

June 23, 2023

**VIA HAND & ELECTRONIC DELIVERY**

Ms. Vineeta Mathur  
Principal Planner, Land Use Bureau  
City of Stamford  
888 Washington Boulevard  
Stamford, CT 06901  
[VMathur@StamfordCT.gov](mailto:VMathur@StamfordCT.gov)

**Re: Special Permit Application  
1110 East Main Street, Stamford, CT (Parcel ID 002-0873) (the “Property”)  
Nautilus Botanicals EJVI, LLC (“Nautilus”) and SIMI ENT, LLC (collectively, the  
“Applicants”)**

Dear Ms. Mathur:

Our firm represents the applicant Nautilus, the contract purchaser of above-referenced Property. The Property is owned by the applicant SIMI ENT, LLC. The Property is located in the Neighborhood Business District (C-N) and Master Plan Category 7 (Commercial Arterial). It is 6,926± square feet (0.159± acres) and improved with a 2,140± square foot, two-story, retail building.

Pursuant to Section 5.E of the Zoning Regulations of the City of Stamford, and as required by Section 148(c) of Public Act 21-1, An Act Concerning Responsible and Equitable Regulation of Adult-Use Cannabis, the Applicants seek Special Permit approval to allow Nautilus to operate on the Property.<sup>1</sup> Site improvements are limited to restriping and adjustments to circulation. Modest changes are also proposed to the existing building. However, none of these changes require site plan approval.

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<sup>1</sup>The Stamford Zoning Regulations do not specifically identify this use, which only became legal in Connecticut in 2021. In such circumstances, the legislation provides that the municipality must analogize the proposed use with another similar use in existence in the City's regulations. Specifically, Section 148(c) of the Act states: “Unless otherwise provided for by a municipality through its zoning regulations or ordinances, a cannabis establishment shall be zoned as if for any other similar use, other than a cannabis establishment, would be zoned.” ZONING REGS. Sec. 4.E (“Medical Marijuana Dispensaries are allowed by Special Permit approval of the Zoning Board only within certain commercial and manufacturing Zoning Districts of the City of Stamford, as shown in Appendix A, Table II of these Regulations.”); Appx. A, Table II, Use 133.1. Because the Zoning Regulations do not currently provide regulations for Hybrid Retailers, the Stamford Law Department has determined the next closest use is Medical Marijuana Dispensary.

The Applicants also request Special Permit approval pursuant to Section 12.K.4.e of the Zoning Regulations to be exempt from the sidewalk requirements contained in Section 12.K. First, because East Main Street is a state highway, a sidewalk is not required on the portion of the Property that borders this road.<sup>2</sup> Second, sidewalks are already provided along Standish Road. Accordingly, the existing site adequately contributes to the area's pedestrian network.

Furthermore, the Applicants are not subject to certain mobility requirements in Section 12 of the Zoning Regulations. Specifically, bicycle parking is not required because no changes of use and/or substantial renovations involving 5,000 square feet or more of Gross Floor Area are proposed. See Section 12.J.1. Additionally, because fewer than 10 parking spaces are required for the proposed development, the Applicants are not required to provide electric vehicle charging stations. See Section 12.L.1.

In connection with the attached application, enclosed please find:

- Letters of Authority from Nautilus Botanicals EJ1, LLC and SIMI ENT, LLC;
- Application fees in the amount of \$1,460 (\$460 Special Permit application fee and \$1,000 Public Hearing fee);
- Twenty-one (21) copies of the following application form and associated schedules:
  - Application for Special Permit Approval;
  - Schedule A – List of Plans;
  - Schedule B – Introduction and Project Overview;
  - Schedule C – Statement of Findings;
  - Schedule D – Legal Description of Property;
  - Schedule E – Zoning Data Chart;
  - Schedule F – Existing Zoning Map;
  - Schedule G – Aerial Photograph of Property; and

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<sup>2</sup>Regardless, sidewalks are already provided along East Main Street.

- One (1) full-size and twenty (20) half-size copies of the following plans:
  - Zoning Location Survey prepared by Edward J. Frattaroli, Inc., titled, “Plot Plan Prepared for Merida Capital Holdings,” dated May 22, 2023;
  - Floor Plans and Elevations prepared by Annino, Inc., dated June 22, 2023, with the plan titles listed on Schedule A; and
  - Security Layout Plan prepared by Stealth Monitoring, dated June 21, 2023, titled “General CCTV Surveillance.”
- Twenty-one (21) copies of the Traffic and Parking Study Prepared by SLR, dated June 22, 2023, titled “Traffic and Parking Study.”

Please let me know if you have any questions or require additional materials. As always, thank you for your time and attention regarding this matter.

Very truly yours,

*Lisa Feinberg*

Lisa L. Feinberg

Enclosures.

cc: R. Blessing  
Nautilus Botanicals EJVI, LLC

June 23, 2023

**VIA HAND & ELECTRONIC DELIVERY**

Ms. Lindsey Cohen  
Associate Planner, Land Use Bureau  
City of Stamford  
888 Washington Boulevard  
Stamford, CT 06901  
[LCohen@StamfordCT.gov](mailto:LCohen@StamfordCT.gov)

**Re: Request to be Heard by Planning Board  
1110 East Main Street, Stamford, CT (Parcel ID 002-0873) (the “Property”)  
Nautilus Botanicals EJVI, LLC (“Nautilus”) and SIMI ENT, LLC (collectively, the  
“Applicants”)**

Dear Ms. Cohen:

Our firm represents the applicant Nautilus, the contract purchaser of above-referenced Property. The Property is owned by the applicant SIMI ENT, LLC. The Property is located in the Neighborhood Business District (C-N) and Master Plan Category 7 (Commercial Arterial). It is 6,926± square feet (0.159± acres) and improved with a 2,140± square foot, two-story, retail building.

In July, 2021, the Governor signed Public Act No. 21-1, entitled “An Act Concerning the Responsible and Equitable Regulation of Adult-Use Cannabis” (the “Cannabis Bill”), which allows for the sale of adult-use cannabis in the State of Connecticut. The Cannabis Bill establishes a “hybrid retailer” as “a person that is licensed to purchase cannabis and sell cannabis and medical marijuana products (“Hybrid Retailer”). The Applicants seek Special Permit approval to allow Nautilus to operate a Hybrid Retailer on the portion of the Property it seeks to lease.<sup>1</sup> The Applicants also request Special Permit approval pursuant to Section 12.K.4.e of the Zoning

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<sup>1</sup>The Stamford Zoning Regulations do not specifically identify this use, which only became legal in Connecticut in 2021. In such circumstances, the legislation provides that the municipality must analogize the proposed use with another similar use in existence in the City's regulations. Specifically, Section 148(c) of the Act states: “Unless otherwise provided for by a municipality through its zoning regulations or ordinances, a cannabis establishment shall be zoned as if for any other similar use, other than a cannabis establishment, would be zoned.” ZONING REGS. Sec. 4.E (“Medical Marijuana Dispensaries are allowed by Special Permit approval of the Zoning Board only within certain commercial and manufacturing Zoning Districts of the City of Stamford, as shown in Appendix A, Table II of these Regulations.”); Appx. A, Table II, Use 133.1. Because the Zoning Regulations do not currently provide regulations for Hybrid Retailers, the Land Use Bureau has determined the next closest use is Medical Marijuana Dispensary.

Regulations to be exempt from the sidewalk requirements contained in Section 12.K. There are no site improvements associated with this request.

In connection with the attached application, enclosed please find:

- Eight (8) copies of the Application for Special Permit Approval and associated schedules.
- Eight (8) half size copies of the following plans:
  - Zoning Location Survey prepared by Edward J. Frattaroli, Inc., titled, “Plot Plan Prepared for Merida Capital Holdings,” dated May 22, 2023;
  - Floor Plans and Elevations prepared by Annino, Inc., dated June 22, 2023, with the plan titles listed on Schedule A; and
  - Security Layout Plan prepared by Stealth Monitoring, dated June 21, 2023, titled “General CCTV Surveillance.”

I have also submitted an electronic copy of the following:

- The Traffic and Parking Study Prepared by SLR, dated June 22, 2023, titled “Traffic and Parking Study.”

We look forward to advice as to when the Planning Board will consider this proposal. At that time, I kindly ask that members of our development team and I be given an opportunity to briefly describe the proposal. Please contact me should you have any questions. As always, thank you for your time and attention regarding this matter.

Very truly yours,



Lisa L. Feinberg

Enclosures.

cc: Nautilus Botanicals EJV1, LLC

June 21, 2023

Vineeta Mathur  
Principal Planner, Land Use Bureau  
City of Stamford  
888 Washington Blvd.  
Stamford, CT 06901

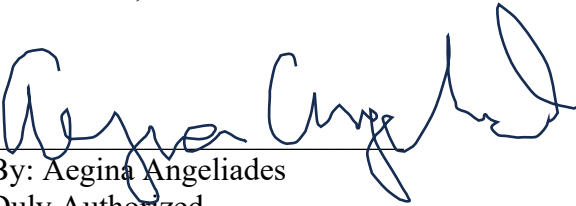
**Re: SIMI ENT, LLC  
Special Permit Application  
1110 East Main Street (the "Property")**

Dear Ms. Mathur:

SIMI ENT, LLC is the owner of the above-captioned Property, for which a special permit application to operate a Hybrid Cannabis Retailer will be filed. Please consider this letter as written confirmation that the undersigned has authorized the attorneys of Carmody Torrance Sandak & Hennessey, LLP, with offices located at 1055 Washington Boulevard, Stamford, Connecticut 06901, to file the enclosed special permit application with the City of Stamford on its behalf in connection with the Property. Thank you for your acknowledgement of said authority.

Sincerely,

**SIMI ENT, LLC**



By: Aegina Angeliades  
Duly Authorized

June 1, 2023

Vineeta Mathur  
Principal Planner, Land Use Bureau  
City of Stamford  
888 Washington Blvd.  
Stamford, CT 06901

**Re: Nautilus Botanicals EJVI, LLC  
Special Permit Application  
1110 East Main Street (the "Property")**

Dear Ms. Mathur:

Nautilus Botanicals EJVI, LLC is the contract purchaser of the above-captioned Property, for which a special permit application to operate a Hybrid Cannabis Retailer will be filed. Please consider this letter as written confirmation that the undersigned has authorized the attorneys of Carmody Torrance Sandak & Hennessey, LLP, with offices located at 1055 Washington Boulevard, Stamford, Connecticut 06901, to file the enclosed special permit application with the City of Stamford on its behalf in connection with the Property. Thank you for your acknowledgement of said authority.

Sincerely,

**Nautilus Botanicals EJVI, LLC**



By: Connie DeBoever  
Duly Authorized

**Schedule A**  
**List of Plans**

- Zoning Location Survey prepared by Edward J. Frattaroli, Inc., titled “Plot Plan Prepared for Merida Capital Holdings,” dated May 22, 2023;
- Floor Plans and Elevations prepared by Annino Incorporated, dated June 22, 2023, titled:
  - “A1.1: Proposed First Floor Plan;”
  - “A1.2: Proposed Second Floor Plan;”
  - “A1.1C: Proposed Color Coded First Floor Plan;”
  - “A1.2C: Proposed Color Coded Second Floor Plan;” and
  - “A2.1: Proposed Front Exterior Elevation.”
- Security Layout Plan prepared by Stealth Monitoring, dated June 21, 2023, titled “General CCTV Surveillance.”



**Schedule B**  
**Project Narrative**

**Zoning Application- Stamford**

**Company Profile**

***Licensure & Eligibility***

On November 21, 2022, Nautilus Botanicals LLC (“Nautilus”) was awarded a provisional cannabis cultivation license (License No. ACCE.0000005) pursuant to Section 21a-420(o) of the Connecticut “Responsible and Equitable Regulation of Adult-Use Cannabis Act”, or “RERACA.”

Section 5 of Public Act 22-103, which amended and supplemented RERACA, provides that a cultivator licensed under Section 21a-420(o) of RERACA may create two equity joint ventures in any cannabis establishment licensed business other than cultivation. Licensees under Section 21a-420(o) are therefore entitled to open two retail cannabis dispensaries in Connecticut, subject to local approval, approval by the CT Social Equity Council, and final state licensure from the CT Department of Consumer Protection. Nautilus Botanicals LLC has formed an equity joint venture, Nautilus Botanicals EJV1 LLC, for the purpose of opening a retail hybrid cannabis dispensary in Stamford, CT. A hybrid cannabis dispensary is a retail operation that sells both medical marijuana and adult-use recreational cannabis products.

***Corporate Structure***

As noted above, Nautilus Botanicals LLC owns the cultivation license. The special permit applicant, Nautilus Botanicals EJV1 LLC, is a subsidiary of Nautilus Botanicals LLC and was formed as an equity joint venture for the hybrid retail cannabis license. This license will be used to operate a hybrid medical/adult use dispensary in Stamford, CT, pending zoning approval.

In terms of ownership structure, as required by the CT Department of Consumer Protection, Luis Vega, our social equity applicant, owns 65% and Merida Capital, the backer, owns the remaining 35% of Nautilus. Nautilus Botanicals EJV1 LLC is owned 51% by Luis Vega and 49% by Merida Capital, and, as noted above, is a subsidiary of Nautilus Botanicals.

***Background on Luis Vega, CEO and social equity applicant of Nautilus Botanicals LLC***

Luis Vega has been a passionate advocate of cannabis and has worked tirelessly in the industry. His interest began when he was a teenager diagnosed with Crohn’s disease and ulcerative colitis. The use of cannabis gave him the quality of life he enjoyed prior to surgery.

Mr. Vega studied finance at the University of New Haven and began working in corporate contract facility management. However, he remained passionate about cannabis and involved in the industry. He started with CBD sales for a college friend. His big opportunity came when Connecticut legalized hemp in 2019. Mr. Vega established Vega Holdings and used his own savings to obtain a USDA hemp license, purchase land and seeds and begin growing hemp. As part of the Connecticut Department of Agriculture’s hemp pilot program, he was awarded a license to cultivate hemp and was the only Latino farmer to receive such a license. As his business developed, he added a processing license to allow for the harvest and processing of hemp. This led to the opening of a farm-to-store business, offering an array of hemp products from flower and pre-rolls to tinctures, edibles and topicals.

6.23.2023

In November 2019, Vega Holdings was named one of five winners of the Merida Capital i2 (Inclusive Industry) minority entrepreneur accelerator program. As a result, he received seed money from Merida to start Vega Holdings' hemp farm, as well as access to Merida's strategic advice, network and resources.

Connecticut legalized adult use cannabis in July 2021. In January 2022, the requirements for applicants for Section 149 Cannabis Cultivator licenses were published, which were only made available to social equity applicants who met the residency and income requirements. Luis Vega met these requirements and applied for the Section 149 license in February 2022. He is the managing member and Chief Executive Officer for Nautilus Botanicals LLC.

***Background on Merida Capital, backer for Nautilus Botanicals LLC***

Merida Capital Holdings was founded in 2016 and is one of the largest private equity firms in the state-legal cannabis industry. The firm is the only cannabis private equity firm to own and directly operate licensed cannabis businesses across multiple states. In addition, the firm's partners and co-founders have multiple years of experience launching licensed cultivation, manufacturing and retail businesses across multiple states. Current and past Merida operations include the following:

- Nautilus Botanicals in Connecticut: awarded a provisional Section 149 cultivation and manufacturing license, with a provision that allows for the formation of 2 equity joint ventures for any non-cultivation licenses. These will be used to open 2 hybrid retail stores.
- Harvest Care Medical in West Virginia: one of ten vertical licensees, with the ability to open up to ten dispensary locations; won the maximum number of dispensary licenses allowed. The cultivation and processing facility is operational, as are 5 dispensaries.
- COMO Health (d/b/a 3Fifteen Primo) in Missouri: five licenses for medical cannabis dispensaries operational, including a Cookies-branded store in St Louis. The stores have converted to adult use and are benefiting from a strong start to adult use sales.
- Jova and Storehouse in Maryland: awarded three retail licenses, with all 3 dispensaries operational. This includes the state's first black-owned dispensary in the state, which has 100% BIPOC staffing.
- Dharma Pharmaceuticals in Virginia: one of five vertical licensees, with the ability to open up to six dispensary locations. The cultivation and processing facility is operational, and five dispensaries are open and operational. ***Sold to GTI in July '21.***
- Laurel Harvest in Pennsylvania: Grower-processor licensee with the ability to open up to six dispensary locations. ***Sold to Cresco in December '21.***
- Valley Ag in New York: overcame industry challenges in the early days of the industry to get the cultivation facility and four dispensaries operational. ***Sold to Cresco in October '19.***

In addition, Merida's partners and co-founders bring direct experience with numerous cannabis businesses:

- Co-Founder & Managing Partner Mitch Baruchowitz brings 12 years of cannabis investment experience. He is an expert in the regulatory component of cannabis limited licensing and multi-state cultivation operations, and a frequent speaker and author on cannabis investment strategy and diligence. Prior to Merida, he was a (1) Co-Founder of Manticorp (d/b/a Grow West) in Maryland, which operates a cultivation facility; (2) Founder of Leafline Labs in Minnesota, one of only two licensed vertical medical cannabis operations; and, (3) Founder of Theraplant in Connecticut, one of the state's four vertical licensees.

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- Co-Founder & Senior Operating Partner Kevin Gibbs currently oversees all of Merida's operating team and specifically oversees the firm's direct license operations. He first developed a deep expertise in cannabis-related regulatory affairs and operations through his work with Greenfield and Peak Harvest Health. He then went on to be a Co-Founder of Manticorp (d/b/a Grow West) in Maryland, a licensed medical cannabis cultivation facility.
- Senior Partner Mina Mishrikey currently oversees Merida's investment team and is responsible for deal sourcing, due diligence, portfolio analysis and management. He gained insight into the cannabis industry as a co-founder and CFO of Philagrow, a Pennsylvania-based medical marijuana company.
- Operating Partner Matthew Bartlett is part of Merida's operating team and currently oversees the operations at Lowell Farms and Harvest Care Medical in West Virginia. He also recently launched his own brand, Sift. Prior to Merida, he helped found the Garden Society, a chef-inspired, low-dose cannabis distribution company located in California.
- Operating Partner Colin Kelly is part of Merida's operating team and helps oversee the firm's direct license operations, including Connecticut. Mr. Kelley has 16 years of experience in ensuring operational compliance with all applicable regulations and maximizing company productivity. He joined the cannabis industry in 2015, serving as the Chief Financial Officer and Chief Operating officer of Leafline Labs, one of two operators in Minnesota.
- Partner Connie DeBoever is part of Merida's investment team and oversees many of Merida's branded portfolio companies as well as the i2 Minority Accelerator Program. In addition, she is overseeing the licensed operations in Connecticut, including the cultivation and manufacturing as well as the retail facilities.

## **Site Information**

The applicant proposes to operate a hybrid cannabis retail facility located at 1110 East Main Street, Stamford CT 06902. The applicant has a signed purchase agreement with the owner of the property. The purchase is contingent upon final zoning approval by the City of Stamford and subsequent final licensure by the State of Connecticut.

The hybrid cannabis retail facility at 1110 East Main Street is a two-story building with a proposed gross square footage of ~2,562 square feet on 0.15 acres. It is located in the C-N zone in Stamford.

## **Project Overview**

### ***Proposed Plans***

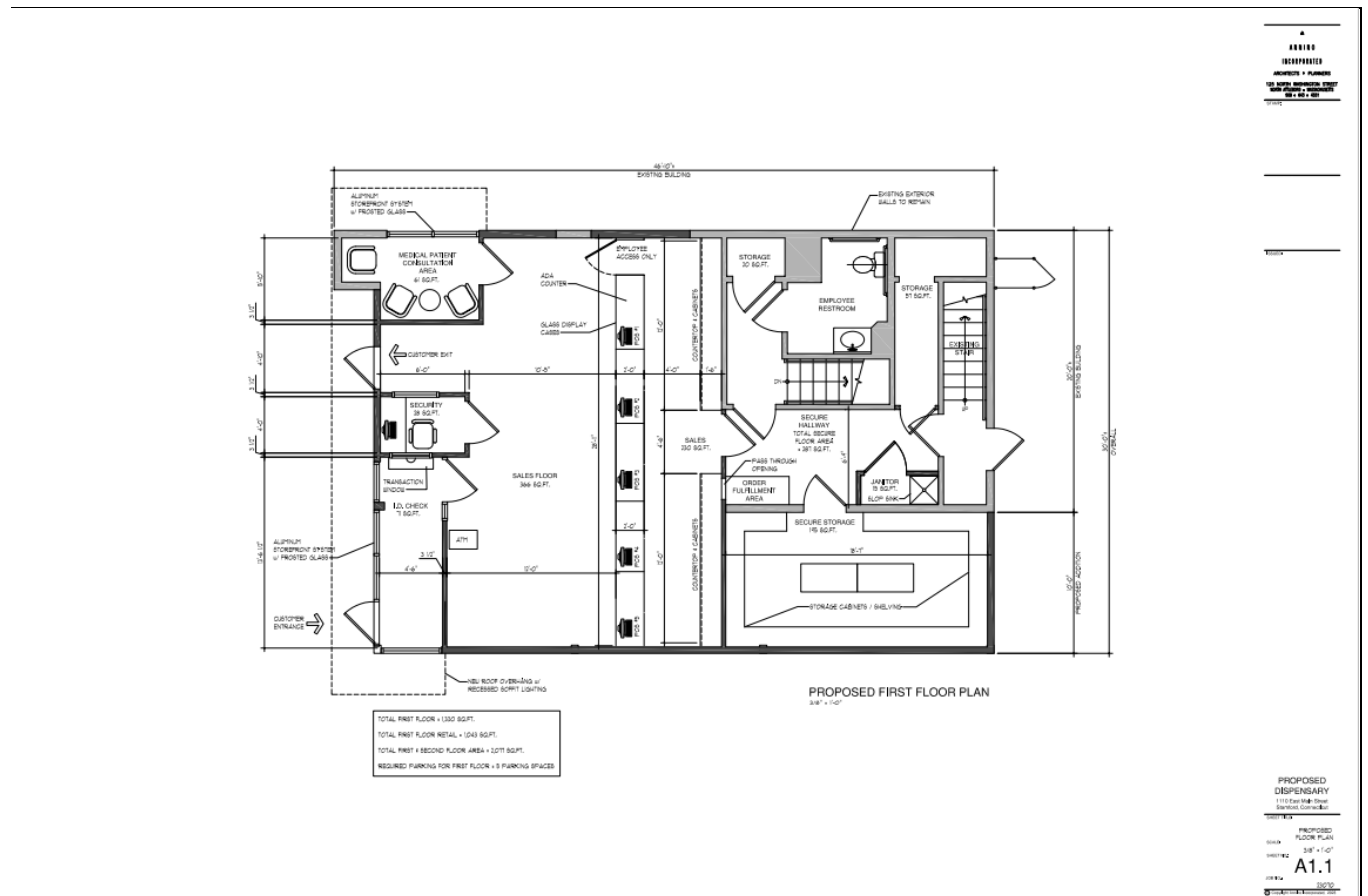
Our intended use is a hybrid retail cannabis facility, which will serve both adult use customers and medical patients, in compliance with the state's licensing and regulatory requirements. We plan to locate the dispensary at 1110 East Main Street in Stamford. Our renovations will occur within the existing footprint, mostly interior but some exterior enhancements. There is currently an existing drive-through, which we plan to enclose on one side (the side closest to Standish Rd) and to remove the overhead canopy to create room for additional parking on the other side. The customer entrance will be on the side closest to East Main Street, with bollards or planters in front for security purposes. The windows will be frosted or painted opaque to comply with the state's privacy requirements. Interior work will consist of building a security/check-in area, along with point-of-sale ("POS") stations and shelves and counters for empty packaging displays.

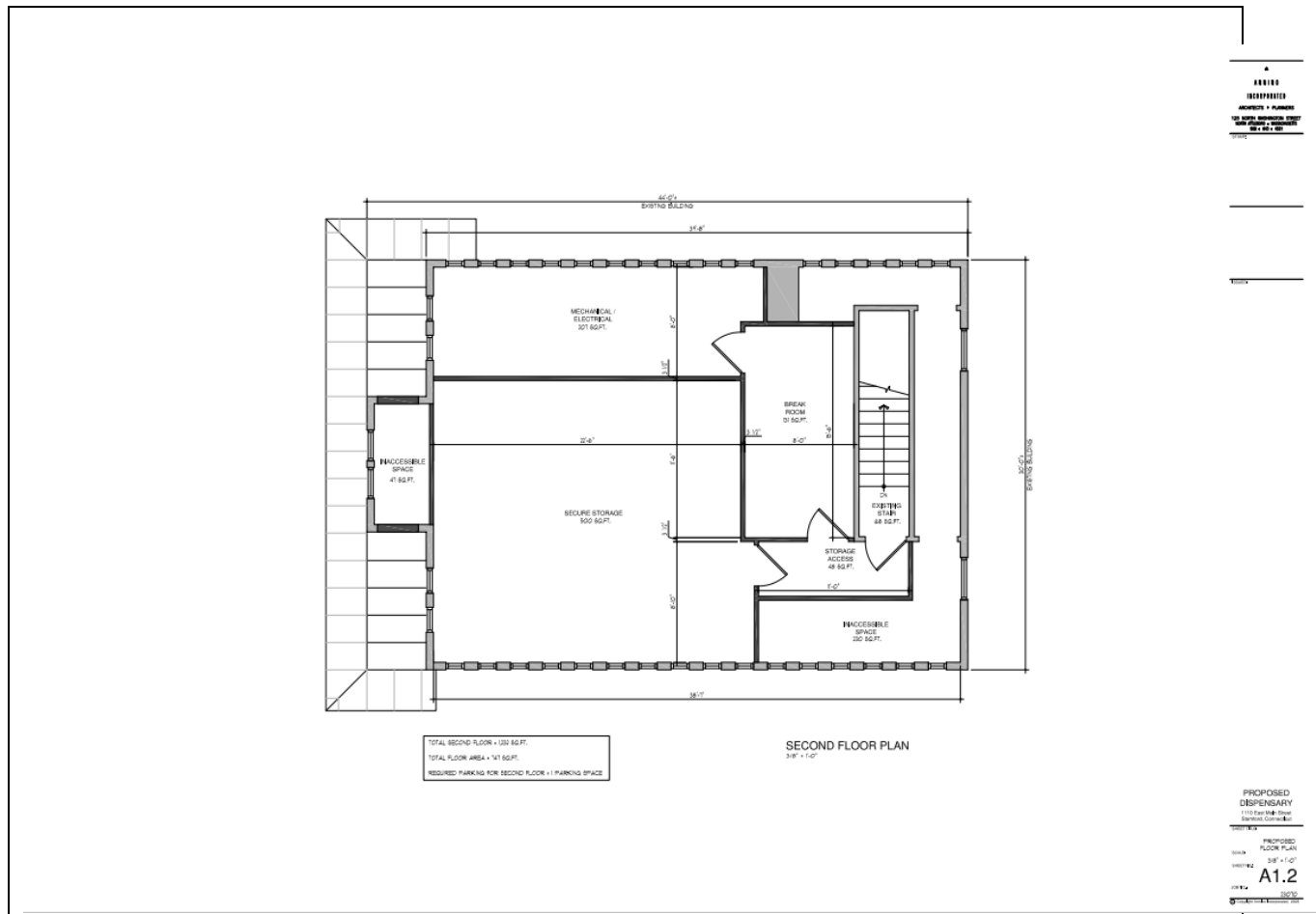
6.23.2023

We plan to add ~400 square feet to the existing building with the removal of the overhead canopy on the left hand side of the building, which would bring the total gross square footage of the building to ~2,562 square feet. This reflects ~2,077 square feet of floor area, with 1,330 square feet on the first floor and 747 square feet on the second floor. Our retail space will encompass 728 square feet on the first floor and will be utilized for the customer check-in area, medical patient consultations and the sales floor, where retail discussions and transactions between customers and customer counselors will occur. The remainder of the first floor will be reserved for employees (315 square feet) and storage (287 square feet). The second floor will comprise 747 square feet of gross floor area and be utilized for secure storage (500 square feet), an employee break area (131 square feet) and access (116 square feet). The mechanical/electrical equipment (207 square feet) and inaccessible space (277 square feet) have been excluded from the floor area calculations. There is also an unfinished basement in the building that will not be used in connection with the dispensary.

We will be open seven days a week, with maximum hours from 9am to 9pm. On lighter traffic days, we may choose to be open from 10am to 8pm. Customers will enter the dispensary from the front entrance, closest to East Main Street.

Since we will be operating a dispensary and not a cultivation or manufacturing facility, odor and noise will not be an issue. The lighting use will be similar to other retail stores.





**Parking**

In accordance with the Stamford parking regulations, the proposed retail use generates a parking requirement of four (4) spaces per 1,000 square feet of retail space. Our proposed plans show 1,174 square feet of retail area, which equates to five (5) parking spaces required.<sup>1</sup> The storage use generates a parking requirement of one (1) space per 2,000 square feet. Our proposed plans show 1,111 square feet of storage space, which equates to one (1) parking space required. In total, we will need six (6) parking spaces to comply with the Stamford parking regulations. The proposed parking includes six (6) dedicated parking spaces available for customers, including one (1) handicap space, which complies with the zoning requirements. Eight (8) additional parking spaces have been leased for employee parking across the street at 1069 East Main Street, and on-street parking is also available on Standish Road and surrounding streets.

**Operational Overview**

We will be open seven days a week, with maximum hours from 9am to 9pm. On lighter traffic days, we may choose to be open from 10am to 8pm. Customers will be highly encouraged to place their orders online and pick up in the store. We plan to have 5 POS systems available to customers. Between this and online orders, we believe most customers will spend no more than 5 minutes in the store.

<sup>1</sup>The basement space is exempt from the Floor Area Ratio requirements, and therefore, does not generate a parking requirement.

**Management Experience**

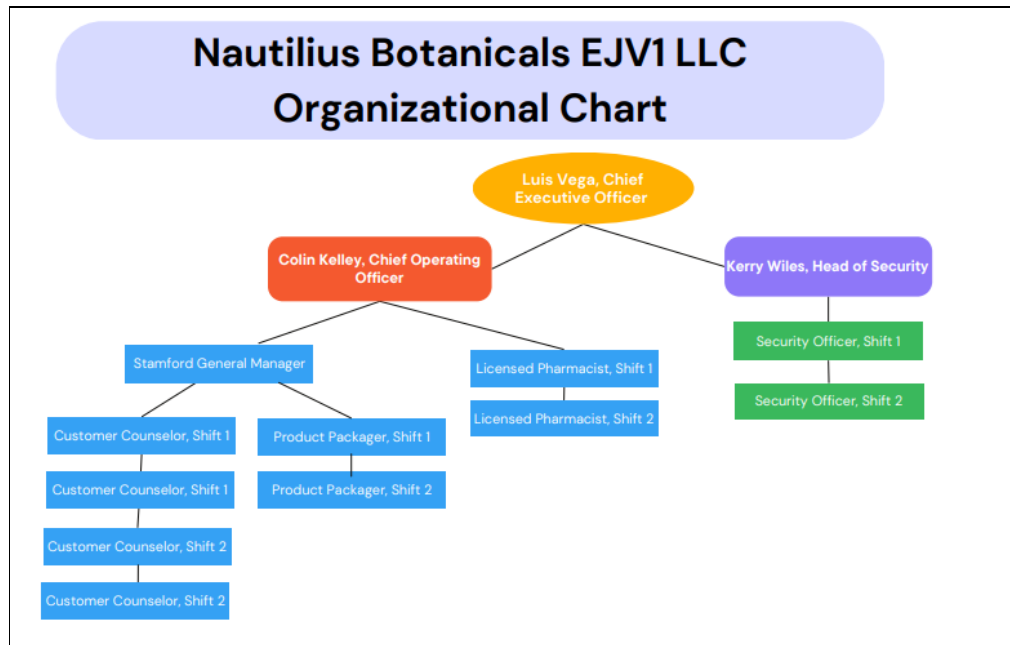
Nautilus Botanical EJV1’s owners and team members bring a significant level of experience and professionalism in the cannabis industry. Merida Capital, the backer, has several years of experience in the industry, including experience operating more than 10 dispensaries in multiple states.

Within our management team, our Chief Executive Officer (“CEO”) Luis Vega has had several years of experience as the only Latino hemp farmer in CT. Our Chief Operating Officer (“COO”), Colin Kelley, has over 8 years of experience in the cannabis industry, serving as Chief Financial Officer and COO of Leafline Labs in Minnesota and more recently as an operating partner at Merida Capital.

**Key People**

Our hybrid retail cannabis facility will be overseen by our CEO Luis Vega. He will oversee our COO, Colin Kelley, and the Head of Security, Kerry Wiles. Our COO will oversee the primary dispensary operations, including the general manager and the counselors and product packagers who report to him/her, as well as the licensed pharmacists. Our Head of Security will oversee the security officers, who will be responsible for checking IDs for compliance with the age and medical card requirements.

We plan to staff our store with 4-6 employees over two, six-hour shifts. This includes one required pharmacist for medical patients and one general manager. The remainder of the employees will be split between budtenders (1-2 per shift) and product packagers (1-2 per shift).



**Operational Highlights**

Customers will enter through the front door and will initially only have access to the public zone, which consists of the check-in area. There, the security officer will be responsible for scanning their valid, government-issued IDs and verifying their age and, for medical patients, their medical card. Once their age and medical card have been verified, they will be allowed to enter the retail floor, which will be controlled access via RFID card. After picking up or making their purchase, customers will leave through a separate exit.

6.23.2023

Medical patients will be greeted by the security officer, who will verify their ID for age compliance as well as a state-issued medical card. After entering the facility, they will have a dedicated area for their use if they wish to have a consultation. In accordance with state regulations, medical patients will be given preferred access ahead of adult use customers. The on-site licensed pharmacist will be available for customers who have questions or request a consultation, in accordance with state requirements.

On the retail floor, customers will have access to a maximum of 5 point-of sale ("POS") systems. Given the small size of the proposed store, we plan to open with three POS, reserving two POS for heavier customer traffic, if this occurs. One of these POS will be a dedicated register for online orders and medical patients, with the other ones for walk-in or adult use customers. Customer counselors will be on hand to answer questions about products, help with orders and complete product purchases. Based on our operations in other states, we expect customers to spend less than 5 minutes in the store. This time will be further reduced for orders placed online.

Prior to completing a purchase, the customer counselor will ask to see the customer's valid, government-issued ID to verify their name and date of birth and to ensure they have not reached the state's mandated product purchase limit (currently ¼ ounce of flower, or its equivalent, for adult use customers and 5 ounces of flower, or its equivalent, for medical patients). Medical patients will be required to show their state-issued medical card as well. After all these verifications have been completed, the customer counselors will review the product(s) being purchased with the customer before putting them back into the bag and stapling it shut. For online orders, staff will need to verify the customer's age and the products ordered before they can process payment. In accordance with state regulations, the customer counselor will inform customers of state regulations, especially consumption rules. Customers will then be directed to leave the store via a separate exit door.

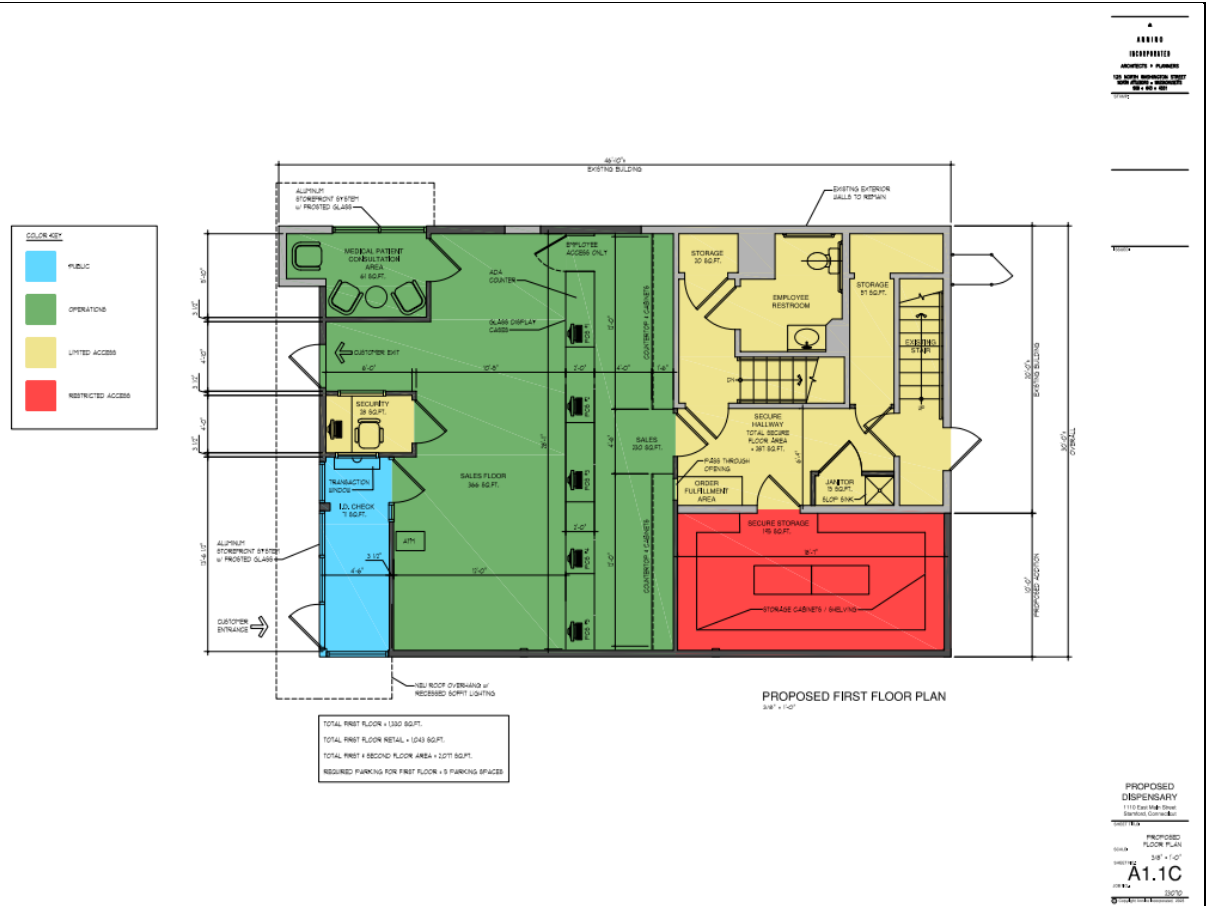
Orders are sent by the POS to the packaging employee via tickets/receipts. Similar to restaurants, these tickets will be reviewed and processed by the fulfillment/packaging employee, who will place the products into a bag. Once products are packaged in a bag, it will be passed through a window to the retail counter. The customer counselor will retrieve the exit bag from the secure pass-through door, which requires keycard access, and review with customers prior to completing the purchase.

No products will be available on the floor or in display cases. All products will only be available in the product packaging/fulfillment area (only during open hours) and be stored in the secure vault, especially overnight. In the product packaging/fulfillment area, products will be kept on mobile shelving to allow for easy movement and flexibility between this area and the secure vault. All product will come pre-packaged and no packaging will take place onsite.

## **Security Plan**

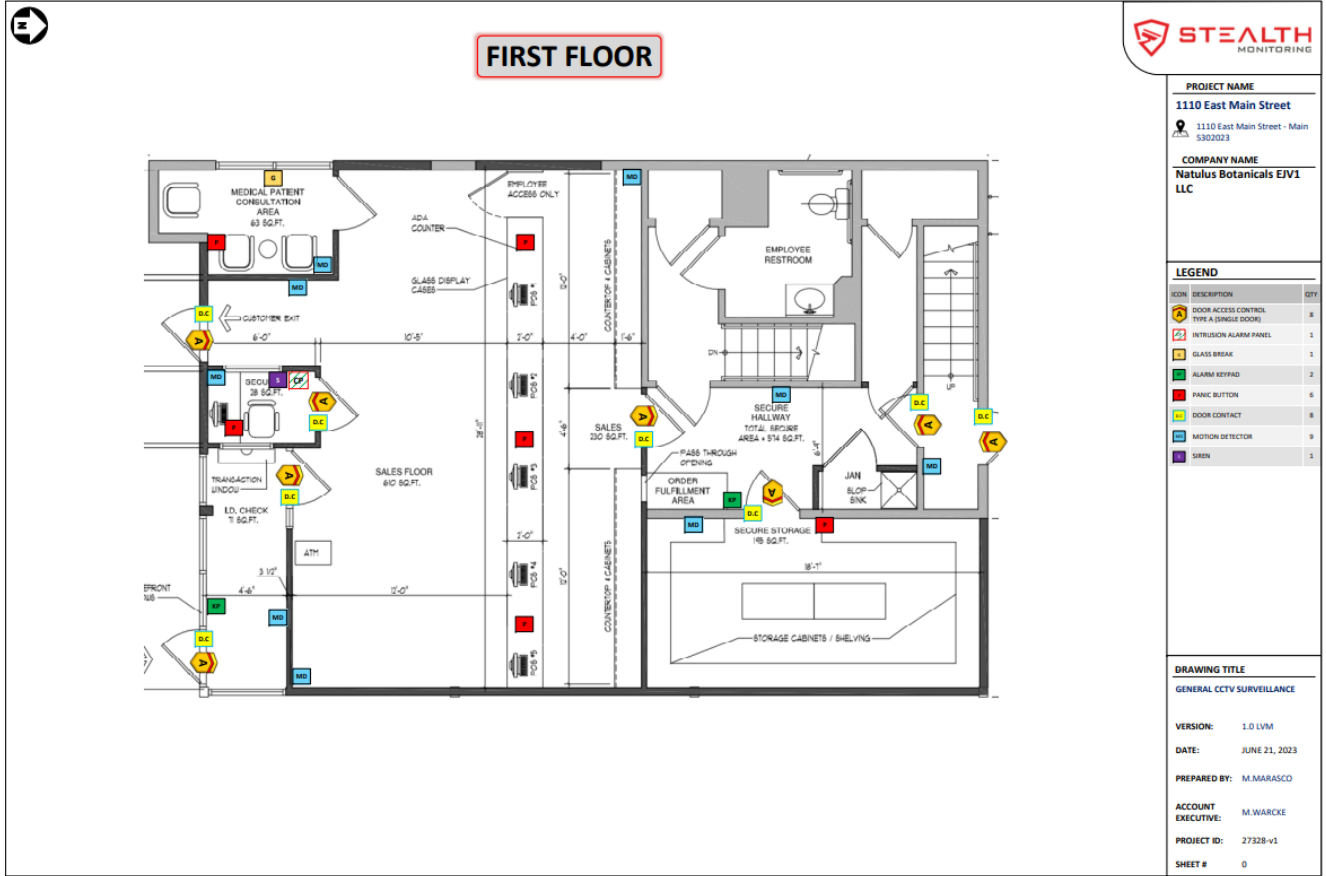
We plan to place bollards or planters near the front of the store to prevent cars from driving through. We will hire a security officer, who will be stationed at the front entrance to scan IDs for age compliance and track purchases and any recalls. We will also place cameras and motion detectors in and around the facility for security purposes. The windows will be reinforced and have tinted film that allows those inside to see out but not vice versa. They will also be equipped with hefty window locks that are visible from the outside and with alarms that are monitored in the security room and at the off-site monitoring center. We plan to review our proposed plans with the fire marshal and building department when we file for a building permit.

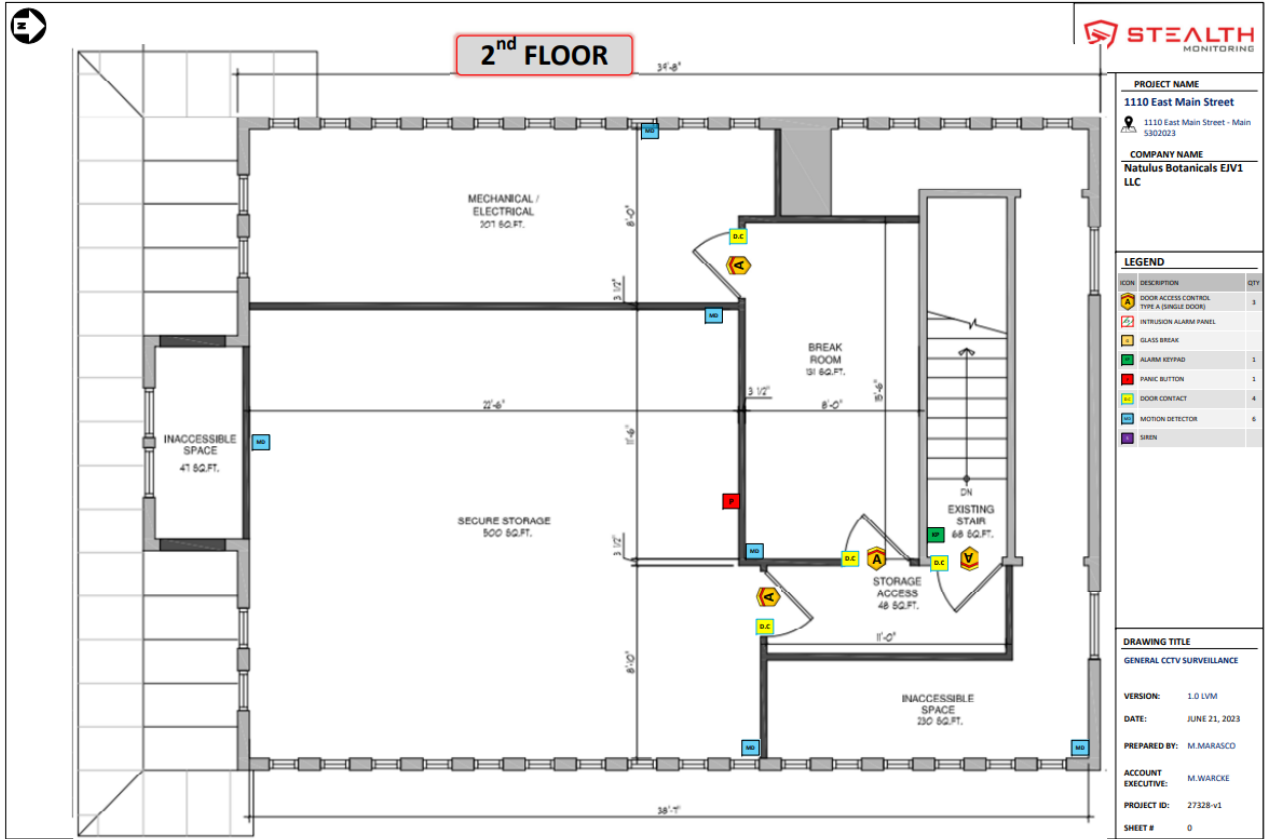
To facilitate the safest facility, we have separated our facility into four separate zones. The public zone is accessible to anyone who has been age-verified, and is where customers enter and check-in. The operations zone consists of the retail floor and product packaging/fulfillment areas. The limited access zone consists of employee areas and can only be accessed by an employee RFID card. Finally, the restricted access zone consists of the secure vault and secure storage as well as the IT closet. All of the restricted access areas will only be accessible by specific employees with specific RFID access cards, surveillance or security personnel and state regulators and law enforcement agencies.







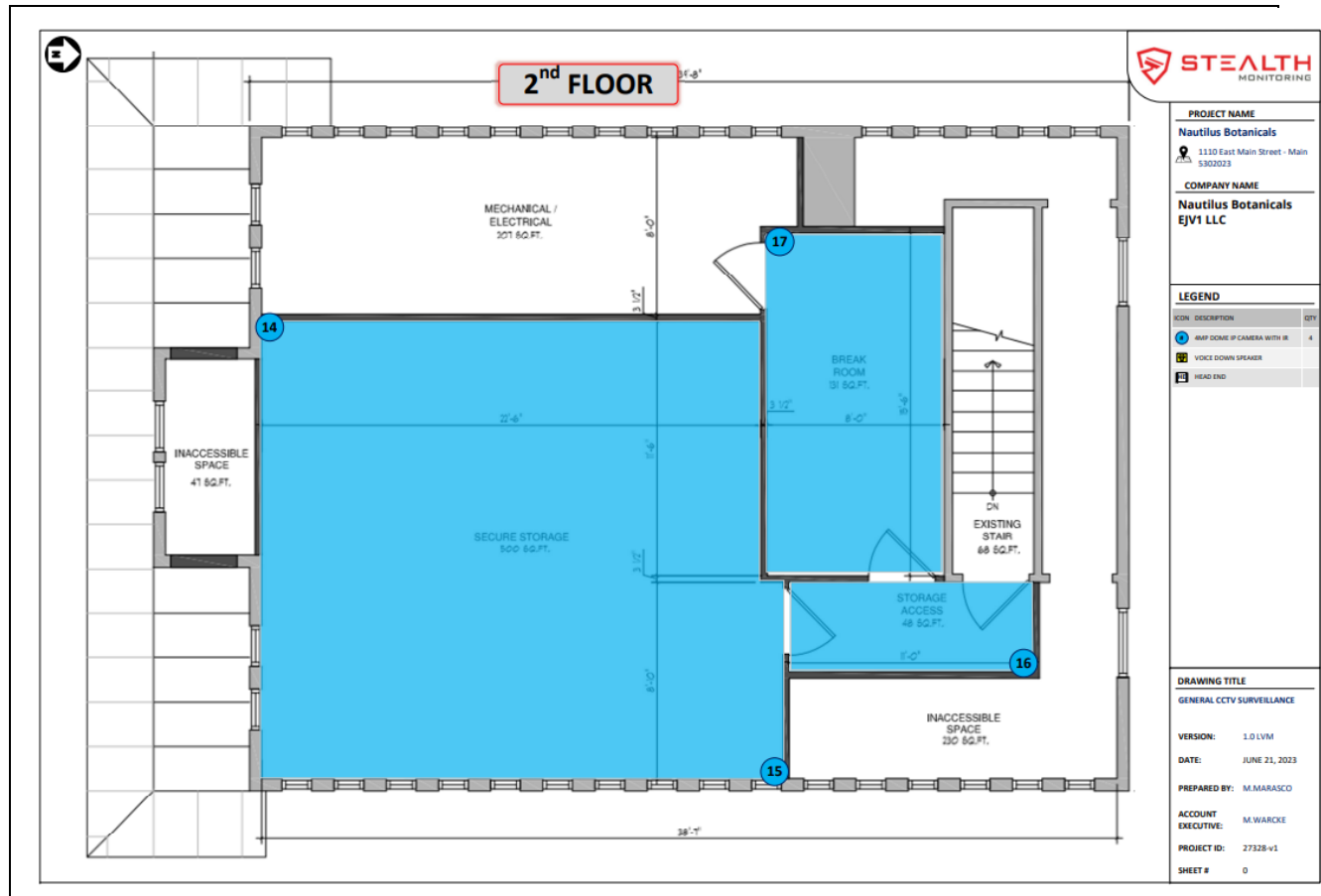




As required by the state, all cannabis products will be stored in the secure vault, which will be surrounded by 8" thick concrete. It will have an alarmed key pad and panic button. All products will be stored here. The vault can only be opened by the General Manager and has a timed lock.

Security cameras and surveillance monitors will be placed through-out the facility, as required by the Department of Consumer Protection. All security footage will be backed up and stored for at least 90 days.





## Security Policies & Procedures

### Opening and Closing

It is the responsibility of the Head of Security to adopt and implement opening and closing daily security inspections at Nautilus Botanical EJV1 LLC's ("Nautilus") facility. Security personnel, including Nautilus employees, third-party service providers, or contractors, and Nautilus' General Managers will perform or oversee opening and closing daily security inspection to ensure compliance with Nautilus policy, the rules set forth by the Department of Consumer Protection, and all applicable state and local laws, regulations, ordinances, and other requirements.

When closing the facility, Nautilus' Head of Security and Closing General Manager will perform initial and final walk throughs of the facility and perimeter of the premises to ensure: a) no employees, authorized individuals, or any other individuals are still present in the facility; b) all inventory and cash are secure; c) all alarm and surveillance systems and other devices to detect unauthorized intrusion are properly functioning; and d) the premises are generally secure when all Nautilus personnel leave.

### Access Control- Employees

Given the significant security within and around Nautilus Botanicals EJV1 LLC's ("Nautilus") dispensary facility, it will be crucial to maintain access control. This will include proper signage that prominently displays security system and private property notifications. In addition, all perimeter doors will be

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equipped with manual and electronic locking mechanisms using commercial-grade, non-residential door locks. These locks will remain engaged in the event of a power outage. Within the facility, employee access will be controlled via electronic door strikes and electronic keycard access hardware, as well as contact and silent alarms to prevent unauthorized entry or exit. Video cameras will be installed in all limited access areas, point-of-sale locations, security rooms, all points of entry and exit and all areas containing cannabis.

On the exterior, LED flood lights will be utilized to facilitate surveillance and to light the exterior of the facility without impacting the neighboring properties.

When working, all employees will be required to wear their agent identification cards and to have their IDs be visible to others and in their immediate possession at all times. We will also prevent the sharing of any employee-specific access credentials and limit the use of combination numbers, passwords, or electronic or biometric security systems to registered, authorized employees.

To prevent unauthorized access to Nautilus' dispensary facility, we will have:

1. Security equipment to deter and prevent unauthorized access into limited access areas, including a) devices to detect unauthorized intrusion; b) exterior lighting to facilitate surveillance; c) manual and silent alarms; d) electronic monitoring; and e) immediate automatic or electronic notification to alert local law enforcement agencies of an unauthorized breach of security.
2. Policies and procedures in place that: a) restrict access to the areas of Nautilus' dispensary that contain cannabis to authorized individuals, including patients and caregivers; b) provide for the identification of persons authorized to be in the areas of the dispensary that contains cannabis, including medical patients and adult use customers on the sales floor and Nautilus employees responsible for inventory control activities; c) cover electronic monitoring and the use of automatic or electronic notification and manual, silent alarms to alert local law enforcement agencies of an unauthorized breach of security at the facility, including designation of on-call facility personnel to respond to, and to be available to law enforcement personnel who respond to, any alarms; and d) allow for easy communication with law enforcement agencies.
3. Install a commercial-grade, up-to-date security alarm system and video surveillance system to prevent and detect diversion, theft, or loss of marijuana or marijuana-infused products, or unauthorized access to the facility. For doors into limited access areas and all entries and exits into the licensed premises, Nautilus will use Underwriter's Lab (UL) approved locks and lock cylinders, which are burglary resistant, non-residential, and commercial-grade.
4. All facility windows will be of reinforced glass and will be tinted, in addition to being monitored by the facility's central alarm system.
5. Employee proximity cards, access codes, and other access hardware credentials will be distributed on a limited and individual basis to pre-authorized essential Nautilus personnel. The Head of Security will ensure the Access Control System at the facility allows for programming or uploading individual user permissions and allowed entry times, as well as operations-specific information including employee photos. Access to the facility will be limited to Nautilus employees, medical patients, adult use customers and authorized adult visitors, including authorized representatives of the Department of Consumer Protection and other government officials when necessary to perform their official duties.
6. Ensure that the Access Control System monitors and records: a) the identity of all individuals entering and exiting the facility; b) all keycard entry and exit activity, including dates and times; c) lengths of time in specific areas; and d) any unauthorized access attempts. Records of limited access area entry will be maintained for at least one year and be made available to the Department of Consumer Protection for inspection purposes upon request.

***Access Control- Medical Patients***

Patient access control into Nautilus' dispensary facility is comprised of two main objectives: a) controlling and safeguarding access to certain areas where medical marijuana will be sold; and b) determining guidelines for the acceptable forms of identification that verify the lawful sale of medical marijuana to patients and caregivers.

The general public, qualifying patients, and primary caregivers will only enter the facility through one access point into an area where security personnel will screen individuals for qualifying patient or adult use age requirements, which requires a valid, government-issue ID. These IDs are then scanned and used to verify the name and birth date of the patient or adult use customer. Medical patients will also be required to show their state-issued medical card, which will be checked against their government-issued ID for name matching purposes.

No cannabis will be accessible in this area. Only qualifying patients, primary caregivers, and adult use customers will be allowed to enter any areas beyond the check-in area.

***Access Controls- Visitors***

Other than short-term contractors or vendors and officials from the Department of Consumer Protection ("DCP") and local law enforcement agencies, visitors are generally discouraged from Nautilus' dispensary facility. If visitor entry is requested, visitors must be accompanied by Nautilus employees or the Head of Security at all times. All visitors must sign in and out of the Nautilus Visitor Access Log and include the reason for their visit and the date of their visit. The visitor's valid, government-issued ID must match their name on the Visitor Access Log. Once they have been screened and passed, they will be given a visitor ID badge, which is required to be worn and visible to others at all times. Only employees with assigned access permissions to the dispensary may escort the visitor(s). Nautilus will maintain the Visitor Access Log and make it available to the DCP for inspection purposes upon request.

**Signage Plan**

We will adhere to and comply with the Stamford signage requirements for dispensaries. As such, we will have a sign on our building about 16" x 18" in size. There is an existing ground-mounted sign, which we plan to repurpose with the name of our dispensary. It will be approximately 5' high, with dimensions of 4' x 4'. As required, there will be no illumination nor cannabis-related graphics on any of our signs or windows.

**Schedule C**  
**Statement of Findings**

Pursuant to Public Act No. 21-1 titled “An Act Concerning Responsible and Equitable Regulation of Adult-Use Cannabis” (the “Act”), when a municipality does not specifically account for an adult-use cannabis operation, the municipality must analogize the proposed use with another similar use in existence in the City’s regulations. Specifically, Section 148(c) of the Act states:

“Unless otherwise provided for by a municipality through its zoning regulations or ordinances, a cannabis establishment shall be zoned as if for any other similar use, other than a cannabis establishment, would be zoned[.]”

Based on this statutory language, the City of Stamford has analogized Hybrid Retailers with a Medical Marijuana Dispensary Facility which is subject to Special Permit approval. Nautilus Botanicals EJVI, LLC (“Nautilus”) and SIMI ENT, LLC (collectively, the “Applicants”) are proposing a Hybrid Retailer at 1110 East Main Street (the “Property”). The Special Permit request is detailed in the enclosed narrative (Schedule B).

**A. Statement of Findings in Accordance with Section 19.C.2 of the Zoning Regulations**

In accordance with Section 19.C.2 of the Zoning Regulations, the Applicants submit that the following standards and conditions have been satisfied:

*Special Permits shall be granted by the reviewing board only upon a finding that the proposed use or structure or the proposed extension or alteration of an existing use or structure is in accord with the public convenience and welfare after taking into account, where appropriate:*

1. *The location and nature of the proposed site including its size and configuration, the proposed size, scale and arrangement of structures, drives and parking areas and the proximity of existing dwellings and other structures.*

Nautilus proposes to operate a 2,562± square foot Hybrid Retailer on the Property. The Property is located in the C-N zone, which has been identified as an appropriate location for cannabis retail use. The Property is an ideal location for a retail use, as it is a corner lot located on a main arterial road and a side street. The building on the Property was constructed in 1965 and has been used for retail purposes and as a veterinary office. Most recently, the Property was used as a drive-thru grocery store. The proposed use would simply substitute a new retail operation for the prior ones. Moreover, the Property is adjacent to many other commercial uses. Accordingly, the Applicants submit that the proposed use is appropriate for the surrounding neighborhood and this project is in according with the public convenience and welfare.

2. *The nature and intensity of the proposed use in relation to its site and the surrounding area. Operations in connection with special permit uses shall not be injurious to the*



*neighborhood, shall be in harmony with the general purpose and intent of these Regulations, and shall not be more objectionable to nearby properties by reason of noise, fumes, vibration, artificial lighting or other potential disturbances to the health, safety or peaceful enjoyment of property than the public necessity demands.*

The Property is in the C-N zone, which permits a variety of commercial uses. It has been used for commercial purposes since it was originally constructed in 1965. As is customary for properties in the C-N zone, the Property is bordered by residential uses to the north and west. The proposed use is a retail use that is consistent with the prior uses of the Property as well as the current uses of the properties to its immediate south and east. The proposed use poses no risk to nearby properties by reason of noise, fumes, vibration, artificial lighting or other potential disturbances to health, safety, or peaceful enjoyment of property. In fact, as a highly regulated industry, the Hybrid Retailer offers significantly more assurances with regard to health, safety and peaceful enjoyment than many other uses permitted as-of-right on the Property. Details regarding strict operational policies and protocols are included in the attached narrative. Accordingly, the Applicants submit that the proposed use is appropriate for the neighborhood and will not be objectionable to nearby properties.

3. *The resulting traffic patterns, the adequacy of existing streets to accommodate the traffic associated with the proposed use, the adequacy of proposed off-street parking and loading, and the extent to which proposed driveways may cause a safety hazard, or traffic nuisance.*

Nautilus has engaged SLR to conduct a comprehensive traffic analysis. In connection with this study, SLR evaluated four intersections near the Property along East Main Street. SLR determined that all individual movements at these intersections is expected to operate at acceptable levels of service during weekday P.M. and Saturday midday peak hours, and that the individual movements are not expected to degrade in Level of Service. SLR concluded that the increase in traffic can be accommodated by the surrounding roadway system and, as such, no traffic mitigation is necessary. Sufficient parking will be provided onsite. Additionally, the Applicant has arranged for nearby offsite parking for employees. Accordingly, the proposed development will not negatively impact traffic patterns or cause safety hazards.

4. *The nature of the surrounding area and the extent to which the proposed use or feature might impair its present and future development.*

The proposed use is in harmony with the historical and current use of the Property and surrounding areas. In addition, the proposed use is safe and secure, quiet, and has proven successful at the other recently approved locations as well as in other states. The Property is suitably distant from the other locations so as to provide a more convenient option for palliative and adult-use customers located in eastern Stamford. The Hybrid Retailer will occupy otherwise vacant retail space and provide significant tax revenue (3% gross revenue) to the City of Stamford. It is a neighborhood commercial use in a neighborhood commercial zone. There is no reason to believe the use will impair present or future development.

5. *The Master Plan of the City of Stamford and all statements of the purpose and intent of these regulations.*

The Property is located in Master Plan Category 7 (Commercial Arterial). The purpose of this category is to provide for and protect business-oriented development (1) extending from the Downtown or (2) along major arterial routes. The proposed Hybrid Retailer is a new business in the State and the proposed location is on East Main Street, a major arterial roadway. Moreover, the proposed use also forwards the City's economic development initiatives. Luis Vega, Nautilus' majority owner, is a Connecticut native and social equity applicant who has met the requisite residency and income requirements for obtaining a license. Vega is committed to contributing to Stamford's already thriving business community by adding a new business that will contribute jobs and revenue.

The Applicants propose to operate a desirable retail use in what is currently a vacant retail space. The proposed use will provide economic benefits to the neighborhood and add vitality. Furthermore, it will increase Stamford's tax base. Accordingly, the proposed use is in accordance with the public convenience and welfare.

**B. Statement of Findings in Accordance with the definition of Medical Marijuana Dispensary Facility**

In accordance with the definition of a medical marijuana dispensary facility, the Applicants submit that the following standards and conditions have been satisfied:

- a. *Medical Marijuana Dispensaries must possess a current license from the State of Connecticut Department of Consumer Protection and comply with the Regulations of the State of Connecticut Department of Consumer Protection Concerning the Palliative Use of Marijuana, per the Connecticut General Statutes, Section 21a-408-1 to 21a-408-70, inclusive, as may be amended from time to time. Failure to maintain proper licenses shall be deemed an immediate violation of the City of Stamford Zoning Regulations.*

Like Dispensaries, use of the Property as a Hybrid Retailer is heavily regulated by the State and a license is required from the Connecticut Department of Consumer Protection ("DCP") to operate. On November 21, 2022, Nautilus Botanicals, LLC ("Nautilus Botanicals") was awarded a provisional Section 149 cannabis cultivation license (License No. ACCE.0000005) pursuant to Section 21a-420(o) of the Connecticut Responsible and Equitable Regulation of Adult-Use Cannabis Act ("RERACA"). This license entitles Nautilus Botanicals to form an equity joint venture for the purpose of opening a Hybrid Retailer subject to approval by the City, Connecticut Social Equity Council, and final licensure from the DCP. Nautilus is a subsidiary of Nautilus Botanicals LLC and is a joint venture between Luis Vega and Merida Capital IV LP and its affiliates. Nautilus Botanicals will acquire and maintain all required licenses from DCP to operate a Hybrid Retailer facility on the Property.

- b. *No Medical Marijuana Dispensaries shall be located within a 3,000 feet radius of any other Dispensary;*

There are currently two other Hybrid Retailers in Stamford – Fine Fettle (12 Research Drive) and Curaleaf (814 East Main Street). Both of these businesses are located more than 3,000 feet radius of the Property.

- c. *Signage for Dispensaries must comply with the following standards:*

- 1) *Signage on the Dispensary facility Building shall be limited to a single Sign no larger than sixteen inches in height by eighteen inches in width;*
- 2) *In addition to a Sign on the facility Building, a Dispensary may install one (1) additional Ground Sign or Pole Sign, where such signs are permitted, not exceeding lesser of (i) what is permitted in the underlying zoning district, or (ii) ten (10) square feet in area and ten (10) feet in height when ground mounted;*
- 3) *Dispensaries may use the words “medical marijuana dispensary facility” on the facility’s signage;*
- 4) *There shall be no illumination of a Sign advertising a marijuana product at any time;*
- 5) *There shall be no signage that advertises marijuana brand names or utilizes graphics related to marijuana or paraphernalia on the exterior of the Dispensary or the Building in which the Dispensary is located;*
- 6) *There shall be no display of marijuana or paraphernalia within the Dispensary which is clearly visible from the exterior of the Dispensary; and*
- 7) *There shall be no signage which advertises the price of its marijuana.*

The Applicants are happy to accept a condition of approval requiring all signage to conform to this requirement with final design subject to approval by Zoning Board staff.

- d. *Parking shall be provided according to Section 12 of the Zoning Regulations, as follows: A Dispensary shall meet the parking standard for Retail Store.*

Section 12 of the Zoning Regulations provide that parking for retail stores shall be provided at a rate of four (4) spaces per 1,000 square feet of Gross Floor Area. The total square footage of the building is 2,562± square feet. Of this space, 1,174± square feet will be used as retail and 1,111± square feet will be used as storage. A total of 277± square feet of space is inaccessible and therefore not included in the parking calculations. A total of six (6) onsite parking spaces are proposed for the Property. These spaces will only be available to customers. The Applicant has arranged for eight (8) offsite parking spaces to be provided for employees.

### **C. Statement of Findings in Accordance with Section 12.K.4.e of the Zoning Regulations**

Section 12.K.1 of the Zoning Regulations provides: “[s]idewalks shall be provided along all public and private roadways, subject to the exceptions and exemptions set forth in Subsection 12.K.3.” Although the Applicants need only show that one of the following

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items entitles them to an exemption from these regulations, they submit that the following are satisfied:

*(2) the provision of a sidewalk would not serve the goal of providing a pedestrian network[.]*

The Property already has sidewalks along the entirety of its frontages on East Main Street and Standish Road. These sidewalks connect to adjacent properties and contribute to the existing pedestrian network in the area. Accordingly, there is no need to require the Applicants to install new sidewalks.

6.23.2023

**Schedule D**  
**Legal Description of Property**

ALL THAT CERTAIN tract, piece or parcel of land, with the buildings and improvements thereon, situated in the City of Stamford, County of Fairfield and State of Connecticut, known as Parcel B on a certain map entitled "Map showing subdivision of a Portion of the Property of Section B. Fairlawn, Inc. Stamford, Conn.", which map is on file in the office of the Town Clerk of the City of Stamford as Map No. 8157, reference thereto being hereby had. In accordance with said map, said premises are bounded and described as follows:

COMMENCING at a point on the northerly line of Main Street where the southwesterly corner of the herein described premises and the southeasterly corner of land now or formerly of Section B Fairlawn, Inc., being Parcel A on said map, intersects said northerly line of Main Street, running thence along land and now or formerly of Section B Fairlawn, Inc. the following courses and distances: North 0d 42' 10" West 72.64 feet, North 4d 33' 30" West 30.00 feet and North 78d 19' 20" East 52.42 feet to the westerly line of Standish Road; running thence along the westerly line of Standish Road on a curve to the right having a radius of 182.45 feet a distance of 71.85 feet; running thence along the curved intersection of the westerly line of Standish Road and the northerly line of Main Street on a curve to the right having a radius of 30 feet a distance of 47.12 feet; running thence along the northerly line of Main Street South 78d 43' 20" West 41.89 feet and South 73d 14' 30" West 12.09 feet to the point or place of beginning.

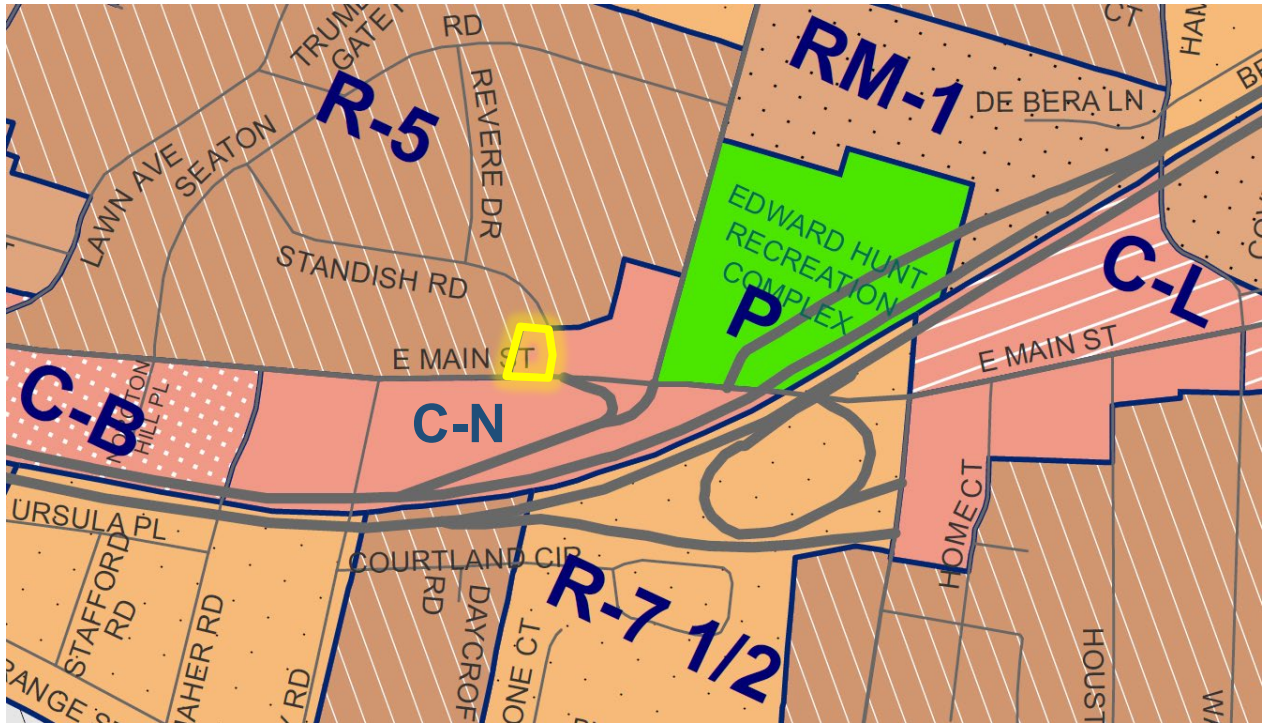
**Schedule E**  
**Zoning Data Chart – C-N Zone**

	<b>Standard/Required</b>	<b>Existing/Approved</b>	<b>Proposed</b>	<b>Notes</b>
<b>Min. Lot Area</b>	5,000 SF	6,926 SF	No changes	Conforms
<b>Min. Lot Frontage</b>	50'	90'	No changes	Conforms
<b>FAR</b>	0.3	Nonconforming	0.3 <sup>2</sup>	Conforms
<b>Building Height</b>	2 stories / 25'	2 stories / 35'	No changes	Existing Nonconformity
<b>Building Area (Corner Lot)</b>	30%	32.5%	25.6%	Conforms
<b>Min. Front Yard</b>	Street Line: 15' Street Center: 40'	14.2' to Standish Road 15.0' to East Main Street	No changes	Existing Nonconformity
<b>Min. Side Yard</b>	One Side: 6' Both Sides: 12'	19.1'	No changes	Conforms
<b>Min. Rear Yard</b>	20'	34.7'	No changes	Conforms
<b>Parking</b>	<i>Retail</i> : 1,174 sf at 4 spaces per 1,000 sf GFA  <i>Storage</i> : 1,111 sf at 1 space per 2,000 sf GFA	4 Spaces	6 Spaces <sup>3</sup>	Conforms

<sup>2</sup>The total floor area of the first and second floors is 2,077 square feet, which does not include approximately 485 square feet of space on the second floor is either inaccessible or set aside as mechanical/electrical space. Accordingly, the FAR was calculated by dividing 2,077 square feet by 6,926 square feet.

<sup>3</sup>These parking spaces will be reserved for use by customers only. The Applicant has secured eight (8) additional parking spaces located offsite at 1069 East Main Street for use by its employees.

**Schedule F**  
**Existing Zoning Map**



**Schedule G**  
**Aerial Photograph of Property**



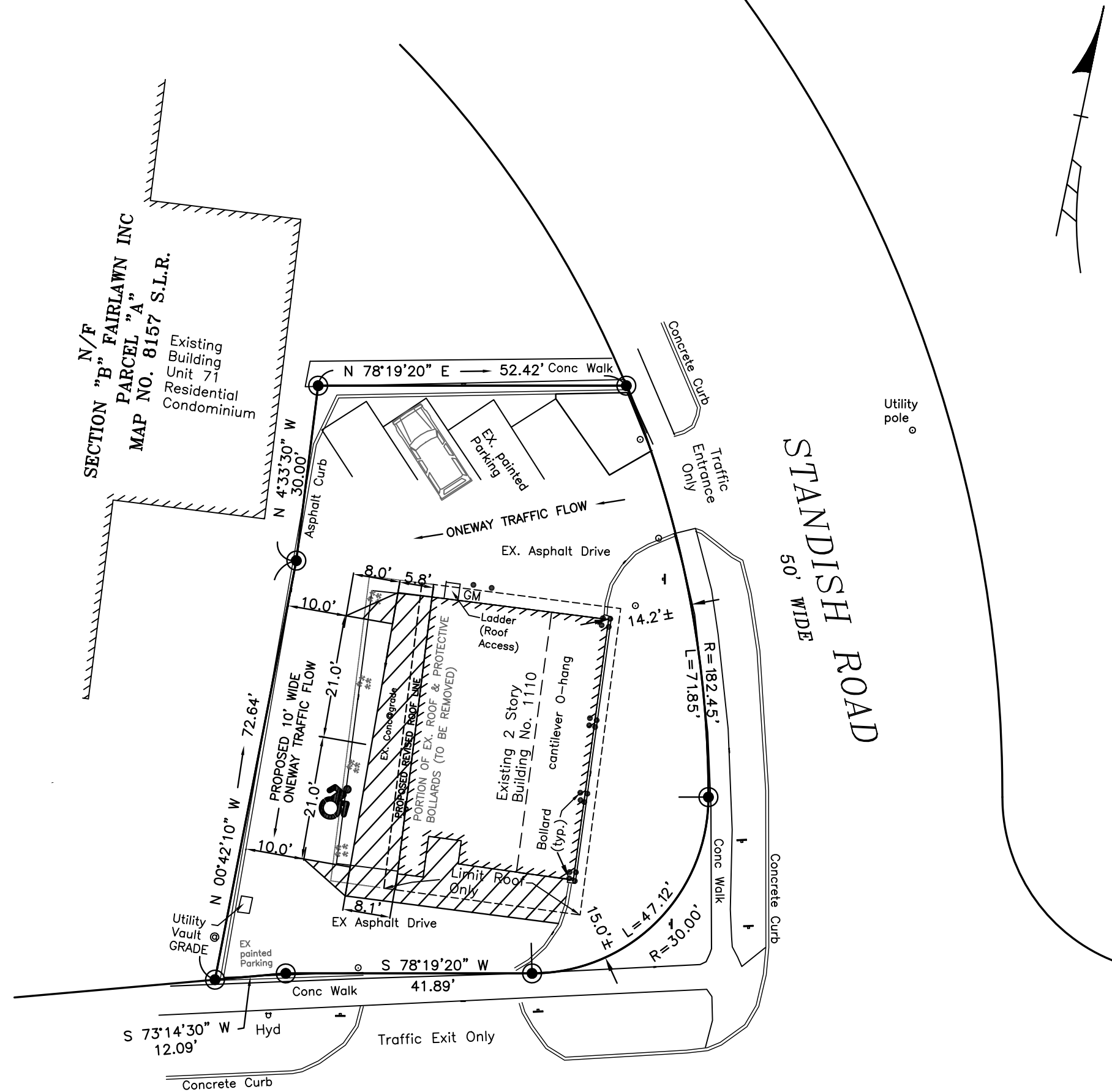


C-N ZONE

C-N ZONE BUILDING SETBACK REQUIREMENTS

- Front Street Line Setback..... 15'
- Center Line Of Street Setback..... 40'
- Rear Yard Setback..... 20'
- Side Yard Setback..... 6' w/ Total of..... 12'
- Max. Building Coverage.....30% Of Lot Area

Zoning Information Is Subject To The Review And Approval By The Appropriate Governing Authority. Property Depicted is Corner lot, In any Business, Commercial or Industrial District, a building erected on a corner lot shall be required to comply with the front setback standard on all streets and shall comply with the rear yard setback standard for the lot line generally opposite the narrower street frontage. All other yards shall comply with the side yard setback standard. In the case of equal frontages the owner may designate which street line shall be the front lot line for the purpose of determining the rear lot line. (91-025)



**EAST MAIN STREET**  
(a.k.a Boston Post Road)  
90±' WIDE

Refer To:  
PARCEL B  
Map No. 8157 S.L.R.  
Lot Area = 6,926 SQ FT Fig (0.159 ACRES-MAP)  
EXISTING BUILDING INCLUSIVE OF CANT O-HANG & ROOF ONLY COVERS 32.5% OF LOT AREA  
EXISTING BUILDING INCLUSIVE OF CANT O-HANG & ROOF ONLY COVERS 25.6% OF LOT AREA  
(EXCLUSIVE OF PORTION OF ROOF TO BE REMOVED)

Scale 1"=20'

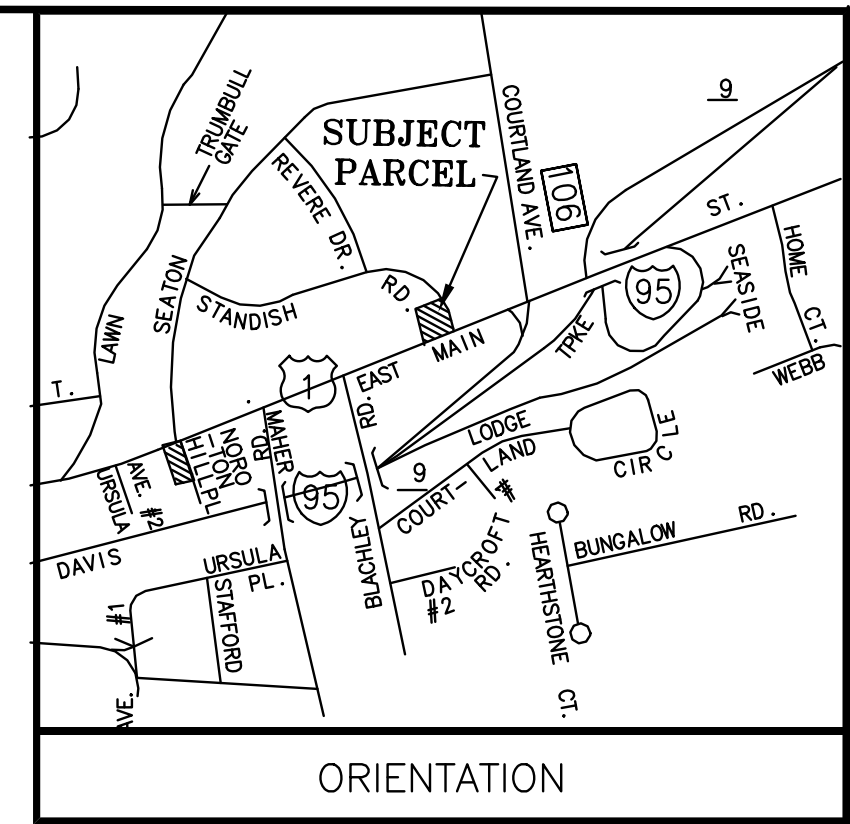
Block No. 191

LEGEND

Existing	
Stone Wall	
Concrete Wall	
Fence	X X
Catch Basin (In Curb)	
Catch Basin (Flush)	
Gas Box	GB
Gas Meter	GM
Electric Meter	EM
Water Box	WB
Monitoring Well	MW
Manhole	
Yard Drain	
Light Pole	
Sign	
Clean Out	CO
Metal Cover	MC

Property Lines Not Staked By Contractual Agreement  
Soil Types Not Delineated By Contractual Agreement

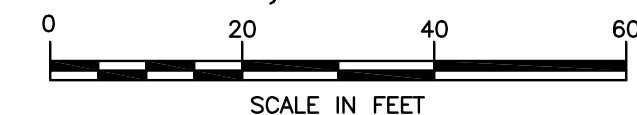
SIZE AND LOCATION OF EXISTING AND/OR PROPOSED DEVELOPMENT PROVIDED BY OTHERS. IT IS SUBJECT TO THE REVIEW AND APPROVAL BY THE APPROPRIATE GOVERNING AUTHORITIES



Notes:

- Underground utility, structure and facility locations depicted and noted hereon have been compiled, in part, from record mapping supplied by the respective utility companies or governmental agencies, from parol testimony and from other sources. These locations must be considered as approximate in nature. Additionally, other such features may exist on the site, the existence of which are unknown to Edward J. Frattaroli, Inc. The size, location and existence of all such features must be field determined and verified by the appropriate authorities prior to construction.
- The contractor shall notify all public utility companies by calling Call-Before-You-Dig at 1-800-922-4455 at least 72 hours prior to crossing their lines.
- Property is Subject to Title Verification, rights, Easements, Restrictive Covenants, Agreements and Reservations. Refer to Volume 10282 Page 119 S.L.R. Reference is Hereby made to all Notes and Recorded Documents as they may pertain to the Subject Parcel Depicted on this map. No Abstract of Title Provided.
- SIZE AND LOCATION OF EXISTING AND/OR PROPOSED DEVELOPMENT PROVIDED BY OTHERS. IT IS SUBJECT TO THE REVIEW AND APPROVAL BY THE APPROPRIATE GOVERNING AUTHORITIES

**PLOT PLAN**  
**PREPARED FOR**  
**MERIDA CAPITAL HOLDINGS**  
**1110 EAST MAIN STREET**  
**STAMFORD, CONNECTICUT**

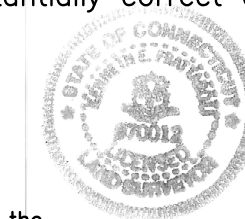


This survey and map has been prepared in accordance with Section 20-300b-1 thru 20-300b-20 of the Regulation of Connecticut State Agencies—"Minimum Standards for Surveys and Maps in the State of Connecticut" as endorsed by the Connecticut Association of Land Surveyors, Inc. It is a "ZONING LOCATION SURVEY" based on a "DEPENDENT RESURVEY" conforming to horizontal Accuracy Class "A-2" and intended to be used for Compliance and Noncompliance with Existing Requirements.

To my knowledge and belief this plan is substantially correct as noted hereon.

REVISED MAY 26, 2023 (PROPOSED DEVELOPMENT)  
REVISED JUNE 21, 2023 (PROPOSED DEVELOPMENT)

This Document and Copies Thereof are Valid only if they bear the signature and embossed seal of the designated licensed professional. Unauthorized alterations render any declaration hereon null and void.



BY: *Edward J. Frattaroli*

**FOR: EDWARD J. FRATTAROLI, INC.**  
Land Surveyors · Engineers · Land Planners  
STAMFORD, CONNECTICUT MAY 22, 2023

**APPLICANT** Nautilus Botanicals EJVI, LLC  
  
**ARCHITECT** ANNINO INCORPORATED  
 125 North Washington Street  
 North Attleboro, Massachusetts  
  
**CONSULTANT** INNOVATIVE  
 GROW TECHNOLOGIES  
 17 Wyassup Lake Road  
 North Stonington, Connecticut

# PROPOSED DISPENSARY

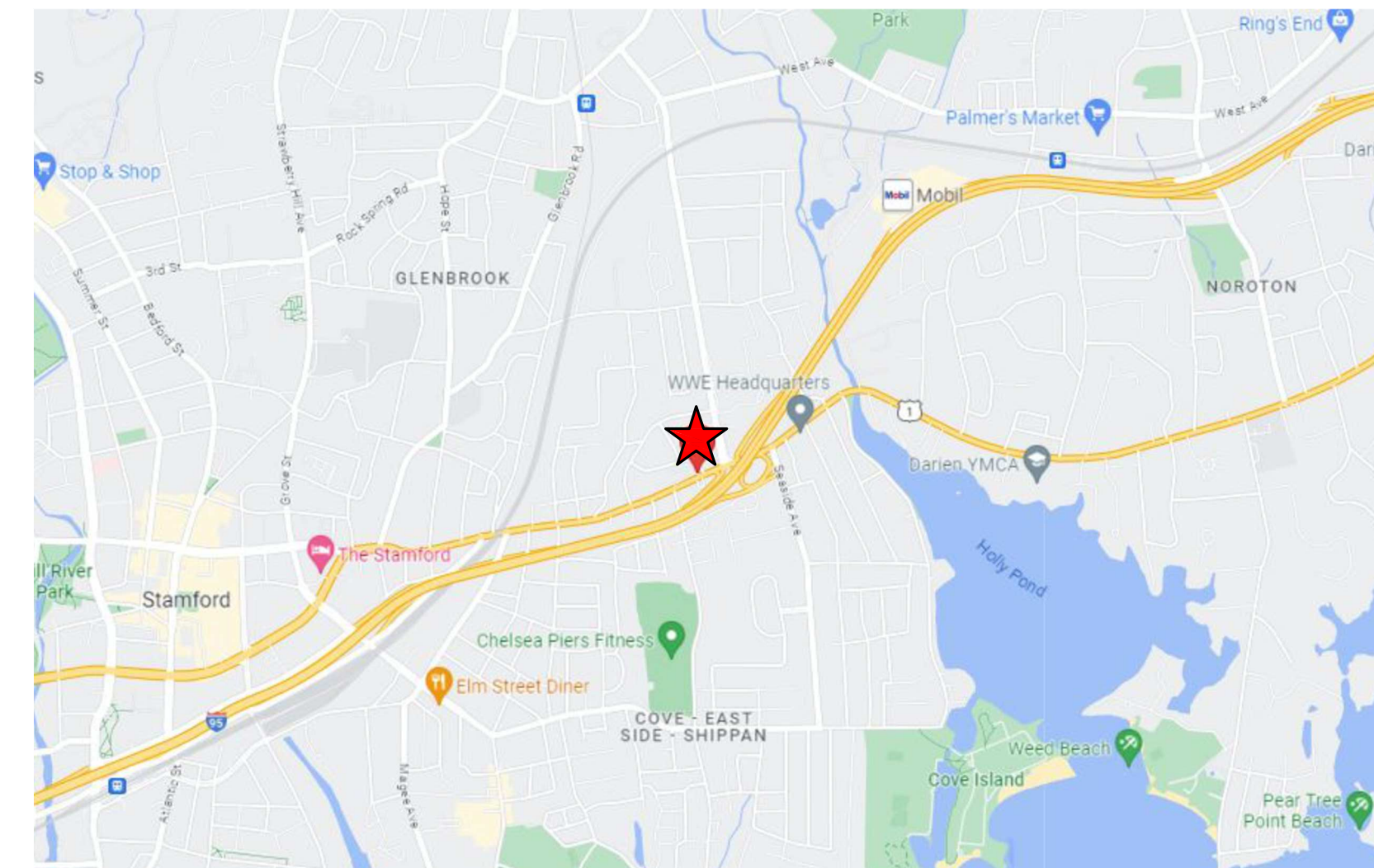
1110 East Main Street  
 Stamford, Connecticut

June 22, 2023

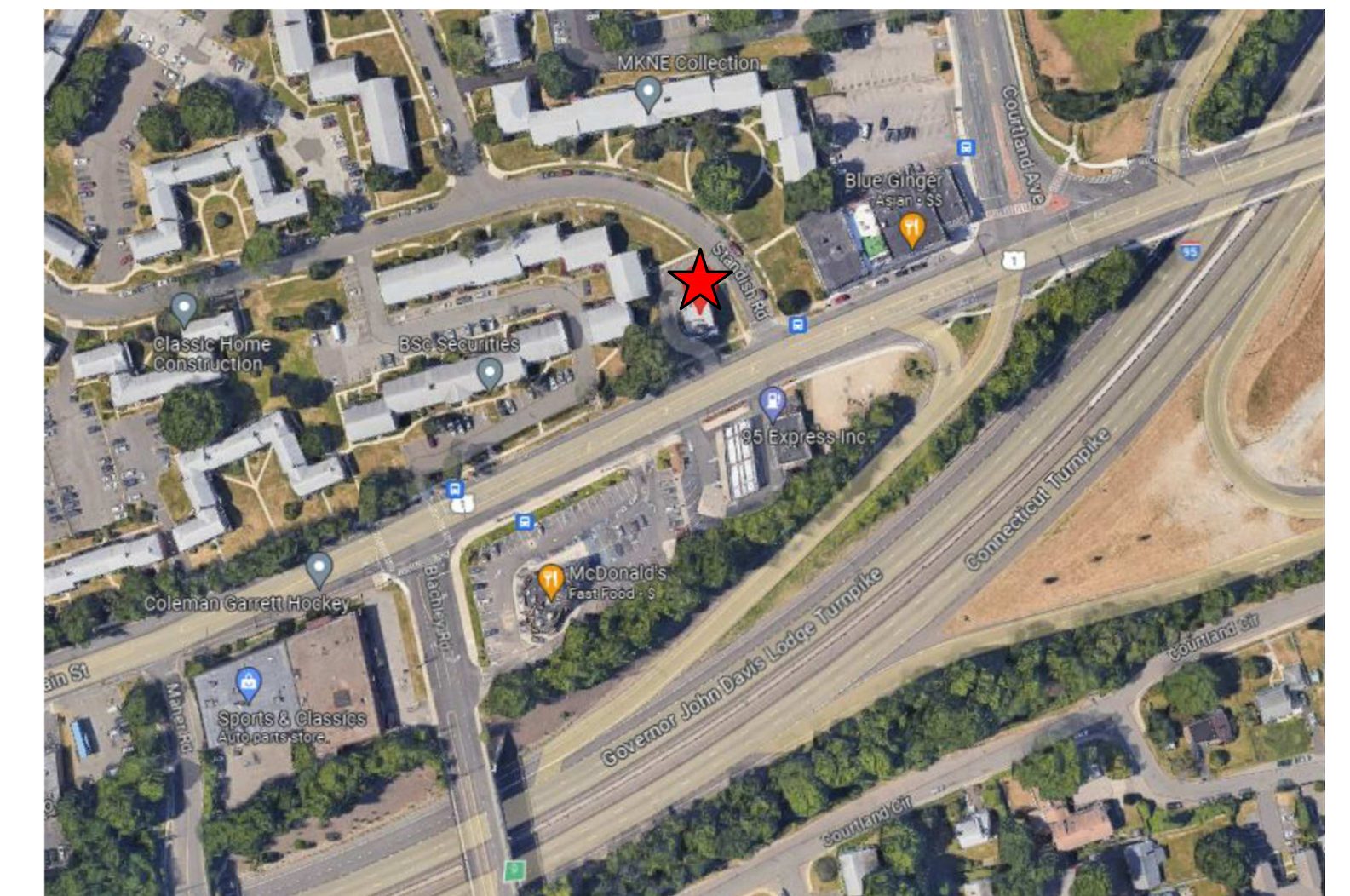
## INDEX OF DRAWINGS

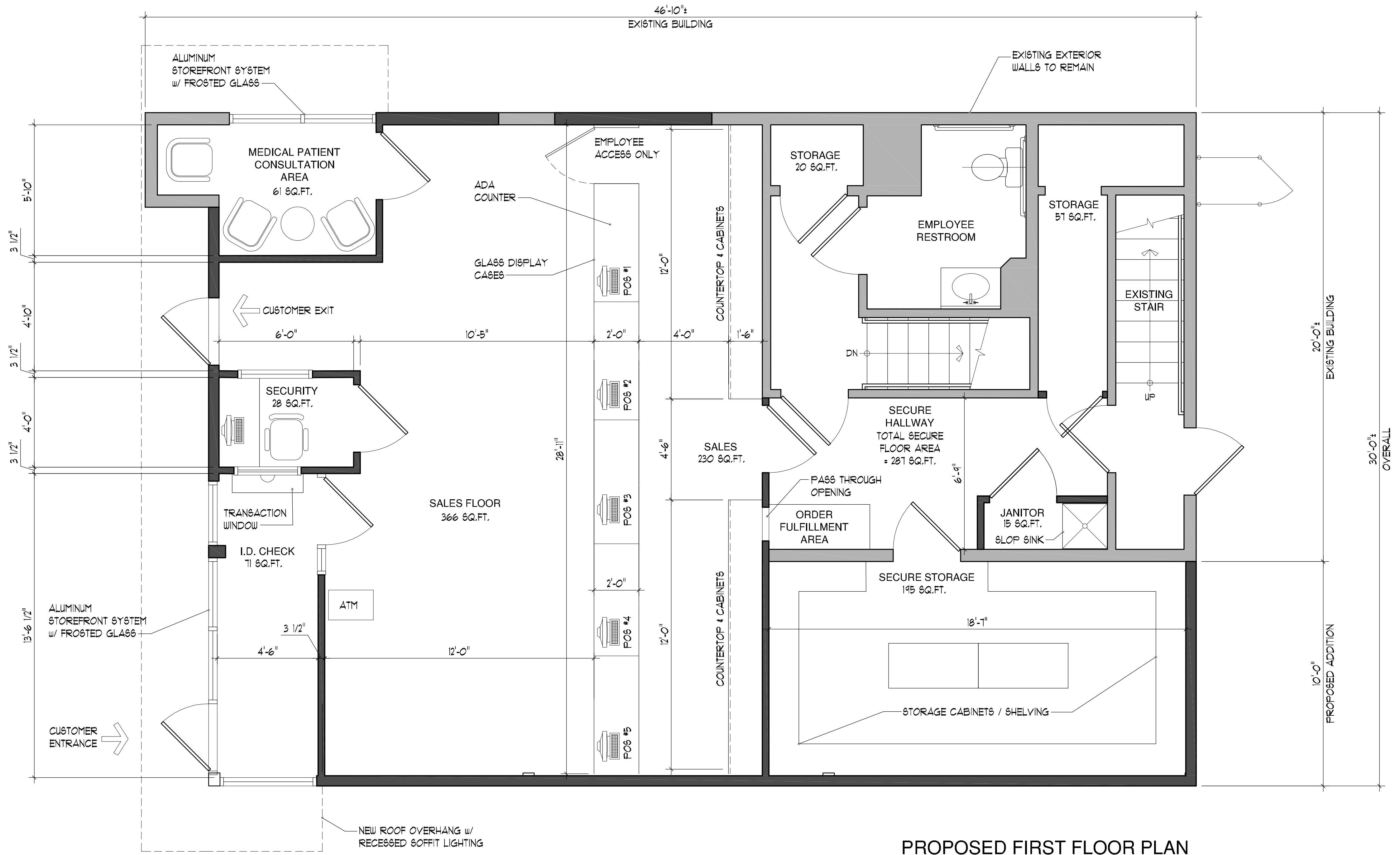
ARCHITECTURAL	
A1.1	PROPOSED FIRST FLOOR PLAN
A1.2	PROPOSED SECOND FLOOR PLAN
A1.1C	PROPOSED COLOR CODED FIRST FLOOR PLAN
A1.2C	PROPOSED COLOR CODED SECOND FLOOR PLAN
A2.1	PROPOSED FRONT EXTERIOR ELEVATION

## LOCUS MAP



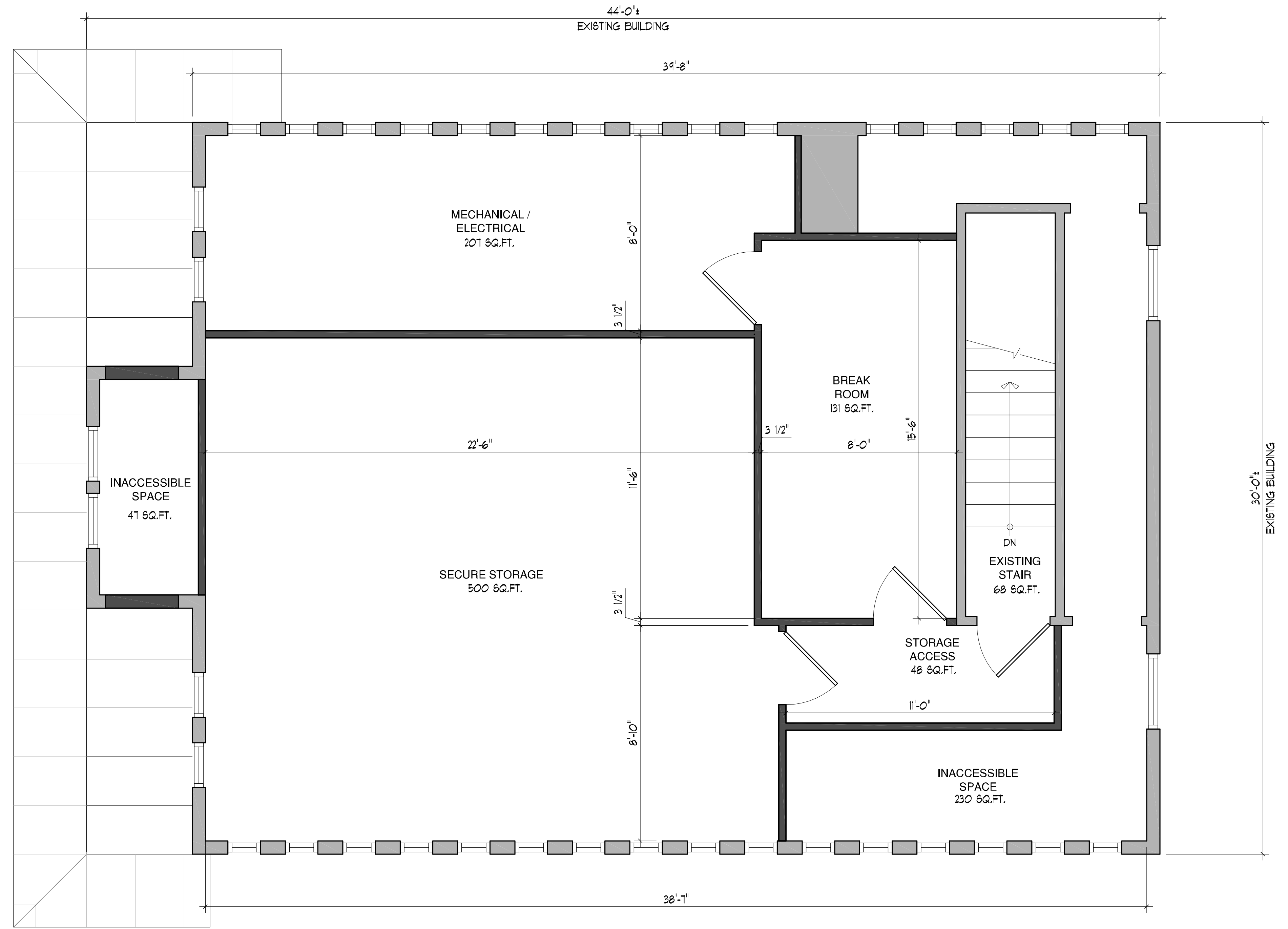
## SATELLITE MAP





TOTAL FIRST FLOOR = 1,330 SQ.FT.  
 TOTAL FIRST FLOOR RETAIL = 1,043 SQ.FT.  
 TOTAL FIRST & SECOND FLOOR AREA = 2,011 SQ.FT.  
 REQUIRED PARKING FOR FIRST FLOOR = 5 PARKING SPACES

**PROPOSED FIRST FLOOR PLAN**  
 3/8" = 1'-0"

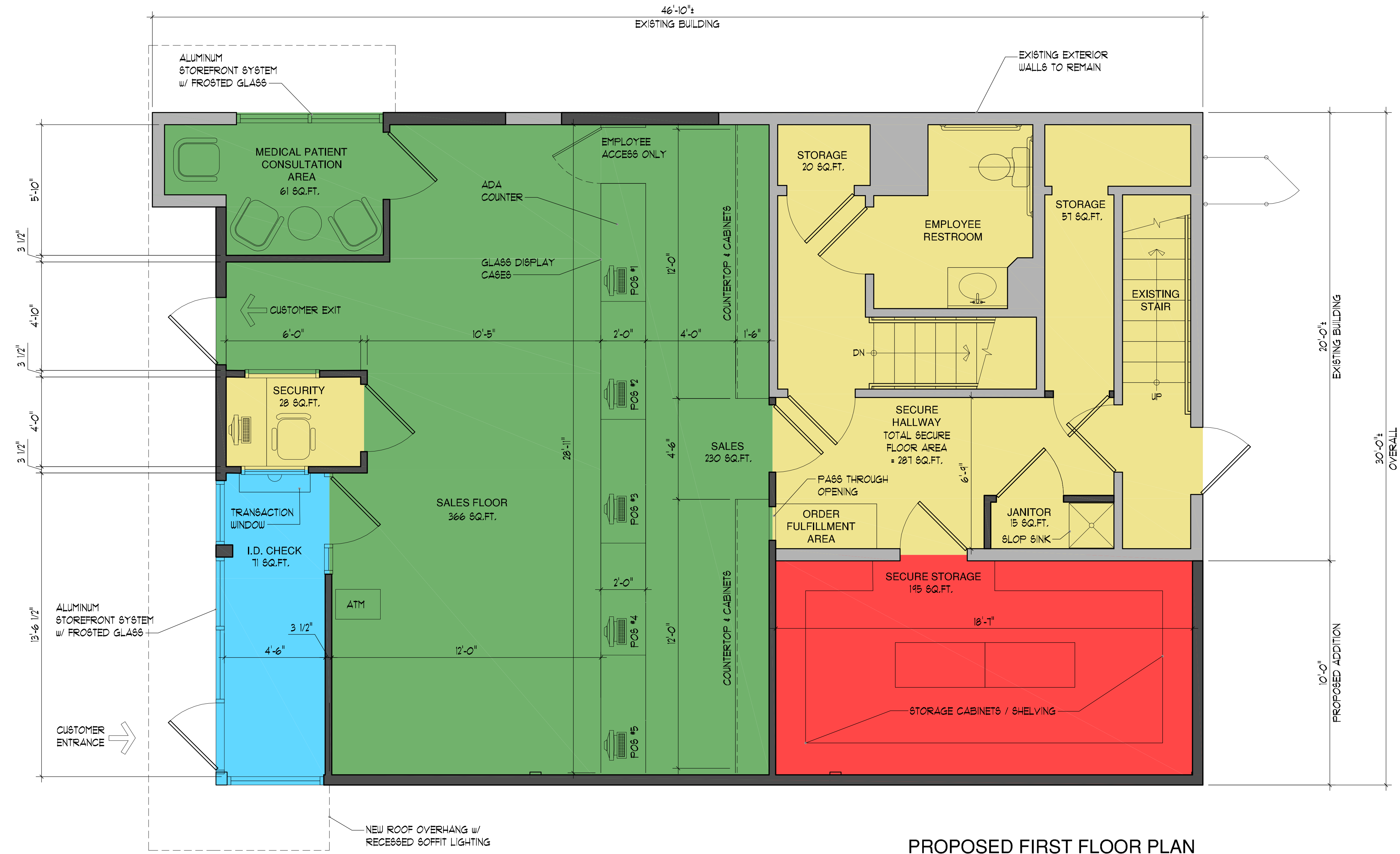


TOTAL SECOND FLOOR = 1,232 SQ.FT.  
 TOTAL FLOOR AREA = 1,411 SQ.FT.  
 REQUIRED PARKING FOR SECOND FLOOR = 1 PARKING SPACE

**SECOND FLOOR PLAN**  
 3/8" = 1'-0"

**COLOR KEY**

- PUBLIC
- OPERATIONS
- LIMITED ACCESS
- RESTRICTED ACCESS

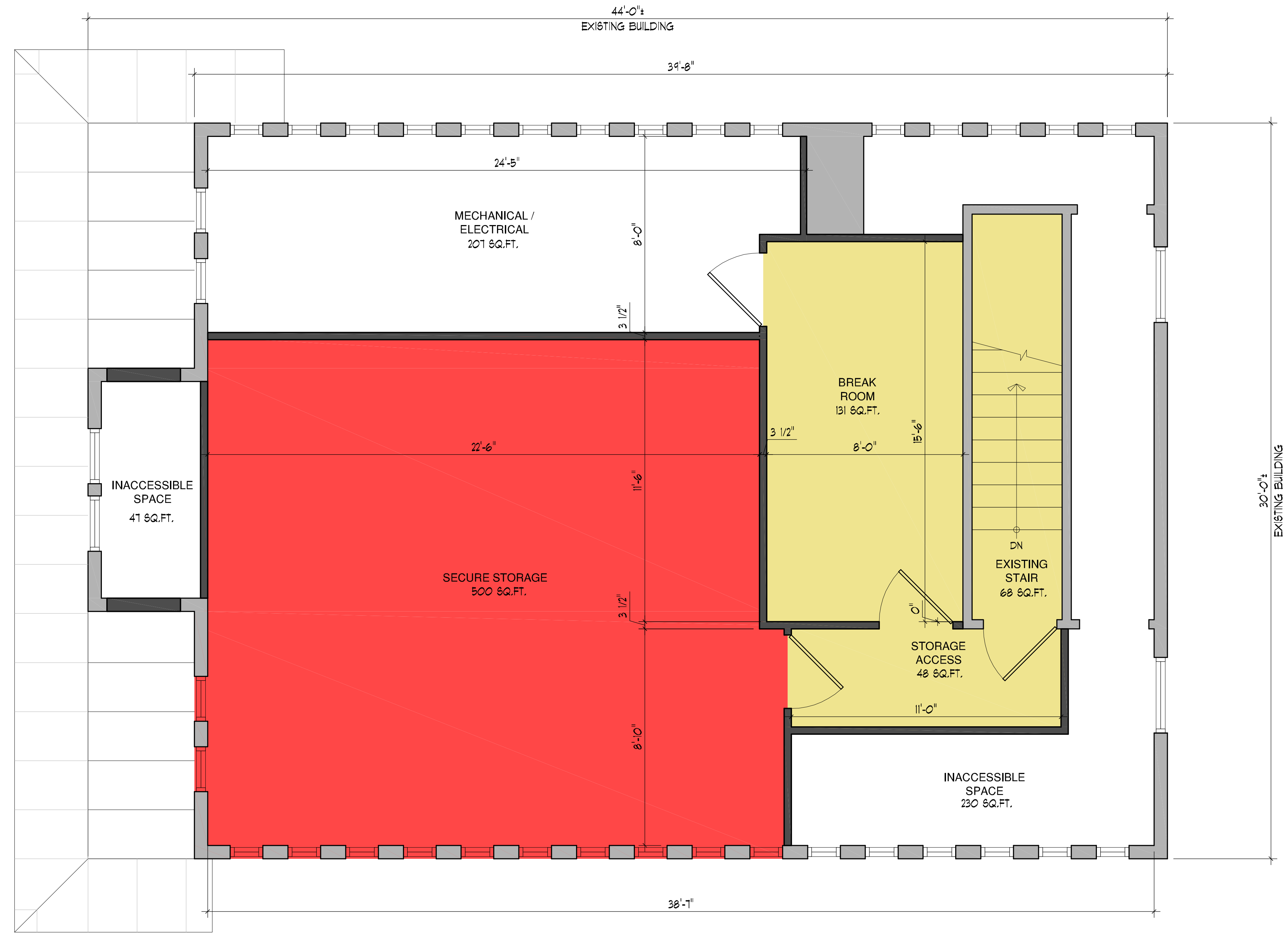


TOTAL FIRST FLOOR = 1,330 SQ.FT.  
 TOTAL FIRST FLOOR RETAIL = 1,043 SQ.FT.  
 TOTAL FIRST & SECOND FLOOR AREA = 2,011 SQ.FT.  
 REQUIRED PARKING FOR FIRST FLOOR = 5 PARKING SPACES

**PROPOSED FIRST FLOOR PLAN**  
 3/8" = 1'-0"

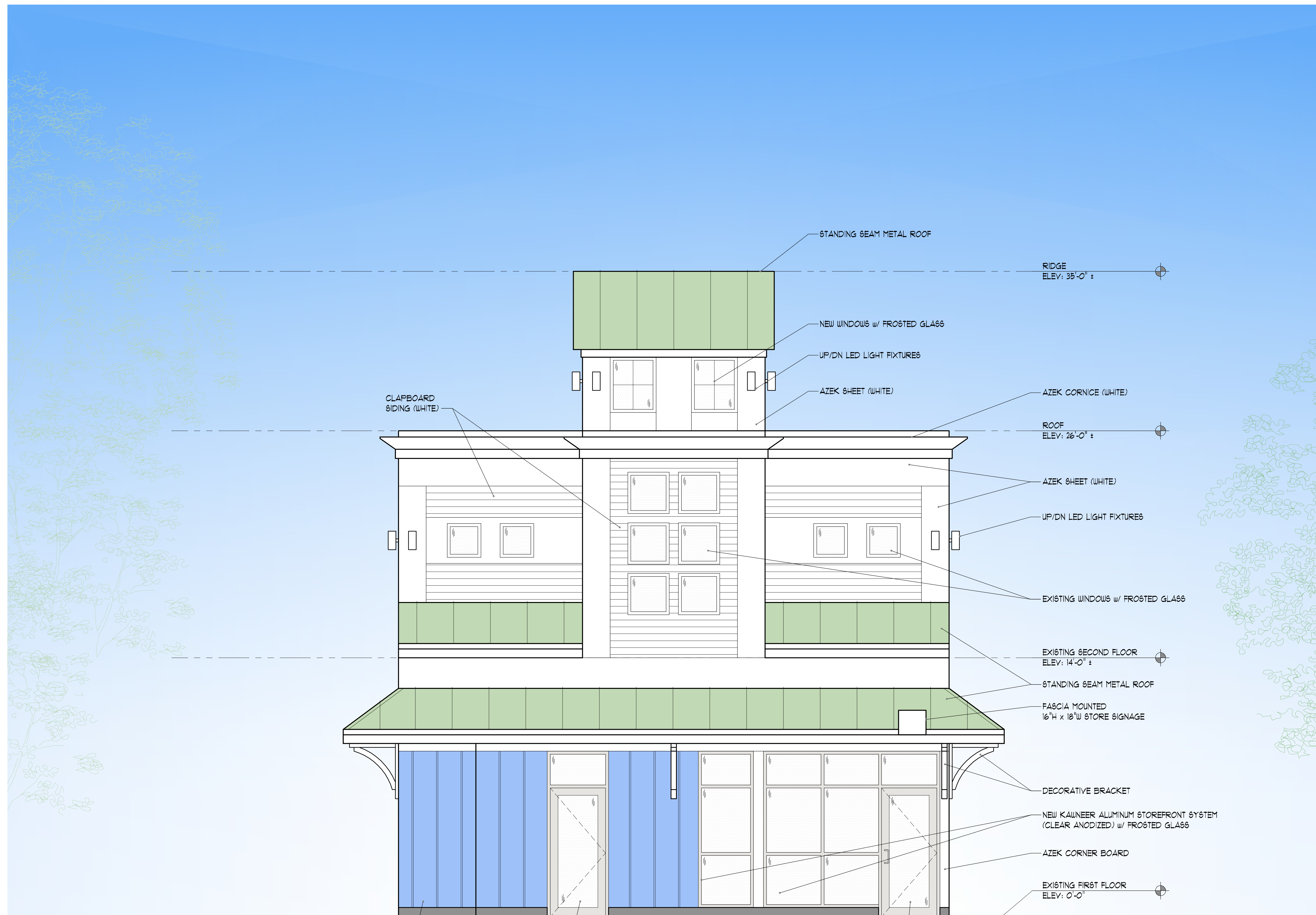
**COLOR KEY**

- PUBLIC
- OPERATIONS
- LIMITED ACCESS
- RESTRICTED ACCESS



TOTAL SECOND FLOOR = 1232 SQ.FT.  
TOTAL FLOOR AREA = 141 SQ.FT.  
REQUIRED PARKING FOR SECOND FLOOR = 1 PARKING SPACE

**SECOND FLOOR PLAN**  
3/8" = 1'-0"



**PROPOSED FRONT ELEVATION (EAST MAIN ST. SIDE)**  
 3/8" = 1'-0"

**PROPOSED DISPENSARY**  
 1110 East Main Street  
 Stamford, Connecticut

SHEET TITLE:  
 PROPOSED EXTERIOR ELEVATION  
 SCALE: 3/8" = 1'-0"  
 SHEET NO.: **A2.1**  
 JOB NO.: 23070  
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# FIRST FLOOR



### PROJECT NAME

1110 East Main Street

1110 East Main Street - Main  
5302023

### COMPANY NAME

Natulus Botanicals EJV1  
LLC

### LEGEND

ICON	DESCRIPTION	QTY
	DOOR ACCESS CONTROL TYPE A (SINGLE DOOR)	8
	INTRUSION ALARM PANEL	1
	GLASS BREAK	1
	ALARM KEYPAD	2
	PANIC BUTTON	6
	DOOR CONTACT	8
	MOTION DETECTOR	9
	SIREN	1

### DRAWING TITLE

GENERAL CCTV SURVEILLANCE

VERSION: 1.0 LVM

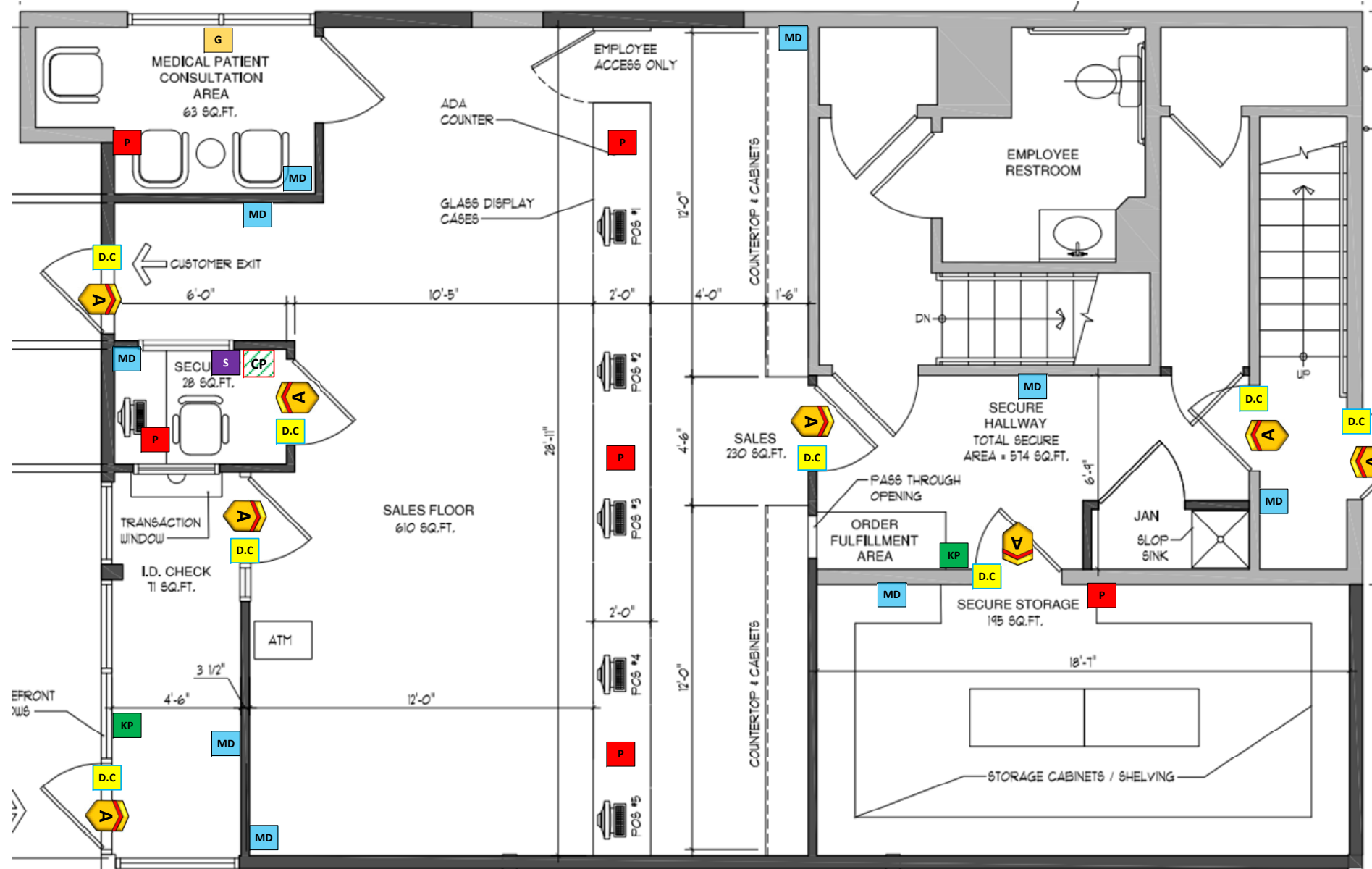
DATE: JUNE 21, 2023

PREPARED BY: M.MARASCO

ACCOUNT EXECUTIVE: M.WARCKE

PROJECT ID: 27328-v1

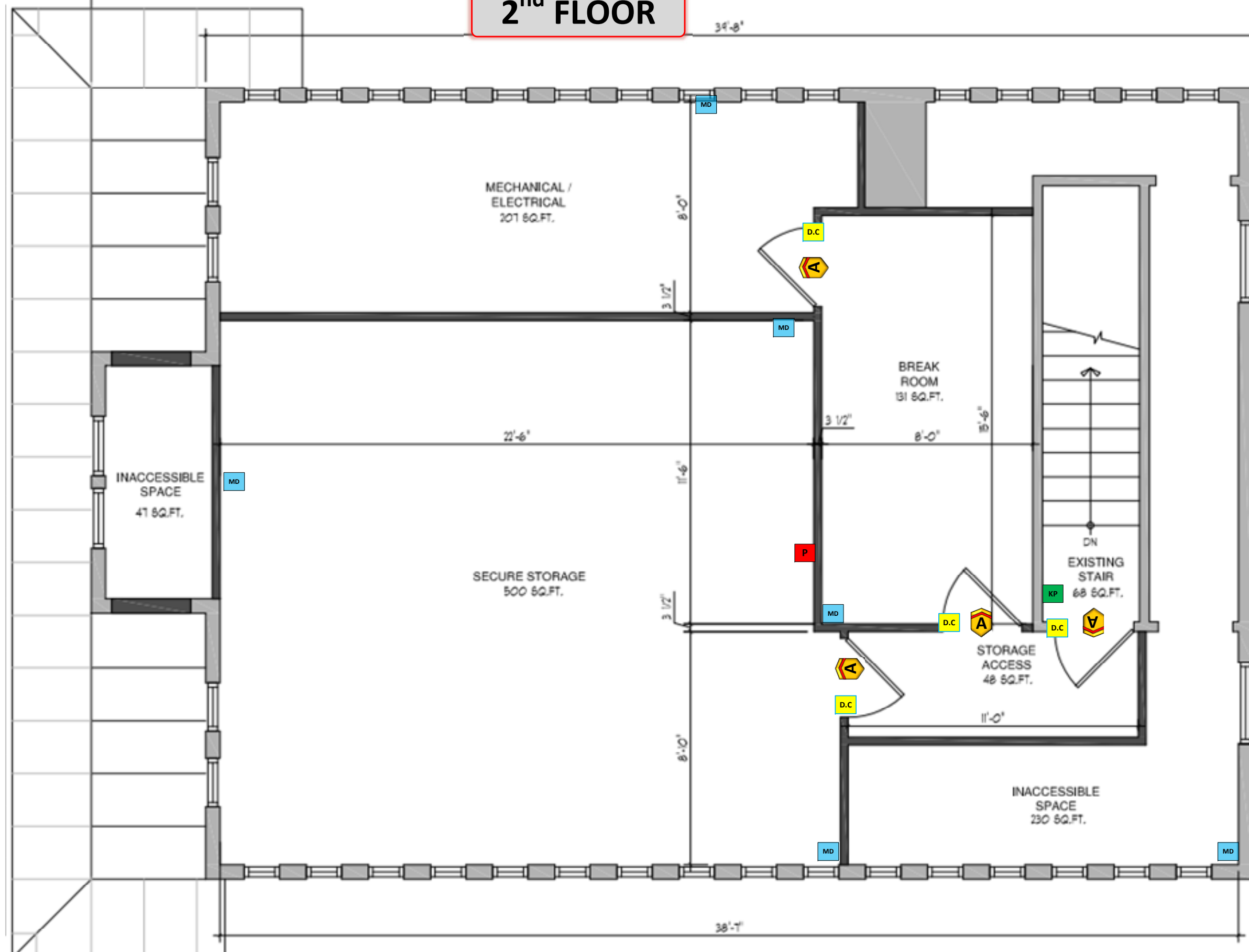
SHEET # 0







# 2<sup>nd</sup> FLOOR



**PROJECT NAME**  
**1110 East Main Street**  
 1110 East Main Street - Main  
 5302023

**COMPANY NAME**  
**Natulus Botanicals EJV1 LLC**

**LEGEND**

ICON	DESCRIPTION	QTY
	DOOR ACCESS CONTROL TYPE A (SINGLE DOOR)	3
	INTRUSION ALARM PANEL	
	GLASS BREAK	
	ALARM KEYPAD	1
	PANIC BUTTON	1
	DOOR CONTACT	4
	MOTION DETECTOR	6
	SIREN	

**DRAWING TITLE**  
**GENERAL CCTV SURVEILLANCE**

**VERSION:** 1.0 LVM  
**DATE:** JUNE 21, 2023  
**PREPARED BY:** M.MARASCO  
**ACCOUNT EXECUTIVE:** M.WARCKE  
**PROJECT ID:** 27328-v1  
**SHEET #** 0



# FIRST FLOOR



### PROJECT NAME

**Nautilus Botanicals**

1110 East Main Street - Main  
5302023

### COMPANY NAME

**Nautilus Botanicals  
EJV1 LLC**

### LEGEND

ICON	DESCRIPTION	QTY
	4MP DOME IP CAMERA WITH IR	13
	VOICE DOWN SPEAKER	2
	HEAD END	1

### DRAWING TITLE

**GENERAL CCTV SURVEILLANCE**

VERSION: 1.0 LVM

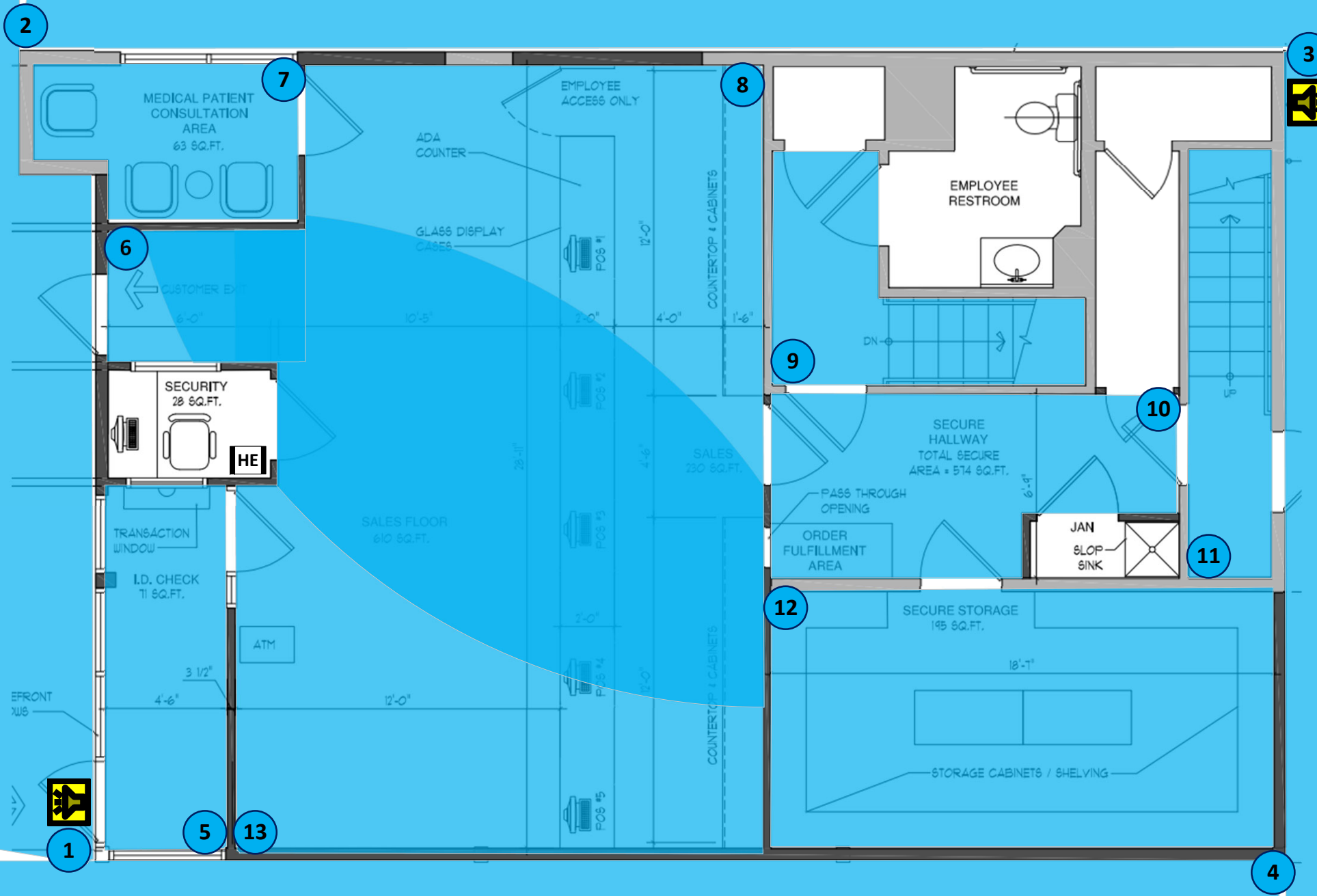
DATE: JUNE 1, 2023

PREPARED BY: M.MARASCO

ACCOUNT EXECUTIVE: M.WARCKE

PROJECT ID: 27328-v1

SHEET # 0





# 2<sup>nd</sup> FLOOR



### PROJECT NAME

**Nautilus Botanicals**

1110 East Main Street - Main  
5302023

### COMPANY NAME

**Nautilus Botanicals  
EJV1 LLC**

### LEGEND

ICON	DESCRIPTION	QTY
	4MP DOME IP CAMERA WITH IR	4
	VOICE DOWN SPEAKER	
	HEAD END	

### DRAWING TITLE

**GENERAL CCTV SURVEILLANCE**

VERSION: 1.0 LVM

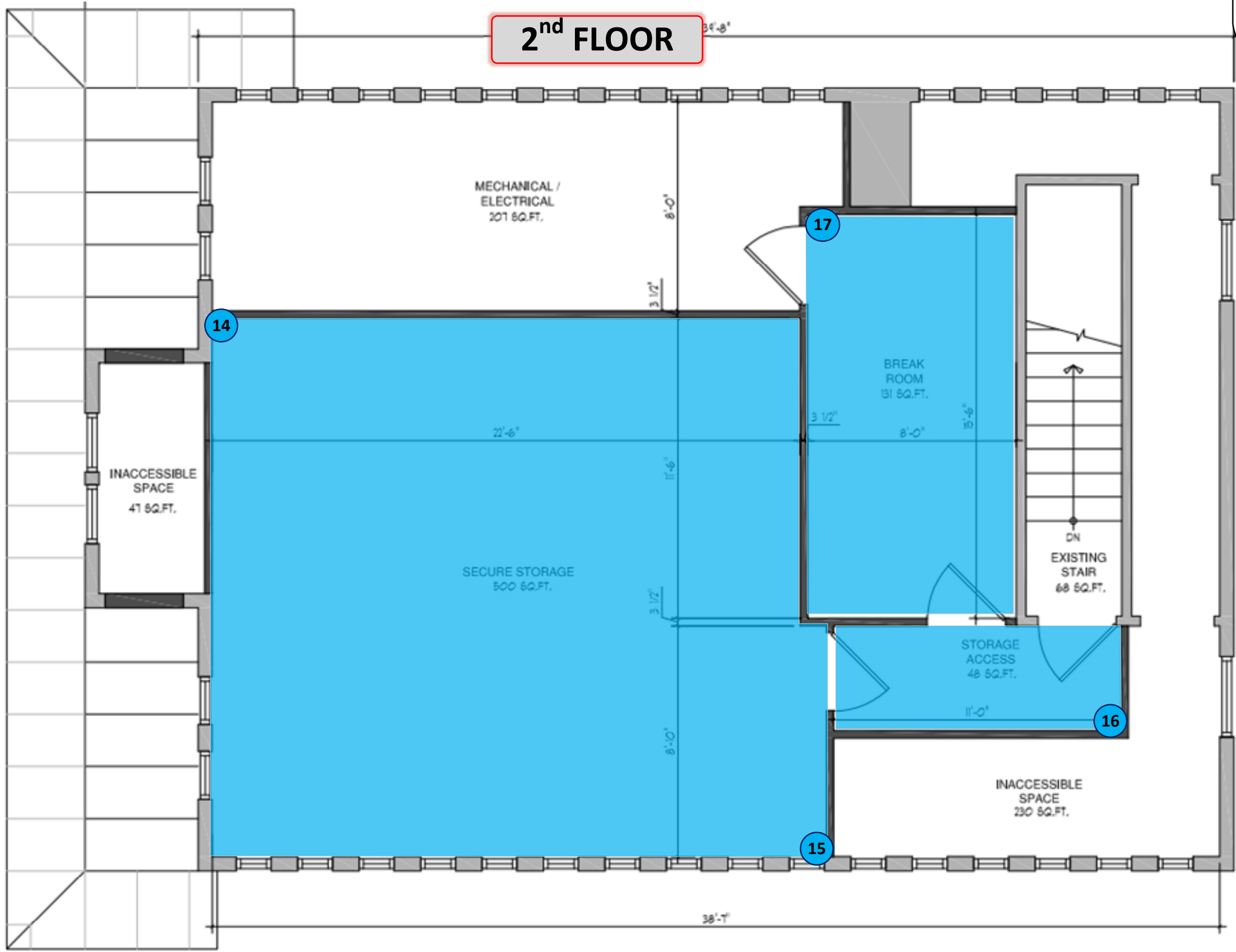
DATE: JUNE 21, 2023

PREPARED BY: M.MARASCO

ACCOUNT EXECUTIVE: M.WARCKE

PROJECT ID: 27328-v1

SHEET # 0



June 22, 2023

Attention: Ms. Connie DeBoever  
Nautilus Botanicals  
49 Quinnipiac Avenue  
North Haven, CT 06473

SLR Project No.: 141.21623.00001

**RE: Traffic Study for Proposed Cannabis Sales  
1110 East Main Street, Stamford, Connecticut**

---

Dear Ms. DeBoever,

At your request, SLR International Corporation (SLR) has undertaken this study to evaluate the traffic-related implications associated with the proposed project to be located at 1110 East Main Street (U.S. Route 1) in Stamford, Connecticut. **Figure 1** displays the site location and area roadways. The use will occupy 2,077 square feet (SF) of the existing commercial building, which previously housed a small market with a drive-thru. Proposed is a hybrid cannabis retailer. The canopy and drive-thru on the west side will be raised to make room for additional on-site parking and the drive-thru on the east side will be infilled. Ingress to the site will be from Standish Road, and egress will be onto East Main Street south of the existing building.

The work comprising the study consisted of several tasks, including data collection, review of roadway and traffic conditions, estimation of site-generated traffic volumes, and assessment of future traffic operations. For this study, the following intersections were evaluated as directed by the City of Stamford Traffic, Transportation and Parking (TTP) staff:

- East Main Street at Exit 9 southbound ramps and Courtland Avenue (Signalized)
- East Main Street at Standish Road (Unsignalized)
- East Main Street at Blachley Road (Signalized)

**Figure 2** displays the study area.

## **EXISTING CONDITIONS**

The existing information, involving the vehicle volumes, transit, and crash history, was collected to determine the existing conditions of the area around the proposed project.

### **Site Environs**

East Main Street (U.S. Route 1) is classified as a principal arterial that runs generally east-west through this section of Stamford. The posted speed limit along the roadway is 30 miles per hour (mph). Adjacent to the site, the arterial has two lanes in each direction with turn lanes at key intersections. On-street parking is generally not permitted, except for a half-dozen spaces that are carved out of the frontage of a strip retail center just east of this site. Concrete sidewalks are

present on both sides of the roadway. The land use along East Main Street near the project site is a mix of residential and commercial.

Courtland Avenue is classified as a principal arterial and runs in the south-north direction with its southern terminus at its intersection with East Main Street and its northern terminus at its intersection with Glenbrook Road. The posted speed limit along the roadway is 30 mph. Adjacent to the site, the arterial has one lane in each direction separated with a raised brick-paved median and turn lanes at key intersections. On-street parallel parking is not permitted. Concrete sidewalks are present on both sides of the roadway. The land use along Courtland Avenue near the project site is mainly residential. The roadway is under the jurisdiction of the City of Stamford.

Standish Road is classified as a local roadway that runs north/south from Seaton Road to the north to East Main Street to the south. On-street parallel parking is permitted on the east and north sides of the street, and sidewalks are present on both sides. The Land Use along Standish Road is residential. The roadway is under the jurisdiction of the City of Stamford.

Blachley Road is classified as a local roadway that runs north/south from East Main Street to the north, and to Cove Road to the south. On-street parallel parking is not permitted near the project site. Sidewalks are present on both sides. The Land Use along Blachley Road is a mix of residential and commercial. The roadway is under the jurisdiction of the City of Stamford.

## Existing Transit Routes

CTtransit is Connecticut Department of Transportation's (CTDOT) bus service. CTtransit Stamford operates 15 local bus routes. Buses connect with other services in Norwalk, with the New Haven Line in several locations, the Harlem Line on Metro-North Railroad, and with Bee-Line buses in Westchester County, New York. CTtransit Stamford also operates the I-Bus, an express service between downtown Stamford and White Plains, New York. CTtransit Stamford bus routes 341 and 342 have a stop in front of the project site.

Route 341 (Norwalk) operates between the Stamford Transportation Center and the Norwalk Wheels Hub. Route 342 (East Main Street) provides additional service between the Stamford Transportation Center and East Main Street in Stamford. Route 342 follows the same route as Route 341, with the last stop for Route 342 being at East Main St. and Blachley Rd. (McDonald's).

The routes operate from approximately 4:55 a.m. to midnight (12:00 a.m.) on weekdays, and 5:30 a.m. to 10:30 p.m. on weekends. Operating frequencies are approximately 20 minutes during the peak periods and approximately 30 minutes the rest of the day.

## Crash Data Summary

Information on traffic crash statistics for the study intersections was obtained from the Connecticut Crash Data Repository for slightly more than the 5-year period of January 1, 2018, to February 28, 2023. The crash data collected for this period is shown in **Table 1**, summarized by location.



**Table 1 Crash Data Summary**

Location	Crash Severity				Type of Collision						
	Property Damage Only	Possible Injury	Suspected Minor Injury	Fatal	Angle	Head-on	Rear End	Sideswipe (Opposite Direction)	Sideswipe (Same Direction)	Pedestrian/Bikes	Other
<b>Intersection</b>											
East Main Street at Standish Road	34	8	7	0	22	2	10	0	12	1	2

A total of 49 crashes were reported at the intersection of East Main Street at Standish Road for the 5-year period. In terms of severity, more than two-thirds of the crashes resulted in property damage only. The remaining crashes reported possible or suspected personal injury. There were no fatalities at this intersection. In terms of the type of collision, nearly one-half were reported as angle collisions, 10 crashes were rear-end type, and 12 were sideswipe (opposite and same direction). One crash included a bicycle or a pedestrian. The frequency and types of crashes were not remarkable within the context of the location.

### Existing Traffic Volumes

Reliable Traffic Counts, LLC (RTC) of East Haven, Connecticut collected Turning Movement Counts (TMC) data for the study area intersections on Friday, May 12, 2023, from 4:00 p.m. to 6:00 p.m. and on Saturday, May 13, 2023, from 11:00 a.m. to 1:00 p.m. to capture both the weekday evening peak periods as well as Saturday midday peak periods. The TMC data included bicycle and pedestrian counts. The peak hours within the study area were established from 5:00 p.m. to 6:00 p.m. during the afternoon period, and 12:00 a.m. to 1:00 p.m. during Saturday midday. The existing peak-hour traffic volumes are shown in **Figure 3**. The counts are included in the Appendix.

### PROPOSED PROJECT

As stated previously, the proposed project is a hybrid cannabis retailer to be located in the existing commercial building. Ingress and egress to the site will be consistent with the existing site, with ingress via an existing curb cut on Standish Road east of the existing building, and egress via an existing curb cut on East Main Street south of the existing building.



## Proposed Project Trip Generation

SLR used the Institute of Transportation Engineers (ITE)<sup>1</sup> publication *Trip Generation, 11th Edition* to estimate the vehicle trip rates for the dispensary, and to establish the net trips as a result of the proposed retail shop and dispensary. Trip generation rates for the dispensary were based on the Land Use Code (LUC) 882 (Marijuana Dispensary). Note the following characteristics for this use:

- Size – 2,077 square feet (Note that we round up to 2,300 square feet (SF) of GFA for this analysis).
- Hours of Operation: 9:00 a.m. to 9:00 p.m. (Monday through Sunday)
- Number of employees at the proposed Facility: 5 to 6 people (per shift)
- We expect an average of two deliveries per week during normal business hours
- To remain conservative in our analysis, we assumed that all site generated trips will be new vehicular trips and did not adjust based on other travel mode characteristics (walking/bicycle or transit). Similarly, no reduction for pass-by trips was included in the analysis.
- The Applicant has also arranged for nearby off-site parking for employees. To be conservative we assumed all trips would enter and exit the site.

**Table 2** summarizes the site-generated traffic estimates for the proposed project during the study peak hours.

**Table 2 Proposed Project Traffic Estimates**

Land Use	Units	Weekday P.M. Peak Hour			Saturday Peak Hour		
		In	Out	Total	In	Out	Total
<b>Proposed Project</b>							
882 – Marijuana Dispensary	2,300 SF*	28	29	57	33	33	66

\*Actual size of facility is 2,077 SF. 2,300 SF used for analysis.

As shown in Table 2, the proposed project is estimated to generate 57 vehicle trips (28 vehicles entering and 29 vehicles exiting) during the weekday afternoon peak hour and 66 vehicle trips (33 vehicles entering and 33 vehicles exiting) during the Saturday midday peak hour.

## Proposed Project Trip Distribution

The geographic distribution of the proposed project site-generated traffic was estimated based on review of the roadway traffic patterns near the project site driveways. **Figure 4** illustrates the distribution for the proposed project site-generated traffic through the study area.

<sup>1</sup> *Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021



Based on the proposed project trip generation and trip distribution, the resulting proposed project site-generated trips were assigned to the study area intersections. **Figure 5** displays the resulting proposed project trip assignment.

## FUTURE (2024) CONDITIONS

The proposed project is anticipated to be completed by 2024. Future (2024) Conditions were evaluated both with and without the proposed project to determine possible traffic impacts.

### Background Traffic Volumes

The background traffic scenario is reflective of Future (2024) Conditions if the proposed project was not built. Background (2024) Conditions generally includes traffic associated with other nearby expected upcoming developments that will be completed by 2024 as well as general traffic growth.

Based on correspondence with the CTDOT Bureau of Policy and Planning, there are no pending developments in the area.

At the direction of the CTDOT, the existing traffic volumes were projected to Future (2024) Conditions using a growth rate of 0.40 percent per year. Background (2024) Conditions peak-hour traffic volumes were estimated by applying the growth rate to the existing peak-hour traffic volumes (shown in Figure 3). The resultant Background (2024) Conditions peak-hour traffic volumes are shown in **Figure 6**.

### Combined Traffic Volumes

The combined traffic scenario is reflective of Future (2024) Conditions once the proposed project is completed. Combined (2024) Conditions peak-hour traffic volumes were estimated by adding the proposed project trip assignment (shown in Figure 5) to the Background (2024) Conditions traffic volumes (shown in Figure 6). The resultant Combined (2024) Conditions peak-hour traffic volumes are shown in **Figure 7**.

## INTERSECTION CAPACITY ANALYSIS

Intersection capacity analysis was performed at the study intersections under Background and Combined (2024) Conditions to evaluate each intersection's ability to process traffic volumes. These evaluations were used to determine possible traffic impacts from the proposed project based on the comparison of background and combined traffic operations.

Intersection operation results are expressed as a level of service (LOS). LOS is used to provide a qualitative evaluation of the efficiency of operations of an intersection in terms of delay and inconvenience based on certain quantitative calculations. A description of the various LOS designations, A through F, is given in the Appendix. LOS A describes operations with very low average control delay per vehicle while LOS F describes operations with long average delays. The study intersections were evaluated using *Synchro 11 (Trafficware)* traffic analysis software package. **Table 3** summarizes the capacity analysis findings under Background and Combined (2024) Conditions. The *Synchro* analysis worksheets are included in the Appendix.





**Table 3 Capacity Analysis Summary Future (2024) Conditions**

Intersection/Lane Group	Level of Service			
	Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
	Background	Combined	Background	Combined
<b>Signalized</b>				
<b>East Main Street (Route 1) at I-95 SB Off-Ramp</b>				
Eastbound Through	B	B	C	C
Westbound Through	D	D	D	D
Southbound Left	E	E	E	E
Southbound Right	D	D	D	D
<b>Overall</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
<b>East Main Street (Route 1) at Courtland Avenue</b>				
Eastbound Left	F	F	F	F
Eastbound Through	D	D	D	D
Westbound Left	D	D	C	C
Westbound Through	A	A	A	A
Westbound Right	B	B	A	A
Southbound Left	D	D	D	D
Southbound Through	D	D	D	D
Southbound Right	D	C	C	C
<b>Overall</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>
<b>East Main Street (Route 1) at Blachley Road</b>				
Eastbound Through/Right	C	C	B	B
Westbound Left	C	C	B	B
Westbound Through	A	A	A	A
Northbound Left	C	C	C	C
Northbound Right	D	D	D	D
<b>Overall</b>	<b>C</b>	<b>C</b>	<b>B</b>	<b>B</b>
<b>Unsignalized</b>				
<b>East Main Street (US Route 1) at Standish Road</b>				
Eastbound Left	B	B	B	B
Southbound Left/Right	E	E	D	D
<b>East Main Street (US Route 1) at Site Drive</b>				
Southbound Left/Right	n/a	E	n/a	D

Notes: LOS calculations were performed using *Synchro 11*.

It is important to note that LOS A to LOS D are generally considered acceptable conditions. However, in urban areas, LOS E during peak hours is often deemed acceptable and can indicate an efficient tradeoff between traffic flow and the amount of land devoted to the movement of motor vehicles.



As shown in Table 3, when comparing to Background (2024), all individual movements at the study area intersections are not expected to degrade in LOS as a result of the proposed project. All individual movements at the study intersections are expected to continue operating at their existing LOS during both peak hours under Background and Combined (2024) Conditions, and the minimal number of vehicles added to the adjacent roadway as a result of this use, will have no impact on the operation of the study area roadways and intersections.

## QUEUE ANALYSIS

The study intersection queues were also evaluated using *Synchro 11 (Trafficware)* traffic analysis software package. For analysis, 95<sup>th</sup> percentile queues are recorded. The *Synchro* analysis worksheets are included in the Appendix. All approach lanes are expected to provide adequate storage length under Background and Combined (2024) Conditions during both peak periods.

## SIGHT DISTANCE

Sight distance is the length of roadway ahead that is visible to the roadway user. In most cases, specific sight distance measures apply to motor vehicles and bicyclists. At intersections, sight distance is provided to allow drivers to perceive the presence of potentially conflicting vehicles. This should occur in sufficient time for a motorist to stop or adjust their speed, as appropriate, to avoid colliding in the intersection. Sight distance also allows drivers of stopped vehicles with a sufficient view of the intersecting roadway to decide when to enter or cross the intersecting roadway. The American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on the Geometric Design of Highways and Streets* provides procedures to determine desirable sight distances at intersections. CTDOT design manual mirrors the AASHTO guidance and provides tables for both intersectional and stopping sight distance requirements by design speed.

Stopping Sight Distance (SSD) is the length of the roadway ahead that is visible to the driver and should be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path. SSD is the sum of the distance traversed by the vehicle from the instant the driver sights an object necessitating a stop, to the instant the brakes are applied, and the distance needed to stop the vehicle from the instant brake application begins. CTDOT guidelines suggest an SSD of 200 feet for a 30-mph road on generally level terrain.

Intersection Sight Distance (ISD) is the length of the leg of the departure sight triangle along the major road in both directions for a vehicle stopped on the minor road waiting to depart. The critical departure sight triangles for the site driveway are for traffic approaching from either the left or right for left turns from the site driveway onto East Main Street. The ISD values associated with a design speed of 30 mph from CTDOT is 335 feet.

Based on the above criteria, an evaluation of the adequacy of sightlines from the driveway exit was made. The results of the analysis are provided below in Table 4. As shown, both SSD and ISD are adequate for both the eastbound and westbound traffic approaching the site driveway.



**Table 4 Proposed Sight Distance Evaluation**

Intersection	Posted Speed (mph)	Minimum (Feet)	Measured (Feet)	Obstruction
<b>East Main Street At The Site Driveway</b>				
<b>Stopping Sight Distance</b>				
East Main Street – Eastbound	30	200	200'+	n/a
East Main Street – Westbound	30	200	200'+	n/a
<b>Intersection Sight Distance</b>				
Looking To The Right From Driveway	30	335	335'+	n/a
Looking To The Left From Driveway	30	335	335'+	n/a

## SUMMARY

This study was conducted to assess the traffic and parking impacts of the proposed project to be located at 1110 East Main Street in Stamford, Connecticut. The proposed project plans to occupy 2,077-SF of an existing commercial building, with a hybrid cannabis retailer.

To determine a profile of existing conditions, data assembly efforts were undertaken. Estimates of traffic that would be generated by the proposed project were developed based on statistical data published by ITE, and intersection capacity analysis and queue analysis were performed at the study intersections under Background and Combined (2024) Conditions. **Based on the results of the capacity and queue analysis, it is our opinion that the increase in traffic because of the proposed project will have no measurable impact on the surrounding roadway system. As such, no traffic mitigation is necessary.** With the proposed project, all individual movements at the study intersections are not expected to degrade in LOS, compared to Background (2024) Conditions.

We hope this report is useful to you and the City of Stamford. If you have any questions or need anything further, please do not hesitate to contact either of the undersigned.

Regards,

**SLR International Corporation**



David G. Sullivan, PE  
 U.S. Manager of Traffic & Transportation Planning  
[dsullivan@slrconsulting.com](mailto:dsullivan@slrconsulting.com)

Nick H. Havan, PE, PTOE, ENV SP  
 Principal Transportation Engineer  
[nhavan@slrconsulting.com](mailto:nhavan@slrconsulting.com)



## Figures

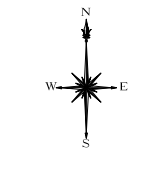
- Figure 1 – Site Location Map
- Figure 2 – Study Area
- Figure 3 – Existing (2023) Conditions Peak-Hour Traffic Volumes
- Figure 4 – Proposed Project Trip Distribution
- Figure 5 – Proposed Project Peak-Hour Trip Assignment
- Figure 6 – Background (2024) Conditions Peak-Hour Traffic Volumes
- Figure 7 – Combined (2024) Conditions Peak-Hour Traffic Volumes

## Appendix

- Traffic Counts
- LOS Designation Descriptions
- *Synchro* Analysis Worksheets



Drawing: W:\CAD\DESIGN\21623.00001-DE\CAD\STAMFORD DISPENSARY TRAFFIC FIGURES.DWG Layout: Table 1  
Plotted by: MACUBJ On this date: Fri, 26 May 2023 4:18pm



**SLR**  
99 REALTY DRIVE  
AMSTERDAM, NY 12010  
202.211.1778  
SLRCONSULTING.COM

REVISIONS

NO.	DESCRIPTION	DATE

STUDY LOCATION MAP  
STAMFORD DISPENSARY  
TRAFFIC STUDY  
EAST MAIN STREET (STATE ROUTE 1)  
STAMFORD, CT

MA DESIGNED	MA DRAWN	NH CHECKED
SCALE NTS		
DATE MAY 26, 2023		
PROJECT NO. 21623.00001		

**FIG 1**

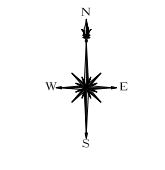
SHEET NO.

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Drawing: W:\CAD\DESIGN\21623\00001-DE\CAD\STAMFORD DISPENSARY TRAFFIC FIGURES.DWG Layout: Table 2  
Plotted by: MACJIB On this date: Fri, 26 May 2023 4:21pm



**STUDY INTERSECTIONS:**  
1-EAST MAIN ST & BLACHLEY RD  
2-EAST MAIN ST & STANDISH RD  
3-EAST MAIN ST & COURTLAND AVE/I-95 ON-RAMP  
4-EAST MAIN ST & I-95 OFF-RAMP

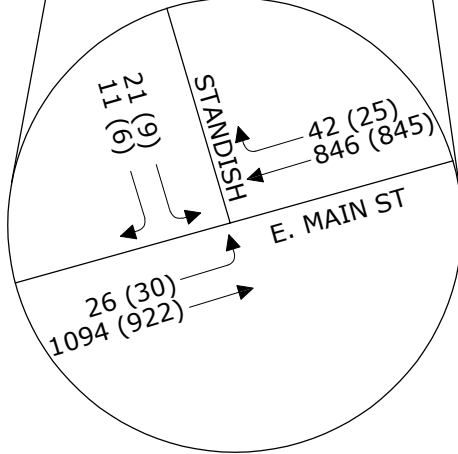
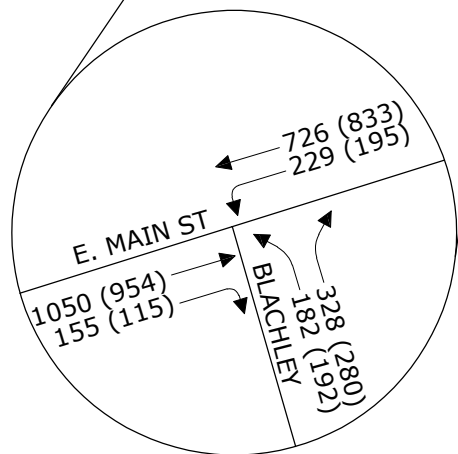
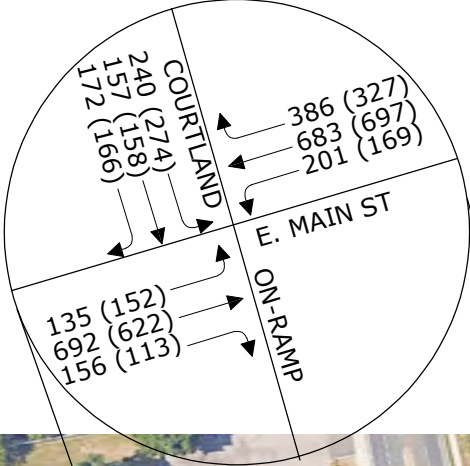


REVISIONS

**STUDY AREA**  
STAMFORD DISPENSARY  
TRAFFIC STUDY  
EAST MAIN STREET (STATE ROUTE 1)  
STAMFORD, CT

MA DESIGNED	MA DRAWN	NH CHECKED
SCALE NTS		
DATE MAY 26, 2023		
PROJECT NO. 21623.00001		

**FIG 2**



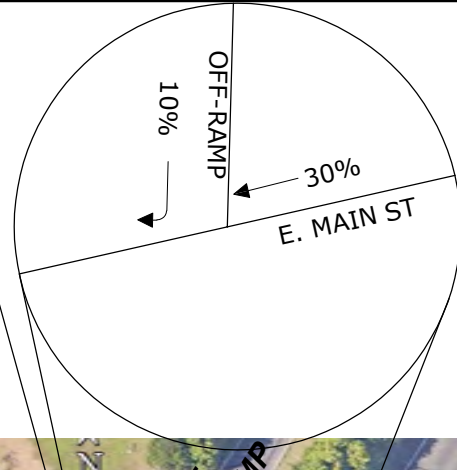
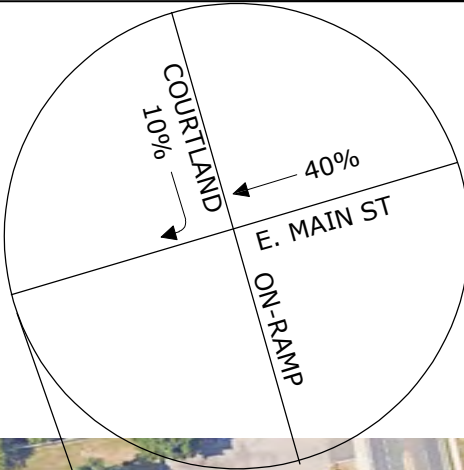
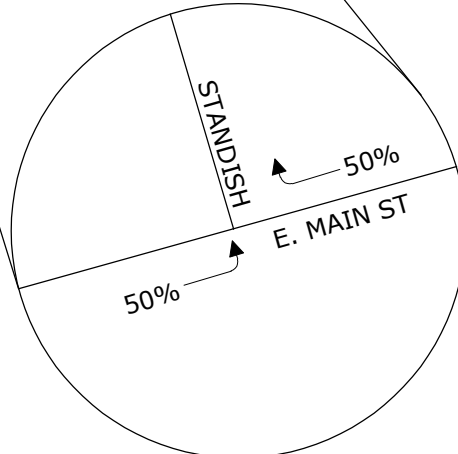
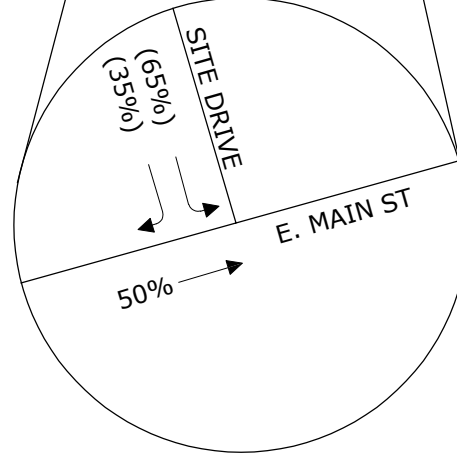
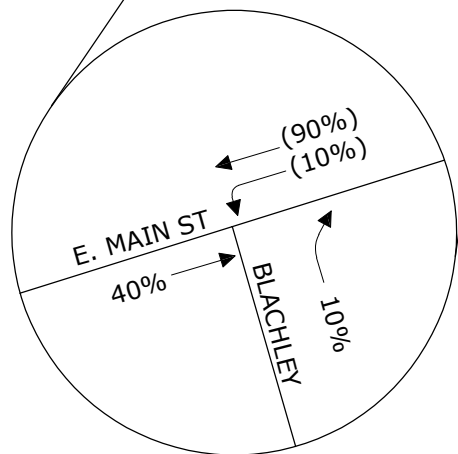
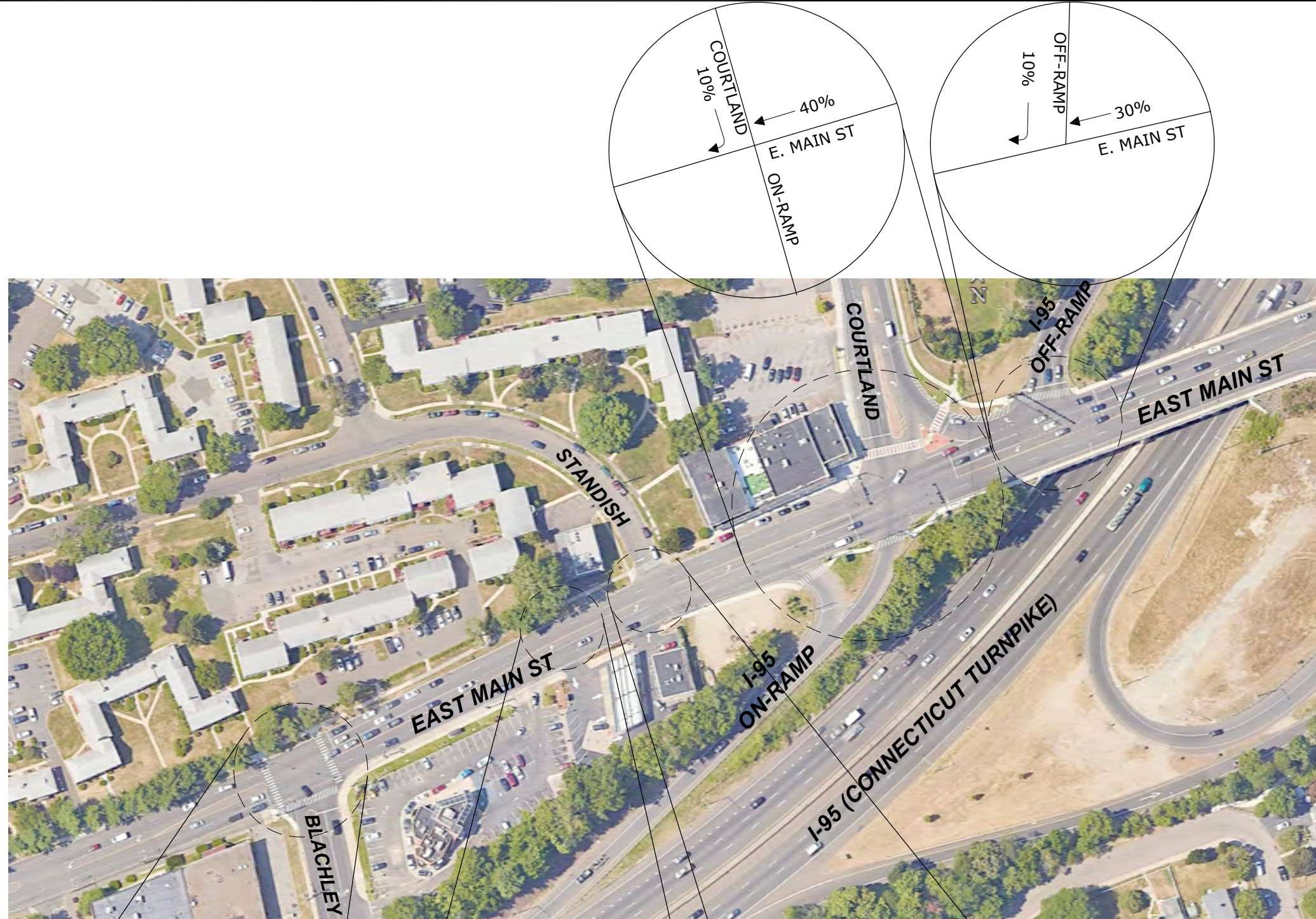
LEGEND:  
PM (SATURDAY)  
XX (XX)

99 REALTY DRIVE  
SUITE 200  
STAMFORD, CT 06424  
203.371.1778  
SLRCONSULTING.COM

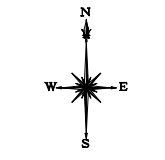
REVISIONS	EXISTING (2023) CONDITIONS PEAK - HOUR TRAFFIC VOLUMES
	<b>STAMFORD DISPENSARY TRAFFIC STUDY</b> EAST MAIN STREET (STATE ROUTE 1) STAMFORD, CT

MA DESIGNED	MA DRAWN	NH CHECKED	
SCALE: NTS			
DATE: MAY 26, 2023			
PROJECT NO: 21623.00001			
FIG 3			

SHEET NO.



LEGEND:  
 IN (OUT)  
 XX (XX)



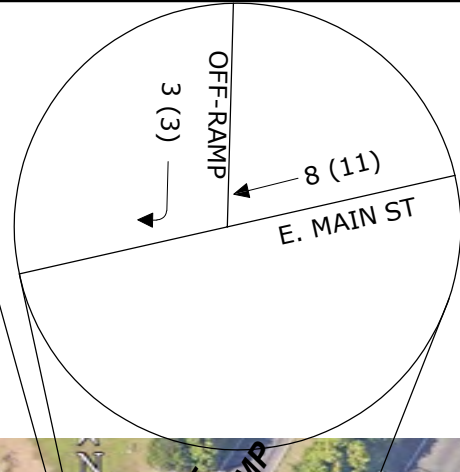
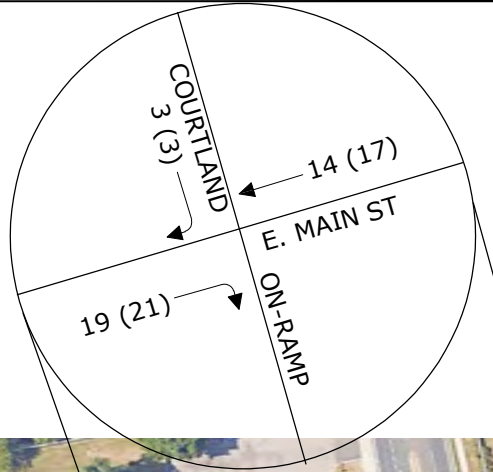
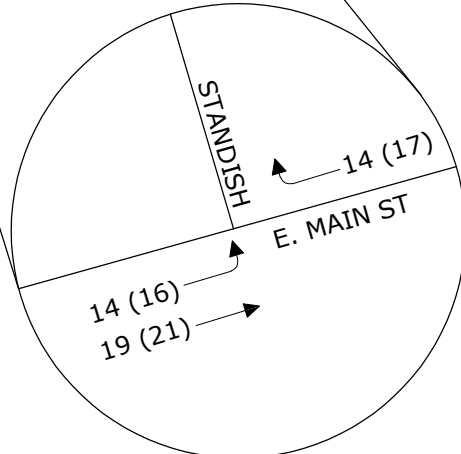
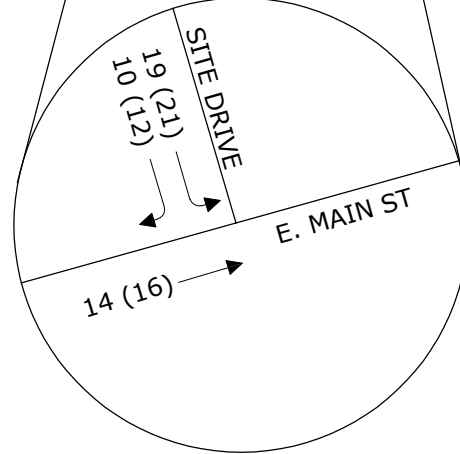
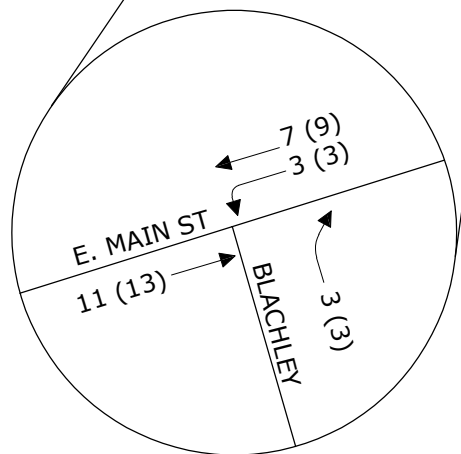
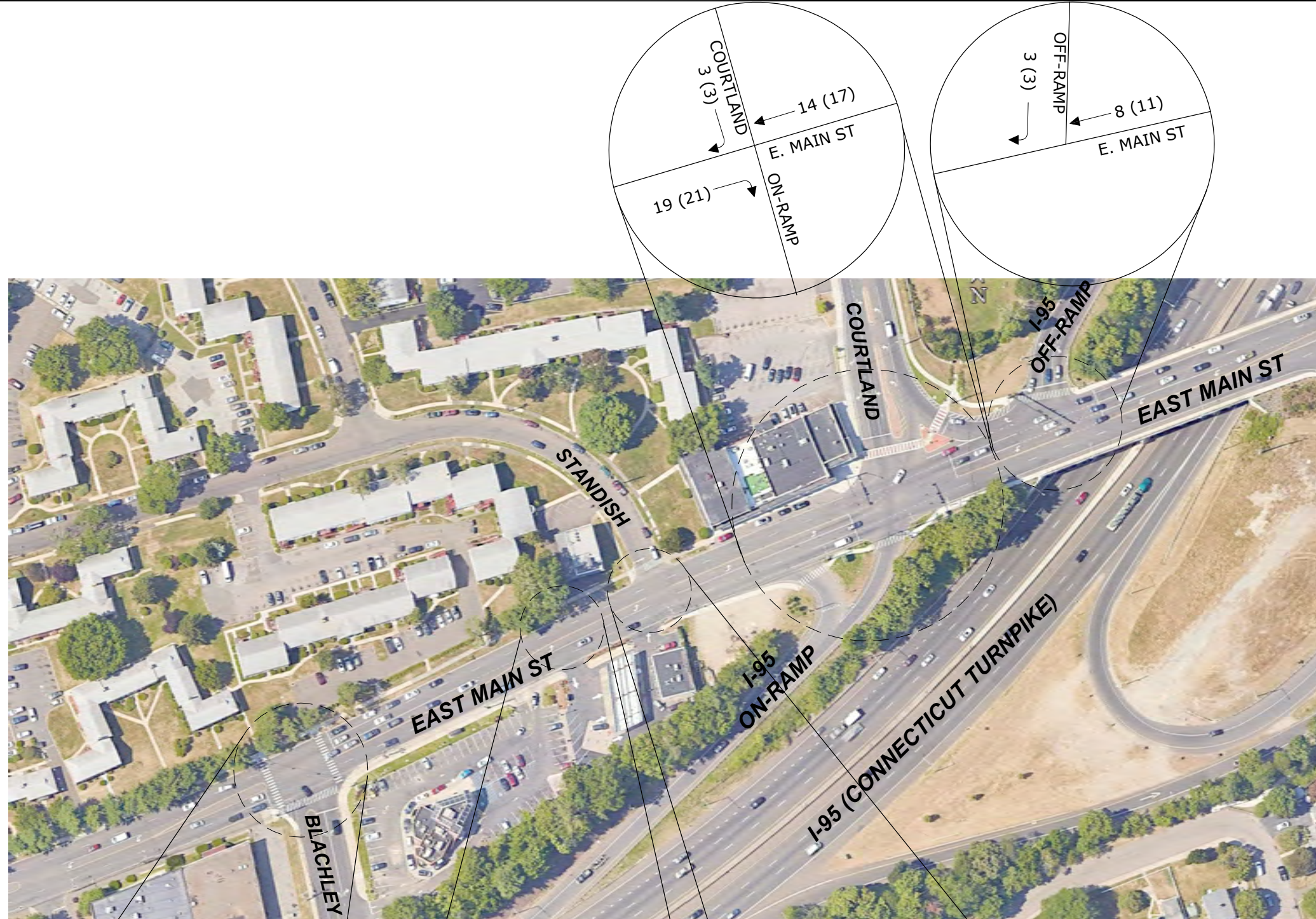
REVISIONS

PROPOSED PROJECT TRIP DISTRIBUTION  
**STAMFORD DISPENSARY TRAFFIC STUDY**  
 EAST MAIN STREET (STATE ROUTE 1)  
 STAMFORD, CT

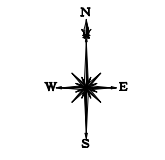
MA DESIGNED	MA DRAWN	NH CHECKED
SCALE: NTS		
DATE: MAY 26, 2023		
PROJECT NO: 21623.00001		

**FIG 4**





LEGEND:  
 PM (SATURDAY)  
 XX (XX)

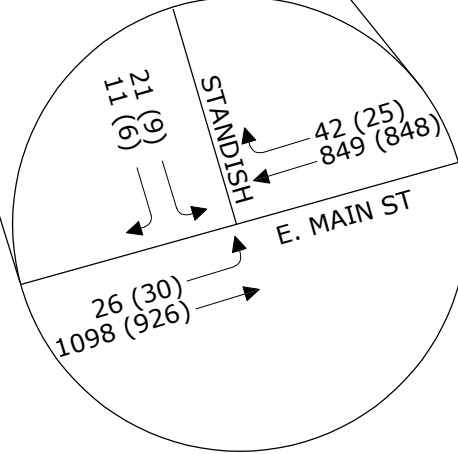
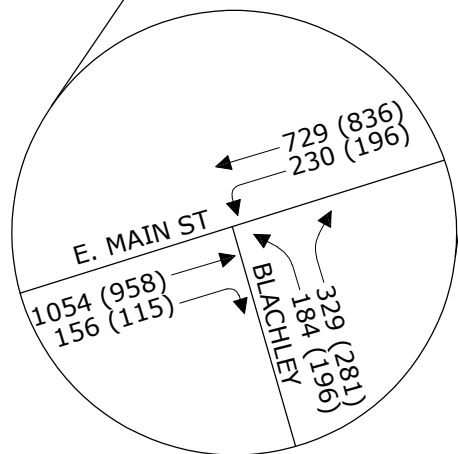
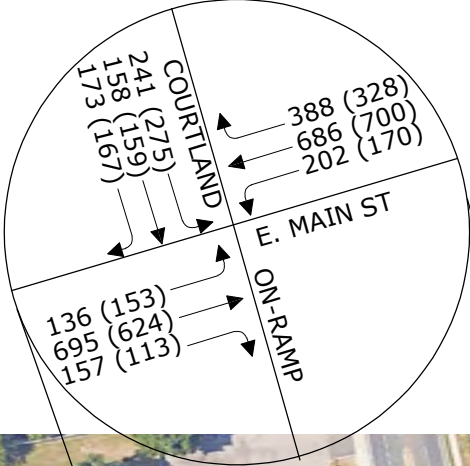


REVISIONS

PROPOSED PROJECT TRIP ASSIGNMENT  
**STAMFORD DISPENSARY**  
**TRAFFIC STUDY**  
 EAST MAIN STREET (STATE ROUTE 1)  
 STAMFORD, CT

MA DESIGNED	MA DRAWN	NH CHECKED
SCALE: NTS		
DATE: MAY 26, 2023		
PROJECT NO: 21623.00001		

**FIG 5**



LEGEND:  
PM (SATURDAY)  
XX (XX)

99 REALTY DRIVE  
STAMFORD, CT 06410  
203.371.1778  
SLRCONSULTING.COM

REVISIONS	HOUR

BACKGROUND (2024) CONDITIONS PEAK - HOUR TRAFFIC VOLUMES

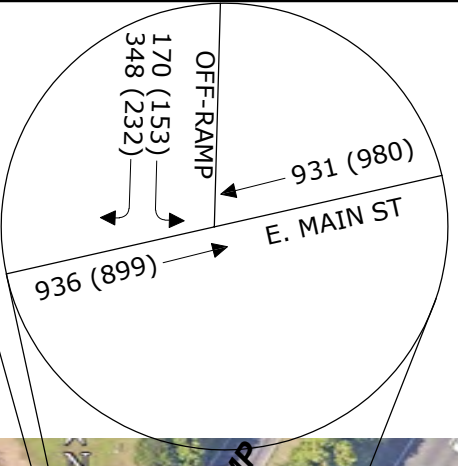
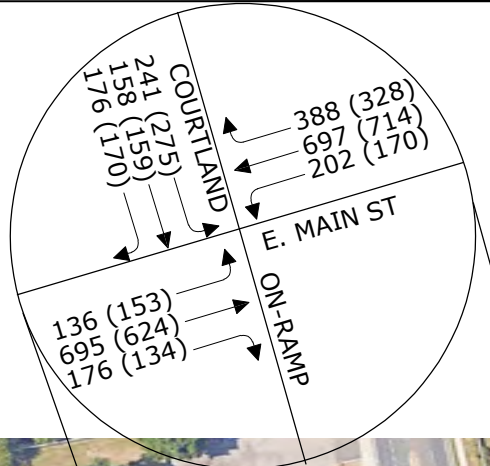
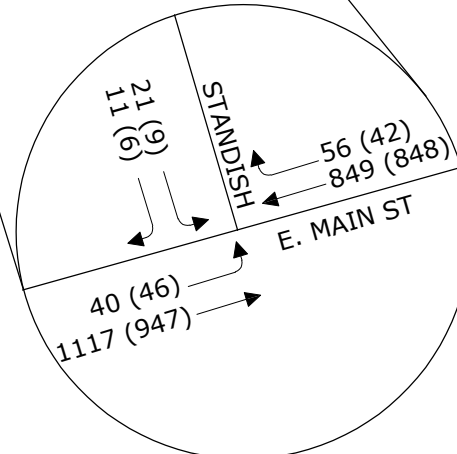
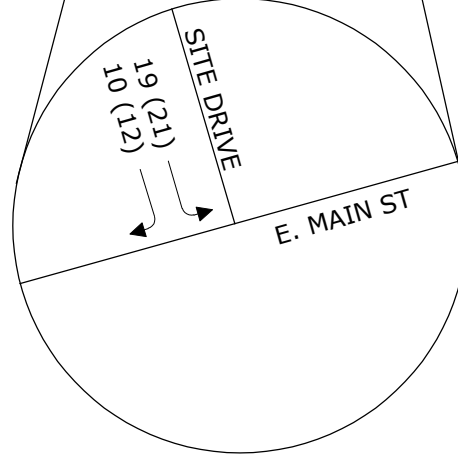
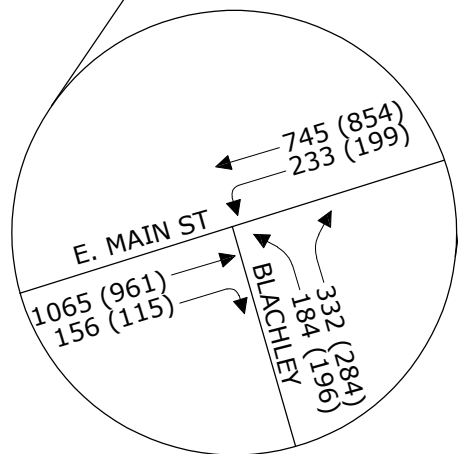
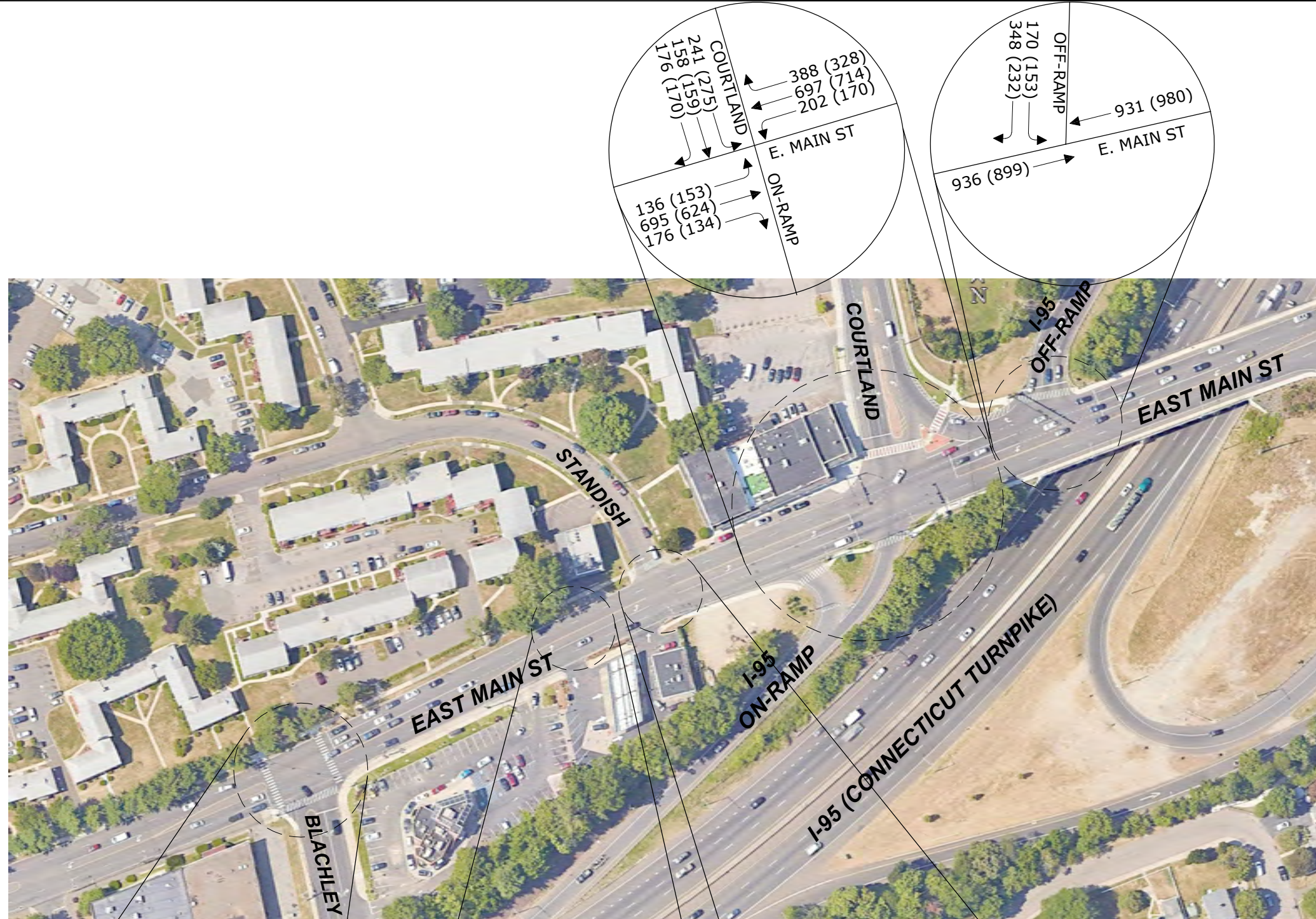
**STAMFORD DISPENSARY TRAFFIC STUDY**

EAST MAIN STREET (STATE ROUTE 1)  
STAMFORD, CT

MA DESIGNED	MA DRAWN	NH CHECKED	
SCALE: NTS			
DATE: MAY 26, 2023			
PROJECT NO: 21623.00001			

**FIG 6**

SHEET NO.



LEGEND:  
PM (SATURDAY)  
XX (XX)

99 REALTY DRIVE  
SUITE 200  
STAMFORD, CT 06424  
203.371.1778  
SLRCONSULTING.COM

REVISIONS	COMBINED (2024) CONDITIONS PEAK - HOUR TRAFFIC VOLUMES

**STAMFORD DISPENSARY TRAFFIC STUDY**  
EAST MAIN STREET (STATE ROUTE 1)  
STAMFORD, CT

MA DESIGNED	MA DRAWN	NH CHECKED	
SCALE: NTS			
DATE: MAY 26, 2023			
PROJECT NO: 21623.00001			
<b>FIG 7</b>			

SHEET NO. Copyright SLR International Corporation - 2021

Table 1  
**ON STREET PARKING OBSERVATIONS**  
 Friday May 12th, 2023  
 Stamford, CT

	<b>Standish Rd.(1)</b>	<b>E. Main St.(2)</b>
<b>TIME</b>	<b>13 Available Spaces</b>	<b>6 Available Spaces</b>
<i>Before 4:00 p.m.</i>	9	6
<i>After 6:00 p.m.</i>	12	4

Notes:

(1) On Standish Rd. between Revere Dr. and E. Main St.(Rte. 1)

(2) North side of E. Main St. (Rte.1) between Standish Rd. and Courtland Ave.

Source: Reliable Traffic Counts, LLC field observations conducted on Friday May 12, 2023

Table 2  
**ON STREET PARKING OBSERVATIONS**  
 Saturday May 13th, 2023  
 Stamford, CT

	<b>Standish Rd.(1)</b>	<b>E. Main St.(2)</b>
<b>TIME</b>	<b>13 Available Spaces</b>	<b>6 Available Spaces</b>
<i>Before 4:00 p.m.</i>	13	5
<i>After 6:00 p.m.</i>	12	4

Notes:

(1) On Standish Rd. between Revere Dr. and E. Main St.(Rte. 1)

(2) North side of E. Main St. (Rte.1) between Standish Rd. and Courtland Ave.

Source: Reliable Traffic Counts, LLC field observations conducted on Friday May 12, 2023



Project #: 141.21623.00001  
 Project Name: 1110 East Main St  
 Location: Stamford  
 Date of Counts: 5/12/2023

Enter inputs in yellow cells only unless you need to fix a formula

Start Time	COURTLAND AVE. SOUTHBOUND				RTE. 1 WESTBOUND				I-95 SB ON RAMPS NORTHBOUND				E. MAIN ST. EASTBOUND				ALL	
	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS		
07:00 AM																	0	0
07:15 AM																	0	0
07:30 AM																	0	0
07:45 AM																	0	0
08:00 AM																	0	0
08:15 AM																	0	0
08:30 AM																	0	0
08:45 AM																	0	0
04:00 PM	31	42	40	0	86	126	42	0	0	0	0	0	36	155	30	0	588	0
04:15 PM	34	52	50	0	98	151	46	0	0	0	0	0	36	176	36	0	679	0
04:30 PM	31	40	39	3	94	147	47	0	0	0	0	0	32	183	31	0	644	3
04:45 PM	32	51	53	0	102	163	53	0	0	0	0	0	27	161	31	0	673	0
05:00 PM	40	46	61	2	92	176	51	0	0	0	0	0	32	174	33	0	705	2
05:15 PM	57	38	56	0	88	187	48	0	0	0	0	0	47	174	30	0	725	0
05:30 PM	36	39	60	1	96	166	46	0	0	0	0	0	43	192	42	0	720	1
05:45 PM	39	34	63	2	110	154	56	0	0	0	0	0	34	152	30	0	672	2

Saturday																		
Start Time	COURTLAND AVE. SOUTHBOUND				RTE. 1 WESTBOUND				I-95 SB ON RAMPS NORTHBOUND				E. MAIN ST. EASTBOUND				ALL	
VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	
11:00 AM	42	29	66	3	77	129	54	0	0	0	0	0	33	223	32	0	685	3
11:15 AM	21	50	49	0	87	121	38	0	0	0	0	0	33	192	28	0	619	0
11:30 AM	33	43	49	0	77	120	55	0	0	0	0	0	30	187	23	0	617	0
11:45 AM	46	47	54	2	93	148	50	0	0	0	0	0	20	178	34	0	670	2
12:00 PM	34	43	56	0	83	174	38	0	0	0	0	0	17	162	36	0	643	0
12:15 PM	39	49	75	3	79	190	38	0	0	0	0	0	27	136	40	0	673	3
12:30 PM	42	35	63	0	82	162	41	0	0	0	0	0	35	143	42	0	645	0
12:45 PM	51	31	80	0	83	171	52	0	0	0	0	0	34	181	34	0	717	0
01:00 PM																	0	0
01:15 PM																	0	0
01:30 PM																	0	0
01:45 PM																	0	0

INTERSECTION PEAK HOUR

Start Time	COURTLAND AVE. SOUTHBOUND				RTE. 1 WESTBOUND				I-95 SB ON RAMPS NORTHBOUND				E. MAIN ST. EASTBOUND				ALL	
	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS		
PM PEAK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	165	174	230	3	378	692	198	0	0	0	0	0	149	701	136	0	2823	3

Project #: 141.21623.00001

Enter inputs in yellow cells only unless you need to fix a formula

Project Name: 1110 East Main St

Location: Stamford

Date of Counts: 5/12/2023

Start Time	STANDISH RD. SOUTHBOUND				RTE. 1 WESTBOUND				NORTHBOUND				E. MAIN ST. EASTBOUND				ALL	
	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS		
07:00 AM																	0	0
07:15 AM																	0	0
07:30 AM																	0	0
07:45 AM																	0	0
08:00 AM																	0	0
08:15 AM																	0	0
08:30 AM																	0	0
08:45 AM																	0	0
04:00 PM	1	0	4	0	3	156	0	0	0	0	0	0	0	192	4	0	360	0
04:15 PM	2	0	1	0	5	187	0	0	0	0	0	0	0	227	8	0	430	0
04:30 PM	6	0	4	0	4	186	0	0	0	0	0	0	0	289	9	0	498	0
04:45 PM	2	0	3	0	3	191	0	0	0	0	0	0	1	253	13	0	466	0
05:00 PM	5	0	3	0	8	229	0	0	0	0	0	0	0	254	5	0	504	0
05:15 PM	5	0	6	0	12	223	0	0	0	0	0	0	0	284	7	0	537	0
05:30 PM	1	1	6	0	11	192	0	0	0	0	0	0	0	300	8	0	519	0
05:45 PM	0	0	5	1	11	202	0	0	0	0	0	0	0	256	6	0	480	1

Saturday																		
11:00 AM	3	0	6	0	6	151	0	0	0	0	0	0	0	291	2	0	459	0
11:15 AM	2	0	2	4	5	148	0	0	0	0	0	0	0	261	5	0	423	4
11:30 AM	1	0	3	4	12	154	0	0	0	0	0	0	0	250	2	0	422	4
11:45 AM	6	0	2	4	9	192	0	0	0	0	0	0	0	240	10	0	459	4
12:00 PM	1	0	2	5	3	220	0	0	0	0	0	0	0	220	5	0	451	5
12:15 PM	3	0	3	3	7	220	0	0	0	0	0	0	0	215	13	0	461	3
12:30 PM	1	0	2	4	5	199	0	0	0	0	0	0	0	226	6	0	439	4
12:45 PM	1	0	2	2	10	206	0	0	0	0	0	0	0	261	6	0	486	2
01:00 PM																	0	0
01:15 PM																	0	0
01:30 PM																	0	0
01:45 PM																	0	0

INTERSECTION PEAK HOUR

Start Time	STANDISH RD. SOUTHBOUND				RTE. 1 WESTBOUND				NORTHBOUND				E. MAIN ST. EASTBOUND				ALL	
	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS		
PM PEAK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11	1	20	1	42	846	0	0	0	0	0	0	0	1094	26	0	2040	1



Project #: 141.21623.00001      Enter inputs in yellow cells only unless you need to fix a formula  
 Project Name: 1110 East Main St  
 Location: Stamford  
 Date of Counts: 5/12/2023

Start Time	SOUTHBOUND				RTE. 1 WESTBOUND				BLACHLEY RD. NORTHBOUND				E. MAIN ST. EASTBOUND				ALL	
	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS		
07:00 AM																	0	0
07:15 AM																	0	0
07:30 AM																	0	0
07:45 AM																	0	0
08:00 AM																	0	0
08:15 AM																	0	0
08:30 AM																	0	0
08:45 AM																	0	0
04:00 PM	0	2	1	0	0	143	44	0	66	0	32	0	15	143	2	1	448	1
04:15 PM	0	0	2	0	0	154	54	0	67	1	29	0	15	191	0	0	513	0
04:30 PM	0	0	1	0	1	142	43	0	70	1	19	1	33	255	0	0	565	1
04:45 PM	0	0	0	0	0	152	59	0	73	0	34	0	32	233	0	0	583	0
05:00 PM	0	0	0	0	0	177	80	0	75	0	41	0	44	260	0	0	677	0
05:15 PM	0	0	0	0	0	215	46	0	82	0	51	0	38	271	1	0	704	0
05:30 PM	0	0	0	0	0	193	46	0	85	1	45	0	35	302	0	0	707	0
05:45 PM	0	0	0	0	0	141	57	0	86	0	45	0	38	217	0	0	584	0

Saturday																		
Start Time	SOUTHBOUND				RTE. 1 WESTBOUND				BLACHLEY RD. NORTHBOUND				E. MAIN ST. EASTBOUND				ALL	
VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	
11:00 AM	0	0	0	0	0	165	50	0	49	0	44	0	22	195	0	0	525	0
11:15 AM	0	0	0	0	0	168	52	0	52	0	41	0	26	200	0	0	539	0
11:30 AM	0	0	0	0	0	170	55	0	53	0	40	0	25	206	0	1	549	1
11:45 AM	0	1	0	0	0	180	69	0	56	0	41	0	28	300	0	1	675	1
12:00 PM	0	0	0	0	0	202	62	0	73	0	62	1	33	225	0	0	657	1
12:15 PM	0	0	0	0	0	230	50	0	62	1	41	1	28	211	0	0	623	1
12:30 PM	0	0	0	0	0	194	32	2	63	0	54	0	25	215	0	0	583	2
12:45 PM	0	0	0	1	0	207	51	0	82	2	35	0	29	303	0	1	709	2
01:00 PM																	0	0
01:15 PM																	0	0
01:30 PM																	0	0
01:45 PM																	0	0

INTERSECTION PEAK HOUR

Start Time	SOUTHBOUND				RTE. 1 WESTBOUND				BLACHLEY RD. NORTHBOUND				E. MAIN ST. EASTBOUND				ALL	
	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS	VEH	PEDS		
PM PEAK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	726	229	0	328	1	182	0	155	1050	1	0	2672	0

# LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group. Specific descriptions of each LOS for signalized intersections are provided below:

Level of Service A describes operations with very low control delay, up to 10 s/veh and a volume-to-capacity ratio no greater than 1.0. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

Level of Service B describes operations with delay greater than 10 and up to 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

Level of Service C describes operations with control delay greater than 20 and up to 35 s/veh and a volume-to-capacity ratio no greater than 1.0. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

Level of Service D describes operations with control delay greater than 35 and up to 55 s/veh and a volume-to-capacity ratio no greater than 1.0. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level of Service E describes operations with control delay greater than 55 and up to 80 s/veh and a volume-to-capacity ratio no greater than 1.0. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

Level of Service F describes operations with control delay in excess of 80 s/veh. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels. LOS F is assigned to any movement when the v/c ratio is greater than 1.0, regardless of the calculated delay.

Level of Service (LOS)	Signalized Intersection	Volume/Capacity Ratio (V/C)	Expected Delay to Minor Street
A	≤ 10 sec	≤ 1	Little or no delay
B	10-20 sec	≤ 1	Short traffic delays
C	20-35 sec	≤ 1	Average traffic delays
D	35-55 sec	≤ 1	Long traffic delays
E	55-80 sec	≤ 1	Very long delays
F	≥ 80 sec	≥ 1	Extreme delays

Reference: Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# LEVEL OF SERVICE FOR TWO-WAY STOP SIGN CONTROLLED INTERSECTIONS

The level of service for a TWSC (two-way stop controlled) intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS criteria are given in the Table. LOS criteria are given below:

<b>Level of Service (LOS)</b>	<b>Unsignalized Intersection</b>	<b>Volume/Capacity Ratio (V/C)</b>	<b>Expected Delay to Minor Street</b>
A	≤ 10 sec	≤ 1	Little or no delay
B	10-15 sec	≤ 1	Short traffic delays
C	15-25 sec	≤ 1	Average traffic delays
D	25-35 sec	≤ 1	Long traffic delays
E	35-50 sec	≤ 1	Very long delays
F	≥ 50 sec	≥ 1	Extreme delays

Reference: Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

HCM 6th Signalized Intersection Summary  
4: Blachley & E Main



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	1054	156	230	729	184	329
Future Volume (veh/h)	1054	156	230	729	184	329
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1211	177	319	868	207	346
Peak Hour Factor	0.87	0.88	0.72	0.84	0.89	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1539	224	359	2383	434	386
Arrive On Green	0.49	0.49	0.12	0.66	0.24	0.24
Sat Flow, veh/h	3257	460	1810	3705	1810	1610
Grp Volume(v), veh/h	689	699	319	868	207	346
Grp Sat Flow(s),veh/h/ln	1805	1817	1810	1805	1810	1610
Q Serve(g_s), s	28.5	28.9	8.2	9.7	8.8	18.7
Cycle Q Clear(g_c), s	28.5	28.9	8.2	9.7	8.8	18.7
Prop In Lane		0.25	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	879	885	359	2383	434	386
V/C Ratio(X)	0.78	0.79	0.89	0.36	0.48	0.90
Avail Cap(c_a), veh/h	879	885	628	2383	503	447
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	19.2	19.3	19.9	6.8	29.4	33.1
Incr Delay (d2), s/veh	6.9	7.1	3.5	0.4	0.8	18.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	13.0	3.5	3.3	3.9	9.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.1	26.4	23.4	7.3	30.2	51.7
LnGrp LOS	C	C	C	A	C	D
Approach Vol, veh/h	1388			1187	553	
Approach Delay, s/veh	26.2			11.6	43.6	
Approach LOS	C			B	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.6	48.8			64.4	25.6
Change Period (Y+Rc), s	5.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	24.0	27.0			56.0	25.0
Max Q Clear Time (g_c+I1), s	10.2	30.9			11.7	20.7
Green Ext Time (p_c), s	0.4	0.0			7.6	0.9
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			23.8			
HCM 6th LOS			C			
























Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	26	1098	849	42	21	11
Future Vol, veh/h	26	1098	849	42	21	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	91	92	88	83	55
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	1207	923	48	25	20

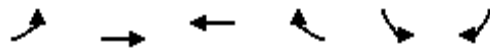
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	971	0	-	0	1615 486
Stage 1	-	-	-	-	947 -
Stage 2	-	-	-	-	668 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	718	-	-	-	97 533
Stage 1	-	-	-	-	342 -
Stage 2	-	-	-	-	477 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	718	-	-	-	93 533
Mov Cap-2 Maneuver	-	-	-	-	93 -
Stage 1	-	-	-	-	327 -
Stage 2	-	-	-	-	477 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	40.4
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	718	-	-	-	146
HCM Lane V/C Ratio	0.045	-	-	-	0.31
HCM Control Delay (s)	10.2	-	-	-	40.4
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2

HCM Signalized Intersection Capacity Analysis  
7: On-ramp/Courtland & E Main

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 						 		
Traffic Volume (vph)	136	695	157	202	686	388	0	0	0	241	158	173	
Future Volume (vph)	136	695	157	202	686	388	0	0	0	241	158	173	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.9	8.3		5.2	5.7	5.7				6.4	6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00				0.95	0.95	1.00	
Frt	1.00	0.97		1.00	1.00	0.85				1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00				0.95	0.99	1.00	
Satd. Flow (prot)	1787	3504		1787	3610	1599				1715	1775	1615	
Flt Permitted	0.95	1.00		0.24	1.00	1.00				0.95	0.99	1.00	
Satd. Flow (perm)	1787	3504		456	3610	1599				1715	1775	1615	
Peak-hour factor, PHF	0.80	0.90	0.83	0.90	0.91	0.88	0.92	0.92	0.92	0.95	0.85	0.75	
Adj. Flow (vph)	170	772	189	224	754	441	0	0	0	254	186	231	
RTOR Reduction (vph)	0	15	0	0	0	217	0	0	0	0	0	95	
Lane Group Flow (vph)	170	946	0	224	754	224	0	0	0	216	224	136	
Heavy Vehicles (%)	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	1%	0%	
Turn Type	Prot	NA		pm+pt	NA	Prot				Prot	NA	pt+ov	
Protected Phases	5	2		1	6 8	6 8				9	13	13 5	
Permitted Phases				6 8									
Actuated Green, G (s)	15.4	56.7		77.2	73.4	73.4				35.9	35.9	57.7	
Effective Green, g (s)	15.4	56.7		71.5	73.4	73.4				35.9	35.9	57.7	
Actuated g/C Ratio	0.11	0.39		0.50	0.51	0.51				0.25	0.25	0.40	
Clearance Time (s)	6.9	8.3		5.2						6.4	6.4		
Vehicle Extension (s)	1.5	2.5		1.5						1.5	1.5		
Lane Grp Cap (vph)	190	1375		260	1835	812				426	441	645	
v/s Ratio Prot	c0.10	0.27		0.02	0.21	0.14				0.13	c0.13	0.08	
v/s Ratio Perm				c0.40									
v/c Ratio	0.89	0.69		0.86	0.41	0.28				0.51	0.51	0.21	
Uniform Delay, d1	63.7	36.5		32.6	22.1	20.3				46.6	46.7	28.4	
Progression Factor	1.00	1.00		0.78	0.22	0.59				1.00	1.00	1.00	
Incremental Delay, d2	36.5	2.8		20.1	0.0	0.1				0.3	0.3	0.1	
Delay (s)	100.2	39.3		45.4	4.9	12.1				47.0	47.0	28.5	
Level of Service	F	D		D	A	B				D	D	C	
Approach Delay (s)		48.5			13.6			0.0			40.6		
Approach LOS		D			B			A			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			31.5		HCM 2000 Level of Service						C		
HCM 2000 Volume to Capacity ratio			0.76										
Actuated Cycle Length (s)			144.4		Sum of lost time (s)					26.3			
Intersection Capacity Utilization			62.8%		ICU Level of Service					B			
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑		↘	↘↘
Traffic Volume (vph)	0	936	931	0	167	345
Future Volume (vph)	0	936	931	0	167	345
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.3	5.7		6.4	6.4
Lane Util. Factor		0.95	0.91		1.00	0.88
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3610	5187		1805	2842
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		3610	5187		1805	2842
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.74	0.89
Adj. Flow (vph)	0	1017	1012	0	226	388
RTOR Reduction (vph)	0	0	0	0	0	330
Lane Group Flow (vph)	0	1017	1012	0	226	58
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type		NA	NA		Prot	Prot
Protected Phases		2	6		8	8
Permitted Phases						
Actuated Green, G (s)		56.7	46.0		21.7	21.7
Effective Green, g (s)		56.7	46.0		21.7	21.7
Actuated g/C Ratio		0.39	0.32		0.15	0.15
Clearance Time (s)		8.3	5.7		6.4	6.4
Vehicle Extension (s)		2.5	2.5		1.5	1.5
Lane Grp Cap (vph)		1417	1652		271	427
v/s Ratio Prot		c0.28	0.20		c0.13	0.02
v/s Ratio Perm						
v/c Ratio		0.72	0.61		0.83	0.14
Uniform Delay, d1		37.1	41.7		59.6	53.2
Progression Factor		0.41	1.00		1.00	1.00
Incremental Delay, d2		2.4	1.7		18.5	0.1
Delay (s)		17.5	43.4		78.1	53.3
Level of Service		B	D		E	D
Approach Delay (s)		17.5	43.4		62.4	
Approach LOS		B	D		E	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			37.8		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			144.4		Sum of lost time (s)	26.3
Intersection Capacity Utilization			47.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						



HCM 6th Signalized Intersection Summary  
4: Blachley & E Main



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (veh/h)	958	115	196	836	196	281
Future Volume (veh/h)	958	115	196	836	196	281
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1101	131	272	995	220	296
Peak Hour Factor	0.87	0.88	0.72	0.84	0.89	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1815	216	387	2484	383	341
Arrive On Green	0.56	0.56	0.09	0.69	0.21	0.21
Sat Flow, veh/h	3344	386	1810	3705	1810	1610
Grp Volume(v), veh/h	611	621	272	995	220	296
Grp Sat Flow(s),veh/h/ln	1805	1831	1810	1805	1810	1610
Q Serve(g_s), s	20.3	20.4	5.3	10.7	9.8	16.0
Cycle Q Clear(g_c), s	20.3	20.4	5.3	10.7	9.8	16.0
Prop In Lane		0.21	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1008	1022	387	2484	383	341
V/C Ratio(X)	0.61	0.61	0.70	0.40	0.57	0.87
Avail Cap(c_a), veh/h	1008	1022	735	2484	503	447
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	13.3	13.3	12.7	6.0	31.8	34.2
Incr Delay (d2), s/veh	2.7	2.7	0.9	0.5	1.4	13.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	8.4	2.3	3.5	4.4	7.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.0	16.0	13.6	6.5	33.2	47.5
LnGrp LOS	B	B	B	A	C	D
Approach Vol, veh/h	1232			1267	516	
Approach Delay, s/veh	16.0			8.0	41.4	
Approach LOS	B			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.7	55.3			66.9	23.1
Change Period (Y+Rc), s	4.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	25.0	27.0			56.0	25.0
Max Q Clear Time (g_c+I1), s	7.3	22.4			12.7	18.0
Green Ext Time (p_c), s	0.4	3.0			9.1	1.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			17.0			
HCM 6th LOS			B			





















Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	30	926	848	25	9	6
Future Vol, veh/h	30	926	848	25	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	58	88	96	63	88	75
Heavy Vehicles, %	0	0	0	8	0	0
Mvmt Flow	52	1052	883	40	10	8

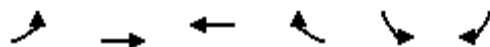
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	923	0	-	0	1533 462
Stage 1	-	-	-	-	903 -
Stage 2	-	-	-	-	630 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	748	-	-	-	109 552
Stage 1	-	-	-	-	361 -
Stage 2	-	-	-	-	498 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	748	-	-	-	101 552
Mov Cap-2 Maneuver	-	-	-	-	101 -
Stage 1	-	-	-	-	336 -
Stage 2	-	-	-	-	498 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	30.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	748	-	-	-	157
HCM Lane V/C Ratio	0.069	-	-	-	0.116
HCM Control Delay (s)	10.2	-	-	-	30.9
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

HCM Signalized Intersection Capacity Analysis  
7: On-ramp/Courtland & E Main

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	624	113	170	700	328	0	0	0	275	159	167
Future Volume (vph)	153	624	113	170	700	328	0	0	0	275	159	167
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	8.3		5.2	5.7	5.7				6.4	6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00				0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00				0.95	0.99	1.00
Satd. Flow (prot)	1805	3522		1805	3610	1583				1698	1739	1615
Flt Permitted	0.95	1.00		0.29	1.00	1.00				0.95	0.99	1.00
Satd. Flow (perm)	1805	3522		545	3610	1583				1698	1739	1615
Peak-hour factor, PHF	0.90	0.86	0.81	0.81	0.92	0.99	0.25	0.25	0.25	0.86	0.81	0.81
Adj. Flow (vph)	170	726	140	210	761	331	0	0	0	320	196	206
RTOR Reduction (vph)	0	11	0	0	0	165	0	0	0	0	0	92
Lane Group Flow (vph)	170	855	0	210	761	166	0	0	0	253	263	114
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	1%	3%	0%
Turn Type	Prot	NA		pm+pt	NA	Prot				Prot	NA	pt+ov
Protected Phases	5	2		1	6 8	6 8				9	13	13 5
Permitted Phases				6 8								
Actuated Green, G (s)	15.3	56.7		76.1	72.3	72.3				37.1	37.1	58.8
Effective Green, g (s)	15.3	56.7		70.4	72.3	72.3				37.1	37.1	58.8
Actuated g/C Ratio	0.11	0.39		0.49	0.50	0.50				0.26	0.26	0.41
Clearance Time (s)	6.9	8.3		5.2						6.4	6.4	
Vehicle Extension (s)	1.5	2.5		1.5						1.5	1.5	
Lane Grp Cap (vph)	191	1382		298	1807	792				436	446	657
v/s Ratio Prot	c0.09	0.24		0.02	0.21	0.10				0.15	c0.15	0.07
v/s Ratio Perm				c0.32								
v/c Ratio	0.89	0.62		0.70	0.42	0.21				0.58	0.59	0.17
Uniform Delay, d1	63.7	35.2		28.4	22.8	20.1				46.9	47.0	27.3
Progression Factor	1.00	1.00		0.60	0.17	0.00				1.00	1.00	1.00
Incremental Delay, d2	35.6	2.1		5.0	0.0	0.0				1.3	1.3	0.0
Delay (s)	99.3	37.3		21.9	3.8	0.0				48.1	48.3	27.3
Level of Service	F	D		C	A	A				D	D	C
Approach Delay (s)		47.4			5.8			0.0			42.2	
Approach LOS		D			A			A			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			28.5		HCM 2000 Level of Service						C	
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			144.4		Sum of lost time (s)						26.3	
Intersection Capacity Utilization			58.6%		ICU Level of Service						B	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑		↘	↘↘
Traffic Volume (vph)	0	899	969	0	153	229
Future Volume (vph)	0	899	969	0	153	229
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.3	5.7		6.4	6.4
Lane Util. Factor		0.95	0.91		1.00	0.88
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3610	5187		1805	2842
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		3610	5187		1805	2842
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.78	0.77
Adj. Flow (vph)	0	977	1053	0	196	297
RTOR Reduction (vph)	0	0	0	0	0	255
Lane Group Flow (vph)	0	977	1053	0	196	42
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type		NA	NA		Prot	Prot
Protected Phases		2	6		8	8
Permitted Phases						
Actuated Green, G (s)		56.7	46.1		20.5	20.5
Effective Green, g (s)		56.7	46.1		20.5	20.5
Actuated g/C Ratio		0.39	0.32		0.14	0.14
Clearance Time (s)		8.3	5.7		6.4	6.4
Vehicle Extension (s)		2.5	2.5		1.5	1.5
Lane Grp Cap (vph)		1417	1655		256	403
v/s Ratio Prot		c0.27	0.20		c0.11	0.01
v/s Ratio Perm						
v/c Ratio		0.69	0.64		0.77	0.10
Uniform Delay, d1		36.5	42.0		59.6	54.0
Progression Factor		0.50	1.00		1.00	1.00
Incremental Delay, d2		2.2	1.9		11.6	0.0
Delay (s)		20.5	43.9		71.2	54.0
Level of Service		C	D		E	D
Approach Delay (s)		20.5	43.9		60.8	
Approach LOS		C	D		E	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			38.1		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			144.4		Sum of lost time (s)	26.3
Intersection Capacity Utilization			45.6%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Signalized Intersection Summary  
4: Blachley & E Main



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	1065	156	233	746	184	332
Future Volume (veh/h)	1065	156	233	746	184	332
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1224	177	324	888	207	349
Peak Hour Factor	0.87	0.88	0.72	0.84	0.89	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1567	226	364	2377	437	389
Arrive On Green	0.49	0.49	0.12	0.66	0.24	0.24
Sat Flow, veh/h	3262	456	1810	3705	1810	1610
Grp Volume(v), veh/h	695	706	324	888	207	349
Grp Sat Flow(s),veh/h/ln	1805	1818	1810	1805	1810	1610
Q Serve(g_s), s	28.5	28.9	8.3	10.0	8.8	18.9
Cycle Q Clear(g_c), s	28.5	28.9	8.3	10.0	8.8	18.9
Prop In Lane		0.25	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	893	899	364	2377	437	389
V/C Ratio(X)	0.78	0.78	0.89	0.37	0.47	0.90
Avail Cap(c_a), veh/h	893	899	651	2377	503	447
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	18.7	18.8	20.1	7.0	29.2	33.1
Incr Delay (d2), s/veh	6.6	6.8	3.0	0.5	0.8	18.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	12.9	3.6	3.5	3.9	9.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.3	25.6	23.1	7.4	30.0	51.9
LnGrp LOS	C	C	C	A	C	D
Approach Vol, veh/h	1401			1212	556	
Approach Delay, s/veh	25.5			11.6	43.8	
Approach LOS	C			B	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.7	49.5			64.3	25.7
Change Period (Y+Rc), s	4.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	25.0	27.0			56.0	25.0
Max Q Clear Time (g_c+I1), s	10.3	30.9			12.0	20.9
Green Ext Time (p_c), s	0.4	0.0			7.8	0.8
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			23.4			
HCM 6th LOS			C			
























Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	40	1117	849	56	21	11
Future Vol, veh/h	40	1117	849	56	21	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	91	92	88	83	55
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	1227	923	64	25	20

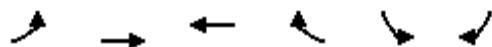
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	987	0	-	0	1667 494
Stage 1	-	-	-	-	955 -
Stage 2	-	-	-	-	712 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	708	-	-	-	89 526
Stage 1	-	-	-	-	339 -
Stage 2	-	-	-	-	453 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	708	-	-	-	83 526
Mov Cap-2 Maneuver	-	-	-	-	83 -
Stage 1	-	-	-	-	316 -
Stage 2	-	-	-	-	453 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	45.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	708	-	-	-	132
HCM Lane V/C Ratio	0.07	-	-	-	0.343
HCM Control Delay (s)	10.5	-	-	-	45.9
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.2	-	-	-	1.4

HCM Signalized Intersection Capacity Analysis  
7: On-ramp/Courtland & E Main

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 						 		
Traffic Volume (vph)	136	695	176	202	697	388	0	0	0	241	158	176	
Future Volume (vph)	136	695	176	202	697	388	0	0	0	241	158	176	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.9	8.3		5.2	5.7	5.7				6.4	6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00				0.95	0.95	1.00	
Frt	1.00	0.97		1.00	1.00	0.85				1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00				0.95	0.99	1.00	
Satd. Flow (prot)	1787	3493		1787	3610	1599				1715	1775	1615	
Flt Permitted	0.95	1.00		0.23	1.00	1.00				0.95	0.99	1.00	
Satd. Flow (perm)	1787	3493		433	3610	1599				1715	1775	1615	
Peak-hour factor, PHF	0.80	0.90	0.83	0.90	0.91	0.88	0.92	0.92	0.92	0.95	0.85	0.75	
Adj. Flow (vph)	170	772	212	224	766	441	0	0	0	254	186	235	
RTOR Reduction (vph)	0	17	0	0	0	213	0	0	0	0	0	104	
Lane Group Flow (vph)	170	967	0	224	766	228	0	0	0	216	224	131	
Heavy Vehicles (%)	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	1%	0%	
Turn Type	Prot	NA		pm+pt	NA	Prot				Prot	NA	pt+ov	
Protected Phases	5	2		1	6 8	6 8				9	13	13 5	
Permitted Phases				6 8									
Actuated Green, G (s)	15.4	55.2		78.4	74.6	74.6				34.7	34.7	56.5	
Effective Green, g (s)	15.4	55.2		72.7	74.6	74.6				34.7	34.7	56.5	
Actuated g/C Ratio	0.11	0.38		0.50	0.52	0.52				0.24	0.24	0.39	
Clearance Time (s)	6.9	8.3		5.2						6.4	6.4		
Vehicle Extension (s)	1.5	2.5		1.5						1.5	1.5		
Lane Grp Cap (vph)	190	1335		253	1865	826				412	426	631	
v/s Ratio Prot	c0.10	0.28		0.02	0.21	0.14				0.13	c0.13	0.08	
v/s Ratio Perm				c0.42									
v/c Ratio	0.89	0.72		0.89	0.41	0.28				0.52	0.53	0.21	
Uniform Delay, d1	63.7	38.1		33.1	21.4	19.7				47.7	47.7	29.1	
Progression Factor	1.00	1.00		0.89	0.23	0.62				1.00	1.00	1.00	
Incremental Delay, d2	36.5	3.4		24.3	0.0	0.1				0.6	0.5	0.1	
Delay (s)	100.2	41.5		53.7	4.9	12.3				48.2	48.2	29.2	
Level of Service	F	D		D	A	B				D	D	C	
Approach Delay (s)		50.2			14.8			0.0			41.6		
Approach LOS		D			B			A			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			32.9		HCM 2000 Level of Service						C		
HCM 2000 Volume to Capacity ratio			0.79										
Actuated Cycle Length (s)			144.4		Sum of lost time (s)					26.3			
Intersection Capacity Utilization			63.4%		ICU Level of Service					B			
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑		↘	↘↘
Traffic Volume (vph)	0	936	931	0	167	348
Future Volume (vph)	0	936	931	0	167	348
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.3	5.7		6.4	6.4
Lane Util. Factor		0.95	0.91		1.00	0.88
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3610	5187		1805	2842
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		3610	5187		1805	2842
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.74	0.89
Adj. Flow (vph)	0	1017	1012	0	226	391
RTOR Reduction (vph)	0	0	0	0	0	325
Lane Group Flow (vph)	0	1017	1012	0	226	66
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type		NA	NA		Prot	Prot
Protected Phases		2	6		8	8
Permitted Phases						
Actuated Green, G (s)		55.2	44.5		24.4	24.4
Effective Green, g (s)		55.2	44.5		24.4	24.4
Actuated g/C Ratio		0.38	0.31		0.17	0.17
Clearance Time (s)		8.3	5.7		6.4	6.4
Vehicle Extension (s)		2.5	2.5		1.5	1.5
Lane Grp Cap (vph)		1380	1598		305	480
v/s Ratio Prot		c0.28	0.20		c0.13	0.02
v/s Ratio Perm						
v/c Ratio		0.74	0.63		0.74	0.14
Uniform Delay, d1		38.4	42.9		57.0	51.0
Progression Factor		0.38	1.00		1.00	1.00
Incremental Delay, d2		2.7	1.9		8.2	0.0
Delay (s)		17.4	44.9		65.2	51.1
Level of Service		B	D		E	D
Approach Delay (s)		17.4	44.9		56.3	
Approach LOS		B	D		E	

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	144.4	Sum of lost time (s)	26.3
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		∩	
Traffic Vol, veh/h	0	1138	860	0	19	10
Future Vol, veh/h	0	1138	860	0	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1237	935	0	21	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	1554 468
Stage 1	-	-	-	-	935 -
Stage 2	-	-	-	-	619 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	0	-	-	0	104 542
Stage 1	0	-	-	0	342 -
Stage 2	0	-	-	0	499 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	104 542
Mov Cap-2 Maneuver	-	-	-	-	104 -
Stage 1	-	-	-	-	342 -
Stage 2	-	-	-	-	499 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	36.9
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	144
HCM Lane V/C Ratio	-	-	0.219
HCM Control Delay (s)	-	-	36.9
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	0.8

HCM 6th Signalized Intersection Summary  
4: Blachley & E Main



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	961	115	199	845	196	284
Future Volume (veh/h)	961	115	199	845	196	284
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1105	131	276	1006	220	299
Peak Hour Factor	0.87	0.88	0.72	0.84	0.89	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1805	214	386	2478	387	344
Arrive On Green	0.56	0.56	0.09	0.69	0.21	0.21
Sat Flow, veh/h	3346	385	1810	3705	1810	1610
Grp Volume(v), veh/h	613	623	276	1006	220	299
Grp Sat Flow(s),veh/h/ln	1805	1831	1810	1805	1810	1610
Q Serve(g_s), s	20.6	20.7	5.4	10.9	9.8	16.1
Cycle Q Clear(g_c), s	20.6	20.7	5.4	10.9	9.8	16.1
Prop In Lane		0.21	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1002	1017	386	2478	387	344
V/C Ratio(X)	0.61	0.61	0.72	0.41	0.57	0.87
Avail Cap(c_a), veh/h	1002	1017	732	2478	503	447
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	13.5	13.5	13.1	6.1	31.7	34.2
Incr Delay (d2), s/veh	2.8	2.8	0.9	0.5	1.3	13.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	8.6	2.5	3.6	4.4	7.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.3	16.3	14.0	6.6	33.0	47.7
LnGrp LOS	B	B	B	A	C	D
Approach Vol, veh/h	1236			1282	519	
Approach Delay, s/veh	16.3			8.2	41.5	
Approach LOS	B			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.8	55.0			66.8	23.2
Change Period (Y+Rc), s	4.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	25.0	27.0			56.0	25.0
Max Q Clear Time (g_c+I1), s	7.4	22.7			12.9	18.1
Green Ext Time (p_c), s	0.4	2.9			9.3	1.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			17.2			
HCM 6th LOS			B			





















Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	46	942	859	25	9	6
Future Vol, veh/h	46	942	859	25	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	58	88	96	63	88	75
Heavy Vehicles, %	0	0	0	8	0	0
Mvmt Flow	79	1070	895	40	10	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	935	0	-	0	1608 468
Stage 1	-	-	-	-	915 -
Stage 2	-	-	-	-	693 -
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	741	-	-	-	98 547
Stage 1	-	-	-	-	356 -
Stage 2	-	-	-	-	463 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	741	-	-	-	88 547
Mov Cap-2 Maneuver	-	-	-	-	88 -
Stage 1	-	-	-	-	318 -
Stage 2	-	-	-	-	463 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	34.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	741	-	-	-	139
HCM Lane V/C Ratio	0.107	-	-	-	0.131
HCM Control Delay (s)	10.4	-	-	-	34.8
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4

HCM Signalized Intersection Capacity Analysis  
7: On-ramp/Courtland & E Main

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	624	134	170	714	328	0	0	0	275	159	170
Future Volume (vph)	153	624	134	170	714	328	0	0	0	275	159	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	8.3		5.2	5.7	5.7				6.4	6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00				0.95	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00				0.95	0.99	1.00
Satd. Flow (prot)	1805	3510		1805	3610	1583				1698	1739	1615
Flt Permitted	0.95	1.00		0.27	1.00	1.00				0.95	0.99	1.00
Satd. Flow (perm)	1805	3510		514	3610	1583				1698	1739	1615
Peak-hour factor, PHF	0.90	0.86	0.81	0.81	0.92	0.99	0.25	0.25	0.25	0.86	0.81	0.81
Adj. Flow (vph)	170	726	165	210	776	331	0	0	0	320	196	210
RTOR Reduction (vph)	0	14	0	0	0	168	0	0	0	0	0	88
Lane Group Flow (vph)	170	877	0	210	776	163	0	0	0	253	263	122
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	1%	3%	0%
Turn Type	Prot	NA		pm+pt	NA	Prot				Prot	NA	pt+ov
Protected Phases	5	2		1	6 8	6 8				9	13	13 5
Permitted Phases				6 8								
Actuated Green, G (s)	15.3	55.2		74.8	71.0	71.0				38.4	38.4	60.1
Effective Green, g (s)	15.3	55.2		69.1	71.0	71.0				38.4	38.4	60.1
Actuated g/C Ratio	0.11	0.38		0.48	0.49	0.49				0.27	0.27	0.42
Clearance Time (s)	6.9	8.3		5.2						6.4	6.4	
Vehicle Extension (s)	1.5	2.5		1.5						1.5	1.5	
Lane Grp Cap (vph)	191	1341		279	1775	778				451	462	672
v/s Ratio Prot	c0.09	0.25		0.02	0.21	0.10				0.15	c0.15	0.08
v/s Ratio Perm				c0.34								
v/c Ratio	0.89	0.65		0.75	0.44	0.21				0.56	0.57	0.18
Uniform Delay, d1	63.7	36.7		30.6	23.8	20.8				45.7	45.8	26.6
Progression Factor	1.00	1.00		0.67	0.17	0.00				1.00	1.00	1.00
Incremental Delay, d2	35.6	2.5		7.9	0.1	0.0				1.0	1.0	0.0
Delay (s)	99.3	39.2		28.3	4.0	0.0				46.7	46.8	26.7
Level of Service	F	D		C	A	A				D	D	C
Approach Delay (s)		48.9			6.9			0.0			40.9	
Approach LOS		D			A			A			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.2									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			144.4									Sum of lost time (s) 26.3
Intersection Capacity Utilization			59.3%									ICU Level of Service B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 9: E Main & Off-ramp



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑		↘	↘↘
Traffic Volume (vph)	0	899	980	0	153	232
Future Volume (vph)	0	899	980	0	153	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.3	5.7		6.4	6.4
Lane Util. Factor		0.95	0.91		1.00	0.88
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3610	5187		1805	2842
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		3610	5187		1805	2842
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.78	0.77
Adj. Flow (vph)	0	977	1065	0	196	301
RTOR Reduction (vph)	0	0	0	0	0	258
Lane Group Flow (vph)	0	977	1065	0	196	43
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type		NA	NA		Prot	Prot
Protected Phases		2	6		8	8
Permitted Phases						
Actuated Green, G (s)		55.2	44.6		20.7	20.7
Effective Green, g (s)		55.2	44.6		20.7	20.7
Actuated g/C Ratio		0.38	0.31		0.14	0.14
Clearance Time (s)		8.3	5.7		6.4	6.4
Vehicle Extension (s)		2.5	2.5		1.5	1.5
Lane Grp Cap (vph)		1380	1602		258	407
v/s Ratio Prot		c0.27	0.21		c0.11	0.02
v/s Ratio Perm						
v/c Ratio		0.71	0.66		0.76	0.11
Uniform Delay, d1		37.8	43.4		59.5	53.8
Progression Factor		0.49	1.00		1.00	1.00
Incremental Delay, d2		2.4	2.2		10.8	0.0
Delay (s)		21.0	45.6		70.3	53.8
Level of Service		C	D		E	D
Approach Delay (s)		21.0	45.6		60.3	
Approach LOS		C	D		E	

Intersection Summary			
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	144.4	Sum of lost time (s)	26.3
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		⚡	
Traffic Vol, veh/h	0	967	865	0	21	12
Future Vol, veh/h	0	967	865	0	21	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1051	940	0	23	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	1466 470
Stage 1	-	-	-	-	940 -
Stage 2	-	-	-	-	526 -
Critical Hdwy	-	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	0	-	-	0	119 540
Stage 1	0	-	-	0	340 -
Stage 2	0	-	-	0	557 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	119 540
Mov Cap-2 Maneuver	-	-	-	-	119 -
Stage 1	-	-	-	-	340 -
Stage 2	-	-	-	-	557 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	32.6
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	166
HCM Lane V/C Ratio	-	-	0.216
HCM Control Delay (s)	-	-	32.6
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.8