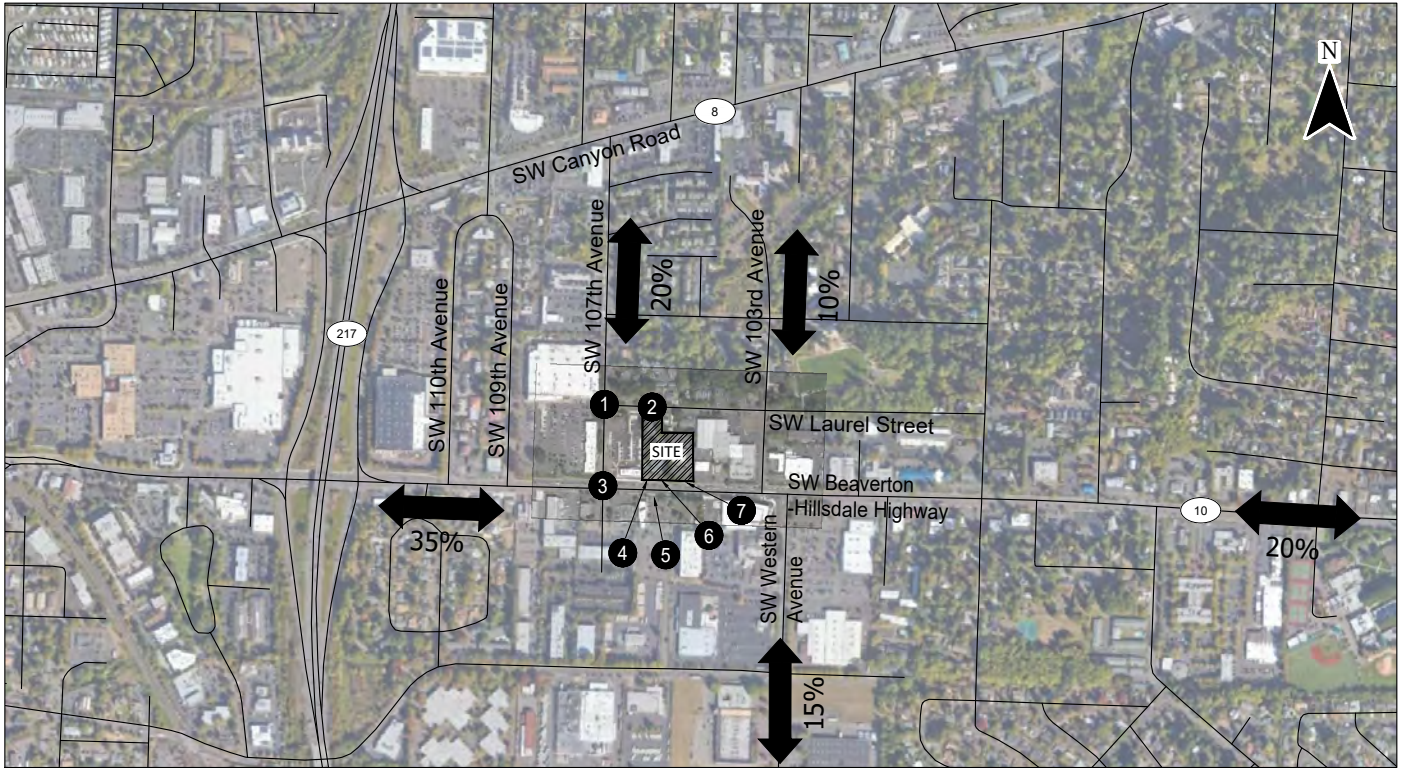


Estimated Trip Assignment (Total): Scenario 2  
 Weekday PM Peak Hour  
 Washington County, Oregon

Figure  
 C-6

Note:  
 Negative trip numbers reflect pass-by  
 trips from the surrounding roadways

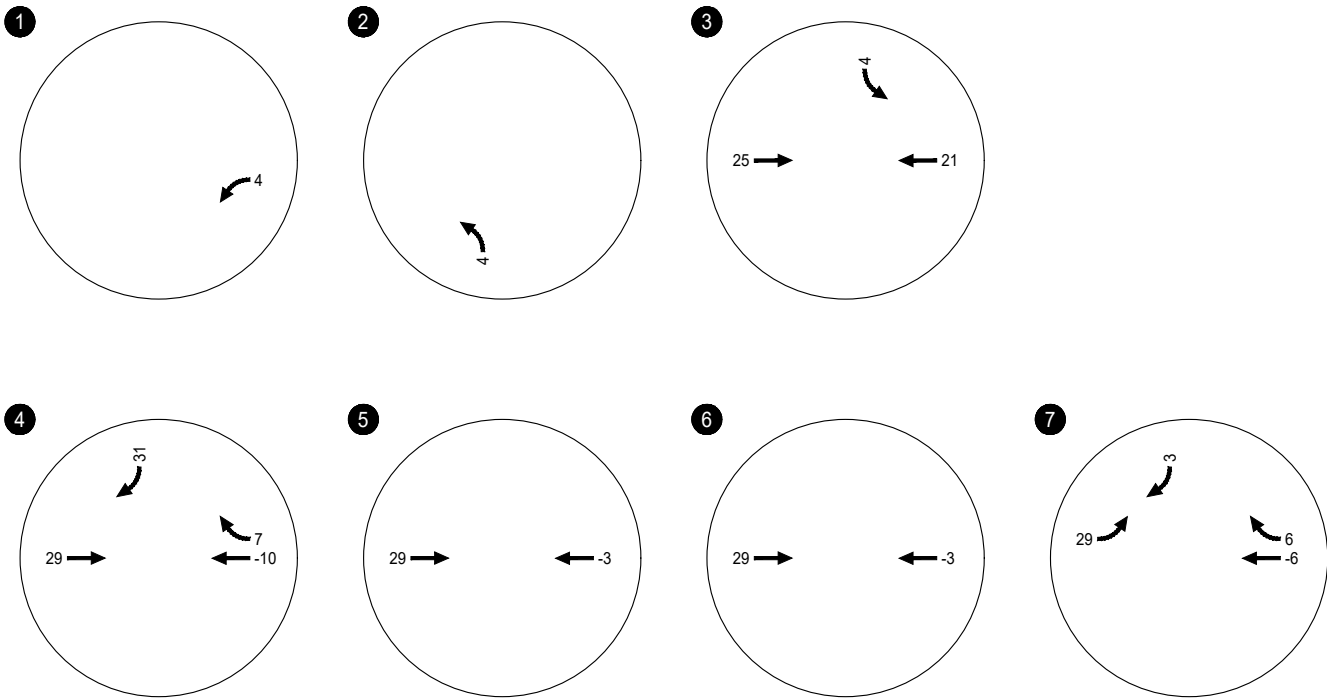
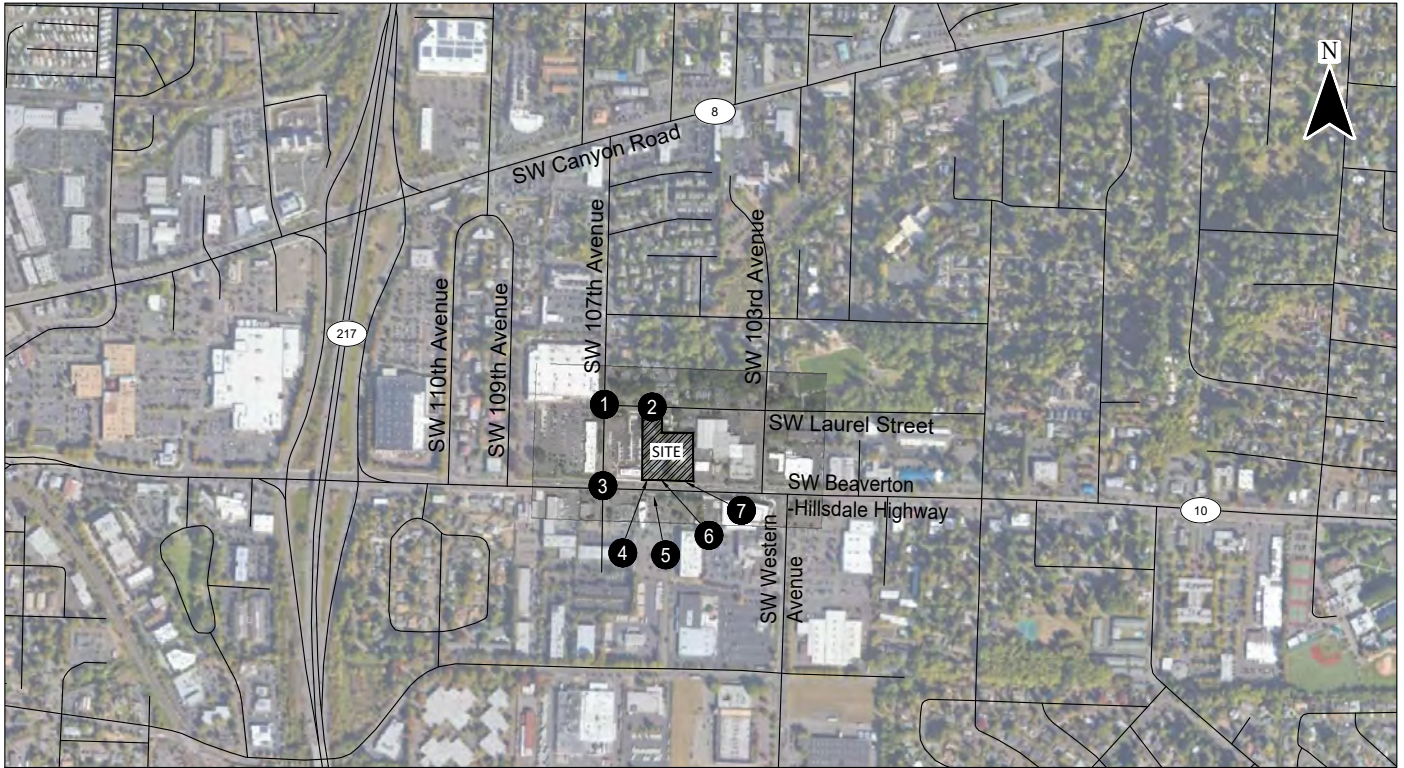
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Estimated Trip Assignment (Net New): Scenario 3  
 Weekday PM Peak Hour  
 Washington County, Oregon

Figure  
 C-7

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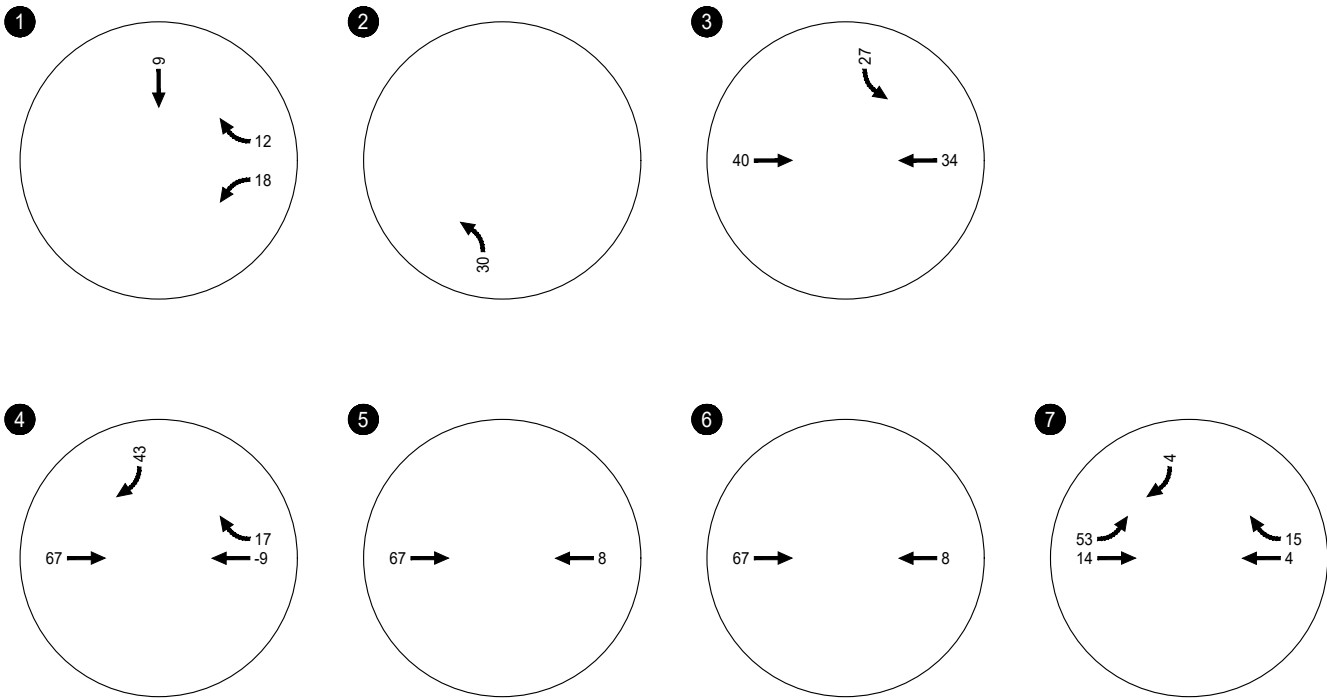
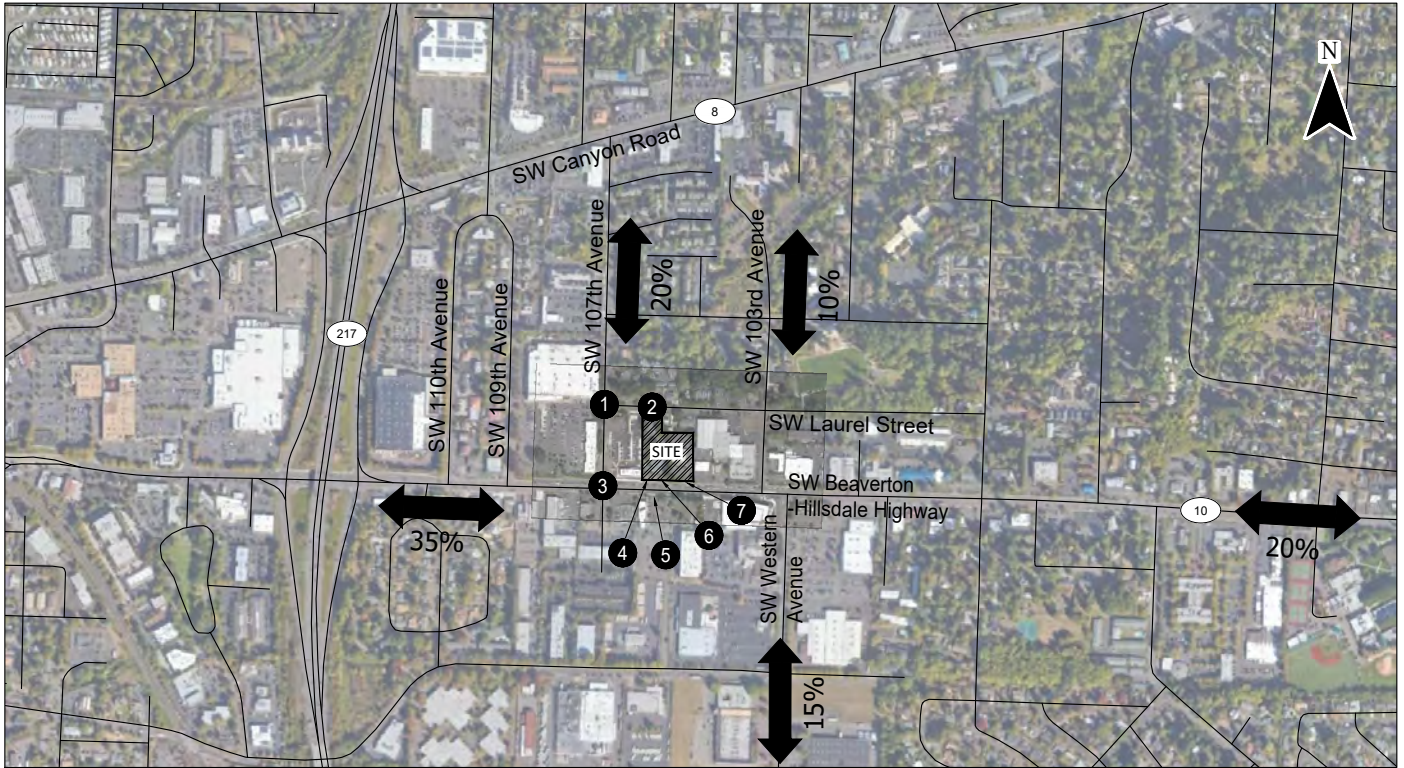


**Estimated Trip Assignment (Pass-by & Diverted): Scenario 3**  
**Weekday PM Peak Hour**  
**Washington County, Oregon**

**Figure C-8**

*Note:*  
 Negative trip numbers reflect pass-by trips from the surrounding roadways

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Estimated Trip Assignment (Total): Scenario 3  
 Weekday PM Peak Hour  
 Washington County, Oregon

Figure  
 C-9

Note:  
 Negative trip numbers reflect pass-by  
 trips from the surrounding roadways

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## Appendix D Crash Data



OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 STATE HIGHWAY SYSTEM CRASH LOCATIONS - DRIVER BEHAVIOR FORMAT

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.39 to MP 1.41  
 January 1, 2014 through December 31, 2018

SERIAL NO	DATE	T I D M A E Y	*COUNTY OR CITY NAME	M C L O G M P T N Y T P	CRASH LOCATION	COLL				--PEOPLE--				
						TYPE	EVENT	CAUSE	ERROR	S U V R E F H	K I I L N L J	C I A N L C D	P E E D	
06294	11/19/2018	5P	MO	Beaverton	MN R HY 040, BEAVERTON-HILLSDALE AT MP 1.39	REAR		29		DRY 2	010	010	0 0	N N
03698	06/21/2017	2P	WE	Beaverton	MN R HY 040, BEAVERTON-HILLSDALE AT MP 1.39	TURN		02	028	DRY 2	011	011	0 1	N N

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.39 to MP 1.41  
 January 1, 2014 through December 31, 2018

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	ACTN	EVENT	CAUSE						
INVEST	E L M H R	DAY/TIME	CITY	CMPT/MLG	FIRST	STREET	RD CHAR	TRLR QTY	OWNER	FROM	PRTC	INJ	G E LICNS	PED					
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	MILEPNT	SECOND	STREET	DIRECT	VEH TYPE	TO	E X RES	LOC	ERROR							
				LRS	INTERSECTION	SEQ#	LOCTN	V#											
03698	N N N N N	06/21/2017	WASHINGTON	1	14		ALLEY	01	NONE	0	TURN-L								
CITY	N	Wed	2P	MN	0	SW BEAV-HILLSDALE	HY E		PRVTE	N E		018	00						
						PORTLAND UA													
No	45	29	11.55 -122	47	6.06	1.39	SW 107TH AVE	05	PSNGR	CAR	01	DRVR	NONE	21	M	OR-Y	028	000	02
						004000100S00	1	(04)					OR<25						
									02	NONE	0	STRGHT							
									PRVTE	E W			000						00
									PSNGR	CAR	01	DRVR	INJC	59	M	OR-Y	000	000	00
													OR<25						
06294	N N N	11/19/2018	WASHINGTON	1	14		STRGHT	01	NONE	9	STRGHT								
NONE	N	Mon	5P	MN	0	SW BEAV-HILLSDALE	HY E		N/A	E W			000						00
						PORTLAND UA													
No	45	29	11.53 -122	47	6.05	1.39	SW 107TH AVE	06	PSNGR	CAR	01	DRVR	NONE	00	U	UNK	000	000	00
						004000100S00	1	(04)					UNK						
									02	NONE	9	STRGHT							
									N/A	E W			006						00
									PSNGR	CAR	01	DRVR	NONE	00	U	UNK	000	000	00
													UNK						

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 STATE HIGHWAY SYSTEM CRASH LOCATIONS - DRIVER BEHAVIOR FORMAT

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.31 to MP 1.38  
 January 1, 2014 through December 31, 2018

SERIAL NO	DATE	T I D M A E Y	*COUNTY OR CITY NAME	M C L O G M P T N Y T P	CRASH LOCATION	COLL TYPE	EVENT	CAUSE	ERROR	T O T S U V R E F H	--PEOPLE--			
											VEHICLE TYP/OWN #1 #2	I I L N L J	A A N L C C	S P E D
04504	08/07/2014	9A	TH Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.33	SS-O		13	045	DRY 2	011 011	0 1	N N	N N
05093	09/03/2014	12P	WE Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.33	SS-O		13	045	DRY 2	011 011	0 0	N N	N N
04121	06/23/2016	8A	TH Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.33	SS-O		13		WET 2	010 010	0 0	N N	N N
06693	10/24/2017	3P	TU Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.35	REAR		07	043	DRY 2	011 011	0 1	N N	N N
06979	11/04/2017	2P	SA Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.35	REAR		29		DRY 2	010 010	0 0	N N	N N
00469	01/24/2017	1P	TU Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.35	TURN		02	028	DRY 2	011 011	0 1	N N	N N
00381	01/23/2014	2P	TH Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.36	TURN		29	026	DRY 2	011 011	0 0	N N	N N
03459	06/16/2015	3P	TU Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.36	TURN		08	007	DRY 2	011 011	0 0	N N	N N
05479	08/16/2016	10A	TU Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.36	TURN		02	028	DRY 2	019 011	0 1	N N	N N
00104	01/05/2017	11A	TH Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.36	TURN		02	028	DRY 2	011 011	0 1	N N	N N
01172	03/01/2017	11A	WE Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.36	TURN		02	028	DRY 2	011 011	0 1	N N	N N
00720	02/11/2018	8P	SU Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.36	TURN		02		DRY 2	010 010	0 0	N N	N N
07439	11/22/2017	3P	WE Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.37	REAR		27,07		WET 2	010 010	0 0	N N	N N
01545	03/28/2018	6P	WE Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.37	TURN	053	02	028	DRY 2	011 011	0 1	N N	N N
07519	11/18/2017	11A	SA Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.38	REAR		29		DRY 2	010 010	0 0	N N	N N

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.31 to MP 1.38  
 January 1, 2014 through December 31, 2018

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	P E	LICNS	PED	ACTN	EVENT	CAUSE
INVEST	E L M H R	DAY/TIME	CITY	CMPT/MLG	FIRST	STREET	RD CHAR	TRLR QTY	OWNER	G E	RES	LOC	ERROR			
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	MILEPNT	SECOND	STREET	DIRECT	VEH TYPE	FROM	E X	RES	LOC	ERROR			
				LRS	INTERSECTION	SEQ#	LOCTN	# LANES								
04504	N N N	08/07/2014	WASHINGTON	1	14		STRGHT	01 NONE	0	STRGHT						13
NO RPT	N	Thu 9A	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	PRVTE	E W					000		00
			PORTLAND UA	1.33	SW 107TH AVE	05		PSNGR CAR		01	DRVR	NONE	18 M	OR-Y	045	000
No	45 29	11.54 -122 47 10.56		004000100S00		1	(04)									13
								02 NONE	0	STRGHT						00
								PRVTE	E W					000		00
								PSNGR CAR		01	DRVR	INJC	61 F	OR-Y	000	000
																00
																00
04121	N N N	06/23/2016	WASHINGTON	1	14		STRGHT	01 NONE	9	STRGHT						13
CITY	N	Thu 8A	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	N/A	E W					000		00
			PORTLAND UA	1.33	SW 107TH AVE	05		PSNGR CAR		01	DRVR	NONE	00 U	UNK	000	000
No	45 29	11.54 -122 47 10.56		004000100S00		1	(04)									00
								02 NONE	9	STRGHT						00
								N/A	E W					000		00
								PSNGR CAR		01	DRVR	NONE	00 U	UNK	000	000
																00
																00
05093	N N N	09/03/2014	WASHINGTON	1	14		STRGHT	01 NONE	0	STRGHT						13
NO RPT	N	Wed 12P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	PRVTE	E W					000		00
			PORTLAND UA	1.33	SW 107TH AVE	06		PSNGR CAR		01	DRVR	NONE	37 M	OR-Y	045	000
No	45 29	11.54 -122 47 10.56		004000100S00		1	(04)									13
																00
																00
								02 PSNG	NO<5	04 F				000	000	00
								03 PSNG	NO<5	02 M				000	000	00
								02 NONE	0	STRGHT						00
								PRVTE	E W					000		00
								PSNGR CAR		01	DRVR	NONE	44 M	OR-Y	000	000
																00
																00
06693	N N N N N	10/24/2017	WASHINGTON	1	14		STRGHT	01 NONE	0	STRGHT						07
CITY	N	Tue 3P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	PRVTE	W E					000		00
			PORTLAND UA	1.35	SW 107TH AVE	03		PSNGR CAR		01	DRVR	NONE	75 F	OR-Y	043	000
No	45 29	11.54 -122 47 9.06		004000100S00		1	(04)									07
								02 NONE	0	STRGHT						00
								PRVTE	W E					000		00
								PSNGR CAR		01	DRVR	NONE	55 F	OR-Y	000	000
																00
																00
																00
								02 PSNG	INJC	88 M				000	000	00
																00
00469	N N N	01/24/2017	WASHINGTON	1	14		ALLEY	01 NONE	0	TURN-L						02
NONE	N	Tue 1P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	PRVTE	N E					018		00
			PORTLAND UA	1.35	SW 107TH AVE	05		PSNGR CAR		01	DRVR	NONE	35 F	OR-Y	028	000
No	45 29	11.54 -122 47 9.06		004000100S00		1	(04)									02
																02

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.31 to MP 1.38  
 January 1, 2014 through December 31, 2018

SER#	E A / C O DATE	COUNTY	RD# FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	ACTN	EVENT	CAUSE												
INVEST	E L M H R DAY/TIME	CITY	CMPT/MLG	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD WTHR	CRASH TYP	TRLR QTY	MOVE	PRTC INJ	G E LICNS	PED	ERROR	ACTN	EVENT	CAUSE					
UNLOC?	D C J L K LAT/LONG	URBAN AREA	MILEPNT	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT SURF	COLL TYP	OWNER	FROM	P# TYPE SVRTY	E X RES	LOC	ERROR	ACTN	EVENT	CAUSE					
			LRS	INTERSECTION SEQ#	LOCTN	(#LANES)	CNTL	DRVWY LIGHT	SVRTY	V#	VEH TYPE	TO											
										02	NONE	0	STRGHT										
											PRVTE	E W						000	00				
											PSNGR CAR		01	DRVR	INJC	47	F	OR-Y	000	000	00		
																					OR<25		
06979	N N N N N 11/04/2017	WASHINGTON	1 14		STRGHT		N	N CLD	S-1STOP	01	NONE	9	STRGHT								29		
CITY	N Sat 2P	BEAVERTON	MN 0	SW BEAV-HILLSDALE	HY E	(NONE)	NONE	N DRY	REAR		N/A		E W								000	00	
		PORTLAND UA	1.35	SW 107TH AVE	06			N DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK		000	000	00	
No	45 29 11.54 -122 47 9.06		004000100S00		1	(04)																UNK	
										02	NONE	9	STOP									011	00
											N/A		E W									000	00
											PSNGR CAR		01	DRVR	NONE	00	U	UNK		000	000	000	00
																						UNK	
05479	N N N 08/16/2016	WASHINGTON	1 14		ALLEY		N	N CLR	ANGL-OTH	01	NONE	0	STRGHT									02	
NONE	N Tue 10A	BEAVERTON	MN 0	SW BEAV-HILLSDALE	HY E	(NONE)	UNKNOWN	N DRY	TURN		UNKN		W E								000	00	
		PORTLAND UA	1.36	SW 107TH AVE	03			N DAY	INJ		PSNGR CAR		01	DRVR	NONE	42	M	OR-Y		000	000	00	
No	45 29 11.54 -122 47 8.31		004000100S00		1	(04)																OR<25	
										02	NONE	0	TURN-R									018	00
											PRVTE	S E										000	00
											PSNGR CAR		01	DRVR	INJC	26	F	OR-Y	028	000	000	000	02
																						OR<25	
03459	N N N 06/16/2015	WASHINGTON	1 14		ALLEY		N	N CLR	ANGL-OTH	01	NONE	0	TURN-R									018	00
NONE	N Tue 3P	BEAVERTON	MN 0	SW BEAV-HILLSDALE	HY E	(NONE)	UNKNOWN	N DRY	TURN		PRVTE	S E									000	00	
		PORTLAND UA	1.36	SW 107TH AVE	04			N DAY	PDO		PSNGR CAR		01	DRVR	NONE	39	M	OR-Y	007	000	000	000	08
No	45 29 11.54 -122 47 8.31		004000100S00		1	(04)																OR<25	
										02	NONE	0	STRGHT									000	00
											PRVTE	W E										000	00
											PSNGR CAR		01	DRVR	NONE	58	F	OR-Y		000	000	000	00
																						OR<25	
00104	N N N 01/05/2017	WASHINGTON	1 14		ALLEY		N	N CLR	ANGL-OTH	01	NONE	0	TURN-L									019	00
CITY	N Thu 11A	BEAVERTON	MN 0	SW BEAV-HILLSDALE	HY E	(NONE)	NONE	N DRY	TURN		PRVTE	S W									000	00	
		PORTLAND UA	1.36	SW 107TH AVE	04			N DAY	INJ		PSNGR CAR		01	DRVR	NONE	63	F	OR-Y	028	000	000	000	02
No	45 29 11.54 -122 47 8.31		004000100S00		1	(04)																OR<25	
										02	NONE	0	STRGHT									000	00
											PRVTE	W E										000	00
											PSNGR CAR		01	DRVR	INJC	27	F	OR-Y		000	000	000	00
																						OR<25	

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.31 to MP 1.38  
 January 1, 2014 through December 31, 2018

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	P E	LICNS	PED	ACTN	EVENT	CAUSE		
INVEST	E L M H R	DAY/TIME	CITY	MILEPNT	FIRST	STREET	RD CHAR	TRLR QTY	OWNER	FROM	PRTC	INJ	G E	LOC	ERROR			
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	LRS	INTERSECTION	SEQ#	LOCTN	V#	VEH TYPE	TO	P#	TYPE	SVRTY	E X	RES			
01172	N N N N N	03/01/2017	WASHINGTON	1	14		ALLEY	01	NONE	0	STRGHT					02		
CITY	N	Wed 11A	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	01	PRVTE	W E					000	00		
			PORTLAND UA	1.36	SW 107TH AVE	04			PSNGR CAR		01	DRVR	INJC	50	F OR-Y	000	000	00
No	45 29	11.54 -122	47 8.31	004000100S00		1	(04)								OR<25			
								02	NONE	0	TURN-L					000	00	
									PRVTE	S W								
									PSNGR CAR		01	DRVR	NONE	33	M OR-Y	028	000	02
															OR<25			
00381	N N N	01/23/2014	WASHINGTON	1	14		ALLEY	01	NONE	0	TURN-L					29		
NONE	N	Thu 2P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	01	PRVTE	S W					018	00		
			PORTLAND UA	1.36	SW 107TH AVE	05			PSNGR CAR		01	DRVR	NONE	40	M OR-Y	026	000	29
No	45 29	11.54 -122	47 8.31	004000100S00		1	(05)								OR<25			
								02	NONE	0	STOP					011	00	
									PRVTE	E W								
									PSNGR CAR		01	DRVR	NONE	36	F OR-Y	000	000	00
															OR<25			
00720	N N N	02/11/2018	WASHINGTON	1	14		ALLEY	01	NONE	9	TURN-L					02		
NONE	N	Sun 8P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	01	N/A	S W					018	00		
			PORTLAND UA	1.36	SW 107TH AVE	05			PSNGR CAR		01	DRVR	NONE	00	U UNK	000	000	00
No	45 29	11.53 -122	47 8.31	004000100S00		1	(04)								UNK			
								02	NONE	9	STRGHT					000	00	
									N/A	E W								
									PSNGR CAR		01	DRVR	NONE	00	U UNK	000	000	00
															UNK			
07439	N N N N N	11/22/2017	WASHINGTON	1	14		STRGHT	01	NONE	9	STRGHT					27,07		
CITY	N	Wed 3P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	01	N/A	E W					000	00		
			PORTLAND UA	1.37	SW 107TH AVE	06			PSNGR CAR		01	DRVR	NONE	00	U UNK	000	000	00
No	45 29	11.54 -122	47 7.56	004000100S00		1	(04)								UNK			
								02	NONE	9	STOP					011	00	
									N/A	E W								
									PSNGR CAR		01	DRVR	NONE	00	U UNK	000	000	00
															UNK			
01545	N N N	03/28/2018	WASHINGTON	1	14		ALLEY	01	NONE	0	STRGHT					053		
CITY	N	Wed 6P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E	(NONE)	01	PRVTE	E W					000	053	00	
			PORTLAND UA	1.37	SW 107TH AVE	06			PSNGR CAR		01	DRVR	INJB	27	F OR-Y	000	000	00
No	45 29	11.52 -122	47 7.56	004000100S00		1	(05)								OR<25			

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.31 to MP 1.38  
 January 1, 2014 through December 31, 2018

SER#	E A / C O DATE	COUNTY	RD# FC CONN #	INT-TYP	SPCL USE	TRLR QTY	MOVE	A S	ACTN EVENT	CAUSE
INVEST	E L M H R DAY/TIME	CITY	CMPT/MLG FIRST STREET	RD CHAR (MEDIAN) INT-REL	OFFRD WTHR CRASH TYP	OWNER	FROM	PRTC INJ G E LICNS PED	LOC ERROR	
UNLOC?	D C J L K LAT/LONG	URBAN AREA	MILEPNT SECOND STREET	DIRECT LEGS TRAF-	RNDBT SURF COLL TYP			E X RES		
			LRS INTERSECTION SEQ#	LOCTN (#LANES) CNTL	DRVWY LIGHT SVRTY	V# VEH TYPE	TO	P# TYPE SVRTY		
						02 NONE	0 TURN-L			
						PRVTE	W N		019	00
						PSNGR CAR		01 DRVR NONE	37 F EXP	028
									OR<25	000
07519	N N N 11/18/2017	WASHINGTON	1 14	STRGHT	N	N CLR	S-1STOP	01 NONE	9 STRGHT	29
NONE	N Sat 11A	BEAVERTON	MN 0 SW BEAV-HILLSDALE HY E	(NONE) UNKNOWN	N DRY	REAR		N/A	E W	000
		PORTLAND UA	1.38 SW 107TH AVE	06	N DAY	PDO		PSNGR CAR	01 DRVR NONE	00 U UNK
No	45 29 11.55 -122 47 6.81		004000100S00	1	(04)					000
						02 NONE	9 STOP			
						N/A	E W		011	00
						PSNGR CAR		01 DRVR NONE	00 U UNK	000
										000





OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Intersectional Crashes at SW Beaverton-Hillsdale Hwy (#040) & SW 107th Ave  
 January 1, 2014 through December 31, 2018

SER#	E A / C O DATE	COUNTY	RD# FC CONN #	INT-TYP	SPCL USE	MOVE	A S	LICNS	PED	ACTN	EVENT	CAUSE								
INVEST	E L M H R DAY/TIME	CITY	CMPT/MLG FIRST STREET	RD CHAR (MEDIAN)	INT-REL	OFFRD WTHR	CRASH TYP	TRLR QTY	MOVE	PRTC	INJ	G E LICNS	PED	ACTN	EVENT	CAUSE				
UNLOC?	D C J L K LAT/LONG	URBAN AREA	MILEPNT SECOND STREET	DIRECT	LEGS TRAF-	RNDBT SURF	COLL TYP	OWNER	FROM	P#	TYPE	SVRTRY	E X RES	LOC	ERROR	ACTN	EVENT	CAUSE		
			LRS INTERSECTION SEQ#	LOCTN	(#LANES)	SVRTRY	V#	VEH TYPE	TO											
								02 NONE	9 STOP											
								N/A	E W								011	00		
								PSNGR CAR		01	DRVR	NONE	00 U	UNK		000	000	00		
02118	N N N 04/23/2018	WASHINGTON	1 14	INTER	CROSS	N	N CLR	S-1STOP	01 NONE	0	STRGHT									
NONE	N Mon 4P	BEAVERTON	MN 0 SW BEAV-HILLSDALE HY E				TRF SIGNAL	N DRY REAR	PRVTE	E W									29	
																				00
		PORTLAND UA	1.31 SW 107TH AVE	06	0			N DAY INJ	PSNGR CAR		01	DRVR	NONE	31 M	OR-Y	026	000	000	29	
No	45 29 11.54 -122 47 12.06		004000100S00	1											OR<25					
									02 NONE	0 STOP										
								PRVTE	E W											011
								PSNGR CAR		01	DRVR	INJC	46 M	OR-Y		000	000	000	00	
																				00
																				00
																				00
00688	N N N 02/05/2014	WASHINGTON	1 14	INTER	3-LEG	N	N CLR	O-1 L-TURN	01 NONE	0	TURN-L									
NONE	N Wed 3P	BEAVERTON	MN 0 SW BEAV-HILLSDALE HY W				TRF SIGNAL	N DRY TURN	PRVTE	S W										29
																				018
		PORTLAND UA	1.31 SW 107TH AVE	05	0			Y DAY PDO	PSNGR CAR		01	DRVR	NONE	17 M	OR-Y	042	000	000	29	
No	45 29 11.54 -122 47 12.06		004000100S00	1											OR<25					
									02 NONE	0 TURN-R										
								PRVTE	N W											000
								PSNGR CAR		01	DRVR	NONE	00 U	UNK		000	000	000	00	
																				00
08136	N N N 12/29/2015	WASHINGTON	1 14	INTER	CROSS	N	N CLR	O-OTHER	01 NONE	0	TURN-R									
NONE	N Tue 5P	BEAVERTON	MN 0 SW BEAV-HILLSDALE HY W				TRF SIGNAL	N WET TURN	PRVTE	N W										08
																				00
		PORTLAND UA	1.31 SW 107TH AVE	05	0			N DLIT PDO	PSNGR CAR		01	DRVR	NONE	00 F	UNK	007	000	000	08	
No	45 29 11.54 -122 47 12.06		004000100S00	1											UNK					
									02 NONE	0 TURN-L										
								PRVTE	S W											000
								PSNGR CAR		01	DRVR	NONE	28 M	OR-Y		000	000	000	00	
																				00
																				00
00946	N N N 02/18/2017	WASHINGTON	1 14	INTER	3-LEG	N	N CLR	S-1STOP	01 NONE	0	STRGHT									
NONE	N Sat 2P	BEAVERTON	MN 0 SW BEAV-HILLSDALE HY W				TRF SIGNAL	N DRY REAR	UNKN	W E										013
																				000
		PORTLAND UA	1.31 SW 107TH AVE	06	0			N DAY INJ	PSNGR CAR		01	DRVR	NONE	00 F	OTH-Y	026	000	000	29	
No	45 29 11.54 -122 47 12.06		004000100S00	1											UNK					
									02 NONE	0 STOP										
								PRVTE	W E											011
								PSNGR CAR		01	DRVR	INJC	58 F	OR-Y		000	000	000	00	
																				00
																				00

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Intersectional Crashes at SW Beaverton-Hillsdale Hwy (#040) & SW 107th Ave  
 January 1, 2014 through December 31, 2018

SER#	E A / C O DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	ACTN	EVENT	CAUSE						
INVEST	E L M H R DAY/TIME	CITY	CMPT/MLG	FIRST STREET	RD CHAR	(MEDIAN)	TRLR QTY	OWNER	FROM	PRTC	INJ	G E LICNS	PED					
UNLOC?	D C J L K LAT/LONG	URBAN AREA	MILEPNT	SECOND STREET	DIRECT	LEGS TRAF-	RND BT SURF	COLL TYP	VEH TYPE	P#	TYPE	SVR TY	E X RES	LOC	ERROR			
							03 NONE	0 STOP										
							PRVTE	W E									022	00
							PSNGR CAR			01	DRVR	NONE	42 F	OR-Y	000		000	00
00642	N N N N N 02/06/2018	WASHINGTON	1	14		INTER	01 NONE	0 STRGHT										
CITY	N Tue 5A	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY CN	3-LEG	PRVTE	E W										04,22
		PORTLAND UA	1.31		SW 107TH AVE	01				01	DRVR	NONE	44 F	OTH-Y	020		000	04
No	45 29 11.54 -122 47 12.06		004000100S00			1												
							02 NONE	0 TURN-L										
							PRVTE	N E									000	00
							PSNGR CAR			01	DRVR	INJC	30 M	OR-Y	000		000	00
03672	N N N 07/16/2018	WASHINGTON	1	14		INTER	01 NONE	9 STRGHT										
NONE	N Mon 8P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY CN	CROSS	N/A	E W										02,04
		PORTLAND UA	1.31		SW 107TH AVE	01				01	DRVR	NONE	00 U	UNK	000		000	00
No	45 29 11.54 -122 47 12.06		004000100S00			1												
							02 NONE	9 TURN-L										
							N/A	N E									000	00
							PSNGR CAR			01	DRVR	NONE	00 U	UNK	000		000	00
06805	N N N N N 12/11/2018	WASHINGTON	1	14		INTER	01 NONE	0 STRGHT										
CITY	N Tue 11A	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY CN	3-LEG	PRVTE	E W										04
		PORTLAND UA	1.31		SW 107TH AVE	01				01	DRVR	NONE	41 M	OR-Y	020		000	04
No	45 29 11.54 -122 47 12.06		004000100S00			1												
							02 NONE	0 TURN-L										
							PRVTE	N E									000	00
							PSNGR CAR			01	DRVR	INJC	40 F	OR-Y	000		000	00
01490	N N N 02/12/2014	WASHINGTON	1	14		INTER	01 NONE	0 STRGHT										
NONE	N Wed 4P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY CN	3-LEG	PRVTE	E W										02
		PORTLAND UA	1.31		SW 107TH AVE	02				01	DRVR	INJC	63 M	OR-Y	000		000	00
No	45 29 11.54 -122 47 12.06		004000100S00			1												
							02 NONE	0 TURN-L										
							PRVTE	W N									000	00
							PSNGR CAR			01	DRVR	NONE	43 F	OR-Y	004,028		000	02

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Intersectional Crashes at SW Beaverton-Hillsdale Hwy (#040) & SW 107th Ave  
 January 1, 2014 through December 31, 2018

SER#	EA	CSW	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A	S	RES	PED	CAUSE											
INVEST	ELMHR	DAY/TIME	CITY	MILEPNT	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH TYP	TRLR QTY	OWNER	FROM	PRTC	INJ	G	E	LICNS	LOC	ERROR	ACTN	EVENT	CAUSE		
UNLOC?	DCJLK	LAT/LONG	URBAN AREA	LRS	INTERSECTION SEQ#	LOCTN	(#LANES)	CNTL	RND	BT	SURF	COLL TYP	V#	VEH TYPE	P#	TYPE	SVR	E	X	RES	LOC	ERROR	ACTN	EVENT	CAUSE	
00905	NNN	02/16/2017	WASHINGTON	1	14			INTER	CROSS	N															02	
NONE	N	Thu 11A	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY CN						N/A	9	TURN-L										00	
			PORTLAND UA	1.31	SW 107TH AVE	02	0				N	DAY	PDO	PSNGR	CAR	01	DRVR	NONE	00	U	UNK	000	000		00	
No	45	29	11.54 -122 47 12.06	004000100S00			1																		00	
														02	NONE	9	STRGHT									00
														N/A			E	W							00	
														PSNGR	CAR	01	DRVR	NONE	00	U	UNK	000	000		00	
																									00	
01815	NNNN	04/13/2018	WASHINGTON	1	14			INTER	CROSS	N																02
CITY	N	Fri 9P	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY CN																		00	
			PORTLAND UA	1.31	SW 107TH AVE	02	0				N	DLIT	INJ	PSNGR	CAR	01	DRVR	NONE	16	F	OR-Y	000	000		00	
No	45	29	11.54 -122 47 12.06	004000100S00			1																		00	
														02	NONE	0	TURN-L									00
														PRVTE			W	N							000	
														PSNGR	CAR	01	DRVR	INJC	25	F	OR-Y	028,004	000		02	
																									00	
																									00	
07928	NNN	12/30/2014	WASHINGTON	1	14			INTER	3-LEG	N																04
NO RPT	N	Tue 3P	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY CN																		00	
			PORTLAND UA	1.31	SW 107TH AVE	03	0				N	DAY	INJ	PSNGR	CAR	01	DRVR	NONE	59	F	OR-Y	097	000		00	
No	45	29	11.54 -122 47 12.06	004000100S00			1																		00	
														02	NONE	0	STRGHT								000	
														PRVTE			W	E							000	
														PSNGR	CAR	01	DRVR	INJC	45	F	OR-Y	097	000		00	
																									00	
																									00	
																									00	
																									00	
03549	NNN	06/25/2015	WASHINGTON	1	14			INTER	3-LEG	N																02
CITY	N	Thu 1P	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY CN																		00	
			PORTLAND UA	1.31	SW 107TH AVE	03	0				N	DAY	INJ	PSNGR	CAR	01	DRVR	INJC	61	F	OR-Y	004,028	000		02	
No	45	29	11.54 -122 47 12.06	004000100S00			1																		00	
														02	NONE	0	STRGHT								000	
														PRVTE			W	E							000	
														PSNGR	CAR	01	DRVR	INJB	18	M	OR-Y	000	000		00	
																									00	
																									00	
05457	NNN	09/21/2015	WASHINGTON	1	14			INTER	3-LEG	N																02
NO RPT	N	Mon 6P	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY CN																		00	
			PORTLAND UA	1.31	SW 107TH AVE	03	0				Y	DAY	PDO	PSNGR	CAR	01	DRVR	NONE	37	F	OR-Y	000	000		00	
No	45	29	11.54 -122 47 12.06	004000100S00			1																		00	
																									00	

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Intersectional Crashes at SW Beaverton-Hillsdale Hwy (#040) & SW 107th Ave
January 1, 2014 through December 31, 2018

Table with columns: SER#, INVEST, UNLOC?, E A / C O DATE, COUNTY, RD#, FC, CONN #, INT-TYP, RD CHAR, INT-REL, OFFRD WTHR, CRASH TYP, SPCL USE, MOVE, A S, LICNS, PED, ACTN EVENT, CAUSE. Contains multiple rows of crash data for various locations like WASHINGTON CITY and BEAVERTON.



OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE Crashes on OR-10, Beaverton-Hillsdale Hwy (#040) from Mile point 1.30 to Mile point 1.51, includes crashes at terminal intersections.  
 January 1, 2019 through December, 31 2019

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S																															
											ACTN	EVENT	CAUSE	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH TYP	TRLR QTY	OWNER	FROM	PRTC	INJ	A	S	G	E	LICNS	PED											
UNLOC?	D	C	J	L	K	LAT/LONG	URBAN AREA	MILEPNT	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL TYP	VEH TYPE	TO	F#	TYPE	SVRTY	E	X	RES	LOC	ERROR																
06246	N N N	11/12/2019	WASHINGTON	1	14		INTER	01 NONE	0	STRGHT															099	29															
	NONE	N	Tue 4P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY W							TRF	SIGNAL	N	CLR	S-1	STOP	01	NONE	0	STRGHT														000	099	00	29	
	No	45 29	11.54 -122	47 12.06	PORTLAND UA	1.31	SW 107TH AVE	06	0					Y	DAY		INJ			01	DRVR	NONE	21	F	OR-Y	026	000	099									OR<25				
																				02	NONE	0	STOP															011	00		
																					01	DRVR	INJC	21	F	OR-Y	000	000											000	00	
																					02	PSNG	INJC	01	F	OR<25	000	000											000	00	
06867	N N N	12/23/2019	WASHINGTON	1	14		INTER	01 NONE	9	STRGHT																13	00														
	NONE	N	Mon 10A	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY W							TRF	SIGNAL	N	CLR	S-STRGHT		01	NONE	9	STRGHT																000	00	
	No	45 29	11.54 -122	47 12.06	PORTLAND UA	1.31	SW 107TH AVE	06	0					N	DAY		PDO			01	DRVR	NONE	00	U	UNK	000	000											000	00		
																					02	NONE	9	STRGHT																000	00
																						01	DRVR	NONE	00	U	UNK	000	000											000	00
06538	N N N N N	12/10/2019	WASHINGTON	1	14		INTER	01 NONE	9	TURN-R																08	00														
	COUNTY	N	Tue 3P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY CN							N	RAIN	O-OTHER				01	NONE	9	TURN-R																000	00	
	No	45 29	11.54 -122	47 12.06	PORTLAND UA	1.31	SW 107TH AVE	01	0					N	DAY		PDO			01	DRVR	NONE	00	U	UNK	000	000											000	00		
																					02	NONE	9	TURN-L																000	00
																						01	DRVR	NONE	00	U	UNK	000	000										000	00	
02226	N N N N N	05/04/2019	WASHINGTON	1	14		INTER	01 NONE	0	TURN-L																02,40	00														
	CITY	N	Sat 7A	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY CN							TRF	SIGNAL	N	CLR	O-1 L-TURN		01	NONE	0	TURN-L																000	00	
	No	45 29	11.54 -122	47 12.06	PORTLAND UA	1.31	SW 107TH AVE	02	0					N	DAY		INJ			01	DRVR	NONE	71	M	OR-Y	028,004	026											026	02,40		
																						02	NONE	0	STRGHT														000	00	
																						01	DRVR	INJC	32	M	OR-Y	000	000										000	00	
																										OR<25															
03733	N N N	07/25/2019	WASHINGTON	1	14		ALLEY																			02	00														
	NONE	N	Thu 1P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY E							(NONE)	UNKNOWN	N	CLR	ANGL-OTH		01	NONE	9	STRGHT																000	00	
	No	45 29	11.54 -122	47 8.30	PORTLAND UA	1.36	SW 107TH AVE	04						N	DAY		PDO			01	DRVR	NONE	00	U	UNK	000	000											000	00		
																										(04)															

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Crashes on OR-10, Beaverton-Hillsdale Hwy (#040) from Mile point 1.30 to Mile point 1.51, includes crashes at terminal intersections.  
 January 1, 2019 through December, 31 2019

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	MOVE	A S	PED	ACTN	EVENT	CAUSE										
INVEST	E L M H R	DAY/TIME	CITY	CMPT/MLG	FIRST	STREET	RD CHAR	TRLR QTY	OWNER	FROM	PRTC	INJ	G E	LICNS	LOC	ERROR								
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	MILEPNT	SECOND	STREET	DIRECT	VEH TYPE	VEH	TYPE	P#	TYPE	SVRTY	E X	RES	LOC	ERROR							
				LRS	INTERSECTION	SEQ#	LOCTN	(#LANES)																
								02 NONE	9	TURN-L														
								N/A		S W								018	00					
								PSNGR CAR			01	DRVR	NONE	00	U	UNK	000	000	00					
05597	N N N	04/03/2019	WASHINGTON	1	14		ALLEY		N															
NO RPT	N	Wed 3P	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY W	(NONE)	UNKNOWN	N CLR	ANGL-OTH	01	NONE	9	TURN-R									
										N DRY	TURN		N/A		S E				018	00				
			PORTLAND UA		1.42	SW 103RD AVE	03			N DAY	PDO		PSNGR CAR			01	DRVR	NONE	00	U	UNK	000	000	00
No	45 29	11.55 -122 47 3.81			004000100S00		1	(04)																
								02 NONE	9	STRGHT														
								N/A		W E									000	00				
								PSNGR CAR			01	DRVR	NONE	00	U	UNK	000	000	00					
05168	N N N N N	10/08/2019	WASHINGTON	1	14		ALLEY		N															
CITY	N	Tue 8A	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY W	(NONE)	UNKNOWN	N CLD	ANGL-OTH	01	NONE	0	TURN-R									
										N WET	TURN		PRVTE		S E				018	00				
			PORTLAND UA		1.42	SW 103RD AVE	03			N DAY	INJ		PSNGR CAR			01	DRVR	NONE	54	M	OR-Y	028	000	02
No	45 29	11.52 -122 47 3.81			004000100S00		1	(04)																
								02 NONE	0	STRGHT														
								PRVTE		W E									000	00				
								PSNGR CAR			01	DRVR	INJC	36	F	OR-Y	000	000	00					
05582	N N N	10/26/2019	WASHINGTON	1	14		ALLEY		N															
NONE	N	Sat 4P	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY W	(NONE)	UNKNOWN	N CLR	O-OTHER	01	NONE	9	TURN-L									
										N DRY	TURN		N/A		S W				018	00				
			PORTLAND UA		1.42	SW 103RD AVE	05			N DAY	PDO		PSNGR CAR			01	DRVR	NONE	00	U	UNK	000	000	00
No	45 29	11.55 -122 47 3.81			004000100S00		1	(05)																
								02 NONE	9	TURN-L														
								N/A		N E									018	00				
								PSNGR CAR			01	DRVR	NONE	00	U	UNK	000	000	00					
03326	N N N N N	06/28/2019	WASHINGTON	1	14		STRGHT		N															
CITY	N	Fri 12P	BEAVERTON	MN	0	SW BEAV-HILLSDALE	HY W	(NONE)	NONE	N CLR	S-1STOP	01	NONE	0	STRGHT									
										N DRY	REAR		PRVTE		E W				000	00				
			PORTLAND UA		1.44	SW 103RD AVE	06			Y DAY	INJ		PSNGR CAR			01	DRVR	NONE	16	M	OR-Y	043	000	07
No	45 29	11.55 -122 47 2.30			004000100S00		1	(04)																
								02 NONE	0	STOP														
								PRVTE		E W									011	00				
								PSNGR CAR			01	DRVR	INJC	33	M	OR-Y	000	000	00					

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

040 BEAVERTON-HILLSDALE

Crashes on OR-10, Beaverton-Hillsdale Hwy (#040) from Mile point 1.30 to Mile point 1.51, includes crashes at terminal intersections.  
 January 1, 2019 through December, 31 2019

SER#	E A / C O	DATE	COUNTY	RD#	FC	CONN #	INT-TYP	SPCL USE	TRLR QTY	MOVE	A S	INJ	G E	LICNS	PED	ACTN	EVENT	CAUSE							
INVEST	E L M H R	DAY/TIME	CITY	MILEPNT	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL TYP	OWNER	FROM	PRTC	INJ	G E	LICNS	PED							
UNLOC?	D C J L K	LAT/LONG	URBAN AREA	LRS	INTERSECTION SEQ#	LOCTN	(#LANES)	CNTL	DRVWY	LIGHT	SVRTY	V#	VEH TYPE	TO	P#	TYPE	SVRTY	E X	RES	LOC	ERROR	ACTN	EVENT	CAUSE	
02590	N N N	05/22/2019	WASHINGTON	1	14		INTER	3-LEG	N		N CLR	S-1STOP	01	NONE	0	STRGHT								29	
NONE	N	Wed 4P	BEAVERTON	MN	0	SW BEAV-HILLSDALE HY W				TRF SIGNAL	N DRY	REAR		PRVTE		W E							000	00	
No	45 29	11.54 -122 46 57.62	PORTLAND UA		1.50	SW WESTERN AVE	06	0		N DAY	INJ			PSNGR CAR		01	DRVR	NONE	20	M	OR-Y	026	000	29	
				004000100S00			1																	OR<25	
														02	NONE	0	STOP							011	00
														PRVTE		W E									00
														PSNGR CAR		01	DRVR	INJC	68	M	OR-Y	000	000	000	00
																									OR<25



OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Crashes on OR-10, Beaverton-Hillsdale Hwy (#040) from Mile point 1.30 to Mile point 1.51, includes crashes at terminal intersections.  
 January 1, 2019 through December, 31 2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2019														
REAR-END	0	3	0	3	0	4	0	3	0	3	0	2	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	4	6	0	2	0	4	2	6	0	2	0	0
2019 TOTAL	0	5	5	10	0	6	0	8	2	10	0	5	0	0
FINAL TOTAL	0	5	5	10	0	6	0	8	2	10	0	5	0	0

**Disclaimers:** Effective 2016, collection of “Property Damage Only” (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see [https://www.oregon.gov/ODOT/Data/documents/Crash\\_Data\\_Disclaimers.pdf](https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf).

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 STATE HIGHWAY SYSTEM CRASH LOCATIONS - DRIVER BEHAVIOR FORMAT

Crashes on OR-10, Beaverton-Hillsdale Hwy (#040) from Mile point 1.30 to Mile point 1.51, includes crashes at terminal intersections.  
 January 1, 2019 through December, 31 2019

SERIAL NO	DATE	T I D M A E Y	*COUNTY OR CITY NAME	M C L O G M P T N Y T P	CRASH LOCATION	COLL				S U V R E F H	--PEOPLE--						
						TYPE	EVENT	CAUSE	ERROR		VEHICLE TYP/OWN #1 #2	I I L N L J	A A N L C C	E E D D			
06246	11/12/2019	4P	TU Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.31	REAR	099	29	026	DRY	2	011	011	0	2	N	N
06867	12/23/2019	10A	MO Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.31	SS-O		13		DRY	2	010	010	0	0	N	N
02226	05/04/2019	7A	SA Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.31	TURN		02,40	028,004	DRY	2	011	011	0	1	N	N
06538	12/10/2019	3P	TU Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.31	TURN		08		WET	2	010	010	0	0	N	N
03733	07/25/2019	1P	TH Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.36	TURN		02		DRY	2	010	010	0	0	N	N
05597	04/03/2019	3P	WE Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.42	TURN		02		DRY	2	010	010	0	0	N	N
05168	10/08/2019	8A	TU Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.42	TURN		02	028	WET	2	011	011	0	1	N	N
05582	10/26/2019	4P	SA Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.42	TURN		02		DRY	2	010	010	0	0	N	N
03326	06/28/2019	12P	FR Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.44	REAR		07	043	DRY	2	011	011	0	1	N	N
02590	05/22/2019	4P	WE Beaverton	MN R HY 040,	BEAVERTON-HILLSDALE AT MP 1.50	REAR		29	026	DRY	2	011	011	0	1	N	N

VEHICLE OWNERSHIP CODES

Code	Short Description	Long Description
0	N/A	Not collected for PDO Crashes
1	PRVTE	Private
2	GOVMT	Government
3	PUBLIC	Public
4	RENTL	Rental vehicle
5	STOLN	Stolen vehicle
9	UNKN	Unknown ownership

VEHICLE TYPE CODES

Code	Short Description	Long Description
00	PDO	Not collected for PDO Crashes
01	PSNGR CAR	Passenger car, pickup, light delivery, etc.
02	BOBTAIL	Truck tractor with no trailers (bobtail)
03	FARM TRCTR	Farm tractor or self-propelled farm equipment
04	SEMI TOW	Truck Tractor with trailer/mobile home in tow
05	TRUCK	Truck with non-detachable bed, panel, etc.
06	MOPED	Moped, minibike, seated motor scooter, motor bike
07	SCHL BUS	School bus (includes van)
08	OTH BUS	Other bus
09	MTRCYCLE	Motorcycle, dirt bike
10	OTHER	Other: forklift, backhoe, etc.
11	MOTRHOME	Motorhome
12	TROLLEY	Motorized Street Car/Trolley (no rails/wires)
13	ATV	ATV
14	MTRSCTR	Motorized scooter (standing)
15	SNOWMOBILE	Snowmobile
99	UNKNOWN	Unknown vehicle type

CAUSE CODES

Code	Short Description	Medium Description	Long Description	Code Termination Date
00	NO CODE	NO CODE APPLICABLE	No cause associated at this level	
01	TOO-FAST	TOO FAST FOR COND	Too fast for conditions (not exceed posted speed)	
02	NO-YIELD	FAILED YIELD ROW	Did not yield right-of-way	
03	PAS-STOP	PASSED STOP SIGN	Passed stop sign or red flasher	
04	DIS SIG	DISREGRD TRAF SIGNAL	Disregarded traffic signal	
05	LEFT-CTR	LEFT OF CTR/STRADDLE	Drove left of center on two-way road; straddling	
06	IMP-OVER	IMPROPER PASSING	Improper overtaking	
07	TOO-CLOS	FOLLOW TOO CLOSE	Followed too closely	
08	IMP-TURN	IMPROPER TURN	Made improper turn	
09	DRINKING	ALC OR DRUGS	Alcohol or Drug Involved	12/31/2002
10	OTHR-IMP	OTHER DRIVE ERR	Other improper driving	
11	MECH-DEF	MECH DEFECT	Mechanical defect	
12	OTHER	OTHER	Other (not improper driving)	
13	IMP LN C	IMP LANE CHANGE	Improper change of traffic lanes	
14	DIS TCD	DISRG OTHR TCD	Disregarded other traffic control device	
15	WRNG WAY	WRONG WAY / 1-WAY RD	Wrong way on one-way road; wrong side divided road	
16	FATIGUE	DRIVER FATIGUED	Driver drowsy/fatigued/sleepy	
17	ILLNESS	PHYSICAL ILLNESS	Physical illness	
18	IN RDWY	ILLEGALLY IN RDWY	Non-motorist illegally in roadway	
19	NT VISBL	NOT VISIBLE	Non-motorist not visible; non-reflective clothing	
20	IMP PKNG	IMPROPER PARKING	Vehicle improperly parked	
21	DEF STER	DEFECTIVE STEERING	Defective steering mechanism	
22	DEF BRKE	DEFECTIVE BRAKES	Inadequate or no brakes	
24	LOADSHFT	LOAD SHIFTED	Vehicle lost load or load shifted	
25	TIREFAIL	TIRE FAILURE	Tire Failure	
26	PHANTOM	PHANTOM VEHICLE	Phantom / Non-contact Vehicle	
27	INATTENT	INATTENTION	Inattention	
28	NM INATT	NON-MTRST INATTENT	Non-Motorist Inattention	
29	F AVOID	FAIL AVOID VEH AHEAD	Failed to avoid vehicle ahead	
30	SPEED	EXCED POSTED SPEED	Driving in excess of posted speed	
31	RACING	SPEED RACING	Speed Racing (per PAR)	
32	CARELESS	CARELESS DRIVING	Careless Driving (per PAR)	
33	RECKLESS	RECKLESS DRIVING	Reckless Driving (per PAR)	
34	AGGRESV	AGGRESSIVE DRIVING	Aggressive Driving (per PAR)	
35	RD RAGE	ROAD RAGE	Road Rage (per PAR)	
40	VIEW OBS	VIEW OBSCURED	View obscured	
50	USED MDN	IMP USE MEDIAN/SHLDR	Improper use of median or shoulder	
51	FAIL LN	F MAINT LANE	Failed to maintain lane	12/31/2015
52	OFF RD	RAN OFF RD	Ran off road	12/31/2015

## ERR CODES

Code	Short Description	Medium Description	Long Description
000	NONE	NO ERROR	No error
001	WIDE TRN	WIDE TURN	Wide turn
002	CUT CORN	CUT CORNER	Cut corner on turn
003	FAIL TRN	F OBEY TRN	Failed to obey mandatory traffic turn signal, sign or lane markings
004	L IN TRF	LTRN FNT TRAF	Left turn in front of oncoming traffic
005	L PROHIB	LTRN PROHIB	Left turn where prohibited
006	FRM WRNG	T FRM WRNG LN	Turned from wrong lane
007	TO WRONG	T TO WRONG LN	Turned into wrong lane
008	ILLEG U	ILLEG U-TURN	U-turned illegally
009	IMP STOP	IMP STOP	Improperly stopped in traffic lane
010	IMP SIG	IMP/FAIL SIG	Improper signal or failure to signal
011	IMP BACK	IMP BACKING	Backing improperly (not parking)
012	IMP PARK	IMP PARKED	Improperly parked
013	UNPARK	IMP STRT PARK	Improper start leaving parked position
014	IMP STRT	IMP STRT STOP	Improper start from stopped position
015	IMP LGHT	IMP/NO LIGHTS	Improper or no lights (vehicle in traffic)
016	INATTENT	INATTENTION	Inattention (Failure to Dim Lights prior to 4/1/97)
017	UNSF VEH	DR UNSAFE VEH	Driving unsafe vehicle (no other error apparent)
018	OTH PARK	PRK MAN N/CLR	Entering/exiting parked position w/ insufficient clearance; other improper parking maneuver
019	DIS DRIV	DISRG DR SIG	Disregarded other driver's signal
020	DIS SGNL	DISRG TRF SIG	Disregarded traffic signal
021	RAN STOP	DISRG STP SGN	Disregarded stop sign or flashing red
022	DIS SIGN	DISRG WRN SGN	Disregarded warning sign, flares or flashing amber
023	DIS OFCR	DISRG POL/FLG	Disregarded police officer or flagman
024	DIS EMER	DISRG SIR/EMR	Disregarded siren or warning of emergency vehicle
025	DIS RR	DISRG RR SIG	Disregarded RR signal, RR sign, or RR flagman
026	REAR-END	F AVOID STP V	Failed to avoid stopped or parked vehicle ahead other than school bus
027	BIKE ROW	F/YLD ROW BIK	Did not have right-of-way over pedalcyclist
028	NO ROW	NO R-O-W	Did not have right-of-way
029	PED ROW	F/YLD ROW PED	Failed to yield right-of-way to pedestrian
030	PAS CURV	PASS ON CURVE	Passing on a curve
031	PAS WRNG	PASS WRNG SID	Passing on the wrong side
032	PAS TANG	PASS TANGENT	Passing on straight road under unsafe conditions
033	PAS X-WK	PASS STP4PED	Passed vehicle stopped at crosswalk for pedestrian
034	PAS INTR	PASS AT INTER	Passing at intersection
035	PAS HILL	PASS ON HILL	Passing on crest of hill
036	N/PAS ZN	PASS N/PASSNG	Passing in "No Passing" zone
037	PAS TRAF	PASS ONC TRAF	Passing in front of oncoming traffic
038	CUT-IN	CUTTING IN	Cutting in (two lanes - two way only)
039	WRNGSIDE	DR WRONG SIDE	Driving on wrong side of the road (2-way undivided roadways)
040	THRU MED	DR THRU MEDN	Driving through safety zone or over island
041	F/ST BUS	F/STP SCHLBUS	Failed to stop for school bus
042	F/SLO MV	F/SLO SLO VEH	Failed to decrease speed for slower moving vehicle
043	TOO CLOSE	FOLLW TO CLOS	Following too closely (must be on officer's report)
044	STRDL LN	STRD/DR WRNG	Straddling or driving on wrong lanes
045	IMP CHG	IMP LANE CHG	Improper change of traffic lanes

## ERR CODES

Code	Short Description	Medium Description	Long Description
046	WRNG WAY	WRNG WY/1 WAY	Wrong way on one-way roadway; wrong side divided road
047	BASCRULE	V BASIC RULE	Driving too fast for conditions (not exceeding posted speed)
048	OPN DOOR	OPN DOOR TRAF	Opened door into adjacent traffic lane
049	IMPEDING	IMPEDING TRAF	Impeding Traffic
050	SPEED	SPEED	Driving in excess of posted speed
051	RECKLESS	RECKLSS DRVNG	Reckless driving (per PAR)
052	CARELESS	CARELSS DRVNG	Careless driving (per PAR)
053	RACING	RACING	Speed Racing (per PAR)
054	X N/SGNL	X-INT NO SGNL	Crossing at intersection, no traffic signal present
055	X W/SGNL	X-INT W/ SGNL	Crossing at intersection, traffic signal present
056	DIAGONAL	X-INT DIAGNL	Crossing at intersection - diagonally
057	BTWN INT	X-BTWN INTER	Crossing between intersections
059	W/TRAF-S	W SHLD W/TRAF	Walking, running, riding, etc., on shoulder WITH traffic
060	A/TRAF-S	W SHLD A/TRAF	Walking, running, riding, etc., on shoulder FACING traffic
061	W/TRAF-P	W PAVE W/TRAF	Walking, running, riding, etc., on pavement WITH traffic
062	A/TRAF-P	W PAVE A/TRAF	Walking, running, riding, etc., on pavement FACING traffic
063	PLAYINRD	PLAY IN RDWY	Playing in street or road
064	PUSH MV	PUSH MV IN RD	Pushing or working on vehicle in road or on shoulder
065	WORK IN RD	WORK IN RD	Working in roadway or along shoulder
070	LAY ON RD	LYING IN RD	Standing or lying in roadway
071	NM IMP USE	N-M IMP USE	Improper use of traffic lane by non-motorist
073	ELUDING	ELUDING	Eluding / Attempt to elude
079	F NEG CURV	FAIL NEG CURV	Failed to negotiate a curve
080	FAIL LN	F MAINT LANE	Failed to maintain lane
081	OFF RD	RAN OFF RD	Ran off road
082	NO CLEAR	MISJUDGE CLR	Driver misjudged clearance
083	OVRSTEER	OVERSTEER	Over-correcting
084	NOT USED	NOT USED	Code not in use
085	OVRLOAD	OVERLOAD	Overloading or improper loading of vehicle with cargo or passengers
097	UNA DIS TC	UNA DISRG TCD	Unable to determine which driver disregarded traffic control device

## EVENT CODES

Code	Short Description	Medium Description	Long Description
001	FEL/JUMP	FELL/JUMPED MV	Occupant fell, jumped or was ejected from moving vehicle
002	INTERFER	PSNGR INTERFERED	Passenger interfered with driver
003	BUG INTF	ANML INTERFERED	Animal or insect in vehicle interfered with driver
004	INDRCT PED	PED INDRCTLY INVLV	Pedestrian indirectly involved (not struck)
005	SUB-PED	SUBSEQUENT PED	"Sub-Ped": pedestrian injured subsequent to collision, etc.
006	INDRCT BIK	BIKE INDRCTLY INVLV	Pedalcyclist indirectly involved (not struck)
007	HITCHIKR	HITCHHIKER	Hitchhiker (soliciting a ride)
008	PSNGR TOW	PSNGR TOWED	Passenger or non-motorist being towed or pushed on conveyance
009	ON/OFF V	ON/OFF STOP VEH	Getting on/off stopped/parked vehicle (occupants only; must have physical contact w/ vehicle)
010	SUB OTRN	SUBSEQ OVERTURN	Overtuned after first harmful event
011	MV PUSHD	VEH BEING PUSHED	Vehicle being pushed
012	MV TOWED	VEH TOWED/TOWING	Vehicle towed or had been towing another vehicle
013	FORCED	FORCED BY IMPACT	Vehicle forced by impact into another vehicle, pedalcyclist or pedestrian
014	SET MOTN	MV SET IN MOTION	Vehicle set in motion by non-driver (child released brakes, etc.)
015	RR ROW	RAILROAD ROW	At or on railroad right-of-way (not Light Rail)
016	LT RL ROW	LIGHT RAIL ROW	At or on Light-Rail right-of-way
017	RR HIT V	TRAIN HIT VEH	Train struck vehicle
018	V HIT RR	VEH HIT TRAIN	Vehicle struck train
019	HIT RR CAR	VEH HIT RR CAR	Vehicle struck railroad car on roadway
020	JACKNIFE	JACKKNIFE	Jackknife; trailer or towed vehicle struck towing vehicle
021	TRL OTRN	TRAILER O'TURN	Trailer or towed vehicle overturned
022	CN BROKE	TRLR CONN BROKE	Trailer connection broke
023	DETACH TRL	DETCHD TRLR STRKNG	Detached trailing object struck other vehicle, non-motorist, or object
024	V DOOR OPN	V DOOR OPN IN TRAF	Vehicle door opened into adjacent traffic lane
025	WHEELOFF	WHEEL CAME OFF	Wheel came off
026	HOOD UP	HOOD FLEW UP	Hood flew up
028	LOAD SHIFT	LOAD SHIFTED	Lost load, load moved or shifted
029	TIREFAIL	TIRE FAILURE	Tire failure
030	PET	PET	Pet: cat, dog and similar
031	LVSTOCK	LIVESTOCK	Stock: cow, calf, bull, steer, sheep, etc.
032	HORSE	HORSE	Horse, mule, or donkey
033	HRSE&RID	HORSE & RIDER	Horse and rider
034	GAME	GAME NO DEER/ELK	Wild animal, game (includes birds; not deer or elk)
035	DEER ELK	DEER OR ELK	Deer or elk, wapiti
036	ANML VEH	ANIMAL-DRAWN VEH	Animal-drawn vehicle
037	CULVERT	CULVERT/MANHOLE	Culvert, open low or high manhole
038	ATENUATN	IMPACT CUSHION	Impact attenuator
039	PK METER	PARKING METER	Parking meter
040	CURB	CURB	Curb (also narrow sidewalks on bridges)
041	JIGGLE	JIGGLE BAR N/MED	Jiggle bar or traffic snake for channelization



## EVENT CODES

Code	Short Description	Medium Description	Long Description
042	GDRL END	GUARDRAIL END	Leading edge of guardrail
043	GARDRAIL	GUARDRAIL	Guard rail (not metal median barrier)
044	BARRIER	MEDIAN BARRIER	Median barrier (raised or metal)
045	WALL	WALL	Retaining wall or tunnel wall
046	BR RAIL	BRIDGE RAIL	Bridge railing or parapet (on bridge or approach)
047	BR ABUTMNT	BRIDGE ABUTMENT	Bridge abutment (included "approach end" thru 2013)
048	BR COLMN	BRIDGE COLUMN	Bridge pillar or column
049	BR GIRDR	BRIDGE GIRDER	Bridge girder (horizontal bridge structure overhead)
050	ISLAND	TRAFFIC ISLAND	Traffic raised island
051	GORE	GORE	Gore
052	POLE UNK	POLE-UNKNOWN	Pole – type unknown
053	POLE UTL	POLE-UTILITY	Pole – power or telephone
054	ST LIGHT	POLE-ST LIGHT	Pole – street light only
055	TRF SGNL	POLE-TRAF SIGNAL	Pole – traffic signal and ped signal only
056	SGN BRDG	POLE-SIGN BRIDGE	Pole – sign bridge
057	STOPSIGN	STOP/YIELD SIGN	Stop or yield sign
058	OTH SIGN	OTHER SIGN	Other sign, including street signs
059	HYDRANT	HYDRANT	Hydrant
060	MARKER	DELINEATOR	Delineator or marker (reflector posts)
061	MAILBOX	MAILBOX	Mailbox
062	TREE	TREE/STUMP	Tree, stump or shrubs
063	VEG OHED	VEGTN OVER RDWY	Tree branch or other vegetation overhead, etc.
064	WIRE/CBL	CABLE ACROSS RD	Wire or cable across or over the road
065	TEMP SGN	TEMP SIGN/BARR	Temporary sign or barricade in road, etc.
066	PERM SGN	PERM SIGN/BARR	Permanent sign or barricade in/off road
067	SLIDE	SLIDE/ROCKS	Slides, fallen or falling rocks
068	FRGN OBJ	FOREIGN OBJECT	Foreign obstruction/debris in road (not gravel)
069	EQP WORK	EQUIP WORKING	Equipment working in/off road
070	OTH EQP	OTHER EQUIPMENT	Other equipment in or off road (includes parked trailer, boat)
071	MAIN EQP	MAINTNCE EQUIP	Wrecker, street sweeper, snow plow or sanding equipment
072	OTHER WALL	OTHER WALL	Rock, brick or other solid wall
073	IRRGL PVMT	IRREGULAR PAVEMENT	Other bump (not speed bump), pothole or pavement irregularity (per PAR)
074	OVERHD OBJ	OTHER OVERHEAD OBJ	Other overhead object (highway sign, signal head, etc.); not bridge
075	CAVE IN	CAVE IN	Bridge or road cave in
076	HI WATER	HIGH WATER	High Water
077	SNO BANK	SNOW BANK	Snow Bank
078	LO-HI EDGE	LOW-HIGH PVMNT EDGE	Low or high shoulder at pavement edge
079	DITCH	CUT SLOPE/DITCH	Cut slope or ditch embankment
080	OBJ FRM MV	OBJ FRM OTHR VEH	Struck by rock or other object set in motion by other vehicle (incl. lost loads)
081	FLY-OBJ	OTHER MOVING OBJ	Struck by rock or other moving or flying object (not set in motion by vehicle)
082	VEH HID	VEH OBSCURE VIEW	Vehicle obscured view
083	VEG HID	VEG OBSCURE VIEW	Vegetation obscured view
084	BLDG HID	BLD OBSCURE VIEW	View obscured by fence, sign, phone booth, etc.

## EVENT CODES

Code	Short Description	Medium Description	Long Description
085	WIND GUST	WIND GUST	Wind Gust
086	IMMERSED	IMMERSION	Vehicle immersed in body of water
087	FIRE/EXP	FIRE/EXPLOSION	Fire or explosion
088	FENC/BLD	FENCE/BUILDING	Fence or building, etc.
089	OTHR CRASH	REFER OTHR CRASH	Crash related to another separate crash
090	TO 1 SIDE	TWO WAY ONE SIDE	Two-way traffic on divided roadway all routed to one side
091	BUILDING	BUILDING	Building or other structure
092	PHANTOM	PHANTOM VEH	Other (phantom) non-contact vehicle
093	CELL PHONE	CELL PHONE PER PAR	Cell phone (on PAR or driver in use)
094	VIOL GDL	VIOL GRAD DR LIC	Teenage driver in violation of graduated license pgm
095	GUY WIRE	GUY WIRE	Guy wire
096	BERM	BERM	Berm (earthen or gravel mound)
097	GRAVEL	GRAVEL IN RDWY	Gravel in roadway
098	ABR EDGE	ABRUPT EDGE	Abrupt edge
099	CELL WTNSD	CELL PHONE WITNESSED	Cell phone use witnessed by other participant
100	UNK FIXD	UNK FIX OBJ	Fixed object, unknown type.
101	OTHER OBJ	OTHER OBJ NOT FIXED	Non-fixed object, other or unknown type
102	TEXTING	TEXTING	Texting
103	WZ WORKER	WZ WORKER	Work Zone Worker
104	ON VEHICLE	RIDE ON VEH EXTERIOR	Passenger riding on vehicle exterior
105	PEDAL PSGR	PSNGR ON PEDALCYCLE	Passenger riding on pedalcycle
106	MAN WHLCHR	NONMOTOR WHEELCHAIR	Pedestrian in non-motorized wheelchair
107	MTR WHLCHR	MOTORIZED WHEELCHAIR	Pedestrian in motorized wheelchair
108	OFFICER	POLICE OFFICER	Law Enforcement / Police Officer
109	SUB-BIKE	SUBSEQUENT BICYCLIST	"Sub-Bike": pedalcyclist injured subsequent to collision, etc.
110	N-MTR	NM STR VEH	Non-motorist struck vehicle
111	S CAR VS V	ST CAR STRUCK VEH	Street Car/Trolley (on rails or overhead wire system) struck vehicle
112	V VS S CAR	VEH STRUCK ST CAR	Vehicle struck Street Car/Trolley (on rails or overhead wire system)
113	S CAR ROW	STREET CAR ROW	At or on street car or trolley right-of-way
114	RR EQUIP	VEH STRUCK RR EQUIP	Vehicle struck railroad equipment (not train) on tracks
115	DSTRCT GPS	DISTRACT GPS DEVICE	Distracted by navigation system or GPS device
116	DSTRCT OTH	DISTRACT OTHR DEVICE	Distracted by other electronic device
117	RR GATE	RR DROP-ARM GATE	Rail crossing drop-arm gate
118	EXPNSN JNT	EXPANSION JOINT	Expansion joint
119	JERSEY BAR	JERSEY BARRIER	Jersey barrier
120	WIRE BAR	WIRE BARRIER	Wire or cable median barrier
121	FENCE	FENCE	Fence
123	OBJ IN VEH	LOOSE OBJ IN VEHICLE	Loose object in vehicle struck occupant
124	SLIPPERY	SLIPPERY SURFACE	Sliding or swerving due to wet, icy, slippery or loose surface (not gravel)
125	SHLDR	SHLDR GAVE	Shoulder gave way
126	BOULDER	ROCKS / BOULDER	Rock(s), boulder (not gravel; not rock slide)
127	LAND SLIDE	ROCK OR LAND SLIDE	Rock slide or land slide
128	CURVE INV	CURVE PRESENT	Curve present at crash location

## EVENT CODES

Code	Short Description	Medium Description	Long Description
129	HILL INV	HILL PRESENT	Vertical grade / hill present at crash location
130	CURVE HID	CURVE OBSCURED VIEW	View obscured by curve
131	HILL HID	HILL OBSCURED VIEW	View obscured by vertical grade / hill
132	WINDOW HID	WINDOW VIEW OBSCURED	View obscured by vehicle window conditions
133	SPRAY HID	SPRAY OBSCURED VIEW	View obscured by water spray
134	TORRENTIAL	TORRENTIAL RAIN	Torrential Rain (exceptionally heavy rain)
135	RAIL OCC	RAIL/CABLE CAR OCC	Injured occupant of railway train, light rail, street car or cable car

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.39 to MP 1.41  
 January 1, 2014 through December 31, 2018

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2018														
REAR-END	0	0	1	1	0	0	0	1	0	0	1	0	0	0
2018 TOTAL	0	0	1	1	0	0	0	1	0	0	1	0	0	0
YEAR: 2017														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	0	0	0
2017 TOTAL	0	1	0	1	0	1	0	1	0	1	0	0	0	0
FINAL TOTAL	0	1	1	2	0	1	0	2	0	1	1	0	0	0

**Disclaimers:** Effective 2016, collection of “Property Damage Only” (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see [https://www.oregon.gov/ODOT/Data/documents/Crash\\_Data\\_Disclaimers.pdf](https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf).

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 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Crashes on SW Beaverton Hillsdale Hwy (#040), from MP 1.31 to MP 1.38  
 January 1, 2014 through December 31, 2018

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2018														
TURNING MOVEMENTS	0	1	1	2	0	1	0	2	0	1	1	0	0	0
2018 TOTAL	0	1	1	2	0	1	0	2	0	1	1	0	0	0
YEAR: 2017														
REAR-END	0	1	3	4	0	1	0	3	1	4	0	0	0	0
TURNING MOVEMENTS	0	3	0	3	0	3	0	3	0	3	0	0	0	0
2017 TOTAL	0	4	3	7	0	4	0	6	1	7	0	0	0	0
YEAR: 2016														
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	0	0	0
2016 TOTAL	0	1	1	2	0	1	0	1	1	2	0	0	0	0
YEAR: 2015														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	0	0	0
2015 TOTAL	0	0	1	1	0	0	0	1	0	1	0	0	0	0
YEAR: 2014														
SIDESWIPE - OVERTAKING	0	1	1	2	0	1	0	2	0	2	0	0	1	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	0	1	0
2014 TOTAL	0	1	2	3	0	1	0	3	0	3	0	0	2	0
FINAL TOTAL	0	7	8	15	0	7	0	13	2	14	1	0	2	0

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Intersectional Crashes at SW Laurel St & SW 107th Ave  
January 1, 2014 through December 31, 2018

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

**Disclaimers:** Effective 2016, collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see [https://www.oregon.gov/ODOT/Data/documents/Crash\\_Data\\_Disclaimers.pdf](https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf).

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Crashes on SW Laurel St within 400 ft (0.08 tenths of a mile) of SW 107th Ave  
 January 1, 2014 through December 31, 2018

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

**Disclaimers:** Effective 2016, collection of “Property Damage Only” (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

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 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

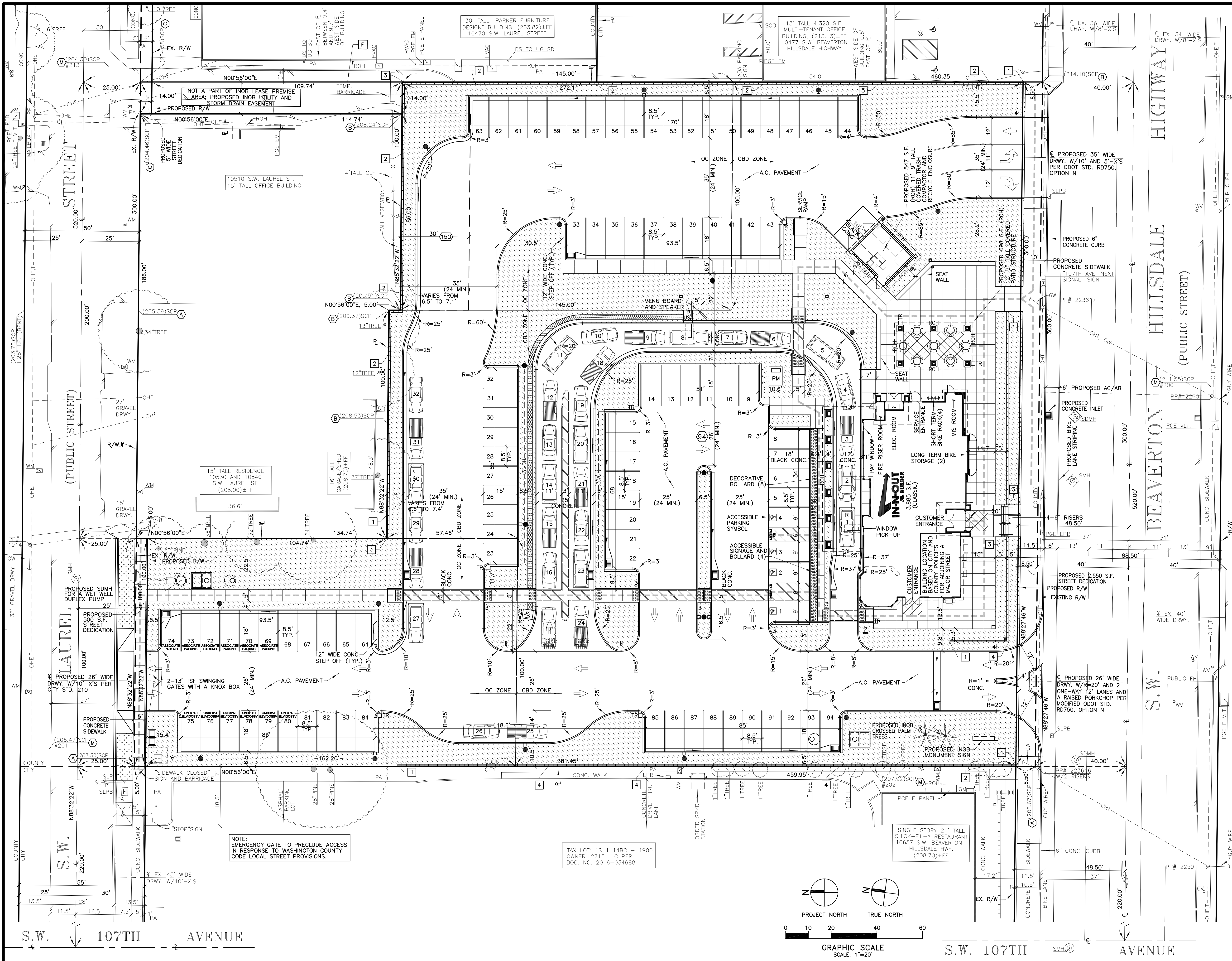
Intersectional Crashes at SW Beaverton-Hillsdale Hwy (#040) & SW 107th Ave  
 January 1, 2014 through December 31, 2018

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2018														
REAR-END	0	2	0	2	0	4	0	2	0	1	1	2	0	0
TURNING MOVEMENTS	0	4	1	5	0	5	0	5	0	3	2	5	0	0
2018 TOTAL	0	6	1	7	0	9	0	7	0	4	3	7	0	0
YEAR: 2017														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
2017 TOTAL	0	2	1	3	0	2	0	2	1	3	0	3	0	0
YEAR: 2016														
PEDESTRIAN	0	2	0	2	0	2	0	1	0	2	0	2	0	0
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
2016 TOTAL	0	2	1	3	0	2	0	1	1	2	1	3	0	0
YEAR: 2015														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	2	4	0	3	1	3	1	3	1	4	0	0
2015 TOTAL	0	2	3	5	0	3	1	4	1	4	1	5	0	0
YEAR: 2014														
REAR-END	0	1	1	2	0	1	0	1	1	1	1	2	0	0
TURNING MOVEMENTS	0	3	1	4	0	5	0	4	0	3	1	4	0	0
2014 TOTAL	0	4	2	6	0	6	0	5	1	4	2	6	0	0
FINAL TOTAL	0	16	8	24	0	22	1	19	4	17	7	24	0	0

**Disclaimers:** Effective 2016, collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

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LEGEND	
[Symbol]	NEW 24"x36" CONCRETE DRAIN BOX INLET WITH A FLOGGARD PLUS FOSSIL FILTER INSERT FOR THE PRE-TREATMENT OF STORMWATER RUNOFF.
[Symbol]	PROPOSED INOB INSTALLED AND MAINTAINED 22'-6" TALL FIXTURE HEIGHT LIGHT POLE ON TOP OF A 30" TALL 24" DIAMETER CONCRETE BASE FOR A TOTAL HEIGHT OF 25' TALL.
[Symbol]	PROPOSED INOB INSTALLED AND MAINTAINED LANDSCAPED PLANTER AND IRRIGATION SYSTEM ON-SITE, INCLUDING AREA UNDER BUILDING ROOF OVERHANG (ROH) AND VEHICLE OVERHANG (VOH) CONSISTING OF APPROXIMATELY 20,992 SQUARE FEET (22.6%).
[Symbol]	BLACK TRUNCATED DOMES DETECTABLE WARNING STRIP.
[Symbol]	VEHICLE DETECTOR LOOP.
[Symbol]	PROPERTY LINE.
[Symbol]	OUTDOOR SEATING PATIO TABLE WITH UMBRELLA (4 SEATS).
[Symbol]	OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (4 SEATS).
[Symbol]	OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (2 SEATS).
[Symbol]	NEW 3' TALL 18"x24" LIT "DRIVE THRU" DIRECTIONAL SIGN.
[Symbol]	NEW 3' TALL 18"x24" LIT "THANK YOU, DO NOT ENTER" DIRECTIONAL SIGN.
[Symbol]	NEW PEDESTRIAN CROSSWALK SIGN.
[Symbol]	NEW ACCESSIBILITY ENTRY SIGN.
[Symbol]	IN-N-OUT BURGER.
[Symbol]	PROPOSED TAN COLOR SPLIT-FACE CMU WALL AND 2" CAP.
[Symbol]	EXPOSED HEIGHT OF PROPOSED CMU RETAINING WALL IN FEET WITH A 46" TALL TUBE STEEL FENCE (TSF) ON TOP WHEN THE EXPOSED HEIGHT IS GREATER THAN 30'.
[Symbol]	LOC INOB LIMITS OF PROPOSED CONSTRUCTION.
[Symbol]	LL PROPOSED INOB LEASE PREMISES LINE.
[Symbol]	VOH VEHICLE OVERHANG WITH NO OBSTRUCTIONS INCLUDING LIGHT POLES, TREES AND SIGNAGE.
[Symbol]	ADA ACCESSIBLE PATH OF TRAVEL, ACCESSIBLE PATH OF TRAVEL IS NOT LESS THAN 4 FEET WIDE, AND DOES NOT EXCEED A RUNNING SLOPE OF 1:20 (5%) OR A CROSS SLOPE IN EXCESS OF 1:50 (2%). REFER TO SHEET C33 FOR SPECIFIC SLOPES AND GRADES.
[Symbol]	PGE ELECTRIC PAD MOUNT TRANSFORMER WITH BOLLARDS.
[Symbol]	PORTABLE TRASH RECEPTACLE ON A MINIMUM 24"x24"x4" CONCRETE PAD.
[Symbol]	NEW CONCRETE SIDEWALK.
[Symbol]	REFER TO THE BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTIONS SHOWN ON SHEET C36.
[Symbol]	DRIVE-THRU CATWALK CONCRETE PAD WITH UMBRELLA STAND PER DETAIL "11" SHOWN ON SHEET C...
[Symbol]	PROPOSED 18" TO 27" TALL 22" WIDE STUCCO COVERED SEAT/SCREEN WALL WITH A PRECAST CONCRETE CAP.
[Symbol]	PROPOSED INOB INSTALLED AND MAINTAINED OFFSITE STREET LANDSCAPE PLANTER AND IRRIGATION SYSTEM CONSISTING OF APPROXIMATELY 429 SQUARE FEET IN S.W. LAUREL STREET AND 266 SQUARE FEET IN S.W. BEAVERTON-HILLSDALE HIGHWAY.
[Symbol]	REFER TO SHEET C36 FOR ENCROACHMENT NOTES.
[Symbol]	PROPOSED PRECAST CONCRETE MODULAR WETLANDS UNIT WETLANDMOD-6-8-5'-0"-V STORMWATER BIOFILTRATION SYSTEM.
[Symbol]	24" WIDE MATTED INOB ASSOCIATE WALKWAY PER ... CONSISTING OF APPROXIMATELY 532 SQUARE FEET.
[Symbol]	CF CURB FACE.

**IN-N-OUT BURGER**

DEVELOPER:  
 IN-N-OUT BURGER  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

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**GHA**

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 (909) 305-2395 FAX (909) 305-2397

*Aaron D. Pellow*  
 AARON D. PELLOW R.C.E. 91119

01-26-2022 DATE

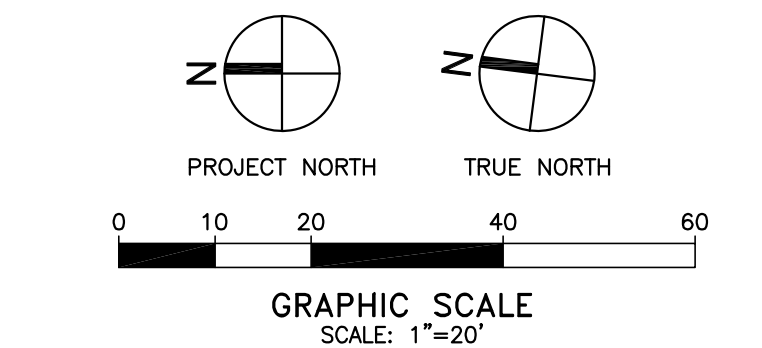
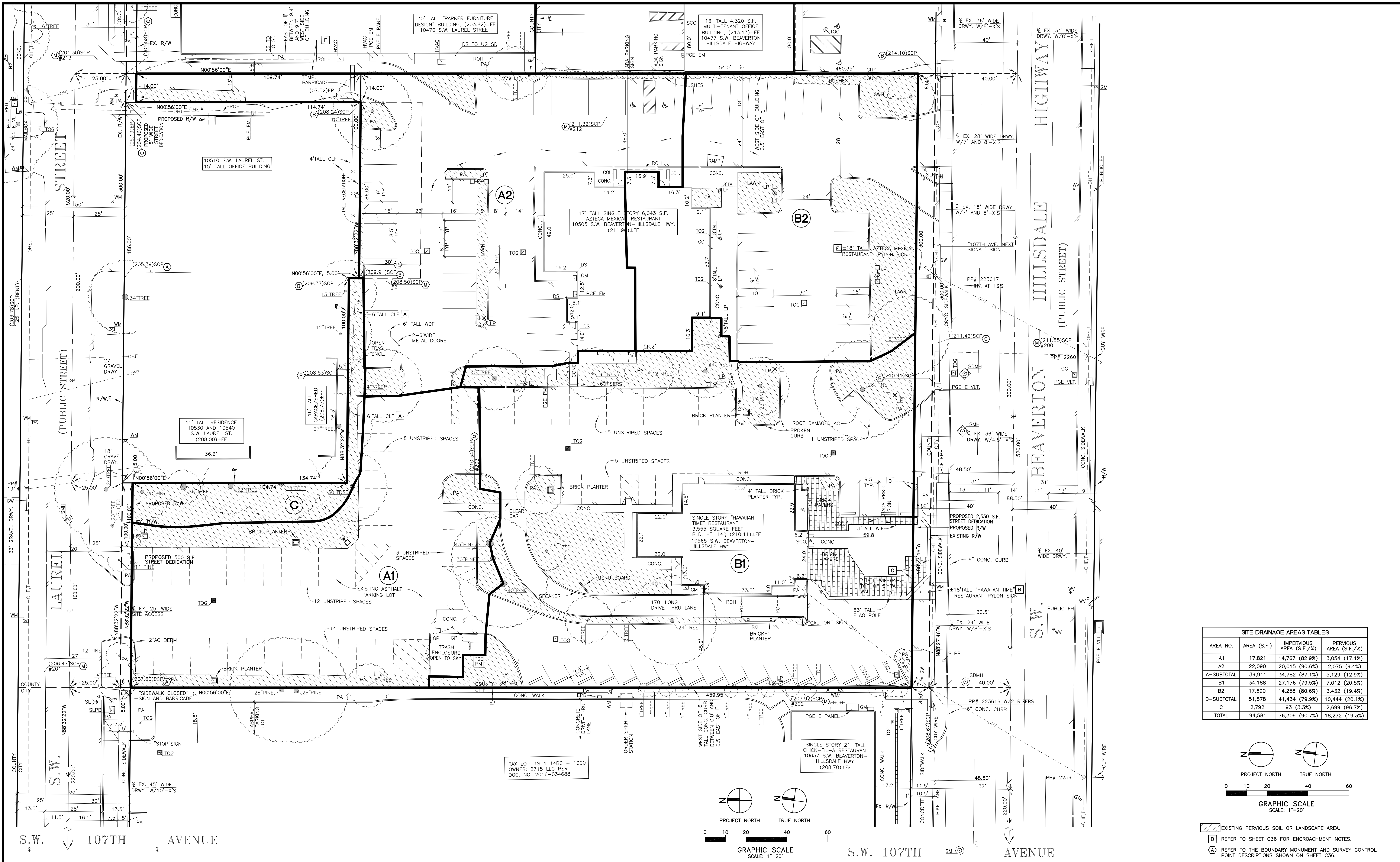
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**IN-N-OUT BURGER**  
 10555 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
 BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT TRAFFIC MANAGEMENT PLAN**

**C30.1**

Exhibit K  
 Page 1 of 1



[Hatched Box] EXISTING PERVIOUS SOIL OR LANDSCAPE AREA.  
 [B Box] REFER TO SHEET C36 FOR ENCROACHMENT NOTES.  
 [A Box] REFER TO THE BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTIONS SHOWN ON SHEET C36.

**DEVELOPER:**  
 IN-N-OUT BURGER  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

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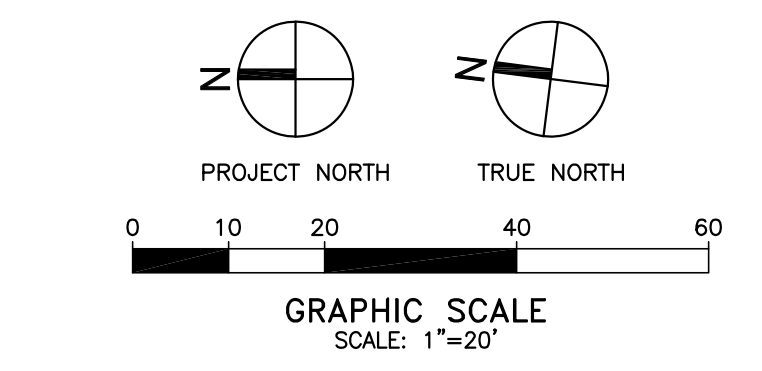
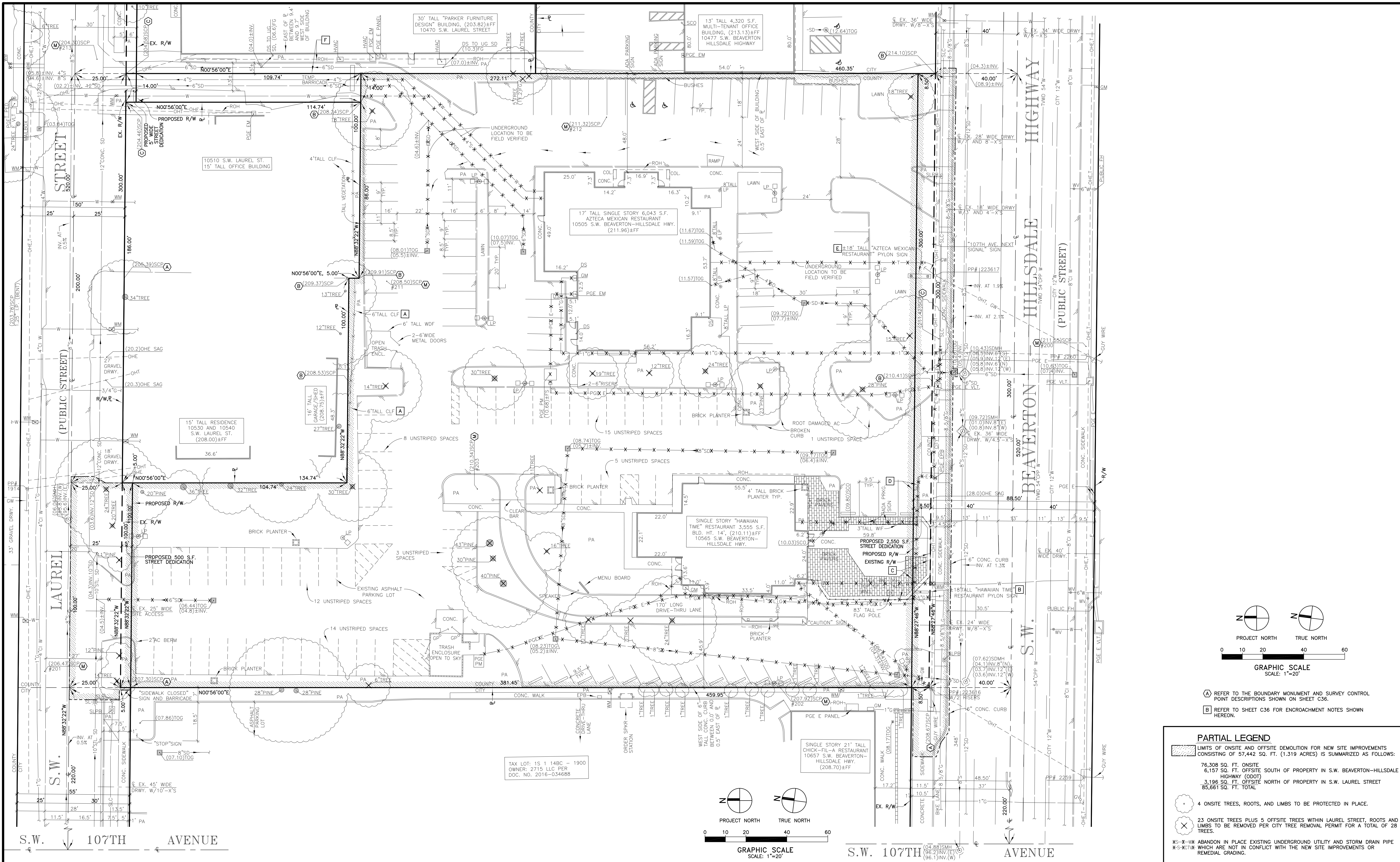
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 Aaron D. Pellow  
 AARON D. PELLOW R.C.E. 91119  
 01-19-2022 DATE  
 EXPIRES: 12-31-2022

**IN-N-OUT BURGER**  
 10555 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
 BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT EXISTING SITE PLAN**



- (A) REFER TO THE BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTIONS SHOWN ON SHEET C36.
- (B) REFER TO SHEET C36 FOR ENCROACHMENT NOTES SHOWN HEREON.

**PARTIAL LEGEND**

LIMITS OF ONSITE DEMOLITION FOR NEW SITE IMPROVEMENTS CONSISTING OF 57,442 SQ. FT. (1.319 ACRES) IS SUMMARIZED AS FOLLOWS:

- 76,308 SQ. FT. ONSITE
- 6,157 SQ. FT. OFFSITE SOUTH OF PROPERTY IN S.W. BEAVERTON-HILLSDALE HIGHWAY (ODOT)
- 3,196 SQ. FT. OFFSITE NORTH OF PROPERTY IN S.W. LAUREL STREET
- 85,661 SQ. FT. TOTAL

- (Symbol: Circle with cross) 4 ONSITE TREES, ROOTS, AND LIMBS TO BE PROTECTED IN PLACE.
- (Symbol: Circle with X) 23 ONSITE TREES PLUS 5 OFFSITE TREES WITHIN LAUREL STREET, ROOTS AND LIMBS TO BE REMOVED PER CITY TREE REMOVAL PERMIT FOR A TOTAL OF 28 TREES.

X-S-X-W ABANDON IN PLACE EXISTING UNDERGROUND UTILITY AND STORM DRAIN PIPE X-S-X-T-X WHICH ARE NOT IN CONFLICT WITH THE NEW SITE IMPROVEMENTS OR REMEDIAL GRADING.

**DEVELOPER:**  
**IN-N-OUT BURGER**  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

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**AARON D. PELLOW R.C.E. 91119**

01-19-2022 DATE

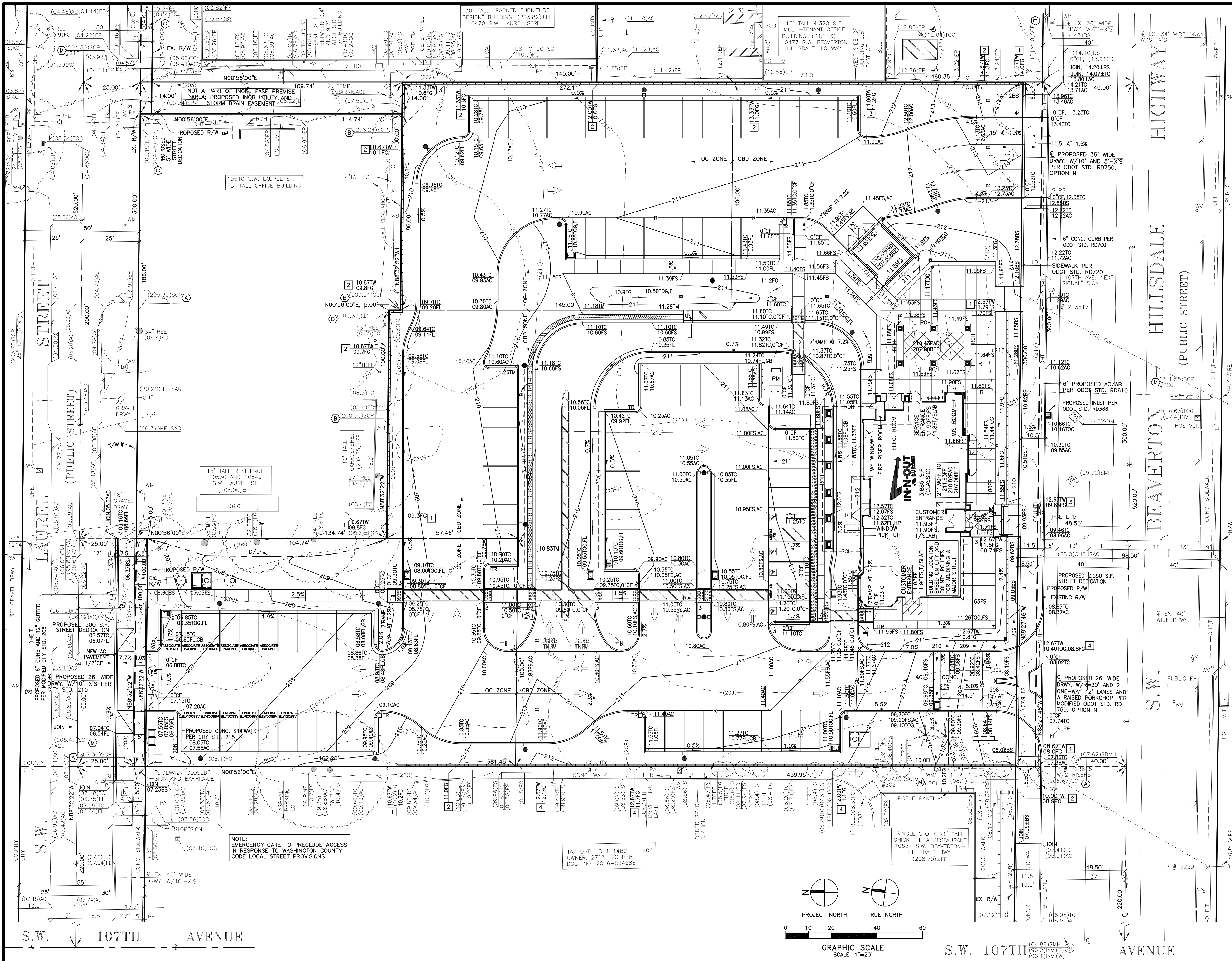
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**IN-N-OUT BURGER**  
 10505 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
 BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT DEMOLITION PLAN**

**C32**

1/19/2022 11:53:51 PM, MSI ENGINEERING, INC. (SA)



**LEGEND**

	NEW 24"x36" CONCRETE DRAIN BOX INLET WITH A FLOGAR PLUS FOSSIL FILTER INSERT FOR THE PRE-TREATMENT OF STORMWATER RUNOFF.		CF CURB FACE.
	PROPOSED INOB INSTALLED AND MAINTAINED 22'-6" TALL FIXTURE HEIGHT LIGHT POLE ON TOP OF A 30" TALL 24" DIAMETER CONCRETE BASE FOR A TOTAL HEIGHT OF 25' TALL.		LOC INOB LIMITS OF PROPOSED CONSTRUCTION.
	BLACK TRUNCATED DOMES DETECTABLE WARNING STRIP.		LL PROPOSED INOB LEASE PREMISES LINE.
	VEHICLE DETECTOR LOOP.		VOH VEHICLE OVERHANG WITH NO OBSTRUCTIONS INCLUDING LIGHT POLES, TREES AND SIGNAGE.
	PROPERTY LINE.		PGE ELECTRIC PAD MOUNT TRANSFORMER WITH BOLLARDS.
	NEW 3' TALL 18"x24" LIT "DRIVE THRU" DIRECTIONAL SIGN.		TR PORTABLE TRASH RECEPTACLE ON A MINIMUM 24"x24"x4" CONCRETE PAD.
	NEW 3' TALL 18"x24" LIT "THANK YOU, DO NOT ENTER" DIRECTIONAL SIGN.		NEW CONCRETE SIDEWALK.
	NEW PEDESTRIAN CROSSWALK SIGN.		REFER TO THE BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTIONS SHOWN ON SHEET C36.
	NEW ACCESSIBILITY ENTRY SIGN.		DRIVE-THRU CATWALK CONCRETE PAD WITH UMBRELLA STAND PER DETAIL "11" SHOWN ON SHEET C...
	IN-N-OUT BURGER.		PROPOSED 18" TO 27" TALL 22" WIDE STUCCO COVERED SEAT/SCREEN WALL WITH A PRECAST CONCRETE CAP.
	PROPOSED TAN COLOR SPLIT-FACE CMU WALL AND 2" CAP.		REFER TO SHEET C36 FOR ENCROACHMENT NOTES.
	EXPOSED HEIGHT OF PROPOSED CMU RETAINING WALL IN FEET WITH A 46" TALL TUBE STEEL FENCE (TSF) ON TOP WHEN THE RETAINED HEIGHT IS GREATER THAN 2.5'.		PROPOSED PRECAST CONCRETE MODULAR WETLANDS UNIT WETLANDMOD-6-8-5-0'-V STORMWATER BIOPFILTRATION SYSTEM.

**ENGINEER'S PRELIMINARY ESTIMATED EARTHWORK QUANTITIES**

1. RAW CUT (INCLUDES 400 C.Y. FOOTING EXCAVATION, STORM DRAIN AND UTILITY SPOILS).	1,730 CU. YDS.
2. OVEREXCAVATE THE LOOSE SOIL UNDER THE NEW BUILDING, PATIO COVER AND COVERED TRASH ENCLOSURE AREA IDENTIFIED AS THE BOTTOM OF EXCAVATED PLANE (BEP) UP TO THE PAD ELEVATION. (9,000 S.F.)	1,240 CU. YDS.
3. OVEREXCAVATE THE TOP 1 FOOT OF LOOSE SOIL UNDER THE PROPOSED PAVEMENT AND EXTERIOR HARDSCAPE SUBGRADE WITHIN THE DEVELOPED SITE. (63,000 S.F.)	2,330 CU. YDS.
4. TOTAL BASE SOIL CUT.	5,300 CU. YDS.
5. RAW FILL.	1,700 CU. YDS.
6. SHRINKAGE OF RAW FILL USING AN ASSUMED 10% SHRINKAGE LOSS.	170 CU. YDS.
7. RECOMPACT EXISTING ONSITE SOILS FOR THE AREAS DETAILED IN ITEM NO. 2 ABOVE USING AN ASSUMED 10% SHRINKAGE LOSS.	1,370 CU. YDS.
8. RECOMPACT EXISTING ONSITE SOILS FOR AREAS DETAILED IN ITEM NO. 3 ABOVE USING AN ASSUMED 10% SHRINKAGE LOSS.	2,560 CU. YDS.
9. TOTAL COMPACTED BASE FILL SOIL.	5,800 CU. YDS.
10. ESTIMATED AMOUNT OF BASE SOIL TO IMPORT TO THE SITE.	500 CU. YDS.
11. EXCAVATE AND EXPORT THE TOP 12" OF NATIVE ONSITE SOILS (2,700 CU. YDS.) PER NOTE (1) BELOW. IMPORT 2,700 CU. YDS. OF STRUCTURAL FILL TO TAKE ITS PLACE PER NOTE (1) BELOW.	

NOTE (1): THE EXISTING NATIVE ONSITE SOIL CONSISTS OF SANDY SILT, SILTY CLAY, AND SILTY SAND. THE SANDY SILT MATERIAL IS NOT SUITABLE FOR RE-USE AS STRUCTURAL FILL DUE TO THEIR MEDIUM STIFF CONSISTENCY AND HIGH SILT CONTENT MAKING THEM EXTREMELY MOISTURE-SENSITIVE, AND MAY DISTURB EASILY IN WET CONDITIONS. STRUCTURAL FILL IS TO BE PLACED UNDER THE BUILDING, TRASH ENCLOSURE AND ALL PROPOSED HARDSCAPE SURFACES WITHIN THE TOP 12 INCHES.

NOTE: THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THEIR OWN EARTHWORK QUANTITIES FOR BIDDING PURPOSES. THE QUANTITIES SHOWN HEREON ARE THE ENGINEER'S ESTIMATE ONLY.

NOTE: ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE KRAZAN AND ASSOCIATES, INC. JULY 22, 2020 GEOTECHNICAL ENGINEERING INVESTIGATION REPORT PREPARED UNDER THE DIRECTION OF ASSISTANT REGIONAL ENGINEER MANAGER VIJAY CHAUDHARY (RCE 94840) UNDER THEIR PROJECT NUMBER 062-20012.

**DEVELOPER:**  
**IN-N-OUT BURGER**  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

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*Aaron D. Pellow*  
**AARON D. PELLOW R.C.E. 91119**

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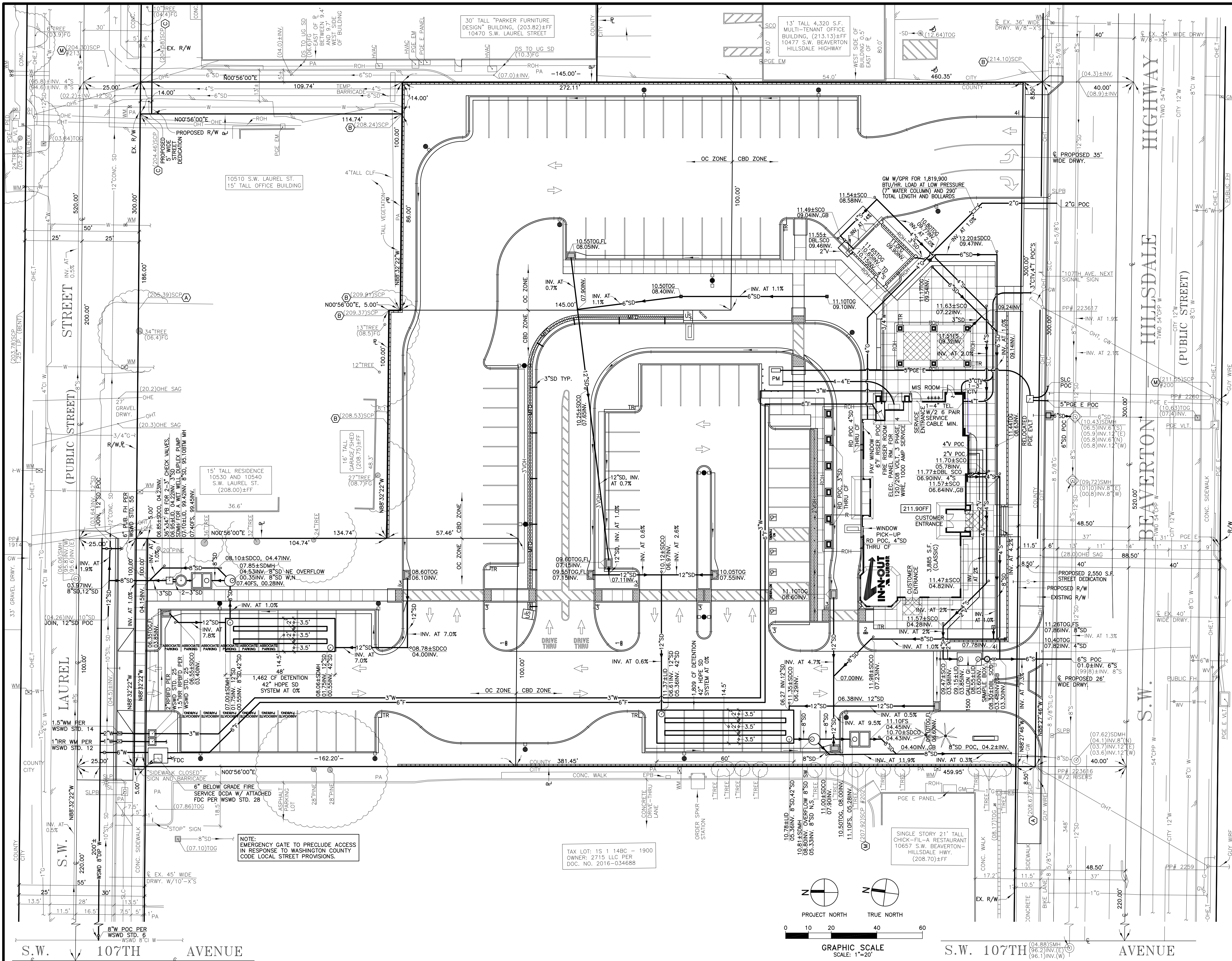
REGISTERED PROFESSIONAL ENGINEER  
 91119  
 OREGON  
 MARCH 08, 2011  
**AARON D. PELLOW**  
 EXPIRES: 12-31-2022

**IN-N-OUT BURGER**  
 10505 AND 10565 SW BEAVERTON-  
 HILLSDALE HIGHWAY  
 BEAVERTON AREA OF  
 WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT  
 GRADING AND  
 DRAINAGE PLAN**

**C33**

Exhibit M  
 Page 1 of 1



LEGEND	
	NEW 24"x36" CONCRETE DRAIN BOX INLET WITH A FLOORGRIP PLUS FOSSIL FILTER INSERT FOR THE PRE-TREATMENT OF STORMWATER RUNOFF.
	CF CURB FACE.
	LOB INOB LIMITS OF PROPOSED CONSTRUCTION.
	LL PROPOSED INOB LEASE PREMISES LINE.
	VOH VEHICLE OVERHANG WITH NO OBSTRUCTIONS INCLUDING LIGHT POLES, TREES AND SIGNAGE.
	PEE ELECTRIC POLE MOUNT TRANSFORMER WITH BOLLARDS.
	BLACK TRUNCATED DOMES DETECTABLE WARNING STRIP.
	VEHICLE DETECTOR LOOP.
	P PROPERTY LINE.
	NEW 3' TALL 18"x24" LIT "DRIVE THRU" DIRECTIONAL SIGN.
	NEW 3' TALL 18"x24" LIT "THANK YOU, DO NOT ENTER" DIRECTIONAL SIGN.
	NEW PEDESTRIAN CROSSWALK SIGN.
	NEW ACCESSIBILITY ENTRY SIGN.
	INOB IN-N-OUT BURGER.
	PROPOSED 18" TO 27" TALL 22" WIDE STUCCO COVERED SEAT/SCREEN WALL WITH A PRECAST CONCRETE CAP.
	PROPOSED PRECAST CONCRETE MODULAR WETLANDS UNIT WETLANDS-6-8-5-0-V STORMWATER BIOFILTRATION SYSTEM.

DEVELOPER:  
**IN-N-OUT BURGER**  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

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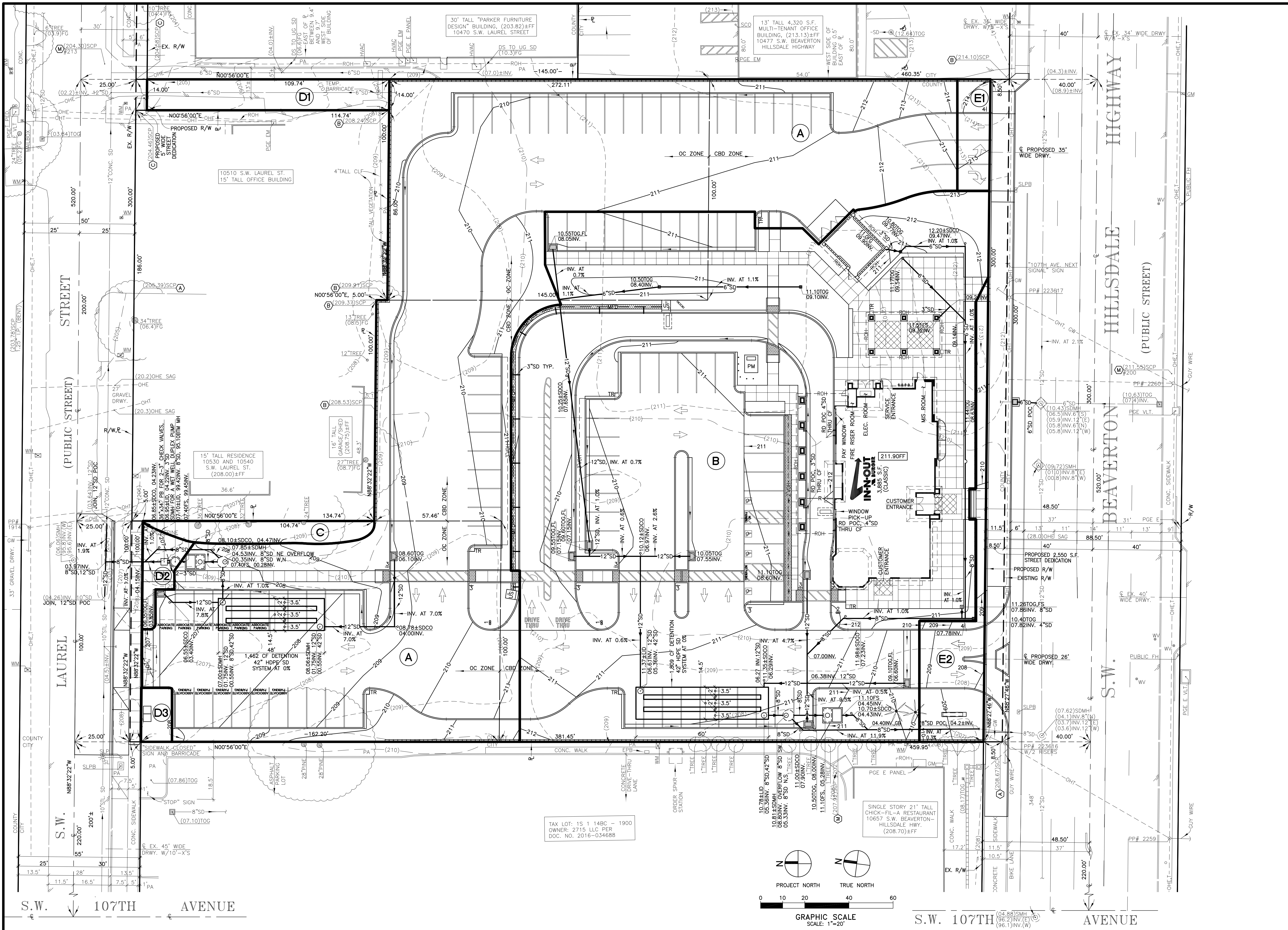
*Aaron D. Pellow*  
 AARON D. PELLOW R.C.E. 91119 DATE 01-19-2022 EXPIRES: 12-31-2022

**IN-N-OUT BURGER**  
 10505 AND 10565 SW BEAVERTON-  
 HILLSDALE HIGHWAY  
 BEAVERTON AREA OF  
 WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT**  
**STORM DRAIN AND**  
**UTILITY PLAN**

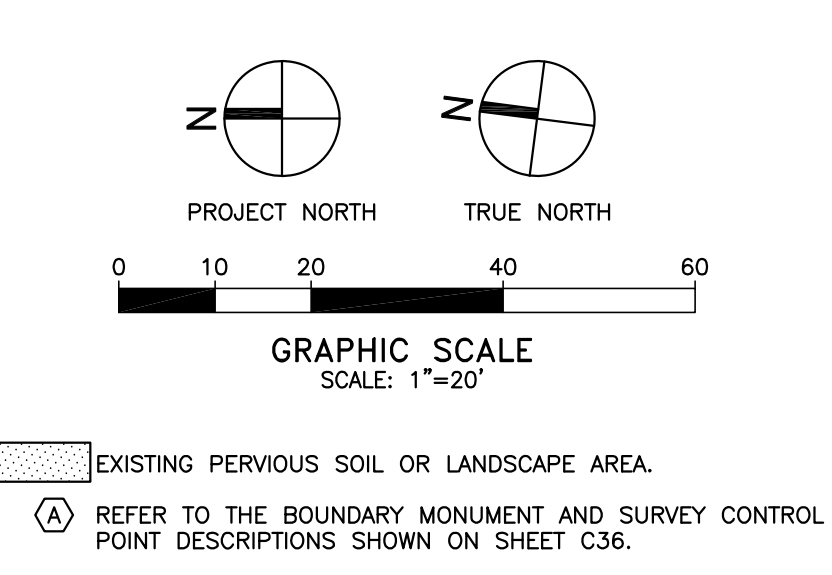
**C34**

1/19/2022 12:03:11 PM, MSI ENGINEERING, INC. (54)



**SITE DRAINAGE AREAS TABLES**

AREA NO.	AREA (S.F.)	IMPERVIOUS AREA (S.F./%)	PERVIOUS AREA (S.F./%)
A	39,909	30,213 (75.7%)	9,696 (24.3%)
B	48,231	37,407 (77.6%)	10,824 (22.4%)
C	933	0 (0%)	933 (100%)
D1	1,536	1,138 (74.1%)	398 (25.9%)
D2	539	94 (17.4%)	445 (82.6%)
D3	334	37 (11.1%)	297 (88.9%)
D-SUBTOTAL	2,409	1,269 (52.7%)	1,140 (47.3%)
E1	744	535 (71.9%)	209 (28.1%)
E2	2,355	970 (41.2%)	1,385 (58.8%)
E-SUBTOTAL	3,099	1,505 (48.6%)	1,594 (51.4%)
TOTAL	94,581	70,394 (74.4%)	24,187 (25.6%)



TAX LOT: 15 1 14BC - 1900  
 OWNER: 2715 LLC PER  
 DOC. NO. 2016-034688

SINGLE STORY 21' TALL  
 CHICK-FIL-A RESTAURANT  
 10557 S.W. BEAVERTON-  
 HILLSDALE HWY  
 (208.70)±FF

**DEVELOPER:**  
 IN-N-OUT BURGER  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

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 (909) 305-2395 FAX (909) 305-2397

*Aaron D. Pellow*  
 AARON D. PELLOW R.C.E. 91119

01-19-2022 DATE

REGISTERED PROFESSIONAL ENGINEER  
 91119  
 OREGON  
 MARCH 08 2011  
 AARON D. PELLOW

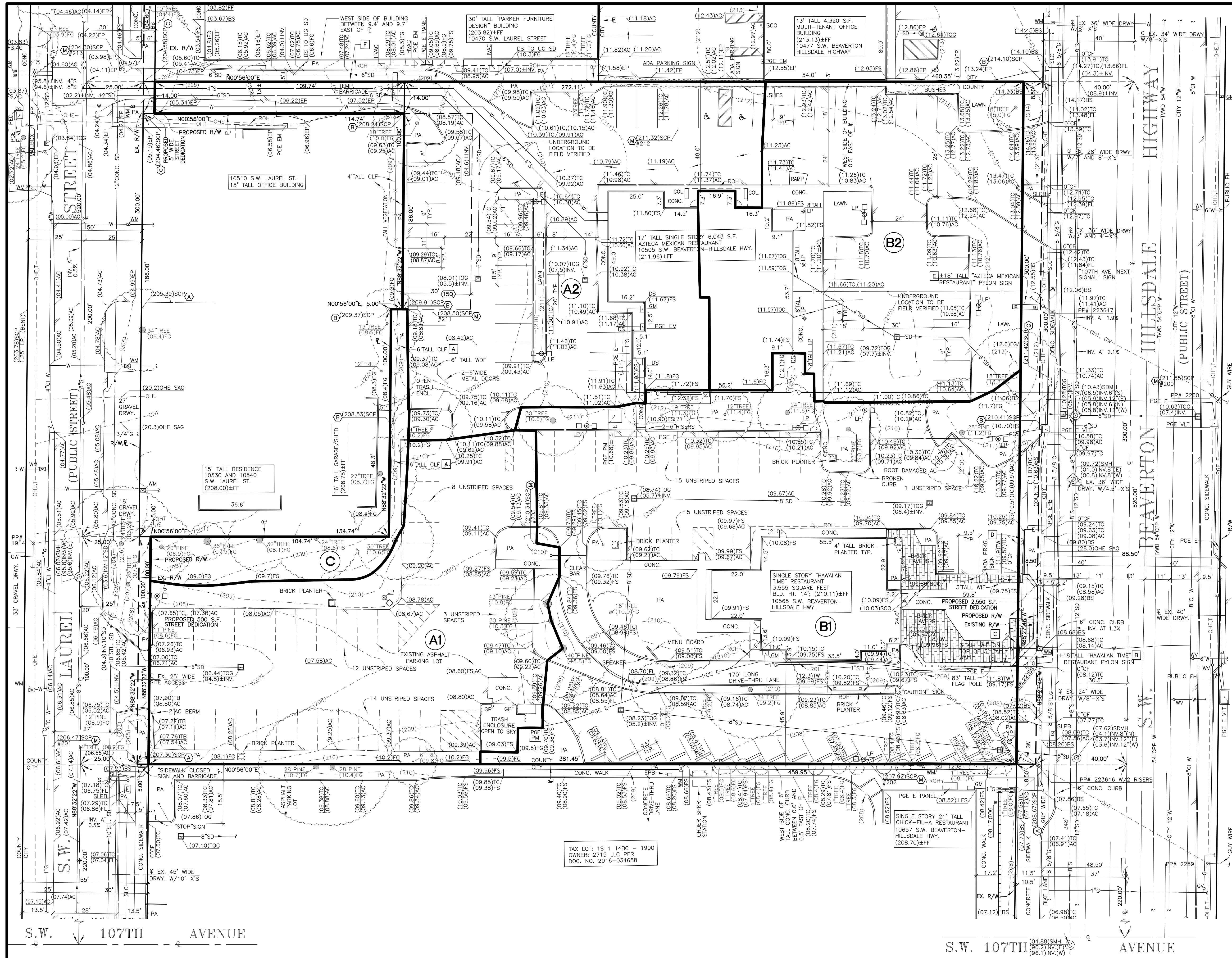
EXPIRES: 12-31-2022

**IN-N-OUT BURGER**  
 10565 SW BEAVERTON-  
 HILLSDALE HIGHWAY  
 BEAVERTON AREA OF  
 WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT  
 DRAINAGE ANALYSIS  
 SITE PLAN**

**C35**

Exhibit O  
 Page 1 of 118



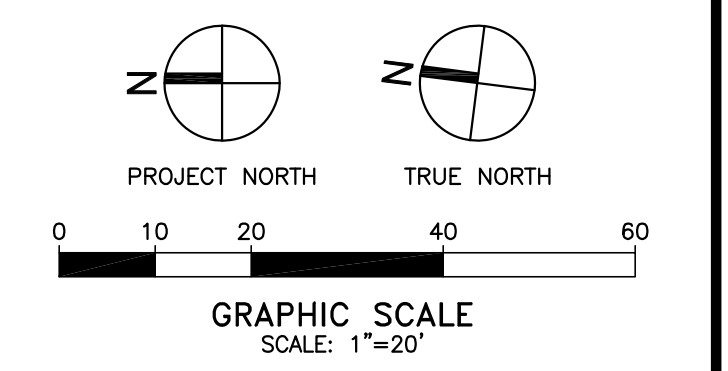
**LEGAL DESCRIPTION ON TITLE REPORT EXHIBIT A**  
 WITH SURVEYOR EDITED TEXT SHOWN IN [BRACKETS]  
 REFERENCE: FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES PRELIMINARY TITLE REPORT WITH A COMMITMENT NO. OF NCS-1008086-S41 DATED DECEMBER 03, 2020 FOR TRACT 1 AND FEBRUARY 22, 2021 FOR TRACT 2 OUT OF THEIR IRVINE, CA OFFICE. TITLE OFFICER IS JEFFERY PASCHAL AT 949-885-2481 ([jpascho@firstam.com]).  
 THE LAND REFERRED TO HEREIN BELONGS TO THE COUNTY OF WASHINGTON, STATE OF OREGON, AND IS DESCRIBED AS FOLLOWS:  
**TRACT 1:**  
**PARCEL I:**  
 LOT 5, KENNEDY ACRES, IN THE COUNTY OF WASHINGTON AND STATE OF OREGON.  
 EXCEPTING THEREFROM THE NORTH 110 FEET.  
 ALSO EXCEPTING THEREFROM THE EAST 50 FEET THEREOF.  
 ALSO EXCEPTING THEREFROM THAT PORTION LYING WITHIN THE BOUNDARIES OF SW BEAVERTON HILLSDALE HIGHWAY.  
**PARCEL II:**  
 LOT 6, KENNEDY ACRES, IN THE COUNTY OF WASHINGTON AND STATE OF OREGON.  
 EXCEPTING THEREFROM THE NORTH 167.8 FEET.  
 ALSO EXCEPTING THEREFROM THAT PORTION LYING WITHIN THE BOUNDARIES OF SW BEAVERTON HILLSDALE HIGHWAY.  
**PARCEL III:**  
 INTENTIONALLY DELETED  
**PARCEL IV:**  
 THE NORTH HALF OF LOT 6, KENNEDY ACRES, IN THE COUNTY OF WASHINGTON AND STATE OF OREGON.  
 EXCEPTING THEREFROM THAT PORTION OF THE SOUTH 50 FEET CONVEYED TO WYLIE J. GRAHAM ET UX, BY DEED RECORDED AUGUST 19, 1960 IN BOOK 434, PAGE 406, RECORDS OF WASHINGTON COUNTY, OREGON.  
**TRACT 2:**  
**PARCEL I:**  
 LOT 4, KENNEDY ACRES, IN THE COUNTY OF WASHINGTON AND STATE OF OREGON;  
 EXCEPT THEREFROM THE TRACT CONVEYED TO WORKMAN IN BOOK 453, PAGE 243, RECORDS OF WASHINGTON COUNTY, MORE PARTICULARLY DESCRIBED AS FOLLOWS:  
 THE NORTH ONE-HALF OF LOT 4, KENNEDY ACRES, EXCEPTING FROM SAID NORTH ONE-HALF THE SOUTH 102.8 FEET AND THE EASTERLY 14 FEET;  
 [ALSO EXCEPTING THE PORTION OF LOT 4, KENNEDY ACRES THAT LIES NORTH OF AN EASTERLY EXTENSION OF THE SOUTH LINE OF SAID WORKMAN TRACT.]  
 ALSO EXCEPTING FROM THE HEREIN DESCRIBED TRACT THAT PORTION CONVEYED TO THE STATE OF OREGON, BY AND THROUGH ITS STATE HIGHWAY COMMISSION, IN BOOK 733, PAGE 217, RECORDS OF WASHINGTON COUNTY, OREGON.  
**PARCEL II:**  
 THE EAST 50 FEET OF LOT 5, KENNEDY ACRES, IN THE COUNTY OF WASHINGTON AND STATE OF OREGON, EXCEPT THE NORTH 110 FEET THEREOF, AND ALSO EXCEPT THAT PORTION CONVEYED TO THE STATE OF OREGON, STATE HIGHWAY COMMISSION.

**EXCEPTIONS TO COVERAGE FROM TITLE REPORT SCHEDULE B, PART II**  
 REFERENCE: FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES PRELIMINARY TITLE REPORT WITH A COMMITMENT NO. OF NCS-1008086-S41 DATED DECEMBER 03, 2020 FOR TRACT 1 AND FEBRUARY 22, 2021 FOR TRACT 2 OUT OF THEIR IRVINE, CA OFFICE. TITLE OFFICER IS JEFFERY PASCHAL AT 949-885-2481 ([jpascho@firstam.com]).  
**(150) ITEM NO. 15 TO BE QUITCLAIMED**  
 A 30.00 FOOT WIDE EASEMENT IN FAVOR OF ELMER I. EASTMAN AND MARIE E. EASTMAN, HUSBAND AND WIFE, (GRANTORS) FOR THE RIGHT TO USE AN EXISTING DRAIN FIELD UNTIL SUCH TIME AS THE GRANTORS' PROPERTY ON THE NORTH IS CONNECTED TO A SEWER LINE IN THE DOCUMENT ENTITLED "WARRANTY DEED" DATED JULY 18, 1960, RECORDED JULY 18, 1960 IN BOOK 433, PAGE 108 OF DEEDS, RECORDS OF WASHINGTON COUNTY.  
 [WE RECOMMEND THAT THIS ITEM BE DELETED AS IT IS VERY LIKELY THAT THE COMMERCIAL OFFICE BUILDING LOCATED TO THE NORTH OF THE SURVEYED PROPERTY AT 10510 S.W. LAUREL STREET, ALSO KNOWN AS TAX LOT 114BC2501, WAS CONNECTED TO THE SANITARY SEWER MAIN LINE IN S.W. LAUREL STREET WHEN IT BECAME AN OFFICE BUILDING.]

**BOUNDARY MONUMENTS AND SURVEY CONTROL POINTS**  
**(A)** 5/8" I.R. W/RED PLASTIC CAP MARKED "WEDDLE SURVEYING"  
**(B)** 5/8" I.R. W/RED PLASTIC CAP MARKED "WEDDLE LS 874"  
**(C)** 5/8" I.R.  
**(M)** IEDDLE SURVEYING CONTROL POINTS 200, 201, 202, 203, 211, 212 AND 213 SET FLAGGED MAG NAIL AS SHOWN.

**ENCROACHMENT NOTES**  
**(A)** A 100' LONG 6" TALL CHAIN LINK FENCE ENCROACHES BETWEEN 1.5' AND 3.1' SOUTH OF AND INTO THE SURVEYED PROPERTY.  
**(B)** AN 18" TALL "HAWAIIAN TIME" PYLON SIGN AND POLE ENCROACHES UP TO 8' SOUTH OF AND INTO THE PROPOSED STREET RIGHT OF WAY.  
**(C)** APPROXIMATELY 42' OF A 24" TALL SEAT WALL SURROUNDING AN OUTDOOR PATIO AREA USED BY THE HAWAIIAN TIME RESTAURANT ENCROACHES UP TO 8.5' SOUTH AND INTO THE PROPOSED STREET RIGHT OF WAY.  
**(D)** APPROXIMATELY 2' OF A 9.5' BY 18" ASPHALT PAVED PARKING SPACE ENCROACHES SOUTH OF AND INTO THE PROPOSED STREET RIGHT OF WAY.  
**(E)** AN 18" TALL "AZTECA MEXICAN RESTAURANT" PYLON SIGN AND POLE ENCROACHES UP TO 7' SOUTH OF AND INTO THE PROPOSED STREET RIGHT OF WAY.  
**(F)** APPROXIMATELY 135' OF A 13' TO 15' WIDE ASPHALT PAVED ACCESS DRIVE TO THE AZTECA MEXICAN RESTAURANT PROPERTY FROM S.W. LAUREL STREET ENCROACHES UP TO 6' EAST OF AND OUTSIDE OF THE SURVEYED PROPERTY.

**PARTIAL LEGEND**  
**(A)** LIMITS OF EXISTING STORM WATER RUNOFF TRIBUTARY AREA. REFER TO SUMMARY TABLE ON SHEET C31.



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 13502 HAMBURGER LANE  
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**OREGON**  
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 EXPIRES: 12-31-2022

**IN-N-OUT BURGER**  
 10505 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
 BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT TOPOGRAPHY SURVEY MAP**  
**C36**  
 Exhibit O  
 Page 2 of 118  
 1/19/2023 12:02 PM, MSI ENGINEERING, INC. (54)



## Drainage Study

FOR

**In-N-Out Burger – Washington County (Beaverton Area), OR  
10565 SW Beaverton Hillsdale Highway**

**Prepared for:**

**In-N-Out Burger  
13502 Hamburger Lane  
Baldwin Park, CA 91706  
Cassie Yee  
(626) 813-8226**

**Prepared by:**

**MSL Engineering, Inc.  
301 North San Dimas Avenue  
San Dimas, CA 91773  
Phone (909) 305-2395, FAX (909) 305-2397**



**EXPIRES: 12-31-2022**

A handwritten signature in cursive script that reads "Aaron D. Pellow".

Aaron Pellow, R.C.E. 91119  
Principal Engineer

01-19-2022

Date



**TABLE OF CONTENTS**

Site and Project Description.....1  
Runoff Treatment and Control.....1  
Site Conveyance.....5  
Conclusions.....6

Attachments

- Sheet C31 County Entitlement Existing Site Plan
- Sheet C35 County Entitlement Drainage Analysis Site Plan
  
- Attachment A – HYDRA Analysis
- Attachment B – Geotechnical Investigation

## Site and Project Description

MSL Engineering, Inc. has prepared this Drainage Study for In-N-Out Burger (INO) in support of the proposed construction of a new In-N-Out Burger restaurant with drive-thru lane, covered trash enclosure, parking lot, and site landscaping, located at 10565 SW Beaverton Hillsdale Highway. The In-N-Out Burger development is a stand-alone re-development of the existing Hawaiian Time and Azteca Mexican restaurants that are currently located onsite.

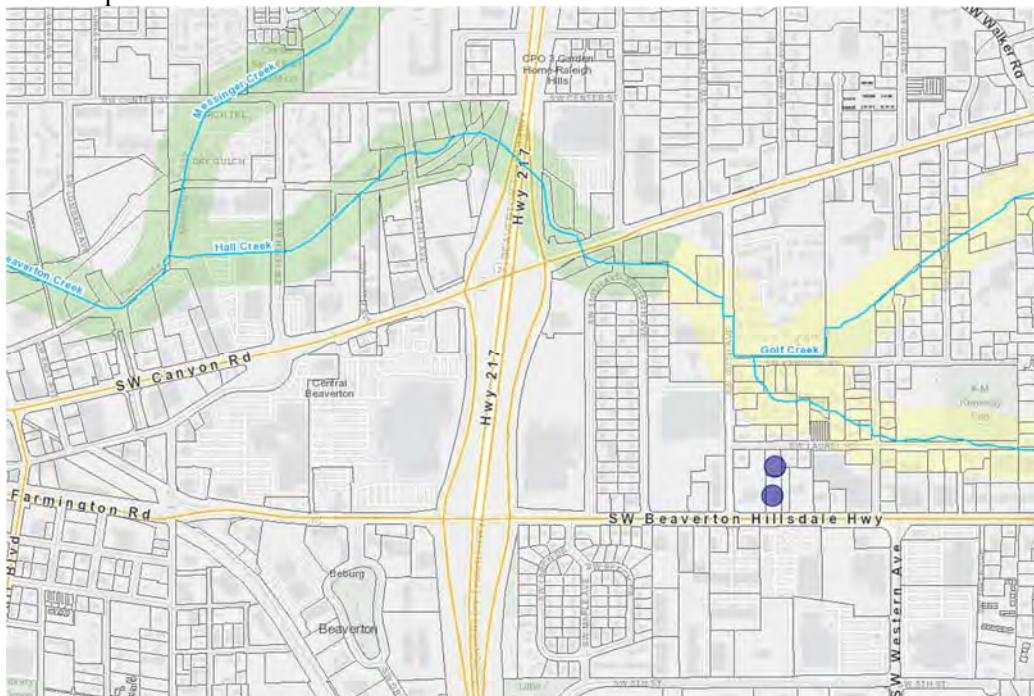
The In-N-Out Burger project includes new onsite stormwater treatment and private storm drain piping to convey onsite runoff to the existing offsite storm drain system that discharges runoff to the public system.

## Runoff Treatment and Control

The project has been designed in accordance with the Runoff Treatment and Control guidelines within Chapter 4 of the Clean Water Services Design and Construction Standards.

Per Section 4.03.3, “A Hydromodification Assessment is necessary to determine the Reach-Specific Risk Level, Development Class, and Project Size Category for a project.” The existing site currently drains to two separate locations, which are identified and shown on the Existing Site Plan Sheet C31. Drainage Areas A and C flow to the north towards SW Laurel Street where it is collected within an existing 12” diameter storm drain and conveyed to the east. Drainage Area B flows to the south towards SW Beaverton Hillsdale Highway where it is collected at an existing manhole and outlets within an existing 12” diameter storm drain the flows to the west.

Risk Level – Using the Clean Water Services Hydromodification Map Web Tool, as shown below the site was determined to be in a “Low Risk” area for the portion of the site that drains to the south to SW Beaverton Hillsdale Highway and “Moderate Risk” area for portions of the site that drain to the north to SW Laurel Street.



Development Class – Developed Area.

Project Size Category – Medium 12,000 to 80,000 square feet.

Per Table 4-2, the INOB project is considered a Category 2 project.

Per 4.03.5.b:

Projects in Category 2 represent those with a moderate anticipated risk. Any of the following options may be used to address Hydromodification:

1. Infiltration facility, using the Standard Sizing, described in Section 4.08.5; or
2. Peak-Flow Matching Detention, using design criteria described in Section 4.08.6; or
3. Combination of Infiltration facility and Peak-Flow Matching Detention, using criteria described in Section 4.08.5 and 4.08.6; or
4. Any option listed in Category 3.

Based on the site-specific Geotechnical Investigation prepared by Krazan & Associates shown in Attachment B, it was determined that the factored infiltration rate is below the minimum 0.5 inches per hour and that the site soils may not be suitable for an onsite stormwater infiltration system. Therefore Option 1 above will not be feasible for this site.

In order to demonstrate compliance with Hydromodification, Peak-Flow Matching Detention, using design criteria described in Section 4.08.6 will be provided within this report.

Per Section 4.08.6.c, “When required as a Hydromodification approach, a combination of on-site detention and infiltration approaches may be used. Approaches shall be designed such that the post-development runoff rates from the site do not exceed the pre-development runoff rates in the table below.”

<b>Post-Development Peak Runoff Rate</b>	<b>Pre-Development Peak Runoff Rate Target</b>
2-year, 24-hour	50% of 2-year, 24-hour
5-year, 24-hour	5-year, 24 hour
10-year, 24-hour	10-year, 24-hour

Detention and Treatment Provided

In order to provide the onsite detention required to meet the Section 4.08.6.c guidelines above, as well as water quality treatment, a combination storage storm drain pipe, weir manhole, and Modular Wetlands proprietary treatment system is proposed for the project.

A metered outflow from the storage system will be provided within the weir manhole to control the flow to the Modular Wetlands and provide the required detention. The weir manhole for Drainage Area A will include a 2” orifice and the weir manhole for Drainage Area B will include a 2.5” orifice. The storage provided is within a 42” diameter HDPE storm drain. There is 1,462 cf proposed for Drainage Area A and 1,809 cf proposed for Drainage area B.

Runoff in excess of the water quality flowrate once the storage volume is filled, will overflow through the onsite storm drain system to the outlet.

Peak-Flow Matching

Per Section 4.08.6, Peak-Flow Matching Hydraulic Design has been implemented for the site. Using the HYDRA program, a model was created to simulate the conditions described above and developer the post-development and pre-development peak runoff hydrographs. The final hydrograph reports for the post- and pre- 2, 5, and 10 year runoff are provided is Attachment A. The tabular results are as follows:

Existing Condition								
ID	Area	% Impervious	CN	Tc	Q2	(50%) Q2	Q5	Q10
A1	0.410	0.83	94	5	0.20	0.10	0.26	0.30
A2	0.507	0.91	96	5	0.27	0.14	0.35	0.39
B1	0.785	0.80	93	5	0.36	0.18	0.48	0.55
B2	0.406	0.81	93	5	0.19	0.10	0.25	0.28
C	0.062	0.03	74	5	0	0	0	0.01
Hillsdale Highway (B1+B2)					0.55	<b>0.28</b>	<b>0.73</b>	<b>0.83</b>
Laurel Street (A1+A2+C)					0.47	<b>0.24</b>	<b>0.61</b>	<b>0.70</b>

Proposed Condition							
ID	Area	% Impervious	CN	Tc	Q2	Q5	Q10
A	0.916	0.76	92	5	0.12	0.21	0.46
B	1.107	0.78	94	5	0.18	0.22	0.30
C	0.021	0.00	74	5	0.00	0.00	0.01
D1	0.035	0.74	92	5	0.02	0.02	0.02
D2	0.012	0.17	78	5	0.00	0.00	0.00
D3	0.008	0.11	77	5	0.00	0.00	0.00
E1	0.017	0.71	60	5	0.01	0.01	0.01
E2	0.054	0.41	84	5	0.01	0.02	0.03
Hillsdale Highway (B+E1+E2)					<b>0.23</b>	<b>0.25</b>	<b>0.34</b>
Laurel Street (A+C+D1+D2+D3)					<b>0.11</b>	<b>0.23</b>	<b>0.49</b>

The hydrograph results show that with the use of onsite detention the existing condition (50%)Q<sub>2</sub>, Q<sub>5</sub>, and Q<sub>10</sub> is reduced or maintained in the proposed condition.

Water Quality

Per 4.08.5 Standard sizing requirements the Water Quality Volume (WQV) is the volume of water that is produced by the water quality storm. The WQV equals 0.36 inches over the impervious area that is required to be treated as shown in the formula below:

$$\text{Water Quality Volume (cu.ft.)} = \frac{0.36 \text{ (in.)} * \text{Area (sf)}}{12 \left(\frac{\text{in}}{\text{ft}}\right)}$$

The site drainage areas are shown on the County Entitlement Drainage Analysis Site Plan Sheet C35. There are two sub-areas which collect runoff from 49,840 sf of the total construction limits of 53,269 sf.

For Area A the impervious area is 28,367 sf, and Area B the impervious area is 42,073 sf. Therefore, the required WQV for Drainage Area A is 851 cf and for Drainage Area B is cf. As stated previously, there is 1,462 cf proposed for Drainage Area A and 1,809 cf proposed for Drainage area B.

## Site Conveyance

Peak conveyance from the site has been analyzed for the 25-year design storm, using the results from the HYDRA model. The 25-year peak flowrate for the discharge to Hillsdale Highway was determined to be 1.2 cfs and the peak flowrate to Laurel Street was determined to be 0.8 cfs.

### Hydraulics

For the following hydraulic calculations, reference should be made to the Handbook of Hydraulics, E.F. Brater & H.W. King, 6th Ed., 1976.

For the discharge pipe from the site, the pipe was sized using the K' values from King's Handbook Appendix 7-14. The following formula was used:

$$Q = \frac{K'}{n} d^{\frac{8}{3}} S^{\frac{1}{2}}$$

K' = Discharge Factor = 0.463 for full pipe flow.

d = Diameter of Conduit (ft) = 0.67'

n = Manning's Coefficient = 0.012

Q = Runoff Discharge (cfs)

s = Pipe Slope (ft/ft)

For Drainage Area A the pipe slope can be determined based on gravity flow, which is 0.01. For Drainage Area B the pipe slope is determined based on full-pipe flow. The lowest drain box inlet grate elevation is 9.10 within the drainage area and the pipe soffit elevation at the point of discharge is 4.80. The length of outlet pipe is 210'. Therefore the hydraulic slope is (9.10-4.80)/210 = 0.02.

Drainage Area A:

$$Q = \frac{0.463}{0.012} 0.67^{\frac{8}{3}} 0.01^{\frac{1}{2}} = \mathbf{1.3 \text{ cfs}} > 0.8 \text{ cfs}$$

Drainage Area B:

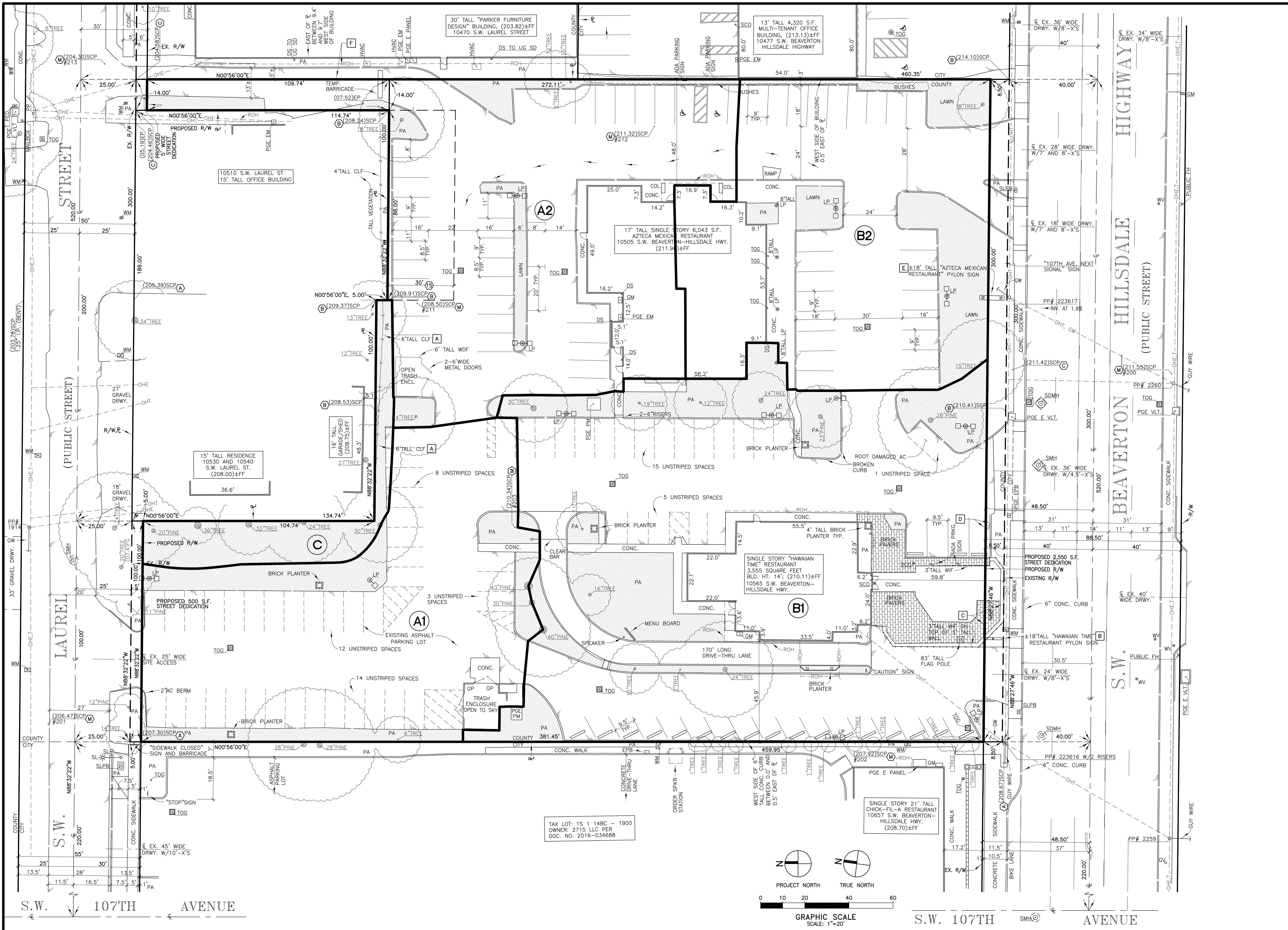
$$Q = \frac{0.463}{0.012} 0.67^{\frac{8}{3}} 0.02^{\frac{1}{2}} = \mathbf{1.9 \text{ cfs}} > 1.2 \text{ cfs}$$

## **Conclusions**

As demonstrated in this report, the project has been designed in accordance with the Runoff Treatment and Control guidelines within Chapter 4 of the Clean Water Services Design and Construction Standards, providing stormwater treatment and Hydromodification for the site runoff.

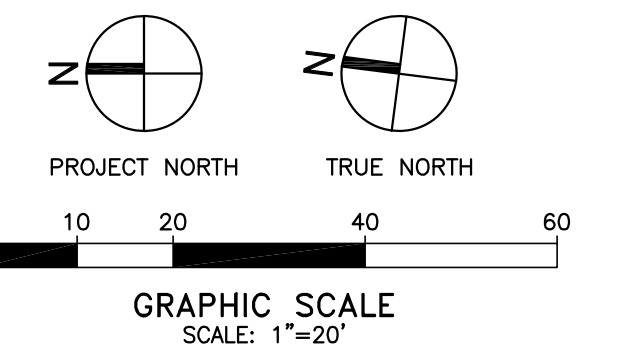
The proposed onsite storm drain system has been adequately sized to convey the 25-year design storm underground through the site to the existing offsite storm drain system, as demonstrated within the calculations above.

The In-N-Out building will be protected from onsite flooding as demonstrated within the drainage design shown on the Grading and Drainage Plan, with positive surface drainage provided away from the building to the public right-of-way.



**SITE DRAINAGE AREAS TABLES**

AREA NO.	AREA (S.F.)	IMPERVIOUS AREA (S.F./%)	PERVIOUS AREA (S.F./%)
A1	17,821	14,767 (82.9%)	3,054 (17.1%)
A2	22,090	20,015 (90.6%)	2,075 (9.4%)
A-SUBTOTAL	39,911	34,782 (87.1%)	5,129 (12.9%)
B1	34,188	27,176 (79.5%)	7,012 (20.5%)
B2	17,690	14,258 (80.6%)	3,432 (19.4%)
B-SUBTOTAL	51,878	41,434 (79.9%)	10,444 (20.1%)
C	2,792	93 (3.3%)	2,699 (96.7%)
TOTAL	94,581	76,309 (80.7%)	18,272 (19.3%)



[Hatched Box] EXISTING PERVIOUS SOIL OR LANDSCAPE AREA.  
 [B Box] REFER TO SHEET C36 FOR ENCROACHMENT NOTES.  
 [A Box] REFER TO THE BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTIONS SHOWN ON SHEET C36.

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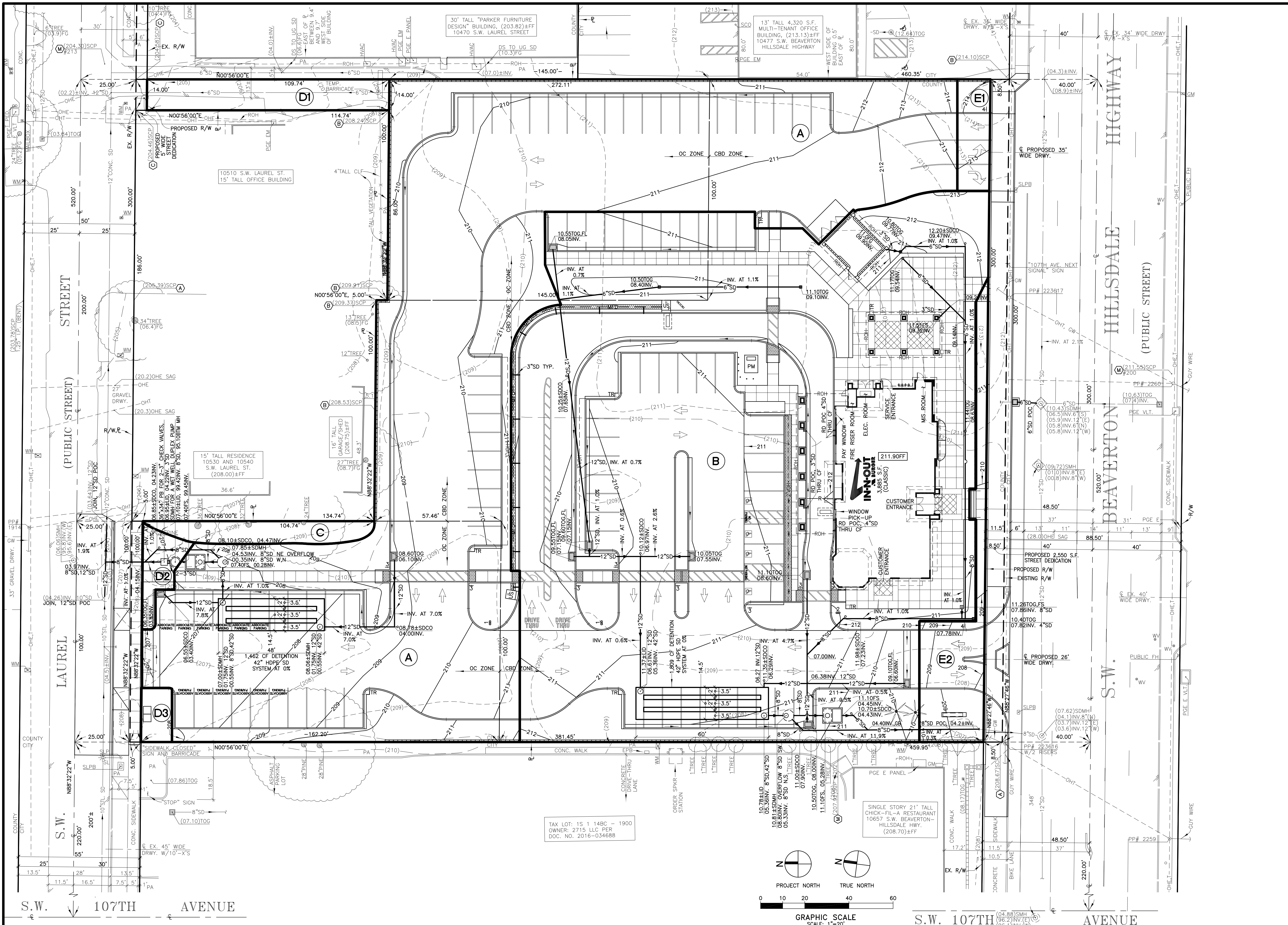

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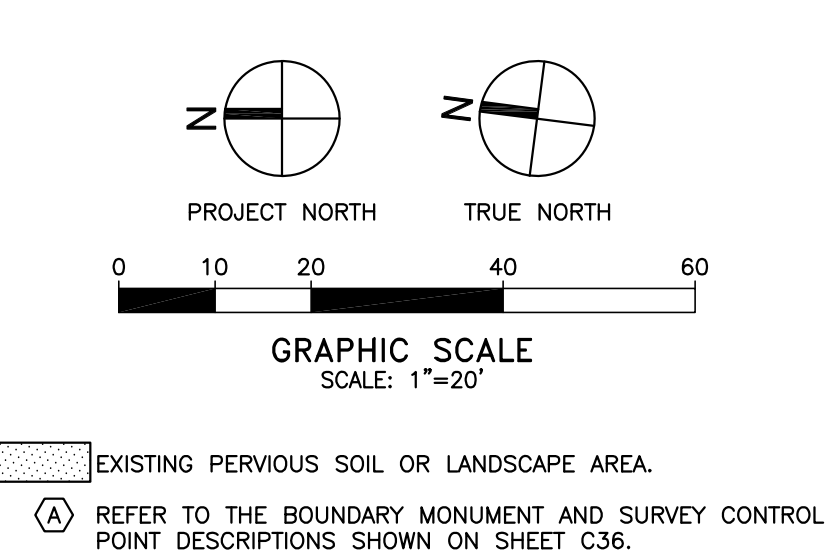
**COUNTY ENTITLEMENT EXISTING SITE PLAN**





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CIVIL ENGINEER:  
**MSI ENGINEERING, INC.**  
 CIVIL ENGINEERS AND LAND SURVEYORS SPECIALIZING IN SITE DEVELOPMENT  
 301 NORTH SAN DIMAS AVENUE, SAN DIMAS, CA 91773  
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*Aaron D. Pellow*  
 AARON D. PELLOW R.C.E. 91119

01-19-2022 DATE

REGISTERED PROFESSIONAL ENGINEER  
 91119  
 OREGON  
 MARCH 08 2011  
 AARON D. PELLOW

**IN-N-OUT BURGER**  
 10555 AND 10565 SW BEAVERTON-  
 HILLSDALE HIGHWAY  
 BEAVERTON AREA OF  
 WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT  
 DRAINAGE ANALYSIS  
 SITE PLAN**

**C35**

Exhibit O  
 Page 12 of 118

Attachment A

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SBUH Runoff	0.198	2	476	2,782	----	----	----	Existing A1
2	SBUH Runoff	0.358	2	476	5,070	----	----	----	Existing B1
3	SBUH Runoff	0.005	2	480	137	----	----	----	Existing C
4	SBUH Runoff	0.394	2	476	5,630	----	----	----	Proposed A
5	SBUH Runoff	0.477	2	476	6,804	----	----	----	Proposed B
6	SBUH Runoff	0.002	2	480	46	----	----	----	Proposed C
7	Reservoir	0.117	2	556	5,614	4	102.34	1,045	Proposed A Chambers
8	Reservoir	0.176	2	532	6,786	5	101.86	1,001	Proposed B Chambers
9	SBUH Runoff	0.270	2	474	3,794	----	----	----	Existing A2
10	SBUH Runoff	0.185	2	476	2,622	----	----	----	Existing B2
11	Combine	0.473	2	474	6,713	1, 3, 9,	----	----	Existing A/C Laurel
12	Combine	0.544	2	476	7,693	2, 10,	----	----	Existing B Hillsdale HWY
13	SBUH Runoff	0.015	2	476	215	----	----	----	Proposed D1
14	SBUH Runoff	0.002	2	480	34	----	----	----	Proposed D2
15	SBUH Runoff	0.001	2	480	21	----	----	----	Proposed D3
16	SBUH Runoff	0.007	2	476	99	----	----	----	Proposed E1
17	SBUH Runoff	0.013	2	480	219	----	----	----	Proposed E2
18	Combine	0.207	2	526	8,274	8, 16, 17	----	----	Proposed B/E Hillsdale
19	Combine	0.119	2	536	5,520	6, 7, 13, 14, 15,	----	----	Proposed A/C/D Laurel

# Hydrograph Report

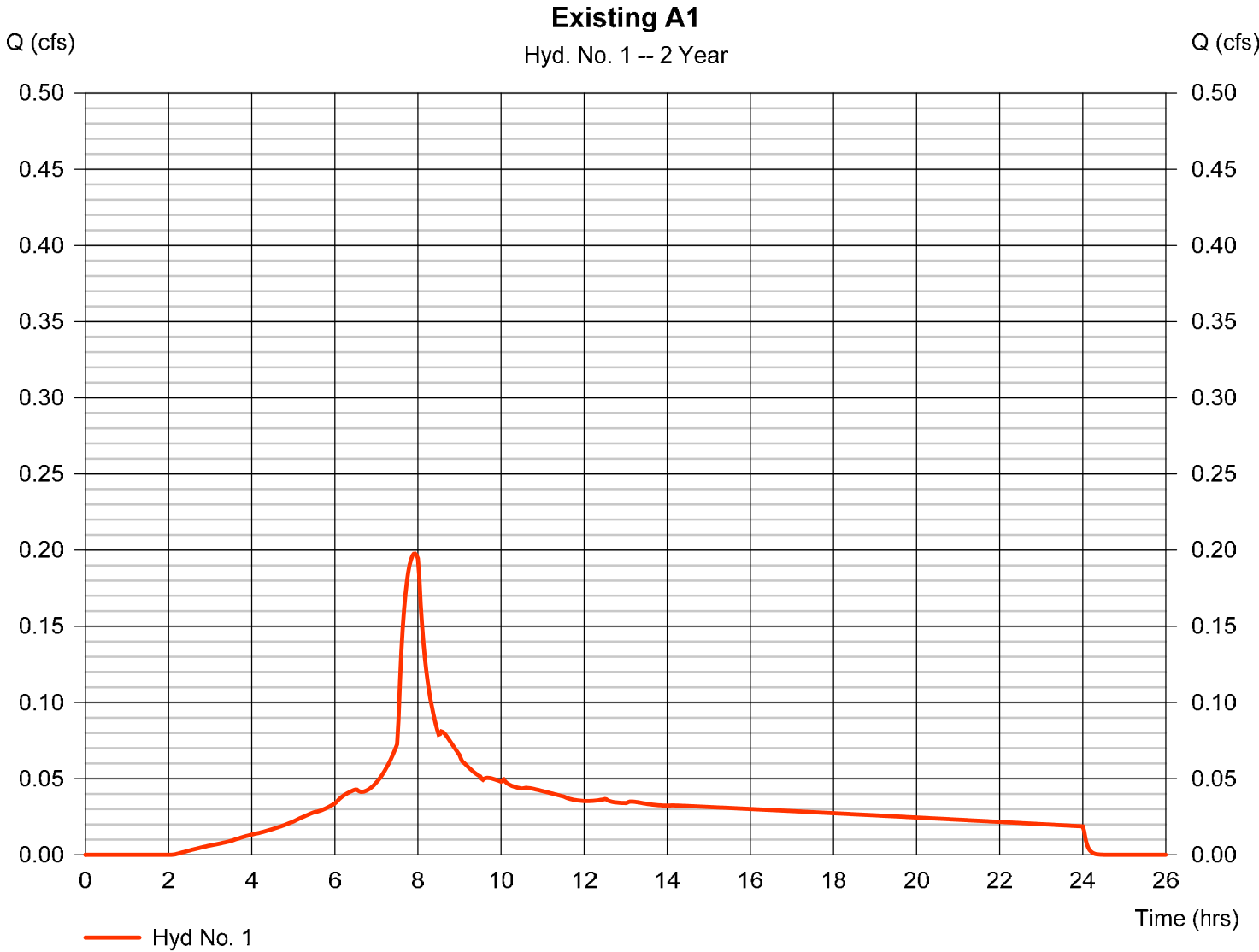
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 1

Existing A1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.198 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 2,782 cuft
Drainage area	= 0.410 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

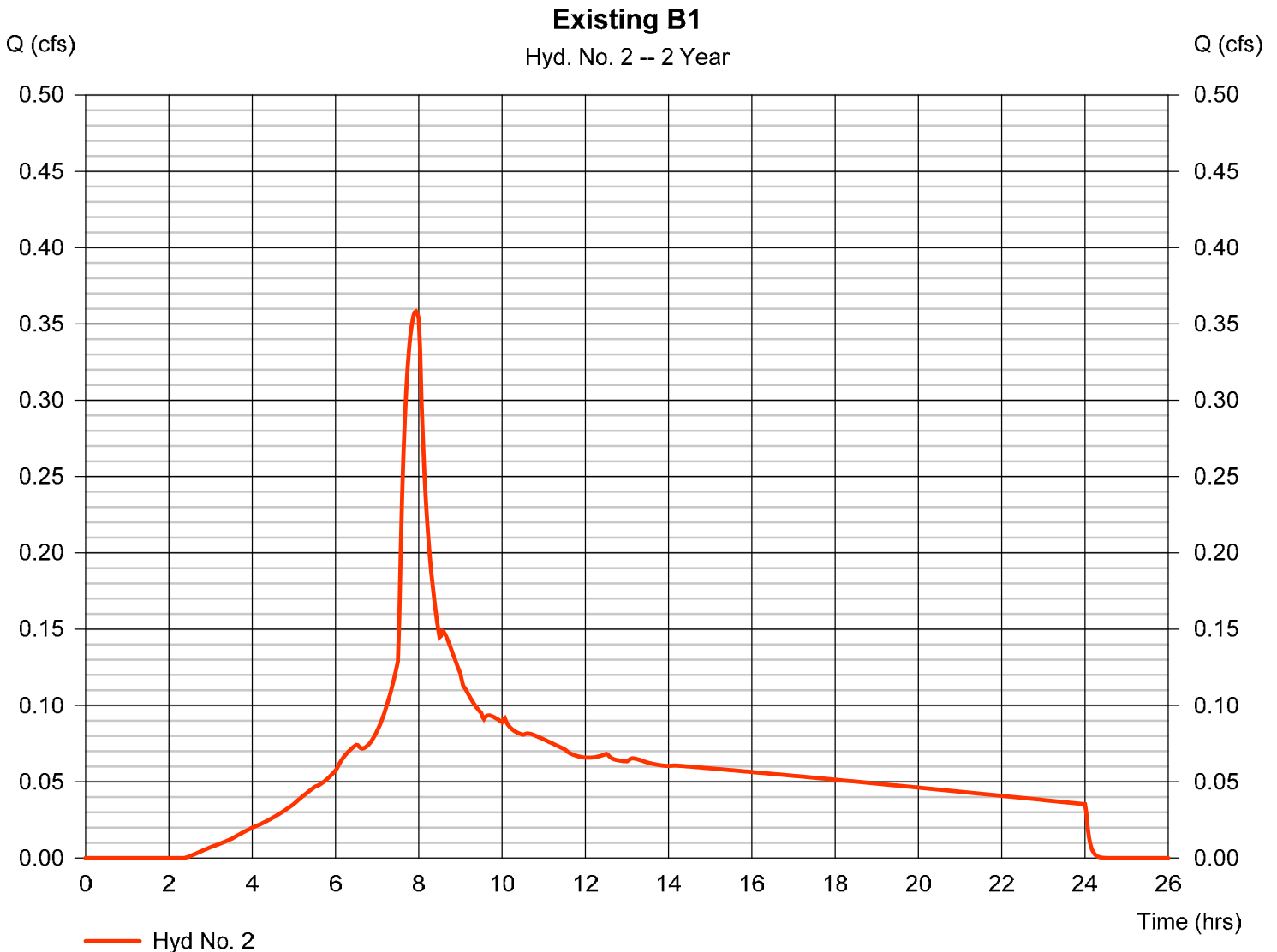
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 2

Existing B1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.358 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 5,070 cuft
Drainage area	= 0.785 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a

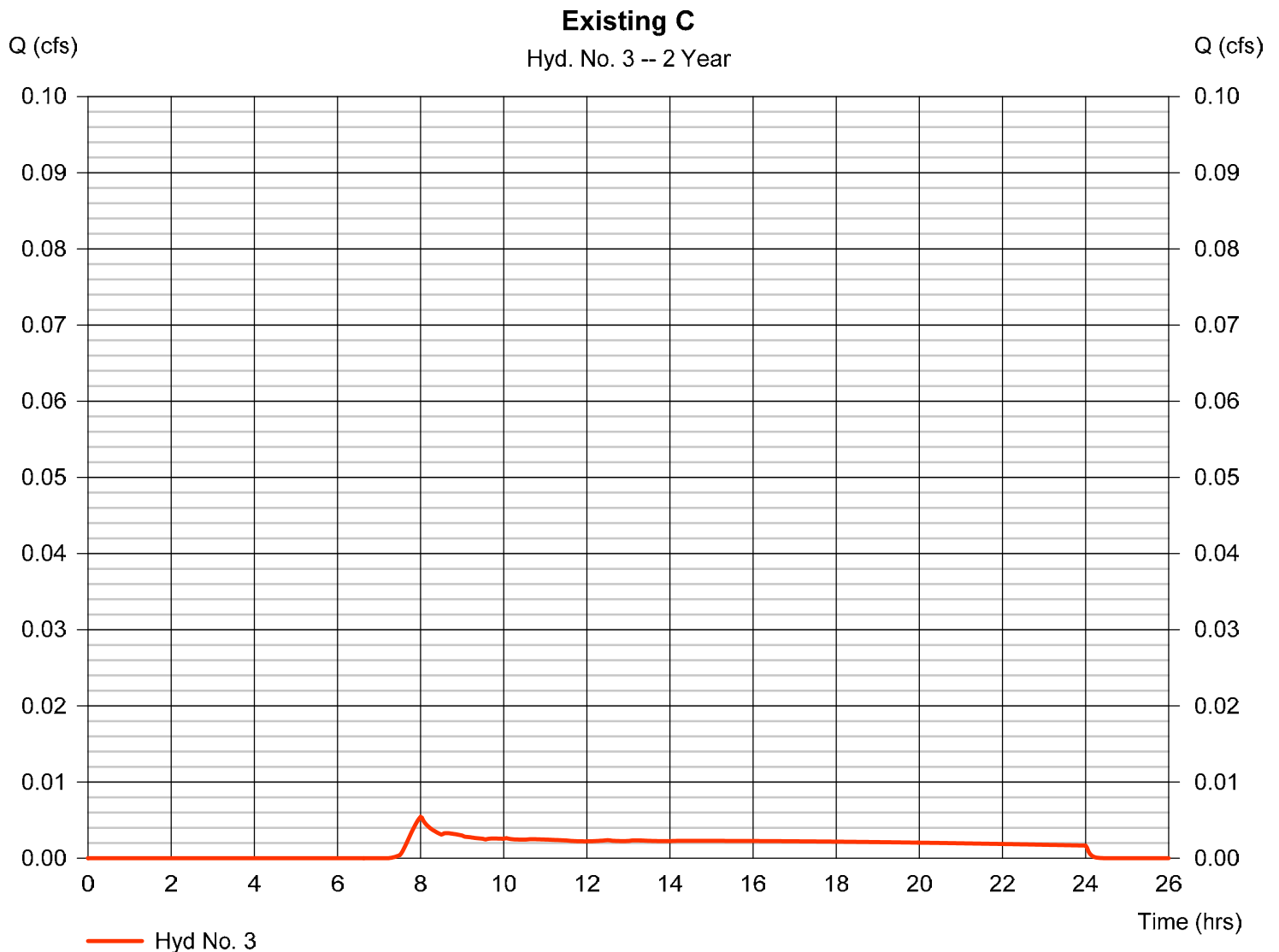


# Hydrograph Report

## Hyd. No. 3

### Existing C

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.005 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 137 cuft
Drainage area	= 0.062 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

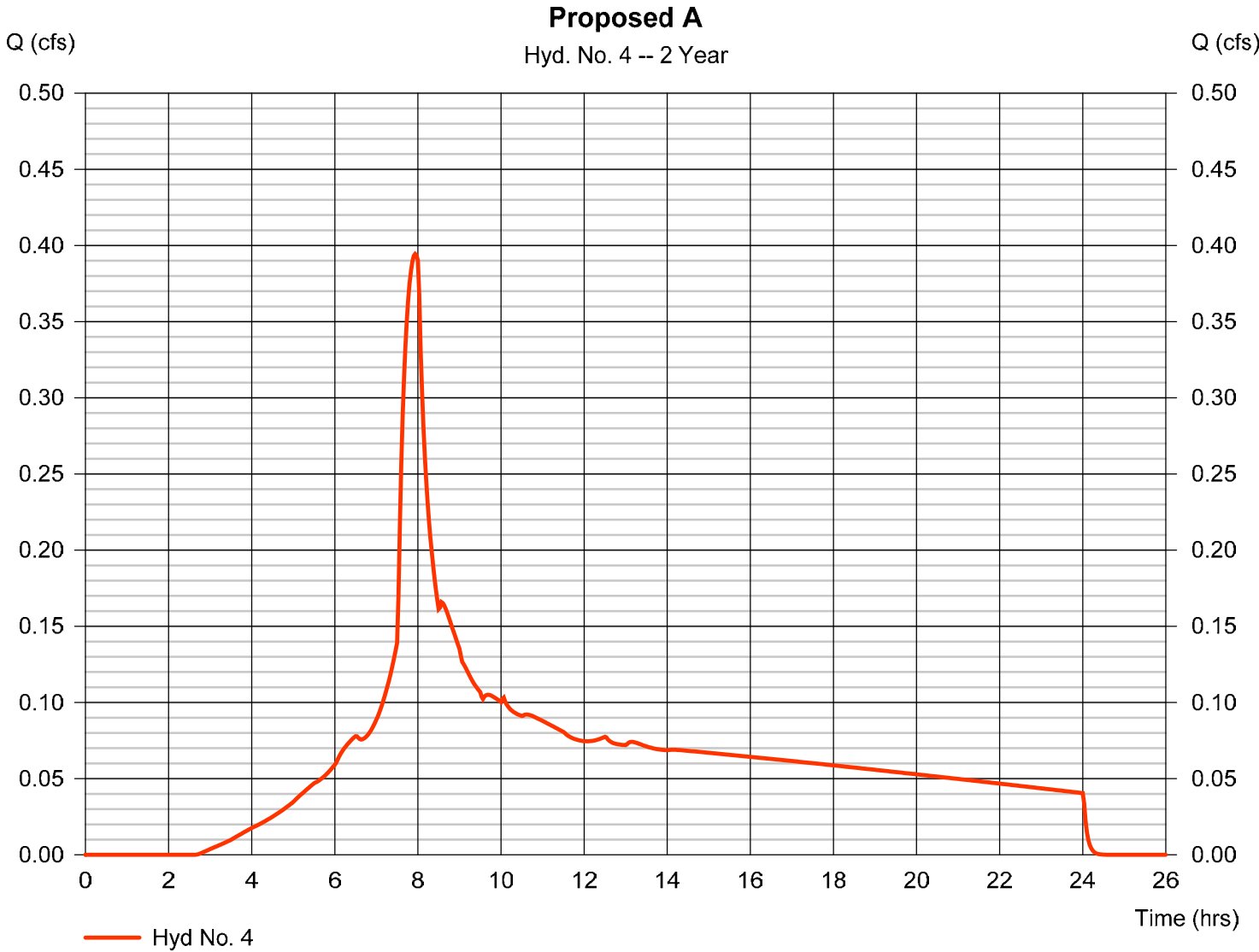
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 4

Proposed A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.394 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 5,630 cuft
Drainage area	= 0.916 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

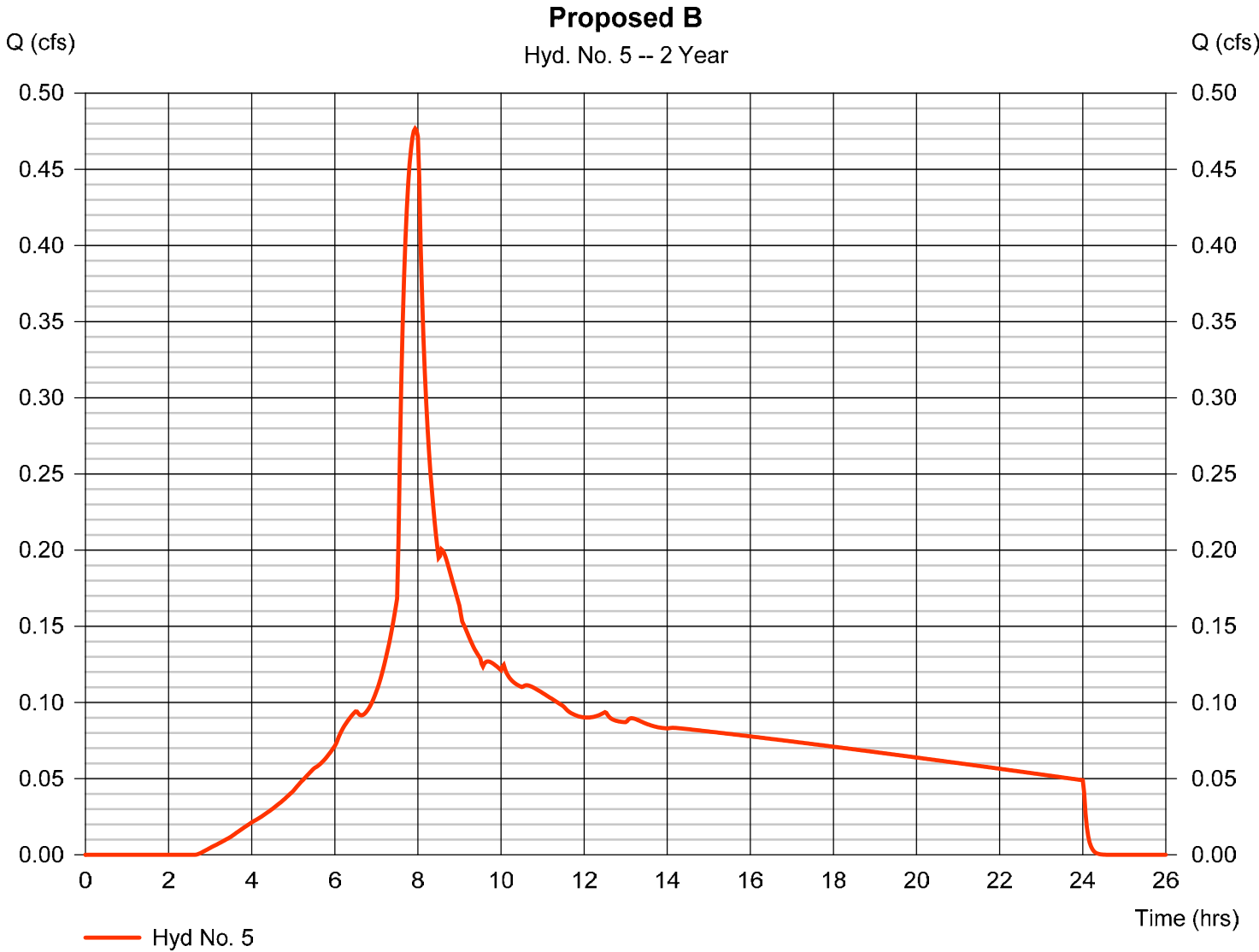
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 5

Proposed B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.477 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 6,804 cuft
Drainage area	= 1.107 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



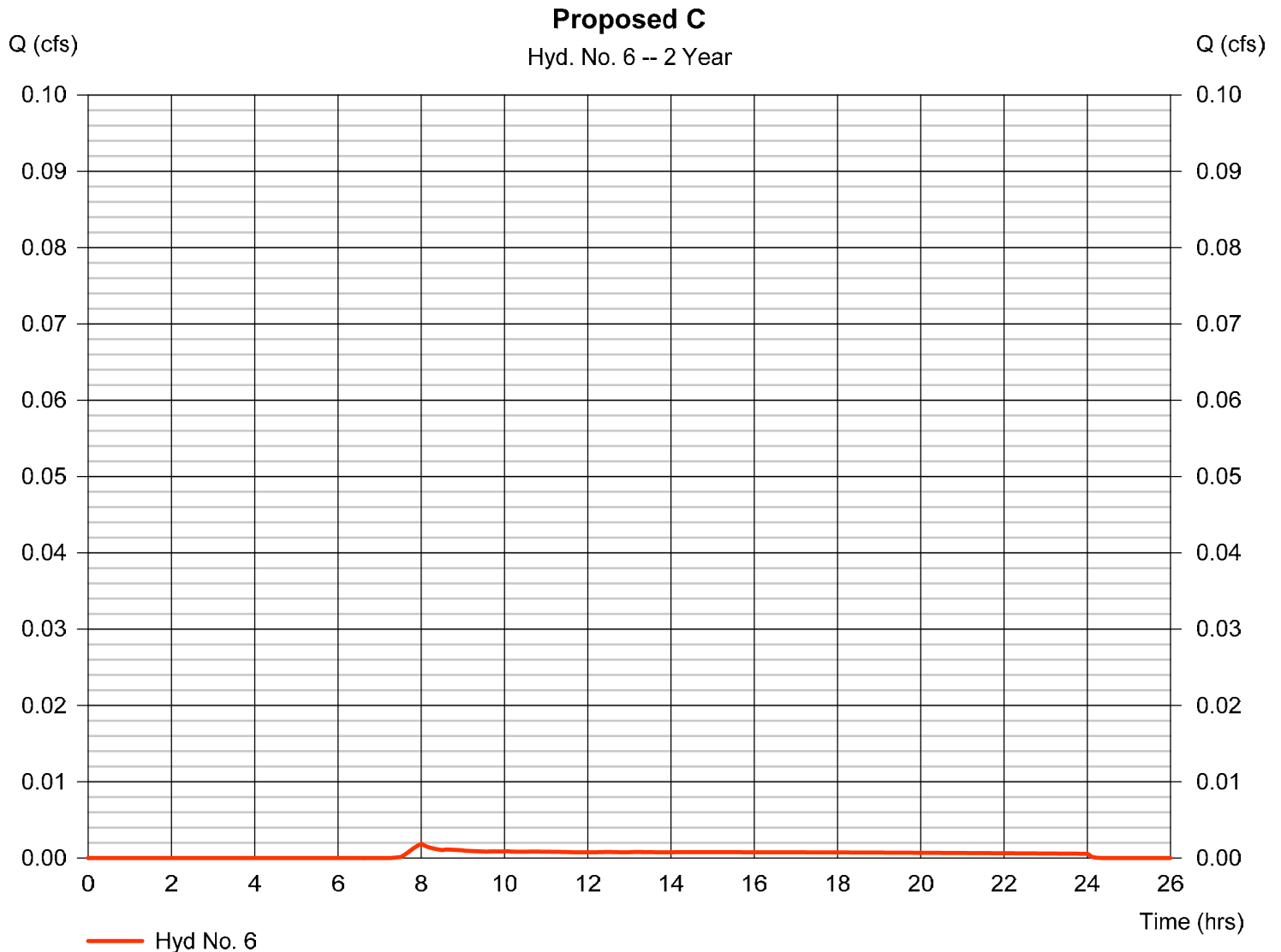


# Hydrograph Report

## Hyd. No. 6

Proposed C

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.002 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 46 cuft
Drainage area	= 0.021 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

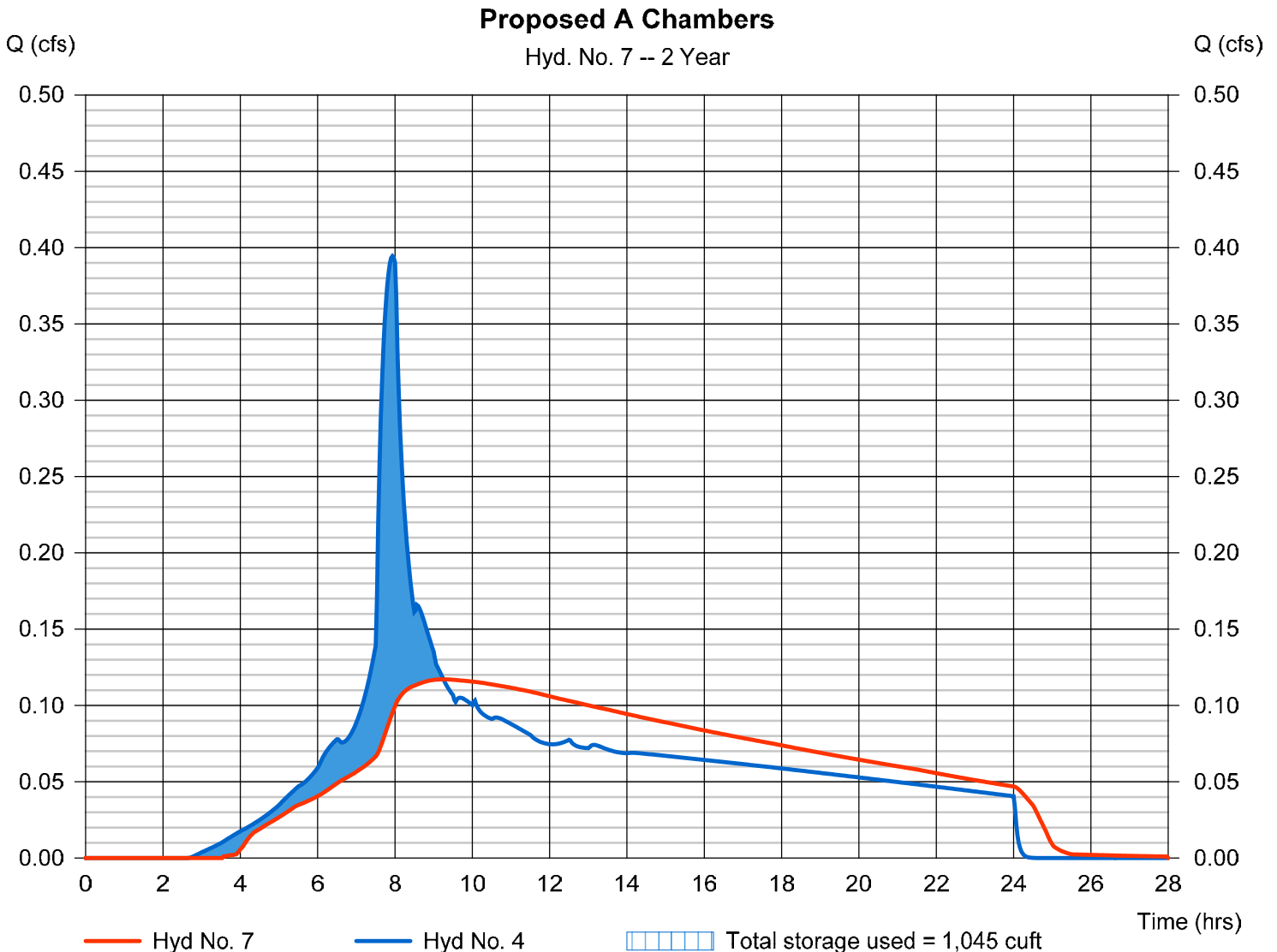
Wednesday, 01 / 19 / 2022

## Hyd. No. 7

### Proposed A Chambers

Hydrograph type	= Reservoir	Peak discharge	= 0.117 cfs
Storm frequency	= 2 yrs	Time to peak	= 9.27 hrs
Time interval	= 2 min	Hyd. volume	= 5,614 cuft
Inflow hyd. No.	= 4 - Proposed A	Max. Elevation	= 102.34 ft
Reservoir name	= Storage A	Max. Storage	= 1,045 cuft

Storage Indication method used.



# Pond Report

## Pond No. 4 - Storage A

### Pond Data

UG Chambers -Invert elev. = 100.00 ft Rise x Span = 3.50 x 3.50 ft, Barrel Len = 51.00 ft, No. Barrels = 3, Slope = 0.00%, Headers = No

### Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	n/a	0	0
0.35	100.35	n/a	77	77
0.70	100.70	n/a	133	210
1.05	101.05	n/a	162	372
1.40	101.40	n/a	178	550
1.75	101.75	n/a	186	736
2.10	102.10	n/a	186	923
2.45	102.45	n/a	178	1,101
2.80	102.80	n/a	162	1,263
3.15	103.15	n/a	133	1,396
3.50	103.50	n/a	77	1,472

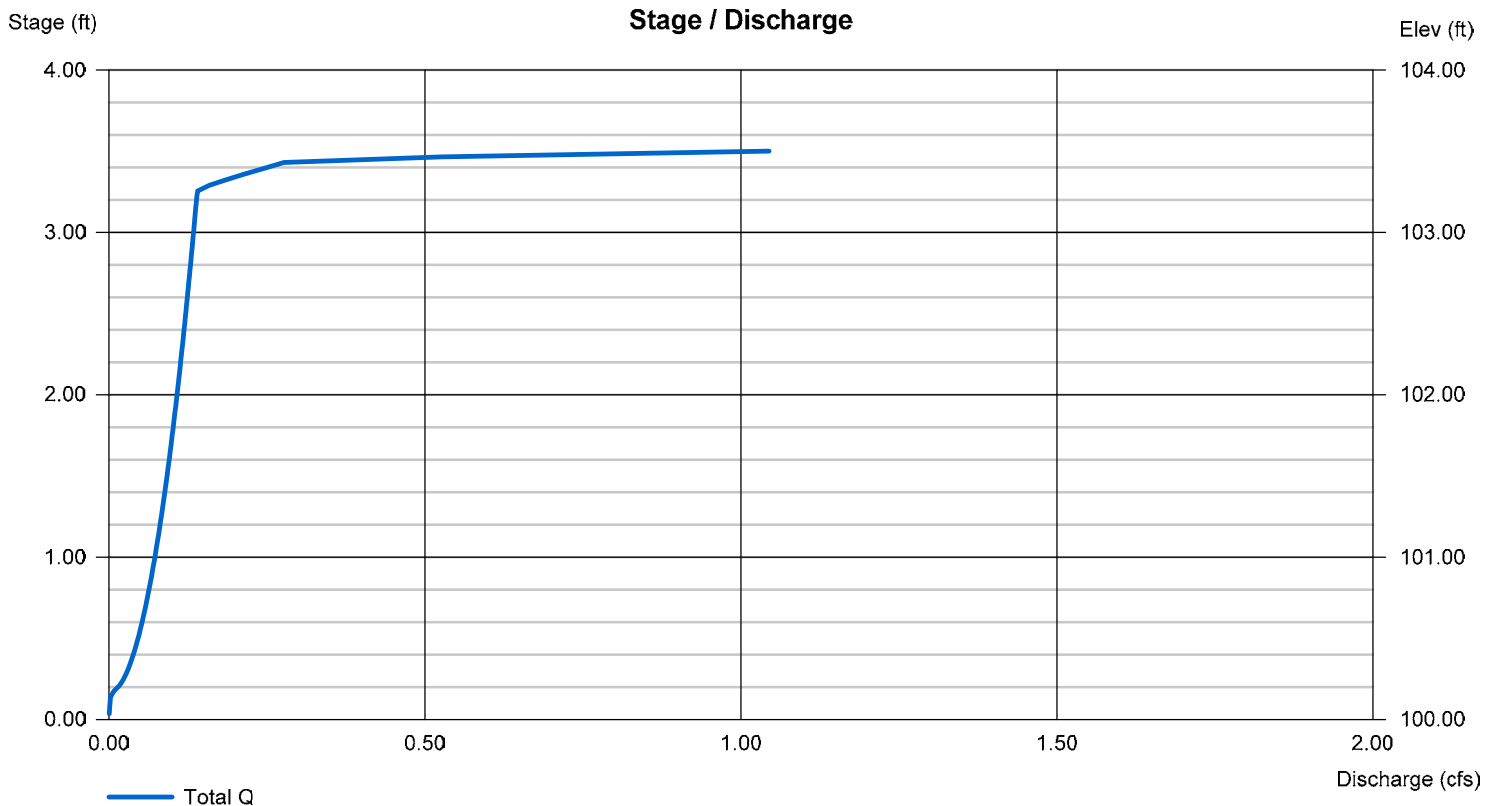
### Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 2.00	2.50	0.00	0.00
Span (in)	= 2.00	50.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 100.00	103.25	0.00	0.00
Length (ft)	= 10.00	10.00	0.00	0.00
Slope (%)	= 0.01	0.01	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

### Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	Inactive	Inactive	Inactive	Inactive
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

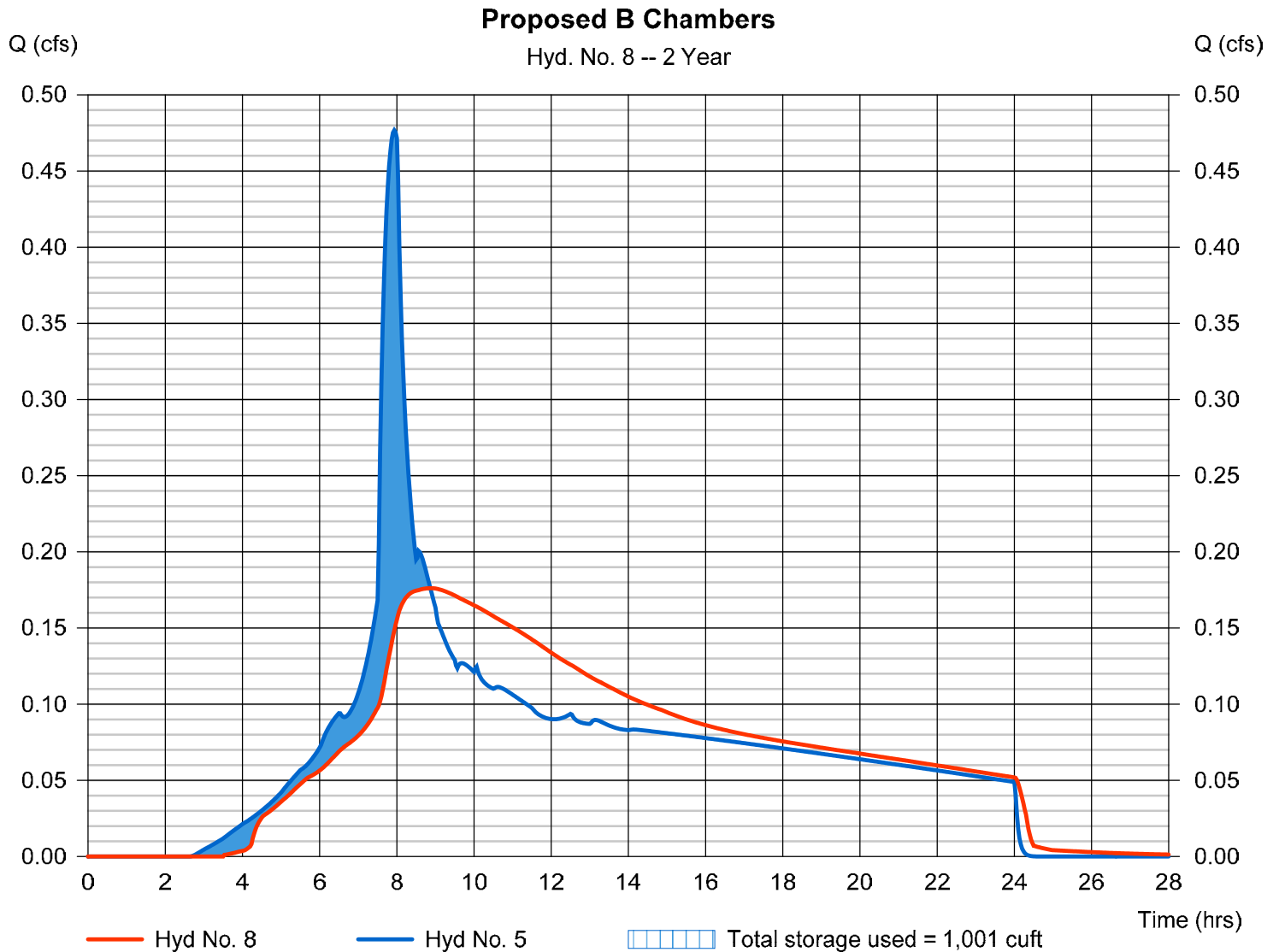
Wednesday, 01 / 19 / 2022

## Hyd. No. 8

### Proposed B Chambers

Hydrograph type	= Reservoir	Peak discharge	= 0.176 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.87 hrs
Time interval	= 2 min	Hyd. volume	= 6,786 cuft
Inflow hyd. No.	= 5 - Proposed B	Max. Elevation	= 101.86 ft
Reservoir name	= Storage B	Max. Storage	= 1,001 cuft

Storage Indication method used.



# Pond Report

## Pond No. 5 - Storage B

### Pond Data

UG Chambers -Invert elev. = 100.00 ft Rise x Span = 3.50 x 3.50 ft, Barrel Len = 64.00 ft, No. Barrels = 3, Slope = 0.00%, Headers = No

### Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	n/a	0	0
0.35	100.35	n/a	96	96
0.70	100.70	n/a	167	263
1.05	101.05	n/a	203	466
1.40	101.40	n/a	224	690
1.75	101.75	n/a	234	924
2.10	102.10	n/a	234	1,158
2.45	102.45	n/a	224	1,382
2.80	102.80	n/a	203	1,585
3.15	103.15	n/a	167	1,752
3.50	103.50	n/a	96	1,848

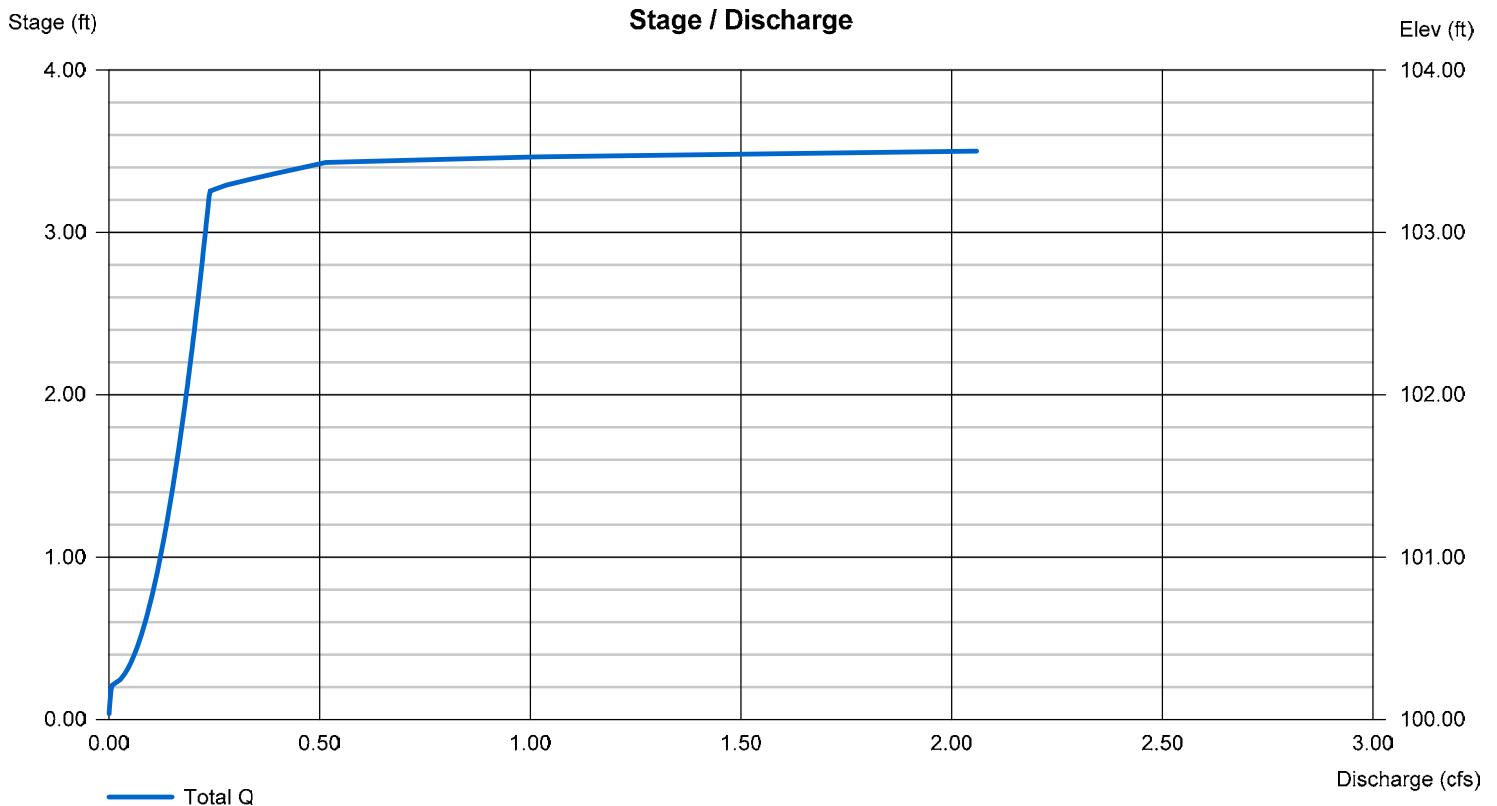
### Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 2.50	2.50	0.00	0.00
Span (in)	= 2.50	100.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 100.00	103.25	0.00	0.00
Length (ft)	= 10.00	10.00	0.00	0.00
Slope (%)	= 0.01	0.01	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

### Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	Inactive	Inactive	Inactive	Inactive
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



# Hydrograph Report

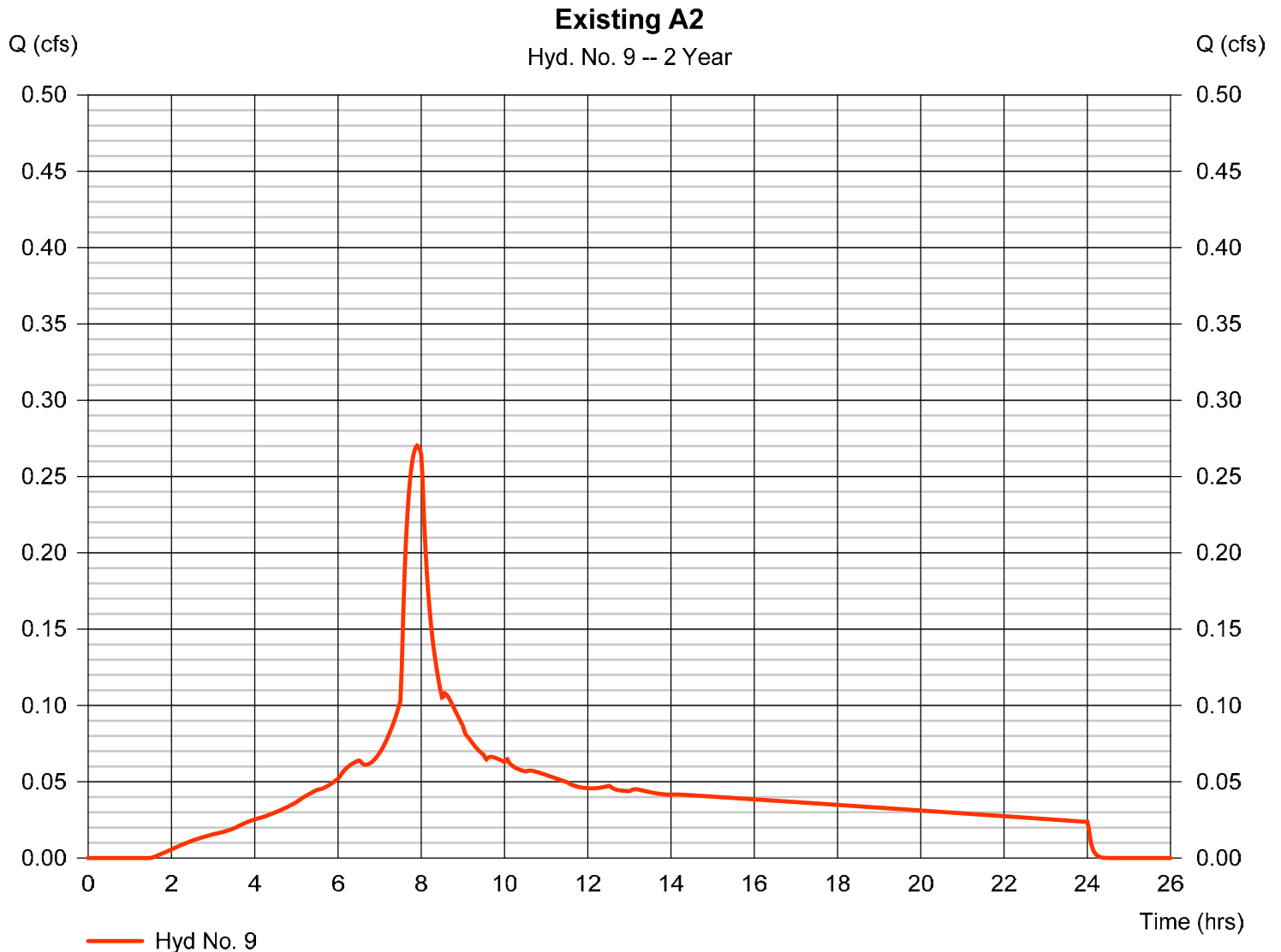
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 9

Existing A2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.270 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 3,794 cuft
Drainage area	= 0.507 ac	Curve number	= 96
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

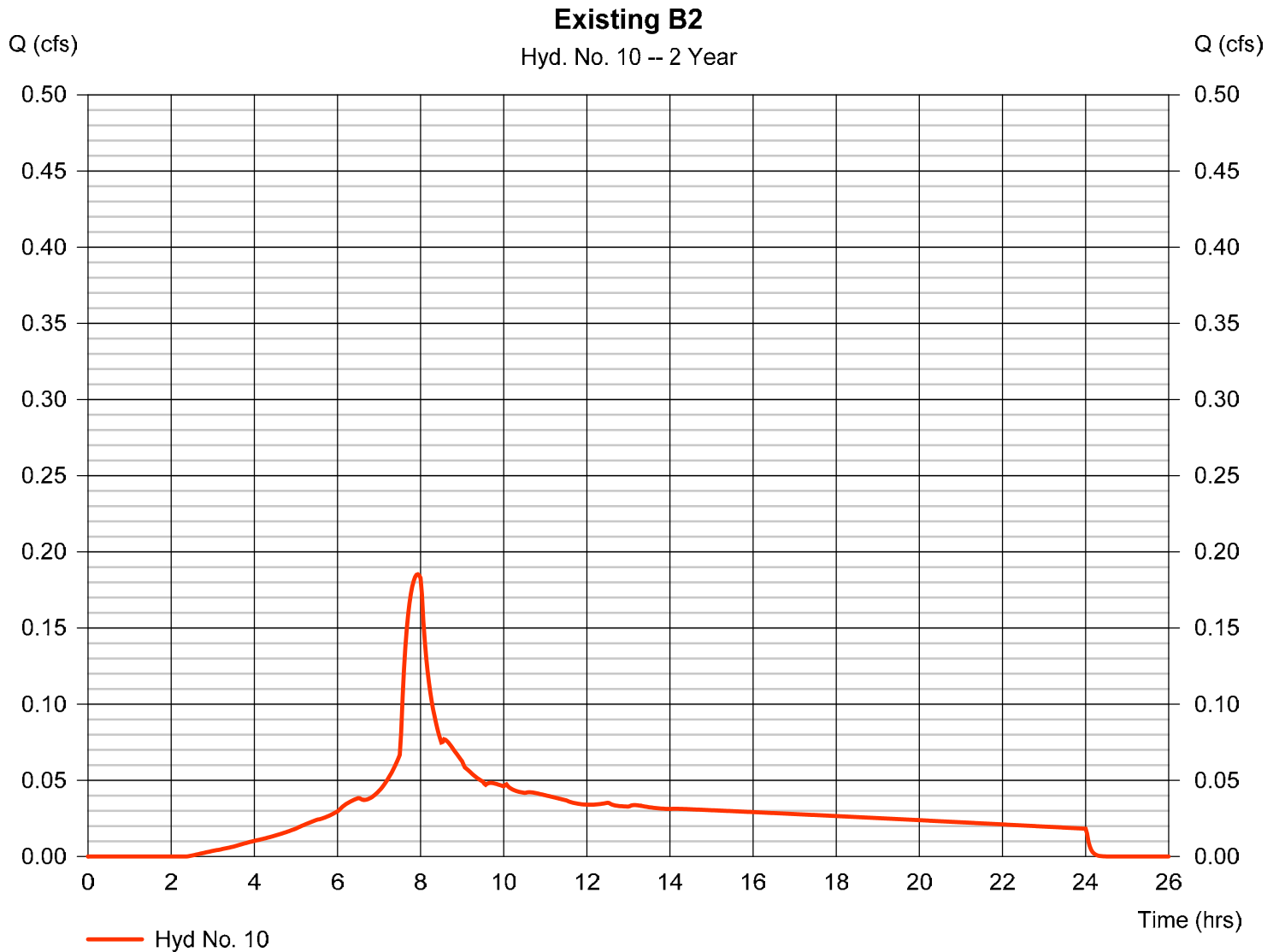
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 10

Existing B2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.185 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 2,622 cuft
Drainage area	= 0.406 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

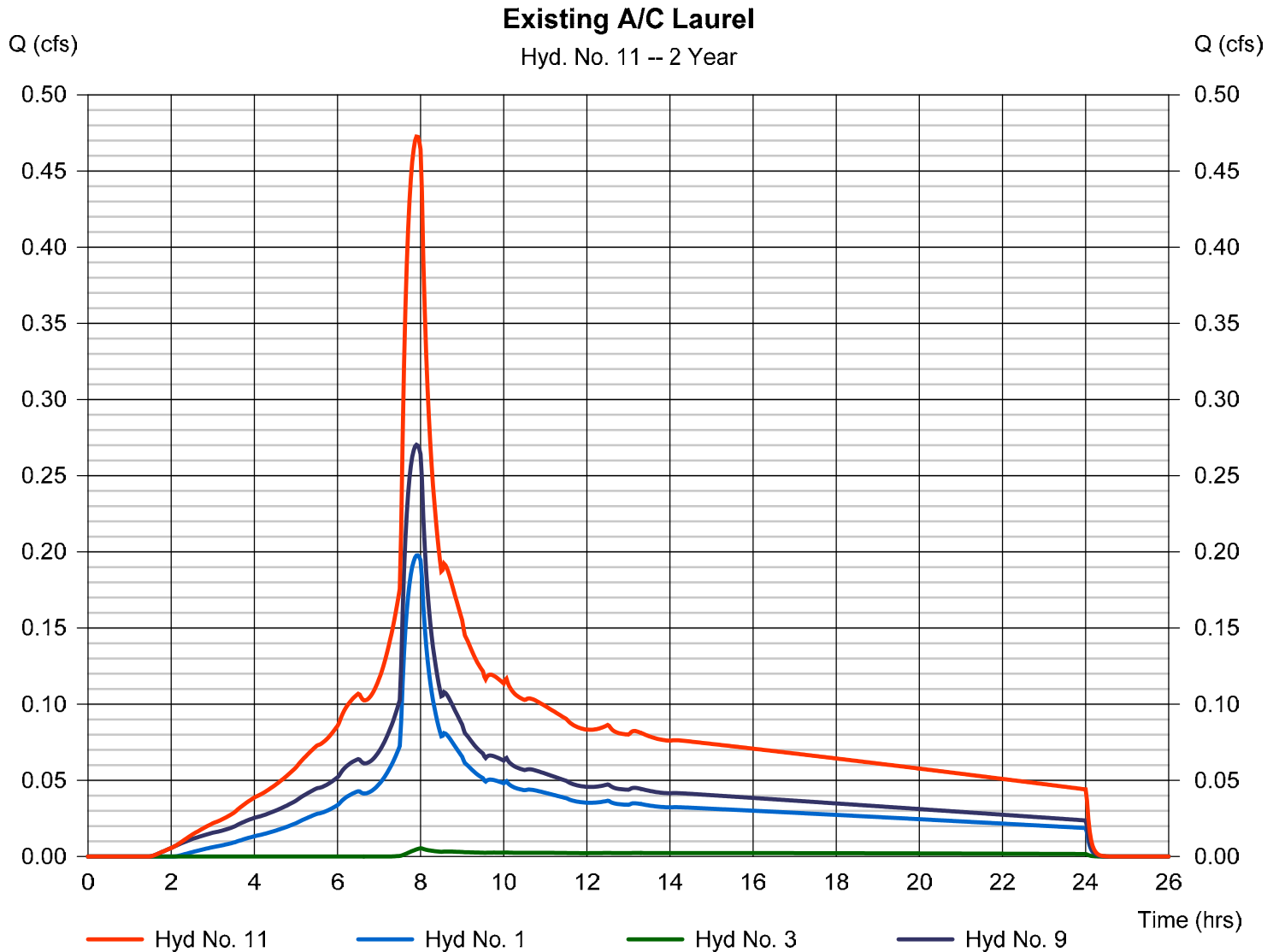
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 11

Existing A/C Laurel

Hydrograph type	= Combine	Peak discharge	= 0.473 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 6,713 cuft
Inflow hyds.	= 1, 3, 9	Contrib. drain. area	= 0.979 ac





# Hydrograph Report

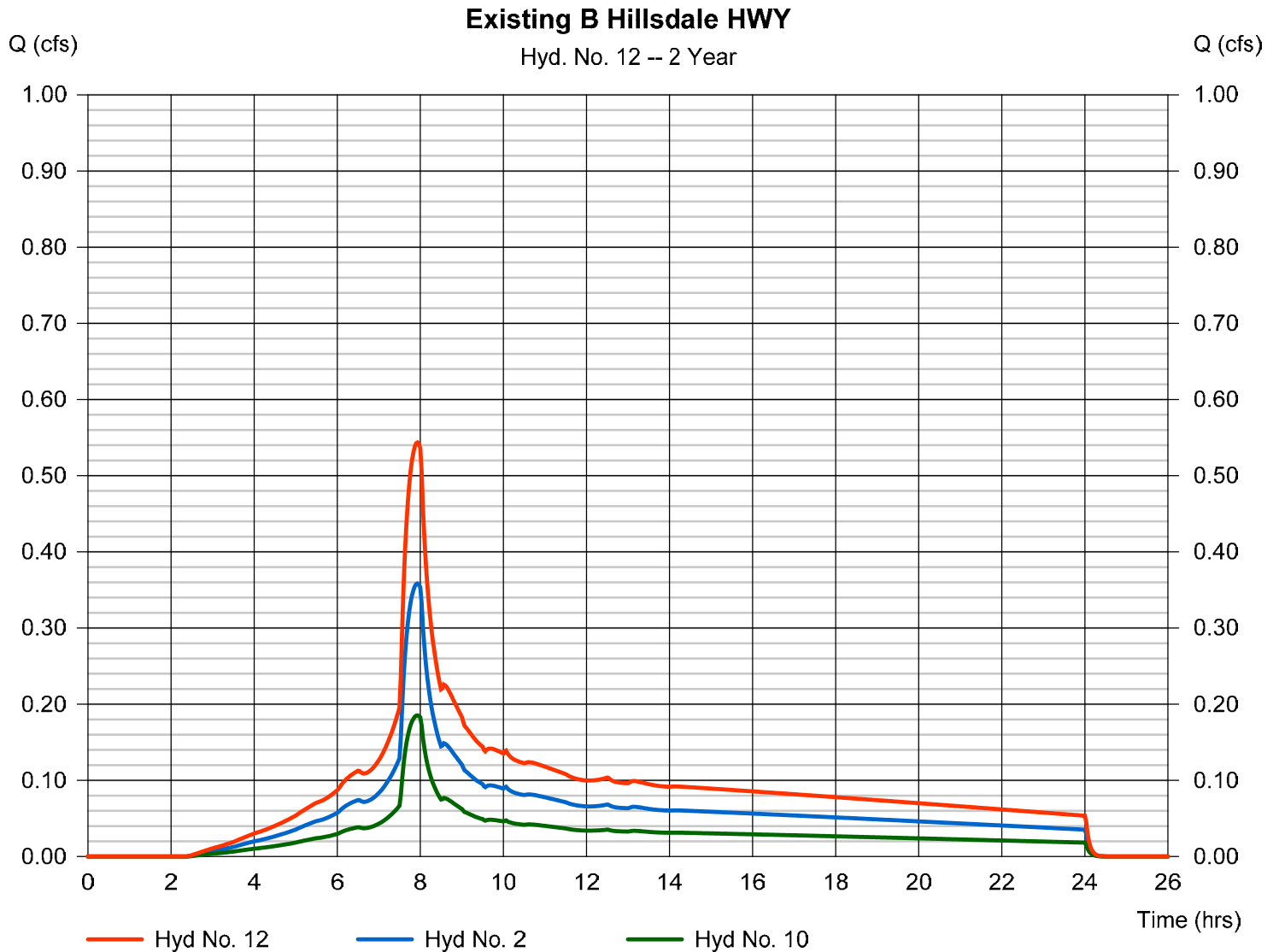
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 12

Existing B Hillsdale HWY

Hydrograph type	= Combine	Peak discharge	= 0.544 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 7,693 cuft
Inflow hyds.	= 2, 10	Contrib. drain. area	= 1.191 ac



# Hydrograph Report

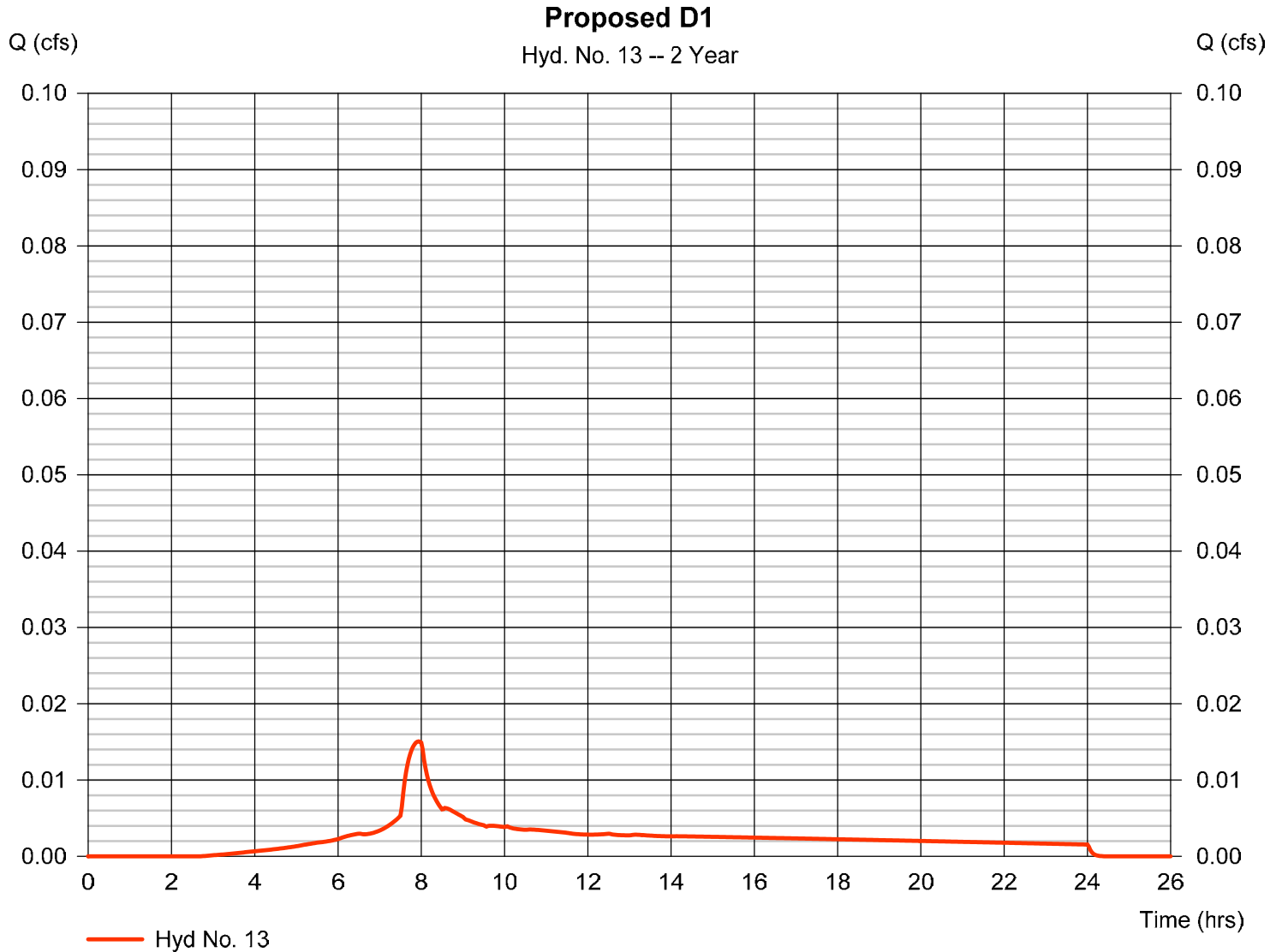
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 13

Proposed D1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.015 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 215 cuft
Drainage area	= 0.035 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

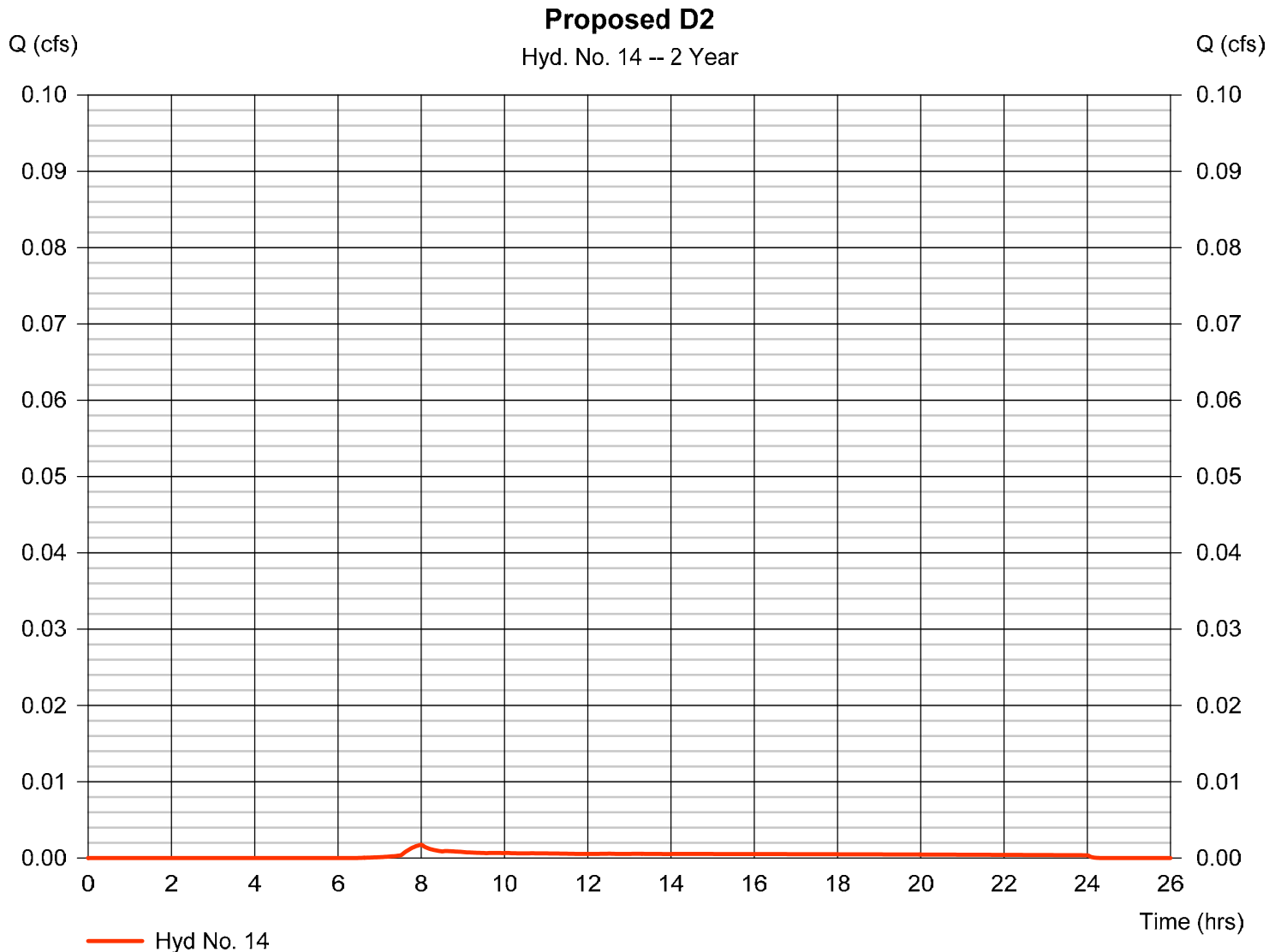
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 14

Proposed D2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.002 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 34 cuft
Drainage area	= 0.012 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

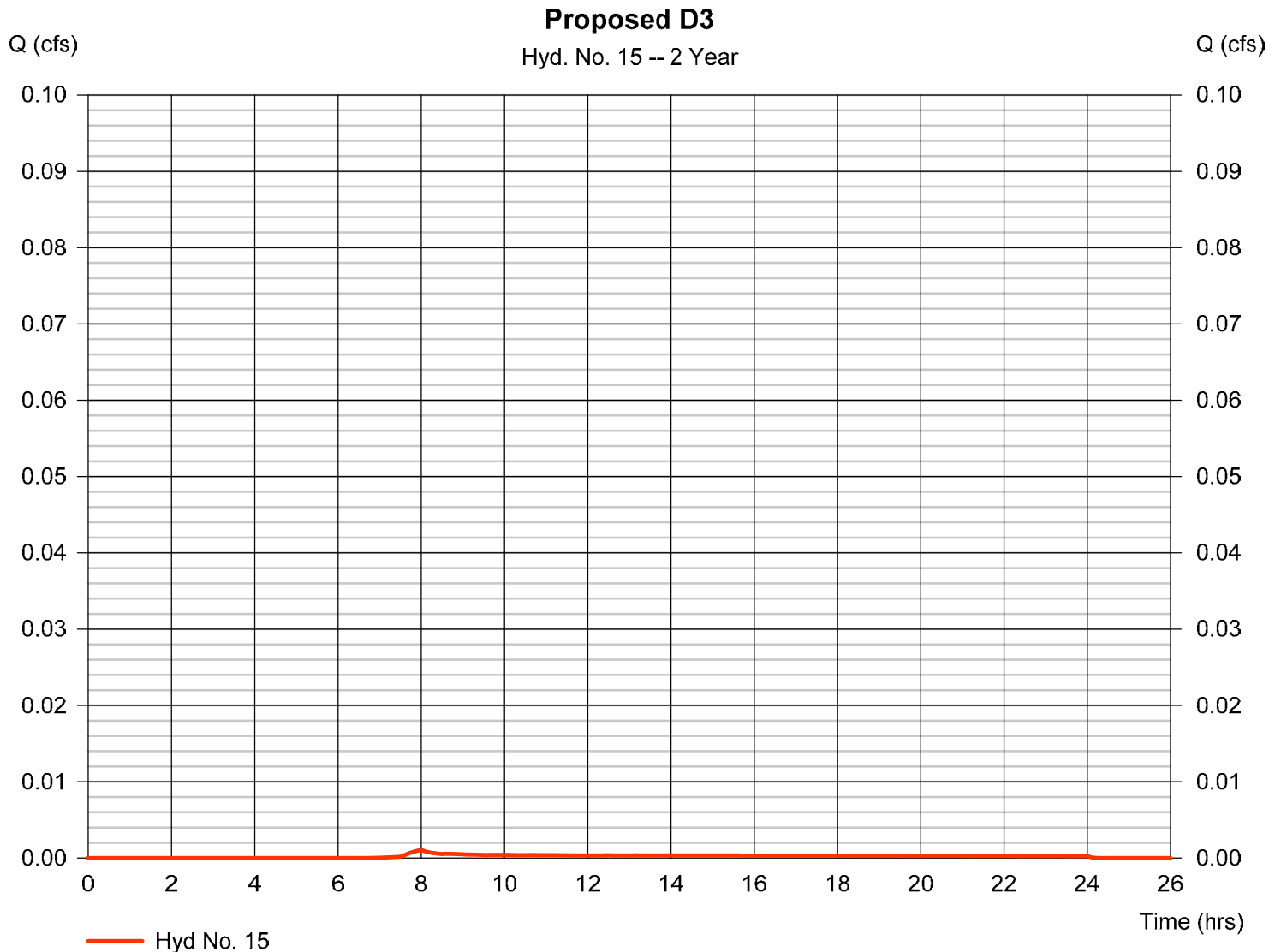
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 15

Proposed D3

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.001 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 21 cuft
Drainage area	= 0.008 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

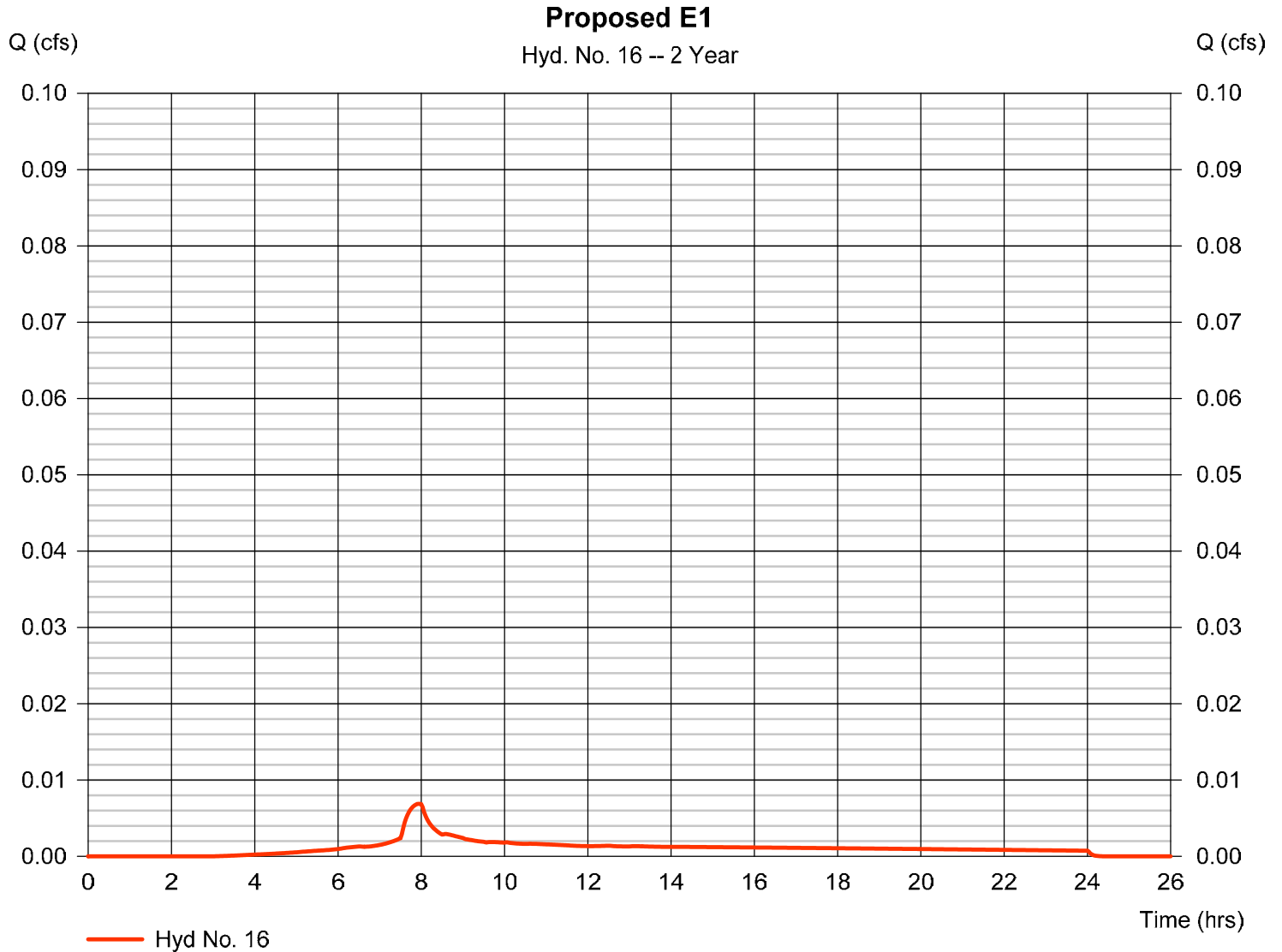
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 16

Proposed E1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.007 cfs
Storm frequency	= 2 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 99 cuft
Drainage area	= 0.017 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

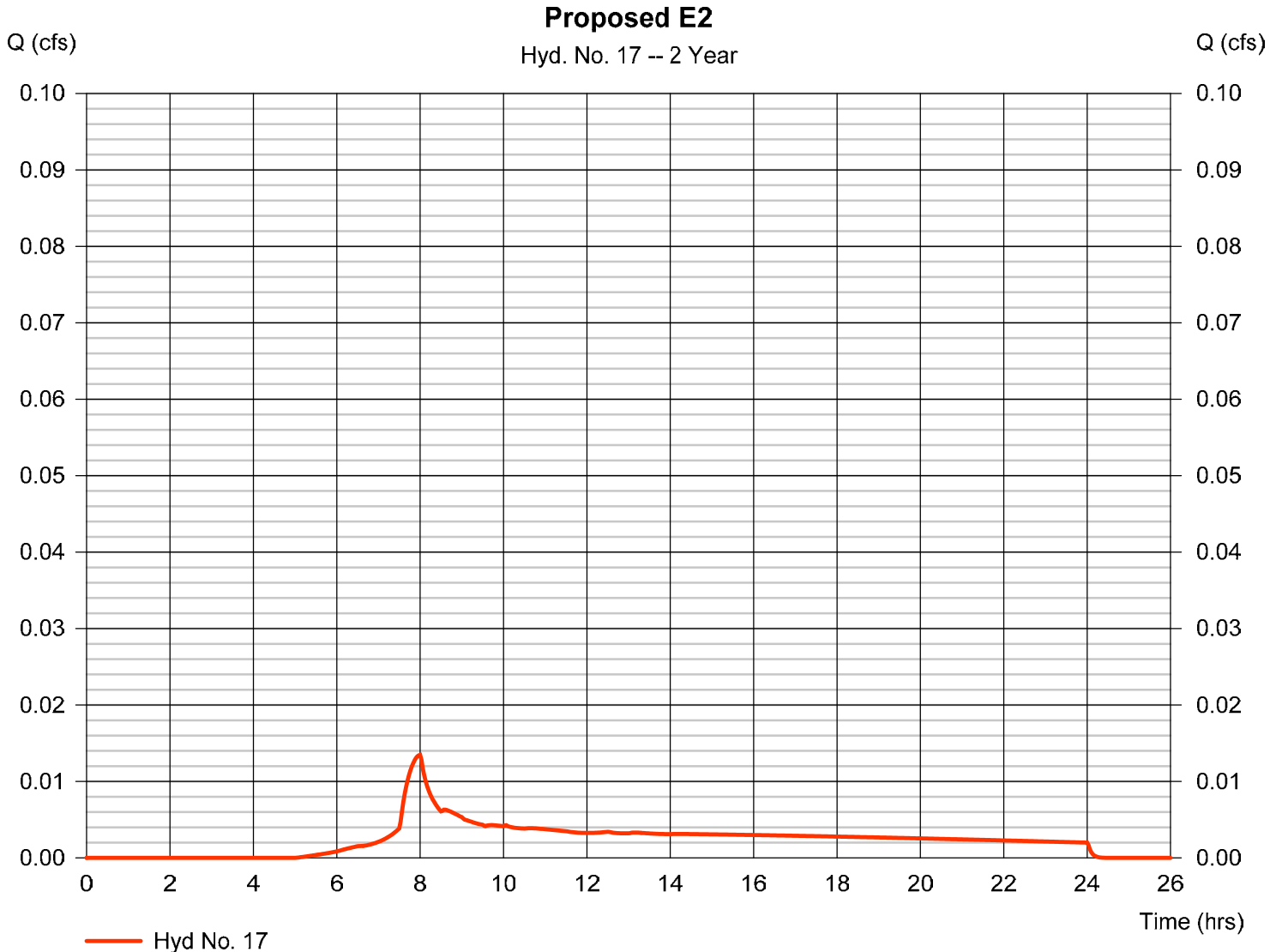
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 17

Proposed E2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.013 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 219 cuft
Drainage area	= 0.054 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

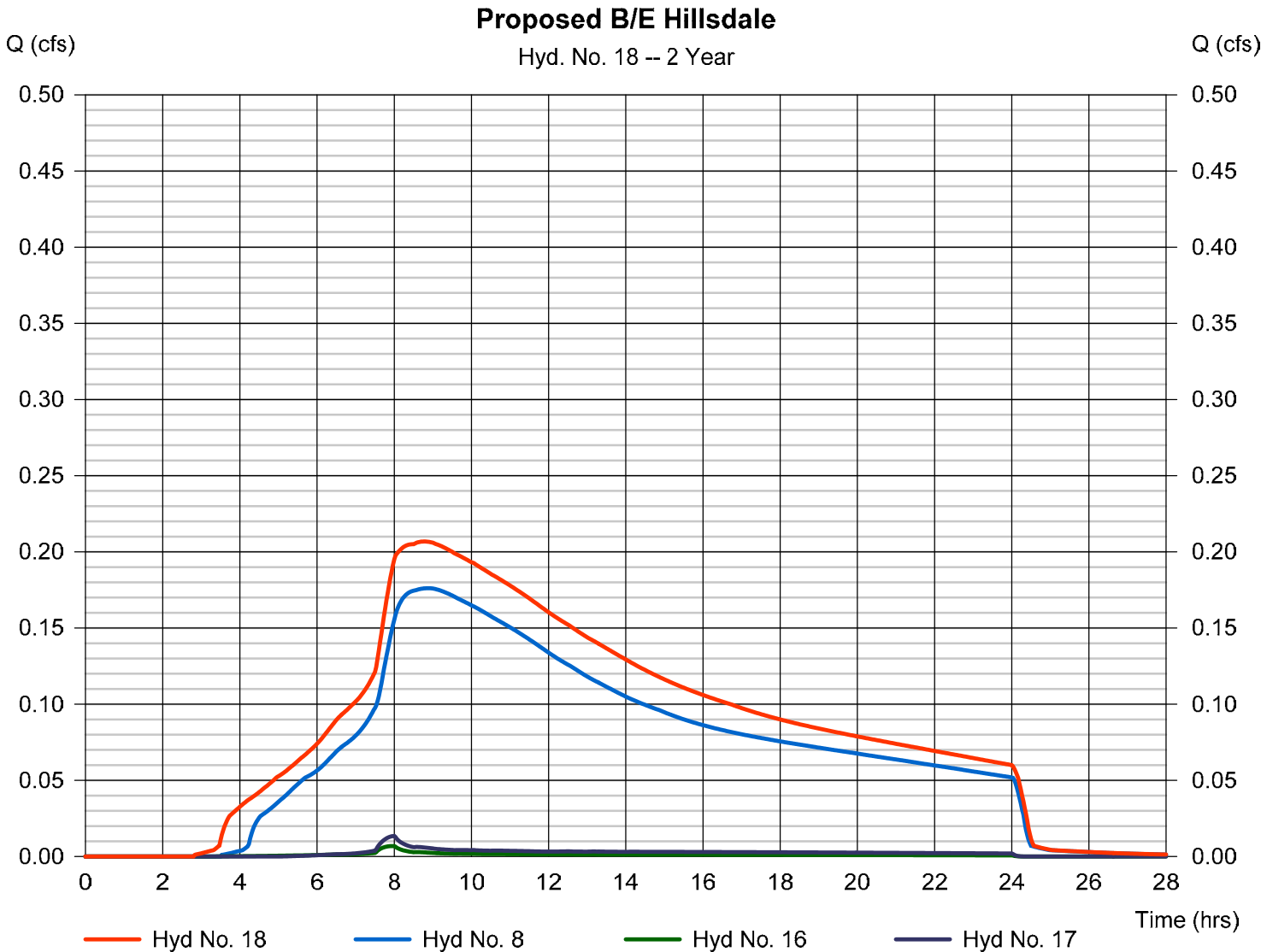
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 18

Proposed B/E Hillsdale

Hydrograph type	= Combine	Peak discharge	= 0.207 cfs
Storm frequency	= 2 yrs	Time to peak	= 8.77 hrs
Time interval	= 2 min	Hyd. volume	= 8,274 cuft
Inflow hyds.	= 8, 16, 17	Contrib. drain. area	= 0.071 ac



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

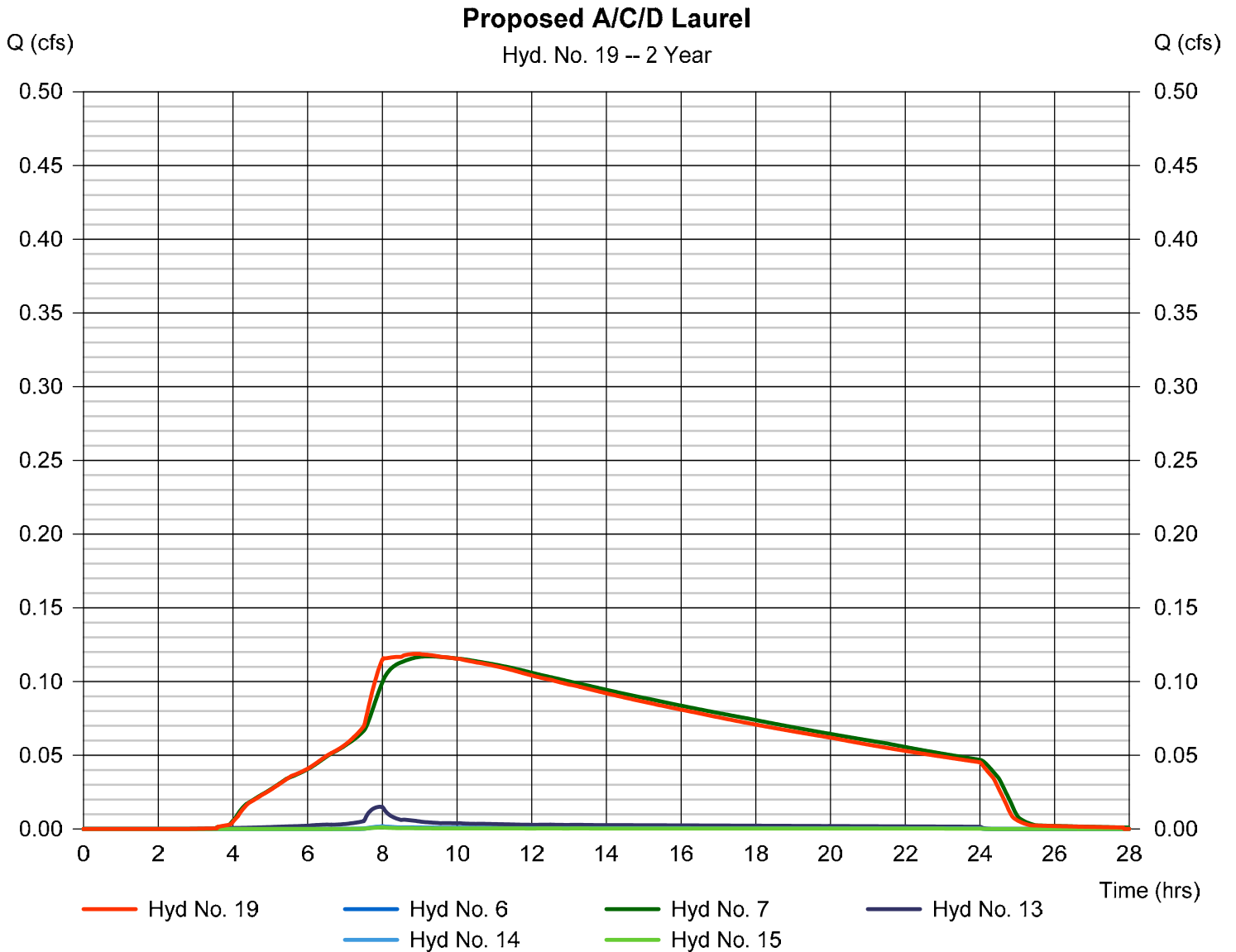
Wednesday, 01 / 19 / 2022

## Hyd. No. 19

Proposed A/C/D Laurel

Hydrograph type = Combine  
Storm frequency = 2 yrs  
Time interval = 2 min  
Inflow hyds. = 6, 7, 13, 14, 15

Peak discharge = 0.119 cfs  
Time to peak = 8.93 hrs  
Hyd. volume = 5,520 cuft  
Contrib. drain. area = 0.076 ac





# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SBUH Runoff	0.260	2	474	3,642	----	----	----	Existing A1
2	SBUH Runoff	0.476	2	476	6,696	----	----	----	Existing B1
3	SBUH Runoff	0.011	2	480	219	----	----	----	Existing C
4	SBUH Runoff	0.532	2	476	7,500	----	----	----	Proposed A
5	SBUH Runoff	0.642	2	476	9,064	----	----	----	Proposed B
6	SBUH Runoff	0.004	2	480	74	----	----	----	Proposed C
7	Reservoir	0.214	2	520	7,485	4	103.36	1,441	Proposed A Chambers
8	Reservoir	0.216	2	540	9,047	5	102.71	1,530	Proposed B Chambers
9	SBUH Runoff	0.346	2	474	4,878	----	----	----	Existing A2
10	SBUH Runoff	0.246	2	476	3,463	----	----	----	Existing B2
11	Combine	0.616	2	474	8,739	1, 3, 9,	----	----	Existing A/C Laurel
12	Combine	0.723	2	476	10,159	2, 10,	----	----	Existing B Hillsdale HWY
13	SBUH Runoff	0.020	2	476	287	----	----	----	Proposed D1
14	SBUH Runoff	0.003	2	480	52	----	----	----	Proposed D2
15	SBUH Runoff	0.002	2	480	33	----	----	----	Proposed D3
16	SBUH Runoff	0.009	2	476	134	----	----	----	Proposed E1
17	SBUH Runoff	0.020	2	478	313	----	----	----	Proposed E2
18	Combine	0.326	2	506	10,866	8, 16, 17	----	----	Proposed B/E Hillsdale
19	Combine	0.150	2	556	7,382	6, 7, 13, 14, 15,	----	----	Proposed A/C/D Laurel

# Hydrograph Report

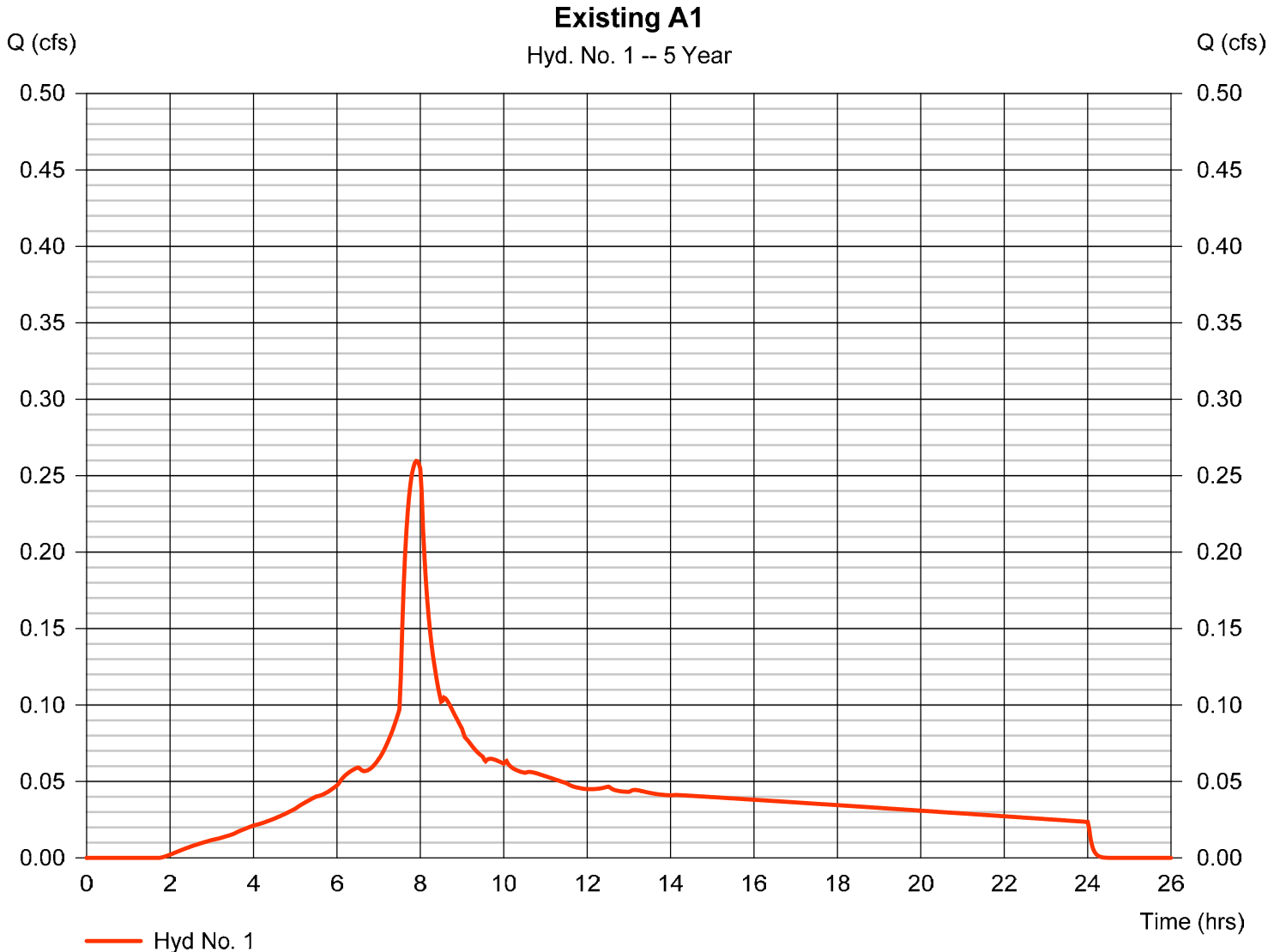
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 1

Existing A1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.260 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 3,642 cuft
Drainage area	= 0.410 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

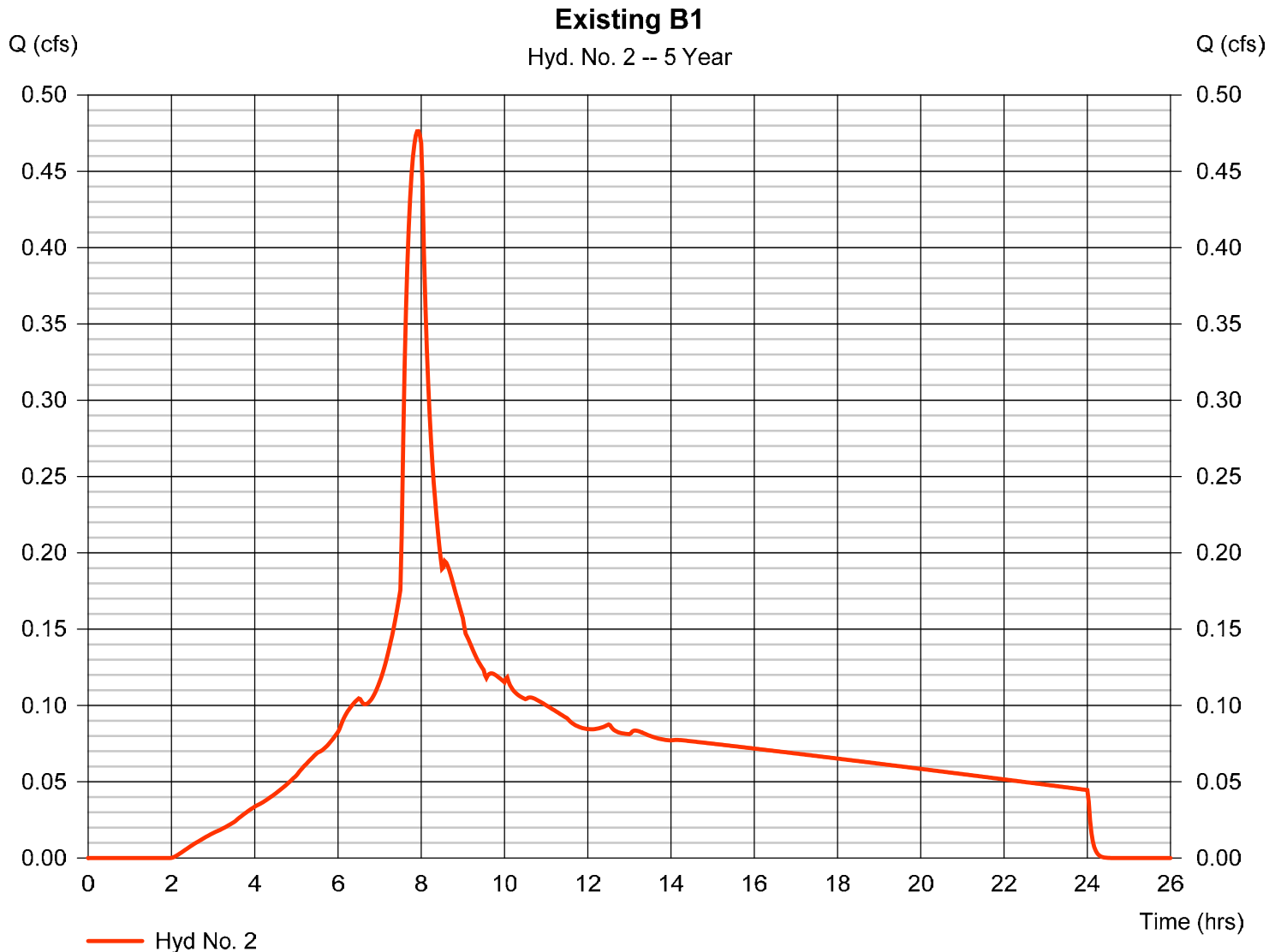
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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## Hyd. No. 2

Existing B1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.476 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 6,696 cuft
Drainage area	= 0.785 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

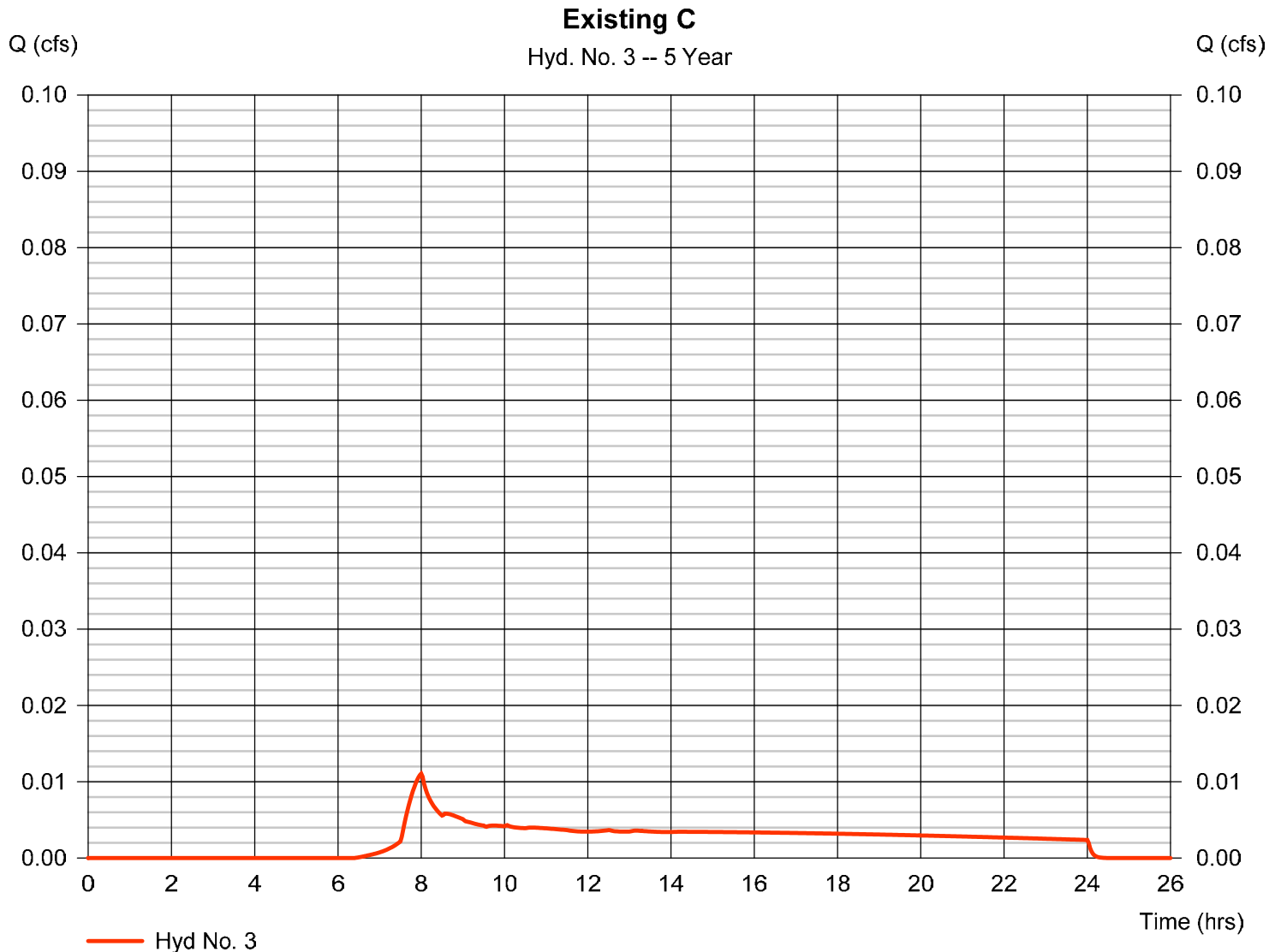
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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## Hyd. No. 3

Existing C

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.011 cfs
Storm frequency	= 5 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 219 cuft
Drainage area	= 0.062 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a

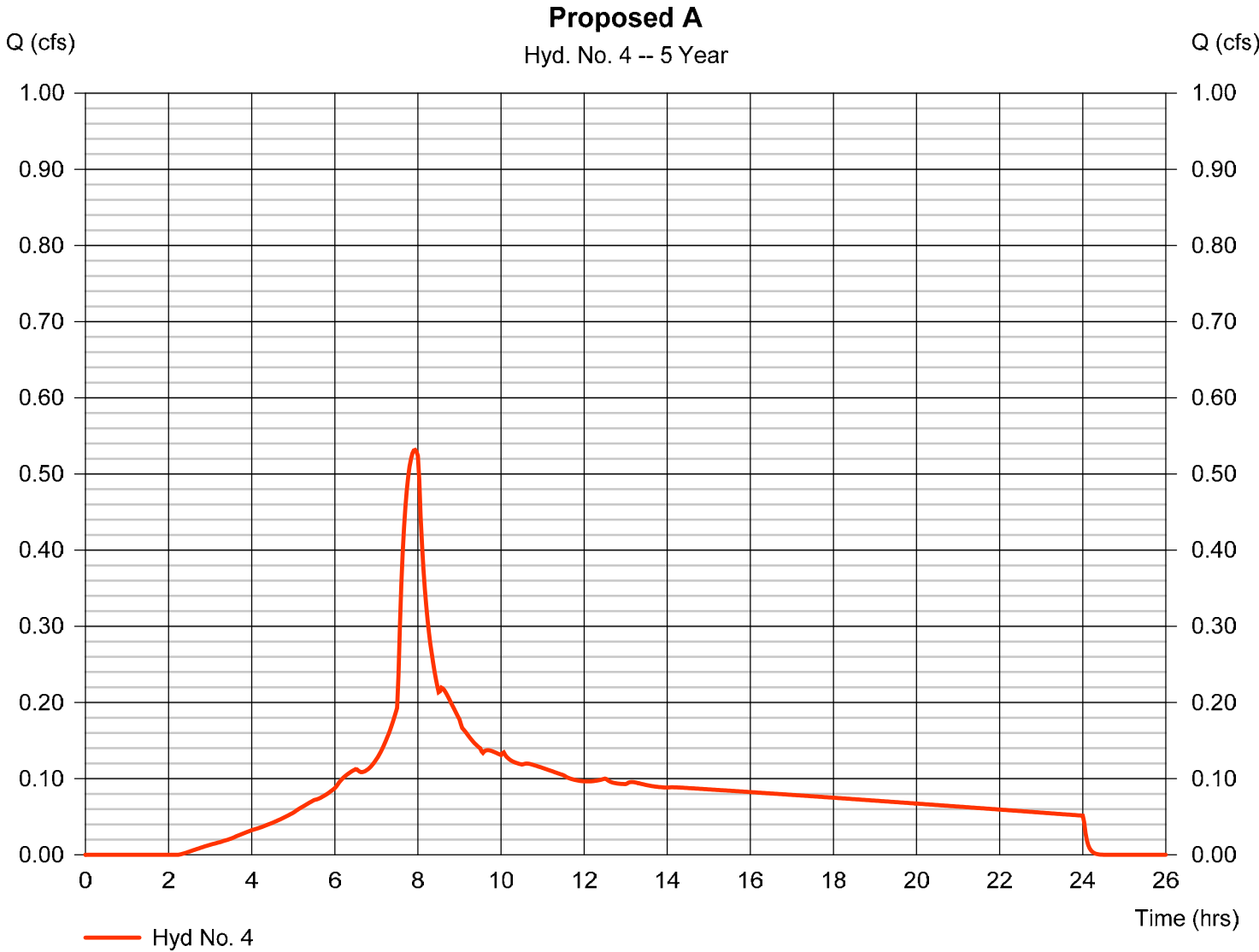


# Hydrograph Report

## Hyd. No. 4

Proposed A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.532 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 7,500 cuft
Drainage area	= 0.916 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

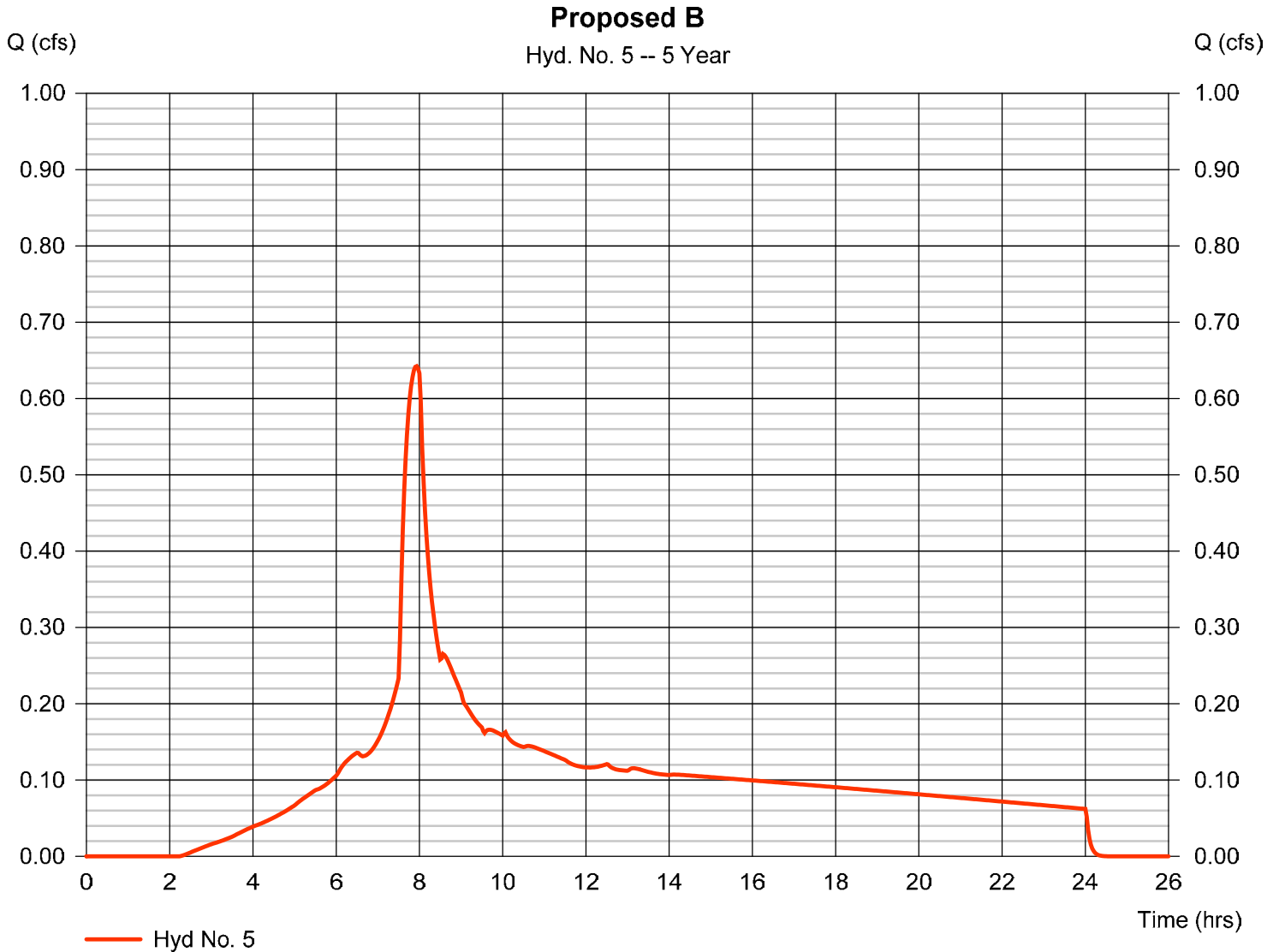
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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## Hyd. No. 5

Proposed B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.642 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 9,064 cuft
Drainage area	= 1.107 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a

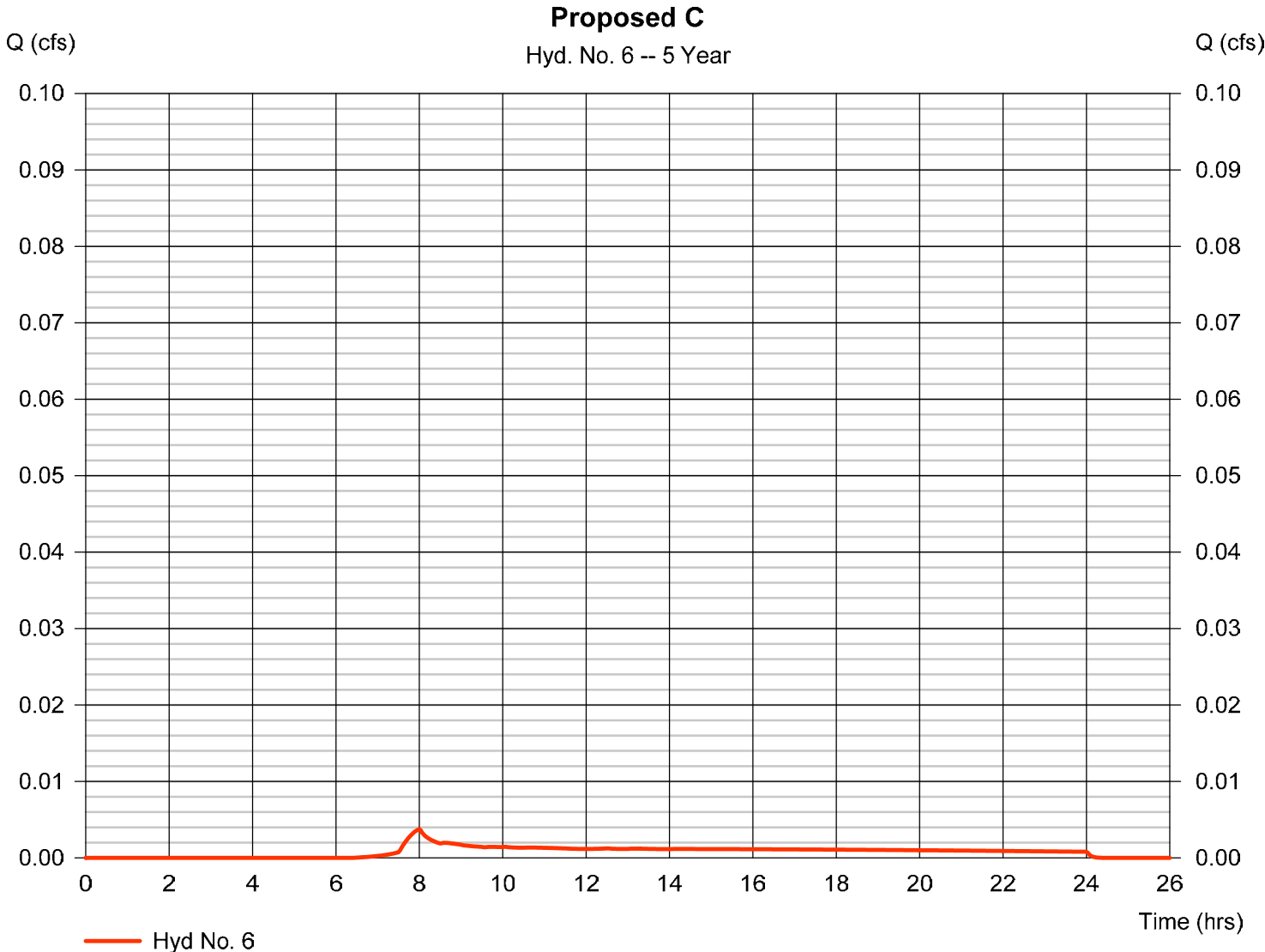


# Hydrograph Report

## Hyd. No. 6

Proposed C

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.004 cfs
Storm frequency	= 5 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 74 cuft
Drainage area	= 0.021 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

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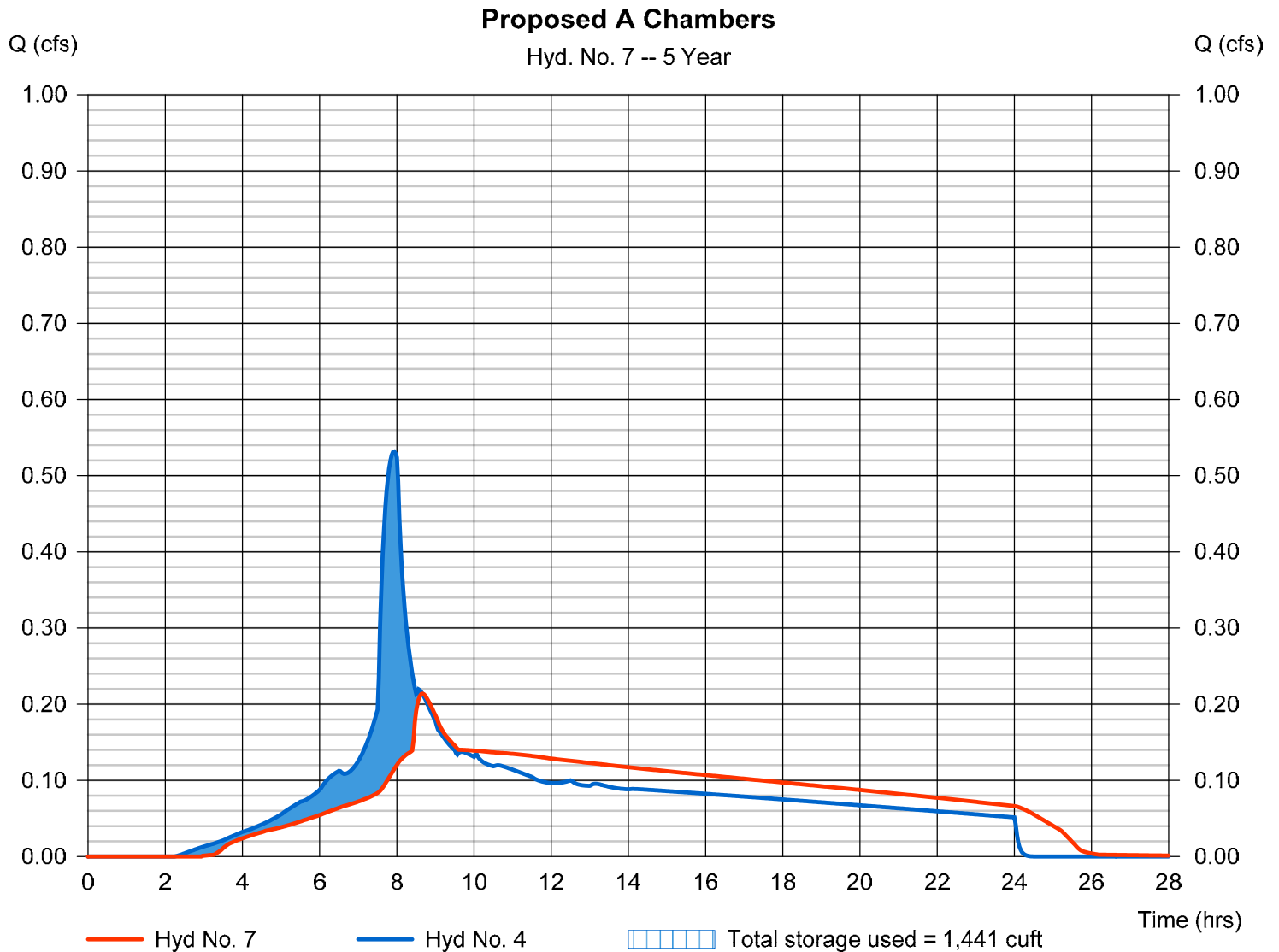
Wednesday, 01 / 19 / 2022

## Hyd. No. 7

Proposed A Chambers

Hydrograph type	= Reservoir	Peak discharge	= 0.214 cfs
Storm frequency	= 5 yrs	Time to peak	= 8.67 hrs
Time interval	= 2 min	Hyd. volume	= 7,485 cuft
Inflow hyd. No.	= 4 - Proposed A	Max. Elevation	= 103.36 ft
Reservoir name	= Storage A	Max. Storage	= 1,441 cuft

Storage Indication method used.





# Hydrograph Report

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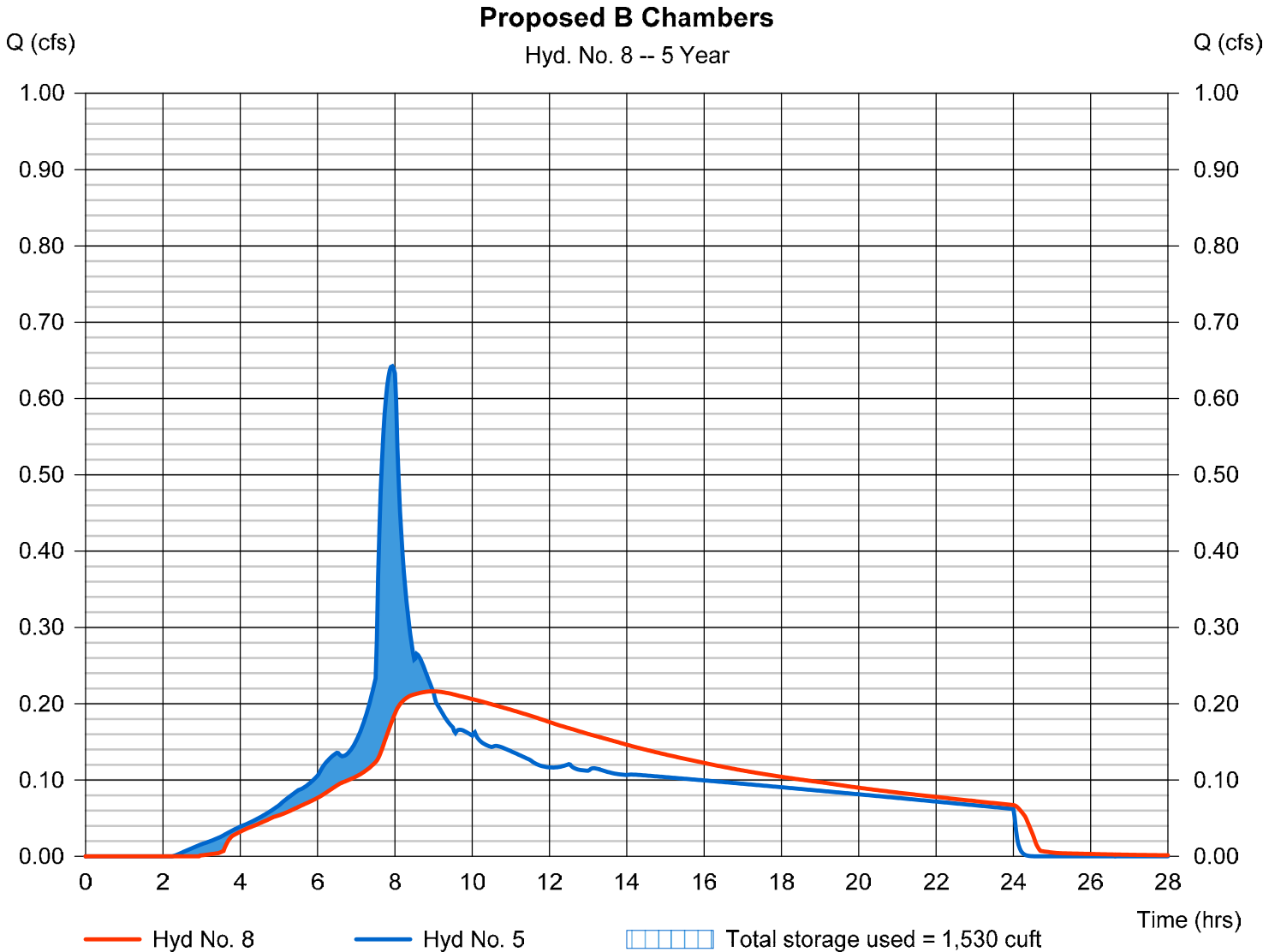
Wednesday, 01 / 19 / 2022

## Hyd. No. 8

### Proposed B Chambers

Hydrograph type	= Reservoir	Peak discharge	= 0.216 cfs
Storm frequency	= 5 yrs	Time to peak	= 9.00 hrs
Time interval	= 2 min	Hyd. volume	= 9,047 cuft
Inflow hyd. No.	= 5 - Proposed B	Max. Elevation	= 102.71 ft
Reservoir name	= Storage B	Max. Storage	= 1,530 cuft

Storage Indication method used.



# Hydrograph Report

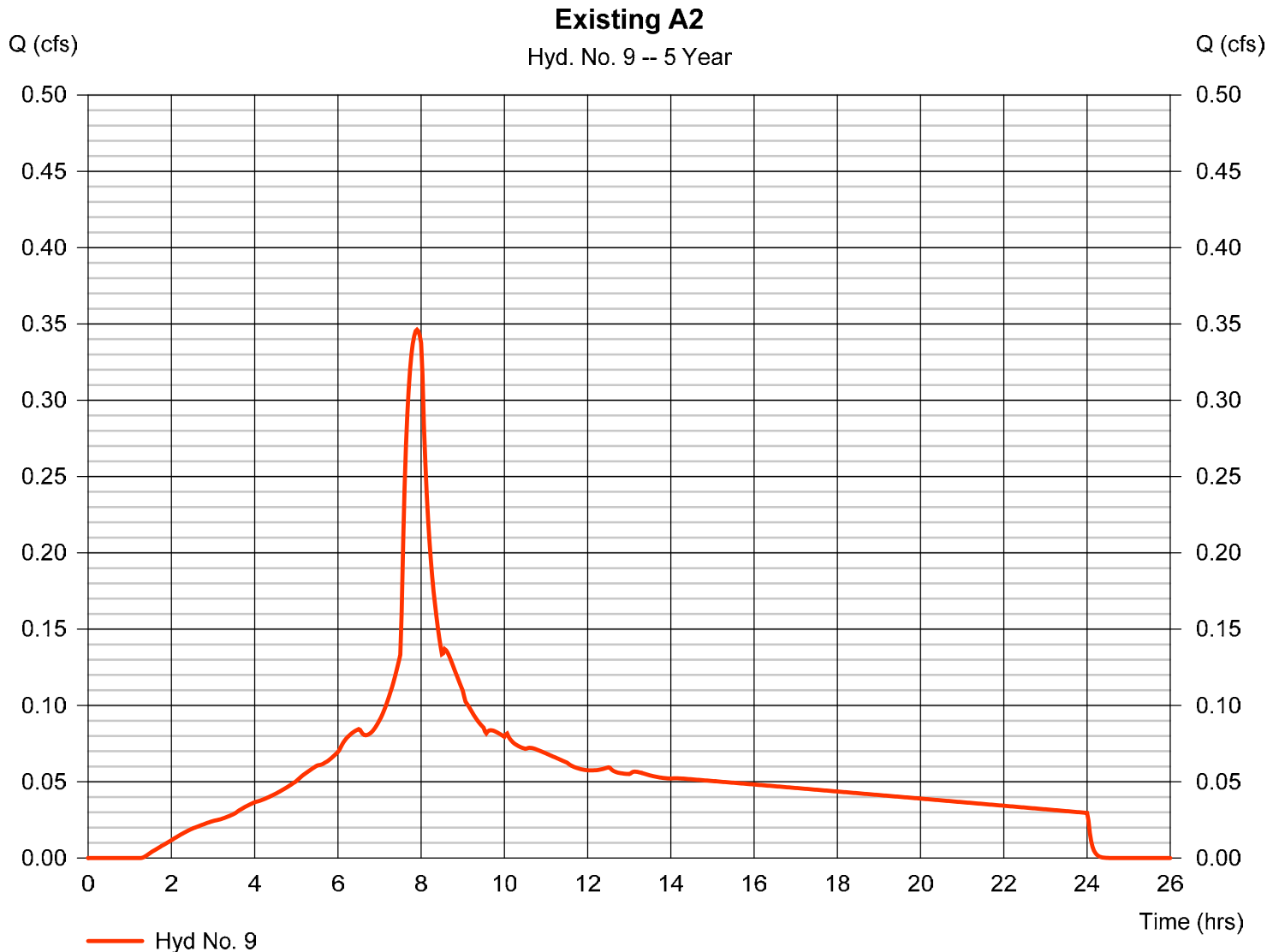
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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## Hyd. No. 9

Existing A2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.346 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 4,878 cuft
Drainage area	= 0.507 ac	Curve number	= 96
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

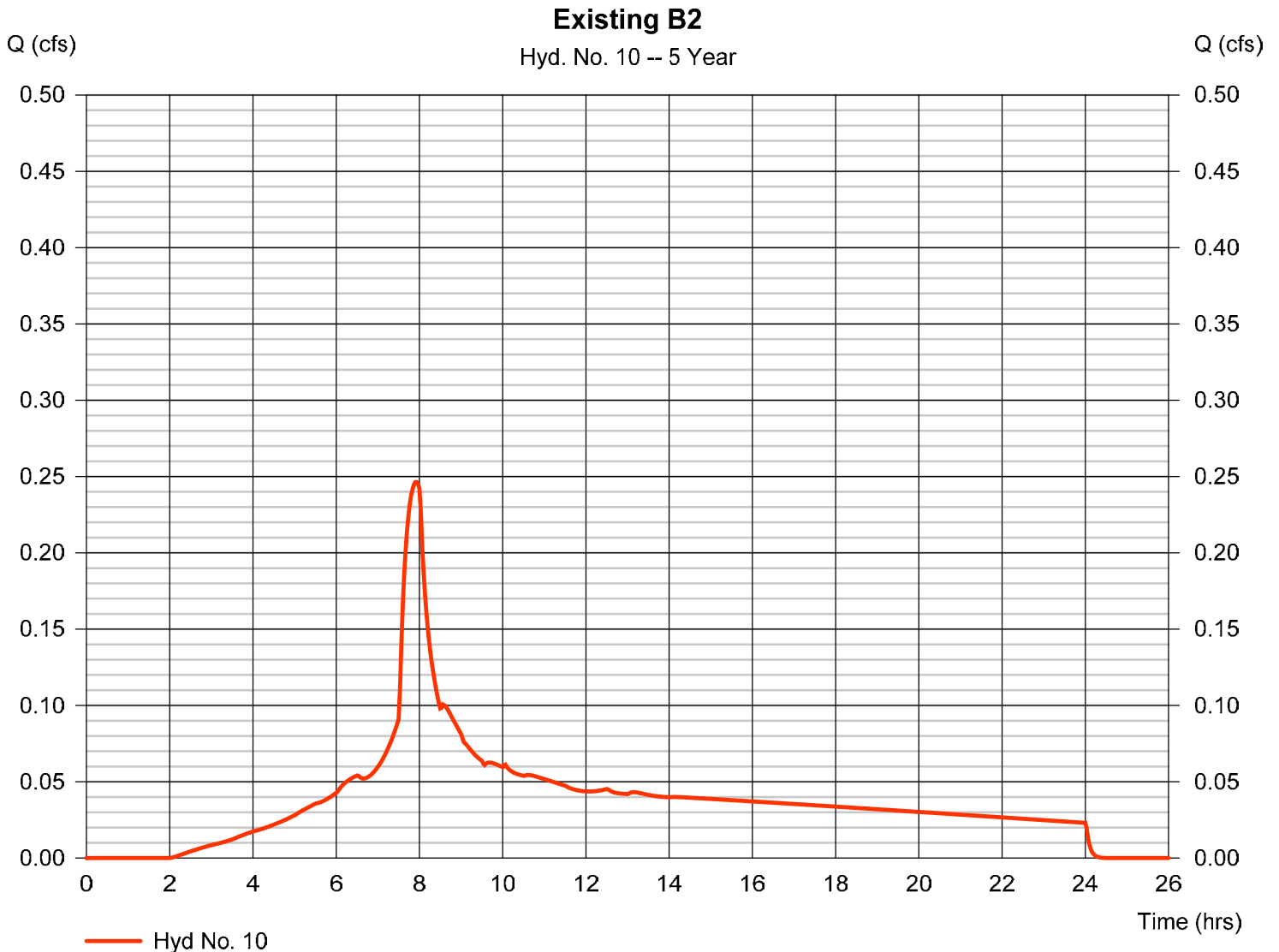
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## Hyd. No. 10

Existing B2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.246 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 3,463 cuft
Drainage area	= 0.406 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

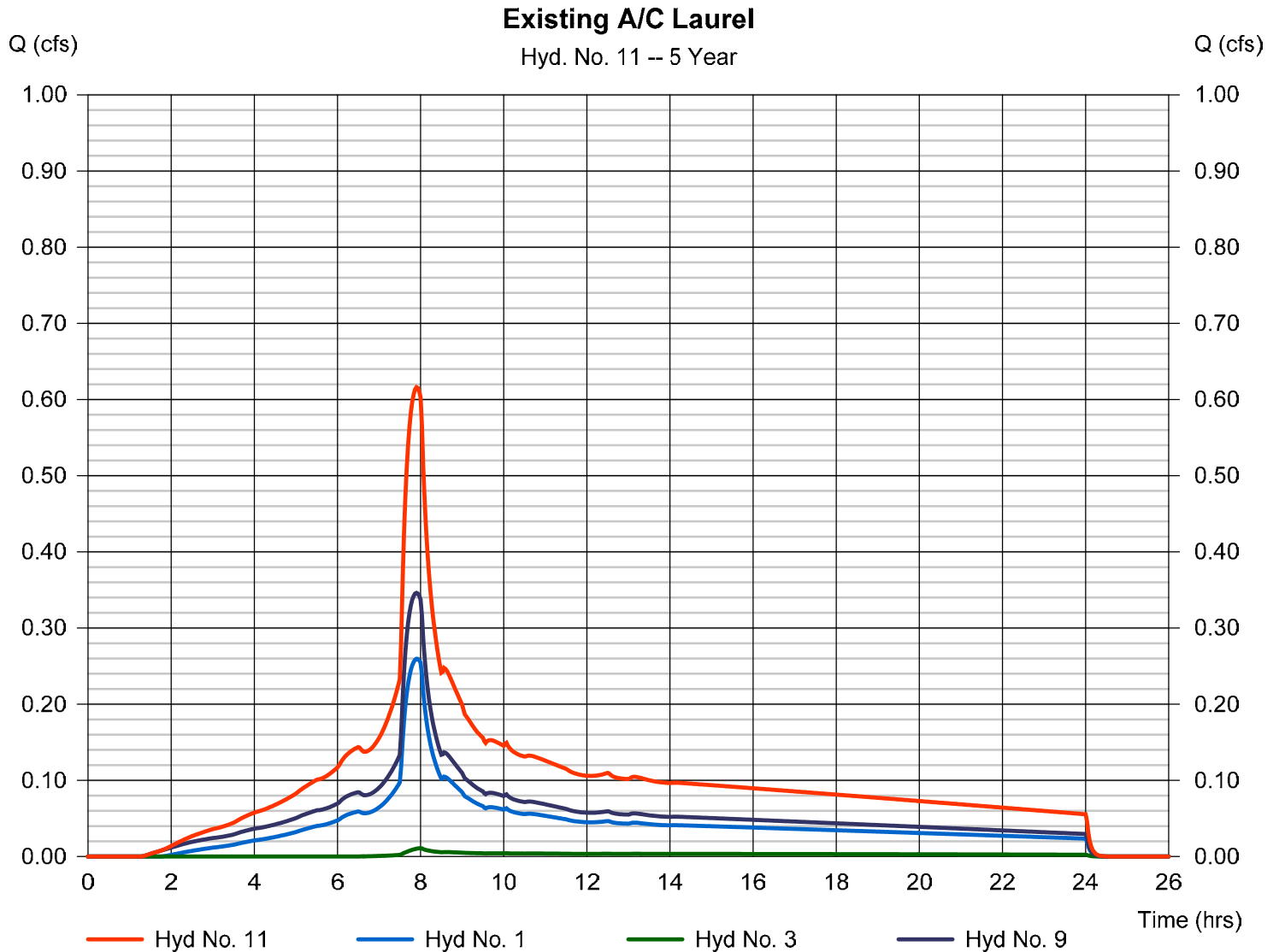
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## Hyd. No. 11

Existing A/C Laurel

Hydrograph type	= Combine	Peak discharge	= 0.616 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 8,739 cuft
Inflow hyds.	= 1, 3, 9	Contrib. drain. area	= 0.979 ac



# Hydrograph Report

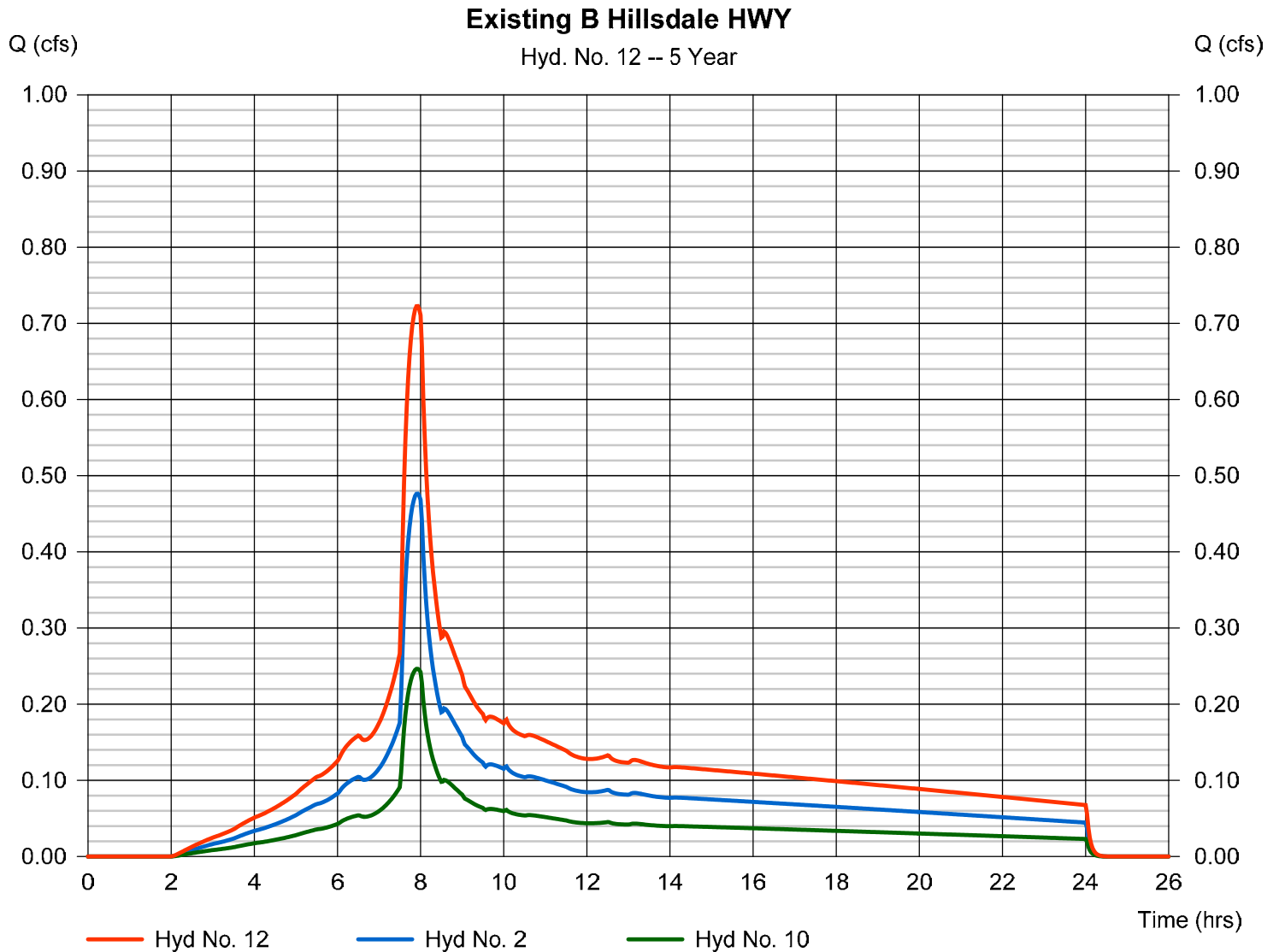
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## Hyd. No. 12

Existing B Hillsdale HWY

Hydrograph type	= Combine	Peak discharge	= 0.723 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 10,159 cuft
Inflow hyds.	= 2, 10	Contrib. drain. area	= 1.191 ac



# Hydrograph Report

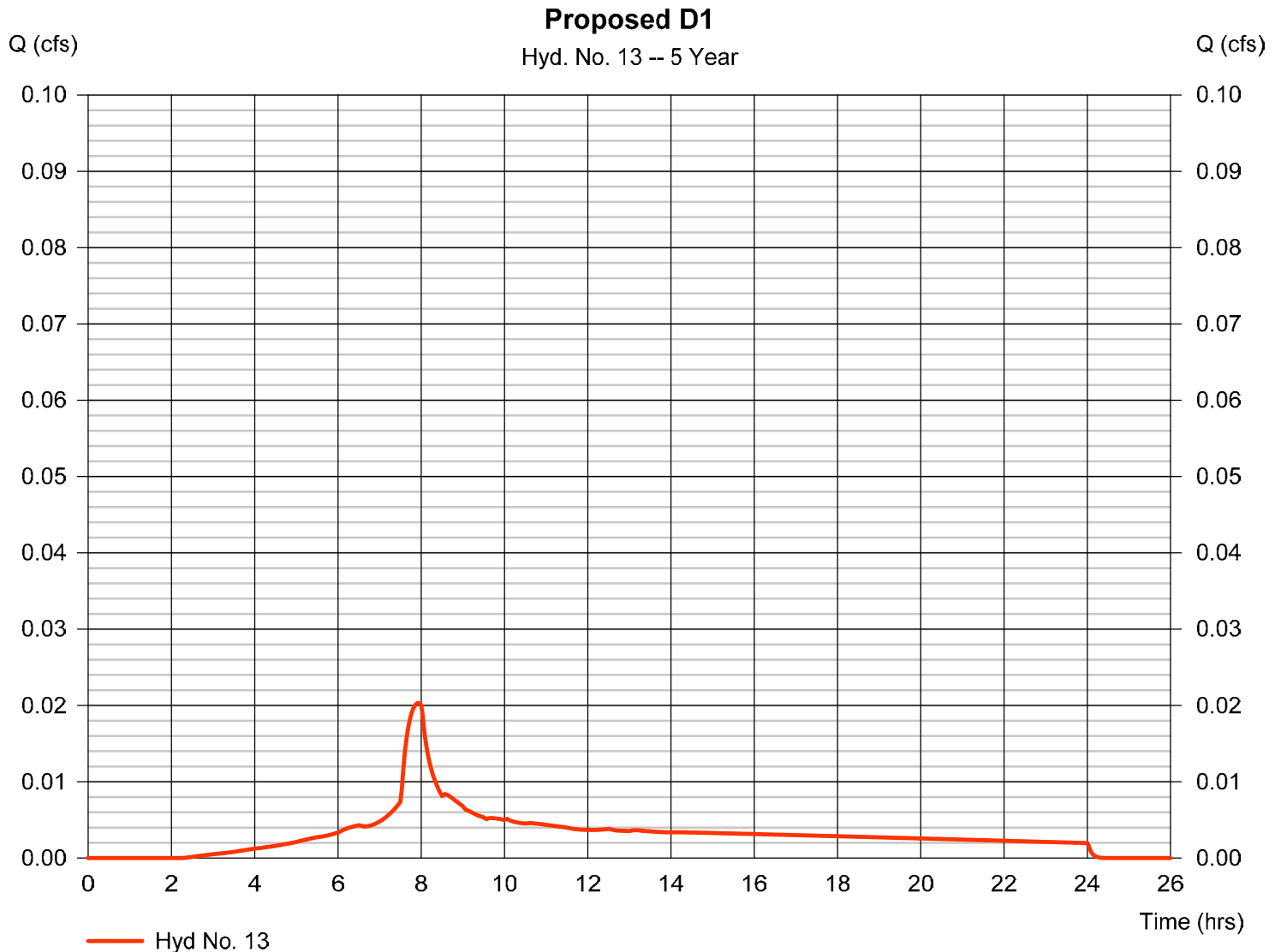
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## Hyd. No. 13

Proposed D1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.020 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 287 cuft
Drainage area	= 0.035 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

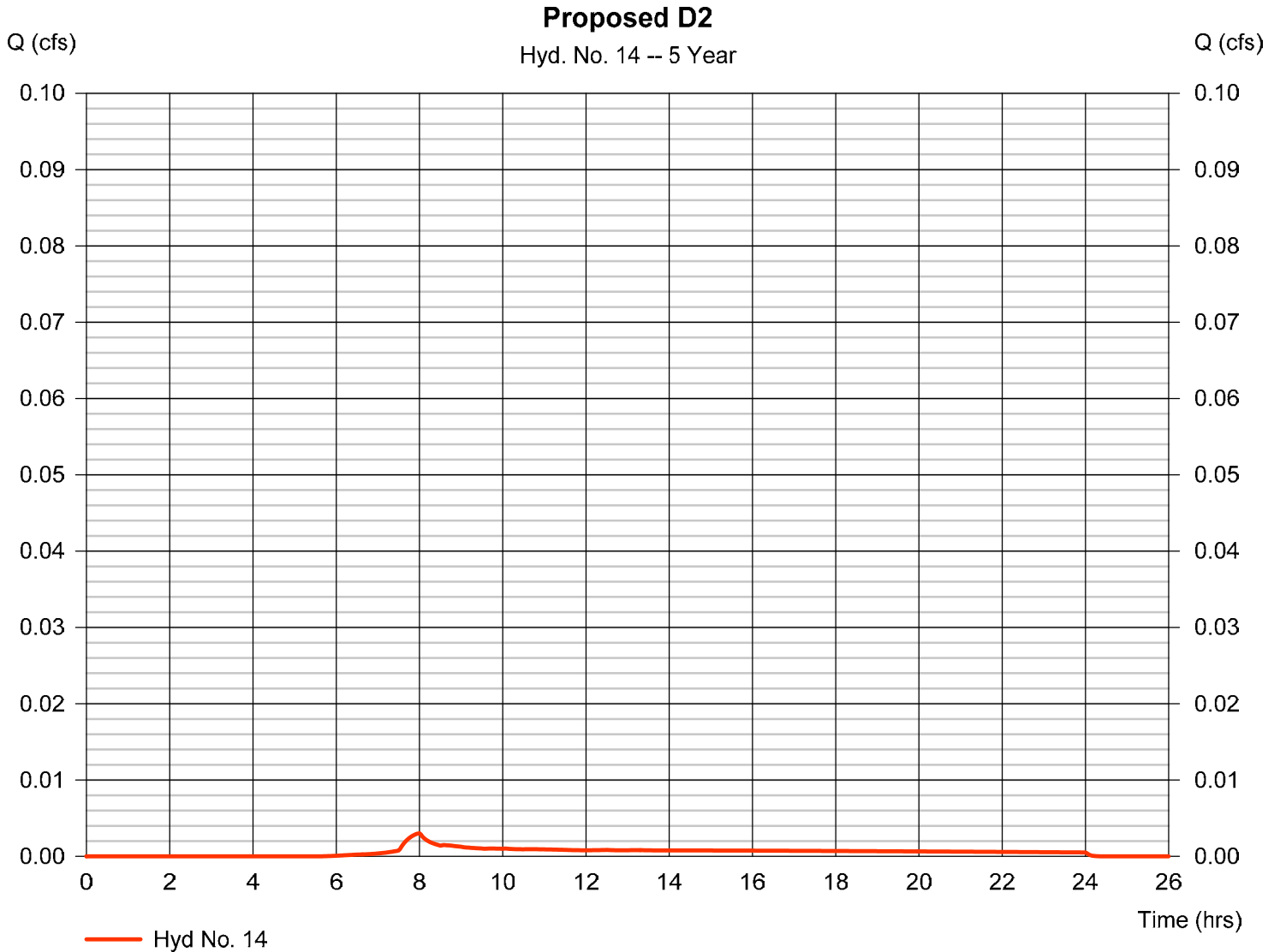
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## Hyd. No. 14

Proposed D2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.003 cfs
Storm frequency	= 5 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 52 cuft
Drainage area	= 0.012 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

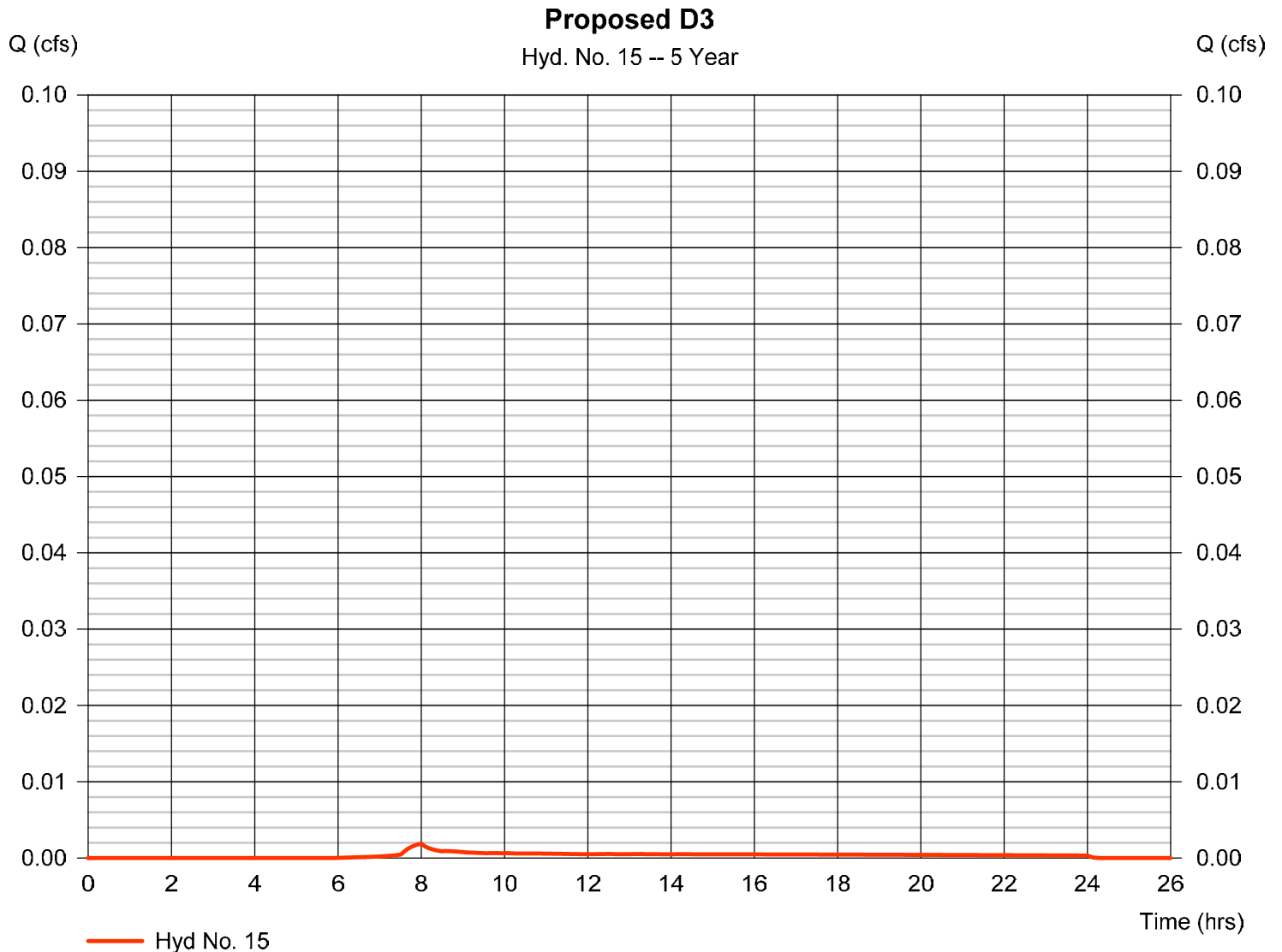
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## Hyd. No. 15

Proposed D3

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.002 cfs
Storm frequency	= 5 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 33 cuft
Drainage area	= 0.008 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a





# Hydrograph Report

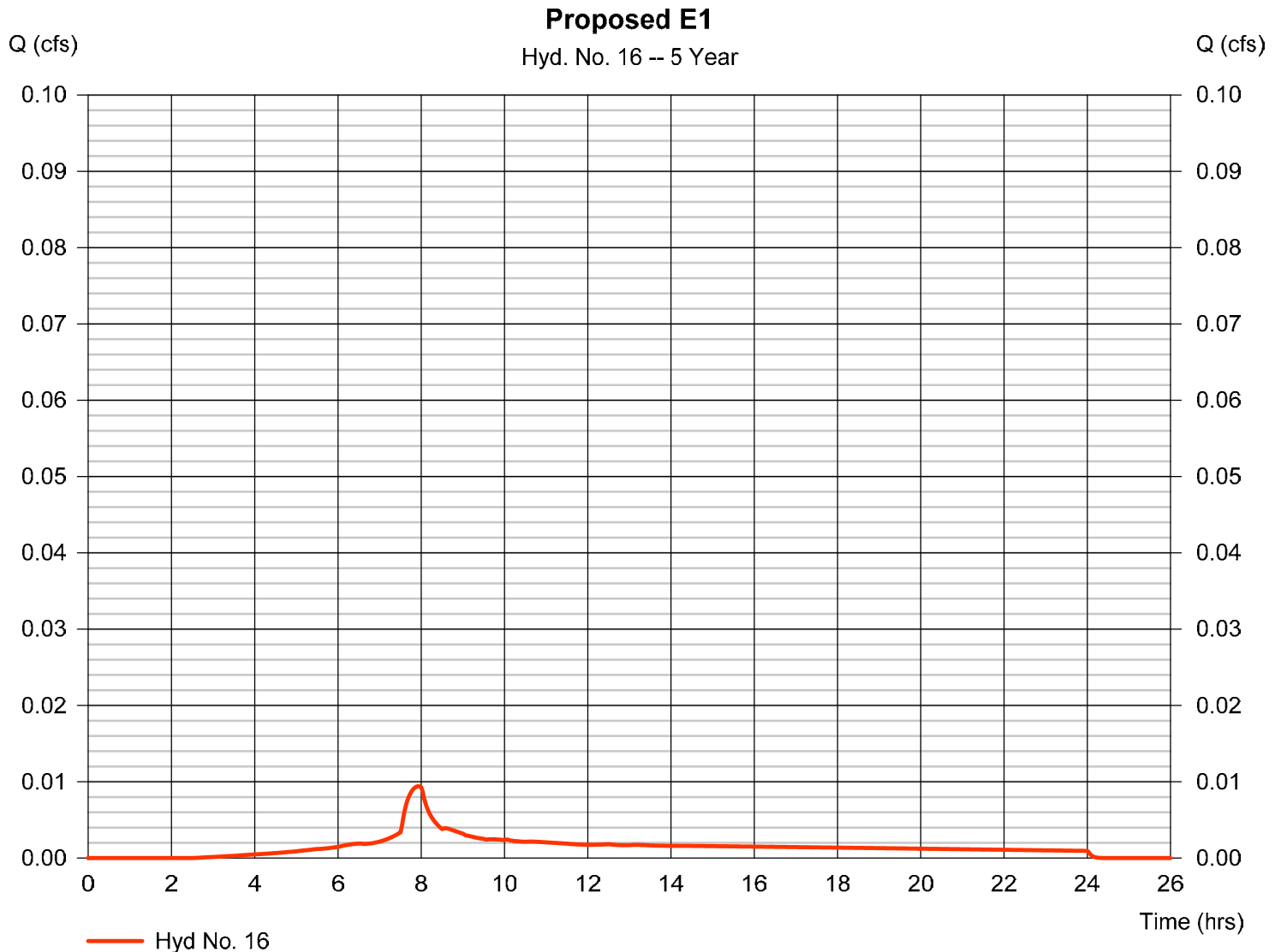
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## Hyd. No. 16

Proposed E1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.009 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 134 cuft
Drainage area	= 0.017 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

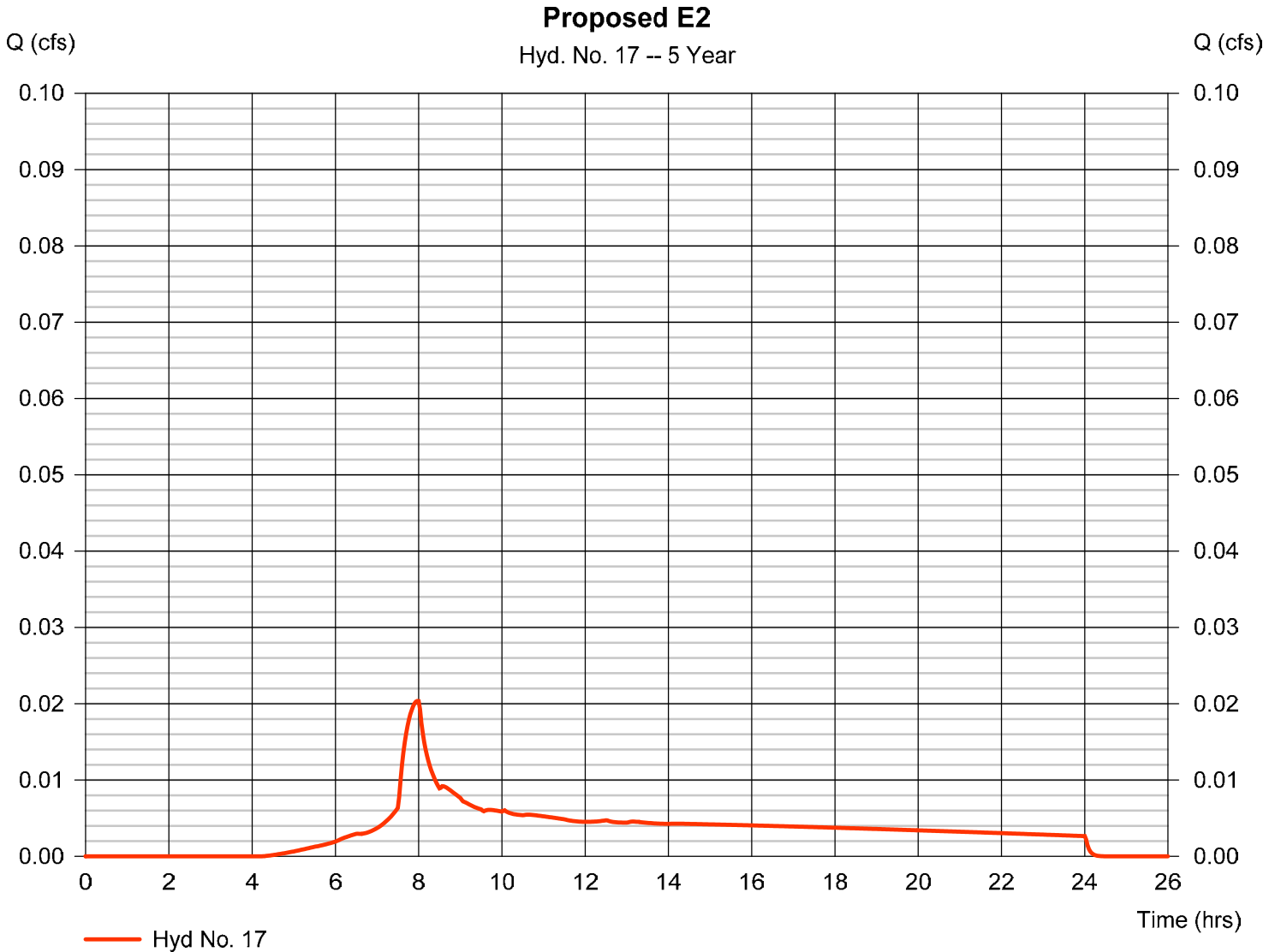
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## Hyd. No. 17

Proposed E2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.020 cfs
Storm frequency	= 5 yrs	Time to peak	= 7.97 hrs
Time interval	= 2 min	Hyd. volume	= 313 cuft
Drainage area	= 0.054 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

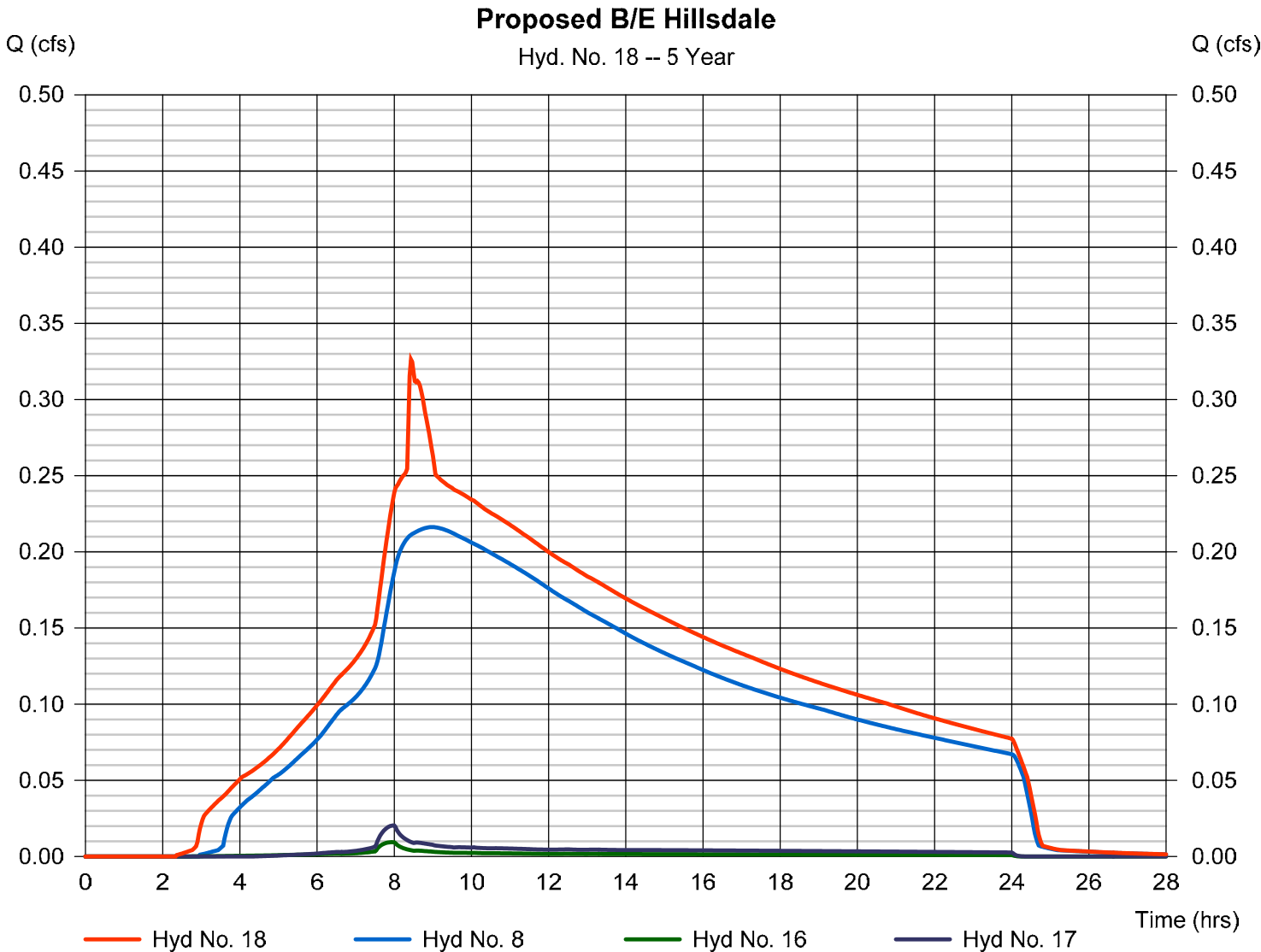
Wednesday, 01 / 19 / 2022

## Hyd. No. 18

Proposed B/E Hillsdale

Hydrograph type = Combine  
Storm frequency = 5 yrs  
Time interval = 2 min  
Inflow hyds. = 8, 16, 17

Peak discharge = 0.326 cfs  
Time to peak = 8.43 hrs  
Hyd. volume = 10,866 cuft  
Contrib. drain. area = 0.071 ac



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

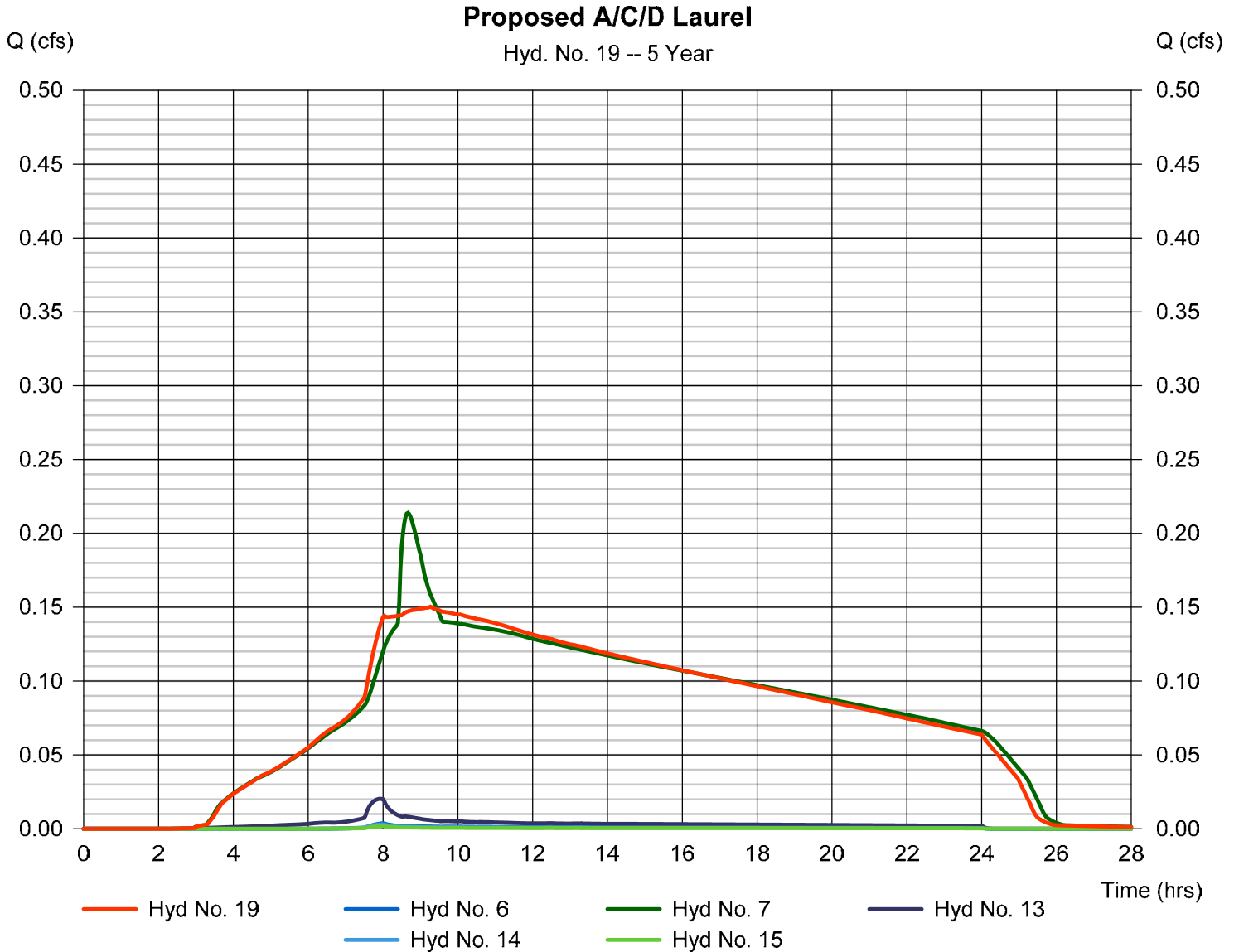
Wednesday, 01 / 19 / 2022

## Hyd. No. 19

Proposed A/C/D Laurel

Hydrograph type = Combine  
Storm frequency = 5 yrs  
Time interval = 2 min  
Inflow hyds. = 6, 7, 13, 14, 15

Peak discharge = 0.150 cfs  
Time to peak = 9.27 hrs  
Hyd. volume = 7,382 cuft  
Contrib. drain. area = 0.076 ac



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SBUH Runoff	0.296	2	474	4,148	----	----	----	Existing A1
2	SBUH Runoff	0.546	2	474	7,656	----	----	----	Existing B1
3	SBUH Runoff	0.015	2	480	271	----	----	----	Existing C
4	SBUH Runoff	0.612	2	476	8,608	----	----	----	Proposed A
5	SBUH Runoff	0.740	2	476	10,403	----	----	----	Proposed B
6	SBUH Runoff	0.005	2	480	92	----	----	----	Proposed C
7	Reservoir	0.460	2	488	8,592	4	103.46	1,463	Proposed A Chambers
8	Reservoir	0.296	2	520	10,386	5	103.30	1,793	Proposed B Chambers
9	SBUH Runoff	0.390	2	474	5,514	----	----	----	Existing A2
10	SBUH Runoff	0.282	2	474	3,959	----	----	----	Existing B2
11	Combine	0.700	2	474	9,933	1, 3, 9,	----	----	Existing A/C Laurel
12	Combine	0.828	2	474	11,615	2, 10,	----	----	Existing B Hillsdale HWY
13	SBUH Runoff	0.023	2	476	329	----	----	----	Proposed D1
14	SBUH Runoff	0.004	2	480	64	----	----	----	Proposed D2
15	SBUH Runoff	0.002	2	480	40	----	----	----	Proposed D3
16	SBUH Runoff	0.011	2	476	154	----	----	----	Proposed E1
17	SBUH Runoff	0.025	2	478	371	----	----	----	Proposed E2
18	Combine	0.755	2	486	12,394	8, 16, 17	----	----	Proposed B/E Hillsdale
19	Combine	0.327	2	498	8,488	6, 7, 13, 14, 15,	----	----	Proposed A/C/D Laurel

# Hydrograph Report

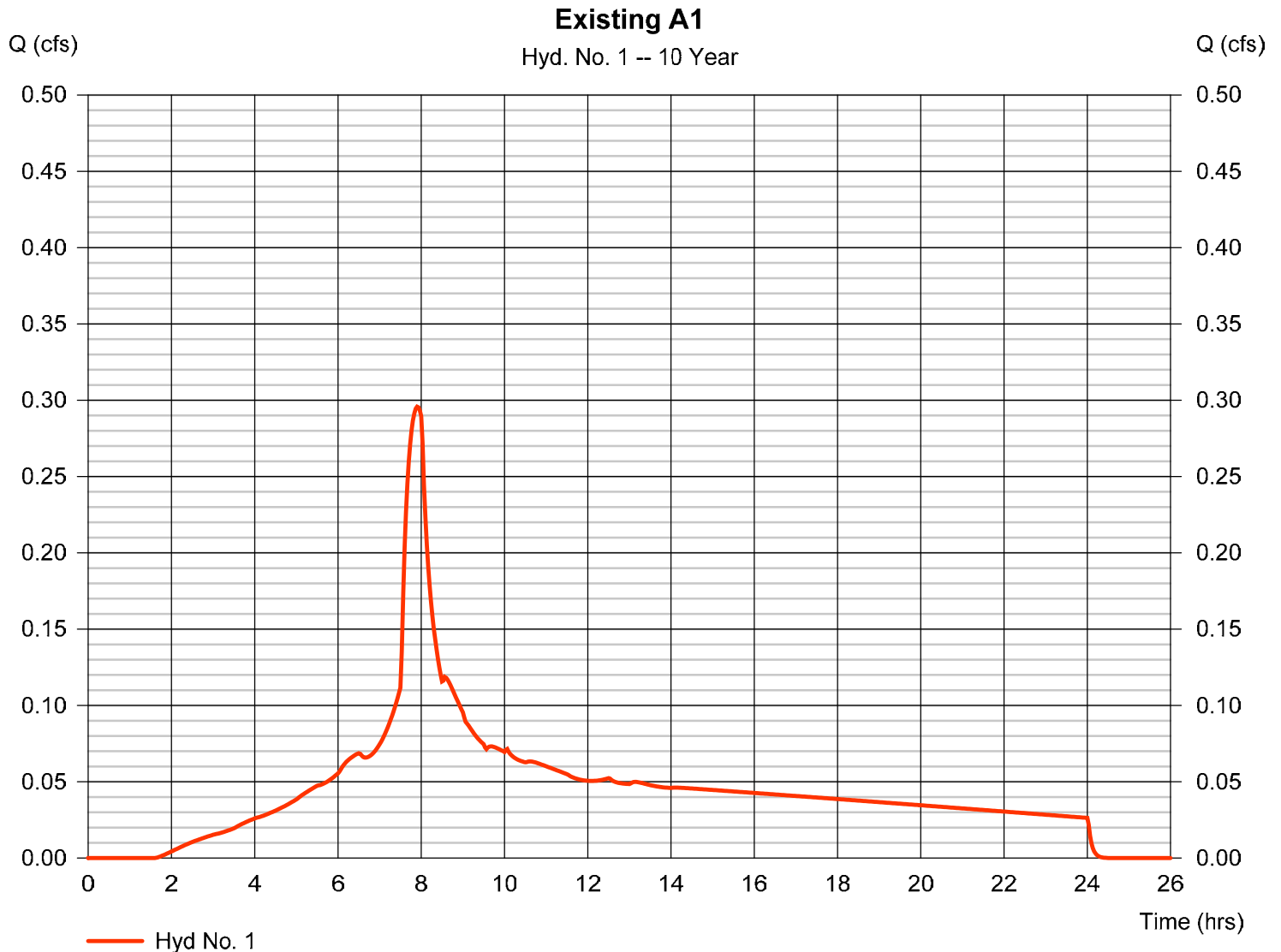
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## Hyd. No. 1

Existing A1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.296 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 4,148 cuft
Drainage area	= 0.410 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

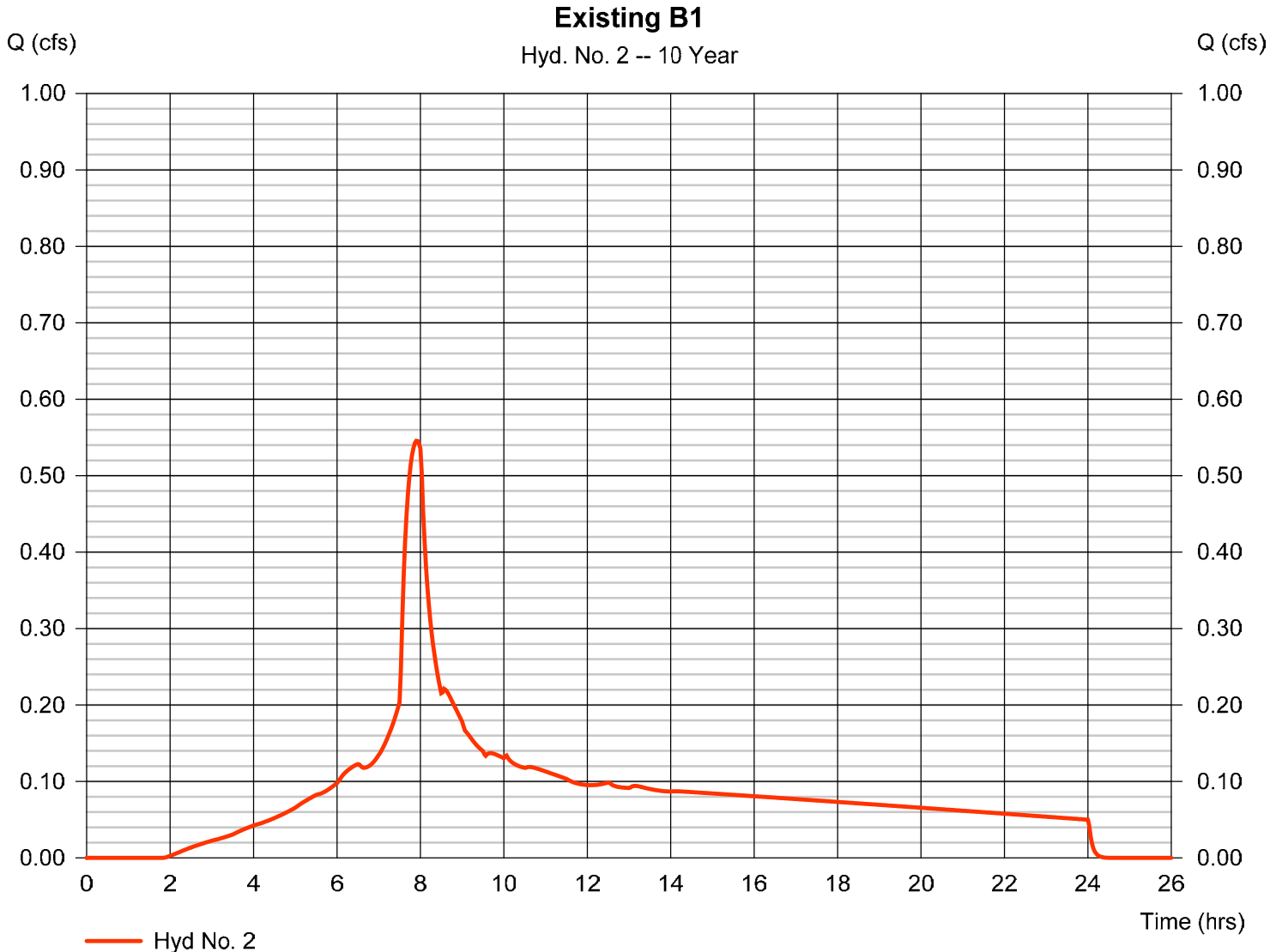
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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## Hyd. No. 2

Existing B1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.546 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 7,656 cuft
Drainage area	= 0.785 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

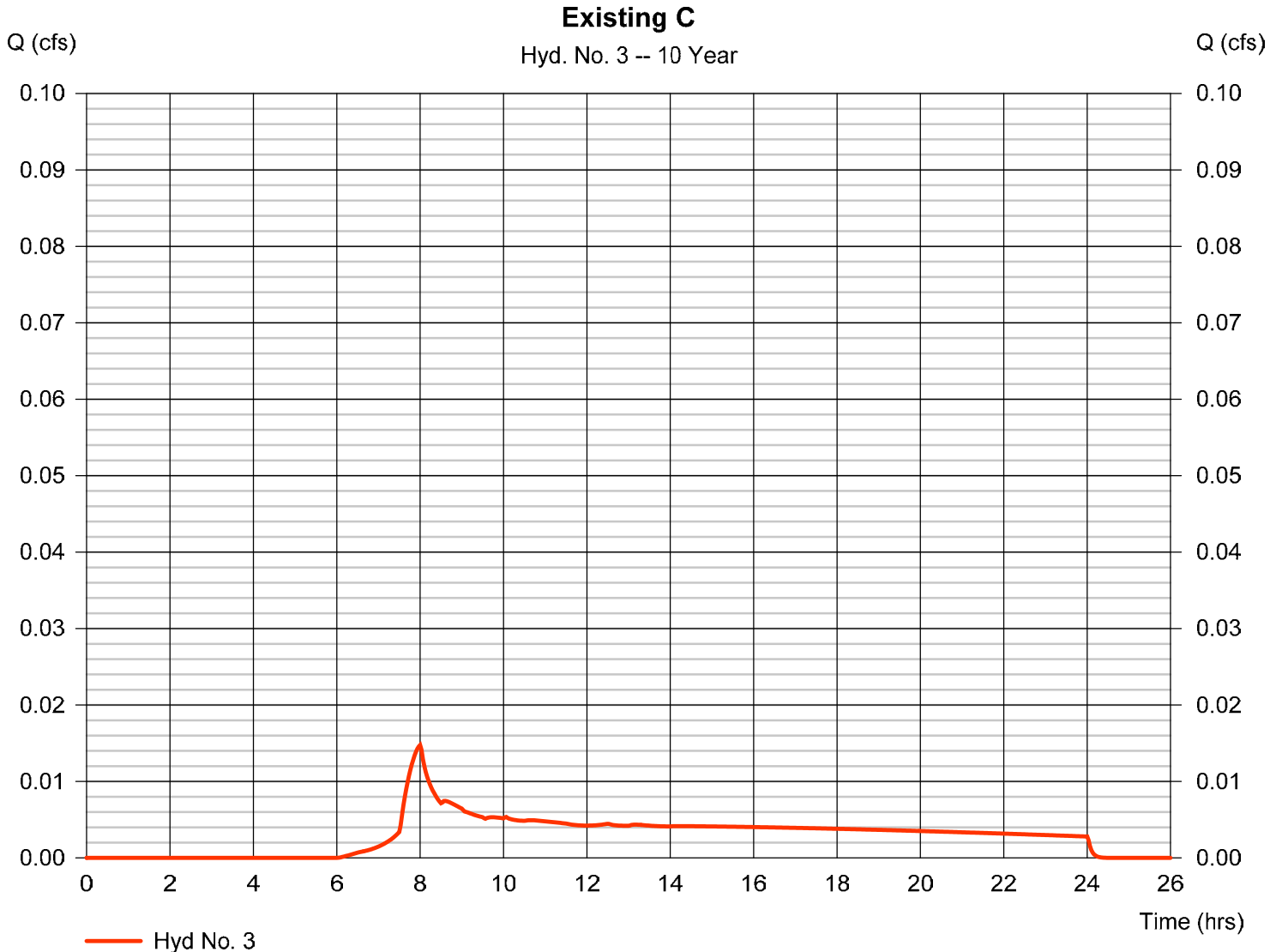
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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## Hyd. No. 3

Existing C

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.015 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 271 cuft
Drainage area	= 0.062 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a





# Hydrograph Report

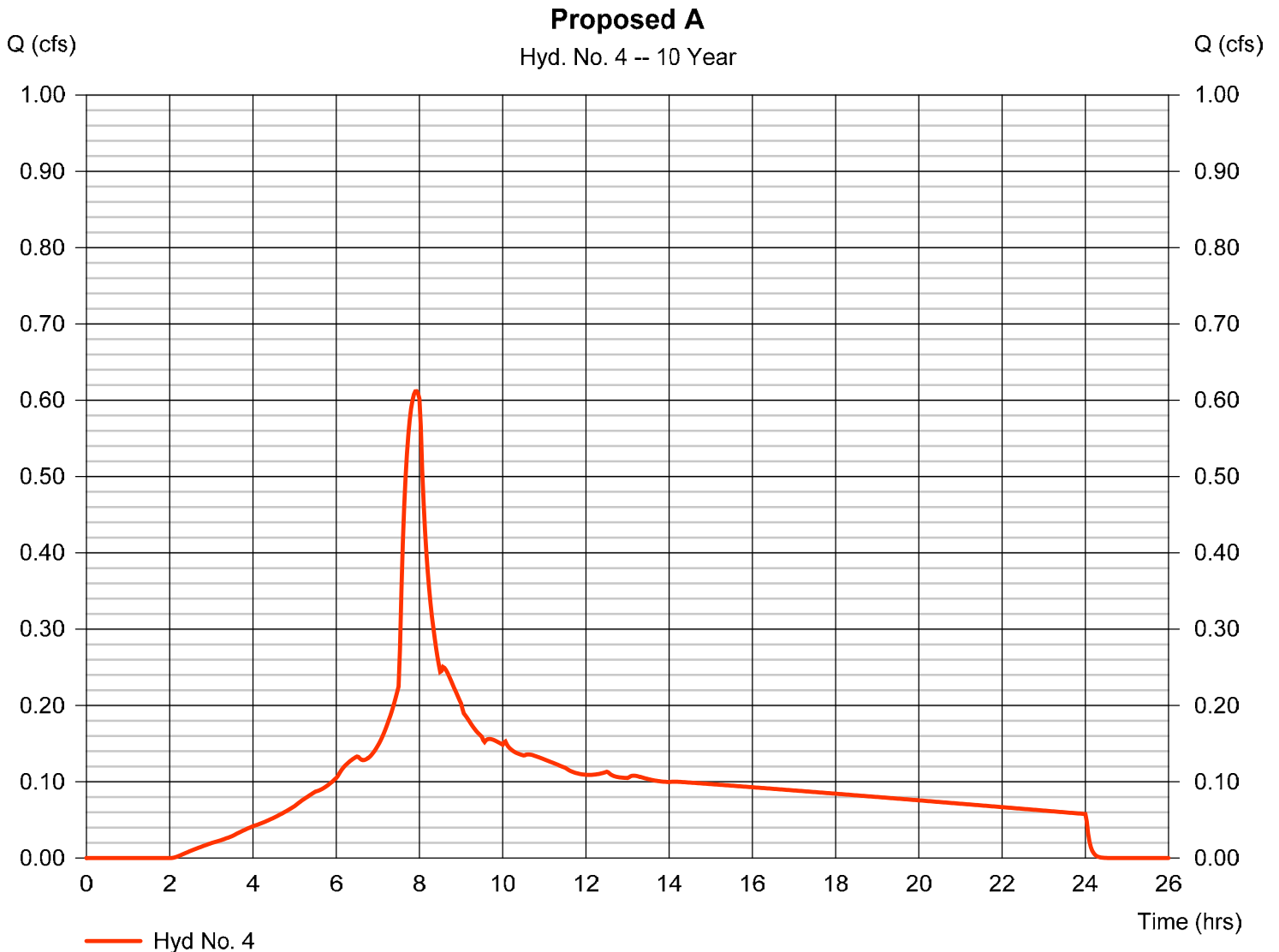
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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## Hyd. No. 4

Proposed A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.612 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 8,608 cuft
Drainage area	= 0.916 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

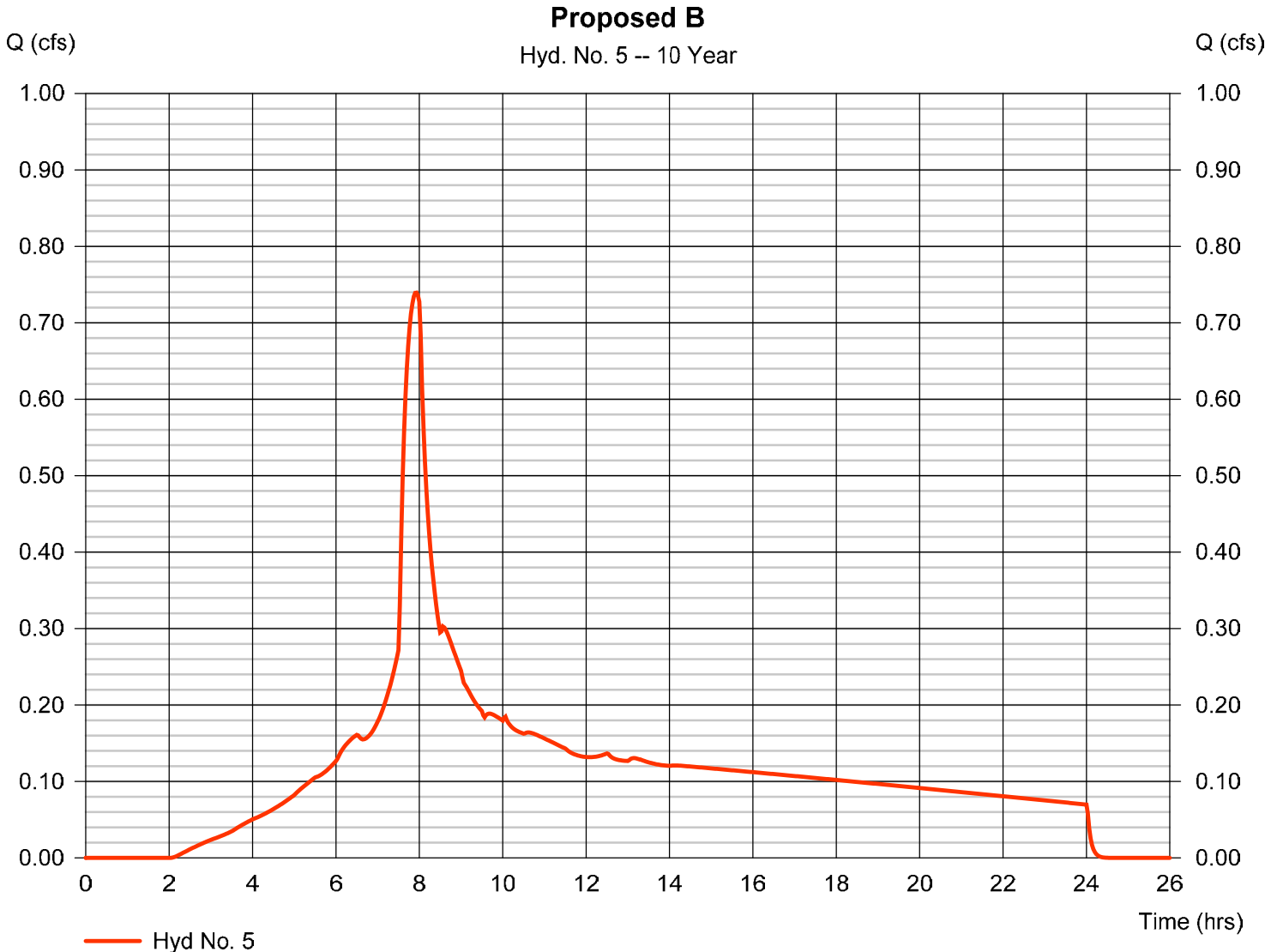
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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## Hyd. No. 5

Proposed B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.740 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 10,403 cuft
Drainage area	= 1.107 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

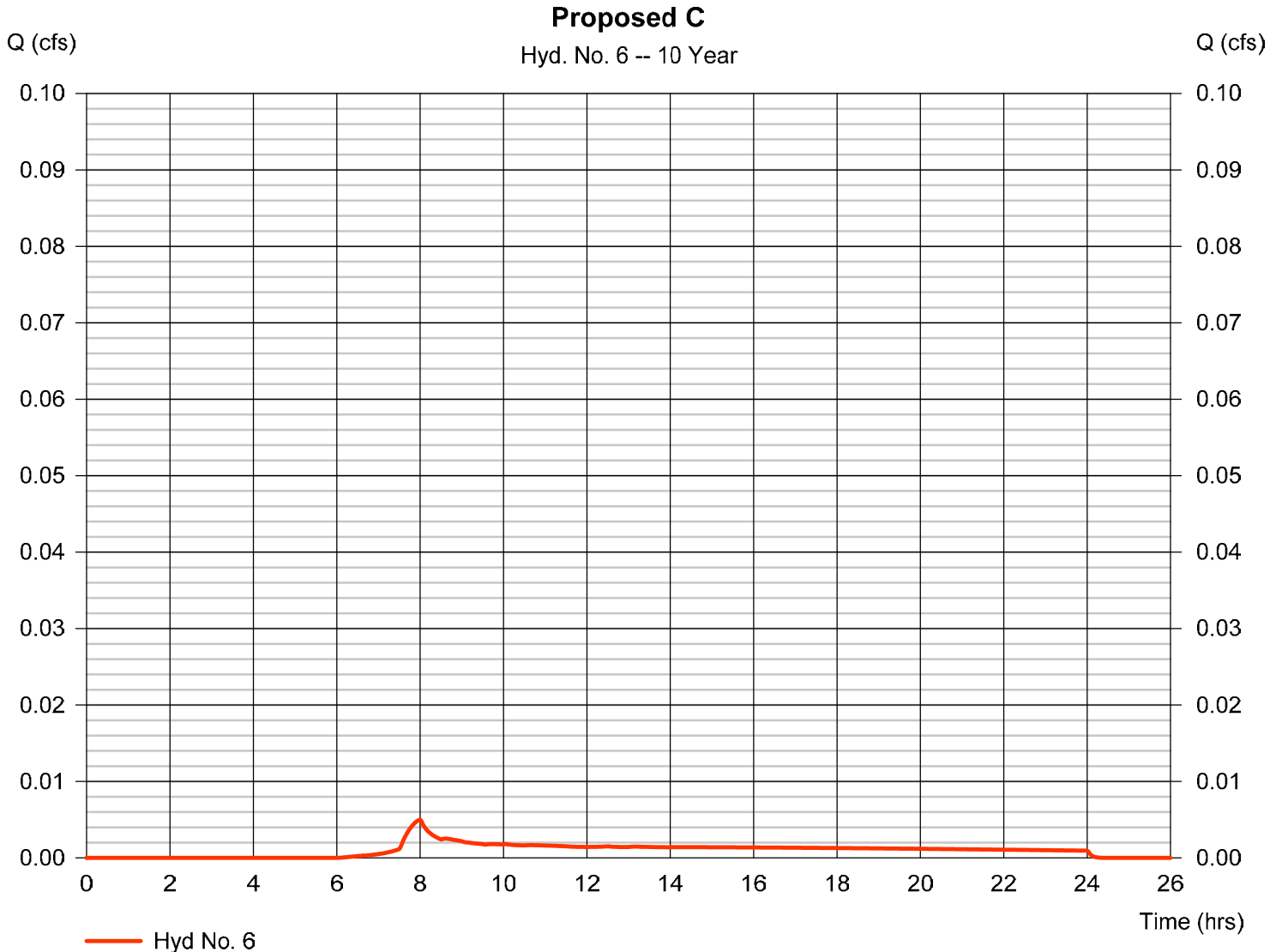
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 6

Proposed C

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.005 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 92 cuft
Drainage area	= 0.021 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

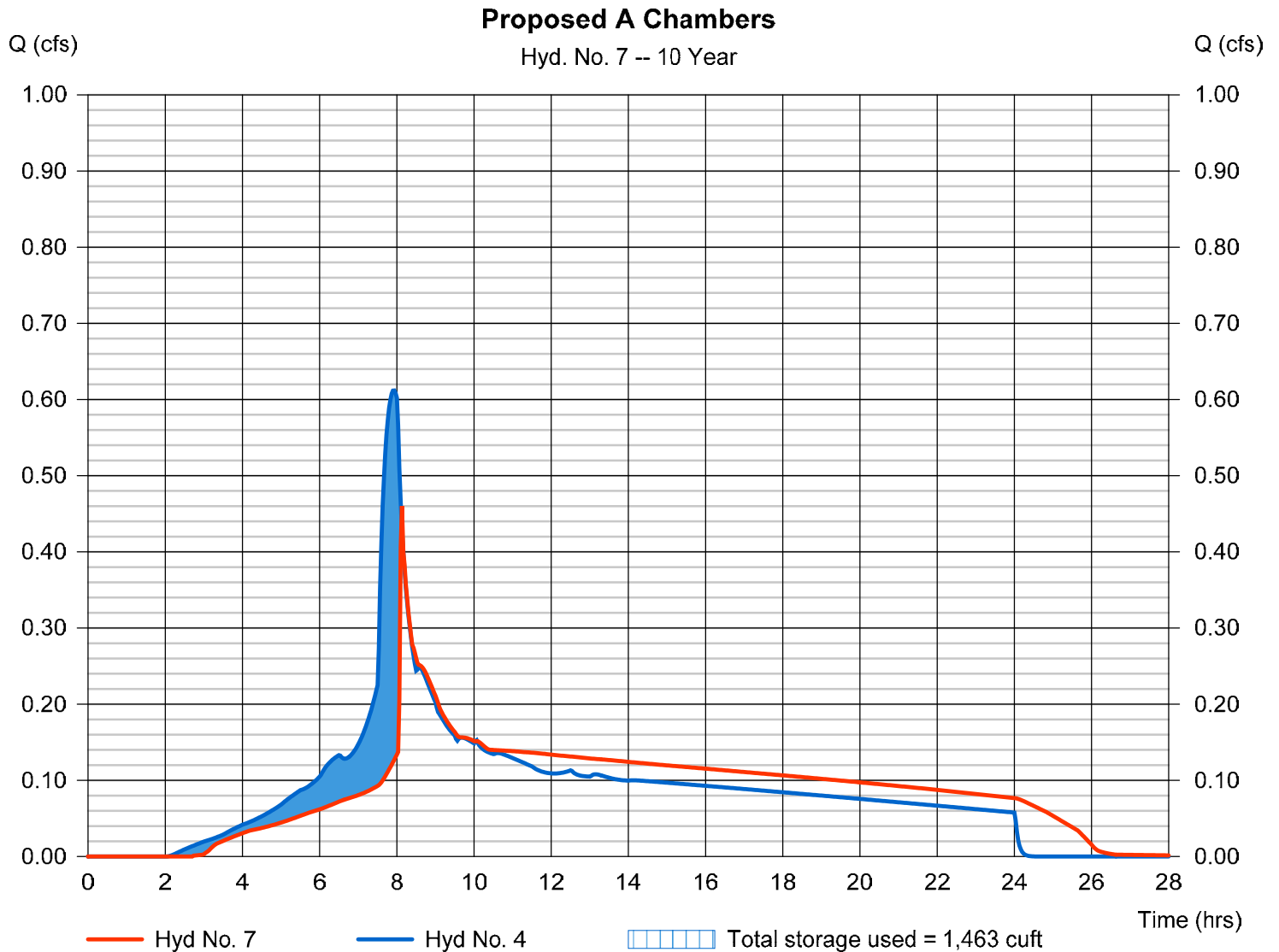
Wednesday, 01 / 19 / 2022

## Hyd. No. 7

### Proposed A Chambers

Hydrograph type	= Reservoir	Peak discharge	= 0.460 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.13 hrs
Time interval	= 2 min	Hyd. volume	= 8,592 cuft
Inflow hyd. No.	= 4 - Proposed A	Max. Elevation	= 103.46 ft
Reservoir name	= Storage A	Max. Storage	= 1,463 cuft

Storage Indication method used.



# Hydrograph Report

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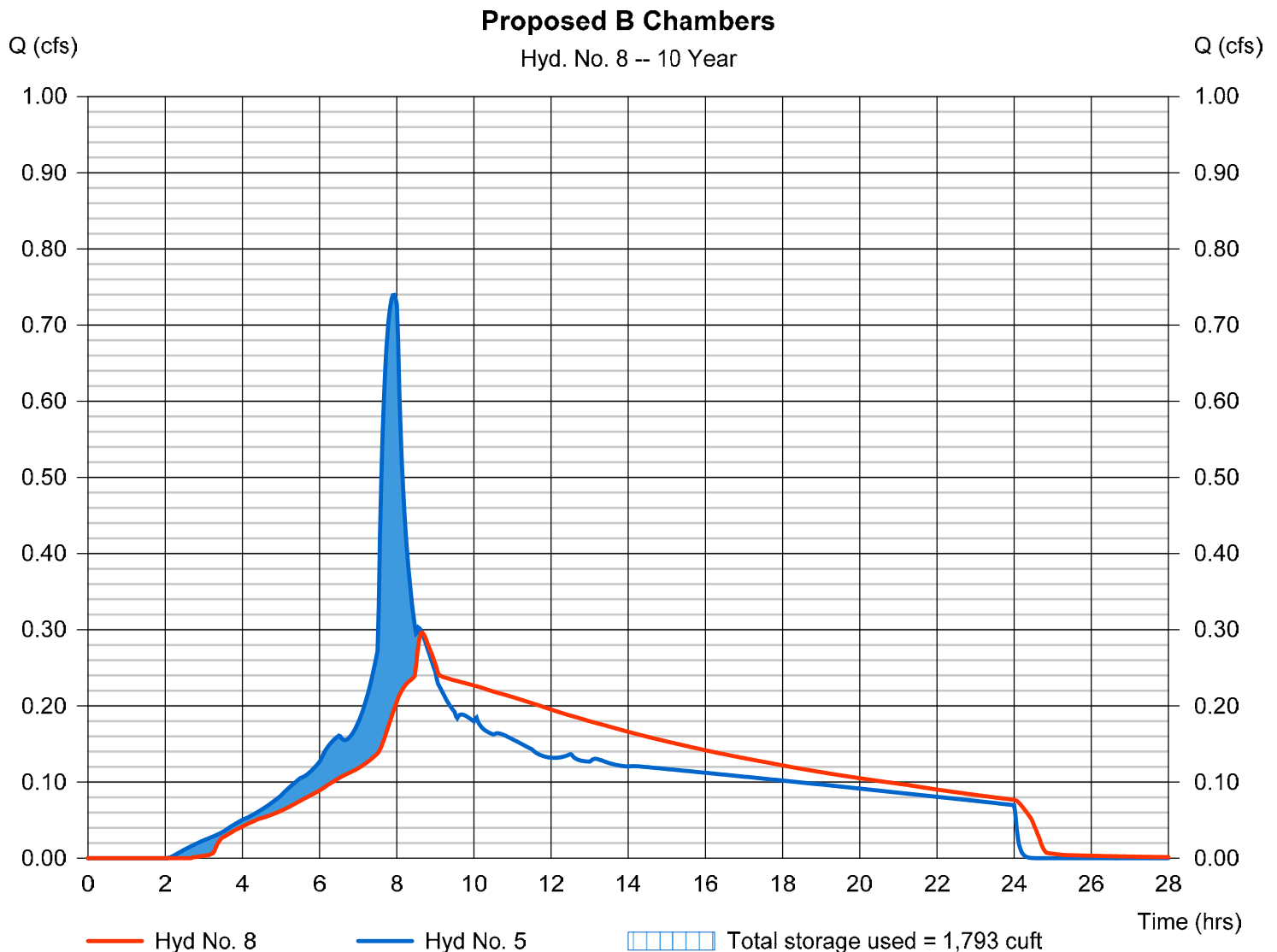
Wednesday, 01 / 19 / 2022

## Hyd. No. 8

### Proposed B Chambers

Hydrograph type	= Reservoir	Peak discharge	= 0.296 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.67 hrs
Time interval	= 2 min	Hyd. volume	= 10,386 cuft
Inflow hyd. No.	= 5 - Proposed B	Max. Elevation	= 103.30 ft
Reservoir name	= Storage B	Max. Storage	= 1,793 cuft

Storage Indication method used.



# Hydrograph Report

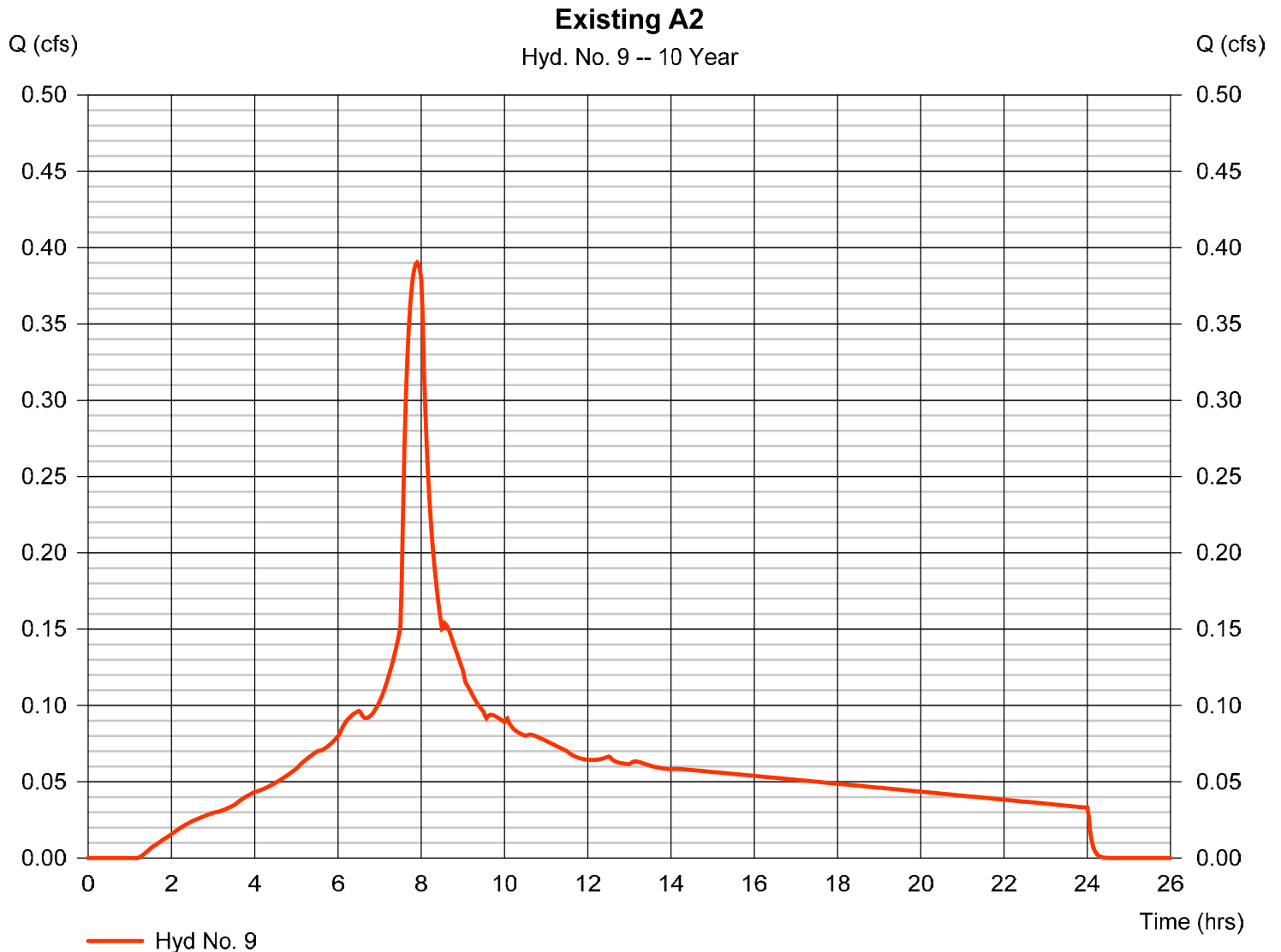
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 9

Existing A2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.390 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 5,514 cuft
Drainage area	= 0.507 ac	Curve number	= 96
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

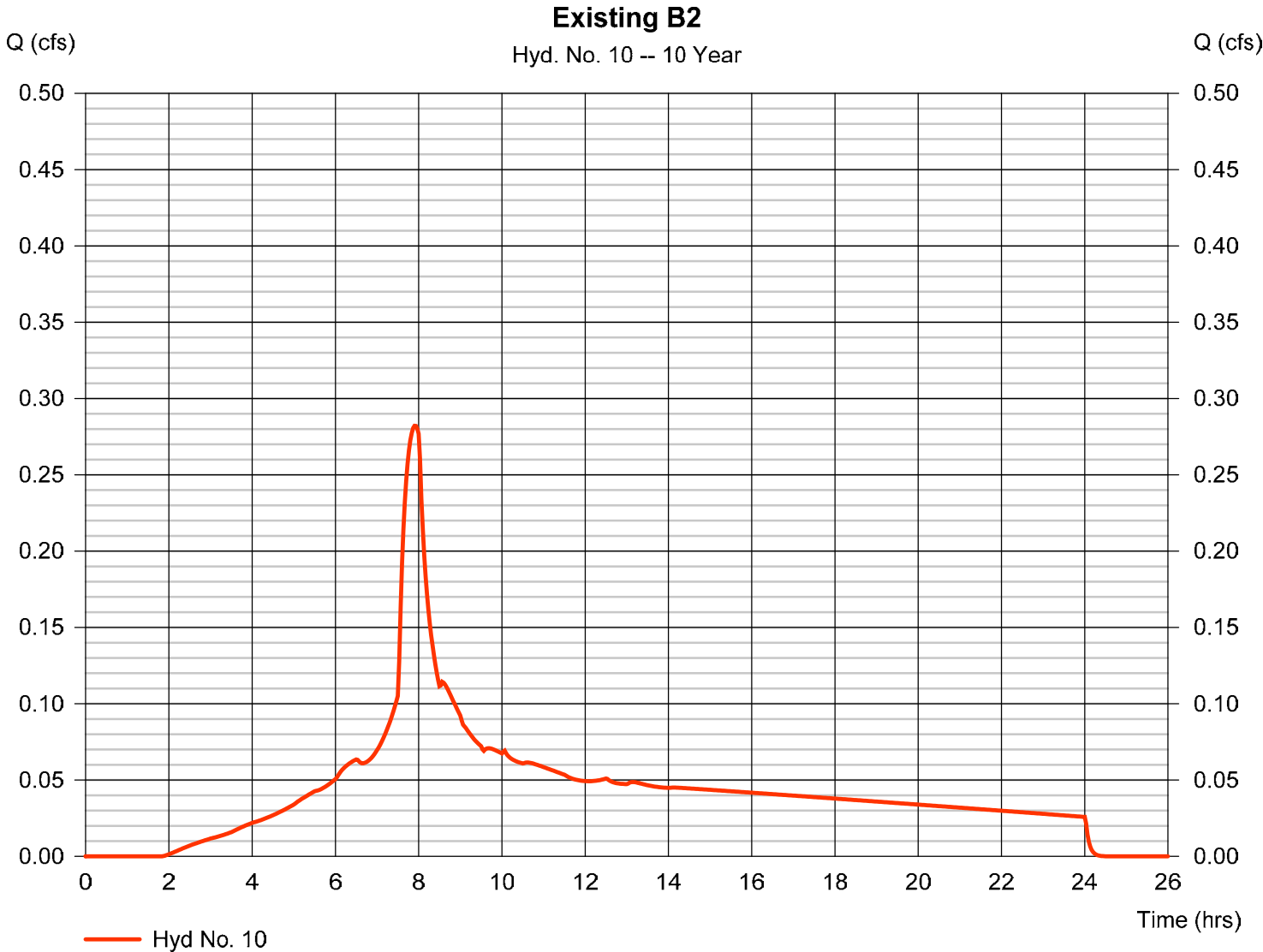
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 10

Existing B2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.282 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 3,959 cuft
Drainage area	= 0.406 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

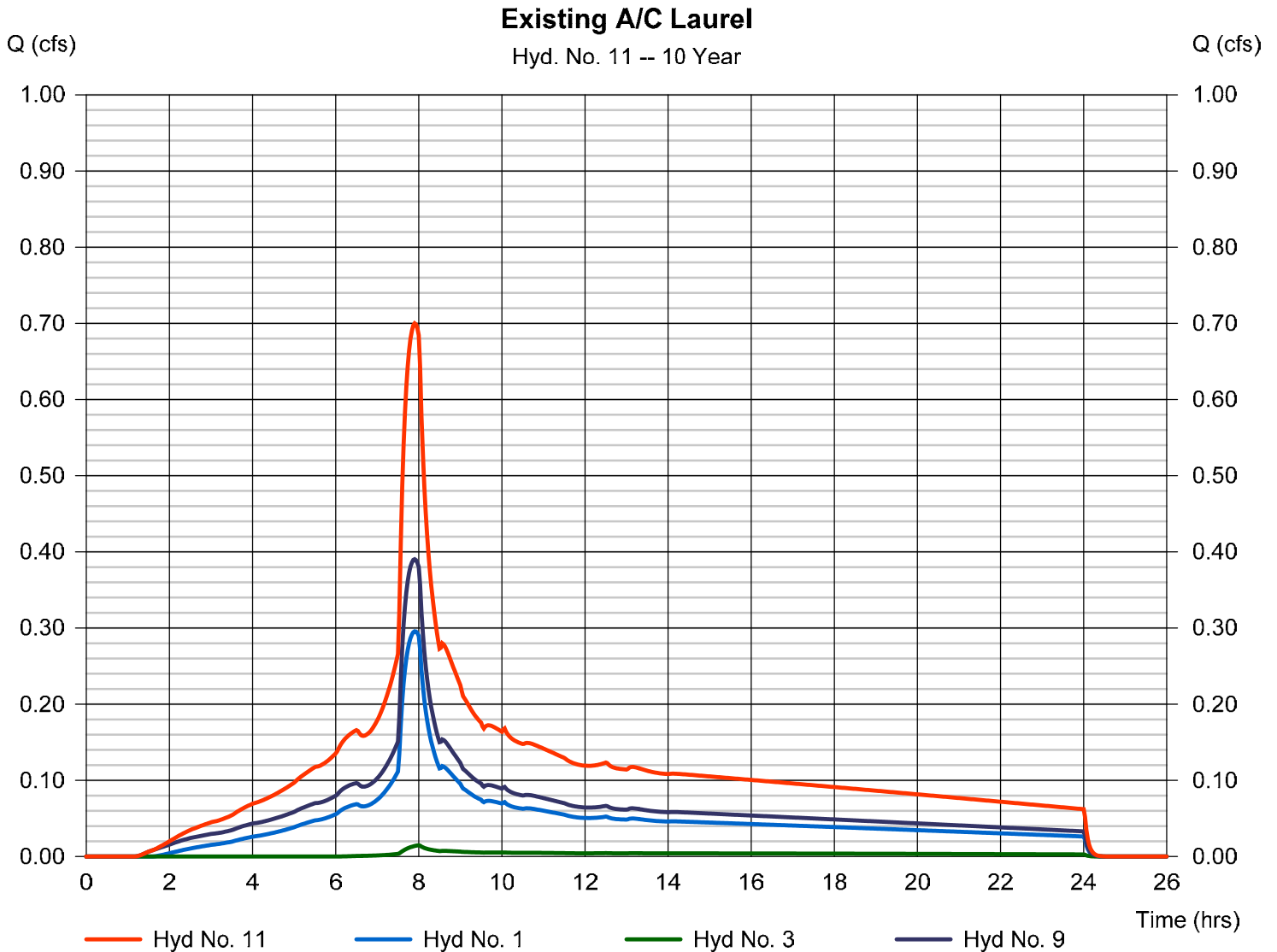
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 11

Existing A/C Laurel

Hydrograph type	= Combine	Peak discharge	= 0.700 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 9,933 cuft
Inflow hyds.	= 1, 3, 9	Contrib. drain. area	= 0.979 ac





# Hydrograph Report

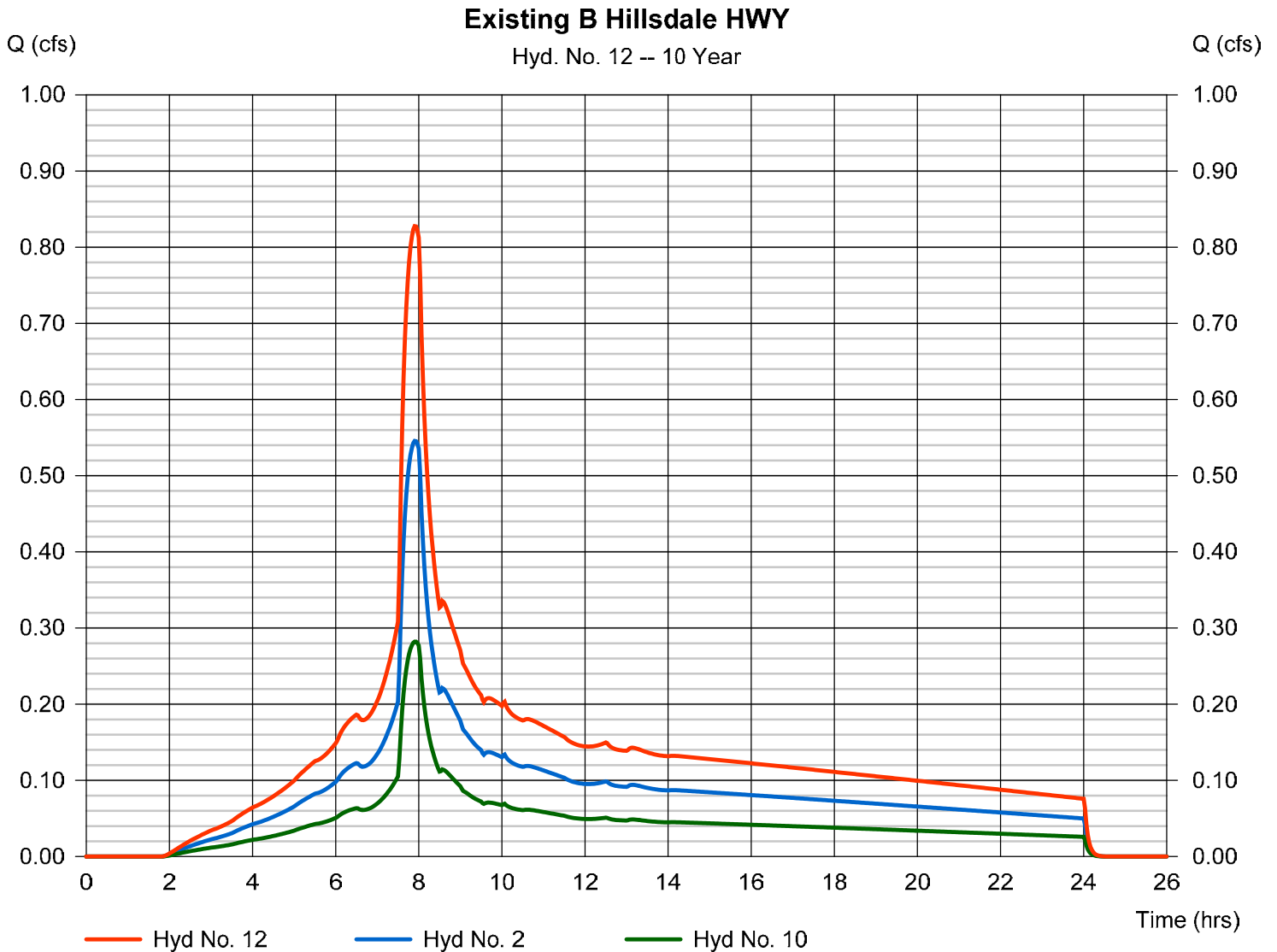
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 12

Existing B Hillsdale HWY

Hydrograph type	= Combine	Peak discharge	= 0.828 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.90 hrs
Time interval	= 2 min	Hyd. volume	= 11,615 cuft
Inflow hyds.	= 2, 10	Contrib. drain. area	= 1.191 ac



# Hydrograph Report

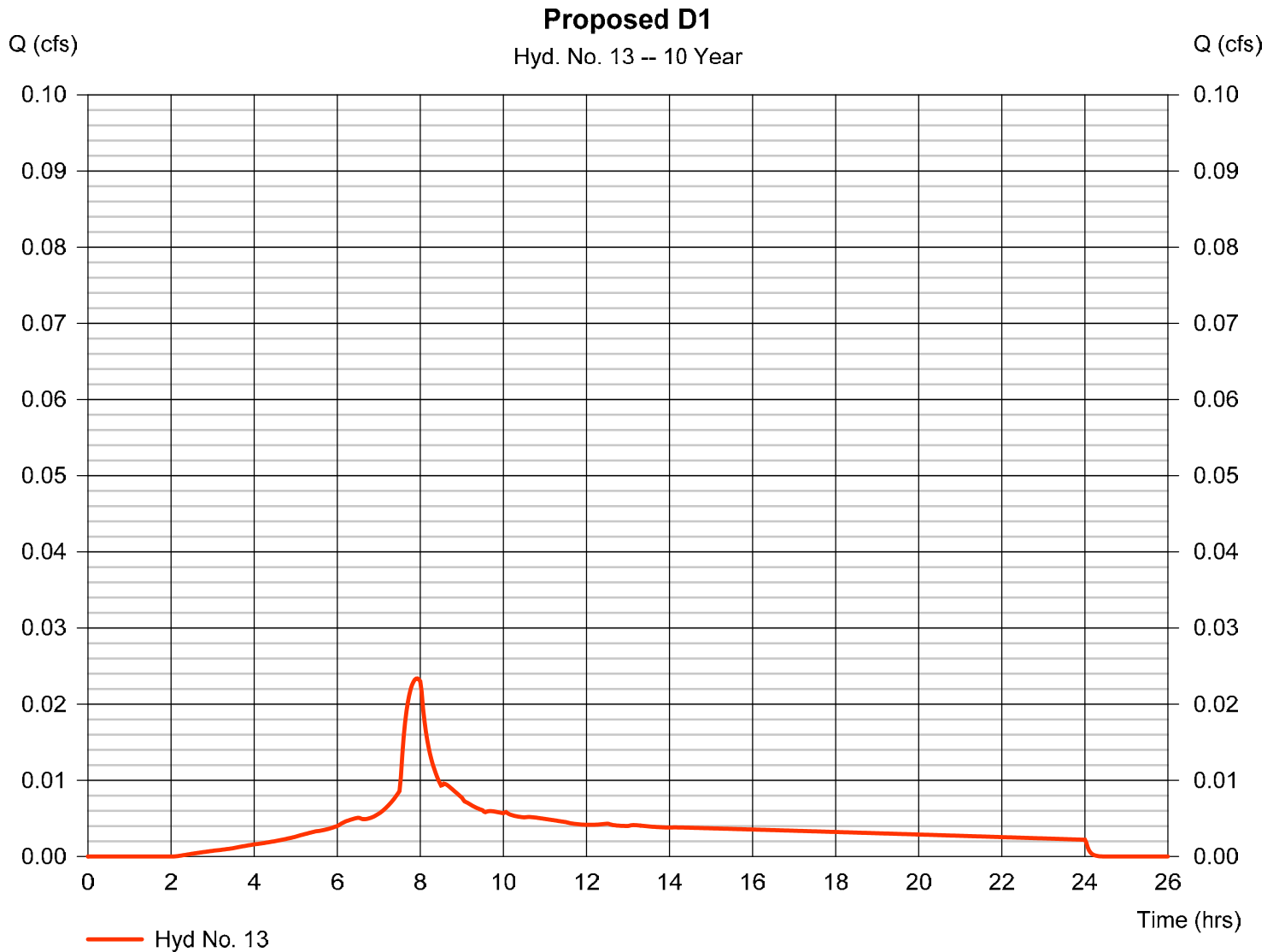
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Wednesday, 01 / 19 / 2022

## Hyd. No. 13

Proposed D1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.023 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 329 cuft
Drainage area	= 0.035 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

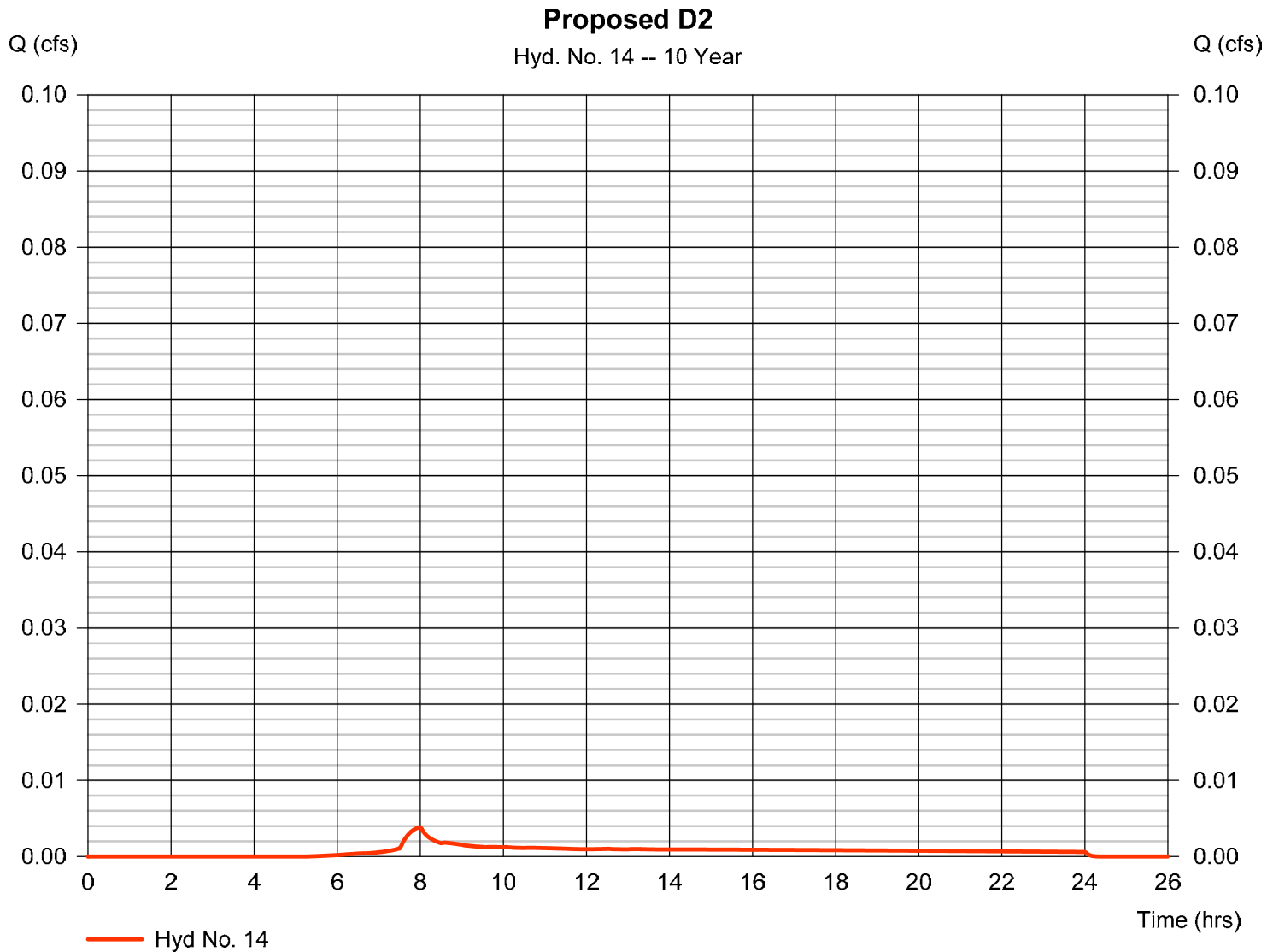
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 14

Proposed D2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.004 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 64 cuft
Drainage area	= 0.012 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

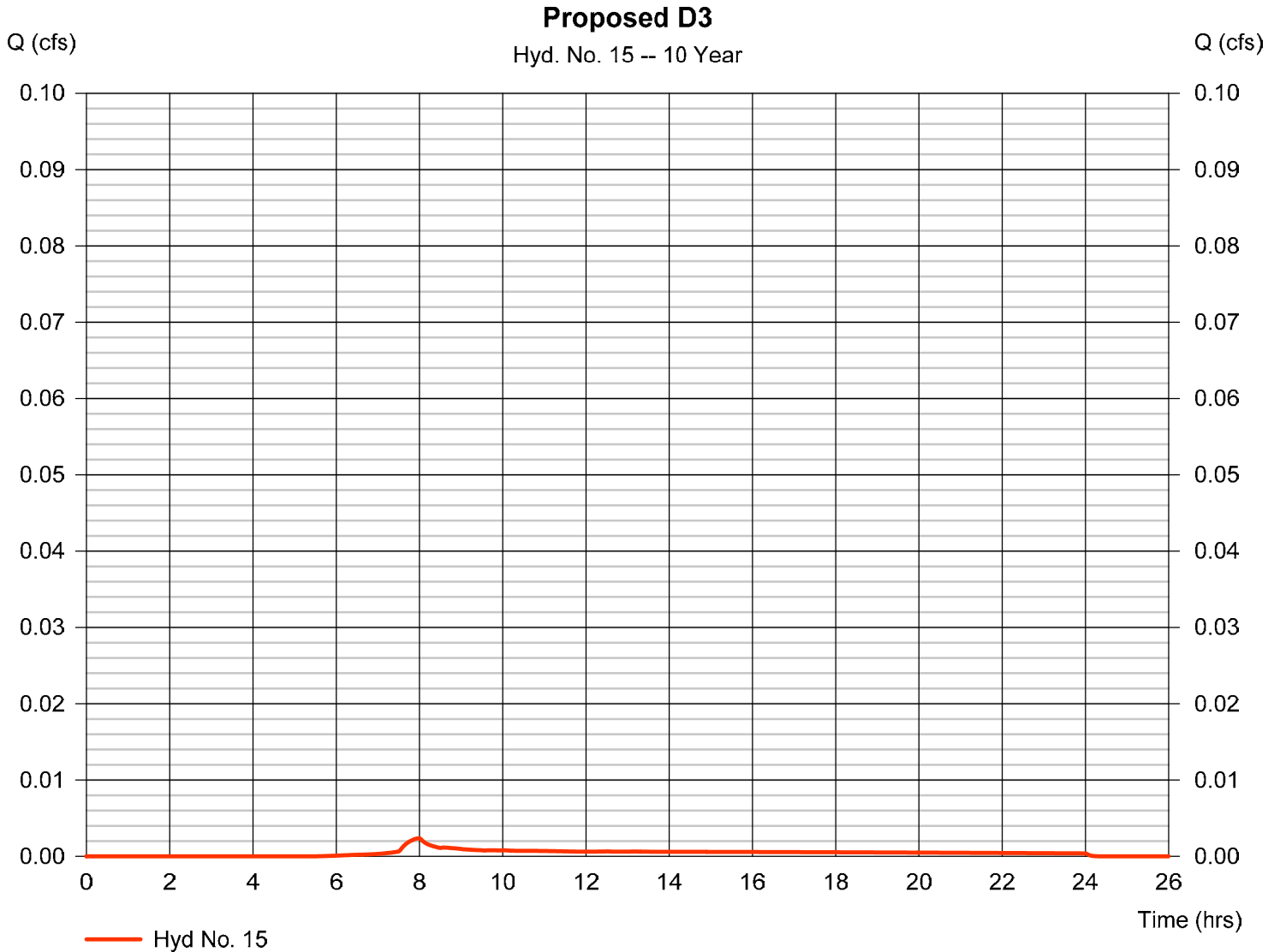
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Wednesday, 01 / 19 / 2022

## Hyd. No. 15

Proposed D3

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.002 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 40 cuft
Drainage area	= 0.008 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

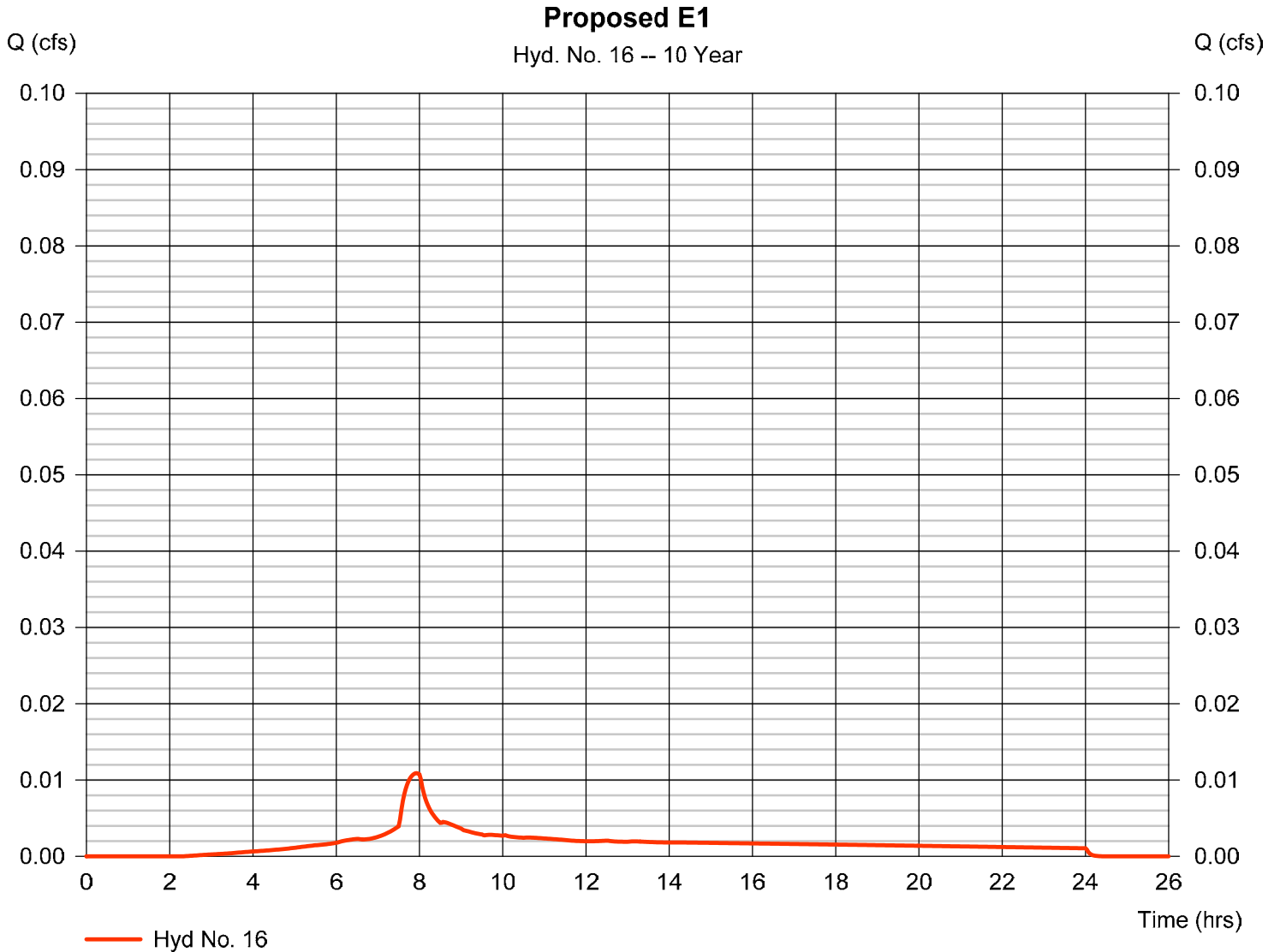
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 16

Proposed E1

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.011 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 154 cuft
Drainage area	= 0.017 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

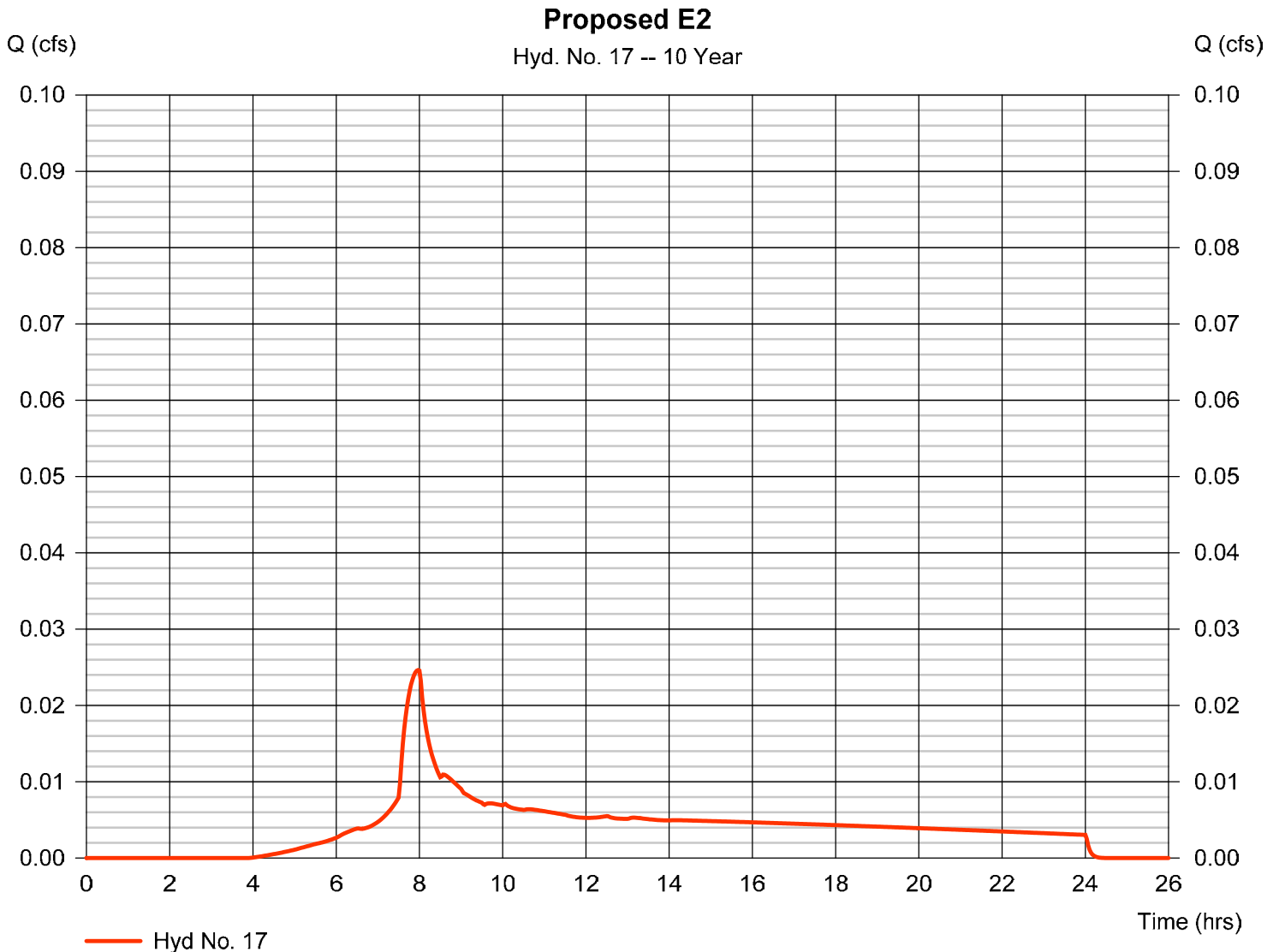
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 17

Proposed E2

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.025 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.97 hrs
Time interval	= 2 min	Hyd. volume	= 371 cuft
Drainage area	= 0.054 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



# Hydrograph Report

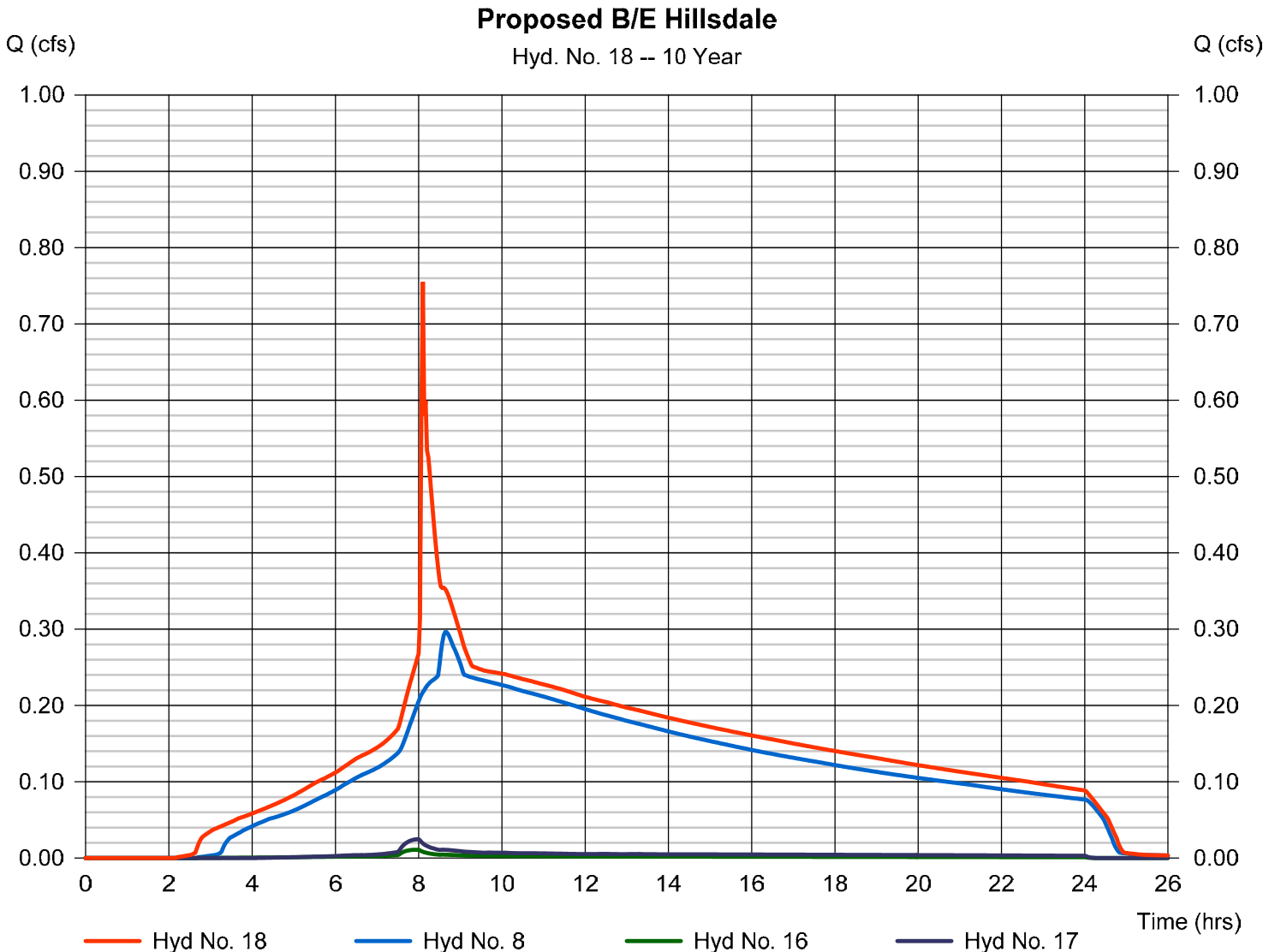
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 01 / 19 / 2022

## Hyd. No. 18

Proposed B/E Hillsdale

Hydrograph type	= Combine	Peak discharge	= 0.755 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.10 hrs
Time interval	= 2 min	Hyd. volume	= 12,394 cuft
Inflow hyds.	= 8, 16, 17	Contrib. drain. area	= 0.071 ac



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

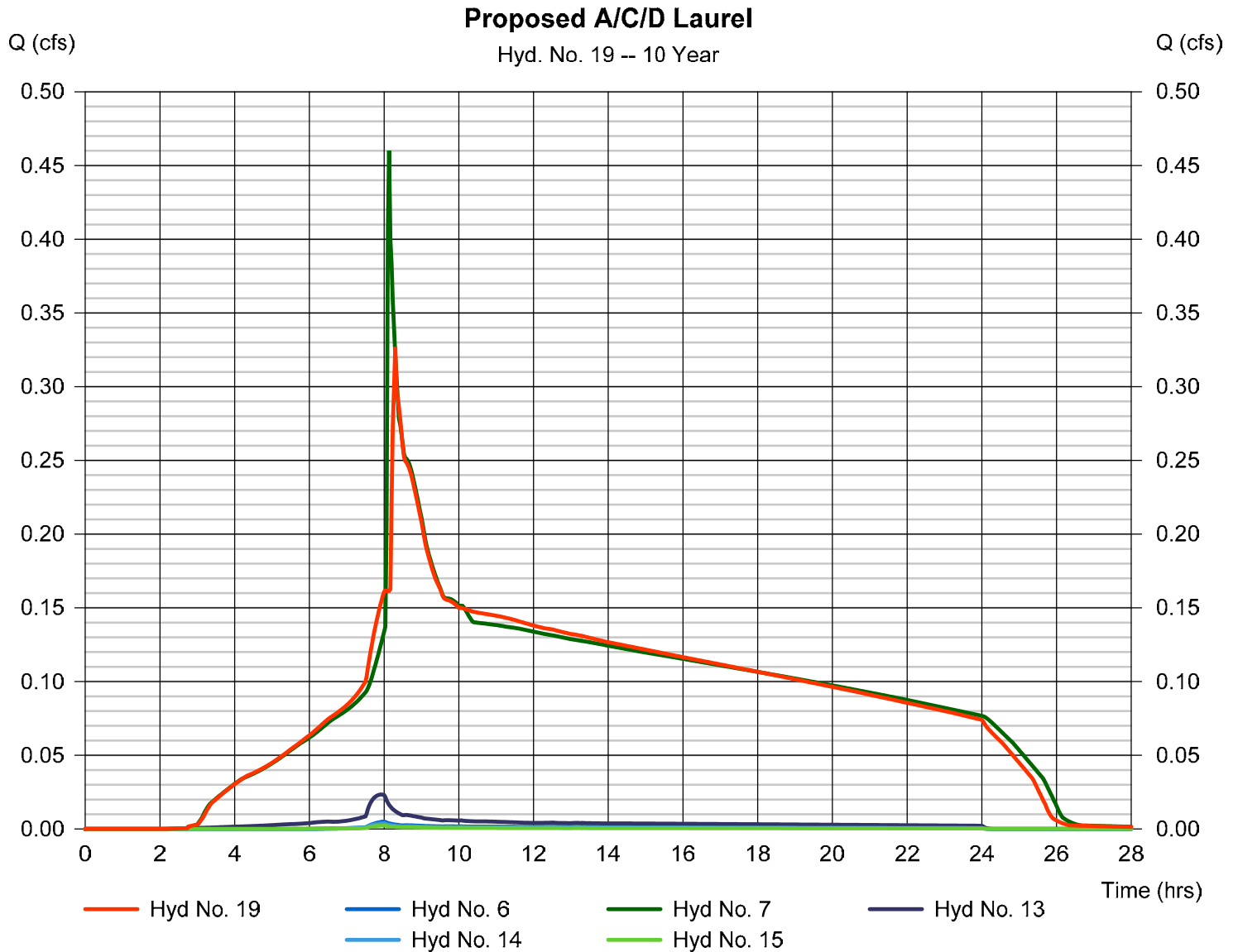
Wednesday, 01 / 19 / 2022

## Hyd. No. 19

Proposed A/C/D Laurel

Hydrograph type = Combine  
 Storm frequency = 10 yrs  
 Time interval = 2 min  
 Inflow hyds. = 6, 7, 13, 14, 15

Peak discharge = 0.327 cfs  
 Time to peak = 8.30 hrs  
 Hyd. volume = 8,488 cuft  
 Contrib. drain. area = 0.076 ac





Attachment B

**GEOTECHNICAL ENGINEERING INVESTIGATION  
PROPOSED IN-N-OUT BURGER  
10565 SW BEAVERTON HILLSDALE HIGHWAY  
BEAVERTON, OREGON**

**PROJECT NO. 062-20012**  
JULY 22, 2020

**Prepared for:**

**IN-N-OUT BURGER, A CALIFORNIA CORPORATION**  
ATTN: MS. CASSIE YEE  
13502 HAMBURGER LANE  
BALDWIN PARK, CA 91706

**Prepared by:**

**KRAZAN & ASSOCIATES, INC.**  
**GEOTECHNICAL ENGINEERING DIVISION**  
825 CENTER STREET, STE A  
TACOMA, WASHINGTON 98409  
(253) 939-2500

# **Krazan & ASSOCIATES, INC.**

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GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING  
CONSTRUCTION MATERIALS TESTING & INSPECTION

July 22, 2020

KA Project No. 062-20012

**In-N-Out Burger, a California Corporation**  
13502 Hamburger Lane  
Baldwin Park, CA 91706

**Attn: Ms. Cassie Yee**

Email: [CYee@innout.com](mailto:CYee@innout.com)  
(626) 813-8226

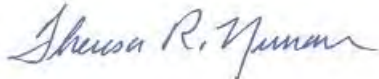
**Reference: Geotechnical Engineering Investigation  
Proposed In-N-Out Burger**  
10565 BEAVERTON HILLSDALE HIGHWAY  
Beaverton, Oregon

Dear Ms. Yee,

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we can be of further assistance, please do not hesitate to contact our office.

Respectfully submitted,  
**KRAZAN & ASSOCIATES, INC.**



Theresa R. Nunan  
Project Manager

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July 22, 2020

KA Project No. 062-20012

**GEOTECHNICAL ENGINEERING INVESTIGATION  
PROPOSED IN-N-OUT BURGER  
10565 SW BEAVERTON HILLSDALE HIGHWAY  
BEAVERTON, OREGON****INTRODUCTION**

This report presents the results of our Geotechnical Engineering Investigation for the proposed In-N-Out Burger project located at 10565 SW Beaverton Hillsdale Highway in Beaverton, Washington County, Oregon, as shown on the Vicinity Map in Figure 1. Discussions regarding site conditions are presented in this report, together with conclusions and recommendations pertaining to site preparation, excavation, foundations, structural fill, utility trench backfill, concrete slabs and exterior flatwork, drainage, erosion control, and pavements.

A site plan showing the approximate locations of the exploratory soil borings is presented following the text of this report in Figure 2. A description of the field investigation and laboratory testing, as well as the exploratory soil boring logs, is presented in Appendix A. Appendix B contains a guide to aid in the development of earthwork specifications. Pavement design guidelines are presented in Appendix C. The recommendations in the main text of the report have precedence over the more general specifications in the appendices.

**PURPOSE AND SCOPE**

This investigation was conducted to evaluate the subsurface soil and groundwater conditions at the site, develop geotechnical engineering recommendations for use in design of specific construction elements, and provide criteria for site preparation and earthwork construction.

Our scope of services was performed in general accordance with our proposal number G20023WAT for this project, dated May 8, 2020, and included the following:

- Exploration of the subsurface soil and groundwater conditions by conducting six (6) soil test borings to depths of up to 15 feet using a Krazan drill rig and operator under the direction of a Krazan geotechnical engineer;
- Exploration of the subsurface soil and groundwater conditions by conducting one (1) Cone Penetration Test (CPT) using a subcontracted CPT rig and operator under the direction of a Krazan geotechnical engineer;
- A site plan showing the soil boring, CPT, and percolation test locations;
- Comprehensive boring and CPT logs, including soil stratification and classification, and groundwater levels where applicable;

- Recommendations for seismic design considerations including site coefficient and ground acceleration based on the 2018 IBC and 2019 Oregon Structural Specialty Code (OSSC);
- Liquefaction analysis based on the data acquired from the CPT and laboratory testing;
- Recommended foundation type(s) for the proposed structure;
- Recommendations for foundation design, including allowable soil bearing pressure, anticipated settlements (both total and differential), coefficient of horizontal friction, and frost penetration depth;
- Recommendations for modulus of subgrade reaction for design of slabs-on-grade, as well as subgrade preparation, slab drainage, capillary break, and/or moisture barriers;
- Recommendations for lateral earth pressures for below grade and retaining structures, including surcharge loadings;
- Preliminary evaluation of onsite infiltration feasibility based on one infiltration test performed in one of the soil borings conducted within the existing parking lot area using the encased falling head method;
- Recommendations for structural fill materials, placement, and compaction;
- Recommendations regarding the suitability of onsite soils as structural fill;
- Recommendations for temporary excavations;
- Recommendations for site drainage and erosion control; and
- Recommendations for asphalt and Portland Cement Concrete (PCC) pavements.

Environmental services, such as chemical analysis of soil and groundwater for possible environmental contaminants, were not included in our geotechnical engineering scope of services for this project.

### **PROPOSED CONSTRUCTION**

Based on the Request for Proposal (RFP), prepared by In-N-Out Burger, dated April 30, 2020, we understand the proposed In-N-Out building will be a 1-story, wood-framed structure covering a footprint of about 3,879 square feet (sf) with a concrete slab-on-grade floor. Other site developments will include a 400-sf trash enclosure, asphalt paved parking and access drives, Portland Cement Concrete (PCC) pavement drive-thru lane, installation of site utilities, and landscaped areas. We understand that an optional 0.25-acre parcel adjoining the northeast corner of the site located at 10540 SW Laurel Street is being considered for inclusion in the proposed development.

Although no loading information was provided at the time of this report, we have assumed column and wall loads for the proposed structure will not exceed 60 kips and 3 kips per lineal foot, respectively for our soils bearing capacity and settlement analyses. We have also assumed that final grades for the site development will be at or near the existing grades.

## **SITE LOCATION AND DESCRIPTION**

The project site is bordered by SW Laurel Street to the north, SW Beaverton Hillsdale Highway to the south, a restaurant to the east, and a commercial business and SW 107<sup>th</sup> Avenue to the west. The 1.24-acre site, encompassing assessor parcel numbers (APNs) 1S114BC02000, 1S114BC02100, and 1S114BC02400, is currently occupied by an operational, single-story, restaurant building.

A site specific topographic map was not available at the time of this report; however, the site appears to be relatively level with ground surface elevations estimated to vary by not more than one foot. The courtyard area on the south side of the existing building is enclosed by a low wall, with brick pavers covering the ground surface. A relatively small section of lawn exists north of the existing restaurant, between the east parking area and the drive-thru lane. Ground cover over the remaining area consists of asphalt pavement, with mature trees, shrubs, and landscaping around the perimeter of the site. The existing asphalt pavement is generally in a poor condition, and exhibits alligator-type cracks, depressions, and pot-outs, with several areas having been overlaid or patched. Roots from mature trees have extended into the existing pavement areas causing heave and cracking of the existing pavement. Photos of the existing pavement are included in Figure 3 attached to this report. Several existing utilities are located within the site. The pavement overlying several of the utility lines is cracked along the pipe route and/or depressed.

An optional 0.25-acre parcel of land (APN 1S114BC02200) located adjacent to the northeast corner of the primary site is also being considered for the proposed development. This parcel fronts SW Laurel Street and is occupied by two single-story residential structures and a corrugated metal garage-type structure. The ground surface is grass covered with two gravel-surfaced entry driveways. This property is about level with the elevation of SW Laurel Street with about a 1.5-foot drainage ditch running along the south side of the road and another drainage ditch between this parcel and the adjacent property to the west. Trees and shrubbery line the south, east, and west sides of this property.

## **GEOLOGIC SETTING**

The Oregon Department of Geology and Mineral Industries (DOGAMI) digital geologic map of Oregon (Madin 2004) classifies the subsurface soils as Quaternary Surficial Deposits, derived from the Missoula Flood deposits, which are comprised of “unconsolidated sediments that include alluvium, colluvium, river and coastal terrace, landslide, glacial, eolian, and outburst flood deposits.”

## **FIELD INVESTIGATION**

Six (6) exploratory borings were completed to evaluate the subsurface soil and groundwater conditions at the project site. The soil test borings were conducted on May 21 and 22, 2020, using a Krazer drill rig and operator under the direction of a Krazer geotechnical engineer. The soil borings, designated B-1 through B-6, were advanced to depths of about 10 to 15 below the existing ground surface (bgs) using a CME-45 drill rig equipped with 3.75-inch outer diameter solid stem augers. A field engineer from Krazer

and Associates was present during the explorations, continuously examined and visually classified the soils in general accordance with the Unified Soil Classification System (USCS), and maintained logs of the explorations. Logs of the soil test borings are included in Appendix A.

Representative samples of the soils encountered in the geotechnical explorations were collected and transported to our laboratory for further examination and testing. A detailed description of the field investigation is presented in Appendix A.

Additionally, one (1) seismic Cone Penetrometer Test (sCPT) was advanced to a depth of 50 feet bgs just outside the southeastern corner of the proposed building on May 23, 2020. The CPT method consists of pushing an instrumented cone into the ground at a controlled rate and recording measured soil parameters, such as tip resistance, friction ratio, and pore pressure. Shear wave testing was also conducted roughly every 3 feet for the full depth of the CPT. These parameters are used to determine the geotechnical engineering properties of soils and delineate soil stratigraphy, particularly for use with seismic analyses. The results of the CPT are included in Appendix A. The approximate location of the CPT and borings are shown on the Site Plan in Figure 2.

One falling head percolation test was performed within the proposed parking area at boring location B-5 at a depth of 1.5 feet bgs to provide a preliminary evaluation of the soils infiltration characteristics. The test was conducted in general accordance with Washington County's On-Site Stormwater Design System (OSDS) Design and Construction Minimum Guidelines and Requirements (September 26, 2007, 2<sup>nd</sup> Edition) using the falling head test method, which is a modification of the EPA Falling Head Percolation Test Procedure presented in the Onsite Wastewater Treatment and Disposal Systems Design Manual (EPA, 1980). After filling the test hole twice with 12 inches of water, the water did not seep away in less than 10 minutes. Therefore, the soils were soaked for about three hours prior to conducting the falling head percolation test. The borehole percolation test was conducted with 6 inches of water head in the bottom of the test hole.

### **SOIL PROFILE AND SUBSURFACE CONDITIONS**

Our field exploration exposed asphalt concrete pavement, topsoil, and undocumented fill overlying alluvial soils to the explored depths of the borings. Detailed logs of the borings and CPT are presented in Appendix A.

**Topsoil/Asphalt Pavement/Base Course:** Borings B-2 and B-6 encountered 7 and 6 inches of grass and silty sand topsoil, respectively. The remaining borings encountered 4 inches of asphalt concrete pavement underlain by 5 inches of base course material consisting of brown silty sand with gravel, with the exception of boring B-5 which silty sand with crushed rock base material beneath 3-inches of asphalt pavement. The recorded asphalt pavement thicknesses include the thickness of overlays.



**Undocumented Fill:** Boring B-1 encountered a 2.3-foot thick layer of loose, undocumented fill consisting of dark brown silty sand in a loose condition beneath the base course material.

**Native Silty Clay and Silty Sand:** Boring B-5 encountered a 1.5-foot thick layer of dark grey silty clay (CL) beneath the base course material. The clay exhibited a medium stiff consistency with a Standard Penetration Test (SPT) resistance (N-value) of 5 blows per foot. Boring B-6, conducted at the optional parcel, encountered 2.5 feet of dark brown to brown silty sand beneath the topsoil layer. The sand exhibited a loose relative density with a corresponding N-value of 5 blows per foot.

**Native Sandy Silt:** Brown sandy silt (ML) was encountered below the aforementioned pavement and soil layers at a depth of 0.6 to 3 feet below the existing ground surface (bgs) and extended to the explored depth of the borings. The silt exhibited medium stiff to very stiff consistencies with N-values ranging from 5 to 12 blows per foot. The sandy silt stratum contained frequent to occasional lenses and seams of fine sand. Laboratory tests indicated the sandy silt contained 75 to 94 percent fines retained on the U.S. Standard No. 200 sieve, with natural moisture contents ranging from 29.6 to 34.7 percent.

The Cone Penetrometer Test (CPT) results were in general agreement with the soil conditions encountered in the soil borings.

### **GROUNDWATER**

Groundwater was not encountered in boring B-6 drilled within the optional parcel. Groundwater was encountered at depths of 8.8 to 9.7 feet bgs during drilling in the remaining borings drilled for this field exploration, and at a depth of 13.4 feet bgs in boring B-2 twenty-four hours after drilling. A porewater dissipation test conducted with the CPT indicated a groundwater level at 10.6 feet below the existing ground surface.

It should be recognized that the absence or presence of groundwater and its elevation may fluctuate with time. The groundwater level will also be dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water levels at the time of the field investigation may be different from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

### **LABORATORY TEST RESULTS**

Wash No. 200 for percent fines (silt and/or clay) and moisture content tests were conducted on select soil samples from the borings. The laboratory test results are included under the Lab Results/Notes section of the boring logs in Appendix A.

## **GEOLOGIC HAZARDS**

### **Erosion Concern/Hazard**

The Natural Resources Conservation Services (NRCS) map for Washington County Area, Oregon, classifies the soil in the site area as Woodburn silt loam, 0 to 3 percent, derived from old alluvium parent material, and indicates that the site soils have a slight potential for erosion from water or wind in a disturbed state.

It has been our experience that soil erosion potential can be minimized through landscaping and surface water runoff control. Typically, erosion of exposed soils will be most noticeable during periods of rainfall and may be mitigated by the use of temporary erosion control measures, such as silt fences, hay bales, straw wattles, mulching, control ditches or diversion trenching, and contour furrowing. The walls of excavations should be covered with plastic sheeting during periods of rainfall. Erosion control measures should be in place before the onset of wet weather.

### **Seismic Hazard**

The City of Beaverton, Oregon, has adopted the new Oregon statewide building code, Oregon Structural Specialty Code (OSSC) 2019, which fully took effect for all permitted projects on January 1, 2020. The 2019 OSSC is based on the 2018 International Building Code (IBC), as amended by the State of Oregon. Section 1613.2.2 of the 2018 IBC refers to Chapter 20 of ASCE 7 for Site Class Definitions. The site soils encountered in the borings for our field exploration correspond to Site Class E based on their liquefaction potential and therefore require a site-specific analysis as per the 2018 IBC unless the building fundamental period of vibration is equal to or less than 0.5s. We have assumed that the building will have a fundamental period of vibration of less than 0.5s. The use of seismic site class D is based on the building having a fundamental period of vibration of less than 0.5s and a soil profile extending to a depth of 100 feet. Site Class D applies to a “stiff soil” profile with shear wave velocities ( $V_s$ ) in the 600 to 1,200 feet per second range. The seismic Cone Penetration Test CPT-1 conducted on this site extended to a maximum depth of 50 feet bgs, and this seismic site class designation is based on evaluation of the shear wave velocities for the sCPT test and the assumption that similar soil conditions continue below the explored depth.

We referred to the Applied Technology Council (ATC) Hazards by Location Tool, ASCE 7-16, the 2019 OSSC, and the 2018 IBC to obtain values for  $S_S$ ,  $S_{MS}$ ,  $S_{DS}$ ,  $S_I$ ,  $S_{MI}$ ,  $S_{D1}$ ,  $F_a$ , and  $F_v$  based on a Risk Category II for the proposed structure. The ATC website utilizes the most updated published data on seismic conditions from the United States Geological Survey. The seismic design parameters for this site are presented in the following table:

**Table 2: Seismic Design Parameters**

(Reference: 2019 OSSC/2018 IBC Section 1613.2.2, ASCE 7-16, and ATC)

Seismic Item	Value
Site Coefficient $F_a$	1.166
$S_s$	0.834
$S_{MS}$	0.973
$S_{DS}$	0.649
Site Coefficient $F_v$	
$S_1$	0.394
$S_{M1}$	
$S_{D1}$	

Additional seismic considerations include liquefaction potential and amplification of ground motions by loose/soft soil deposits. We have reviewed the “Relative Earthquake Hazard Maps for Selected Urban Areas in Western Oregon” by Ian P. Madin et al., (DOGMI, Oregon, IMS-7, 1999) for the site location. The map indicates that the site area is located in a zone of high liquefaction susceptibility. The Hazard Zones are based on combined effects of ground shaking amplification, liquefaction, and earthquake-induced landslides. Therefore, we have conducted a site-specific liquefaction analysis for this project.

Liquefaction usually occurs under vibratory conditions such as those induced by seismic events. The liquefaction potential is highest for loose sand with a high groundwater table. Soil liquefaction is a state where soil particles lose contact with each other and become suspended in a viscous fluid. This suspension of the soil grains results in a complete loss of strength as the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sand.

To evaluate the liquefaction potential of the site, we analyzed the following factors:

- 1) Soil type
- 2) Groundwater depth
- 3) Relative soil density
- 4) Initial confining pressure
- 5) Maximum anticipated intensity and duration of ground shaking.

**Liquefaction Analysis:** The commercially available liquefaction analysis software, LiquefyPro from CivilTech, was used to evaluate the liquefaction potential and the possible liquefaction induced settlement for the site soil and groundwater conditions based on our explorations. The analysis was performed using the information from the seismic cone penetration test CPT-1. Maximum Considered Earthquake (MCE) was selected in accordance with the Chapter 16 of the 2018 IBC and the Applied Technology Council (ATC) Hazards by Location website. For this analysis, a maximum earthquake magnitude of 9.34 and peak horizontal ground surface acceleration of 0.46g were used. Our analysis assumed a groundwater depth of 5 feet bgs during the earthquake.

Our analysis indicated that the intermittent layers of soils in upper 28 feet were liquefiable under the maximum earthquake magnitude of 9.34. The maximum liquefaction induced settlement for this type of seismic event is estimated to be on the order of approximately 1.5 inches (total settlement). The differential settlement is estimated to be on the order of about 0.75-inch (differential settlement) over 50 feet.

The liquefaction analysis plot showing the factor of safety and settlement are presented in Appendix A.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **General**

It is our opinion from a geotechnical standpoint that the site is compatible with the planned development, **provided that the geotechnical engineering recommendations presented in this report are included in the project design and implemented during construction and the risks associated with seismically-induced settlement are deemed acceptable.** Based on our explorations, it is our opinion that conventional spread foundations supported on stiff or firmer native soils, or on structural fill extending to these soils, would be appropriate for the new building.

The sandy silt soils encountered in borings B-2 through B-5 exhibited a medium stiff consistency and are not considered suitable for support of foundation loads in their current state. We recommend that the sandy silt soils be over-excavated at least 12 inches and replaced with structural fill at the footing locations and beneath slabs-on-grade and pavement areas. Specific recommendations regarding the over-excavation requirements are provided in the Site Preparation, Foundation, Slabs, and Pavement section of this report.

Based on the conditions encountered in the soil borings during our exploration of the site, the majority of the site is covered in asphalt pavement and stripping depths of up to 9 inches are anticipated to remove the asphalt pavement and base course material or topsoil layer. The primary site is currently occupied by an existing building, as well as asphalt pavement and bricks in the courtyard area. The optional parcel is also occupied by three existing structures. All debris and rubble from demolition of these structures should be hauled off-site. Additional recommendations regarding the demolition activities are provided in the Site Preparation section of this report.

The sandy silt soils encountered during our field exploration are considered highly moisture-sensitive and may disturb easily in wet conditions. We recommend that construction take place during the drier summer months, if possible. If construction is to take place during wet weather, additional expenses and delays should be expected due to the wet conditions. Additional expenses could include the need for placing a blanket of rock spalls to protect exposed subgrade and construction traffic areas.

In our opinion, the onsite soils are not considered suitable for re-use as structural fill material due to their high silt content. If soil types other than those revealed during our field exploration are encountered during construction, then Krazan should be consulted regarding the suitability of these soils for use as structural fill.

### **Site Preparation**

General site clearing should include removal of any undocumented fill, organics, asphaltic concrete, abandoned utilities, and structures including foundations, slabs, rubble, and rubbish, down to natural suitable soils. In addition, any buried structures, such as septic tanks, underground storage tanks, debris pits, cesspools, or similar structures, should be completely removed and backfilled with structural fill.

After stripping operations, the building and pavement areas should be over-excavated 12 inches below the bottom of footings and 12 inches below the planned subgrade elevation in pavement areas to remove the medium stiff sandy silt soils. The over-excavation at the footing locations should extend out laterally 6-inches on each side of the footing. Following over-excavation, the areas should be backfilled with structural fill placed and compacted in accordance with the recommendations of the Structural Fill subsection of this report.

An approximately 3-foot deep drainage trench runs between the east side of the main property and the western boundary of the optional parcel. It is not known at this time if the drainage ditch will remain untouched if the optional parcel is acquired or if it will be filled in as part of the new development. Boring B-5, conducted approximately 15 feet west of the drainage ditch, encountered a 1-foot thick layer of medium stiff, dark grey silty clay beneath the asphalt pavement. This silty clay layer may extend into the drainage ditch area. If plans are to fill in the drainage ditch to finish grade, then once existing vegetation is stripped away, the silty clay should be over-excavated to stiff or firmer natural soils. The ditch should then be backfilled with properly placed and compacted structural fill, with benches cut into the sides of the ditch during placement of the structural fill to tie it into the existing soils. The benches should be 3-feet in width. Depending on the time of year, water may be encountered in the drainage ditch and measures should be taken to divert this water away from the ditch during placement of structural fill.

**Existing Buildings:** An existing restaurant building is located on the main property and three existing buildings are located on the optional parcel. We understand that the existing buildings are supported on a shallow foundation system. We understand that the new In-N-Out building will be constructed on nearly the same footprint as the existing building on the main parcel. It is anticipated that the optional parcel will

be utilized for additional paved parking. Existing concrete footings should be completely removed within the footprint of the new building, and to a depth of at least 1-foot below the planned subgrade elevation in new pavement areas. Undocumented fill was encountered to a depth of 3 feet bgs in boring B-1, drilled within the northwest quadrant of the new building footprint. Based on our site reconnaissance, it appears that 1 to 2 feet of fill may have been placed to raise the pad for the existing restaurant building above the surrounding existing grades during its construction. Undocumented fill will likely be encountered within the building footprint during demolition of the existing building, particularly where foundations for the existing building are located. The undocumented fill should be removed in its entirety and the resulting depression backfilled with properly placed and compacted structural fill. If undocumented fill depths exceed 4 feet, we should be contacted to re-evaluate these recommendations based on the fill depths encountered during the demolition activities. Krazan & Associates should be onsite full-time during the demolition activities to document that all below-grade structures have been properly removed and backfilled with properly placed and compacted structural fill, and that the resulting debris from the demolition activities have been hauled off-site and not re-used as fill at any location on the property.

**Existing Utilities:** All existing utilities should be completely removed from within planned building areas. For any utility line to be considered acceptable to remain, i.e. be abandoned in-place, within the building footprint, the utility line must be completely filled with grout or sand-cement slurry, the ends outside the building area capped with concrete, and the existing trench backfill removed and replaced with properly placed and compacted structural fill. Assessment of the level of risk posed by a particular utility line to the structure will determine whether the utility may be abandoned in-place or needs to be completely removed. The risks associated with abandoning utilities in-place include the potential for future differential settlement of existing trench fills and/or potential ground loss into utility lines that are not completely filled with grout if the abandonment requirements stated above are not followed.

Based on our field exploration, the soils expected to be encountered within the upper 10 feet of the site during construction are considered extremely moisture sensitive and may disturb easily in wet conditions. During wet weather conditions, subgrade stability problems and grading difficulties may develop due to excess moisture, disturbance of sensitive soils, and/or the presence of perched groundwater. Construction during extended periods of wet weather could result in the need to remove wet disturbed soils if they cannot be suitably compacted due to elevated moisture contents. The prepared subgrade should be protected from construction traffic and surface water should be diverted around the prepared subgrade. Soils that have become unstable may require drying and recompaction. Selective drying may be accomplished by scarifying or windrowing surficial material during extended periods of dry, warm weather (typically during the summer months). If the soils cannot be dried back to a workable moisture condition, remedial measures may be required. These remedial measures could include placement of a blanket of rock spalls to protect exposed subgrade and construction traffic areas. The lateral extent and depth of rock spalls, if required, should be determined based on evaluation of the near surface soil conditions at the time of construction. Additional measures to minimize disturbance to the subgrade and

near-surface soils may include the use of excavators equipped with wide tracks or use of smooth rather than toothed buckets to complete site grading.

General project site winterization should consist of the placement of aggregate base and the protection of exposed soils during the construction phase. It should be understood that even if Best Management Practices (BMP's) for wintertime soil protection are implemented and followed there is a significant chance that moisture disturbed soil mitigation work will still be required.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction and stability of the material. The geotechnical engineer may reject any material that does not meet compaction and stability requirements. Further recommendations, contained in this report, are predicated upon the assumption that earthwork construction will conform to the recommendations set forth in this section and in the Structural Fill Section.

#### **Stormwater Infiltration Rate**

The encased falling head percolation test conducted in borehole B-5 at a depth of 1.5 feet below the existing ground surface, which corresponded to the sandy silt (ML) soil layer, indicated a field measured infiltration rate of 0.75 inches per hour. In accordance with Washington County's On-Site Stormwater Design System (OSDS) Design and Construction Minimum Guidelines and Requirements (September 26, 2007), Section VIII C. Simplified Method, correction factors to account for "uncertainties in testing ( $F_{\text{testing}}$ ), depth to water table or impervious strata and infiltration receptor geometry ( $F_{\text{geometry}}$ ), and long-term reductions in permeability due to accumulation of fines ( $F_{\text{plugging}}$ )" should be applied to the field measured infiltration rate to estimate the maximum design infiltration rate. The correction factor for the EPA falling head test method,  $F_{\text{testing}}$ , is 0.30 and the correction factor for fines accumulation,  $F_{\text{plugging}}$ , is 0.7 for sandy silts. The correction factor for geometry,  $F_{\text{geometry}}$ , will need to be determined once the size of the infiltration facility is known. Following completion of the falling head test, the borehole was extended to a depth of 10 feet bgs and similar soil conditions were encountered to the explored depth of the borehole. Groundwater was encountered at a depth of 8.8 feet bgs immediately after conducting the percolation test while drilling down to the boring termination depth. We did not observe any indication of mounded water between the percolation test depth and the groundwater level encountered during drilling. Based on the minimum specified corrected infiltration rate of 0.5 inches per hour by the Washington County's OSDS and our field measured infiltration rate, it is our opinion that the site soils may not be suitable for an onsite stormwater infiltration system.

#### **Temporary Excavations**

The onsite soils have variable friction and cohesion strengths, therefore the safe angles to which these materials may be cut for temporary excavations is variable, as the soils may be prone to caving and slope

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failures in temporary excavations deeper than 4 feet. Temporary excavations in medium stiff to stiff native soils should be sloped no steeper than 2H:1V (horizontal to vertical) where room permits. Some temporary slope stability measures may be required to conduct deeper over-excavations required in some areas of the site. The design and construction of any slope stability measures, including any temporary earth retention systems, are the sole responsibility of the contractor.

All temporary cuts should be in accordance with OSHA and Oregon Administrative Rules (OARs) Subdivision P, Excavation. The temporary slope cuts should be visually inspected daily by a qualified person during construction work activities and the results of the inspections should be included in daily reports. The contractor is responsible for maintaining the stability of the temporary cut slopes and minimizing slope erosion during construction. The temporary cut slopes should be covered with plastic sheeting to help minimize erosion during wet weather and the slopes should be closely monitored until the permanent retaining systems are complete.

A Krazan & Associates geologist or geotechnical engineer should observe, at least periodically, the temporary cut slopes during the excavation work. The reasoning for this is that all soil conditions may not be fully delineated by the limited sampling of the site from the geotechnical explorations. In the case of temporary slope cuts, the existing soil conditions may not be fully revealed until the excavation work exposes the soil. Typically, as excavation work progresses the maximum inclination of the temporary slope will need to be evaluated by the geotechnical engineer so that supplemental recommendations can be made. Soil and groundwater conditions can be highly variable. Scheduling for soil work will need to be adjustable, to deal with unanticipated conditions, so that the project can proceed smoothly and required deadlines can be met. If any variations or undesirable conditions are encountered during construction, Krazan & Associates should be notified so that supplemental recommendations can be made.

### **Structural Fill**

Fill placed beneath foundations, pavement, or other settlement-sensitive structures should be placed as structural fill. Structural fill, by definition, is placed in accordance with prescribed methods and standards, and is monitored by an experienced geotechnical professional or soils technician under the direction of the geotechnical engineer. Field monitoring procedures would include the performance of a representative number of in-place density tests to document the attainment of the desired degree of relative compaction and moisture. The area to receive the fill should be suitably prepared as described in the Site Preparation subsection of this report prior to beginning fill placement.

Best Management Practices (BMP's) should be followed when considering the suitability of the existing materials for use as structural fill. The sandy silt soils that will be encountered during site development are considered extremely moisture-sensitive and may disturb easily in wet conditions. In our opinion, these onsite soils are not considered suitable for re-use as structural fill material due to their high silt content. An allowance for importing structural fill should be incorporated into the construction cost of the



project. During the winter, soils typically have elevated natural moisture contents, which may make these soils difficult to work with. The contractor should use Best Management Practices to protect the soils during construction activities and be familiar with wet weather and wintertime soil work.

Imported fill material should be all weather structural fill consisting of well-graded gravel or a sand and gravel mixture with a maximum grain size of 3 inches and less than 5 percent fines (material passing the U.S. Standard No. 200 Sieve). All structural fill material should be submitted for approval to the geotechnical engineer at least 48 hours prior to delivery to the site.

Fill soils should be placed in horizontal lifts not exceeding 8 inches loose thickness, moisture-conditioned as necessary (moisture content of soil shall not vary by more than  $\pm 2$  percent of its optimum moisture content), and the material should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557 (Modified Proctor). In-place density tests should be performed on all structural fill to document proper moisture content and adequate compaction. Additional lifts should not be placed if the previous lift did not meet the compaction requirements or if soil conditions are not considered stable. Placing several lifts of fill and then potholing down to each lift to conduct compaction testing is not acceptable, and will require complete removal of the fill down to the first lift. Ponding or jetting the soil is not an approved method of soil compaction.

### **Shallow Foundation**

Based on our explorations, the soils at the site are interpreted as natural sandy silts to the boring termination depths of 10 to 15 feet bgs. The medium stiff sandy silts are not considered suitable for support of the foundation loads. We recommend the medium stiff sandy silt soils be over-excavated at least 12 inches below the bottom of footing elevation. Deeper excavations may be needed depending on the exposed soils conditions during the excavation. Foundation excavations would need to be widened on each side of the footing a distance equal to one-half of the depth of the over-excavation below the bottom of the footing. Structural fill consisting of granular soils should then be placed to the bottom of footing elevation and compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. To simplify structural fill placement, it may be practical to place Control Density Fill (CDF) to fill the footing excavations to the planned footing subgrade elevations.

The proposed structure may be supported on a shallow foundation system bearing on structural fill or Controlled Density Fill (CDF) extending to suitable native soils. Footing excavations should be inspected by Krazan & Associates to prior to placement of concrete forms to verify that the foundations bear on suitable material.

New utilities should not be located within the load influence zone of the footing defined as an imaginary line extending out at 1 horizontal to 1 vertical (1H:1V) from the bottom outside edge of the footing. Depending on the location of the utility, it may be necessary to deepen the planned footing elevation such

that the pipe is located above the footing zone of influence so the footing does not impose a surcharge load on the utility.

The City of Beaverton, Oregon, requires exterior footings be located a minimum of 12 inches below grade for frost protection. We recommend that exterior footings bear a minimum depth of 18 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower, for frost protection and bearing capacity considerations. The minimum footing embedment depth for frost protection and the minimum footing width stated herein also comply with the 2019 OSSC requirements. Additionally, footings should conform to current International Building Code (IBC) guidelines. Water should not be allowed to accumulate in footing trenches. All loose or disturbed soil should be removed from the foundation excavation prior to placing concrete.

For foundations constructed as outlined above, we recommend that an allowable bearing capacity of 2,000 pounds per square foot (psf) may be used for foundation design for this project. A representative of Krazan and Associates should evaluate the foundation bearing soil prior to footing form construction.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.35 acting between the bases of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot (pcf) acting against the appropriate vertical footing faces (neglecting the upper 12 inches). The allowable friction factor and allowable equivalent fluid passive pressure values include a factor of safety of 1.5. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance.

A 1/3 increase in the above values may be used for short duration wind and seismic loads.

For foundations constructed as recommended, the total static settlement is not expected to exceed 1-inch. Differential settlement, along a 20-foot exterior wall footing, or between adjoining column footings should be less than ½ inch. Most settlement is expected to occur during construction, as the loads are applied. The dynamic settlement is estimated to be on the order of approximately 1.5 inches (total settlement). The differential settlement is estimated to be on the order of about 0.75-inch (differential settlement) over 50 feet.

Seasonal rainfall, water run-off, and the normal practice of watering trees and landscaping areas around the proposed structures, should not be permitted to flood and/or saturate foundation subgrade soils. To prevent the buildup of water within the footing areas, continuous footing drains (with cleanouts) should be provided at the bases of the footings. The footing drains should consist of a minimum 4-inch diameter rigid perforated PVC pipe, sloped to drain, with perforations placed near the bottom and enveloped in all directions by washed rock and wrapped with filter fabric to limit the migration of silt and clay into the drain.

### **Floor Slabs and Flatwork**

Based on our explorations, the near surface soils at the site are interpreted as medium stiff native soils, with the exception of boring B-1. Boring B-1, drilled within the northwest quadrant of the new building footprint, encountered loose undocumented fill to a depth of about 3 feet bgs. Due to the location of the existing building, undocumented fill may be encountered within the footprint of the new building, particularly at the location of existing footings. Undocumented fill should be completely removed from within the proposed footprint of the new building.

The medium stiff sandy silt soils are unsuitable for support of slabs. We recommend over-excavation of the medium stiff sandy silt to a depth of at least 12 inches below the planned floor subgrade elevation. The exposed grade after the over-excavation should be compacted to at least 95 percent of the maximum dry density as determined by ASTM Test Method D1557. Depending on the time of year construction takes place, it may be necessary to place a layer of rock spalls and/or a high-strength geotextile fabric over the soils at the bottom of the over-excavation if water accumulates and softens the soils. The area should then be filled to the planned subgrade elevation with structural fill. The structural fill should be compacted to at least 95 percent of the maximum dry density as determined by ASTM Test Method D1557. In-place density tests should be performed to verify proper moisture content and adequate compaction.

Floor slabs may be designed using a modulus of subgrade reaction value of  $k = 200$  pounds per cubic inch (pci) for slabs supported on compacted structural fill.

In areas where it is desired to reduce floor dampness, such as areas covered with moisture sensitive floor coverings, we recommend that concrete slab-on-grade floors be underlain by a water vapor retarder system. According to ASTM guidelines, the water vapor retarder should consist of a vapor retarder sheeting underlain by a minimum of 6-inches of compacted clean (less than 5 percent passing the U.S. Standard No. 200 Sieve based on the fraction passing the No. 4 sieve), open-graded coarse rock of ¾-inch maximum size. The vapor retarder sheeting should be protected from puncture damage.

The exterior floors should be placed separately in order to act independently of the walls and foundation system. All fill placed in the building pads should be structural fill.

For sidewalks and pedestrian pathways, if loose/soft or undocumented fill soils are exposed, then we recommended that over-excavation of at least 6-inches below the planned subgrade elevation be performed. The resulting excavation should be backfilled with structural fill.

It is recommended that utility trenches located within the building pad be compacted, as specified in our report, to minimize the transmission of moisture through the utility trench backfill. Special attention to the drainage and irrigation adjacent to the building is recommended. Grading should establish drainage away from the structure and this drainage pattern should be maintained. Water should not be allowed to collect adjacent to the structure. Excessive irrigation within landscaped areas adjacent to the structure

should not be allowed to occur. In addition, ventilation of the structure may be prudent to reduce the accumulation of interior moisture.

### **Lateral Earth Pressures and Retaining Walls**

It is not anticipated that retaining walls will be required for this project. However, in case retaining walls will be incorporated into project design, we have developed criteria for the design of retaining or below grade walls.

Our design parameters are based on retention of the in-place soils and/or imported granular structural fill. The parameters are also based on level, well-drained wall backfill conditions. Walls may be designed as “restrained” retaining walls based on “at-rest” earth pressures, plus any surcharge on top of the walls as described below, if the walls are braced to restrain movement and/or movement is not acceptable. Unrestrained walls may be designed based on “active” earth pressure, if the walls are not part of the building and some movement of the retaining walls is acceptable. Acceptable lateral movement equal to at least 0.2 percent of the wall height would warrant the use of “active” earth pressure values for design. We recommend that walls supporting horizontal backfill and not subjected to hydrostatic forces be designed using a triangular earth pressure distribution equivalent to that exerted by a fluid with a density of 35 pcf for yielding (active condition) walls, and 55 pcf for non-yielding (at-rest condition) walls.

If vehicular loads are expected to act on the surface of the wall backfill within a horizontal distance of less than or equal to one-half of the wall height behind the back face of the wall, a live load surcharge should be applied for the design. In this case, we recommend the addition of vehicle surcharges of 70 psf and 100 psf to the active and at-rest earth pressures, respectively.

The stated lateral earth pressures do not include the effects of hydrostatic pressure generated by water accumulation behind the retaining walls or loads imposed by construction equipment, slopes, foundations, or roadways adjacent to the wall (surcharge loads). To minimize the lateral earth pressure and prevent the buildup of water pressure against the walls, continuous footing drains (with cleanouts) should be provided at the bases of the walls. The footing drains should consist of a minimum 4-inch diameter perforated pipe, sloped to drain, and with perforations placed near the bottom. The drainpipe should be enveloped by 6 inches of washed gravel in all directions wrapped in filter fabric to prevent the migration of silt and clay into the drain.

The backfill placed adjacent to the wall and extending a lateral distance of at least 2 feet behind the wall should consist of free-draining granular material. All free-draining backfill should contain less than 5 percent fines (material passing the U.S. Standard No. 200 Sieve) with at least 30 percent of the material retained on the U.S. Standard No. 4 Sieve. Alternatively, a drainage composite may be used. It should be realized that the primary purpose of the free-draining material is the reduction of hydrostatic pressure. Some potential for the moisture to contact the back face of the wall may exist, even with treatment, which

may require that more extensive waterproofing be specified for walls that require interior moisture sensitive finishes.

We recommend that backfill placed within a lateral distance of 3 feet behind the wall be compacted to between 92 and 95 percent of the maximum dry density based on ASTM D1557 Test Method. In-place density tests should be performed to verify adequate compaction. Soil compaction equipment place transient surcharge loads on the backfill. Consequently, only light, hand-operated equipment is recommended for fill compaction within a 3-foot horizontal distance of the wall so that excessive stress is not imposed on the wall. Backfill placed greater than 3 feet from the wall should be compacted to at least 95 percent relative density in accordance with ASTM D1557, which may be conducted using conventional compaction equipment.

### **Erosion and Sediment Control**

Erosion and sediment control (ESC) is used to minimize the transportation of sediment to wetlands, streams, lakes, drainage systems, and adjacent properties. Erosion and sediment control measures should be taken and these measures should be in general accordance with local regulations. At a minimum, the following basic recommendations should be incorporated into the design of the erosion and sediment control features of the site:

- 1) Phase the soil, foundation, utility, and other work, requiring excavation or the disturbance of the site soils, to take place during the dry season (generally May through September). However, provided precautions are taken using Best Management Practices (BMP's), grading activities can be undertaken during the wet season (generally October through April). It should be noted that this typically increases the overall project cost.
- 2) All site work should be completed and stabilized as quickly as possible.
- 3) Additional perimeter erosion and sediment control features may be required to reduce the possibility of sediment entering the surface water. This may include additional silt fences, silt fences with a higher Apparent Opening Size (AOS), construction of a berm, or other filtration systems.
- 4) Any runoff generated by dewatering discharge should be treated through construction of a sediment trap if there is sufficient space. If space is limited other filtration methods will need to be incorporated.

### **Groundwater Influence on Structures and Earthwork Construction**

Groundwater was encountered in the soil borings during drilling at a depth of 8.8 to 9.7 feet bgs, and at a depth of 13.4 feet bgs following 24 hours after drilling boring B-2. Groundwater was not encountered in

boring B-6 drilled at the optional parcel. It should be recognized that groundwater elevations may fluctuate with time. The groundwater level will be dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, groundwater levels at the time of the field investigation may be different from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

Excavation of the existing soils are anticipated for removal of the foundations for the existing buildings, removal of some existing utilities, and localized over-excavation of medium stiff soils. Depending on the required depth of these excavations, groundwater may be encountered. If groundwater is encountered during construction, we should observe the conditions to determine if dewatering will be necessary. Design of temporary dewatering systems to remove groundwater should be the responsibility of the contractor. If earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated. These soils may “pump,” and the materials may not respond to densification techniques. Typical remedial measures include: disking and aerating the soil during dry weather; mixing the soil with drier materials; removing and replacing the soil with an approved fill material. Krazan & Associates should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

### **Drainage and Landscaping**

The ground surface should slope away from building pads and pavement areas, toward appropriate drop inlets or other surface drainage devices. It is recommended that adjacent exterior grades be sloped a minimum of 2 percent for a minimum distance of 5 feet away from structures. Roof drains should be tightlined away from foundations. Roof drains should not be connected to the footing drains, but may use the same outfall piping if connected well away from the structure and with enough fall such that roof water will not back-up into the footing drains.

Subgrade soils in pavement areas should be inclined at a minimum of 1 percent and drainage gradients should be maintained to carry all surface water to collection facilities, and suitable outlets. These grades should be maintained for the life of the project.

Specific recommendations for and design of storm water disposal systems or septic disposal systems are beyond the scope of our services and should be prepared by other consultants that are familiar with design and discharge requirements.

### **Utility Trench Backfill**

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards, by a contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the contractor. Traffic and vibration adjacent to trench walls should be minimized; cyclic wetting and drying of excavation side slopes should

be avoided. Groundwater was encountered in the soil borings advanced on this site. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Silty and clayey soil conditions were encountered at shallow depths in the exploratory test borings at this site. These soils have variable cohesion and can cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these soils.

All utility trench backfill should consist of imported structural fill material. The onsite soils are unsuitable for re-use as trench backfill due to their high silt content. Trench backfill should be placed in equal measures on each side of the utility pipe.

We recommend that utility trench backfill be placed in general accordance with typical recommendations for structural fill placement. A firm and unyielding pipe subgrade should allow for the proper placement of subsurface utilities. Soft or unstable subgrades may require the placement of a geotextile and quarry rock in the bottom of utility trenches prior to placement of pipe bedding, utilities and trench backfill.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. Care should be taken to properly place and compact the trench backfill around the utility pipe, using compaction equipment appropriate for restricted spaces such that the required level of compaction can be attained. Inadequate compaction at this level can lead to future settlement of the trench backfill and possibly cracking of foundation elements, slabs, or pavement. The upper 5 feet of utility trench backfill placed in pavement areas should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. Below 5 feet, utility trench backfill in pavement areas should be compacted to at least 90 percent of the maximum dry density based on ASTM Test Method D1557. Pipe bedding should be in accordance with the pipe manufacturer's recommendations.

The contractor is responsible for removing all water-sensitive soils from the trenches regardless of the backfill location and compaction requirements. The contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

### **Pavement Design**

Based on our explorations, the near surface soils at the site beneath the existing pavement and base course material are interpreted as native soils consisting of medium stiff sandy silt (ML), undocumented fill in boring B-1, and loose silty sand in Boring B-6. The medium stiff sandy silt is considered an unsuitable subgrade for support of the pavement section and traffic loads. We recommend over-excavation of the medium stiff sandy silt, as well as any loose/soft soils or undocumented fill encountered elsewhere within the proposed in the pavement or access drive areas, to a depth of at least 12 inches below the planned subgrade elevation. The exposed grade after the over-excavation should be compacted to at least 95

percent of the maximum dry density as determined by ASTM Test Method D1557. Due to the high sensitivity of the silt soils, it may be difficult to attain the required degree of compaction on the over-excavated subgrade. In this case, it may be necessary to place a working surface layer of clean crushed rock or rock spalls on the over-excavated subgrade, followed by placement of a high-strength geotextile separation fabric, such as Mirafi 600X or equivalent. After the fabric is placed, the area should be filled to the planned pavement subgrade elevation with structural fill. The structural fill should be compacted to at least 95 percent of the maximum dry density as determined by ASTM Test Method D1557. In-place density tests should be performed to verify proper moisture content and adequate compaction. Subgrade modification such as this is intended to disperse surcharge loads and therefore aid in pavement performance.

A proof roll of the over-excavated subgrade soil may be performed in lieu of the compaction and in-place density tests. It should be noted that subgrade soils that have relatively high silt contents may be highly sensitive to moisture conditions. The subgrade strength and performance characteristics of a silty subgrade material may be dramatically reduced if this material becomes wet.

Traffic loads were not provided, however, based on our knowledge of the proposed project, we expect the traffic to range from light duty (passenger automobiles) to heavy duty (delivery and fire trucks). A Traffic Index, TI, of 5.5 was used for design of the pavement section in accordance with the requirements of In-N-Out Burger.

The following tables show the recommended minimum pavement sections.

**ASPHALTIC CONCRETE (FLEXIBLE) PAVEMENT**

Asphaltic Concrete	Aggregate Base*	Compacted Subgrade* **
4.0 in.	6.0 in.	12.0 in.

**PORTLAND CEMENT CONCRETE (RIGID) PAVEMENT  
4000 psi with FIBER MESH**

Min. PCC Depth	Aggregate Base*	Compacted Subgrade* **
6.0 in.	6.0 in.	12.0 in.

\* 95% compaction based on ASTM Test Method D1557  
\*\* A proof roll may be performed in lieu of in place density tests

The pavement specification in Appendix C provides additional recommendations including Subbase material. The asphaltic concrete depth in the flexible pavement tables should be a surface course type



asphalt as per Section 00744 of Oregon Department of Transportation (ODOT) Standard Specifications for Construction. The rigid pavement design is based on a Portland Cement Concrete (PCC) mix that has a 28-day compressive strength of 4,000 pounds per square inch (psi) with a fiber mesh.

Numerous large, mature trees surround the perimeter of the site. Roots from these trees have extended into the existing parking and access drives and caused significant damage in the form of heave, pop-outs, and cracking of the asphalt pavement. We recommend that roots from these trees be completely removed from beneath the new pavement and slab-on-grade sidewalk areas. As these are large trees, an licensed arborist specializing in tree root removal should be consulted to evaluate the tree's structural root system prior to the removal of any roots. If the roots can be removed, then we recommend a root barrier be installed prior to construction of the new pavement to deter new roots from entering the pavement subgrade and causing damage. Such root barriers are typically installed to depths of at least 30 inches or greater depending on the aggressive nature of the roots. It may not be possible to remove roots that extend into the proposed pavement areas without fatally harming the existing trees. If this is the case, it may be necessary to replace the existing trees with slow growing low shrubs with a less robust root system.

### **Testing and Inspection**

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions, including foundation bearing soils, are consistent with those exposed during our exploratory field work. This activity is an integral part of our services as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of our recommendations has been incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor. Furthermore, Krazan & Associates is not responsible for the contractor's procedures, methods, scheduling, or management of the work site.

### **LIMITATIONS**

Geotechnical engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences improves. Although your site was analyzed using the most appropriate current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to improvements in the field of geotechnical engineering, physical changes in the site either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the time of completion of the soils report may require the soils report to be professionally reviewed. In light of this, the owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that two years be considered a reasonable time for the usefulness of this report.

This report has been prepared for the exclusive use of In-N-Out Burger and their assigns, for the specific application to the subject site. Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original geotechnical investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. Our report, design conclusions, and interpretations should not be construed as a warranty of the subsurface conditions. Actual subsurface conditions may differ, sometimes significantly, from those indicated in this report.

The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those encountered during our field investigation. The findings and conclusions of this report can be affected by the passage of time, seasonal weather conditions, manmade influences such as construction on or adjacent to the site, and natural events such as earthquakes, slope instability, flooding, or groundwater fluctuations. If any variations or undesirable conditions are encountered during construction, the geotechnical engineer should be notified so that supplemental recommendations can be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The geotechnical engineer should be notified of any changes so that the recommendations can be reviewed and re-evaluated.

Misinterpretations of this report by other design team members can result in project delays and cost overruns. These risks can be reduced by having Krazan & Associates, Inc. involved in the design team's meetings and discussions prior to and following submission of the geotechnical report. Krazan & Associates, Inc. should also be retained to review pertinent elements of the design team's plans and specifications. To reduce the risk of contractors misinterpreting the recommendations of this report, Krazan & Associates should participate in pre-bid and preconstruction meetings, and provide construction observations and testing during the site work.

This report is a geotechnical engineering investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any environmental site assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater or atmosphere, or the presence of wetlands. Any statements, or absence of statements, in this report or on any soil boring logs regarding odors, unusual or suspicious items, or conditions observed are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessments.

The geotechnical information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical developments. We

emphasize that this report is valid for this project as outlined above, and should not be used for any other site. Our report is prepared for the exclusive use of our client. No other party may rely on the product of our services unless we agree in advance to such reliance in writing.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (253) 939-2500.

Respectfully submitted,

**KRAZAN & ASSOCIATES, INC.**

7/22/2020

Theresa R. Nunan  
Project Manager

Vijay Chaudhary, P.E.  
Assistant Regional Engineering Manager

DRAFT

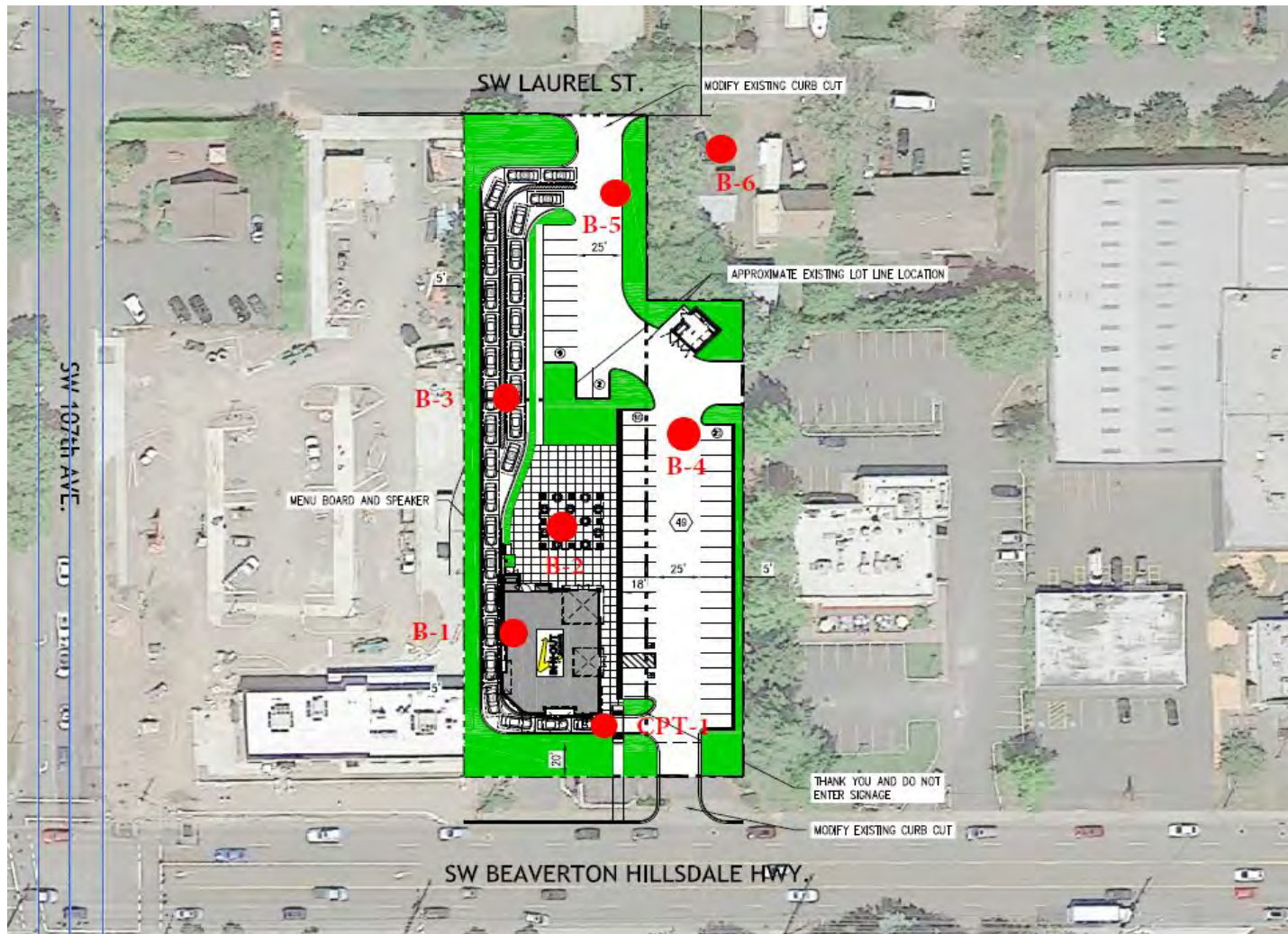


Figure 1 - Vicinity Map

Reference: USGS Map View, The National Map, 7.5 x 7.5 min., 1:24,000 scale.

		
Proposed In-N-Out Burger, 10565 Beaverton Hillsdale Highway, Beaverton, Oregon		
Date: June 2020	Project Number: 062-20012	
Drawn By: TRN	Figure: 1	Not to scale

Exhibit O



Legend:

● Boring Location

Figure 2 - Site Plan

Reference: Undated Preliminary Site Plan Layout drawing prepared by In-N-Out Burger.


		
Proposed In-N-Out Burger, 10565 SW Beaverton Hillsdale Highway, Beaverton, WA		
Date: June 2020	Project Number: 062-20012	
Drawn By: TRN	Figure: 2	Not to scale

Exhibit O



At southeast corner of site looking southeast: large roots of mature tree causing extensive damage of pavement in form of heave and cracking.



Near boring B-4 on east side of site looking south. Crack in pavement directly above existing utility line and emanating from hard corners of drainage grate.



At western side of site looking south. Large roots of mature tree have caused damage of pavement in form of heave and cracking. It appears repairs to the pavement in this area have been made in the past. Also, longitudinal crack in pavement above existing utility along access drive.



At southeast corner of site looking west. Pavement damage observed in form of pop-outs, alligator cracking, and depressions.

Figure 3 - Photos of Existing Pavement Condition

## **APPENDIX A**

### **FIELD INVESTIGATION – LABORATORY TESTING**

#### **Field Investigation**

The field investigation consisted of a surface reconnaissance and a subsurface exploration program. Six (6) soil borings, designated B-1 through B-6, were drilled and sampled for the subsurface investigation at this site. The soil borings were drilled on May 22, 2020 utilizing a Krazer operator and CME 45 drill rig equipped with 3.75-inch diameter solid flight augers under the direction of a Krazer geotechnical engineer. The borings were advanced to depths of approximately 10 to 15 feet below the existing ground surface (bgs). The approximate boring locations are shown on the Site Plan (Figure 2). The boring locations were field located based on existing site features. The boring logs are presented in this Appendix. The depths shown on the attached logs are from the existing ground surface at the time of our exploration.

The soils encountered were logged in the field during the exploration and are described in accordance with the Unified Soil Classification System (USCS). Select samples were returned to our laboratory for testing and evaluation.

One encased falling head percolation test was conducted in borehole B-5 at a depth of 1.5 feet bgs within the hollow stem augers following the Clackamas County Service District No. 1 Stormwater Standards, Appendix E, Infiltration Testing Guide. Following completion of the test, the boring was drilled and sampled to its termination depth of 10 feet bgs.

#### **Laboratory Testing**

The laboratory testing program was developed primarily to determine the index and engineering properties of the soils, and consisted of moisture content and No. 200 wash for determination of percent fines. Test results were used for soil classification and as criteria for determining the engineering suitability of the subsurface materials encountered.


#### **Liquefaction Analysis**

Liquefaction analysis was performed for site subsurface conditions, using information from soil boring B-3. The analysis was performed using the computer program LiquefyPro, Version 5.8, developed by CivilTech Software. The result of the analysis is included in this appendix.

# Soil Classification


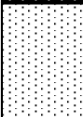
USCS Soil Classification				
Major Division			Group Description	
Coarse-Grained Soils  < 50% passes #200 sieve	Gravel and Gravelly Soils < 50% coarse fraction passes #4 sieve	Gravel (with little or no fines)	GW	Well-Graded Gravel
		Gravel (with > 12% fines)	GP	Poorly Graded Gravel
		Gravel (with > 12% fines)	GM	Silty Gravel
		Gravel (with > 12% fines)	GC	Clayey Gravel
	Sand and Sandy Soils > 50% coarse fraction passes #4 sieve	Sand (with little or no fines)	SW	Well-Graded Sand
		Sand (with little or no fines)	SP	Poorly Graded Sand
		Sand (with > 12% fines)	SM	Silty Sand
		Sand (with > 12% fines)	SC	Clayey Sand
Fine-Grained Soils  > 50% passes #200 sieve	Silt and Clay Liquid Limit < 50		ML	Silt
	Silt and Clay Liquid Limit < 50		CL	Lean Clay
	Silt and Clay Liquid Limit < 50		OL	Organic Silt and Clay (Low Plasticity)
	Silt and Clay Liquid Limit > 50		MH	Inorganic Silt
	Silt and Clay Liquid Limit > 50		CH	Inorganic Clay
	Silt and Clay Liquid Limit > 50		OH	Organic Clay and Silt (Med. to High Plasticity)
Highly Organic Soils			PT	Peat

Relative Density with Respect to SPT N-Value			
Coarse-Grained Soils		Fine-Grained Soils	
Density	N-Value (Blows/Ft)	Density	N-Value (Blows/Ft)
Very Loose	0 - 4	Very Soft	0 - 1
Loose	5 - 10	Soft	2 - 4
Medium Dense	11 - 30	Medium Stiff	5 - 8
Dense	31 - 50	Stiff	9 - 15
Very Dense	> 50	Very Stiff	16 - 30
		Hard	> 30


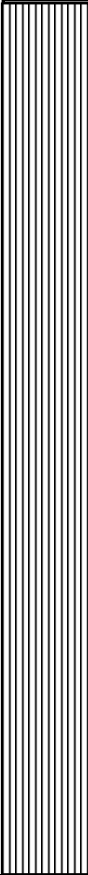
 <b style="font-size: 1.2em;">Krazan</b> & ASSOCIATES, INC.	
Proposed In-N-Out Burger, 10565 SW Beaverton Hillsdale Highway, Beaverton, OR	
Date: June 2020	References: USCS
Drawn By: TRN	Project Number: 062-20012




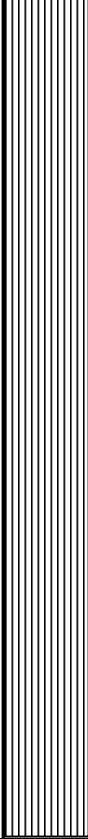
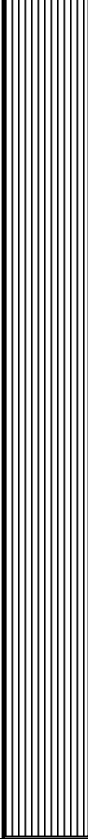
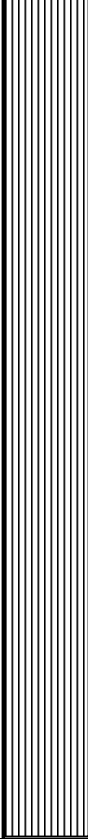
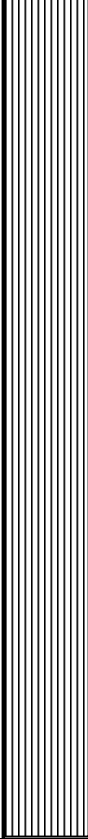
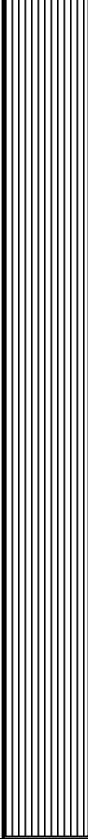
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<b>Address, City, State:</b> 10565 SW Beaverton Hillsdale Hwy, Beaverton, OR		<b>Equipment:</b> Krazan CME 45 Drill Rig	
<b>Project Manager:</b> Theresa Nunan	<b>Date</b>	<b>Started:</b> 5.22.2020	3.75" OD Solid Flight Augers Automatic SPT Hammer
<b>Field Engineer:</b> Theresa Nunan		<b>Completed:</b> 5.22.2020	
		<b>Backfilled:</b> 5.22.2020	
<b>Ground Surface Elevation:</b> +/- feet	<b>Groundwater Depth:</b> 9' on 5.22.2020 @ 8:10 am	<b>Total Depth of Boring:</b> 15 feet	

Elev. (feet)	Depth (feet)	Sample Type	Sample ID	Blow Counts	N-Value (blows/ft)	Graphic Log	Classification	Lab Results/ Notes
	1						4" AC Pavement over 5" Silty Sand w/gravel <b>BASE COURSE</b>	
	2						Dark Borwn <b>Silty SAND (SM)</b> , fine to coarse grained sand, trace organics, loose, moist	
	3	SPT	S-1	2	7		(FILL)	
	4			3			Brown <b>Sandy SILT (ML)</b> , fine grained sand, occasional fine sand lenses, stiff, moist	% Si/Cl = 75 MC = 29.6%
	5			4				
	6	SPT	S-2	2	8			Non-Plastic % Si/Cl = 94 MC = 30.9%
	7			4				
	8							
	9							
	10						- - - frequent fine sand lenses, wet, medium stiff	
	11	SPT	S-3	2	6			% Si/Cl = 85 MC = 34.7%
	12			4				
	13			2				
	14	SPT	S-4	5	12		- - - occasional 1/2 to 1-inch thick fine sand seams, stiff, wet	% Si/Cl = 86 MC = 33.3%
	15			6				
	16						<b>End of Boring at 15 Feet</b>	
	17							
	18							
	19							
	20							


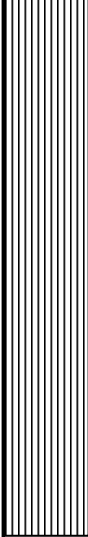
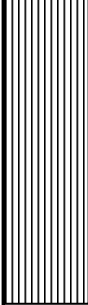

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<b>Address, City, State:</b> 10565 SW Beaverton Hillsdale Hwy, Beaverton, OR		<b>Equipment:</b> Krazan CME 45 Drill Rig	
<b>Project Manager:</b> Theresa Nunan	<b>Date</b>	<b>Started:</b> 5.21.2020	3.75" OD Solid Flight Augers Automatic SPT Hammer
<b>Field Engineer:</b> Theresa Nunan		<b>Completed:</b> 5.21.2020	
		<b>Backfilled:</b> 5.21.2020	
<b>Ground Surface Elevation:</b> +/- feet	<b>Groundwater Depth:</b> 13.4' on 5.21.2020 @ 3 pm	<b>Total Depth of Boring:</b> 15 feet	

Elev. (feet)	Depth (feet)	Sample Type	Sample ID	Blow Counts	N-Value (blows/ft)	Graphic Log	Classification	Lab Results/ Notes
	1						1" Grass over 6" TOPSOIL	
	2	SPT	S-1	1	6		Brown <b>Sandy SILT (ML)</b> , fine grained sand, frequent <1" thick seams fine sand, medium stiff, moist	
	3			2				
	4			4				
	5	SPT	S-2	2	7			
	6			3				
	7			4				
	8							
	9	SPT	S-3	2	6			
	10			2				
	11			4				
	12							
	13							
	14	SPT	S-4	3	7			
	15			3				
	16			4				
	17							
	18							
	19							
	20							
							<b>End of Boring at 15 Feet</b>	



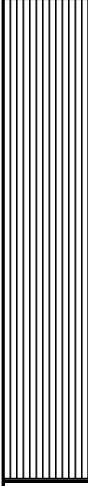
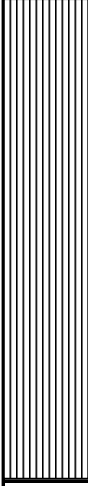
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<b>Address, City, State:</b> 10565 SW Beaverton Hillsdale Hwy, Beaverton, OR		<b>Equipment:</b> Krazan CME 45 Drill Rig	
<b>Project Manager:</b> Theresa Nunan	<b>Date</b>	<b>Started:</b> 5.21.2020	3.75" OD Solid Flight Augers Automatic SPT Hammer
<b>Field Engineer:</b> Theresa Nunan		<b>Completed:</b> 5.21.2020	
		<b>Backfilled:</b> 5.21.2020	
<b>Ground Surface Elevation:</b> +/- feet	<b>Groundwater Depth:</b> 9.7' on 5.21.20 @ 12:45 pm	<b>Total Depth of Boring:</b> 15 feet	

Elev. (feet)	Depth (feet)	Sample Type	Sample ID	Blow Counts	N-Value (blows/ft)	Graphic Log	Classification	Lab Results/ Notes
	1						4" AC Pavement over 5" Silty SAND (SM) with Gravel ( <b>BASE COURSE</b> )	
	2	SPT	S-1	2	7		Brown <b>Sandy SILT (ML)</b> , fine grained sand, frequent thin lenses fine sand, medium stiff, moist	
	3			3				
	4			4				
	5	SPT	S-2	2	8			
	6			3				
	7			5				
	8							
	9							
	10							
	11	SPT	S-2	1	6			
	12			2				
	13			4	12			
	14	SPT	S-4	5				
	15			7				
	16						<b>End of Boring at 15 Feet</b>	
	17							
	18							
	19							
	20							


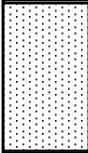
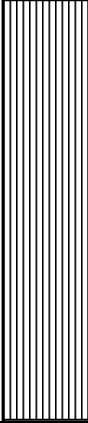
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<b>Address, City, State:</b> 10565 SW Beaverton Hillsdale Hwy, Beaverton, OR		<b>Equipment:</b> Krazan CME 45 Drill Rig		
<b>Project Manager:</b> Theresa Nunan		<b>Date</b>	<b>Started:</b> 5.21.2020	3.75" OD Solid Flight Augers Automatic SPT Hammer
<b>Field Engineer:</b> Theresa Nunan			<b>Completed:</b> 5.21.2020	
			<b>Backfilled:</b> 5.21.2020	
<b>Ground Surface Elevation:</b> +/- feet		<b>Groundwater Depth:</b> 9.3' on 5.21.20 @ 4:25 pm		<b>Total Depth of Boring:</b> 10 feet

Elev. (feet)	Depth (feet)	Sample Type	Sample ID	Blow Counts	N-Value (blows/ft)	Graphic Log	Classification	Lab Results/ Notes	
	1						4" AC Pavement over 5" Silty SAND (SM) with Gravel ( <b>BASE COURSE</b> )		
	2						Brown <b>Sandy SILT (ML)</b> , fine grained sand, occasional 1/4 to 1" thick seams fine sand, medium stiff, moist		
	3			2	7				
	4	SPT	S-1	3					
	5			3	10		- - - Becomes stiff, frequent lenses and up to 1" thick seams fine sand		
	6	SPT	S-2	4					
	7			6					
	8				5		- - - Becomes medium stiff, wet		
	9	SPT	S-3	2					
	10			3					
	11						<b>End of Boring at 10 Feet</b>		
	12								
	13								
	14								
	15								
	16								
	17								
	18								
	19								
	20								

<b>Project:</b> Proposed In-N-Out Burger	<b>Project Number:</b> 062-20012	<b>Client:</b> In-N-Out Burger	<b>Boring No.</b> <b>B-5</b>
<b>Address, City, State:</b> 10565 SW Beaverton Hillsdale Hwy, Beaverton, OR		<b>Equipment:</b> Krazan CME 45 Drill Rig	
<b>Project Manager:</b> Theresa Nunan	<b>Date</b>	<b>Started:</b> 5.22.2020	3.75" OD Solid Flight Augers Automatic SPT Hammer
<b>Field Engineer:</b> Theresa Nunan		<b>Completed:</b> 5.22.2020	
		<b>Backfilled:</b> 5.22.2020	
<b>Ground Surface Elevation:</b> +/- feet	<b>Groundwater Depth:</b> 3.8' on 5.22.2020 @ 9:35 am	<b>Total Depth of Boring:</b> 10 feet	

Elev. (feet)	Depth (feet)	Sample Type	Sample ID	Blow Counts	N-Value (blows/ft)	Graphic Log	Classification	Lab Results/ Notes	
1		SPT	S-1	2	5		4" AC Pavement over 3" Silty SAND (SM) with Crushed Rock (BASE COURSE)		
2	2					Dark Grey Silty CLAY (CL), trace roots, medium stiff, moist			
3	3								
4		SPT	S-2	4	8		Brown Sandy SILT (ML), fine grained sand, frequent thin horizontal and vertical grey fine sand lenses, medium stiff, moist		
5	4								
6	4								
7		SPT	S-3	4	8		--- Becomes wet		
8	4								
9	4								
10				4			End of Boring at 10 Feet		
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

<b>Project:</b> Proposed In-N-Out Burger	<b>Project Number:</b> 062-20012	<b>Client:</b> In-N-Out Burger	<b>Boring No.</b> <b>B-6</b>
<b>Address, City, State:</b> 10565 SW Beaverton Hillsdale Hwy, Beaverton, OR		<b>Equipment:</b> Krazan CME 45 Drill Rig	
<b>Project Manager:</b> Theresa Nunan	<b>Date</b>	<b>Started:</b> 5.21.2020	3.75" OD Solid Flight Augers Automatic SPT Hammer
<b>Field Engineer:</b> Theresa Nunan		<b>Completed:</b> 5.21.2020	
		<b>Backfilled:</b> 5.21.2020	
<b>Ground Surface Elevation:</b> +/- feet	<b>Groundwater Depth:</b> Not Encountered	<b>Total Depth of Boring:</b> 10 feet	

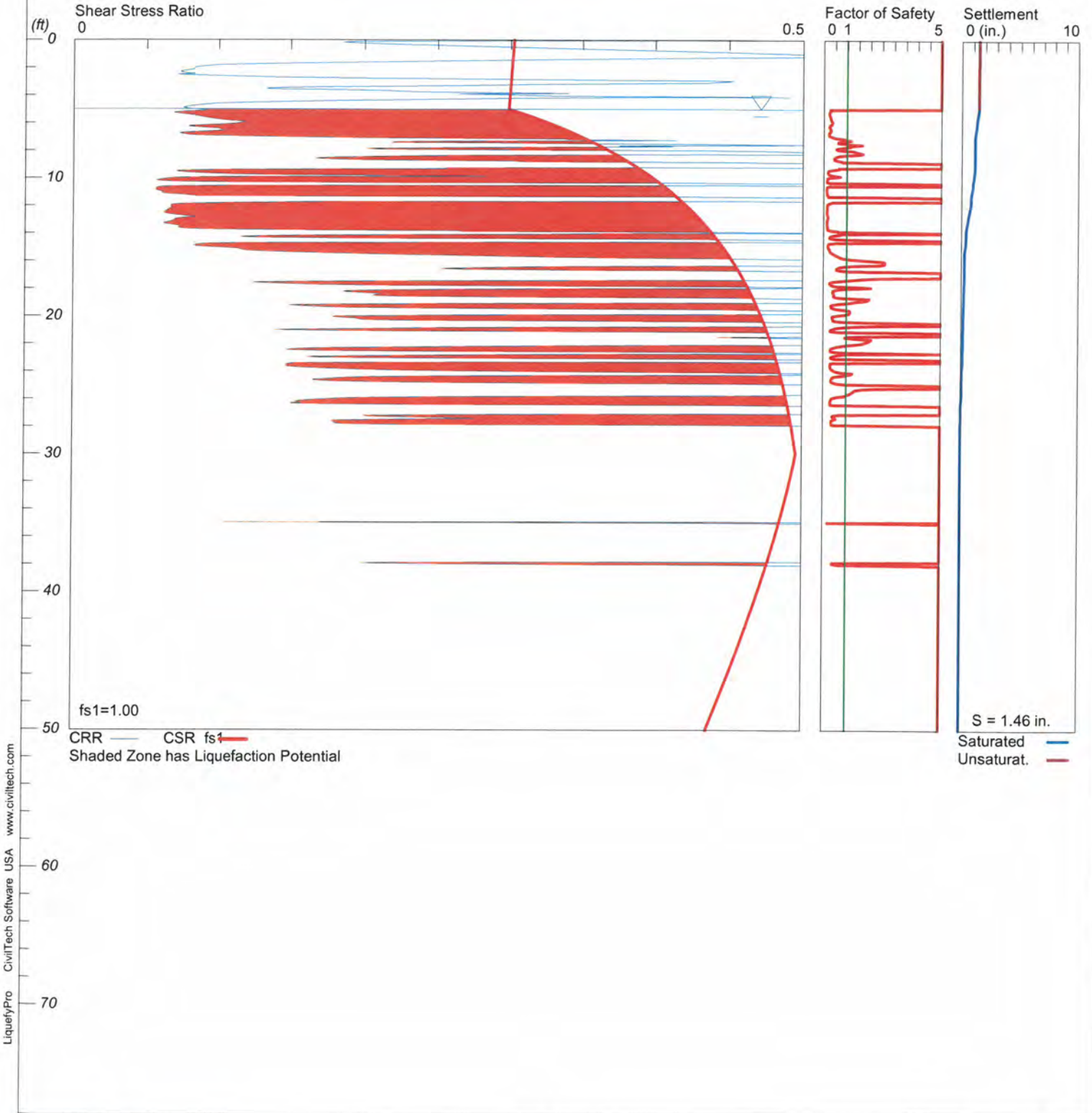
Elev. (feet)	Depth (feet)	Sample Type	Sample ID	Blow Counts	N-Value (blows/ft)	Graphic Log	Classification	Lab Results/ Notes
							6" Grass and Dark Brown Silty Sand <b>TOPSOIL</b>	
	1	SPT	S-3	1	5		Dark Brown to Brown <b>Silty SAND (SM)</b> , trace Gravel, fine grained, loose, moist	
	2			3				
	3			2				
	4	SPT	S-3	2	10		Brown <b>Sandy SILT (ML)</b> , fine grained sand, occasional thin lenses fine sand, stiff, moist	
	5			4				
	6			6				
	7	SPT	S-3	3	9			
	8			4				
	9			5				
	9	SPT	S-4	2	9			
	10			4				
	10			5				
	11						<b>End of Boring at 10 Feet</b>	
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							

# LIQUEFACTION ANALYSIS

In - N - Out -Burger -- Beaverton

Hole No.=CPT - 1 Water Depth=5 ft

Magnitude=9.34  
Acceleration=0.465g



LiquefyPro CivilTech Software USA www.civiltech.com

**APPENDIX B**

**EARTHWORK SPECIFICATIONS**

**GENERAL**

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

**SCOPE OF WORK:** These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

**PERFORMANCE:** The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Geotechnical Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified to by the project Civil Engineer. Both the Geotechnical Engineer and Civil Engineer are the Owner's representatives. If the contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Geotechnical Engineer and Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Geotechnical Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Geotechnical Engineer. The Contractor shall notify the Geotechnical Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner of the Engineers.

**TECHNICAL REQUIREMENTS:** All compacted materials shall be compacted to a density not less than 95 percent of maximum dry density as determined by ASTM Test Method D1557 as specified in the technical portion of the Geotechnical Engineering Report. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Geotechnical Engineer.

**SOIL AND FOUNDATION CONDITIONS:** The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the contract for any loss sustained as a result of any variance



between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

**DUST CONTROL:** The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including Court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

### **SITE PREPARATION**

Site preparation shall consist of site clearing and grubbing and preparations of foundation materials for receiving fill.

**CLEARING AND GRUBBING:** The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Geotechnical Engineer to be deleterious. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building area should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree root removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill or tree root excavation should not be permitted until all exposed surfaces have been inspected and the Geotechnical Engineer is present for the proper control of backfill placement and compaction. Burning in areas, which are to receive fill materials, shall not be permitted.

**SUBGRADE PREPARATION:** Subgrade should be prepared as described in our site preparation section of this report.

**EXCAVATION:** All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

**FILL AND BACKFILL MATERIAL:** No material shall be moved or compacted without the presence of the Geotechnical Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Geotechnical Engineer. All materials utilized for constructing site fills shall be free from vegetable or other deleterious matter as determined by the Geotechnical Engineer.

**PLACEMENT, SPREADING AND COMPACTION:** The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Geotechnical Engineer.

Both cut and fill shall be surface compacted to the satisfaction of the Geotechnical Engineer prior to final acceptance.

**SEASONAL LIMITS:** No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Geotechnical Engineer indicates that the moisture content and density of previously placed fill are as specified.

DRAFT

## APPENDIX C

### PAVEMENT SPECIFICATIONS

**1. DEFINITIONS** – The term “pavement” shall include asphalt concrete surfacing, untreated aggregate base, and aggregate subbase. The term “subgrade” is that portion of the area on which surfacing, base, or subbase is to be placed.

**2. SCOPE OF WORK** – This portion of the work shall include all labor, materials, tools and equipment necessary for and reasonable incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically notes as “Work Not Included.”

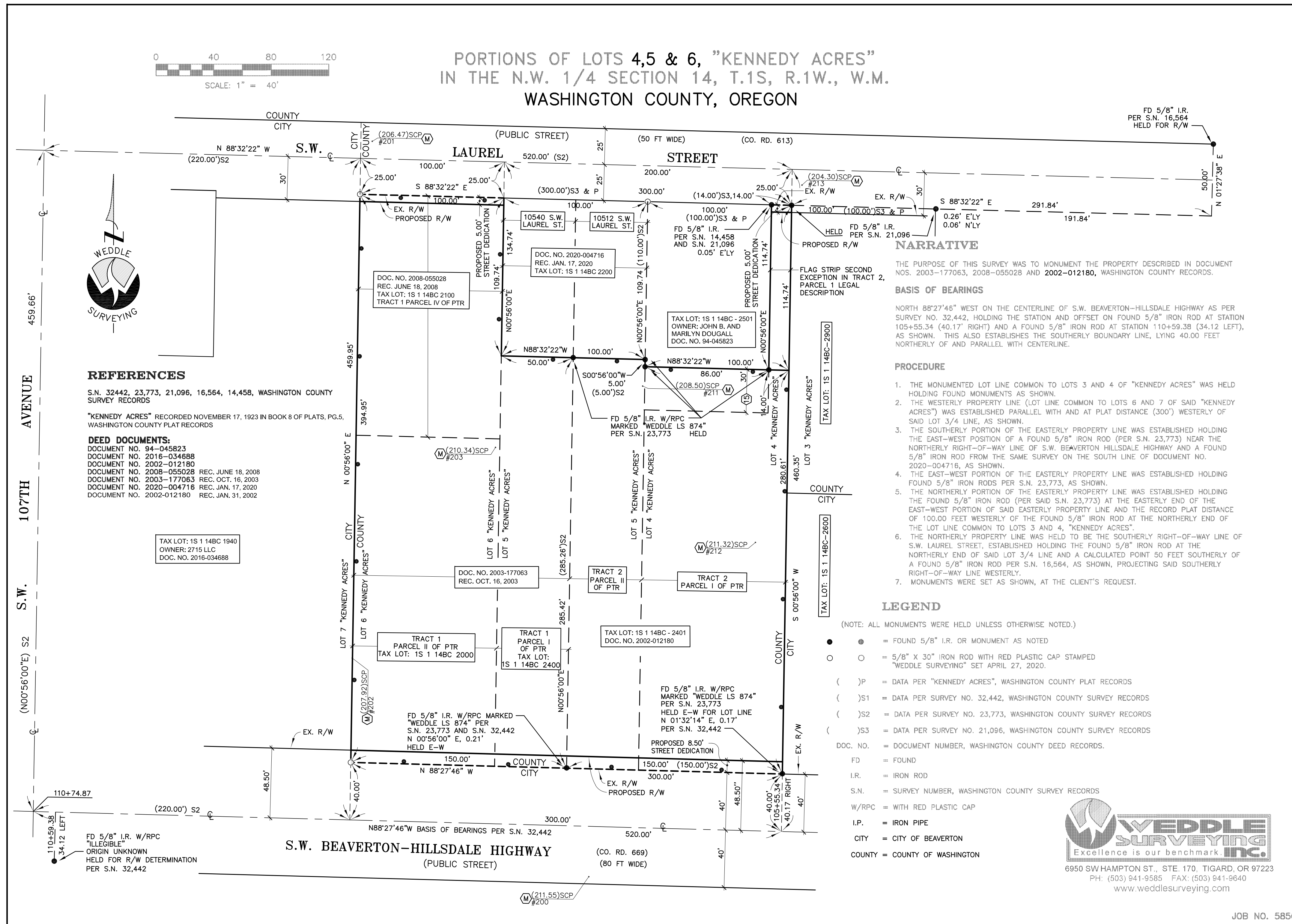
**3. PREPARATION OF THE SUBGRADE** – The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans and pavement design section of this report. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum compaction of 95% of maximum dry density as determined by test method ASTM D1557. The finished subgrades shall be tested and approved by the Geotechnical Engineer prior to the placement of additional pavement of additional pavement courses.

**4. AGGREGATE BASE** – The aggregate base shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base should conform to ODOT Standard Specification for Base Aggregate (Table 02360-1). The base material shall be compacted to a minimum compaction of 95% as determined by ASTM D1557. Each layer of subbase shall be tested and approved by the Geotechnical Engineer prior to the placement of successive layers.

**5. ASPHALTIC CONCRETE SURFACING** – Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades, and dimensions shown on the plans. The drying, proportioning, and mixing of the materials shall conform to ODOT Specifications.

The prime coat, spreading and compacting equipment, and spreading and compacting the mixture shall conform to ODOT Specifications, with the exception that no surface course shall be placed when the atmospheric temperature is below 50 degrees F. The surfacing shall be rolled with combination steel-wheel and pneumatic rollers, as described in ODOT Specifications. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

**6. TACK COAT** – The tack (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of ODOT Specifications.



**BOUNDARY AND EASEMENT MAP**

**NARRATIVE**  
 THE PURPOSE OF THIS SURVEY WAS TO MONUMENT THE PROPERTY DESCRIBED IN DOCUMENT NOS. 2003-177063, 2008-055028 AND 2002-012180, WASHINGTON COUNTY RECORDS.

**BASIS OF BEARINGS**  
 NORTH 88°27'48" WEST ON THE CENTERLINE OF S.W. BEAVERTON-HILLSDALE HIGHWAY AS PER SURVEY NO. 32,442, HOLDING THE STATION AND OFFSET ON FOUND 5/8" IRON ROD AT STATION 105+55.34 (40.17' RIGHT) AND A FOUND 5/8" IRON ROD AT STATION 110+59.38 (34.12 LEFT), AS SHOWN. THIS ALSO ESTABLISHES THE SOUTHERLY BOUNDARY LINE, LYING 40.00 FEET NORTHERLY OF AND PARALLEL WITH CENTERLINE.

**PROCEDURE**

1. THE MONUMENTED LOT LINE COMMON TO LOTS 3 AND 4 OF "KENNEDY ACRES" WAS HELD HOLDING FOUND MONUMENTS AS SHOWN.
2. THE WESTERLY PROPERTY LINE (LOT LINE COMMON TO LOTS 6 AND 7 OF SAID "KENNEDY ACRES") WAS ESTABLISHED PARALLEL WITH AND AT PLAT DISTANCE (300') WESTERLY OF SAID LOT 3/4 LINE, AS SHOWN.
3. THE SOUTHERLY PORTION OF THE EASTERLY PROPERTY LINE WAS ESTABLISHED HOLDING THE EAST-WEST POSITION OF A FOUND 5/8" IRON ROD (PER S.N. 23,773) NEAR THE NORTHERLY RIGHT-OF-WAY LINE OF S.W. BEAVERTON HILLSDALE HIGHWAY AND A FOUND 5/8" IRON ROD FROM THE SAME SURVEY ON THE SOUTH LINE OF DOCUMENT NO. 2020-004716, AS SHOWN.
4. THE EAST-WEST PORTION OF THE EASTERLY PROPERTY LINE WAS ESTABLISHED HOLDING FOUND 5/8" IRON RODS PER S.N. 23,773, AS SHOWN.
5. THE NORTHERLY PORTION OF THE EASTERLY PROPERTY LINE WAS ESTABLISHED HOLDING THE FOUND 5/8" IRON ROD (PER SAID S.N. 23,773) AT THE EASTERLY END OF THE EAST-WEST PORTION OF SAID EASTERLY PROPERTY LINE AND THE RECORD PLAT DISTANCE OF 100.00 FEET WESTERLY OF THE FOUND 5/8" IRON ROD AT THE NORTHERLY END OF THE LOT LINE COMMON TO LOTS 3 AND 4, "KENNEDY ACRES".
6. THE NORTHERLY PORTION OF THE EASTERLY PROPERTY LINE WAS HELD TO BE THE SOUTHERLY RIGHT-OF-WAY LINE OF S.W. LAUREL STREET, ESTABLISHED HOLDING THE FOUND 5/8" IRON ROD AT THE NORTHERLY END OF SAID LOT 3/4 LINE AND A CALCULATED POINT 50 FEET SOUTHERLY OF A FOUND 5/8" IRON ROD PER S.N. 16,564, AS SHOWN, PROJECTING SAID SOUTHERLY RIGHT-OF-WAY LINE WESTERLY.
7. MONUMENTS WERE SET AS SHOWN, AT THE CLIENT'S REQUEST.

**LEGEND**

(NOTE: ALL MONUMENTS WERE HELD UNLESS OTHERWISE NOTED.)

- = FOUND 5/8" I.R. OR MONUMENT AS NOTED
- = 5/8" X 30" IRON ROD WITH RED PLASTIC CAP STAMPED "WEDDLE SURVEYING" SET APRIL 27, 2020.
- ( )P = DATA PER "KENNEDY ACRES", WASHINGTON COUNTY PLAT RECORDS
- ( )S1 = DATA PER SURVEY NO. 32,442, WASHINGTON COUNTY SURVEY RECORDS
- ( )S2 = DATA PER SURVEY NO. 23,773, WASHINGTON COUNTY SURVEY RECORDS
- ( )S3 = DATA PER SURVEY NO. 21,096, WASHINGTON COUNTY SURVEY RECORDS
- DOC. NO. = DOCUMENT NUMBER, WASHINGTON COUNTY DEED RECORDS.
- FD = FOUND
- I.R. = IRON ROD
- S.N. = SURVEY NUMBER, WASHINGTON COUNTY SURVEY RECORDS
- W/RPC = WITH RED PLASTIC CAP
- I.P. = IRON PIPE
- CITY = CITY OF BEAVERTON
- COUNTY = COUNTY OF WASHINGTON

**REFERENCES**

S.N. 32442, 23,773, 21,096, 16,564, 14,458, WASHINGTON COUNTY SURVEY RECORDS

"KENNEDY ACRES" RECORDED NOVEMBER 17, 1923 IN BOOK 8 OF PLATS, PG.5, WASHINGTON COUNTY PLAT RECORDS

**DEED DOCUMENTS:**  
 DOCUMENT NO. 94-045823  
 DOCUMENT NO. 2016-034688  
 DOCUMENT NO. 2002-012180  
 DOCUMENT NO. 2008-055028 REC. JUNE 18, 2008  
 DOCUMENT NO. 2003-177063 REC. OCT. 16, 2003  
 DOCUMENT NO. 2020-004716 REC. JAN. 17, 2020  
 DOCUMENT NO. 2002-012180 REC. JAN. 31, 2002

TAX LOT: 1S 1 14BC 1940  
 OWNER: 2715 LLC  
 DOC. NO. 2016-034688

FD 5/8" I.R. W/RPC  
 "LEGIBLE"  
 ORIGIN UNKNOWN  
 HELD FOR R/W DETERMINATION  
 PER S.N. 32,442



JOB NO. 5856

**BOUNDARY AND EASEMENT MAP PARTIAL LEGEND**

●●● INDICATES THE BOUNDARY OF THIS BOUNDARY AND EASEMENT MAP CONSISTING OF 97,701 S.F. OR 2.243 ACRES AND 93,045 S.F. OR 2.136 ACRES NET

**SURVEY CONTROL POINTS**

Ⓜ WEDDLE SURVEYING CONTROL POINTS 200, 201, 202, 203, 211, 212 AND 213 SET FLAGGED MAG NAIL AS SHOWN.

**IN-N-OUT BURGER**

DEVELOPER:  
 IN-N-OUT BURGER  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

**Underground Service Alert**

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 TWO WORKING DAYS  
 BEFORE YOU DIG

**REVISIONS**


GHA PROJECT NO. -----

**GHA**  
 Architecture/Development  
 14901 Quorum Drive  
 Suite 300  
 Dallas Texas 75254  
 Ph: (972) 239-8884  
 Fax: (972) 239-5054

CIVIL ENGINEER:  
**MSI ENGINEERING, INC.**  
 CIVIL ENGINEERS AND LAND SURVEYORS SPECIALIZING IN SITE DEVELOPMENT  
 301 NORTH SAN DIMAS AVENUE, SAN DIMAS, CA 91773  
 (909) 305-2395 FAX (909) 305-2397

*Aaron D. Pellow*  
 AARON D. PELLOW R.C.E. 91119

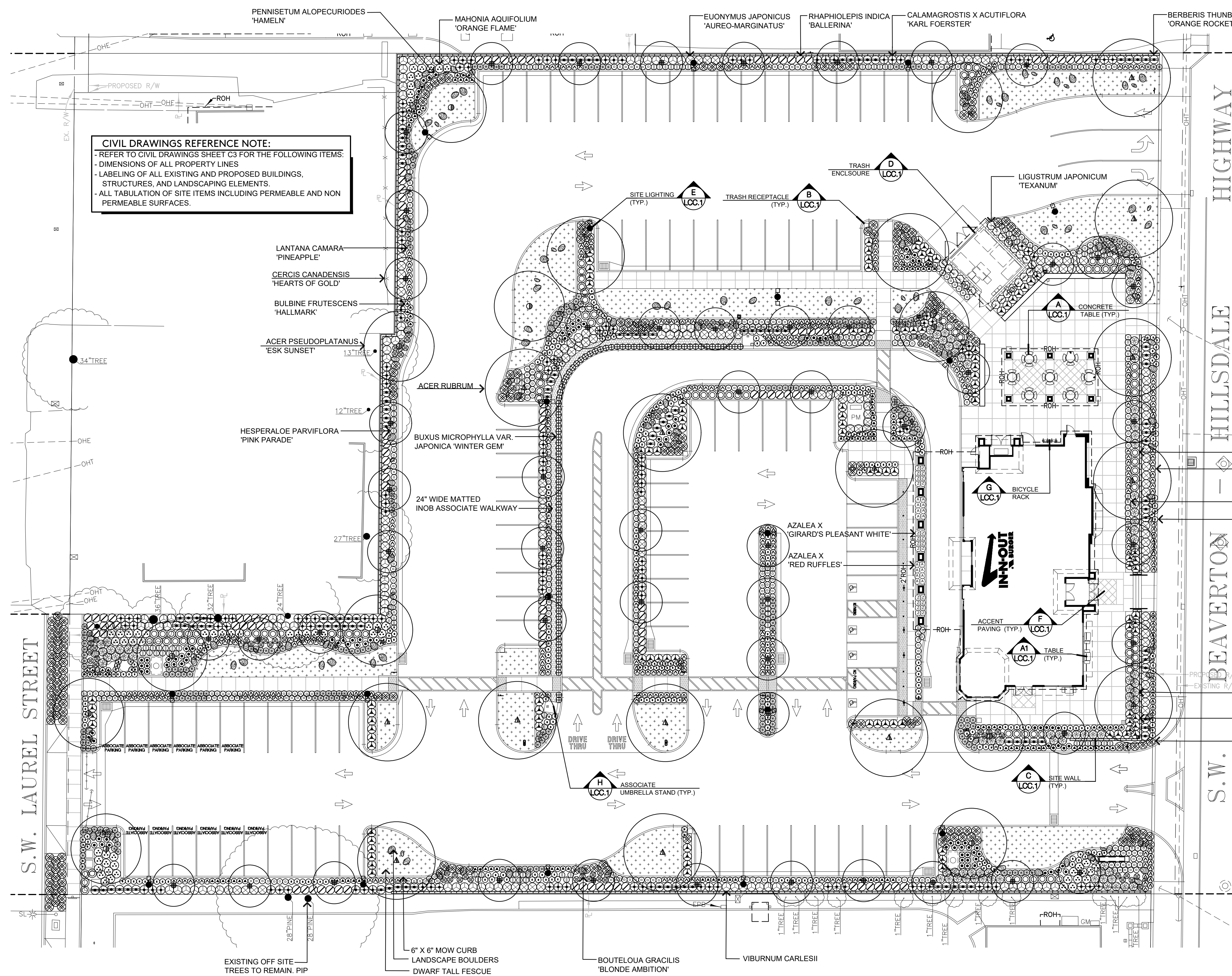
01-19-2022 DATE

REGISTERED PROFESSIONAL ENGINEER  
 91119  
 OREGON  
 MARCH 03, 2011  
 AARON D. PELLOW  
 EXPIRES: 12-31-2022

**IN-N-OUT BURGER**  
 10505 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
 BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**COUNTY ENTITLEMENT BOUNDARY AND EASEMENT MAP**

**C37**



**PLANTING LEGEND**

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	SPACING	REMARKS
<b>TREES</b>						
(Symbol)	CERCIS CANADENSIS 'HEARTS OF GOLD'	HEARTS OF GOLD REDBUD	1.5" CALIPER	+/- 51	PER PLAN	STANDARDS - MATCHED
(Symbol)	ACER RUBRUM	RED SUNSET MAPLE	3" CALIPER	+/- 16	PER PLAN	STANDARDS - MATCHED
(Symbol)	ACER PSEUDOPLATANUS 'ESK SUNSET'	ESKIMO SUNSET SYCAMORE MAPLE	1.5" CALIPER	+/- 11	PER PLAN	STANDARDS - MATCHED
<b>SHRUBS</b>						
(Symbol)	ABELIA X GRANDIFLORA 'KALEIDOSCOPE'	GOLD-VARIEGATED ABELIA	5 GALLON	+/- 323	24" O.C.	TRIANGLE SPACING
(Symbol)	AZALEA X 'GIRARD'S PLEASANT WHITE'	GIRARD'S PLEASANT WHITE EVERGREEN AZALEA	5 GALLON	+/- 24	24" O.C.	TRIANGLE SPACING
(Symbol)	AZALEA X 'RED RUFFLES'	RED RUFFLES AZALEA	5 GALLON	+/- 16	24" O.C.	TRIANGLE SPACING
(Symbol)	BUXUS MICROPHYLLA VAR. JAPONICA 'WINTER GEM'	WINTER GEM BOXWOOD	5 GALLON	+/- 89	24" O.C.	TRIANGLE SPACING
(Symbol)	BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLONDE AMBITION BLUE GRAMA GRASS	5 GALLON	+/- 83	24" O.C.	TRIANGLE SPACING
(Symbol)	BULBINE FRUTESCENS 'HALLMARK'	'HALLMARK' BULBINE	1 GALLON	+/- 140	24" O.C.	TRIANGLE SPACING
(Symbol)	BERBERIS THUNBERGII 'CONCORDE'	CONCORDE JAPANESE BARBERRY	5 GALLON	+/- 403	24" O.C.	TRIANGLE SPACING
(Symbol)	BERBERIS THUNBERGII 'ORANGE ROCKET'	ORANGE ROCKET BARBERRY	5 GALLON	+/- 107	36" O.C.	TRIANGLE SPACING
(Symbol)	CALAMAGROSTIS X ACUTIFLORA 'FEATHER REED GRASS'	FEATHER REED GRASS	5 GALLON	+/- 130	24" O.C.	TRIANGLE SPACING
(Symbol)	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	5 GALLON	+/- 306	24" O.C.	TRIANGLE SPACING
(Symbol)	EUONYMUS JAPONICUS 'KALEIDOSCOPE'	GOLDEN EUONYMUS	5 GALLON	+/- 124	36" O.C.	TRIANGLE SPACING
(Symbol)	HESPERALOE PARVIFLORA 'PINK PARADE'	HESPERALOE PINK PARADE	5 GALLON	+/- 93	24" O.C.	TRIANGLE SPACING
(Symbol)	LIGUSTRUM JAPONICUM 'TEXANUM'	WAXLEAF PRIVET	5 GALLON	+/- 21	36" O.C.	TRIANGLE SPACING
(Symbol)	RHAPHIOLEPIS INDICA 'BALLERINA'	INDIAN HAWTHORN	5 GALLON	+/- 104	36" O.C.	TRIANGLE SPACING
(Symbol)	MAHONIA AQUIFOLIUM 'ORANGE FLAME'	ORANGE FLAME OREGON GRAPE HOLLY	5 GALLON	+/- 58	36" O.C.	TRIANGLE SPACING
(Symbol)	NANDINA 'SEIKA'	OBSESSION NANDINA	5 GALLON	+/- 108	36" O.C.	TRIANGLE SPACING
(Symbol)	PENNISETUM ALOPECURIODES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GALLON	+/- 98	24" O.C.	TRIANGLE SPACING
(Symbol)	PICEA PUNGENS 'GLOBOSA'	DWARF GLOBE BLUE SPRUCE	5 GALLON	+/- 104	36" O.C.	TRIANGLE SPACING
(Symbol)	VIBURNUM CARLESII	KOREAN SPICE VIBURNUM	5 GALLON	+/- 82	36" O.C.	TRIANGLE SPACING
(Symbol)	PITTIOSPORUM TOBIRA 'SHIMA'	CREME DE MINT DWARF PITTIOSPORUM	5 GALLON	+/- 87	36" O.C.	TRIANGLE SPACING
<b>GROUND COVER</b>						
(Symbol)	LANTANA CAMARA 'PINEAPPLE'	BANDOLIER PINEAPPLE LANTANA	5 GALLON	+/- 263	36" O.C.	TRIANGLE SPACING
(Symbol)	LANTANA CAMARA 'SEIKA'	YELLOW BANDANA LANTANA	1 GALLON	+/- 188	36" O.C.	TRIANGLE SPACING
(Symbol)	LANTANA CAMARA 'YELLOW BANDANA'	YELLOW BANDANA LANTANA	1 GALLON	+/- 188	36" O.C.	TRIANGLE SPACING
(Symbol)	DWARF TALL FESCUE	LOCALLY AVAILABLE. SUBMIT CUT SHEET TO OWNER PRIOR TO ORDERING	SOD	+/- 6,617	PER PLAN SQ FT	

NOTE:  
 1. QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY COUNT, BASED UPON OC SPACING INDICATED.  
 2. ALL PLANT MATERIAL SHALL BE REVIEWED AND APPROVED BY IN-N-OUT REP. AND LANDSCAPE ARCHITECT.  
 3. ALIGN TREES WITH PARKING STALLS STRIPING.  
 4. INSTALL 3" SHREDDED MULCH FOR ALL LANDSCAPE AREAS.

Lot Area x fifteen (15) percent required landscaping	X = (94,525 Lot Area x 15%) = 14,178
Building Floor Area	Y = 9,598
Proposed Building Floor Area	Z = 3,885
Z / Y = (Addition as percent of total building area)	A = (3,885 / 9,598) = .40
X x A = Required amount of landscaping	= 5,671.2

**SQUARE FOOTAGE NOTE:**  
 ON SITE LANDSCAPE AREA PROVIDED WITHIN PROPERTY = 23,326 S.F. (25.1%)  
 OFF SITE S.W. LAUREL STREET = 429 S.F.  
 OFF SITE S.W. BEAVERTON-HILLSDALE HIGHWAY = 266 S.F.  
 TOTAL TURF AREA: 6,617 S.F. (28%)  
 TOTAL PLANTING AREA: 17,404 S.F. (72%)  
 TOTAL LANDSCAPE AREA: 24,021 S.F. (100%)

**PLAN VIEW**

SCALE: 1" = 20'-0"

**LANDSCAPE IRRIGATION INTENT:**  
 IT IS THE INTENT TO PROVIDE AN IRRIGATION DESIGN UTILIZING DRIP IRRIGATION SYSTEM FOR THE ENTIRE SITE BURIED A CONSTANT 4" BELOW FINISH GRADE AND STAPLED DOWN @ 5' INTERVALS FOR ADDED PROTECTION. THE IRRIGATION SYSTEM SHALL BE CONTROLLED BY A SMART CONTROLLER WITH ONSITE WEATHER SENSOR AND REMOTE OPERATION THROUGH THE INTERNET FROM CENTRAL LOCATION. CONTROLLER SHALL BE A TYPE WHICH AUTOMATICALLY ADJUSTS RUNTIMES AND FREQUENCIES BASED, NOT ONLY ON HISTORICAL ET, BUT ACTUAL ONSITE WEATHER CONDITIONS.

**AGRONOMIC SOILS REPORT REQUIREMENT**  
 AFTER MAJOR GRADING OPERATIONS ARE COMPLETED, CONTRACTOR SHALL OBTAIN SOIL SAMPLES FROM MIN 6" DEPTH AND SUBMIT TO AN APPROVED LABORATORY FOR ANALYSIS AND RECOMMENDATIONS. OBTAIN A MINIMUM OF 1 SAMPLE PER ACRE AND 1 SAMPLE AFTER IMPLEMENTATION OF FIRST REPORT FOR VERIFICATION SOIL MEETS SOILS LAB STANDARDS. REPORTS MUST BE SUBMITTED TO LANDSCAPE ARCHITECT, CITY AND OWNERS REP. FOR REVIEW AND APPROVAL.

**FIBERWEB BIO BARRIER:**  
 • CONTRACTOR SHALL INSTALL TREE ROOT BARRIERS FOR ALL TREES WITHIN 6' OF CONCRETE EDGE. INSTALL THE 24" VERSION AND SHALL BE CONTINUOUS FOR 10' ON EITHER SIDE OF TREE.  
 • STREET TREES AND OTHER TREES LOCATED WITHIN 10-FEET OF THE PUBLIC RIGHT-OF-WAY (WITH THE EXCEPTION OF PALM TREES) SHALL BE PROVIDED WITH A BIO BARRIER.

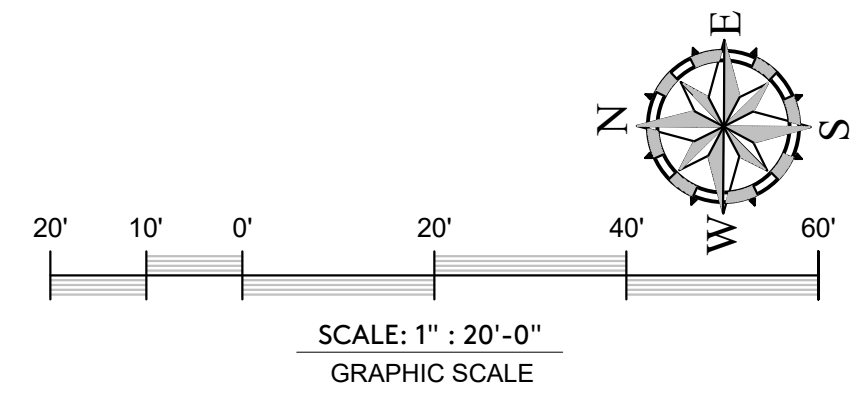
**LANDSCAPE BOULDER LEGEND**

BOULDER #	SIZE	TYPE/ COLOR/ MANUFACTURER
1	1' X 2' X 3'	LOCALLY HARVESTED QUARRY ROCK TO BE USED FOR ACCENT BOULDERS. SUBMIT SAMPLE TO OWNER FOR APPROVAL
2	2' X 4' X 3'	LOCALLY HARVESTED QUARRY ROCK TO BE USED FOR ACCENT BOULDERS. SUBMIT SAMPLE TO OWNER FOR APPROVAL
3	3' X 3' X 3'	LOCALLY HARVESTED QUARRY ROCK TO BE USED FOR ACCENT BOULDERS. SUBMIT SAMPLE TO OWNER FOR APPROVAL

BOULDER PLACEMENT (GROUPINGS) SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO PLACEMENT.

**LANDSCAPE CONSTRUCTION LEGEND**

SYMBOL	MATERIAL	SQ. FT.
(Symbol)	FOREST FLOOR - 3" THICK MULCH LAYER TO BE INSTALLED IN ALL PLANTERS WITHOUT DRY STREAM BED.	+/- 17,404 S.F.
(Symbol)	6" X 6" MOW CURBS TO SEPARATE ALL LAWN AREA FROM PLANTER AREAS	
(Symbol)	24" WIDE MATTED INOB ASSOCIATE WALKWAY	+/- 360 S.F.



LANDSCAPE ARCHITECT:

**BPA** SIGNATURE DATE: 01-19-2022  
 LANDSCAPE ARCHITECTS

**BRANDON PETRUNIO & ASSOCIATES, INC.**  
 LANDSCAPE ARCHITECTS

Design Studio: 301 N. San Dimas Ave., San Dimas, CA. 91773  
 Corp Office: 15699 Cherry Leaf Lane, Fontana, CA. 92336  
 T: (424) 235-8940, M: (951) 312-9943, E: brandon@bpalas.com

**IN-N-OUT BURGER**

DEVELOPER:  
 IN-N-OUT BURGER  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226

**Underground Service Alert**  
 CALL BEFORE YOU DIG  
 Call: Toll Free 811  
 TWO WORKING DAYS BEFORE YOU DIG

**REVISIONS**


GHA PROJECT NO. -----  
**GHA**  
 Architecture/Development  
 14901 Quorum Drive  
 Suite 300  
 Dallas Texas 75254  
 Ph: (972) 239-8884  
 Fax: (972) 239-5054

CIVIL ENGINEER:  
**MSI ENGINEERING, INC.**  
 CIVIL ENGINEERS AND LAND SURVEYORS SPECIALIZING IN SITE DEVELOPMENT  
 301 NORTH SAN DIMAS AVENUE, SAN DIMAS, CA. 91773  
 (909) 305-2395 FAX (909) 305-2397

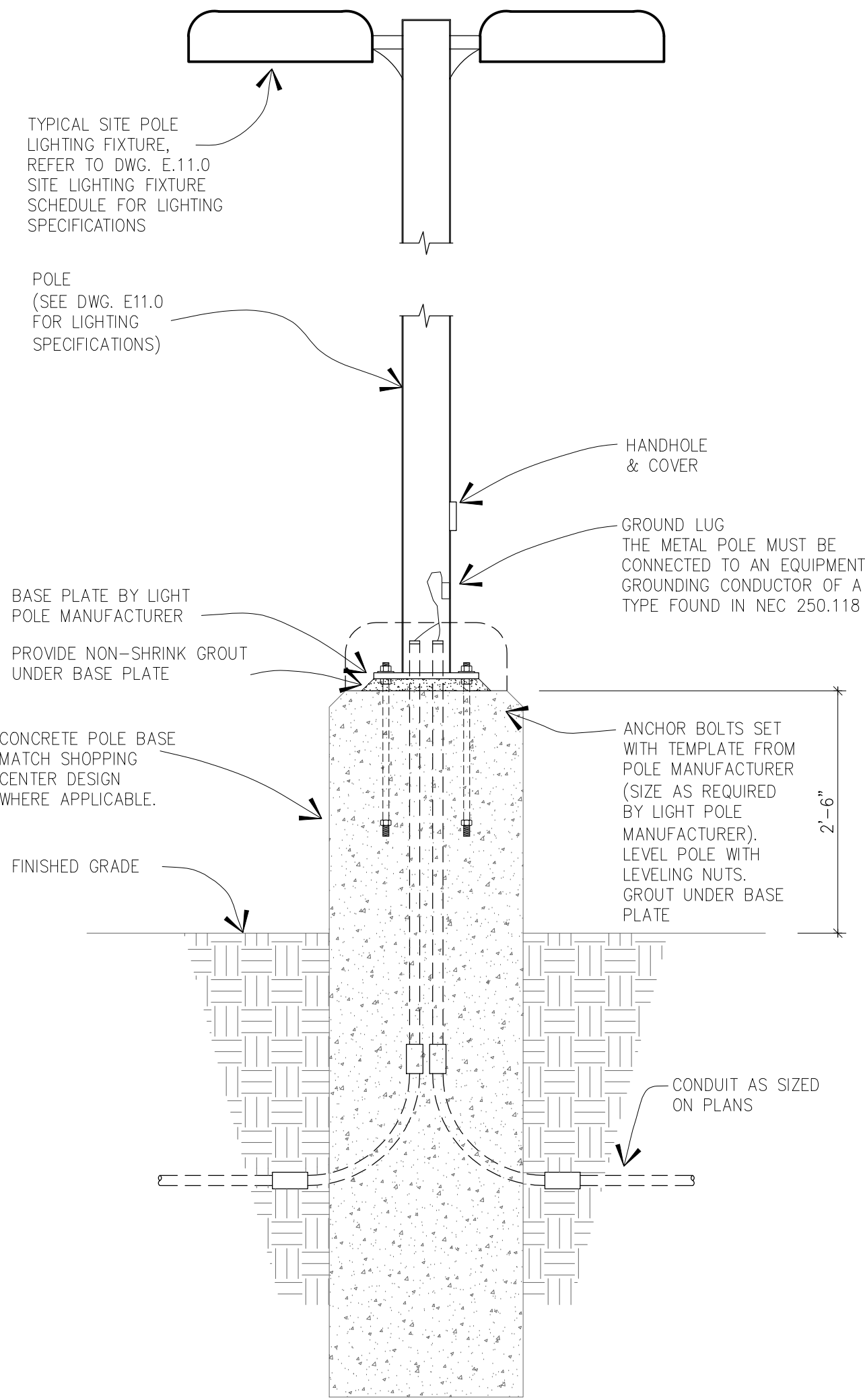
Aaron D. Pellon  
 AARON D. PELLON R.C.E. 91119 DATE 01-19-2022 EXPIRES: 12-31-2022

REGISTERED PROFESSIONAL ENGINEER  
 91119  
 OREGON  
 MARCH 03, 2011  
 AARON D. PELLON

**IN-N-OUT BURGER**  
 10505 AND 10565 SW BEAVERTON-HILLSDALE HIGHWAY  
 BEAVERTON AREA OF WASHINGTON COUNTY, OR 97005

**ENTITLEMENT LANDSCAPE PLANTING PLAN**

**LPP.1**

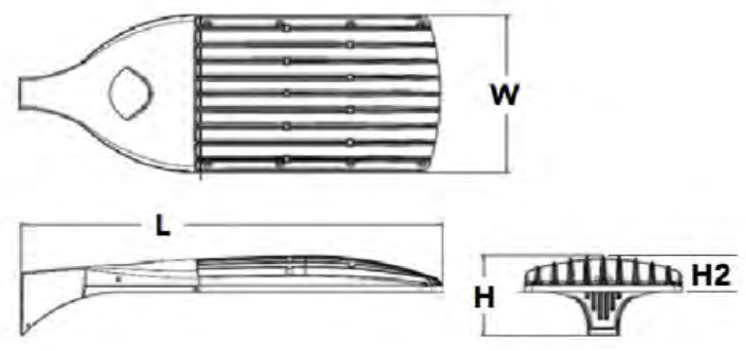


### D-Series Size 2 LED Area Luminaire



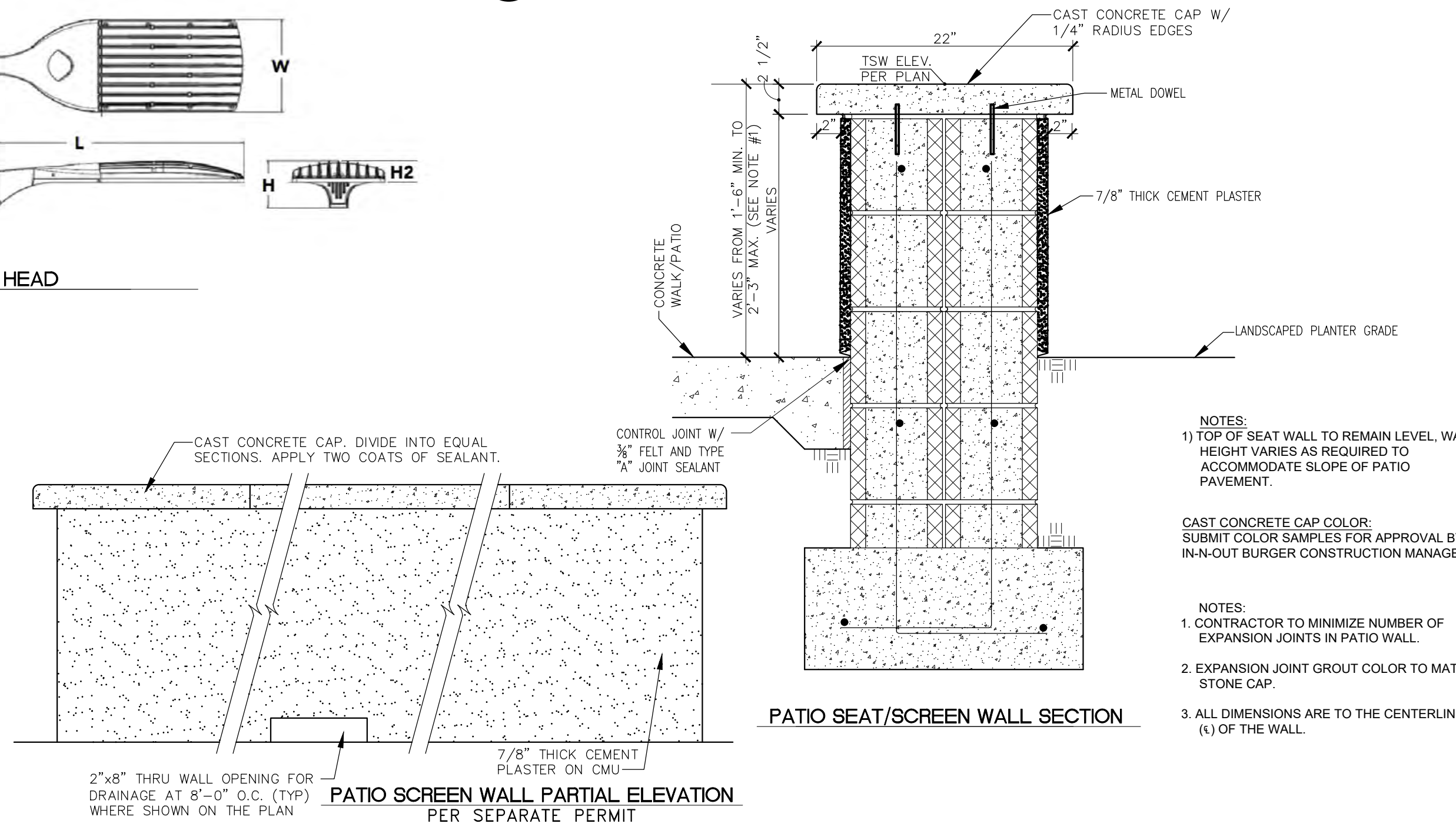
#### Specifications

EPA: 1.1 ft<sup>2</sup> (0.10 m<sup>2</sup>)  
 Length: 40" (101.6 cm)  
 Width: 15" (38.1 cm)  
 Height 1: 7-1/4" (18.4 cm)  
 Height 2 (max): 3.5"  
 Weight: 36lbs



TRASH DESCRIPTION  
 W30 WEATHERSTONE BRIGHT WHITE TRASH RECEPTACLE  
 58 BEIGE GRANITE TRASH CAN LID WITH POLISHED DOOR.  
 TRASH CONTAINER AND LID - MODEL: TF1015W30F-58

(B) EXAMPLE INOB STANDARD TRASH RECEPTACLE NOT TO SCALE



(C) LOW SEAT / SCREEN WALL TYPICAL NOT TO SCALE



STANDARD ROUND



ADA COMPLIANT

TABLE/ CHAIRS DESCRIPTION  
 G20 GROUND & POLISHED WHITE TABLE TOPS AND SEATS  
 L20 WHITE SMOOTH STAINED TABLE LEGS

WASAU TILE INC.  
 STANDARD 4 SEAT ROUND (MODEL: TF3125G20F/L20)  
 ADA COMPLIANT 3 SEAT ROUND (MODEL: TF3128G20F/L20)

(A) EXAMPLE INOB STANDARD CONCRETE TABLE NOT TO SCALE

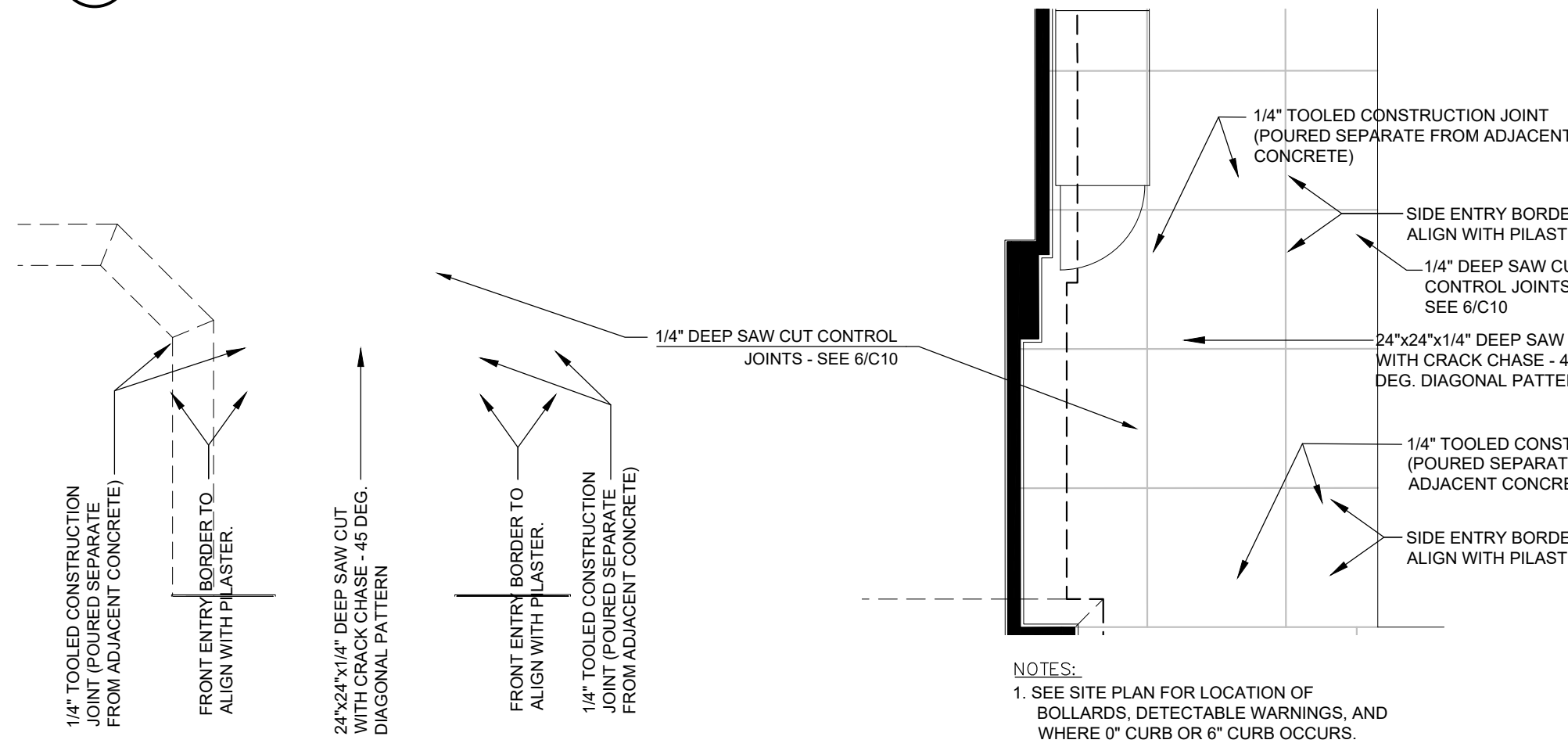


2 PERSON- BUILDING EDGE

WASAU TILE INC.  
 2 SEAT- BUILDING TABLE SET (MODEL: TF3105G20F/L20)

(A1) EXAMPLE INOB STANDARD CONCRETE TABLE-2 PERSON BUILDING EDGE NOT TO SCALE

(E) SITE LIGHTING - POLE CONCEPT



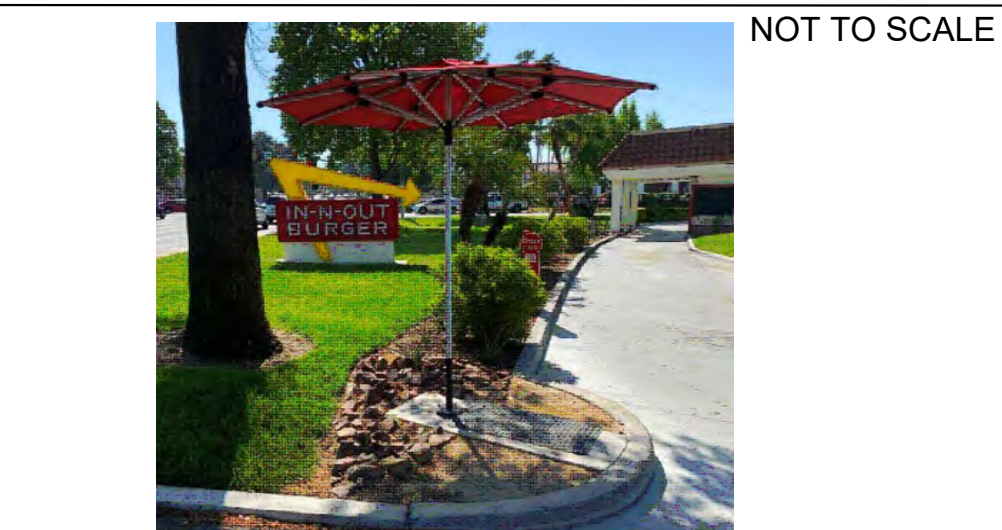
NOT TO SCALE

(F) ACCENT PAVING DETAIL BLOW-UP



3-LOOP

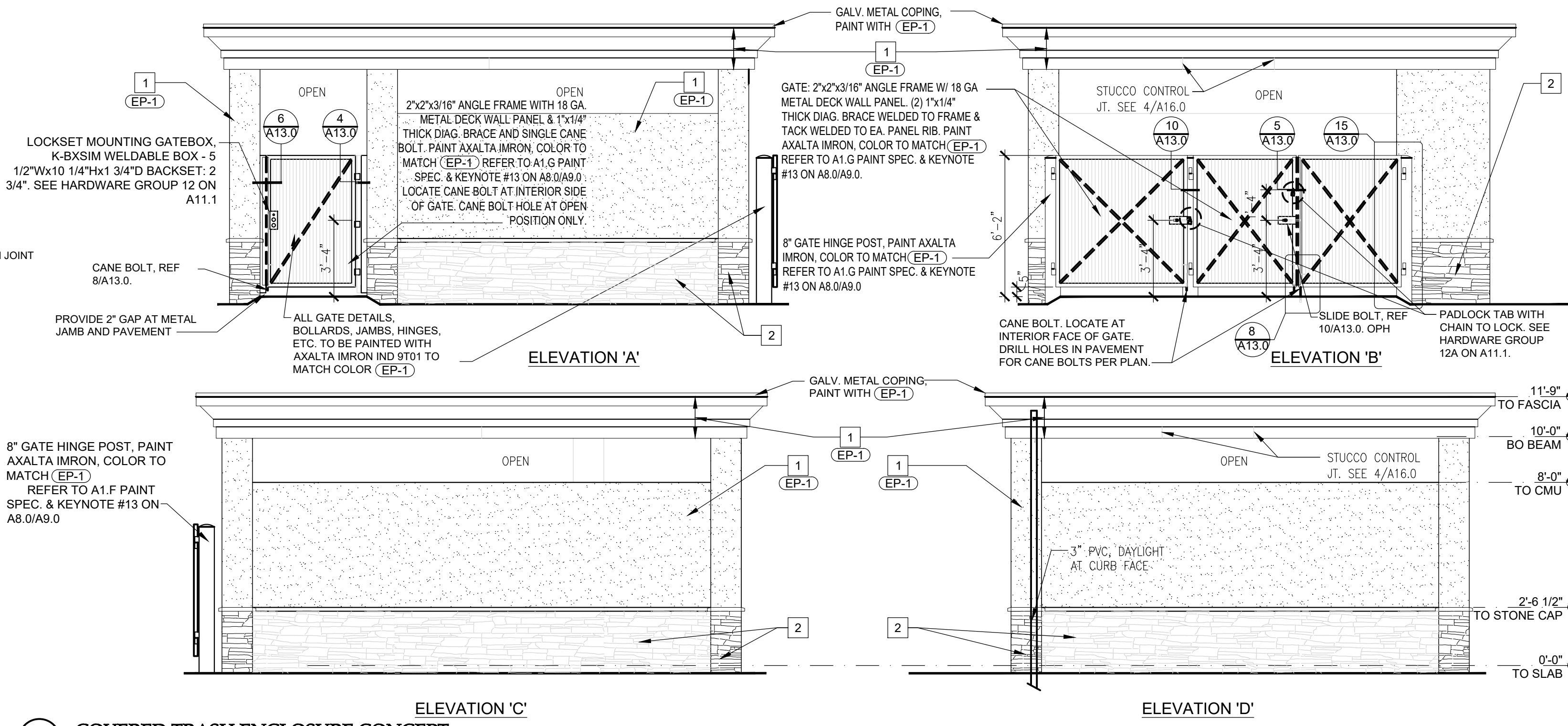
NOT TO SCALE



(H) ASSOCIATE UMBRELLA STAND

NOT TO SCALE

(D) COVERED TRASH ENCLOSURE CONCEPT



NOT TO SCALE

FINISH KEY NOTES

1	STUCCO - 20/30 SAND FINISH TEXTURE FINISH.
2	STONE VENEER - PRO-LEDGE WHITE STACKED STONE BY CORONADO STONE. WITH MATCHING CORONADO STONE WAINSCOT SILL. APPLY PER MFR RECOMMENDATIONS. DRY STACK.

EXTERIOR PAINT KEY NOTES

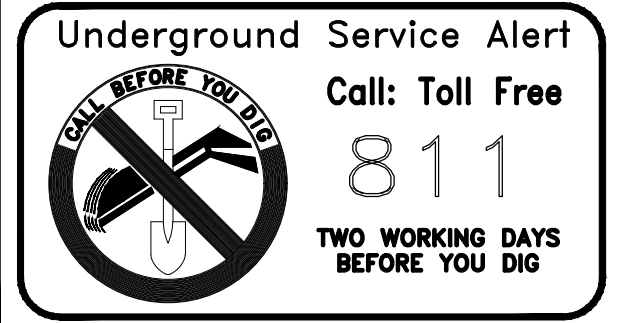
EP-1	DUNN EDWARDS	COLOR #: DEW 339	COLOR NAME: BONE CHINA
EP-4	AXALTA	COLOR #: SEE EP-4 SPEC ON A8.0	COLOR NAME: INO RED H/G

(G) BICYCLE RACK

(H) ASSOCIATE UMBRELLA STAND



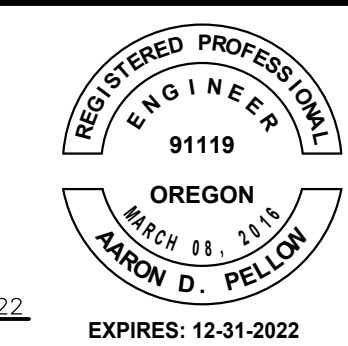
DEVELOPER:  
 IN-N-OUT BURGER  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706  
 CONTACT: CASSIE RUIZ  
 PHONE: 626 813-8226



REVISIONS


GHA PROJECT NO. ---  
**GHA**  
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 (909) 305-2395 FAX (909) 305-2397  
 Aaron D. Pellow  
 AARON D. PELLOW R.C.E. 91119 DATE 01-19-2022 EXPIRES: 12-31-2022



**IN-N-OUT BURGER**  
 10505 AND 10565 SW BEAVERTON-  
 HILLSDALE HIGHWAY  
 BEAVERTON AREA OF  
 WASHINGTON COUNTY, OR 97005

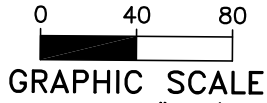
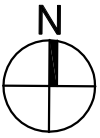
**SITE CONSTRUCTION CONCEPT DETAILS PLAN**

LANDSCAPE ARCHITECT:  
**BPA** BRANDON PETRUNIO & ASSOCIATES, INC.  
 LANDSCAPE ARCHITECTS  
 Design Studio: 301 N. San Dimas Ave., San Dimas, CA. 91773  
 Corp Office: 15699 Cherry Leaf Lane, Fontana, CA. 92336  
 T: (424) 235-8940, M: (951) 312-9943, E: brandon@bpalas.com

**LCC.1**

# EXHIBIT "S"

## PROPERTY LINE ADJUSTMENT MAP



GRAPHIC SCALE

SCALE: 1"=80'

MSL JN 20011 LLA.dwg  
02-28-2022

### PARTIAL LEGEND

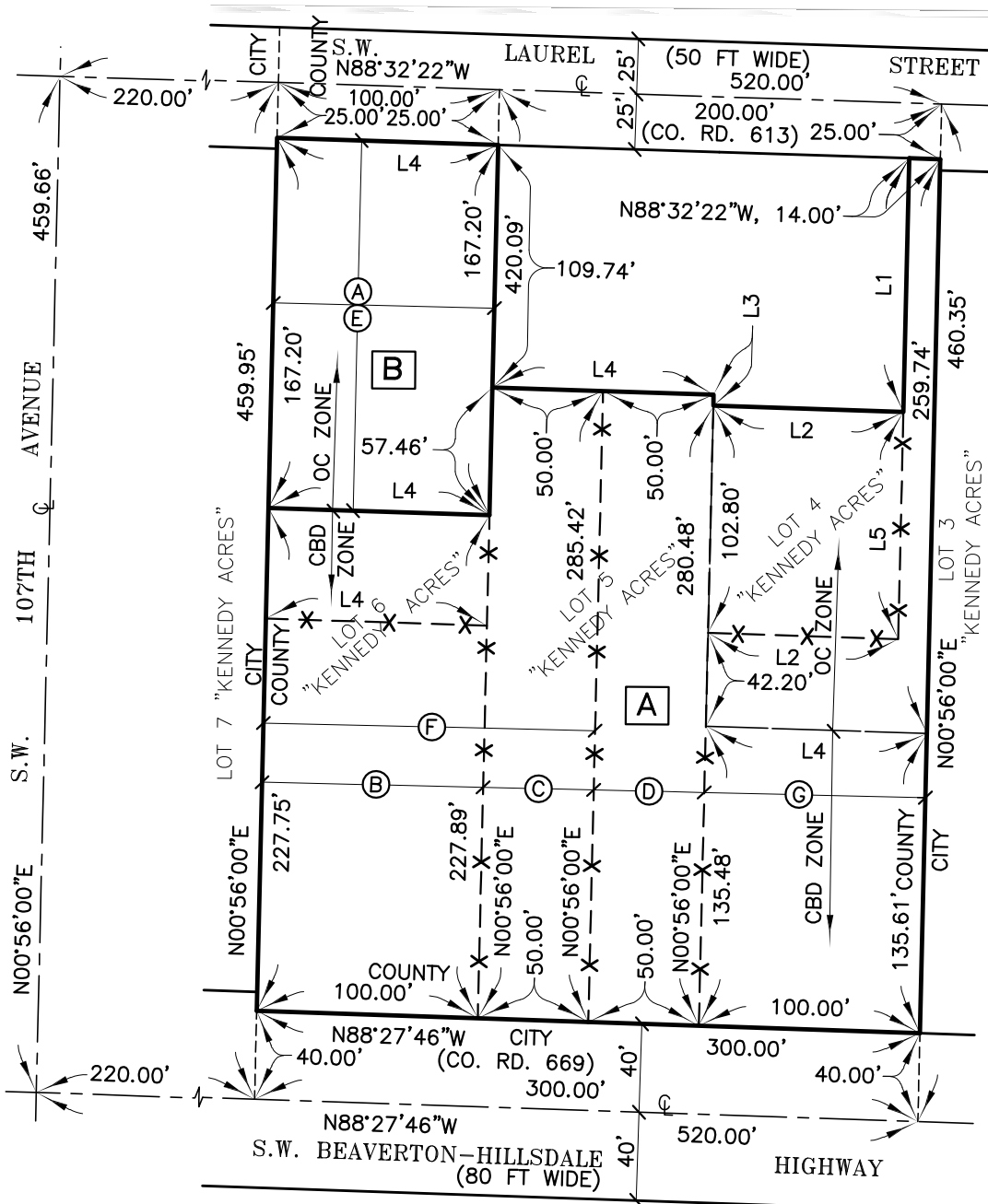
- (A) TAX LOT: 1S 1 14BC 2100
- (B) TAX LOT: 1S 1 14BC 2000
- (C) TAX LOT: 1S 1 14BC 2400
- (D) TAX LOT: 1S 1 14BC 2401
- (E) DOC. NO. 2008-055028 REC. 06-18-2008
- (F) DOC. NO. 2003-177063 REC. 10-16-2003
- (G) DOC. NO. 2002-012180 REC. 01-31-2002

**A** **B** TWO RESULTANT PROPERTIES AFTER PROPERTY LINE ADJUSTMENT

-X-X-X- EXISTING LOT LINE OR TAX LOT REFERENCE LINE TO BE REMOVED

### LINE TABLE

NO.	BEARING	DISTANCE
L1	N00°56'00"E	114.74'
L2	N88°32'22"W	86.00'
L3	N00°56'00"E	5.00'
L4	N88°32'22"W	100.00'
L5	N00°56'00"E	102.80'



**APPLICANT NOTE:**  
Upon completion, submit this form with your Current Planning development application  
Attachment E

**NEIGHBORHOOD MEETING AFFIDAVIT OF POSTING NOTICE**

Name of Applicant IN-N-OUT BURGERS / FASTSIGNS OF BEAVERTON  
Subject Property: Tax Lot(s) 15114 BC 2000 15114 BC 2400 Tax Map(s) \_\_\_\_\_  
Address or General Location: 10505/105165 SW BEAVERTON HILLSDALE HWY  
BEAVERTON, OR 97005

I, TERESA DAVIS, do swear or affirm that I am (represent) the party initiating interest in a proposed DEVELOPMENT OF A 3,885 FT<sup>2</sup> QUICK SERVICE RESTAURANT affecting the land located at 10505/105165 SW BEAVERTON HILLSDALE HWY and that pursuant to R&O No. 2006-20, did on the 30<sup>TH</sup> day of APRIL, 20 21 personally post the notice indicating that the site may be proposed for a DEVELOPMENT OF A 3,885 SQ FT QUICK SERVICE RESTAURANT application. WITH DRIVE THRU SERVICE AND OUTDOOR SEATING

The sign was posted at 10505/105165 SW BEAVERTON HILLSDALE HWY  
(Location of sign on property) BEAVERTON, OR 97005

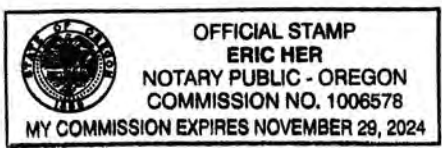
Map attached showing approximate sign notice location. (check if attached)

This 30<sup>TH</sup> day of APRIL, 20 21

Teresa Davis  
Signature

Subscribed and sworn to, or affirmed, before me this 3<sup>rd</sup> day of May June, 20 21.

Eric Her  
Notary Public for the State of Oregon  
County of Washington



My Commission expires: November 29, 2024





APPLICANT NOTE:

Upon completion, submit this form with your Current Planning development application Attachment E

NEIGHBORHOOD MEETING AFFIDAVIT OF MAILING

STATE OF ~~OREGON~~ <sup>California</sup> )
County of ~~Washington~~ <sup>Los Angeles</sup> ) ss

I, CASSIE RUIZ, being duly sworn, depose and say that on the 29th day of APRIL, 2021 I caused to have mailed to each of the persons on the attached list a notice of a meeting to discuss a proposed development at 10505 & 10565 SW BEAVERTON HILLSDALE HWY, a copy of which notice so mailed is attached hereto and made a part hereof.

I further state that said notices were enclosed in envelopes plainly addressed to said persons and were deposited on the date indicated above in the United States Post Office with postage prepaid thereon.

Signature [Handwritten Signature]

Subscribed and sworn to, or affirmed, before me this 8th day of July, 2021.



[Handwritten Signature]
Notary Public for the State of California
County of Los Angeles

My Commission expires: February 17, 2025

**APPLICANT NOTE:**  
Upon completion, submit this form with your Current Planning development application  
Attachment E

**NEIGHBORHOOD MEETING**

**AFFIDAVIT OF MAILING MEETING NOTES  
TO THE COMMUNITY PARTICIPATION ORGANIZATION (CPO)**

STATE OF ~~OREGON~~ California )  
 ) ss  
County of ~~Washington~~ )  
Los Angeles

I, CASSIE RUIZ, being duly sworn, depose and say that on the 3<sup>rd</sup>  
day of JUNE, 2021 I caused to have mailed to CPO 3 the meeting notes  
for the neighborhood meeting held on the 20<sup>th</sup> day of MAY, 2021  
to discuss a proposed development at 10565 & 10505 SW BEAVERTON HILLSDALE HWY  
a copy of the meeting notes so mailed is attached hereto and made a part hereof.

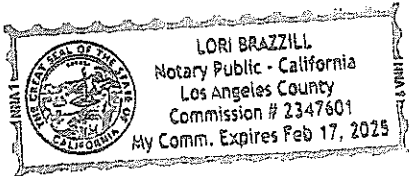
I further state that said meeting notes were enclosed in envelopes plainly addressed to CPO 3  
and were deposited on the date indicated above in the United States Post Office with postage prepaid  
thereon.

[Signature]  
Signature

Subscribed and sworn to, or affirmed, before me this 8<sup>th</sup> day of July, 2021.

[Signature]  
Notary Public for the State of California  
County of Los Angeles

My Commission expires: February 17, 2025





June 3, 2021

Mr. Stan Houseman  
Washington County Community Participation Organization 3  
Via Email: [housemanquality@yahoo.com](mailto:housemanquality@yahoo.com)

Re: In-N-Out Burger Neighborhood Meeting Summary  
10565 SW Beaverton Hillsdale Highway, Beaverton, Oregon

Dear Stan,

As you know, In-N-Out Burger conducted its 2<sup>nd</sup> Neighborhood Developer Meeting at 6:00 p.m. on Thursday, May 20, 2021 via Zoom (in light of the ongoing Coronavirus pandemic) in regards to our proposed project located at 10565 SW Beaverton Hillsdale Highway. Pursuant to our conversation, and per County guidelines, please let this letter and corresponding attachments serve as a summary of that night's meeting. Attached you will find a copy of the full narrative of the meeting, a copy of the project slides, a listing of the night's attendees, as well as a listing of the full questions/comments submitted by the attendees during the "Q&A" portion of the evening. As per the narrative, not all questions were specifically addressed as many were relative to similar and/or already discussed topic within the presentation and/or by another user's question(s).

I am including in this letter a summary of the thematic questions presented as well as the answers given to those respective topics.

1. *How will In-N-Out Burger address potential security, parking, and traffic concerns related to the residential neighborhoods on Laurel Avenue, 103<sup>rd</sup> Avenue and Kennedy Park?*

By closing the Laurel Avenue curb cut to emergency access only via a locked fence, no customer entry will be granted via the residential neighborhoods. All In-N-Out Burger traffic, both entry and exit will be on Beaverton Hillsdale Highway, away from the residences. The site plan shows a dedicated area to In-N-Out Burger Associate parking as well. With the closure of access on the neighborhood street, which was made in direct response to the comments we received from our first neighborhood meeting, the majority of the concerns related to the adjacent residential developments should be alleviated.

2. *How can the existing traffic counts for the property exceed In-N-Out Burger's?*

The standard methodology of studying traffic impacts of proposed new developments is to take the existing use (in this case, a fast food drive through restaurant and a sit down restaurant), use their standard trip count as published in the ITE Trip Generation Manual and compare them with the proposed use (in this case, an In-N-Out Burger restaurant). This does not necessarily mean that the analysis is specifically analyzing the trip generation by Hawaiian Time BBQ and Azteca Mexican Restaurant, but rather what a standard fast food and sit down restaurant can generate at this property, as that is what the property is approved for operating. This is a standard procedure and method for comparing potential traffic impacts for proposed new development.



Due to the required process dictated by Washington County Land Use and Transportation, the Neighborhood Meeting has to occur prior to the project submittal. Therefore, the finalized documentation had not been complete at the time of the meeting but will be included in the application submission and will be available for public review pursuant to County guidelines. The submittal will include the detailed analysis, methodology and calculation of these findings.

3. *How will In-N-Out manage the traffic and queuing on SW Beaverton Hillsdale Highway given In-N-Out Burger's expected demand?*

We understand that the initial opening period for an In-N-Out Burger, especially one in a newer market, may be elevated. In-N-Out Burger will create and engage in a Traffic Management Plan that will address the excess demand in conjunction with City and County Transportation officials, ODOT, the police and sheriff department, professional traffic control firms, flaggers and directional signage to manage and ease the flow of traffic. This Traffic Management Plan will be implemented until it is no longer necessary – i.e. once the demand is settled into a mature store level. The Traffic Management Plan will address additional areas for drive through queuing and will not allow queuing directly on Beaverton Hillsdale Highway, as that does not conform to ODOT standards or allowances.

One final note that is similar with the response to question #2 above but is also applicable on a more global basis, is that because of the required timing of the Neighborhood Meeting relative to the County process for submitting applications, not all project studies were finalized at the time of the meeting. Further, the application and supporting documentation is subject to review, comment, revision and refinement throughout the review process. Finalized documentation will be available to the public prior to any decision rendered by Washington County. Therefore, I'd like to stress to your community members that there may be some questions that do not have a concrete response at this time, given that we are still at the very beginning of the process within the County. However, all questions and comments have been logged and are submitted here with this letter to you and will be included in our submittal with the County for use during their review.

If you should have any further questions, please do not hesitate to contact me. Thank you.

Respectfully,

A handwritten signature in blue ink, appearing to read "Cassie Yee", written in a cursive style.

Cassie Yee  
Development Manager  
626-813-8226  
cyee@innout.com

## **BEAVERTON 2<sup>ND</sup> NEIGHBORHOOD MEETING NARRATIVE**

Good evening. Thank you all for attending this "second" virtual neighborhood-developer meeting via Zoom. For those of you joining us for the first time, welcome, and for those that also attended our previous meeting held last December, welcome back and I hope you'll enjoy hearing about the improvements we made to this proposed project as a direct result from your feedback. My name is Cassie Yee and I am the Development Manager for In-N-Out Burger on this proposed site. We greatly appreciate your attendance and participation in this process, and I am very excited to share more details of our proposed project with you.

Much of tonight's meeting will focus on the changes we've made to our development plan over the last several months that directly addresses the comments and questions we received directly from you last December. But I will still touch very quickly on some of the points from the previous presentation for the benefit of those who were unable to join us last time.

We will again hold an interactive, live Q&A session, where you as the meeting participants can present questions using the chat feature, and I can respond, similar to our last meeting. I do ask that you hold off on your questions until we reach the Q&A session, as I will not be monitoring the chat feature until we start that portion of the meeting. I will give detailed instructions once we get to that point.

So, let's get started....

As you know, we are talking today regarding a proposed In-N-Out restaurant within Washington County at 10565 SW Beaverton Hillsdale Highway in Beaverton, Oregon.

### **COMPANY HISTORY, VALUES, & CULTURE OF IN-N-OUT BURGER**

As most of you know, In-N-Out Burger was founded in 1948 by Harry and Esther Snyder in Baldwin Park, California. And now, more than 70 years after they opened that very first location, In-N-Out is still a family-owned business. Every single In-N-Out Burger location is 100% privately owned and operated - we do not franchise. Harry and Esther's very own granddaughter, Lynsi Snyder, is the owner and President of In-N-Out, holding firm to the foundation and core values originally set by Harry and Esther many years ago.

We went over in detail during our last meeting about In-N-Out Burger's three-pronged Mission Statement, which is shown here on the screen. Everything we do here at In-N-Out Burger is governed by these three concepts - providing a fresh, high quality product, a team-oriented atmosphere, and assisting all communities in our marketplace.

We talked about our In-N-Out motto: "Quality You Can Taste". All of our food is made to order, and there isn't a single heat lamp, microwave, or freezer, to be found in any of our kitchens. We are committed to only the freshest ingredients with hamburger patties made from 100% American beef, that is boned and ground from whole chucks by In-N-Out's own butchers and delivered fresh, never frozen, to each of our stores. Milk shakes are made from real ice cream; we hand-leaf all of our iceberg lettuce; and our French fries are hand-diced in-store from fresh whole potatoes.

In-N-Out Associates are more than just employees - we are a family. In-N-Out values each and every one of our Associates by offering to both part-time and full-time positions, above-average wages, great benefits covering each Associate and their eligible dependents and a quality position where everyone is allowed to grow to their fullest potential. Additionally, In-N-Out operates from a strong promote from within culture, which creates a unique opportunity for growth for all of our Associates. All of our In-N-Out Burger Store Managers start out as hourly Associates and are promoted with the help of our ongoing training and development program. One new piece of information I can share with you tonight is that Glassdoor recently named In-N-Out Burger #3 in its annual list of Best Places to Work in the United States, coming behind the consultant firm, Bain & Company, and tech company, Nvidia. This makes In-N-Out Burger not only the best restaurant to work for but also the ONLY restaurant to make it onto this list in the top 50.

Lastly, that third prong of our Mission Statement is fulfilled in several ways. The company operates two foundations: 1. The In-N-Out Burger foundation which focuses on helping abused and neglected children; and 2. the Slave 2 Nothing Foundation dedicated to improving the lives of individuals and families affected by substance abuse and human trafficking. In-N-Out Burger underwrites all of the administrative costs of both of these foundations so that 100% of the money raised is given back to our communities. I invite you to visit the websites for these foundations which I'm showing on the screen to find out more about the great things these foundations do and why and how we support the causes that remain close to the heart of this company. If anyone here tonight visited an In-N-Out Burger in the month of April, you may have noticed our Child Abuse Can Drive set up next to our cash registers. April is National Child Abuse prevention Month and In-N-Out Burger matched donations, up to \$250,000, raised during the month of April for the Child Abuse Can Drive. One of our foundation events is occurring in a couple weeks, on June 12-13th. In-N-Out Burger will be hosting a Virtual 5k to benefit the Slave 2 Nothing Foundation – our event last year raised nearly \$400,000 to help fight addiction and human trafficking in our communities. To participate or to find out more information regarding this event, please visit [www.NoDelay5k.com](http://www.NoDelay5k.com).

### **PROPOSED PROJECT – 10565 SW BEAVERTON HILLSDALE HIGHWAY**

Now onto our project. Our ORIGINAL proposed site is shown here - 10565 SW Beaverton Hillsdale Highway, just east of the intersection at 107th Avenue. This property contained 1.2 gross acres, and is a currently operating 3,555 square foot Hawaiian Time BBQ restaurant with drive through service.

Here is the originally proposed site plan, introduced in December, showing our building oriented perpendicular to SW Beaverton Hillsdale Highway, offering 53 parking stalls and a 20 car length drive through queue wrapping around the building. We utilized two dedicated curb cuts on the property – one along SW Beaverton Hillsdale Highway and one along Laurel Avenue. And we proposed to share one driveway with the neighboring Azteca Mexican Restaurant property to the east. Now we did have a healthy and robust Q&A session regarding this original site plan development at the end of the previous meeting that amassed ~500 or so questions, thoughts and comments. Parsing out that feedback, we did hear support and excitement about the prospect of an In-N-Out Burger and positive feedback regarding the potential for good job opportunities. Among the feedback of comments and concerns from that evening, they each generally fell into one of four categories:

- Concern regarding the location and adequacy of the site to handle an anticipated high demand
- Potential impacts to the residential neighborhoods north of the site, including traffic and noise
- Effects of added impact to the neighboring Chick Fil A and the intersection of 107th and Laurel
- Promotion of walkability, sustainability, and landscaping

Over the last several months, the In-N-Out Burger team has taken each of these common themes into careful consideration and modified our development plan to methodically address them in specific ways.

We have come to an agreement to expand the development area to address the concerns of the adequacy of the size of our site. Our new proposal is to develop both the existing Hawaiian Time BBQ restaurant property and the neighboring Azteca Mexican Restaurant property for a total of 2.2 acres, which is nearly double in size of our original proposal. This on its own achieves a number of factors relevant to that first concern regarding the site's ability to handle the demand generated by an In-N-Out Burger restaurant:

1. We are reducing the density of businesses within this block of SW Beaverton Hillsdale Highway. The current users (Hawaiian Time BBQ and Azteca) occupy a combined total of nearly 9,600 square feet of high impact restaurant use. Our new development would reduce that by over half. Our 3,885 square foot restaurant will be one single user on this very large 2-acre property. When comparing the total number of trips generated to this site containing two users



(one restaurant with a drive through and one sit down restaurant) vs. only one In-N-Out Burger restaurant, the number of daily trips is actually reduced.

2. Our revised development plan keeps the size of our building relatively the same. This means that since we are greatly expanding our development area while the building footprint isn't expanding, the 1 acre of added land is solely dedicated to parking lot, circulation, and added landscaping. This will help further ensure that the project site can self-contain the anticipated demand for our restaurant internally within the open area of the site.

With this expanded development area, we are able to provide 76 parking stalls, which is 23 more stalls than our previous plan. Our drive through queue similarly increased from 20 cars to 32 cars.

Although our original plan did provide enough parking and drive through queue length for a mature, In-N-Out Burger restaurant, we understand that there was some concern that this location might have excess demand and was limited in site area under the original development, if that were to occur. By expanding our development, we have greatly improved the metrics that our site can offer by large percentages, as a direct result of our addressing the comments we heard in the December meeting related to the size and capacity of our former development plan.

	ORIGINAL SITE PLAN	PROPOSED SITE PLAN	PERCENTAGE INCREASE
PARKING	53 STALLS	76 STALLS	43%
DRIVE THRU QUEUE	20 CARS	32 CARS	60%

One of the other items of concern we heard about was from the neighboring residences to the north of the site. This includes residents along Laurel Avenue, 103rd Avenue, and concerned patrons of Kennedy Park just northeast of the site. Our ORIGINAL plan included one curb cut along Laurel Avenue here. This caused concerns to be expressed regarding the potential for added traffic in these residential neighborhoods due to customers entering and/or exiting our site off of Laurel Avenue. In response, our new site plan proposes to limit this curb cut to Emergency Vehicles only, by installing a locked swinging gate with a Knox Box. Regular customer entry and exit will be prohibited from this driveway, which will eliminate any added traffic to Laurel Avenue, 103rd Avenue, and/or the intersection of 107th and Laurel Avenue. Our customer entry and exit is proposed via two existing curb cuts directly on SW Beaverton Hillsdale Highway – the easternmost driveway being a full access driveway and the westernmost being restricted to right in/right out only.

Secondly, regarding noise, our original site plan placed our building as close to Beaverton Hillsdale Highway to limit the noise impact on the residential neighborhoods. Similarly, our new site plan proposes to do the same, however, with the added benefit of placing our building further east, directly behind the office buildings that separate

this site from the residences on Laurel Avenue. These existing office buildings, a proposed property line wall, and landscape planters along the north side of the In-N-Out property limits the amount of impact our restaurant operations will have on the neighborhood north of the site.

Regarding comments related to the neighboring Chick Fil A development to our immediate west, the adjustment made on the previous slide to limit the Laurel Avenue curb cut to Emergency Vehicles only, also provides double-duty in addressing some of these concerns as well. We will not be adding any traffic to Laurel Avenue or the Laurel/107th Avenue intersection where both of Chick Fil A's drive way entrances are located. Our main entrance, the easternmost entrance on Beaverton Hillsdale Highway, is located at the furthest possible point away from any of Chick Fil A's access points. Our building itself has also shifted further east away from the Chick Fil A site, and the abundant circulation within our site will work to keep our customers moving within the interior of our parking lot and not on local roads.

Last but not least, the last category of comments from the December meeting was regarding walkability, sustainability and landscaping. First and foremost, by taking on additional property with our development, we are now proposing additional street frontage dedication and improvements along Beaverton Hillsdale Highway to include a brand new expanded concrete sidewalk, curb and gutter, and ODOT standard bicycle lane along the entire 280' of our property frontage.

Further, one of the most noticeable differences you may have noticed between the two site plans is the different orientation of our building. Whereas our original site plan placed the building perpendicular to Beaverton Hillsdale Highway, our current site plan rotates it so that the main customer entrance is facing the street to maximize the walkability of our development. This allows for pedestrians and bicyclists to enter the restaurant directly from the public right of way without traversing across a parking lot or crossing traffic. Our covered patio area is ample containing 1,227 square feet and we have additional umbrella-covered patio tables. Both patio areas similarly faces the street frontage with easy access from the public sidewalk. We have both short term and long term bike racks conveniently located near the patio and customer entrances. This type of building orientation has been adopted in many cities promoting walkability as it is a welcoming aesthetic facing the street and convenient for customers utilizing these alternate methods of transportation.

Our project development proposes all drought tolerant landscaping, energy efficient mechanical systems, LED lighting, automatic lighting systems that adjust to natural daylight, just to name a few. Per County Development Code the landscaping requirement within the property is 7,990 square feet. Our project exceeds that at a robust 11,250 square feet of landscaping.

## **FREQUENTLY ASKED QUESTIONS**

The last presentation portion of our December meeting was dedicated to Frequently Asked Questions that we received up until that point. We touched on a couple key points that are still relevant to our revised project this evening.

### **How will In-N-Out manage the customer demand, especially busy drive through lines?**

In-N-Out Burger deploys a unique system of drive thru queue management at each of our stores. A system of site cameras allows our store management to monitor the drive through queue at all times. Associates are deployed to the drive through line to take orders via handheld devices once the line reaches the menu board, in this case at the 9th car. These Associates also can communicate with management via wireless headsets in case additional traffic control management is needed or if a drive through overflow plan needs to be engaged. At this particular site, we have 32 cars available in our drive through lane. If we were ever to exceed 32 cars our Associate can alert management and engage in an overflow plan. As you can see, we can store 55 cars easily on site while still preserving all of our access driveways and parking stalls.

### **How will In-N-Out handle the excess demand of opening a new location, similar to what we saw in Keizer?**

Excess demand on openings is temporary and is anticipated. In-N-Out Burger prepares and executes Traffic Management Plans in advance of store openings for our restaurants to ensure that the opening remains orderly and does not adversely affect major highways and intersections. A Traffic Management Plan will be created in coordination with County staff, ODOT, Sheriff and police departments, and other stakeholders prior to this location opening. This Management Plan will address traffic control on state and local roads, areas for excess drive through queue storage, and additionally off site parking areas.

### **Are you planning other Portland area locations with opening dates close to this location or would this location be the northernmost In-N-Out with the associated traffic/crowding burden?**

The Portland market is a vast and diverse area. In-N-Out Burger intends to have multiple stores to serve the customer demand and continues to identify and pursue potential sites for new restaurants to accommodate that demand. We are currently exploring opportunities in Hillsboro, Tualatin, Clackamas County, Oregon City, and Vancouver, Washington. It is far too early to speculate which location may be the first to open in the area but it is very unlikely that this Beaverton location, or any of the locations previously mentioned for that matter, would end up as the only store serving the Portland area as In-N-Out Burger often deploys a multi-store opening strategy in large markets. This strategy is under consideration for Portland as well.

## **CONCLUSION & INTRODUCTION TO LIVE Q&A SECTION**

We have reached the end of the presentation portion of the evening. I hope you found it informative and helpful. I will stress that all of the updates, revisions and modifications we have made to our project is a direct result of your active participation in this process. And I can say without a doubt, that your comments have helped to vastly refine and improve our proposed development. You have helped shape what you are seeing today. We appreciate all of your feedback we've received. In-N-Out Burger is dedicated to developing sites that exists in harmony with and in service to the neighboring community.

I'd like to move along to the Q&A section of the evening. Along the bottom of your Zoom screen you will see a button labeled "Q&A" where you can send me your questions and I can read them aloud and answer them as best as I can. Please note that I may filter out certain questions if a topic was previously covered in the presentation or by another user's question. And please also be patient as it may take some time to get through everyone's comments – multiple submissions of the same question make the process difficult to navigate and is unnecessary. So please go ahead and send in the questions you have using that "Q&A" feature Zoom has provided.

I'll mention while you're doing that if you're not comfortable with the live Q&A or if you have additional questions or comments that have not been addressed tonight, I invite you to utilize the email address we have set up to receive neighborhood feedback for our proposed restaurant. The address is here up on your screen [INOBeaverton@innout.com](mailto:INOBeaverton@innout.com) and this will be available for your use for this week for additional comments. Lastly, we've prepared some artistic renderings of our proposed project that I will display on a loop on the screen for your enjoyment as well while we conduct the Q&A session.



IN-N-OUT BURGER

10565 SW Beaverton Hillsdale Highway, Beaverton, OR

VIRTUAL NEIGHBORHOOD MEETING



# *Who Are We?*

**Harry and Esther Snyder founded  
In-N-Out Burger in 1948**

**In-N-Out Burger remains 100%  
family-owned and operated. No  
franchises.**

**Lynsi Snyder, Harry & Esther's  
granddaughter, is now the  
President and Owner of In-N-Out  
Burger, carrying on her  
grandparent's legacy.**



# *Mission Statement*

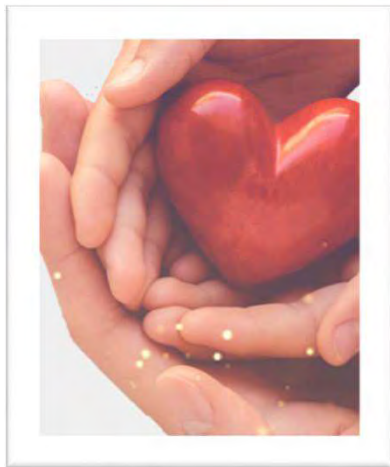
**In-N-Out Burger exists for the purpose of:**

- 1. Providing the freshest, highest quality foods and services for a profit, and a spotless, sparkling environment whereby the customer is our most important asset.**
- 2. Providing a team oriented atmosphere whereby goal-setting and communications exist, and to provide excellent training and development for all of our associates.**
- 3. Assisting all communities in our marketplace to become stronger, safer, and better places to live.**



*Quality You Can Taste*

*We are a Family*



*Supporting Our Community*



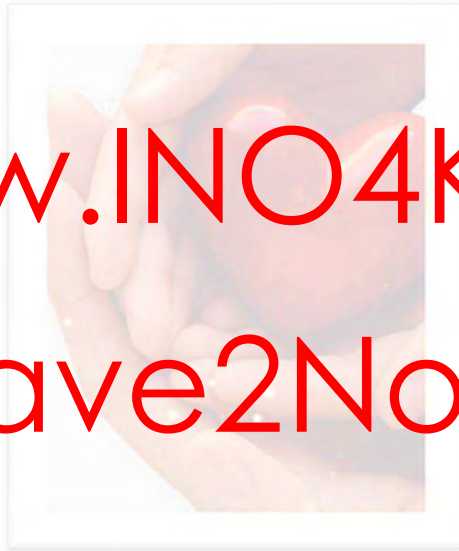
# Foundations



[www.INO4Kids.org](http://www.INO4Kids.org)



[www.Slave2Nothing.org](http://www.Slave2Nothing.org)



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June 12 -13, 2021 – Virtual 5K Event  
[www.NoDelay5k.com](http://www.NoDelay5k.com)

# *The Original Site*



*10565 S.W. Beaverton Hillsdale Hwy.*

# Original Proposed Site Plan



*Original Site*



*New Proposed Site*



# New Site Plan

**32 CAR DRIVE THRU**

**76 PARKING STALLS**

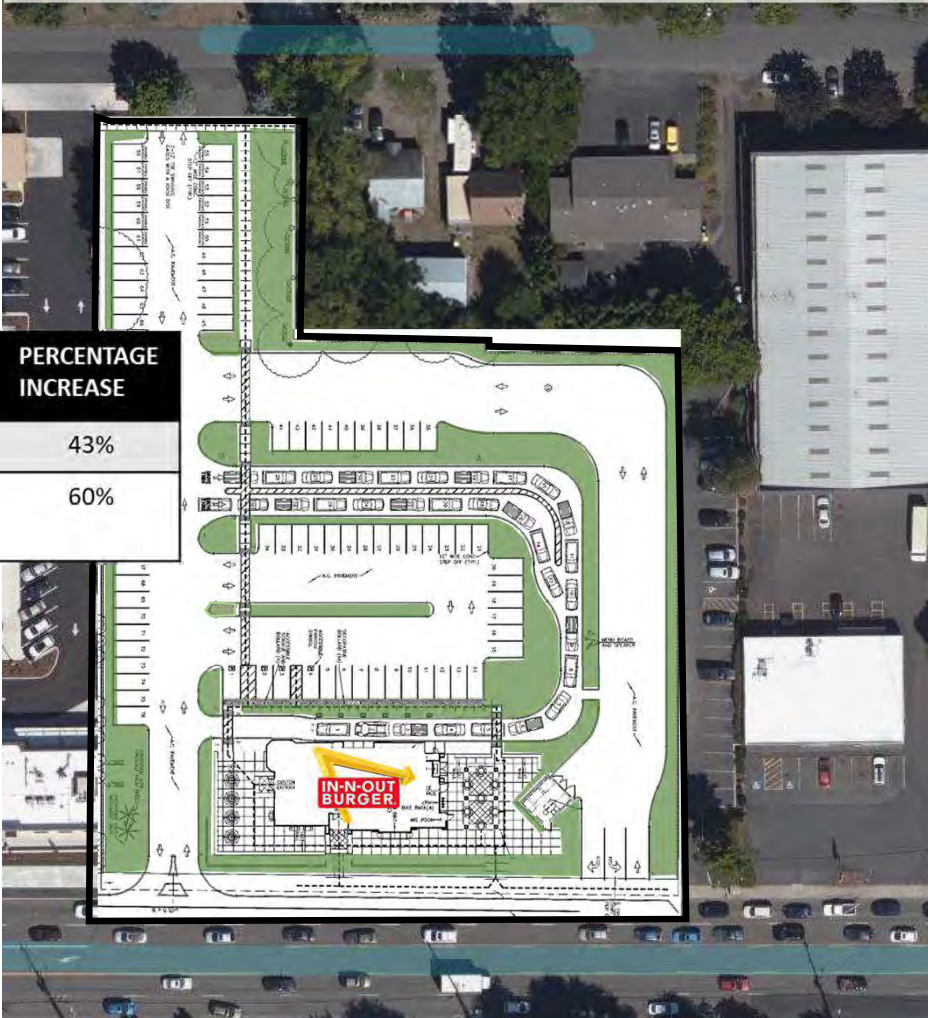


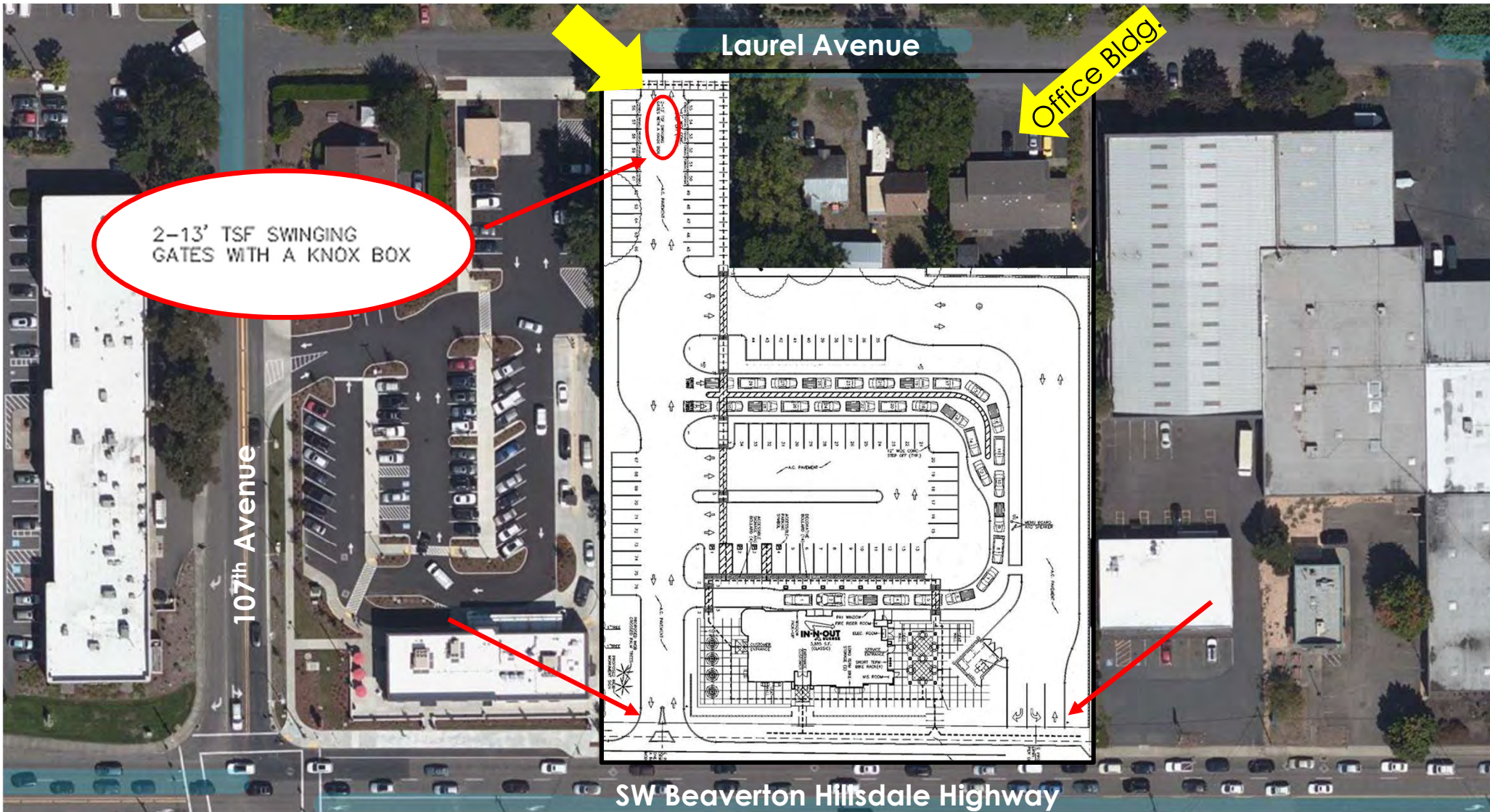
# Original Site Plan

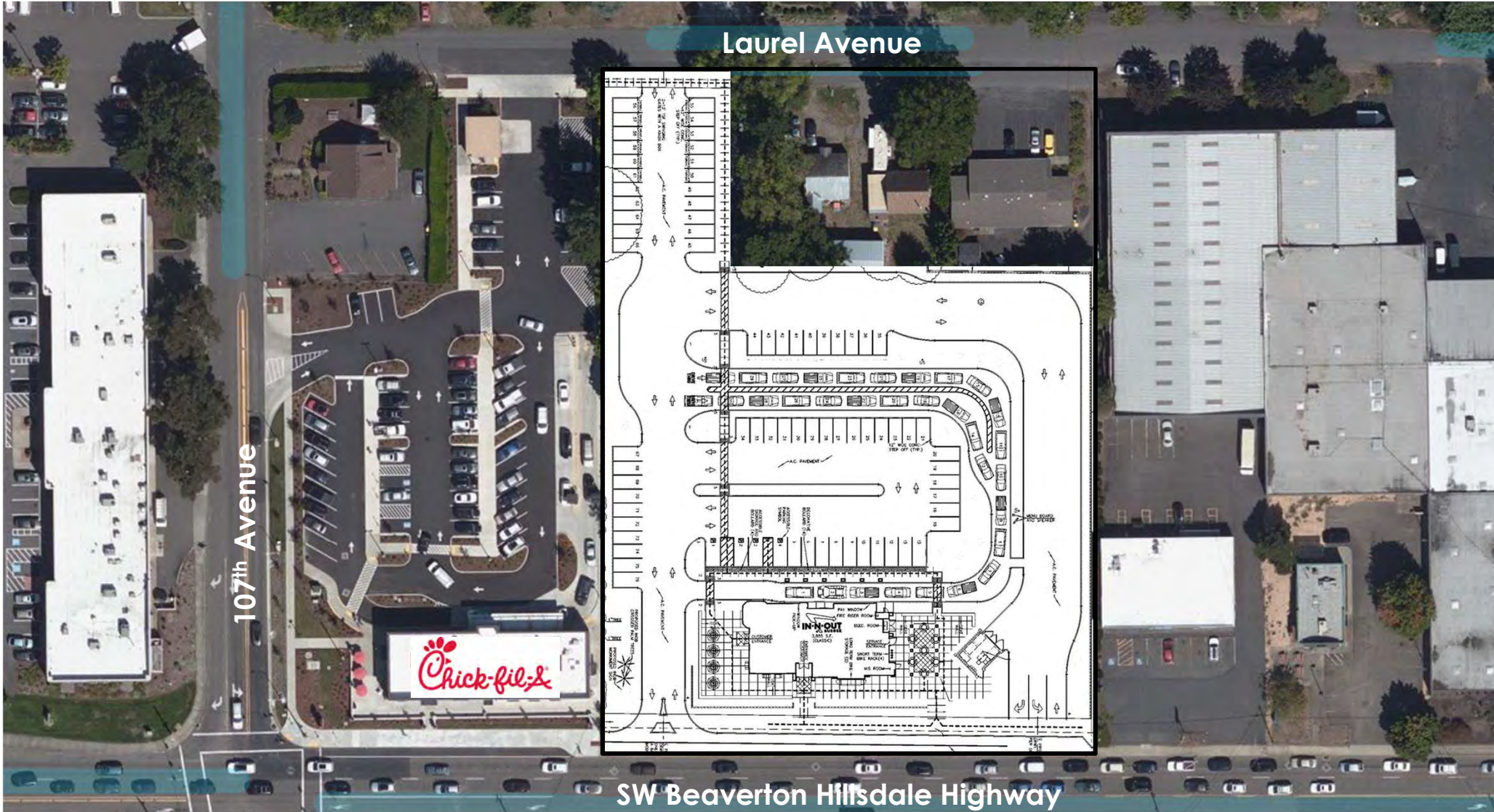


	ORIGINAL SITE PLAN	PROPOSED SITE PLAN	PERCENTAGE INCREASE
PARKING	53 STALLS	76 STALLS	43%
DRIVE THRU QUEUE	20 CARS	32 CARS	60%

# New Site Plan











Laurel Avenue

107th Avenue

New sidewalk, curb and gutter

SHORT TERM BIKE RACK(4)

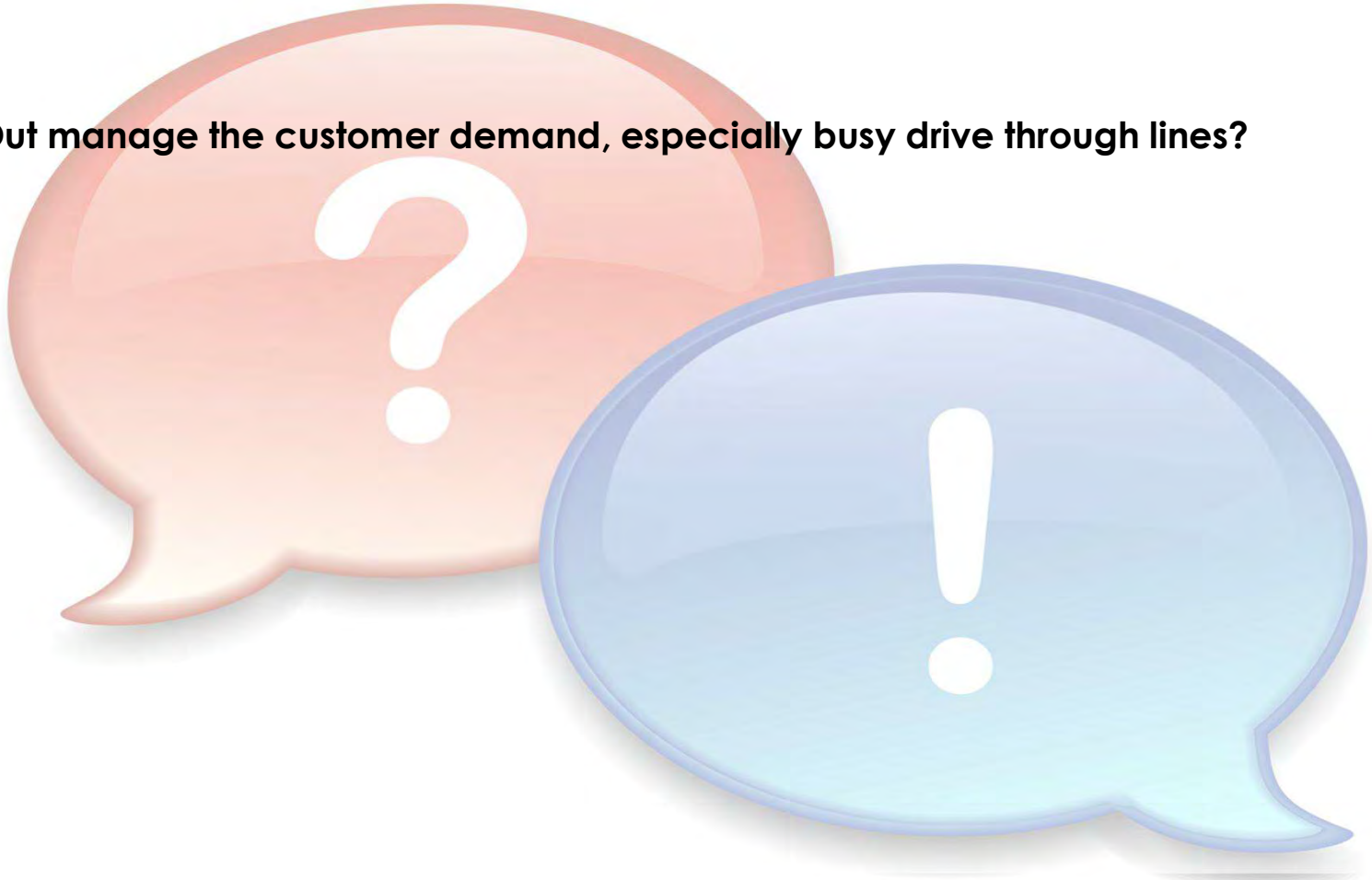
LONG TERM BIKE STORAGE (2)

New Bike Lane

SW Beaverton Hillsdale Highway

# F.A.Q'S

**1. How will In-N-Out manage the customer demand, especially busy drive through lines?**





Laurel Avenue

107th Avenue

SW Beaverton Hillsdale Highway



Laurel Avenue

107th Avenue

SW Beaverton Hillsdale Highway

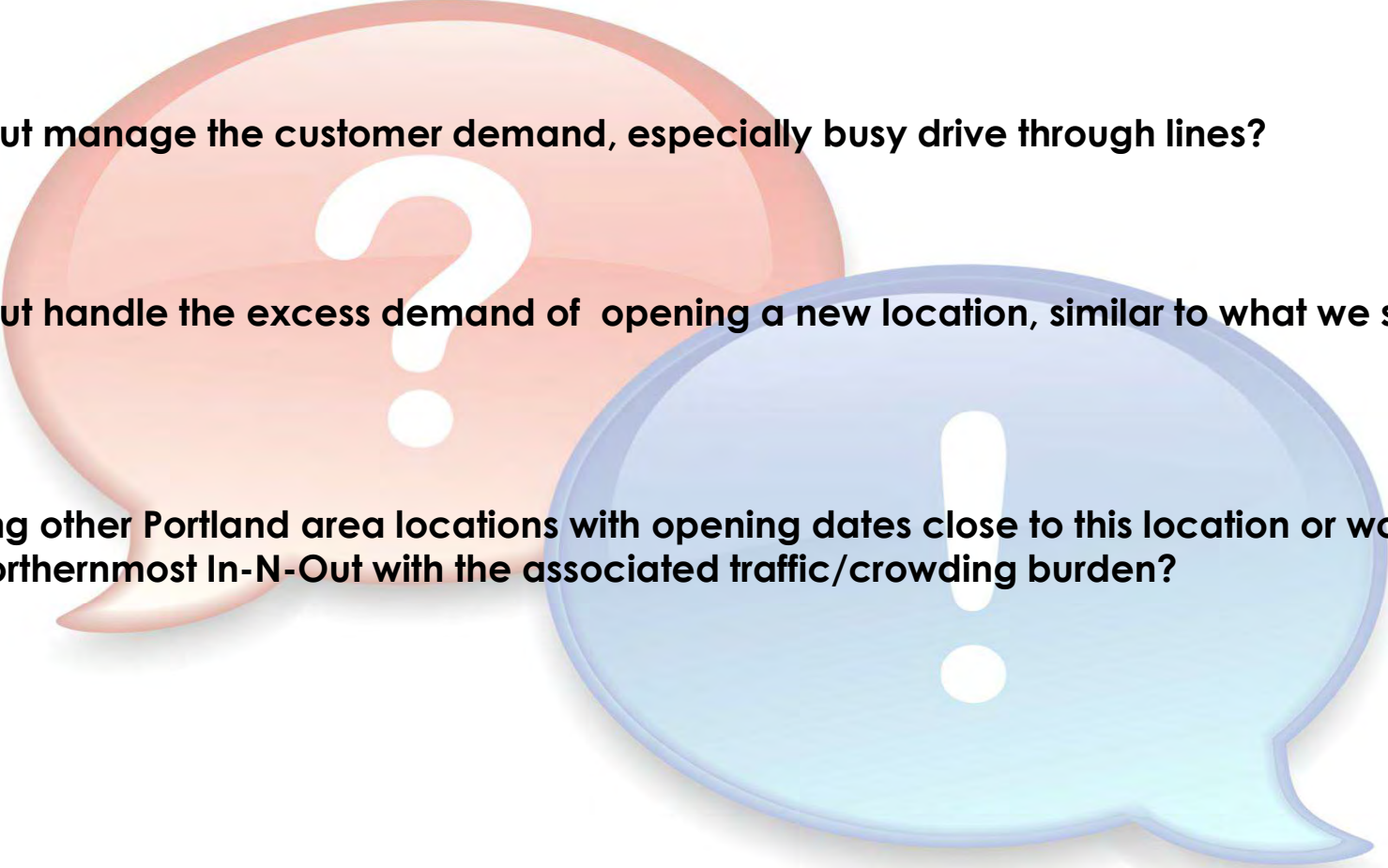
40

32

50

55

# F.A.Q'S

- 
- 1. How will In-N-Out manage the customer demand, especially busy drive through lines?**
  - 2. How will In-N-Out handle the excess demand of opening a new location, similar to what we saw in Keizer?**
  - 3. Are you planning other Portland area locations with opening dates close to this location or would this location be the northernmost In-N-Out with the associated traffic/crowding burden?**

INOBeaverton@innout.com





"GOD BLESS AMERICA"  
 13502 HAMBURGER LANE  
 BALDWIN PARK, CA 91706



INO Red



INO Yellow



WALLS & TRIM  
 DEW339 Bone China

### BEAVERTON, OREGON

10505 and 10565 SW Beaverton Hillsdale Highway  
 Beaverton Area of Washington County, OR 97005

05/13/21



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05/13/21



Registration Report			
Report Generated:	5/20/2021 19:30		
Topic	Webinar ID	Scheduled Time	Duration (minutes)
Virtual Neighborhood Me	898 1782 0711	5/20/2021 18:00	60
Attendee Details			
First Name	Last Name	Email	Registration Time
Christina		gamgene@aol.com	5/5/2021 17:23
Kenneth	Louie	klouie@uwajimaya.com	5/13/2021 14:46
Alysa	Schols	alysa.schols@gmail.com	5/19/2021 8:53
Shelley	Lindahl	shelleypdx@aol.com	5/19/2021 15:20
Sally		sallymo500@gmail.com	5/20/2021 9:17
nancy	crook	pa_textiles@hotmail.com	5/20/2021 10:04
Chrystele	Luneau	cluneau@pdx.edu	5/20/2021 10:20
MJ		maureenjonesor@hotmail.com	5/20/2021 10:42
SCOTT	DAVIS	sdavispx@gmail.com	5/20/2021 11:19
Laura	Foran	foranpdx@gmail.com	5/20/2021 12:20
Deb	Carolino	carolino.deb@gmail.com	5/20/2021 13:53
Charles	Conrad	conrads3@comcast.net	5/20/2021 14:31
Evan	Oulashin	eno17@pdxconnect.com	5/20/2021 15:17
C.	Yee	mscassiemarie12@gmail.com	5/20/2021 16:50
Ben	Burke	benjamin.burke@nike.com	5/20/2021 16:51
Darla	Krusee	satjan111-misc@yahoo.com	5/20/2021 17:26
Eric	Christenson	bizportland@gmail.com	5/20/2021 17:42
Kimberly	Onishi	konishi@innout.com	5/20/2021 17:48
Jennifer	Hockema	jenhockema@hotmail.com	5/20/2021 17:49
Michael	Haale	kiteguy.hale@gmail.com	5/20/2021 17:50
KATU		thedesk@katu.com	5/20/2021 17:51
Frank	& Kim Laza	kims.place@hotmail.com	5/20/2021 17:52
Tod	Johnson	fastwater123@gmail.com	5/20/2021 17:52
Allison	Naleway	nalewaya@yahoo.com	5/20/2021 17:54
Rebecca	Waker	beccaeferguson@gmail.com	5/20/2021 17:54
Luke	Whittemore	ljw852@gmail.com	5/20/2021 17:54
Ed	Trotter	edtrotter@comcast.net	5/20/2021 17:55
Stan	Houseman	Stan.Houseman@yahoo.com	5/20/2021 17:56
Richard	Skayhan	ricks@lacoinsurance.com	5/20/2021 17:56
David	G	glass.david@yahoo.com	5/20/2021 17:58
Ilva	Metlane	marta241@smapdx.org	5/20/2021 17:58
Jackson	Wood	jackson.wood@nike.com	5/20/2021 17:58
michelle	crocker	mccrocker@hotmail.com	5/20/2021 17:59
anna		anna@pdxconnect.com	5/20/2021 17:59
richardburnett		rlburnett@comcast.net	5/20/2021 17:59
Sharon	Selberg	Sharon.selberg@gmail.com	5/20/2021 17:59
Ben	Marcotte	zoom@benm.com	5/20/2021 18:00
Frank	Laza	frank56655@gmail.com	5/20/2021 18:00
Michael	Gifford	mg1469@easystreet.net	5/20/2021 18:00
David	Kelley	kel.dave7@gmail.com	5/20/2021 18:00
Sanford	B	sanfordbooth1@gmail.com	5/20/2021 18:01
Michael	Grimm	mgrimm@wswd.org	5/20/2021 18:01
Terry	Lawler	tessveggie55@gmail.com	5/20/2021 18:01

Travis	Chesney	travischesney@gmail.com	5/20/2021 18:01
matt	wong	mwong.wongm@gmail.com	5/20/2021 18:02
Richard	Wissmiller	dwiss@comcast.net	5/20/2021 18:02
Cetera	Heino	cetera_heino@co.washington.or.us	5/20/2021 18:03
Ross	Peterson	ross@accessmobility.us	5/20/2021 18:03
Steve	Gysel	steveg46@aol.com	5/20/2021 18:03
Nathan		nathan@finestramedia.com	5/20/2021 18:04
Brian	Paulee	bpauleen@msp45.com	5/20/2021 18:04
Galaxy	S10	bradleyjfay13@gmail.com	5/20/2021 18:04
Lyle	Cool	coollyle@gmail.com	5/20/2021 18:05
Alex	Frane	alexander.frane@gmail.com	5/20/2021 18:05
Ernie		e-citizen@consistency.net	5/20/2021 18:05
Lesley	Herren	lesleyhryn@gmail.com	5/20/2021 18:06
Ron	Magnus	ron.magnus@gmail.com	5/20/2021 18:07
Billy	Becky	BillyBecky1@gmail.com	5/20/2021 18:07
KGW	News	arodgers@kgw.com	5/20/2021 18:09
steve	groom	ns.groom@gmail.com	5/20/2021 18:11
lisa		rjunker418@gmail.com	5/20/2021 18:13
Lynne	Angel	angelclan@aol.com	5/20/2021 18:14
Marianne		marianne.groom@gmail.com	5/20/2021 18:15
Jeff	W	jeff.wheelerpdx@gmail.com	5/20/2021 18:19
Nokia	3.1 Plus	leohoward2585@gmail.com	5/20/2021 18:32
Jim	Long	bluepgs@yahoo.com	5/20/2021 18:34
Nate	Tofte	ntofte@gearupsports.net	5/20/2021 18:37
Jessic	Abel	ditmod@hotmail.com	5/20/2021 18:47
Eric	Gerlach	ericdotger@comcast.net	5/20/2021 19:01
James	Lockington	jim.e.lockington@gmail.com	5/20/2021 19:06

Question Report

Report Ger

5/20/2021 19:29

Topic Webinar ID

Actual Start Time

Actual Duration (minutes)

# Question

Virtual Neij 898 1782 0711

5/20/2021 17:23

123

159

Question Details

#	Question	Asker Name	Asker Email	Answer(s)
1	Who is hosting this meeting? Is it a one-way direction?	Anonymous Attendee		
2	in view of the response at the Keizer location, with traffic backing up creating two hour wait times and in a smaller Metropolitan area, how can In-N-Out at this proposed location possibly mitigate the traffic that will be created here, in a still arger metro area, with less infrastructure, narrower streets, and no back up parking lots?	Michael Haale	kiteguy.hale@gmail.com	
3	where will employees park? it can't be on our ,ocal streets, nor nearby businesses.	Michael Haale	kiteguy.hale@gmail.com	
4	this is all a bunch of BS	matt wong	mwong.wongm@gmail.com	
5	HOW CAN YOU POSSIBLY MAKE THAT STATEMENT. YOU ARE LYING	Anonymous Attendee		
6	How can you possibly argue that you will see less traffic with your restaurant??????	Anonymous Attendee		
7	both current restaurants do are not high volume restaurants	matt wong	mwong.wongm@gmail.com	
8	I'm sorry, but Hawaiian Time and Azteca get virtually no visitors and are businesses in decline. They average, easily a total of 60-70 trips TOTAL over both businesses, whereas In-n-Out would be more than triple that over the course of a day.	Travis Chesney	travischesney@gmail.com	
9	So you have room for 100+ parking spots or drive thru spots?	Anonymous Attendee		
10	get real you liars	Anonymous Attendee		
11	get ready to be sued	Anonymous Attendee		
12	it's not just about parking and space, it's about the increase of traffic to get to the restaurant. i know in and out knows this but doesn't care	matt wong	mwong.wongm@gmail.com	
13	have you noticed your picture is filled with traffic BEFORE InNOut????	Anonymous Attendee		
14	you will have people turn right onto 107th avenue all day long,.... more lies	Anonymous Attendee		
15	people heading east and turning north into the parking lot will create lots more traffic	matt wong	mwong.wongm@gmail.com	
16	holy fuck 100 foot bike lane!!!!	Anonymous Attendee		
17	you all should just stop now. it ain't gonna happen	Eric Christenson	bizportland@gmail.com	
18	Nice work. You listened and it is clear that you heard. I am happy with the changes you have made. When do you expect this site will reach a "mature" status? Can you talk briefly about how you will mitigate impacts before this store reaches maturity?	Ross Peterson	ross@accessmobility.us	
19	Have numbers for traffic analysis been taken during a more accurate time pre-pandemic or within the last months when traffic has been significantly reduced from normal flow?	Travis Chesney	travischesney@gmail.com	
20	good one.... on that ... .Keizer has cars packed 100% of the time years later	Anonymous Attendee		
21	the kaiser store is not on a busy street and is still excessively busy during the weekend	matt wong	mwong.wongm@gmail.com	
22	Just one question, how do you sleep at night knowing that most of what you are saying is easily disprovable?	Eric Christenson	bizportland@gmail.com	
23	number of users will not be reduced between the two exicisting restaurants. few peoplepresently use either bussiness. This cannot happen in neighborhood streets. Keizer still has 40+ cars on a regulare basis. This location will have much higher demand (more than 50). How will this be handled? How will Uwajimaya's left turn entrance access be protected?	Anonymous Attendee		
24	What do you consider temporary, as far as traffic is concerned? Keizer is still experiencing traffic 1 year later	Ed Trotter	edtrotter@comcast.net	
25	Where are the other 100 plus cars going to stack up. Only 55 cars will fit on the property.	Anonymous Attendee		
26	When will construction begin?	Sally	sallymo500@gmail.com	
27	Sounds like you've put in a lot of work on the plan. It looks good but we still NEED to see the traffic plan BEFORE I feel I could support it.	Michael Gifford	mg1469@easystreet.net	
28	Is the newly oriented building a larger footprint of the building than the previous building that was perpendicular to BHH?	SCOTT DAVIS	sdavispdx@gmail.com	
29	I have a question	Jennifer Hockema	jenhockema@hotmail.com	
30	How many visits do you estimate in n out to have per day? What are your estimates of visits currently to the two sites?	Jackson Wood	jackson.wood@nike.com	
31	A concern is not just overflow of cars, but he Keizer location had hordes of people standing in line under tents outside the building (before pandemic). How is this to be handled?	Michelle Crocker	mcrocker@hotmail.com	
32	Need no comment now. Thank You Cassie Yee! Very well done and I look forward to further information and updates. If I can be of any other assistance as to the feedback or concerns, please let me know. Stan Houseman CPO 3	Jennifer Hockema	jenhockema@hotmail.com	
33	Where is the "overflow" parking?	Stan Houseman	Stan.Houseman@yahoo.com	
34	Your overflow beyond 32 cars does not take into consideration customers utilizing the western-most entrance - will this entrance be cut-off during overflow? Numbers of other IN-N-OUT's (including Pleasant Hill and San Diego) see numbers in the 100-200 counts per hour.	Jennifer Hockema	jenhockema@hotmail.com	
35	I own a multi plex on laurel. So happy to see emergency access only to Laurel! But are you folks planning to police/monitor the parking along Laurel, especially during the startup surge?	Travis Chesney	travischesney@gmail.com	
36	Will you be taking away a lane from BH Hwy for sidewalk and bike lanes?	Tod Johnson	fastwater123@gmail.com	
37	How late will this location be open?	Anonymous Attendee		
38	Beaverton Hillsdale Hwy is very busy, it houses other businesses such as the Kaiser Perm medical/dental clinic. How is the traffic to be managed for patients just trying to get through to the clinic?	Anonymous Attendee		
39	Are there plans to limit left turns into the eastern-most driveway, as this would be another significant potential for slowdown along BH Hwy	Jennifer Hockema	jenhockema@hotmail.com	
40	'- is a no-sidewalk access walking to Kennedy park, so should be maintained as the secondary county road it is. Thanks!	Travis Chesney	travischesney@gmail.com	
41	Thank you for your presentation. This still does not address adequate access points for entry and exit. This is a right turn only exit. How do you plan to mitigate excess traffic from this site? BHH is one of the highest traveled roads in Beaverton that cannot sustain the volume of a high volume store.	Tod Johnson	fastwater123@gmail.com	
42		David G	glass.david@yahoo.com	

43	You mentioned the Laurel entrance is for emergency vehicles only. Will garbage and delivery service also be from Laurel or will it go through from BHH?	Jennifer Hockema	jenhockema@hotmail.com
44	Is there a guarantee that the North gate will be closed at all times except for emergencies?	Anonymous Attendee	
45	customers turning left out of the restaurants will not be able to do so without creating cross traffic. and the same for those coming from the west turning across Beaverton-Hillsdale Hwy. this will create gridlock.	Anonymous Attendee	
46	The new site plan doesn't include the the right hand side of the azteca lot. (where there is a row of parking spots). Does the INO property extend to the row of parking spots?	Anonymous Attendee	
47	Right now all GPS apps are bringing heavy traffic into our residential street of SW 96th Ave, which is a few streets east of your proposed location. We anticipate even more traffic coming because of your restaurant. How will you address our issues if we are few streets away?	Anonymous Attendee	
48	Will you put any initiatives in place to reduce the littering burden in the nearby neighborhoods?	Anonymous Attendee	
49	Trip generation data from California stores? Or is there data from the Oregon stores too?	Jennifer Hockema	jenhockema@hotmail.com
50	Again. I have a hard time imagining a traffic plan and feel we can't proceed without that FIRST.	SCOTT DAVIS	sdavispx@gmail.com
51	lots of bad comments apparently	matt wong	mwong.wongm@gmail.com
52	have you already done traffic count during peak and non-peak hours? if yes, what were the results	Anonymous Attendee	
53	From my discussions with kaizers residents The parking is not the issue. It's the lineup that causes problems. How will you work to address traffic concerns in the area especially in front of our beloved hospital and Jesuit highschool down the street.	Jackson Wood	jackson.wood@nike.com
54	has any community successfully stopped an in n out project?	Michael Gifford	mg1469@easystreet.net
55	What prompted you to choose this site where there is already traffic from the Chick-Fil-A?	Ilva Metlane	marta241@smapdx.org
56	Is the store in Keizer, OR considered "mature"?	Jennifer Hockema	jenhockema@hotmail.com
57	You have clearly not ever observed how little traffic there is to Hawaiian Time and the next-door Azteca sit-down restaurants. How can you possibly argue that traffic will be reduced? One is a failing drive thru, the other is a barely surviving restaurant.	Anonymous Attendee	
58	Have you considered the site across Beaverton Hillsdale Highway by Bi-Mart which is a much larger and less congested space, with a road that is far less utilized than Beaverton Hillsdale Highway itself? Why such a congested spot specifically?	Rebecca Waker	beccaeferguson@gmail.com
59	The vegetation in the drawing is lovely, but would you be open to using plants native to the NW area of Oregon, zone 8?	Lesley Herren	lesleyhryn@gmail.com
60	Have you considered other sites such as Allen Blvd and 217?	Anonymous Attendee	
61	It is likely much traffic will be from 217 requiring a left turn in to INO. How will INO not block BHH and Uwajimaya entrance.	Ed Trotter	edtrtoter@comcast.net
62	I have a concern about the exits. By cutting off an exit out of Laurel, the only way to go east on Beaverton-Hillsdale hiway is the one left-turn lane on the east end of your property. How will traffic affect the ability to turn left at this exit? Will this create a backup into the parking lot of people wanting to turn left to go east on B-H Hiway? What is the distance between the second (west) entrance to the drive-through Lane? Will this cause a back-up on B-H Hiway?	Anonymous Attendee	
63	Will your traffic study be made available to the public?	Sharon Selberg	Sharon.selberg@gmail.com
64	this site will block two bus stops, possibly two traffic lights, and make entry into businesses east of the entry. The hwy will be completely gridlocked thereby effecting the bottom line for my business	Anonymous Attendee	
65	Have you ACTUALLY sat on the corner of 107 and BHH to see traffic during lunch on a regular work day and during peak traffic (4pm to 7pm)? If not, why not?	Anonymous Attendee	
66	What will you do to stop your customers from passing through neighborhood streets to get to your location?	Ilva Metlane	marta241@smapdx.org
67	What is that traffic plan on BHH into the proposed site??	Anonymous Attendee	
68	The entry is right turn only heading westbound. How do you plan to manage traffic from this perspective?	David G	glass.david@yahoo.com
69	Why not use the large vacant property at 11870 SW Beaverton Hwy? It is large, has adequate parking, and there would be several possible exits from the property.	Anonymous Attendee	
70	Will you be providing a list of the questions from this meeting???	Anonymous Attendee	
71	Have you gotten approval from the nearby residents of nearby streets? Like a signed approval...	Ilva Metlane	marta241@smapdx.org
72	When people are driving Eastbound from 217 Beaverton Hillsdale Highway, how will they enter the facility?	Anonymous Attendee	
73	You can not compare Azteca and Hawaiian Time to In N Out. What are you going to do with Beav Hillsdale traffic	Sally	sallymo500@gmail.com
74	This plan will grid lock Beaverton Hillsdale Hwy going both ways and will make it difficult to the neighborhood to travel on Beaverton Hillsdale Hwy along with the businesses effected. How can you mitigate this?	Anonymous Attendee	
75	You're using data that is not pertinent to these two businesses and surrounding populations	David G	glass.david@yahoo.com
76	Correcting you. Keizer impeded I-5 for months!	Anonymous Attendee	
77	You do not have indisputable evidence that you will reduce traffic. It is lies. You have no empirical data to support the change in traffic.	Eric Christenson	bizportland@gmail.com
78	What neighboring blocks do you propose to use?	michelle crocker	mcrocker@hotmail.com
79	What activities will occur after 10 pm and before 7 am, which are typical "quiet hours"?	Terry Lawler	tessveggie55@gmail.com
80	How will you mitigate nighttime nuisance noise/lighting?	Terry Lawler	tessveggie55@gmail.com
81	nothing you do will stop from this from ruining the traffic flow for commuters, residents, ambulances, fire trucks, school buses, bicycles.	Anonymous Attendee	
82	I am an employee at Hawaiian Time, will we be notified of new ownership?	Anonymous Attendee	
83	What time do you consider the peak hour with maximum number of cars?	Christina	gamgene@aol.com
84	They are asking to see your magic traffic plan!	SCOTT DAVIS	sdavispx@gmail.com
85	I bet you use all 73 parking slots and then some! :)	Jennifer Hockema	jenhockema@hotmail.com
86	Except your 73 parking spaces will be taken a dozen or so employee cars so in actuality there are maybe 55 spaces.	David G	glass.david@yahoo.com
87	No questions. Just wanted to say your presentation and handling tough questions was top notch. To handle all this solo was totally impressive! I'm on the board of the Beaverton neighborhood to your south and rep to the Beaverton city committee representing all 11 neighborhoods.	Richard Skayhan	ricks@lacoinsurance.com
88	Your drawing appeared to show a bicycle lane only along the front of In N Out - am I missing something?	Christina	gamgene@aol.com

89	Where will construction vehicles park?	Alysa Schols	alysa.schols@gmail.com
90	Foot traffic can park on Laurel and walk onto the property, the police helped for the first while of Chic-Fil-A opening. I am sure they would be involved in this event too	Jennifer Hockema	jenhockema@hotmail.com
91	How will you make neighborhoods safer. First, your stores in Salinas, Livermore and Mountain View all see an average of 80-100 visits per hour. In this area, it would be expected cars would race down 102nd ave past a park with many children to take 103rd to beat traffic coming down Beaverton Hillsdale. Would In-n-Out be open to adding speed bumps and lit crosswalks to surrounding areas impacted by their traffic flow?	Travis Chesney	travischesney@gmail.com
92	Will you announce the Grand Opening for this location outside of Oregon?	Christina	gamgene@aol.com
93	Will there be a plan to add trees, shrubs, something pretty to look at instead of more concrete.	Nokia 3.1 Plus	leohoward2585@gmail.com
94	Is there a guarantee that the North gate will be closed at all times except for emergencies?	Alysa Schols	alysa.schols@gmail.com
95	How many jobs will be created?	Anonymous Attendee	
96	Did you already get your hours approved. You a butt a residential neighborhood and I believe you can not stay open until 1:30 am	Sally	sallymo500@gmail.com
97	What emission standards have you studied for the amount of idling cars on your premises at one time?	Christina	gamgene@aol.com
98	800 - 1000 cars travel 103rd Ave already. it is an official dedicated low-traffic street by Washington County. we estimate double this volume if this restaurant is allowed to be built. how can you control and keep traffic off this street with it park, sports field, playground, school buss route, dog walkers, and bikes?	Anonymous Attendee	
99	Will you put any initiatives in place to reduce the littering burden in the nearby neighborhoods?	Alysa Schols	alysa.schols@gmail.com
100	Why that location off BVTN-Hillsdale? There are other areas in BVTN/Tigard where larger businesses have closed down that are able to accomodate that type of traffic such as the old Toys 'r Us or Orchards (off Cascade Way near 217)?	Anonymous Attendee	
101	Comment: I think the overlay of the INO site plan on the existing map is not aligned properly. Hence my question and the one about taking over a land of BHH	Anonymous Attendee	
102	Will the new renditions and notes from this meeting be available for people to view who were unable to join this meeting?	Anonymous Attendee	
103	Just to clarify, the emergency access gate to Laurel will not allow pedestrian access around or under the gate?	Tod Johnson	fastwater123@gmail.com
104	Are you going to consider the current employees at Azteca and Hawaiian Time, that this will financially burden them with NO JOB????	Nokia 3.1 Plus	leohoward2585@gmail.com
105	you cant argue that this location lacks the infrastructure of the keizer locale. how can you say this will not adversely affect the surrounding busiess and neighborhoods?	Anonymous Attendee	
106	Why do you want to push forward with this plan with so much neighborhood opposition? I thought the owners cared about community?	Anonymous Attendee	
107	Can you show more of your slides which depict different perspectives of the building and site?	Cetera Heino	cetera_heino@co.washington.or.us
108	Where will construction vehicles park?	Alysa Schols	alysa.schols@gmail.com
109	How long does it "normally" take for your restaurants to "mature"???	Anonymous Attendee	
110	I can appreciate the time an effort you take to address our concerns. That being said, why this location? It is different from your other locations, being on the edge of the neighborhood, on the boundary line between the county and the city, what is it about this location that makes you want to buy two properties to make it work?	Jennifer Hockema	jenhockema@hotmail.com
111	Does In & Out provide special services for delivery services like GrubHub? Parking spots dedicated to them?	Nathan	nathan@finestramedia.com
112	Kaiser Clinic receives large volume of car traffic & abulances. nor can they afford people paking in their already bussy lot. this is a public health mater. how can you assure this will not occur?	Anonymous Attendee	
113	where can we see all these questions?	Anonymous Attendee	
114	How do we obtain copies of the info you submit to the county	michelle crocker	mccrocker@hotmail.com
115	How will you ensure there will be visibility to those turning left onto BHH that they can see over the cars blocking up the right lane?	Ilva Metlane	marta241@smapdx.org
116	Do you have vegi-burgers ?	Jim Long	bluepgs@yahoo.com
117	Due to the Pandemic, this plan should be delayed to see and document post apndemic levels.	Anonymous Attendee	
118	Traffic during peak times slows down well past the 103rd side-street entrance. It would be a safe assumption that customers would "zoom" down 102nd avenue to try to cut into the line on Beaverton Hillsdale. This is already done during pre-pandemic times. Increasing visits by up to 80 cars per hour would impact our neighborhoods.	Travis Chesney	travischesney@gmail.com
119	Coming from 217 to proposed spot will create a horrible traffic jam trying to turn left from BHH.	Anonymous Attendee	
120	Will you be putting in a light for the left turn entry/exit point? If not how will you account for traffic back up?	David G	glass.david@yahoo.com
121	Assuming there will be the large numbers of cars coming to the opening and for a period of time afterwards, will you provide traffic management and not use the Washington county sheriff's department?	Anonymous Attendee	
122	how will, peope get in and out of busineses nearby?	Anonymous Attendee	
123	why would In-N-Out not give all their employees bus passes to leave still more spce for parking nd gt more cars off the street?	Anonymous Attendee	
124	If approved, will the stand-alone sign be tall or match the community, like McDonalds and Jack-In-The-box?	Anonymous Attendee	
125	how will you prevent customers from parking in surrounding businesses and walking along Laurel!??	Anonymous Attendee	
126	Do you have a contact at the county we can forward comments to?	Ed Trotter	edtrotter@comcast.net
127	Will there be signage indicating that the west entrance is for access to the drive-through? If choosing the western entrance, traffic could back up onto BH Hiway as we have seen at Chick-Fil-A.	Anonymous Attendee	
128	how will traffic backed up on 217 be handled? It will happen, bsd on the I-5 traffic at Keizer.	Anonymous Attendee	
129	Sorry, Signage that the EAST entrance would be best for drive-through access.	Anonymous Attendee	
130	What about the other potential location off of I5 (where the old village inn used to be)? Has that not been approved?	Anonymous Attendee	
131	If there is a majority negative response from the residents of the nearby neighborhood, are you still going to build the building?	Ilva Metlane	marta241@smapdx.org
132	sorry joined late... are you also purchasing Azteca as well? so both lots?	Anonymous Attendee	
133	there is alres ia not a normal reataurant, but a cult following. This area is simply not able handle the volume of traffic created by your presene. it will not allow access to local streets and the AM Kendey Park.	Anonymous Attendee	

134	You still have not answered how we get copies of the documents that will be submitted?	michelle crocker	mccrocker@hotmail.com
135	How long (number of days) do you consider your Grand Opening?	Christina	gamgene@aol.com
136	Is there plans for a "pass-through" study to investigate how visitors will impact residential streets?	Travis Chesney	travischesney@gmail.com
137	What is the volume of traffic down B-H Hwy at present? wht was it before the Pndemic? presently the right lne headed West id full due to the existing Chi-fil-A. Im concerned as a commuter through this area that I will not be able to get by this location.	Anonymous Attendee	
138	County contact is Melissa de Lyser	David G	glass.david@yahoo.com
139	Gorgous store! Can't wait to order my first Double Double there!	Darla Krusee	satjan111-misc@yahoo.com
140	Where is the distribution center that will service this store???	Anonymous Attendee	
141	Could you give this info out: <a href="https://www.co.washington.or.us/CAO/CPO/CPO3/index.cfm">https://www.co.washington.or.us/CAO/CPO/CPO3/index.cfm</a>	Stan Houseman	Stan.Houseman@yahoo.com
142	A Public Notice will be sent to everyone within 500' of the site once a land use application is accepted for review.	Cetera Heino	cetera_heino@co.washington.or.us
143	Except people from all over are asking and participating.	Stan Houseman	Stan.Houseman@yahoo.com
144	How will you ensure there will be visibility to those turning left onto BHH that they can see over the cars blocking up the right lane?	Ilva Metlane	marta241@smapdx.org
145	i saw the cars backed up waiting for the Keisar Location. This type of traffic will not be possible without causing a traffic knott, affecting every buisness nd residnet in the area. it will even cuase trficc problems in Beaverton.	Anonymous Attendee	
146	Will you be putting in a light at the left turn entry exit access point?	David G	glass.david@yahoo.com
147	my emission question: what emission standards have you studies for the amount of idling cars at one time.	Christina	gamgene@aol.com
148	Thank You Very Much!		
148	Awsome job!	Stan Houseman	Stan.Houseman@yahoo.com
149	Please hyperlink the county link	David G	glass.david@yahoo.com
150	If there is a majority negative response from the residents of the nearby neighborhood, are you still going to build the building?	Anonymous Attendee	
151	I grew up in So Cal and been to dozens of stores, traffic is a major concern no matter the location	David G	glass.david@yahoo.com
152	During the last meeting you noted that INO can process 2-3 cars per minute (120-180 cars per hour). How do you now claim 60/hour is accurate?	Ed Trotter	edtrtoter@comcast.net
153	You can put the hyperlink in the comments section.	David G	glass.david@yahoo.com
154	On the CPO3 site, The meeting attachments do not show your updated plan with Azteca involved.	Anonymous Attendee	
155	What are you going to do about all of the added pollution in the area from cars idling?	Alysa Schols	alysa.schols@gmail.com
156	In response to the person's question about community opposition and your plan to STILL move forward, not very community friendly!!	Anonymous Attendee	
157	how many cars pass through the Keizer location per day?	Anonymous Attendee	
158	Shouldn't you have the average car count for Keizer prepared for this meeting to address our traffic concerns??	Anonymous Attendee	
159	Thank you.	Ed Trotter	edtrtoter@comcast.net



**WASHINGTON COUNTY**

Dept. of Land Use & Transportation  
Planning and Development Services  
Current Planning  
155 N. 1<sup>st</sup> Avenue, #350-13  
Hillsboro, OR 97124  
Ph. (503) 846-8761 Fax (503) 846-2908  
<http://www.co.washington.or.us>

**CITY: PLEASE RETURN THIS FORM TO APPLICANT:**

COMPANY: In-N-Out Burgers, a California corporation  
CONTACT: Cassie Ruiz  
ADDRESS: 13502 Hamburger Lane  
Baldwin Park, CA 91706  
PHONE: (626) 260-4265  
EMAIL: caruiz@innout.com

**Development Coordination Statement**

ATTENTION:  
CITY OF Beaverton  
Planning Manager

**OWNER(S):**  
NAME: Lynn Irene Angel Family Ltd. Partnership  
ADDRESS: 550 SW Park Ave.  
Portland, OR 97205  
PHONE: (503) 407-7707  
Property Desc.: Tax Map(s): \_\_\_\_\_ Lot Number(s):  
\_\_\_\_\_ 1S114BC02000, 1S114BC02400  
\_\_\_\_\_ 1S114BC02401, 1S114BC02100  
Site Size: 2.243 acres  
Site Address: 10565 & 10505 SW Beaverton Hillsdale Highway  
Nearest cross street (or directions to site):  
SW Beaverton Hillsdale Hwy & SW 107th Ave.

PROPOSED PROJECT NAME: In-N-Out Burger

PROPOSED DEVELOPMENT ACTION: (PARTITION, SUBDIVISION, DEVELOPMENT REVIEW, AND GENERAL DESCRIPTION OF PROJECT)  
Type III Development Application

EXISTING USE: One drive through restaurant and one sit-down restaurant PROPOSED USE A single restaurant use with drive through service and outdoor seating

IF RESIDENTIAL: NO. OF DWELLING UNITS: \_\_\_\_\_ SINGLE FAM. \_\_\_\_\_ MULTI-FAM. \_\_\_\_\_  
IF NON-RESIDENTIAL: TYPE OF USE: Restaurant NO. OF SQ. FT. (GROSS FLOOR AREA) 3,885  
 SITE PLAN INCLUDED

\*\*\*\*\* ATTENTION CITY OF \_\_\_\_\_ \*\*\*\*\*  
PLEASE INDICATE THAT YOU HAVE DISCUSSED THE PROPOSED PROJECT WITH THE APPLICANT.  
**RETURN THIS COMPLETED FORM TO THE APPLICANT AS LISTED ABOVE.**  
(Do NOT return this form to Washington County. The applicant will submit the completed form with their Land Development Application submittal).

- CITY HAS RECEIVED NOTIFICATION OF PENDING APPLICATION
- CONNECTION TO CITY SERVICES ARE NECESSARY TO SERVE THE PROPOSED DEVELOPMENT - ANNEXATION IS NECESSARY SERVICES NEEDED:  WATER  SANITARY SEWER  STORM WATER
- CONNECTION TO CITY SERVICES ARE NOT REQUIRED TO SERVE THE PROPOSED DEVELOPMENT

NAME (PRINT): Brian Martin SIGNATURE: Brian Martin  
Digitally signed by Brian Martin  
DN: C=US, E=bmartin@beavertonoregon.gov, O=City of Beaverton,  
OU=Community Development Department, CN=Brian Martin  
Reason: I am approving this document  
Date: 2022.03.01 10:08:37-08'00'

POSITION: Planning Manager PHONE: 971-708-8894 DATE: March 1, 2022

ATTACHMENTS INCLUDED

04/10/19



## **DEVELOPMENT COORDINATION STATEMENT EXPLANATION**

Prepared by Brian Martin, Long Range Planning Manager  
City of Beaverton Community Development Department

Beaverton sanitary sewer service will be required for to serve the Development. Beaverton has sanitary sewer facilities in both Southwest Beaverton-Hillsdale Highway and Southwest Laurel Street, so city sanitary sewer provides the most reasonable engineering approach whether the project connect to facilities in Beaverton-Hillsdale Highway or Laurel.

It is also possible that this project would be served by Beaverton water service in the near future, as Beaverton can withdraw the properties from West Slope Water District upon annexation.

Please let us know if you have any questions about the form or Attachment A. We can arrange a meeting with Planning Division and Site Development staff if that would facilitate your project.





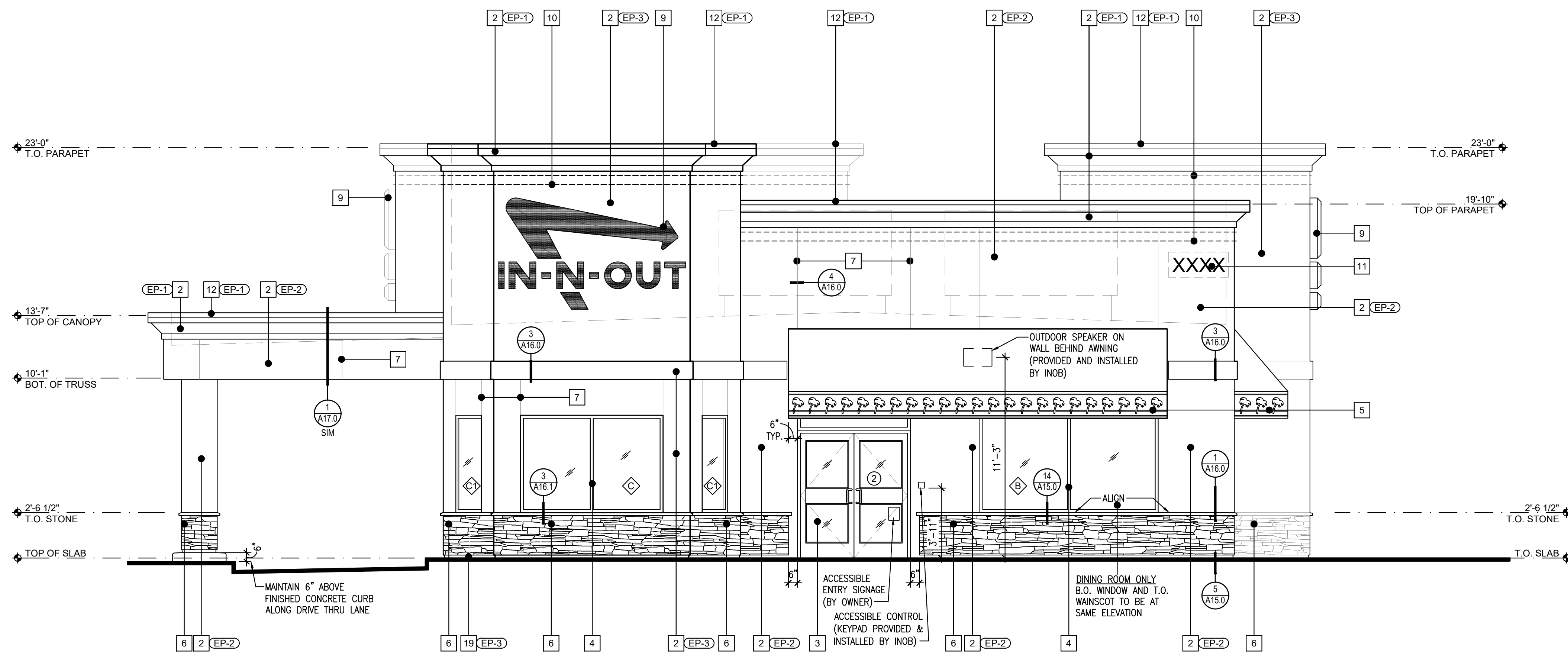
**KEY NOTES**

- 1 NOT USED.
- 2 STUCCO: 20/30 FINE SAND FLOAT FINISH - NOT SPRAYED, WITH WHITE INTEGRAL COLOR COAT.
- 3 ALUMINUM STOREFRONT DOORS: CLEAR ANODIZED ALUMINUM.
- 4 ALUMINUM WINDOWS: CLEAR ANODIZED ALUMINUM.
- 5 AWNINGS: AWNINGS TO BE WHITE COLOR BY COOLEY BRITE CUSTOM RED 79-L1124A, FLAME RETARDANT PER UL-48, UL-94, NFPA 701. SEE: 5/A16.0 & 6/A16.0
- 6 STONE VENEER - PRO-LEDGE WHITE STACKED STONE BY CORONADO STONE WITH MATCHING CORONADO STONE WAINSCOT SILL. APPLY PER MFR RECOMMENDATIONS. DRY STACK.
- 7 1/4" WIDE METAL PENN SCREED: SEE DETAIL 4/A16.0. ALIGN CONTROL JOINTS ON DRIVE-THRU CANOPY FASCIA WITH CONTROL JOINTS ON BOTTOM OF SOFFIT
- 8 SLOPED ALUMINUM WINDOWS: U.S. ALUMINUM S-010. GLASS JOINTS TO HAVE POLISHED EDGES WITH SILICONE JOINTS. REDWOOD FRAMES TO BE PRIMED WITH AXALTA IMRON IND 9P01 - PRIMER CAN BE TINTED GRAY. FINISH COAT TO BE AXALTA IMRON IND 9T01 TINTED CUSTOM COLOR EP-4.
- 9 IN-N-OUT BURGER ILLUMINATED LOGO SIGN: UNDER SEPARATE PERMIT.
- 10 L.E.D. DOUBLE BAND LIGHTING: UNDER SEPARATE PERMIT.
- 11 BUILDING ADDRESS NUMBERS TO BE 12" HIGH, 4" MIN. W/ MIN. STROKE WIDTH OF 0.5 INCH PER FIRE DEPARTMENT AND CITY JURISDICTION ADDRESS DISPLAY REQUIREMENTS.  
1. ADDRESS SHALL BE DISPLAYED & VISIBLE FROM BOTH STREET DIRECTIONS OF APPROACHING VEHICLES.  
2. PERMANENT NUMBERS AND LETTERS SHALL BE MADE OF DURABLE AND CLEARLY VISIBLE MATERIAL SUCH AS WOOD, METAL, CERAMIC, PLASTIC AND VINYL. (PAINTED OR GLUED ON NUMBERS ARE NOT ACCEPTABLE MATERIALS).  
3. NUMBERS SHALL BE OF COLORS CONTRASTING WITH BACKGROUND TO WHICH THEY ARE ATTACHED.  
4. NUMBERS SHALL BE A MINIMUM PROPORTION RATIO OF 6:1 (HEIGHT TO WIDTH).  
5. NUMBERS CANNOT BE SPELLED.
- 12 METAL CAP - COLOR TO MATCH FASCIA.
- 13 HOLLOW METAL DOOR: SEE SHEET A11.0. HM DOORS AND JAMBS SHALL HAVE POWDER COAT FINISH AS FOLLOWS:  
INTERIOR DOORS- TIGER DRYLAC - SMOOTH, HIGH GLOSS FINISH, "BENGAL WHITE". EXTERIOR DOORS- CARDINAL - GLOSS, SMOOTH FINISH, "BONE CHINA" OR TO MATCH EXTERIOR STUCCO PAINT COLOR. (VERIFY ELEVATIONS: EP-1). WHERE FIELD PAINTING DOORS AND JAMBS IS NECESSARY, NOT RECOMMENDED. THE ALTERNATE WOULD BE TO USE AXALTA IMRON IND 9P01 WHITE PRIMER. FINISH COAT TO BE AXALTA IMRON IND 9T01 GLOSS WHITE. EXTERIOR HM DOORS & JAMBS- USE SAME PRODUCT TINTED TO MATCH EXTERIOR BUILDING PAINT COLOR EP-1. NOTE- TRASH ENCLOSURE METAL DOORS AND POSTS TO BE FIELD PAINTED USING AXALTA IMRON AS DESCRIBED ABOVE.
- 14 5'-0" HIGH STUB OUT FOR CO2 LINE
- 15 4" MIN. HIGH WHITE LETTERING "RISER ROOM" ON RED BACKGROUND SIGN. MOUNT ON RISER ROOM DOOR
- 16 RECESSED KNOX BOX AT 5'-0" HIGH TO THE RIGHT OF FIRE RISER ROOM. SEE DETAIL 10/A17.0
- 17 RECESSED LED LIGHT FIXTURE IN SOFFIT. SEE DETAIL 9/A17.1
- 18 NOT USED.
- 19 TEXTURE EXPOSED FOUNDATION WALL BELOW WEEP SCREED AND PAINT TO MATCH WALL.

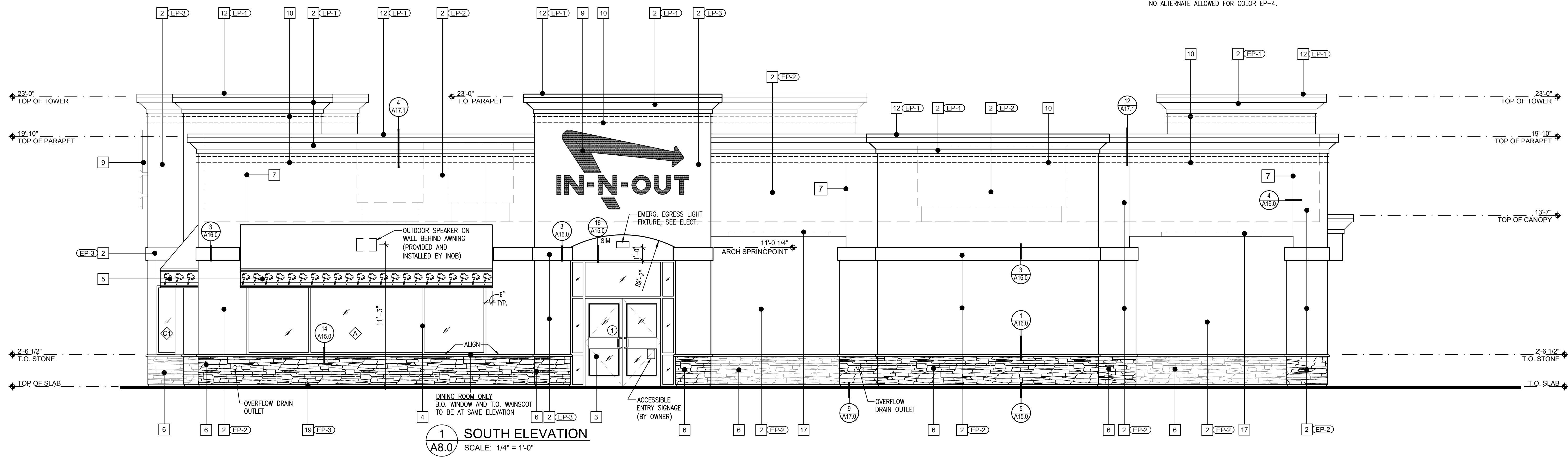
**EXTERIOR PAINT SCHEDULE**

NO.	MFR.	MODEL	COLOR #	COLOR NAME	FINISH	REMARKS
EP-1	DUNN EDWARDS	ARISTOSHIELD 70	DEW 339	BONE CHINA	HIGH GLOSS	PRIME W/ D.E. ULTRA-GRIP PREMIUM PRIMER
ALT. MFR.	SHERWIN WILLIAMS	SUPER PAINT LATEX	A84W01151	IN-N-OUT BONE CHINA	HIGH GLOSS	STUCCO: PRIME W/ LOXON CONCRETE & EXT LATEX PRIMER WHITE - A24W0300. GALV METAL: PRIME W/ GALVITE HS ACRYLIC COATING - B50WZ0030, OFF WHITE
EP-2	DUNN EDWARDS	ARISTOSHIELD 70	DEW 339	BONE CHINA	HIGH GLOSS	PRIME W/ D.E. ULTRA-GRIP PREMIUM PRIMER
ALT. MFR.	SHERWIN WILLIAMS	SUPER PAINT LATEX	A84W01151	IN-N-OUT BONE CHINA	HIGH GLOSS	SEE REMARKS FOR EP-1 ALT MFR.
EP-3	DUNN EDWARDS	ARISTOSHIELD 70	DEW 339	BONE CHINA	HIGH GLOSS	PRIME W/ D.E. ULTRA-GRIP PREMIUM PRIMER
ALT. MFR.	SHERWIN WILLIAMS	SUPER PAINT LATEX	A84W01151	IN-N-OUT BONE CHINA	HIGH GLOSS	SEE REMARKS FOR EP-1 ALT MFR.
EP-4	AXALTA	IMRON	SEE REMARKS FOR COLOR FORMULA	INO RED	HIGH GLOSS	PRIMER: AXALTA IMRON IND 9P01. PRIMER CAN BE TINTED GRAY FINISH COAT: AXALTA IMRON IND 9T01 GLOSS POLYURETHANE COLOR FORMULA: NON-CUM GUIDE 2/20/20 MIX SIZE: 102.4OZ (GALLON) 9T04 VIOLET 321.2 9T10 RED-ORANGE 349.3 9T13 ORANGE 257.6

ALTERNATE MANUFACTURER FOR EP-1, EP-2, AND EP-3 TO BE USED ONLY WHEN DUNN EDWARDS IS NOT AVAILABLE. NO ALTERNATE ALLOWED FOR COLOR EP-4.



**2 WEST ELEVATION**  
A8.0 SCALE: 1/4" = 1'-0"



**1 SOUTH ELEVATION**  
A8.0 SCALE: 1/4" = 1'-0"



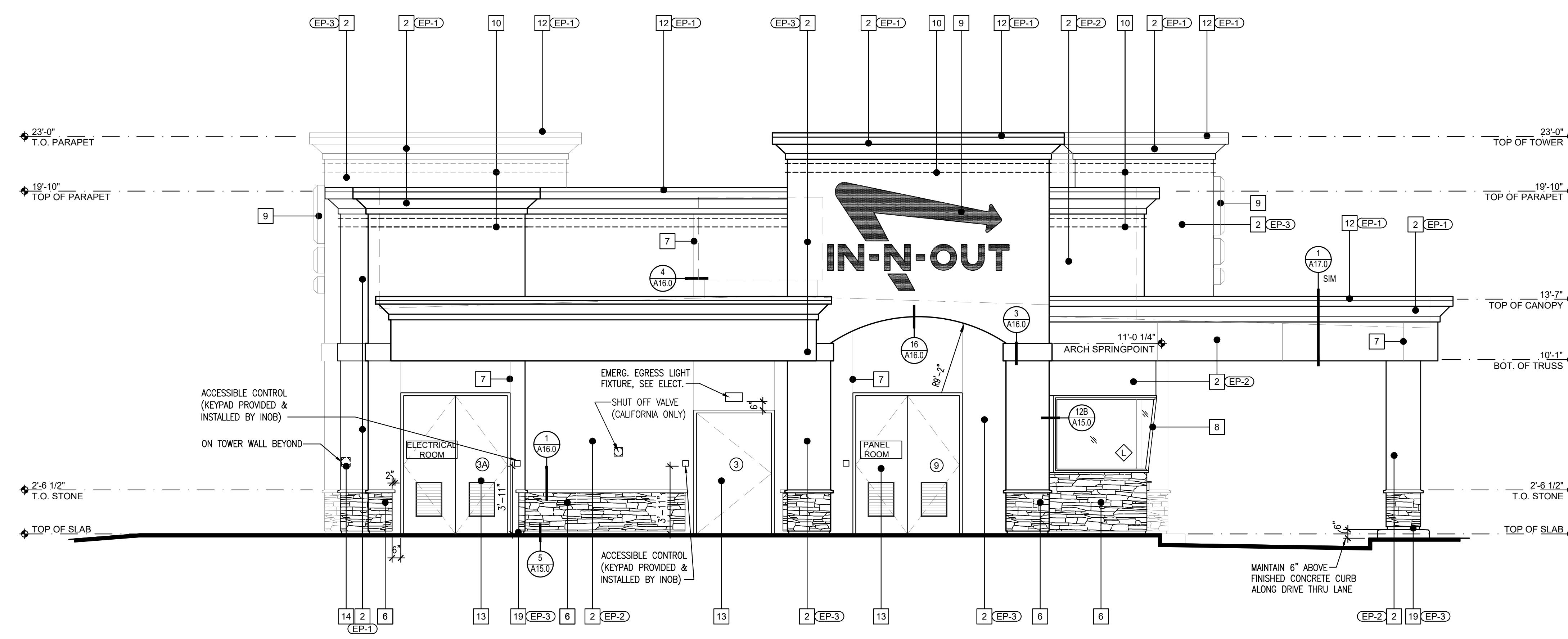
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- 9 IN-N-OUT BURGER ILLUMINATED LOGO SIGN: UNDER SEPARATE PERMIT.
- 10 L.E.D. DOUBLE BAND LIGHTING: UNDER SEPARATE PERMIT.
- 11 BUILDING ADDRESS NUMBERS TO BE 12" HIGH, 4" MIN. W/ MIN. STROKE WIDTH OF 0.5 INCH PER FIRE DEPARTMENT AND CITY JURISDICTION ADDRESS DISPLAY REQUIREMENTS.  
1. ADDRESS SHALL BE DISPLAYED & VISIBLE FROM BOTH STREET DIRECTIONS OF APPROACHING VEHICLES.  
2. PERMANENT NUMBERS AND LETTERS SHALL BE MADE OF DURABLE AND CLEARLY VISIBLE MATERIAL SUCH AS WOOD, METAL, CERAMIC, PLASTIC AND VINYL. (PAINTED OR GLUED ON NUMBERS ARE NOT ACCEPTABLE MATERIALS).  
3. NUMBERS SHALL BE OF COLORS CONTRASTING WITH BACKGROUND TO WHICH THEY ARE ATTACHED.  
4. NUMBERS SHALL BE A MINIMUM PROPORTION RATIO OF 6:1 (HEIGHT TO WIDTH).  
5. NUMBERS CANNOT BE SPELLED.
- 12 METAL CAP - COLOR TO MATCH FASCIA.
- 13 HOLLOW METAL DOOR: SEE SHEET A11.0. HM DOORS AND JAMBS SHALL HAVE POWDER COAT FINISH AS FOLLOWS: INTERIOR DOORS- TIGER DRYLAC - SMOOTH, HIGH GLOSS FINISH. "BENGAL WHITE". EXTERIOR DOORS- CARDINAL - GLOSS, SMOOTH FINISH. "BONE CHINA" OR TO MATCH EXTERIOR STUCCO PAINT COLOR - (VERIFY ELEVATIONS: EP-1). WHERE FIELD PAINTING DOORS AND JAMBS IS NECESSARY, NOT RECOMMENDED. THE ALTERNATE WOULD BE TO USE AXALTA IMRON IND 9P01 WHITE PRIMER. FINISH COAT TO BE AXALTA IMRON IND 9T01 GLOSS WHITE. EXTERIOR HM DOORS & JAMBS- USE SAME PRODUCT TINTED TO MATCH EXTERIOR BUILDING PAINT COLOR EP-1. NOTE- TRASH ENCLOSURE METAL DOORS AND POSTS TO BE FIELD PAINTED USING AXALTA IMRON AS DESCRIBED ABOVE.
- 14 5'-0" HIGH STUB OUT FOR CO2 LINE
- 15 4" MIN. HIGH WHITE LETTERING "RISER ROOM" ON RED BACKGROUND SIGN. MOUNT ON RISER ROOM DOOR
- 16 RECESSED KNOX BOX AT 5'-0" HIGH TO THE RIGHT OF FIRE RISER ROOM. SEE DETAIL 10/A17.0
- 17 RECESSED LED LIGHT FIXTURE IN SOFFIT. SEE DETAIL 9/A17.1
- 18 NOT USED.
- 19 TEXTURE EXPOSED FOUNDATION WALL BELOW WEEP SCREED AND PAINT TO MATCH WALL.

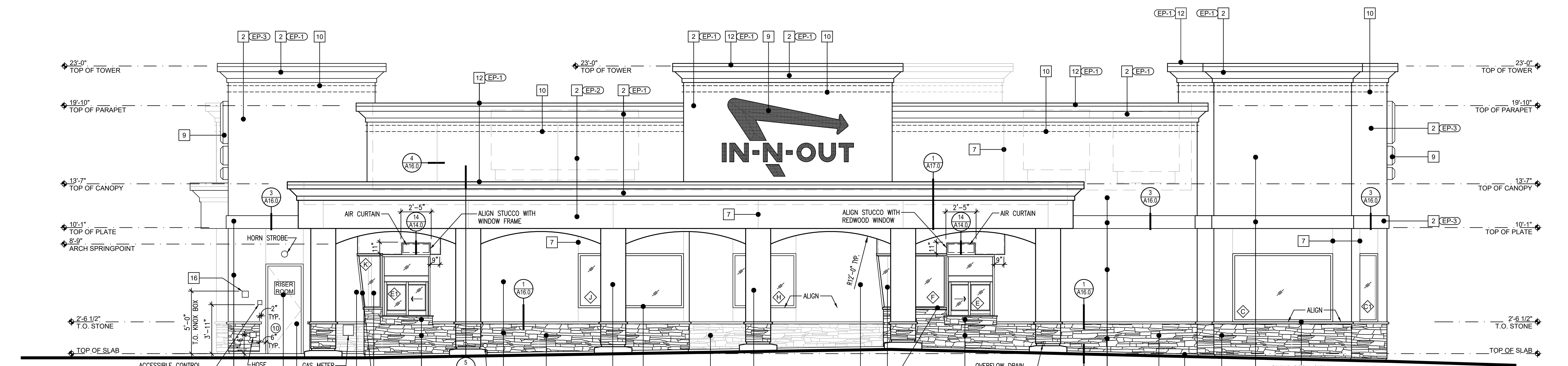
**EXTERIOR PAINT SCHEDULE**

NO.	MFR.	MODEL	COLOR #	COLOR NAME	FINISH	REMARKS
EP-1	DUNN EDWARDS	ARISTOSHIELD 70	DEW 339	BONE CHINA	HIGH GLOSS	PRIME W/ D.E. ULTRA-GRIP PREMIUM PRIMER
ALT. MFR.	SHERWIN WILLIAMS	SUPER PAINT LATEX	A84W01151	IN-N-OUT BONE CHINA	HIGH GLOSS	STUCCO: PRIME W/ LOXON CONCRETE & EXT LATEX PRIMER WHITE - A24W0300. GALV METAL: PRIME W/ GALVITE HS ACRYLIC COATING - B50WZ0030, OFF WHITE
EP-2	DUNN EDWARDS	ARISTOSHIELD 70	DEW 339	BONE CHINA	HIGH GLOSS	PRIME W/ D.E. ULTRA-GRIP PREMIUM PRIMER
ALT. MFR.	SHERWIN WILLIAMS	SUPER PAINT LATEX	A84W01151	IN-N-OUT BONE CHINA	HIGH GLOSS	SEE REMARKS FOR EP-1 ALT MFR.
EP-3	DUNN EDWARDS	ARISTOSHIELD 70	DEW 339	BONE CHINA	HIGH GLOSS	PRIME W/ D.E. ULTRA-GRIP PREMIUM PRIMER
ALT. MFR.	SHERWIN WILLIAMS	SUPER PAINT LATEX	A84W01151	IN-N-OUT BONE CHINA	HIGH GLOSS	SEE REMARKS FOR EP-1 ALT MFR.
EP-4	AXALTA	IMRON	SEE REMARKS FOR COLOR FORMULA	INO RED	HIGH GLOSS	PRIMER: AXALTA IMRON IND 9P01. PRIMER CAN BE TINTED GRAY. FINISH COAT: AXALTA IMRON IND 9T01 GLOSS POLYURETHANE. COLOR FORMULA: NON-CUM GUIDE 2/20/20. MIX SIZE: 102.4OZ (GALLON) 321.2 9T04 VIOLET 349.3 9T10 RED-ORANGE 349.3 9T13 ORANGE 2577.6

ALTERNATE MANUFACTURER FOR EP-1, EP-2, AND EP-3 TO BE USED ONLY WHEN DUNN EDWARDS IS NOT AVAILABLE. NO ALTERNATE ALLOWED FOR COLOR EP-4.



**2 EAST ELEVATION**  
A9.0 SCALE: 1/4" = 1'-0"



**1 NORTH ELEVATION**  
A9.0 SCALE: 1/4" = 1'-0"