W.K. (Trey) Hoffman, Chairman
Jarrad Bourger
Priscilla Blossom
Nathan Carroll

Brad Jones
Jerry Kent
Elijio Serrano
Lucian Bukowski, Alternate

EST. 1955
SPRING VALLEY
VILLAGE

Notice is Hereby Given of a Regular Meeting of the Planning and Zoning Commission of Spring Valley, Texas, 1025 Campbell Road, Spring Valley Village, Texas, in the Council Chambers, September 8, 2026, beginning at 6:30 PM. For the Purpose of Considering and Acting upon the Following Items of Business:

The meeting agenda and agenda packet are posted online at www.springvalleytx.com.

The video link to this meeting is https://us02web.zoom.us/j/85042687373

The public toll-free dial-in numbers to participate in the telephonic meeting are 1-346-248-7799 (Houston), 1-253-215-8782 (US), and 1-301-715-8592 (US); enter the Meeting ID: 850 4268 7373 and #.

The public will be permitted to offer public comments as provided by the agenda and as permitted by the presiding officer during the meeting.

1. **CALL THE ROLL AND ANNOUNCE A QUORUM IS PRESENT**

2. **APPROVAL OF MEETING MINUTES**

   2.1 Approval of Meeting Minutes for Regular Meeting of the Planning and Zoning Commission on April 14, 2026.

   2.2 Approval of Meeting Minutes for Regular Meeting of the Planning and Zoning Commission on May 12, 2026.

3. **NEW BUSINESS**

   3.1 **DISCUSSION CONCERNING:** An ordinance of the City of Spring Valley Village, Texas, amending Exhibit A of Chapter 12, Planning and Zoning, of the Code of Ordinances of the City, by amending Ordinance 2007-25, and creating The Aviary Planned Area Development ("PAD") containing approximately 1.695 acers of land located at 1045 Bingle Road by permitting two (2) two-story retail shell buildings with certain restrictions, regulations, and requirements subject to the provisions contained in this ordinance; providing for severability; providing a savings clause and an effective date; and providing a penalty in an amount not to exceed $2,000.00 for any violation hereof, with each day constituting a separate offense.

4. **ADJOURNMENT**

I certify that a copy of the September 8, 2026, agenda of items to be considered was posted on or before the 2nd day of September 2026, at 6:00 p.m. pursuant to the Open Meetings Act, Chapter 551 of the Local Government Code.

Attest:

Jasmin Torres, TRMC
City Secretary

In compliance with the Americans with Disabilities Act, this facility is wheelchair accessible and accessible parking spaces are available. To better serve attendees, requests for accommodations or interpretive services should be made 48 hours prior to this meeting. Please contact the City Secretary's office at 713-465-8308, Fax 713-461-7969, or Email Jasmin Torres for further information.

Planning & Zoning Commission Meeting Minutes
City of Spring Valley Village
Tuesday, April 14, 2026

1. The Planning & Zoning Commission meeting was called to order by Chairman Trey Hoffman at 6:30 p.m. in the Council Chambers of City Hall, 1025 Campbell Road, Houston, Texas.

Planning & Zoning Members present at City Hall:

- Trey Hoffman, Chairman
- Brad Jones, member
- Anne-Marie McMichael, Vice Chair
- Jerry Kent, member
- Jarrad Bourger, secretary

A quorum was present.

City Officials present:

- Jasmin Torres, City Secretary
- Philip J. Boedeker, City Attorney
- Jose Gomez, Development Services Manager

2. Approval of meeting minutes for the regular Planning and Zoning meeting on February 10, 2026

Brad Jones made the motion to approve the minutes. Anne-Marie McMichael seconded the motion. The motion carried unanimously.

3. NEW BUSINESS

3.1 CONDUCT A PUBLIC HEARING CONCERNING: AN ORDINANCE OF THE CITY OF SPRING VALLEY VILLAGE, TEXAS, AMENDING CHAPTER 9, SUBDIVISIONS, OF THE CODE OF ORDINANCES, BY AMENDING ARTICLE 9.116 TO ADD DELEGATION OF AUTHORITY RELATING TO THE REVIEW AND APPROVAL OF PLATS; PROVIDING FOR THE INCORPORATION OF PREAMBLE; PROVIDING A PENALTY OF AN AMOUNT NOT TO EXCEED $2,000 FOR EACH DAY OF VIOLATION OF ANY PROVISION HEREOF; AND

PROVIDING A REPEALER CLAUSE, A SEVERABILITY CLAUSE, A SAVINGS CLAUSE, AND AN EFFECTIVE DATE.

Jose Gomez presented proposed amendments to Chapter 9. The public hearing was opened at 6:39 p.m. and closed at 6:40 p.m. with no public comment.

3.2 CONSIDERATION AND POSSIBLE ACTION CONCERNING: AN ORDINANCE OF THE CITY OF SPRING VALLEY VILLAGE, TEXAS, AMENDING CHAPTER 9, SUBDIVISIONS, OF THE CODE OF ORDINANCES, BY AMENDING ARTICLE 9.116 TO ADD DELEGATION OF AUTHORITY RELATING TO THE REVIEW AND APPROVAL OF PLATS; PROVIDING FOR THE INCORPORATION OF PREAMBLE; PROVIDING A PENALTY OF AN AMOUNT NOT TO EXCEED $2,000 FOR EACH DAY OF VIOLATION OF ANY PROVISION HEREOF; AND PROVIDING A REPEALER CLAUSE, A SEVERABILITY CLAUSE, A SAVINGS CLAUSE, AND AN EFFECTIVE DATE.

Jerry Kent made the motion to approve. Brad Jones seconded the motion. The motion carried unanimously.

3.3 CONDUCT A PUBLIC HEARING CONCERNING: AN ORDINANCE OF THE CITY OF SPRING VALLEY VILLAGE, TEXAS, PROVIDING FOR THE AMENDMENT OF SECTION 11:01.05. PERMITTED LOCATIONS TO PROVIDE EXCEPTIONS PROVISIONS TO SECTION 11 FENCES, OF CHAPTER 12, PLANNING AND ZONING; PROVIDING FOR SEVERABILITY; AND PROVIDING A PENALTY IN AN AMOUNT NOT TO EXCEED $2,000.00 PER DAY, WITH EACH DAY CONSTITUTING A NEW VIOLATION.

Jose Gomez presented proposed amendments. Public hearing was opened at 6:41 p.m. and closed at 6:43 p.m. with no public comment.

3.4 CONSIDERATION AND POSSIBLE ACTION CONCERNING: AN ORDINANCE OF THE CITY OF SPRING VALLEY VILLAGE, TEXAS, PROVIDING FOR THE AMENDMENT OF SECTION 11:01.05. PERMITTED LOCATIONS TO PROVIDE EXCEPTIONS PROVISIONS TO SECTION 11 FENCES, OF CHAPTER 12, PLANNING AND ZONING; PROVIDING FOR SEVERABILITY; AND PROVIDING A PENALTY IN AN AMOUNT NOT TO EXCEED $2,000.00 PER DAY, WITH EACH DAY CONSTITUTING A NEW VIOLATION.

The Commission discussed proposed amendments to Section 11:01.05 regarding fencing exceptions for corner lots on major thoroughfares. The Commission developed an

amendment to the proposed ordinance stating that the fence amendment should be updated to include the requirements of only including homes on corner lots parallel and immediately adjacent to a major thoroughfare (as defined by city ordinance), provided the fence does not violate the sight triangle, and is no closer than 10 feet from the entry street right-of-way line.

Jerry Kent made the motion to approve. Anne-Marie McMichael seconded the motion. The motion carried unanimously.

3.5 CONSIDERATION AND POSSIBLE ACTION CONCERNING: AN ORDINANCE OF THE CITY OF SPRING VALLEY VILLAGE, TEXAS PROVIDING FOR THE REPEAL AND REPLACEMENT OF ARTICLE 3.1000, URBAN FOREST PRESERVATION AND PROTECTION, CHAPTER 3, BUILDINGS & CONSTRUCTION, OF THE CITY'S CODE OF ORDINANCES; PROVIDING FOR A TREE FUND; AND PROVIDING FOR A PENALTY PER DAY WITH EACH DAY CONSTITUTING A NEW VIOLATION.

The Commission conducted a final review of the comprehensive rewrite of Chapter 3, Article 3.1 (Urban Forest Preservation and Protection), developed over multiple meetings. Chairman Hoffman reviewed outstanding edits from prior meeting notes and the Commission worked through final language refinements. The Chairman recommended the city communicate these changes to residents via newsletter or social media.

Brad Jones made the motion to approve the amended tree ordinance as edited and forward to City Council. Jarrad Bourger seconded the motion. The motion carried unanimously.

4. ADJOURNMENT

Jerry Kent made a motion to adjourn. Anne-Marie McMichael seconded the motion. The motion carried unanimously. The meeting was adjourned at 8:01 p.m.

Signed: _____

Trey Hoffman, Chairman

Attest: _____

Jarrad Bourger, Secretary

Planning & Zoning Commission Meeting Minutes
City of Spring Valley Village
Tuesday, May 12, 2026

1. The Planning & Zoning Commission meeting was called to order by Chairman Trey Hoffman at 6:33 p.m. in the Council Chambers of City Hall, 1025 Campbell Road, Houston, Texas.

Planning & Zoning Members present at City Hall:

- Trey Hoffman, Chairman
- Brad Jones, member [arrived at 6:41 p.m.]
- Anne-Marie McMichael, Vice Chair
- Jerry Kent, Member
- Jarrad Bourger, Secretary
- Nathan Carroll, Member
- Jim Autenreith, Member

A quorum was present.

City Officials present:

- Jasmin Torres, City Secretary
- Philip J. Boedeker, City Attorney
- Jose Gomez, Development Services Manager

2. Approval of meeting minutes for the regular Planning and Zoning meeting on April 14, 2026

Approval of the April 14, 2026, minutes was tabled to the June meeting to correct a drafting error.

3. NEW BUSINESS

3.1 DISCUSSION CONCERNING: A proposed Area Development concerning property located at 1045 Bingle (BWPADD)

Keenon Rayner with Identity Architects presented a preliminary plan for a mixed-use development. The plans were discussed with the commission members. Additional

discussion included questions regarding any conversations with Harris County Flood Control, discussions with City staff, City Council, and the Mayor, parking concerns, and any discussions with Grace Chapel Chinese American Houston Church located at 1055 Bingle Road regarding potential shared parking opportunities.

The Commission also discussed ideas for additional hiking and biking connectivity in conjunction with Dolphin's Cove through the Old Voss area, proposed tenants and types of businesses being considered for the development, proposed signage plans, and the possibility of a left-turn lane at the adjacent traffic signal. Concerns were raised regarding traffic flow and traffic patterns in the area, including how the proposed development could impact surrounding streets and intersections. The Commission provided recommendations and discussed potential measures to help alleviate those concerns.

Additional discussion included proposed hours of operation, landscaping concepts and buffering, and overall compatibility of the development with the surrounding area.

4. ADJOURNMENT

Prior to adjournment, Chairman Hoffman acknowledged that this would be the final meeting for Anne-Marie McMichael and thanked her for her decades of service to the City of Spring Valley Village.

Anne-Marie McMichael made a motion to adjourn. Trey Hoffman seconded the motion. The motion carried unanimously. The meeting was adjourned at 7:35 p.m.

Signed: _____

Trey Hoffman, Chairman

Attest: _____

Jarrad Bourger, Secretary

Spring Valley Village Planning and Zoning Commission
Agenda Item Data Sheet

MEETING DATE: September 8, 2026
SUBMITTING STAFF: Jose Gomez, Development Services Manager

SUBJECT:

DISCUSSION CONCERNING: An ordinance of the City of Spring Valley Village, Texas, amending Exhibit A of Chapter 12, Planning and Zoning, of the Code of Ordinances of the City, by amending Ordinance 2007-25, and creating The Aviary Planned Area Development ("PAD") containing approximately 1.695 acers of land located at 1045 Bingle Road by permitting two (2) two-story retail shell buildings with certain restrictions, regulations, and requirements subject to the provisions contained in this ordinance; providing for severability; providing a savings clause and an effective date; and providing a penalty in an amount not to exceed $2,000.00 for any violation hereof, with each day constituting a separate offense.

BACKGROUND:

Applicant: Identity Architects
Owner: Bingle Roop3k 001 LLC

Property Location: The property comprises approximately 1.695 acres owned by the applicant and located at 1045 Bingle Road, Houston, Texas, situated west of Bingle Road and north of Interstate Highway 10, and 2.15 acres directly adjacent to the property (east side) owned by the City of Spring Valley Village.

Background: On November 13, 2007, the City Council approved Ordinance No. 2007-25, establishing the Bingle West Planned Area Development District (BWPADD), allowing commercial development. In 2018, Ordinance 2018-17 reduced the size of the PAD to 1045 Bingle by removing 1055 Bingle and 1006,1065 Voss due to a lack of development.

Request: Staff held several meetings with the applicant prior to their pre-application conference with the Planning and Zoning Commission on May 12, 2026. The pre-application conference is a required step that allows the Commission to confer with the applicant and provide guidance and feedback on the proposed project. On April 13, 2026, Identity Architects submitted an application to amend Ordinance No. 2007-25 and establish a Planned Area Development (PAD) (The Aviary) on approximately 3.845 acres, including a city parcel, to permit the construction of a two-story mixed-use development.

The proposed amendment includes the following:

- Expansion of permitted uses as provided in Exhibit A
    - Other School and Instruction

    - Health care and Social Assistance
    - Arts, Entertainment, and Recreation
    - Accommodation and Food Services
- Increase in the maximum allowable building height
    - Requesting a forty-five (45) feet height limitation from thirty-nine (39) feet.
- Establishment of shared parking standards
    - 50% reduction in required parking.
    - Shared parking to allow businesses with different peak hours to share a single parking spaces.
- Authorization of an additional secondary curb cut/access point
    - Access arrangement is determined by PAD, both located on Bingle Road, as detailed in the site plan in Exhibit B.
- Allowance for the sale of alcoholic beverages
    - Drinking places (Alcoholic Beverages).
- Approval of customized/sign standards
    - To allow for two (2) monument signs, each with a total face area not exceeding one hundred square feet, both adjacent to Bingle Road, located on proposed entry points as shown on the site plan on Exhibit B. All signs shall comply with the City's signage standards, Chapter 12 Planning and Zoning, Section 10 signs.
- Modification of required building setbacks
    - Northern Property Line (Eastern Segment) building setback line shall be five (5) feet.
    - Northern Property Line (Western Segment) building setback line shall be five (5) feet.
    - Western Property Line building setback line shall be fifty (50) feet.
    - Southern Property Line building setback line shall be twenty-five (25) feet.
    - Eastern Property Line building setback shall be zero (0) feet.
    - Eastern Secondary Property line setback shall be twenty-five (25) feet.

Currently, Chapter 12 Planning and Zoning Section Seven 07:02 Building Restrictions 07:02.01 Minimum Required Setbacks requires the following setback

- No building or structure shall be erected within thirty (30) feet of Dwelling District "A."
- All buildings shall be set back thirty (30) feet from frontline properties except where buildings and structures front a Major Thoroughfare, then the building shall be set back forty (40) feet from the property line. Any building shall be setback fifty (50) feet from I-10.

Reviews:

- Utilities/Traffic Study: Engineering consultants are currently reviewing the proposed utility plans attached. In addition, a no-objection letter has been attached for the traffic study.
- Drainage: Drainage plans are under review to ensure adequate stormwater management and proper drainage flow.

Attached are the supporting documents for the Commission for review.

The developer is currently negotiating a licensing agreement with the City for the use of the adjacent city property.

ATTACHMENTS:

ORN Aviary PAD R2_260819 (8.26.26), 22099-00_ORN Ex A -Legal Description_260819 (1), 22099-00_ORN Ex B -Application_260819, 22099-00_ORN Ex B Const Schedule_260819, 22099-00_ORN Ex B Cover Letter Aviary R2_260819, 22099-00_ORN Ex B Demolition_260819, 22099-00_ORN Ex B Elevations Rendering_260819, 22099-00_ORN Ex B Landscape Plans_260819, 22099-00_ORN Ex B Photometrics_260819, 22099-00_ORN Ex B Site Plan Aviary R2_260819, 22099-00_ORN Ex B Civil Plans_260820, Stephen Ray, P.E. (Update), 22099-00_ORN Ex B Site Plan Aviary R2_260819 (2), 22099-00_ORN Exhibit C -Use Tables_260819, Traffic Study, 22099-00_ORN Ex B TIA Aviary Bingle Rd_260818, Bingle Rd Retail LONO 082726 - FINAL

FUNDING:

Amount Available	Account No.	Additional Appropriation Required	Project No.	Amount Budgeted	Account Description

RECOMMENDATION:

Discussion item only. No action will be taken.

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SPRING VALLEY VILLAGE, TEXAS, AMENDING EXHIBIT A OF CHAPTER 12, PLANNING AND ZONING, OF THE CODE OF ORDINANCES OF THE CITY, EXHIBIT A BEING THE ZONING ORDINANCE OF THE CITY, BY AMENDING ORDINACE 2007-25, AND CREATING THE AVIARY PLANNED AREA DEVELOPMENT ("PAD") CONTAINING APPROXIMATELY 1.695 ACRES OF LAND LOCATED AT 1045 BINGLE ROAD BY PERMITTING TWO (2) TWO-STORY RETAIL SHELL BUILDINGS WITH CERTAIN RESTRICTIONS, REGULATIONS, AND REQUIREMENTS SUBJECT TO THE PROVISIONS CONTAINED IN THIS ORDINANCE; PROVIDING FOR SEVERABILITY; PROVIDING A SAVINGS CLAUSE AND AN EFFECTIVE DATE; AND PROVIDING A PENALTY IN AN AMOUNT NOT TO EXCEED $2,000.00 FOR ANY VIOLATION HEREOF, WITH EACH DAY CONSTITUTING A SEPARATE OFFENSE.

WHEREAS, Bingle Roop3K 001, LLC (the "Owner" and "Applicant"), owns a 1.695 acre tract of land, more or less, being located at 1045 Bingle Road (the "Property") within the corporate limits of the City of Spring Valley Village, Texas, said tract of land being more particularly described in Exhibit "A" attached hereto and made a part hereof for all purposes; and

WHEREAS, the Property is presently zoned Bingle West Planned Area Development District ("BWPADD") pursuant to the City's Zoning Ordinance, as amended; and

WHEREAS, the City's Code of Ordinances authorizes the City Council, in any ordinance granting approval of a Planned Area Development, to impose more stringent standards or conditions than required in Chapter 12 when necessary for the protection of adjacent properties and the public interest, and, in addition, to waive certain such requirements and conditions when it is demonstrated that adequate provisions have been

made for space, light and air, that the density of development is compatible with surrounding land uses, that pedestrian and vehicular traffic circulation systems are safe and efficient, that the developer will progress in orderly phases, and that public health, safety, and welfare will be protected; and

WHEREAS, the Owner, through its duly authorized representative, has presented an application for the City to approve a Planned Area Development ("PAD") called The Aviary Planned Area Development ("The Aviary PAD") consisting of a single two-story building located at the Property, with specific requests for: (i) an expanded list of permitted uses, including medical and health-care uses permitted on the ground floor (which the underlying BWPADD code restricts to upper floors only); (ii) a maximum building height of forty-five (45) feet (which exceeds the thirty-nine (39) foot limit set in Section 06P:07.07.01); (iii) off-street parking calculated under shared-parking percentage distribution, supplemented by ULI Shared Parking standards; (iv) two (2) curb cuts on Bingle Road and the existing access easement through the adjacent City parcel at West Memorial Park Drive, supported by a traffic study; (v) unrestricted on-premises alcohol sales; (vi) signage consistent with the City's standards for properties facing Interstate Highway 10; (vii) site-specific buffer zones and setbacks differing from the configurations prescribed in Section 06P:07.03; (viii) the future, conditional authorization of an enclosed outdoor patio of up to two thousand (2,000) square feet on the adjacent City parcel, contingent upon a separately executed license or use agreement with the City; (ix) cooperation with a potential future City hike and bike trail: and (iix) future use of shared parking agreement with adjacent property owners: and

WHEREAS, the Planning and Zoning Commission and the City Council have conducted, in the time and manner required by law and the Zoning Ordinance of the City, a public hearing on the proposed amendments for the 1.695 acre tract located at 1045 Bingle Road; and

WHEREAS, the City Council has considered the report of the Commission; and

WHEREAS, the City Council now deems it appropriate to adopt the amendments and to approve certain changes as an amendment to the City's Zoning Ordinance as provided herein;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SPRING VALLEY VILLAGE, TEXAS, THAT:

Section 1. The facts and matters set forth in the preamble of this Ordinance are hereby found to be true and correct and are incorporated herein for all purposes.

Section 2. The application of the Owner of the 1.695 acre tract located at 1045 Bingle Road (the "Property") for the creation of a Planned Area Development within the Bingle West Planned Area Development District with certain specific amendments is hereby approved subject to the regulations, restrictions, terms and conditions hereinafter set forth.

Section 3. Any changes adopted by this Ordinance are expressly for the use of this Owner as Applicant and are subject to the plans and specifications provided with the application, attached hereto as Exhibit "B." Any modifications or deviations from the plans

and specifications so provided, or any change in ownership, shall require a separate and distinct ordinance for approval by the City Council.

Section 4. This Ordinance shall in no manner amend, change, supplement, or revise any provision of any ordinance of the City, save and except the regulations, restrictions, terms and conditions provided for herein. When a conflict exists between the Comprehensive Zoning Ordinance and this Ordinance, this Ordinance shall prevail.

Section 5. The Aviary PAD use authorized and permitted hereby shall be, and is, subject to the following additional limitations, restrictions and covenants:

A. **Compliance with Application and Site Plans.**

The granting of The Aviary PAD shall be, and is hereby, conditioned upon the Property being used and the proposed improvements being located, constructed, and conducted upon the Property in substantial compliance with the application dated April 1, 2026 (the "Application"), including the description of the proposed use, the elevation plan and site plans, that are attached hereto as Exhibit "B" and made a part hereof for all purposes.

B. **Permitted Uses.**

The uses permitted within The Aviary PAD are those identified in the Permitted Use Table attached hereto as Exhibit "C," the restriction contained in Section 06P:07.08.01.02 limiting office and professional/personal service uses to upper floors only is expressly waived as to the health-care and medical uses identified

below, which shall be permitted on the ground floor or any upper floor of the buildings within The Aviary PAD.

In addition to the uses already codified in Section 06P:07.08.05 of the City's Code of Ordinances, the following uses shall also be permitted within The Aviary PAD:

Use Description	**NAICS Sector #**	
Other Schools and Instruction	6116	
Dance studios	611610	P
Aerobic dance and exercise instruction	611620	P
Yoga, Pilates, cycle, and similar fitness instruction	611699	P
Child Care Services	6244	
Day care centers, child or infant (including Montessori)	624410	P
Health Care and Social Assistance	62	
Offices of Physicians (except Mental Health Specialists)	621111	P
Offices of Physicians, Mental Health Specialists	621112	P
Offices of Dentists	621210	P
Offices of Chiropractors	621310	P
Offices of Optometrists	621320	P
Offices of Mental Health Practitioners (except Physicians)	621330	P
Offices of Physical, Occupational and Speech Therapists, and Audiologists	621340	P
Offices of Podiatrists	621391	P
Offices of All Other Miscellaneous Health Practitioners	621399	P
Diagnostic Imaging Centers	621512	P

Use Description	NAICS Sector #	
Home Health Care Services	621610	P
Arts, Entertainment, and Recreation	71	
Amusement Arcades	713120	P
Indoor putting facilities and golf simulators	713990	P
Fitness centers; yoga, Pilates, cycle and similar studios	713940	P
Accommodation and Food Services	72	
Cocktail lounges; drinking places; speakeasies	722410	P
Full-Service Restaurants	722511	P

Floor location. The non-medical uses identified in the table above (dance studios; fitness, yoga, Pilates, cycle and similar instructional and recreational uses; child care; amusement arcades; indoor putting and golf simulators; cocktail lounges, drinking places, speakeasies; and full-service restaurants) shall be permitted on either the first floor or the second floor of the buildings. The health-care and medical uses identified in the table above (NAICS Sector 62, including Offices of Physicians, Dentists, Chiropractors, Optometrists, Mental Health Practitioners, Physical/Occupational/Speech Therapists and Audiologists, Podiatrists, other miscellaneous Health Practitioners, Diagnostic Imaging Centers, and Home Health Care Services) shall be permitted on the ground floor and on any upper floor without floor-location restriction.

Prohibited uses retained. Except as expressly modified by this Ordinance, the categorical prohibitions set forth in Section 06P:07.08.03.02 of the City's Code of

Ordinances shall remain in full force and effect within The Aviary PAD, including without limitation the prohibition of drive-up and drive-thru service, outdoor commercial recreational facilities, distribution facilities, warehousing, industrial uses, and the storage or display of vehicles, rental equipment, or vehicle fleets.

C. **Building Height; Setbacks.**

1. **Height limitations.** Notwithstanding Section 06P:07.07.01 of the City's Code of Ordinances, which limits building height within the BWPADD to thirty-nine (39) feet to the top of the parapet, no building or structure within The Aviary PAD shall exceed forty-five (45) feet in height to the top of the parapet, exclusive of such appurtenances as antennae, water cooling towers, and mechanical equipment enclosures, which shall not exceed ten (10) feet in height above the roof and shall be located no closer than ten (10) feet to the building's external wall.

2. **Setbacks and Buffer Zones.** The setbacks and buffer zones for The Aviary PAD shall be in accordance with the site plan submitted as part of the Application and as further described in this Subsection. To the extent the following setbacks and buffer-zone configurations differ from the configurations prescribed in Section 06P:07.03 of the City's Code of Ordinances, such differences are expressly approved as deviations granted pursuant to the City Council's waiver authority under Section 06P:07.07.05, in recognition that the Property is bounded by commercial, religious-assembly, and natural watercourse adjacencies for which the standard

buffer configurations are not well-suited. In summary, the setbacks and buffer zones shall be as follows:

a. Northern Property Line (Eastern Segment). The building setback line shall be five (5) feet. The buffering shall be a ten (10) foot wall, non-continuous, with integrated landscaping.

b. Northern Property Line (Western Segment). The building setback line shall be five (5) feet. The buffering shall be an eight (8) foot tall wood fence with zero (0) foot landscape setback.

c. Western Property Line. The building setback line shall be fifty (50) feet. The buffering shall be an eight (8) foot tall wood fence with a five (5) foot landscape and parking setback.

d. Southern Property Line. The building setback line shall be twenty-five (25) feet. The buffering shall be a fifteen (15) foot landscape and parking setback with natural vegetation to remain as-is.

e. Eastern Property Line. The building setback line shall be zero (0) feet. The buffering shall be a zero (0) foot landscape setback. The intended use of the adjacent land is a City parcel used for parking.

f. Eastern Secondary Property Line. This is the proposed line between the current City parcel and the Bingle Road right-of-way. The building setback line shall be twenty-five (25) feet. The monument sign

setback shall be five (5) feet. The landscape and parking setback along Bingle Road shall be five (5) feet.

D. **Access; Parking.**

1. **Parking.** Pursuant to Section 06P:07.01 of the City's Code of Ordinances, The Aviary PAD shall encourage the use of joint parking facilities. The Aviary may use shared parking agreements with adjacent property owners. Off-street parking calculations shall supplement the Minimum Standards Off Street Parking Section 11:02.01 of the City's Code of Ordinances with an analysis of shared-parking percentage distribution as defined by the Third Edition, published by the Urban Land Institute, the National Parking Association, and the International Council of Shopping Centers. The shared-parking methodology shall be applied to determine the simultaneous peak demand across the mix of uses, and the resulting number shall constitute the required parking count for The Aviary PAD. This methodology shall be used for both stand alone site calculations and parking agreements with adjacent property owners.

2. **Access.** Consistent the City's Code of Ordinances, access to The Aviary PAD shall be from public streets and no access from Voss Road is authorized. The Property shall be permitted two (2) curb cuts (minimum 24' wide with 20' radius): (i) the existing access through the adjacent City parcel at West Memorial Park Drive, and (ii) a secondary curb cut along Bingle Road as detailed in the site plan attached as part of Exhibit "B." Both curb

cuts are subject to all applicable City and, where required, Harris County standards.

3. **Overnight parking.** Overnight parking is prohibited except for tenants' delivery vans or trucks in designated parking spaces only. Signs shall be posted and maintained prohibiting overnight parking.

4. **General hours of operation.** Except as otherwise provided herein, operating hours shall be 6:00 a.m. to 11:00 p.m. Monday through Sunday. Restaurants and cocktail lounges/drinking places shall be permitted to operate from 6:00 a.m. to 12:00 midnight Sunday through Thursday and from 6:00 a.m. to 2:00 a.m. Friday and Saturday.

5. **Initial construction activity.** Construction activity is permitted between 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. Saturday and Sunday. Emergency maintenance shall be excluded from these restrictions when delays would cause damage to property or persons or significant interruptions to business activity.

6. **Traffic Study**. A traffic study has been completed as part of this development. That traffic study is attached as Exhibit D and is incorporated as an integral part of this site development. Deviations from the recommendations of the traffic study are subject to the City's written approval.

E. **Signage.**

1. The Property may have two (2) monument signs, each with a total face area not to exceed one hundred (100) square feet (including base) and a maximum height of twelve (12) feet, located adjacent to Bingle Road as shown on the site plan attached as part of Exhibit "B," with one (1) monument sign at each entry point.

2. All signage shall comply with the City's signage standards in applicable to properties facing Interstate Highway 10 (I-10), as set forth in the Comprehensive Zoning Ordinance in Chapter 12 Section 10 - Signs and as further modified by this Ordinance.

3. The Property may have building wall signage in accordance with the City's sign regulations as set out in Chapter 12, Section 10 - Signs, including illuminated wall signage identifying tenants and uses on the Property.

4. All signage shall comply with the other ordinances of the City applicable to signage, except as expressly modified herein.

F. **Alcohol Sales.**

On-premises sale and consumption of alcoholic beverages shall be permitted without restriction in connection with the permitted uses listed in Exhibit "C," subject only to compliance with applicable State of Texas and Texas Alcoholic Beverage Commission ("TABC") requirements and licensing. The City has not adopted, and does not adopt herein, the regulation authorized by Section 109.33 of the Texas Alcoholic Beverage Code prohibiting the sale of alcoholic beverages

within three hundred (300) feet of a church, public school, public hospital, or day-care center, and no such proximity-based restriction shall apply to The Aviary PAD.

G. **Future Enclosed Outdoor Patio.**

1. **Conditional authorization.** No outdoor patio is established or permitted on the Property or on the adjacent City parcel by this Ordinance. The right to construct and operate an enclosed outdoor patio shall vest only upon, and shall be contingent upon, the execution of a license or other written use agreement between the Owner and the City of Spring Valley Village governing the Owner's use of a defined area of the adjacent City parcel (the "Licensed Area").

2. **Permitted location and accessory use status.** Upon execution of such license or use agreement, an enclosed outdoor patio shall be a permitted accessory use to a full-service restaurant (NAICS 722511) or to a cocktail lounge, drinking place, or speakeasy (NAICS 722410) authorized by Exhibit "C," and shall be located within the Licensed Area in a location and configuration approved by the City as part of the license or use agreement. Notwithstanding Section 06P:07.08.03.02 of the City's Code of Ordinances, the categorical prohibition on outdoor commercial recreational facilities shall not apply to an enclosed outdoor patio

3. **Enclosure required.** The patio shall be enclosed by walls, railings, decorative fencing, partial roof or canopy, or a combination thereof, in

accordance with plans approved by the City as part of the license or use agreement. A patio shall not be permitted without such enclosure.

4. **Maximum size.** The patio shall not exceed two thousand (2,000) square feet in total enclosed area.

5. **Hours of operation.** Notwithstanding the general hours of operation set forth in Subsection D.4 above, the patio shall not operate later than 11:00 p.m. Sunday through Thursday and shall not operate later than 12:00 midnight Friday and Saturday.

6. **Alcohol service.** On-premises sale and consumption of alcoholic beverages shall be permitted on the patio in connection with the permitted accessory restaurant or cocktail lounge use, subject only to compliance with applicable State of Texas and Texas Alcoholic Beverage Commission requirements and licensing, and consistent with Subsection F above.

7. **Lighting and noise.** The patio and its operation shall comply with the outdoor lighting standards set forth in Subsection I.3 below, including the reduced foot-candle limits applicable to the western side of the Property, and with the noise standards set forth in Subsection L below.

H. **Hike and Bike Trail.**

In the event the City of Spring Valley Village elects to construct a hike and bike trail in the vicinity of the Property, the Owner shall cooperate in good faith with the City and shall permit the future construction of such trail through the Property along

a route mutually acceptable to the Owner and the City, subject to reasonable easement terms to be agreed upon at that time. Nothing in this subsection shall obligate the Owner to construct the trail at its own expense.

I. **Landscape/Screening/Lighting.**

1. **Landscaping.** The Owner shall provide landscaping in substantial compliance with the landscape plan included in the Application, which shall reflect a quality and density of plant material commensurate with the character of the surrounding neighborhood. The landscaping and irrigation for the Property shall meet or exceed the requirements of the City's ordinances. Mature trees on the Property, including existing oak and cypress specimens along the Bingle Road frontage, shall be preserved to the maximum extent practicable and incorporated into the final site design. Along the Bingle Road frontage where head-in parking is proposed, the Owner shall install and maintain a continuous evergreen hedge of sufficient height and density at maturity to screen vehicle headlights and bumpers from view from Bingle Road, in a species and configuration approved by the City as part of the landscape plan.

2. **Landscape maintenance.** Landscape maintenance shall be permitted between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. Saturday and Sunday.

3. **Outdoor lighting.** Outdoor lighting shall be provided in substantial compliance with the photometric plan included in the Application. No

outdoor lighting shall be permitted to directly shine on any adjacent property. Lighting shall be placed and oriented to minimize indirect or reflected lighting onto adjacent properties. Shielding shall be installed as needed to insure compliance. Lighting levels in the parking lot shall average no more than eight (8) foot-candles; provided, however, that lighting levels in the parking areas on the western side of the Property, which is adjacent to the planned Dolphin Cove residential PADD, shall average no more than four (4) foot-candles in drive aisles during business hours. Lighting shall be reduced to an average of two (2) foot-candles after operating hours. All lighting shall be "white" metal halide or other color-corrected lighting. Light poles shall not exceed sixteen (16) feet in height and shall comply with the National Electric Code (current edition adopted by the City). No high-pressure sodium lighting is permitted.

J. **Drainage Systems.**

The Owner shall design and construct storm water drainage improvements in compliance with all applicable City ordinances and in substantial compliance with the Application, as approved by the City's Floodplain Administrator.

K. **Refuse; Building Maintenance; Deliveries.**

1. **Location.** Refuse containers and dumpsters shall be enclosed and located as shown on the site plan attached hereto as part of Exhibit "B."

2. **Pickup.** Refuse/dumpster containers shall only be picked up between 7:00 a.m. and 7:00 p.m. on weekdays and between 9:00 a.m. and 6:00 p.m. on weekends.

3. **Deliveries.** Deliveries are permitted from 7:00 a.m. to 7:00 p.m. Monday through Friday and from 9:00 a.m. to 6:00 p.m. Saturday and Sunday.

L. **Noise.**

All activities shall comply with the ordinances of the City applicable to noise and sounds, except that operating hours may be extended as provided above.

M. **Fire Sprinklers.**

All buildings shall be constructed with fire sprinklers as required by the City's ordinances.

Section 6. Conditional Approval. This Ordinance is conditioned on the approval of an Agreement between the City and the Developer/Owner as to the use of the City Property as described in the site plan, approved Utilities, Drainage, and Traffic Impact Study. Approval of this Ordinance does not approve the use of the City Property. Final approval shall be required for Utilities, Drainage, and functional Traffic Impact Analysis.

Section 7. In the event any section, paragraph, subdivision, clause, phrase, provision, sentence, or part of this Ordinance or the application of the same to any person or circumstance shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Ordinance as a

whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Spring Valley Village, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, or whether there be one or more parts.

Section 8. Any person who shall intentionally, knowingly, recklessly, or with criminal negligence violate any provision of this Ordinance shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined in an amount not to exceed $2,000.00. Each day of violation shall constitute a separate offense.

Section 9. Attached to this Ordinance are the following documents:

Exhibit A: Legal Description;

Exhibit B: The Application, including documentation; and

Exhibit C: Use Table – All Floors.

Exhibit D: Traffic Study

ADOPTED this _____ day of _____, 2026.

_____

David Dominy, Mayor

City of Spring Valley Village, Texas

ATTEST:

_____

Jasmin Torres, City Secretary

City of Spring Valley Village, Texas

EXHIBIT “A” LEGAL DESCRIPTION

STATE OF TEXAS
COUNTY OF HARRIS

We, Wallace Dillard & Marie Dillard, Owners hereinafter referred to as Owners (whether one or more) of the 1.695 acre tract described in the above and foregoing map of BRIAR BRANCH PARK do hereby make and establish said subdivision and development plan of said property according to all lines, dedications, restrictions, and notations on said maps or plat, and hereby dedicate to the use of the public forever, all streets (except those streets designated as private streets, or permanent access easements), alleys, parks, water courses, drains, easements, and public places shown thereon for the purposes and considerations therein expressed; and do hereby bind ourselves, our heirs, successors, and assigns to warrant and forever defend the title on the land so dedicated.

FURTHER, Owners have dedicated and by these presents do dedicate to the use of the public for public utility purpose forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional eleven feet, six inches (11' 6") for ten feet (10' 0") perimeter ground easements or seven feet, six inches (7' 6") for fourteen feet (14' 0") perimeter ground easements or five feet, six inches (5' 6") for sixteen feet (16' 0") perimeter ground easements, from a plane sixteen feet (16' 0") above the ground level upward, located adjacent to and adjoining said public utility easements that are designated with aerial easements (U.E. and A.E.) as indicated and depicted hereon, whereby the aerial easement totals twenty one feet, six inches (21' 6") in width.

FURTHER, Owners have dedicated and by these presents do dedicate to the use of the public for public utility purpose forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional ten feet (10' 0") for ten feet (10' 0") back-to-back ground easements, or eight feet (8' 0") for fourteen feet (14' 0") back-to-back ground easements or seven feet (7' 0") for sixteen feet (16' 0") back-to-back ground easements, from a plane sixteen feet (16' 0") above ground level upward, located adjacent to both sides and adjoining said public utility easements that are designated with aerial easements (U.E. and A.E.) as indicated and depicted hereon, whereby the aerial easement totals thirty feet (30' 0") in width.

FURTHER, Owners do hereby covenant and agree that all of the property within the boundaries of this plat is hereby restricted to prevent the drainage of any septic tanks into any public or private street, permanent access easement, road or alley, or any drainage ditch, either directly or indirectly.

FURTHER, Owners do hereby dedicate to the public a strip of land fifteen feet (15' 0") wide on each side of the center line of any and all bayous, creeks, gullies, ravines, draws, sloughs, or other natural drainage courses located in said plat, as easements for drainage purposes, giving the City of Spring Valley Village, Harris County, or any other governmental agency, the right to enter upon said easement at any and all times for the purpose of construction and maintenance of drainage facilities and structures.

FURTHER, Owners do hereby covenant and agree that all of the property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek, or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences, buildings, planting, and other obstructions to the operations and maintenance of the drainage facility and that such abutting property shall not be permitted to drain directly into this easement except by means of an approved drainage structure.

FURTHER, Owners hereby certify that this replat does not attempt to alter, amend, or remove any covenants or restrictions.

WITNESS our hand in the City of Spring Valley, Texas this ____ day of ____, 20__.

By: _____
Wallace Dillard, Owner

By: _____
Marie Dillard, Owner

STATE OF TEXAS
COUNTY OF HARRIS

BEFORE ME, the undersigned authority, on this day personally appeared Wallace and Marie Dillard, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and considerations therein expressed and in the capacity therein and herein stated, and as the act and deed of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this _____ day of _____, 20__

Signature:_____
Notary Public in and for the State of Texas
Printed Name:_____

My Commission expires: _____

I, Fred W. Lawton, am registered under the laws of the State of Texas to practice the profession of surveying and hereby certify that the above subdivision is true and accurate; was prepared from an actual survey of the property made under my supervision on the ground; that, except as shown all boundary corners, angle points, points of curvature and other points of reference have been marked with iron (or other objects of a permanent nature) pipes or rods having an outside diameter of not less than five eighths (5/8) inch and a length of not less than three (3) feet; and that the plat boundary corners have been tied to the Texas Coordinate System of 1983, south central zone.

STATE OF TEXAS
REGISTERED
FRED W. LAWTON
2321
PROFESSIONAL
LAND SURVEYOR

_____
Fred W. Lawton
Texas Registration No. 2321

This is to certify that the Planning and Zoning Commission of the City of Spring Valley Village, Texas has approved this replat and subdivision of _____as shown hereon.

In testimony whereof, witness this official signature of the Chairman of the Planning and Zoning Commission of the City of Spring Valley Village, Texas, this _____ day of _____ 20____.

By: _____
W.K. (Trey) Hoffman, Chairman
Planning and Zoning Commission
City of Spring Valley Village, Texas

This is to certify plans and specifications for all streets, drainage structures, sanitary sewer lines, water distribution lines and fire hydrants in the subdivision have been prepared in conformance with the standards of the City of Spring Valley Village, Texas and have been approved by me.

In testimony whereof, witness this official signature of the Public Works Director of the City of Spring Valley Village, Texas, this _____ day of _____ 20____.

_____
Arthur Faiello
Public Works Director
City of Spring Valley Village, Texas

This is to certify that the City Council of the City of Spring Valley Village, Texas has approved this replat and subdivision of _____ as shown hereon.

In testimony whereof, witness this official signature of the mayor of the City of Spring Valley Village, Texas, this _____ day of _____ 20____.

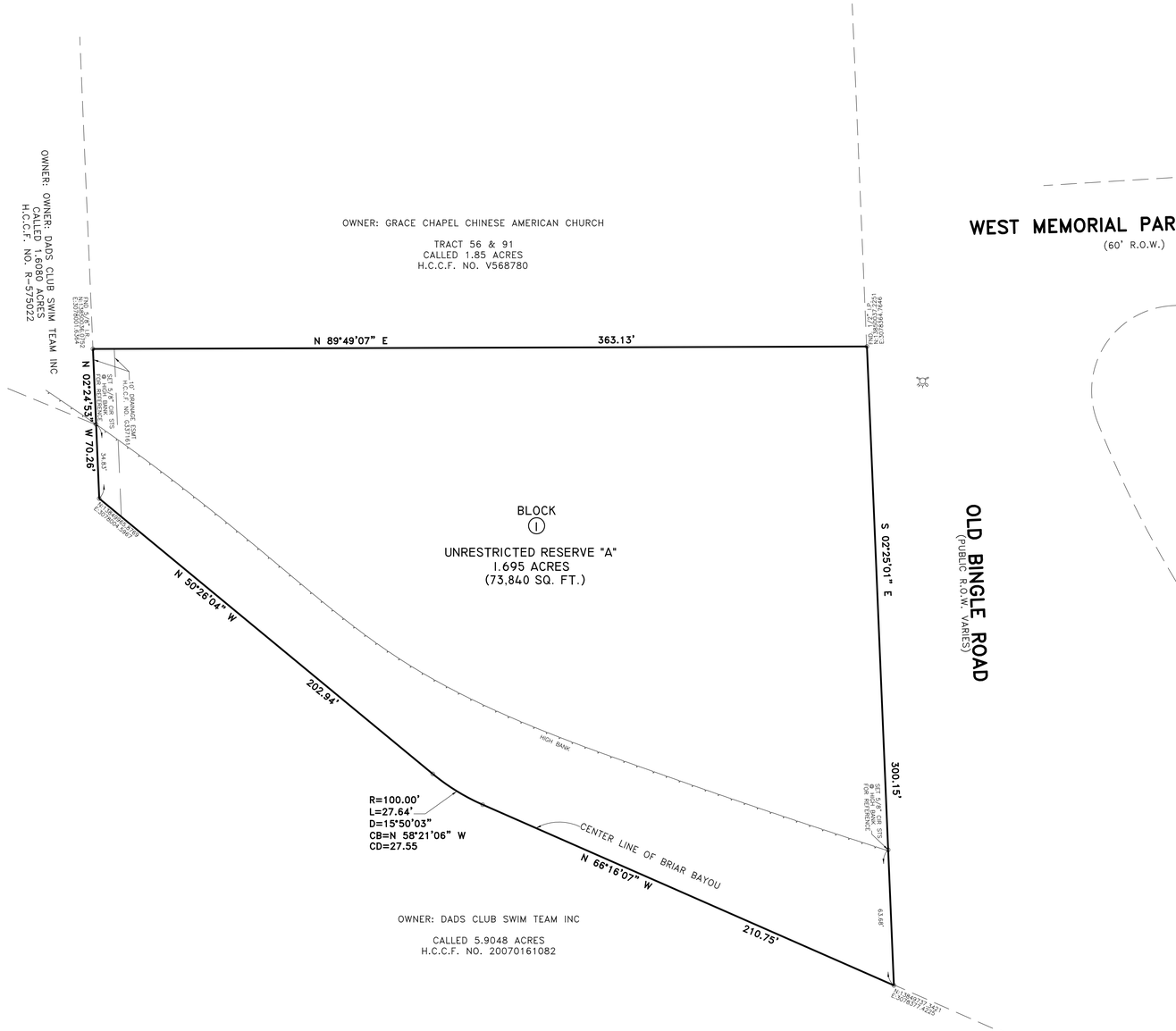
_____
Tom S. Ramsey, Mayor
City of Spring Valley Village, Texas

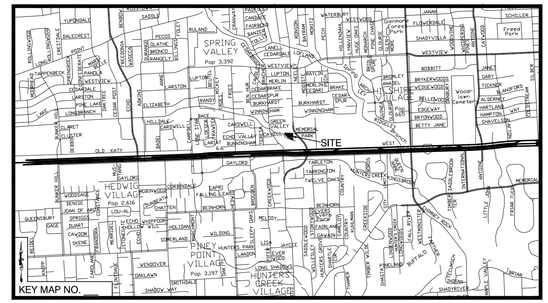
I, Diane Trautman, County Clerk of Harris County, do hereby certify that the within instrument with its certificate of authentication was filed for registration in my office on _____, 20____ at _____ o'clock ____M., and duly recorded on _____, 20____ at _____ o'clock ____M., and at Film Code Number _____ of the Map Records of Harris County for said county.

Witness my hand and seal of office, at Houston, the day and date last above written.

_____
Diane Trautman
County Clerk
Harris County, Texas

By: _____
Deputy





VICINITY MAP

NOT TO SCALE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

LEGEND:
SQ. FT. – SQUARE FEET
B.L. – BUILDING LINE
U.E. – UTILITY EASEMENT
R.O.W. – RIGHT OF WAY
H.C.C.F. – HARRIS COUNTY CLERKS FILE
H.C.M.R. – HARRIS COUNTY MAP RECORDS
VOL. – VOLUME
PG. – PAGE
FND – FOUND
IP – IRON PIPE
IR – IRON ROD
CIR – CAPPED IRON ROD
"STS" – STAMPED SOUTH TEXAS SURVEYING
– FIRE HYDRANT

NORTH

NOTES:

1. Unless otherwise indicated, the building lines [b.l.], whether one or more, shown on this subdivision plat are established to evidence compliance with the applicable provisions of Chapter 9, Code of Ordinances, City of Spring Valley Village, Texas, in effect at the time this plat was approved, which may be amended from time to time.

2. The Coordinates shown hereon are Texas South Central Zone no. 4204 State Plane Grid Coordinates (NAD83) and may be brought to surface by applying the following combined scale 0.9998944299536 2.

3. Absent written authorization by the affected utilities, all utility and aerial easements must be kept unobstructed from any non-utility improvements or obstructions by the property owner. Any unauthorized improvements or obstructions may be removed by any public utility at the property owner's expense. While wooden posts and paneled wooden fences along the perimeter and back to back easements and alongside rear lots lines are permitted, they too may be removed by public utilities at the property owner's expense should they be an obstruction. Public Utilities may put said wooden posts and paneled wooden fences back up, but generally will not replace with new fencing.

4. Pipeline right of way easement of undisclosed width and location in favor of Humble Pipe Line Company, as set forth instrument recorded in Volume 426, Page 48 of the Deed Records of Harris County, Texas. blanket not plottable.

BRIAR BRANCH PARK

1 BLOCK, 1 UNRESTRICTED RESERVE

A SUBDIVISION OF 1.695 ACRES (73,840 SQ. FT.) OF LAND BEING A REPLAT OF C.H. BINGLE SUBDIVISION IN THE A.H. OSBURNE SURVEY, HARRIS COUNTY, TEXAS, RECORDED IN VOLUME 998, PAGE 223 OF HARRIS COUNTY DEED RECORDS.

REASON FOR REPLAT:
TO CREATE 1 UNRESTRICTED RESERVE
SCALE: 1"= 30' DATE: 11/28/2018

OWNER: WALLACE & MARIE DILLARD
ADDRESS: P.O. BOX 7600
HOUSTON, TEXAS 77270

SOUTH TEXAS SURVEYING ASSOCIATES, INC.
11281 Richmond Ave. Bldg J, Suite 101, Houston, Texas 77082
281-556-6918 FAX 281-556-9331
Firm Number: 10045400

JOB: 2061-18

Copyright 2018 South Texas Surveying Associates, Inc.

K:\COMRES 2018\PLATS\2061-18.DWG (KT)

EXHIBIT "A"

A TRACT OF LAND CONTAINING 1.7961 ACRES OF LAND OUT OF C.H. BINGLE SUBDIVISION IN THE A.H. OSBURNE SURVEY, HARRIS COUNTY, TEXAS, RECORDED IN VOLUME 998, PAGE 223 OF HARRIS COUNTY DEED RECORDS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BASIS OF BEARING IS THE WEST RIGHT OF WAY LINE OF OLD BINGLE ROAD BEING SOUTH 00 DEGREES 02 MINUTES 52 SECONDS WEST.

BEGINNING AT A POINT AT THE INTERSECTION OF THE EXISTING CENTERLINE OF BRIAR BAYOU AND THE WEST RIGHT-OF-WAY OF OLD BINGLE ROAD;

THENCE ALONG THE CENTERLINE OF SAID BRIAR BAYOU AS OBSERVED THE FOLLOWING EIGHT (8) COURSES:

NORTH 68 DEGREES 02 MINUTES 09 SECONDS WEST, 71.99 FEET TO A POINT;

NORTH 55 DEGREES 16 MINUTES 52 SECONDS WEST, 31.93 FEET TO A POINT;

NORTH 40 DEGREES 10 MINUTES 14 SECONDS WEST, 64.61 FEET TO A POINT;

SOUTH 82 DEGREES 07 MINUTES 45 SECONDS WEST, 53.94 FEET TO A POINT;

NORTH 70 DEGREES 39 MINUTES 50 SECONDS WEST, 53.73 FEET TO A POINT;

NORTH 58 DEGREES 09 MINUTES 04 SECONDS WEST, 34.83 FEET TO A POINT;

NORTH 29 DEGREES 00 MINUTES 22 SECONDS WEST, 67.32 FEET TO A POINT;

NORTH 45 DEGREES 52 MINUTES 24 SECONDS WEST, 85.82 FEET TO A POINT;

THENCE NORTH 00 DEGREES 03 MINUTES 00 SECONDS EAST AT A DISTANCE OF 43.68 FEET PASS A 5/8 INCH
IRON ROD FOUND FOR REFERENCE, AND A TOTAL DISTANCE OF 79.93 FEET TO A 5/8 INCH IRON ROD FOUND FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE SOUTH 87 DEGREES 43 MINUTES 00 SECONDS EAST A DISTANCE OF 363.13 FEET TO A FOUND 1/2 INCH IRON PIPE FOR CORNER, BEING ALSO THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT ALSO LYING IN THE WEST RIGHT OF WAY LINE OF AFOREMENTIONED OLD BINGLE ROAD;

THENCE SOUTH 00 DEGREES 02 MINUTES 52 SECONDS WEST AT A DISTANCE OF 239.82 FEET PASS A 5/8 INCH IRON ROD FOUND FOR REFERENCE, AND A TOTAL DISTANCE OF 307.36 FEET TO THE POINT OF BEGINNING AND CONTAINING 1.7961 ACRES (78,236 SQUARE FEET) OF LAND, MORE OR LESS.

RP-2024-35876

County Clerk Harris County, Texas

HARRIS CENTRAL APPRAISAL DISTRICT
REAL PROPERTY ACCOUNT INFORMATION
0440340020400

Tax Year: 2026

Print

Owner and Property Information			
Owner Name & Mailing Address:	**BINGLE ROOP3K 001 LLC** **4001 W SAM HOUSTON PKWY N STE 140** **HOUSTON TX 77043-1236**	Legal Description:	**TR 56A** **ABST 610 A H OSBORNE**
		Property Address:	**1045 BINGLE RD** **HOUSTON TX 77055**

State Class Code	Land Use Code	Land Area	Total Living Area	Neighborhood	Neighborhood Group	Market Area	Map Facet	Key Map®
C3 -- Real, Vacant Lots/Tracts (Not in City)	1000 -- Residential Vacant	78,236 SF	0 SF	7813.04	25201	394 -- ISD 25 - Memorial Villages North of I-10	5058B	490D

Value Status Information

Value Status	Shared CAD
All Values Pending	No

Exemptions and Jurisdictions

Exemption Type	Districts	Jurisdictions	Exemption Value	ARB Status	2025 Rate	2026 Rate
None	025	SPRING BRANCH ISD	Pending	Pending	1.023100	
	040	HARRIS COUNTY	Pending	Pending	0.380960	
	041	HARRIS CO FLOOD CNTRL	Pending	Pending	0.049660	
	042	PORT OF HOUSTON AUTHY	Pending	Pending	0.005900	
	043	HARRIS CO HOSP DIST	Pending	Pending	0.187610	
	044	HARRIS CO EDUC DEPT	Pending	Pending	0.004798	
	080	CITY OF SPRING VALLEY	Pending	Pending	0.395000	

Texas law prohibits us from displaying residential photographs, sketches, floor plans, or information indicating the age of a property owner on our website. You can inspect this information or get a copy at **HCAD's information center at 13013 NW Freeway**.

Valuations

Value as of January 1, 2025			Value as of January 1, 2026		
	Market	Appraised		Market	Appraised
Land	1,661,335		Land		
Improvement	11,448		Improvement		
Total	1,672,783	1,672,783	Total	Pending	Pending

Land

Market Value Land												
Line	Description	Site Code	Unit Type	Units	Size Factor	Site Factor	Appr O/R Factor	Appr O/R Reason	Total Adj	Unit Price	Adj Unit Price	Value

1	1000 -- Res Vacant Table Value	SF5	SF	10,000	1.00	1.00	0.55	--	0.55	Pending	Pending	Pending
2	1000 -- Res Vacant Table Value	SF2	SF	10,000	1.00	1.00	0.55	--	0.55	Pending	Pending	Pending
3	1000 -- Res Vacant Table Value	SF3	SF	58,236	1.00	0.50	0.50	--	0.25	Pending	Pending	Pending

Building

Vacant (No Building Data)

EXHIBIT “B” APPLICATION AND DOCUMENTATION

EST. 1955
SPRING VALLEY
VILLAGE

CITY OF SPRING VALLEY VILLAGE

Plat / General Plan Submittal Application

(Please type or print legibly)

Fees: Plat or Replat Application - $500
Specific Use Permit Application - $500
Planned Area Development District (PADD) Application - $7,000
Amendment to Planned Area Development District (PADD) Application - $1,000

Submittal Requirements Checklist:

Fifteen (15) packets, each one shall include all of the items listed below:

- [x] Application
- [x] Letter stating the applicant's reasons for request, the type of request, and other pertinent information
- [x] Letter from property owner
- [x] Proof of ownership
- [ ] Metes and bounds of the site and county slide number of plat (if recorded)
- [x] Scale drawings, on 24" x 36" paper (1" = 100'), blue line/black line copies of plat, re-plat or amending plat, and a vicinity/key map
- [ ] A pdf of the entire packet submitted to secretary@springvalleytx.com

Subdivision / Development Name: The Aviary - 1045 Bingle

Geographical Location: 1045 Bingle Road, Houston, TX 77055
(List specific address, major streets, bayous, creeks, and adjacent subdivisions)

Is the location listed belong to a Homeowner's Assocation (HOA)? Yes / (No) (Circle One)

Name of Homeowner's Assocation: N/A

Have you received approval from the Homeowner's Association? Yes / No (Circle One)

Survey/Abstract No.: A.H. Osbourne Survey , Abstract 610

Reason for Replat or Amending Plat: Bingle West Planned Area Development District

Submittal Type:
- [ ] Preliminary Plat
- [ ] Final Plat
- [ ] Amending Plat
- [ ] Preliminary Replat
- [ ] Final Replat
- [ ] Specific Use Permit
- [ ] Specific Use Permit Amendment

Type of Plat:
- [ ] Single Family Residential
- [ ] Zero Lot Line Patio Homes
- [ ] Planned Area Development District
- [ ] Planned Area Development

X Amendment to Planned Area Development

Plat/PADD Data:

Total Acreage: 1.695 Typical Lot Size: _____

Number Lots: 1 Number of Streets: _____

Numbers and Types of Reserves: 1 Total Acres in Reserve: 1.695

Zoning District: Bingle West Planned Area Development District

Applicant: Identity Architects

Contact Name: Gerard Hillsman

Address: 111 Travis Street, Houston, TX 77002

Phone: 713-595-2164 Fax: _____

Email: ghillsman@identityarchitects.com

Owner: BINGLE ROOP3K 001 LLC

Contact Name: Keenon Rayner

Address: 4001 W Sam Houston Pkwy N Ste 140, Houston, TX 77043

Phone: 713-595-2150 Fax: _____

Email: kr@identityarchitects.com

Engineer or Planner: ALJ Lindsey

Contact Name: Brett Hanrahan

Address: 18635 N Eldridge Pkwy, Suite 200, Tomball, TX 77377

Phone: 281-766-3675 Fax: _____

Email: bhanrahan@aljlindsey.com

Authorization:

My signature below certifies that I am authorized to submit this application and that the information on the application is COMPLETE, TRUE, and CORRECT. **Furthermore, I understand that, in accordance with Chapter 9, Article 9.303 of the Spring Valley Village Code of Ordinances, I am responsible for all engineering fees incurred by the City.**

Gerard Hillsman 4/1/2026

Applicant's Signature **Date**

identity
ARCHITECTS

22099-07 The Aviary (Draft Schedule)

	Task Name	Construction Status	Status	% Complete	Actual Start Date	Actual Finish Date	Duration
	Project Name - The Aviary		---	**0%**	**11/02/26**	**08/06/27**	**200d**
	CONSTRUCTION SCHEDULE		---	0%	11/02/26	08/06/27	200d
1	Site Preparation & Foundation		---	0%	11/02/26	01/29/27	65d
2	Mobilization & Demolition		Not Started	0%	11/02/26	11/06/26	5d
3	Clear and Grubbing		Not Started	0%	11/02/26	11/06/26	5d
4	Storm Water Pollution Prevention (SWPP)		Not Started	0%	11/02/26	11/02/26	1d
5	Earthwork Grading		Not Started	0%	11/09/26	12/01/26	17d
6	Detention Pond		Not Started	0%	11/09/26	11/30/26	16d
7	Building Pad Prep		Not Started	0%	11/30/26	12/02/26	3d
8	Site Underground Utilities		---	0%	11/02/26	11/20/26	15d
9	Storm System		Not Started	0%	11/09/26	11/13/26	5d
10	Sanitary Sewer		Not Started	0%	11/09/26	11/17/26	7d
11	Fire Water		Not Started	0%	11/09/26	11/17/26	7d
12	Domestic Water Line Install		Not Started	0%	11/09/26	11/16/26	6d
13	City Utility Taps		Not Started	0%	11/09/26	11/20/26	10d
14	Underground Electrical		Not Started	0%	11/09/26	11/13/26	5d
15	Gas Line		Not Started	0%	11/02/26	11/02/26	1d
16	Building Footings & Foundation		Not Started	0%	12/02/26	12/10/26	7d
17	Retaining Wall Construction		Not Started	0%	11/30/26	12/11/26	10d
18	Building Underground Utilities		Not Started	0%	12/02/26	12/15/26	10d
19	Building Slab Pouring		Not Started	0%	12/16/26	12/18/26	3d
20	Site Stabilization		Not Started	0%	12/15/26	01/07/27	18d
21	Courtyard		Not Started	0%	01/06/27	01/19/27	10d
22	Irrigation Sleeves		Not Started	0%	01/05/27	01/07/27	3d
23	Dumpster Encolusre		---	0%	12/15/26	12/23/26	7d
24	Piers		Not Started	0%	12/15/26	12/21/26	5d
25	Bollards		Not Started	0%	12/21/26	12/23/26	3d
26	Site Paving (Prep & pour)		Not Started	0%	01/09/27	01/29/27	16d
27	Site Electrical		Not Started	0%	01/27/27	01/29/27	3d
28	Structural & Enclosure		---	0%	01/25/27	05/31/27	91d
29	Steel Erection		Not Started	0%	01/25/27	02/19/27	20d
30	2nd Floor Decking		Not Started	0%	02/21/27	03/02/27	8d
31	2nd Floor Prep & Pour		Not Started	0%	03/02/27	03/08/27	5d
32	Exterior Framing		Not Started	0%	03/08/27	03/26/27	15d
33	Sheathing		Not Started	0%	03/28/27	04/08/27	10d
34	Roofing Installation		Not Started	0%	04/07/27	04/20/27	10d
35	Exterior Building Finishes		---	0%	04/21/27	05/04/27	10d
36	Stucco		Not Started	0%	04/21/27	05/04/27	10d
37	Exterior wall System		Not Started	0%	04/21/27	05/04/27	10d
38	Storefront Installation		Not Started	0%	05/04/27	05/24/27	15d
39	Overhead Plumbing & Electrical Rough-in		Not Started	0%	04/28/27	05/04/27	5d
40	Building Electrical Service		Not Started	0%	03/01/27	03/26/27	20d
41	Canopy Finishes		Not Started	0%	05/04/27	05/24/27	15d
42	Building Lighting Installation		Not Started	0%	05/04/27	05/31/27	20d
43	Final Finishes & Project Closeout		---	0%	12/14/26	08/06/27	170d
44	Building Sidewalks / Ramps		Not Started	0%	03/26/27	04/15/27	15d
45	Landscape & Irrigation		---	0%	12/14/26	06/24/27	139d
46	Irrigation		Not Started	0%	12/14/26	12/25/26	10d
47	Landscaping		Not Started	0%	06/04/27	06/24/27	15d
48	Paving Striping Paint and Signage		---	0%	06/25/27	07/07/27	9d
49	Paving Striping Paint		Not Started	0%	06/25/27	06/29/27	3d
50	Signage		Not Started	0%	07/01/27	07/05/27	3d
51	Traffic Signs		Not Started	0%	07/06/27	07/07/27	2d
52	Site Lighting Installation		Not Started	0%	07/11/27	07/29/27	15d
53	Final Cleaning		Not Started	0%	08/01/27	08/03/27	3d
54	Punch Walk		Not Started	0%	08/06/27	08/06/27	1d

Bingle Rook3K LLC.

4001 W. Sam Houston Pkwy N.

Ste. 140,

Houston TX 77043

August 19, 2026

Planning and Zoning Commission

City Council, City of Spring Valley Village

1025 Campbell Road

Houston, Texas 77055

Re: Application for Planned Area Development — The Aviary

1045 Bingle Road; Bingle West Planned Area Development District (BWPADD)

Dear Mayor Dominy, Members of the Planning and Zoning Commission, and Members of the City Council:

I am Keenon Rayner, founder of Identity Architects. For more than twenty-three years our firm and our integrated partners — Identity Built and Detail Placemakers — have delivered community-centered projects across more than one hundred twenty municipalities. We are pleased to submit this application for **The Aviary**, a two-story mixed-use development on the 1.695-acre tract at 1045 Bingle Road, within the Bingle West Planned Area Development District.

The Aviary is designed as a neighborhood destination — a curated mix of retail, restaurant, medical office, and small-format wellness and recreational uses, organized around a courtyard with mature-tree retention and pedestrian-scaled circulation. Engineering is at 60 percent, architectural construction documents are at 40 percent, and the traffic study, photometric plan, landscape plan, and metes-and-bounds are complete. We are prepared to commence construction in 2026.

The Specific Requests

This application seeks approval of a Planned Area Development that adopts the BWPADD framework with the deviations enumerated below. Each deviation is requested under the City Council's established authority to waive requirements of the underlying BWPADD regulations upon finding that adequate

provisions have been made for space, light and air; that the density of development is compatible with surrounding land uses; that pedestrian and vehicular traffic circulation is safe and efficient; that the developer will progress in orderly phases; and that public health, safety, and welfare will be protected. We respectfully submit that the site plan, traffic study, and supporting materials enclosed with this application support each of those findings.

1. **Medical and Health-Care Uses on the Ground Floor.**

   The underlying BWPADD regulations restrict office and professional/personal service uses to upper floors only. We request a waiver of this restriction **for medical and health-care uses within NAICS Sector 62** — including offices of physicians, dentists, chiropractors, optometrists, mental-health practitioners, physical/occupational/speech therapists, podiatrists, other health practitioners, diagnostic imaging centers, and home health-care services — so that these uses may occupy either the ground floor or any upper floor. The neighborhood demand for accessible outpatient care is well-documented, and ground-floor medical office is functionally indistinguishable from ground-floor retail in terms of pedestrian activity, parking demand, and visual character.

2. **Expanded Permitted-Use List.**

   In addition to the uses already codified for the BWPADD, we request the following uses be permitted on the first or second floor of the building: dance studios; aerobic, yoga, Pilates, cycle, and similar fitness instruction, with no square-footage cap; child care and Montessori day care; amusement arcades; indoor putting facilities and golf simulators (indoor only); cocktail lounges, drinking places, and speakeasies; and full-service restaurants. The categorical prohibitions in the BWPADD code — including drive-thru service, outdoor commercial recreation, distribution, warehousing, and vehicle storage — remain unaffected by this request and are expressly retained.

3. **Building Height of Forty-Five (45) Feet.**

   The BWPADD limits buildings to thirty-nine (39) feet to top of parapet. We request approval of a forty-five (45) foot maximum to permit generous ground-floor ceiling heights appropriate to retail, restaurant, and medical tenants. The average building height under our current design is approximately forty-two (42) feet, with peaks reaching forty-five (45) feet only at limited corner elements. The increase is modest, contained within the building envelope shown on the site plan, and does not create shading or sight-line impacts on adjacent properties.

4. **Off-Street Parking; Shared Parking.**

   The Aviary will encourage the use of joint parking facilities consistent with the BWPADD's purpose. We propose that off-street parking be calculated by supplementing the City's minimum-standards off-street parking requirements with a shared-parking percentage-distribution analysis under *Shared Parking, Third Edition* (Urban Land Institute, National Parking Association, and International Council of Shopping Centers). The shared-parking methodology would be applied to determine the simultaneous peak demand across the tenant mix, and the resulting number would constitute the required parking count. The same methodology would apply to any shared-parking agreements the Owner enters into with adjacent property owners. The tenant mix of retail, medical, restaurant, and

evening-leaning entertainment generates non-overlapping peak demands, which is precisely the condition shared parking is designed to address.

5. Two Curb Cuts on the Property.

The BWPADD prohibits access from Voss Road and otherwise leaves access subject to the Council's approval of the PAD. We request authorization for **two curb cuts**, each a minimum of twenty-eight (28) feet wide with a twenty (20) foot radius: (i) the existing access easement through the adjacent City parcel at West Memorial Park Drive, and (ii) a secondary curb cut along Bingle Road at the location of an existing median break. The enclosed traffic study, submitted as part of the application package and proposed for inclusion as Exhibit D to the Ordinance, demonstrates that the secondary curb cut distributes traffic, reduces queueing, and does not adversely affect Bingle Road traffic flow. Both curb cuts will conform to applicable City and Harris County standards.

6. Unrestricted On-Premises Alcohol Sales.

The Aviary will host full-service restaurants and a cocktail lounge or speakeasy concept. We request that on-premises sale and consumption of alcoholic beverages be permitted without restriction, subject only to State of Texas and Texas Alcoholic Beverage Commission licensing. The City of Spring Valley Village has not adopted the optional three-hundred-foot proximity regulation authorized by the Texas Alcoholic Beverage Code, and we respectfully ask the Council to confirm in the Ordinance that no such proximity-based restriction will apply to The Aviary.

7. Signage Consistent with I-10-Facing Standards.

Given the Property's setback from Bingle Road, its proximity to Interstate 10, and the proposed two-entry configuration, we request that signage be governed by the City's standards applicable to properties facing I-10. Specifically, we propose two (2) monument signs — one per entry — each not exceeding one hundred (100) square feet of face area and twelve (12) feet in height, with locations shown on the site plan. Building-wall signage would follow the City's standard sign regulations, including illuminated tenant identification.

8. Site-Specific Setbacks and Buffer Zones.

The BWPADD prescribes standard buffer-zone configurations built around a ten (10) foot wall with a fifty-, twenty-five-, or fifteen-foot vegetative buffer. The Property is bounded by a church (commercial / SUP), a future residential PADD to the west, Briar Branch to the south, and the City parcel to the east. The standard configurations are not well-suited to this set of adjacencies. The site plan submitted with this application sets out property-line-specific setbacks and buffers tailored to each condition — generous landscape buffers and fencing against the future residential PADD, natural vegetation to remain along Briar Branch, and no buffer between commercial uses where none is required. We request the Council's approval of these site-specific configurations as a permitted deviation from the standard BWPADD buffer requirements.

9. Future Enclosed Outdoor Patio (Contingent on City License).

Several restaurant and lounge operators we have spoken with have expressed strong interest in an outdoor dining component. The natural location for such a patio is within the adjacent City parcel, which lies between the building and Bingle Road. We are not asking the City to grant any rights to that parcel through this PAD Ordinance — the parcel's use will be the subject of a separate license or use agreement to be negotiated with City staff. We are asking only that this Ordinance **reserve the right** for an enclosed outdoor patio on terms that would activate only if and when such a license is executed. Specifically: the patio (i) would be an accessory use to a permitted full-service restaurant or cocktail lounge, (ii) would be enclosed by walls, railings, decorative fencing, or partial canopy per plans approved by the City, (iii) would not exceed 2,000 square feet, (iv) would close no later than 11:00 p.m. Sunday through Thursday and midnight Friday and Saturday — tighter than the general operating hours in deference to the future Dolphin Cove residential PADD to the west, and (v) would be subject to the lighting and noise standards otherwise applicable to the PAD. Reserving these terms now rather than through a future ordinance amendment lets the City and the Owner negotiate the license agreement administratively when the time is right, rather than reopening the public-hearing process.

10. Cooperation with a Future Hike and Bike Trail.

If, at any time, the City of Spring Valley Village elects to construct a hike and bike trail in the vicinity of the Property, the Owner will cooperate in good faith and permit construction of such a trail across the Property along a mutually acceptable route, subject to reasonable easement terms. The Owner is not asking the City to require, and is not committing to fund, such a trail — only to keep the door open for future regional connectivity.

Acknowledgment of Conditional Approval

We understand and accept that approval of the Ordinance will be conditioned on subsequent City approval of (i) a separate agreement between the City and the Owner regarding the use of the adjacent City parcel as described in the site plan, and (ii) the utilities plan, drainage plan, and traffic impact analysis. We are committed to progressing these items in coordination with City staff on a timeline that supports the overall project schedule.

Meeting the Findings the City Council Must Make

The deviations requested above are modest, geographically contained, and grounded in the design realities of this specific 1.695-acre site. The enclosed site plan, traffic study, and exhibits demonstrate that:

- adequate provisions have been made for space, light, and air through generous setbacks against the future residential PADD and the courtyard-centered building arrangement;
- the density of development is compatible with surrounding land uses — a church, a future residential PADD, an aquatic center, and a City parking parcel — none of which is sensitive to the scale or use mix proposed;

- pedestrian and vehicular traffic circulation is safe and efficient, as confirmed by the traffic study and the redundancy of the two-curb-cut configuration;
- the developer will progress in orderly phases, with construction commencing in 2026 against the schedule attached as a supplement to this letter; and
- public health, safety, and welfare are protected by the retention of all categorical prohibitions in the BWPADD code and by the design standards reflected in the site plan.

We have invested substantial time and expense in bringing The Aviary to this stage and are prepared to engage constructively with City staff, the Commission, and the Council on any aspect of this application. We respectfully request a recommendation of approval from the Planning and Zoning Commission and adoption of the corresponding Ordinance by the City Council.

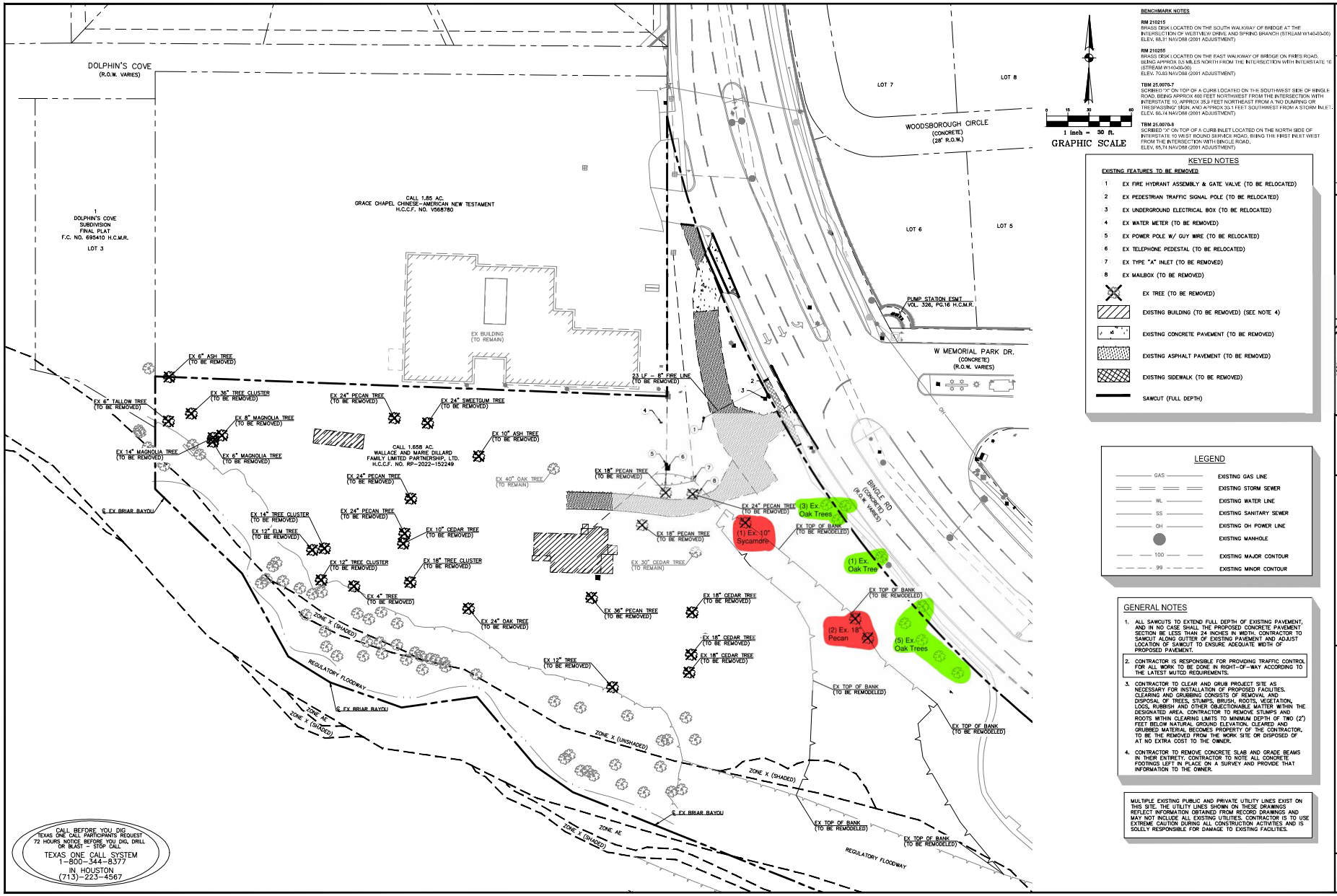
Thank you for your consideration.

Respectfully,

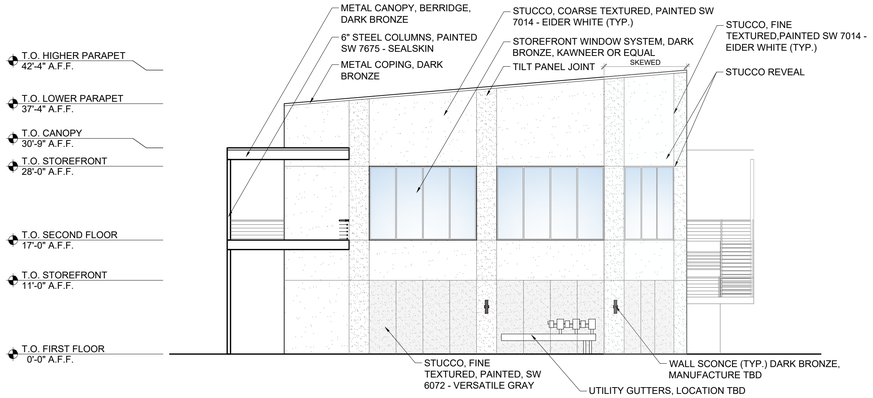
Keenon Rayner, AIA, IIDA

Member

Bingle Rook3K LLC

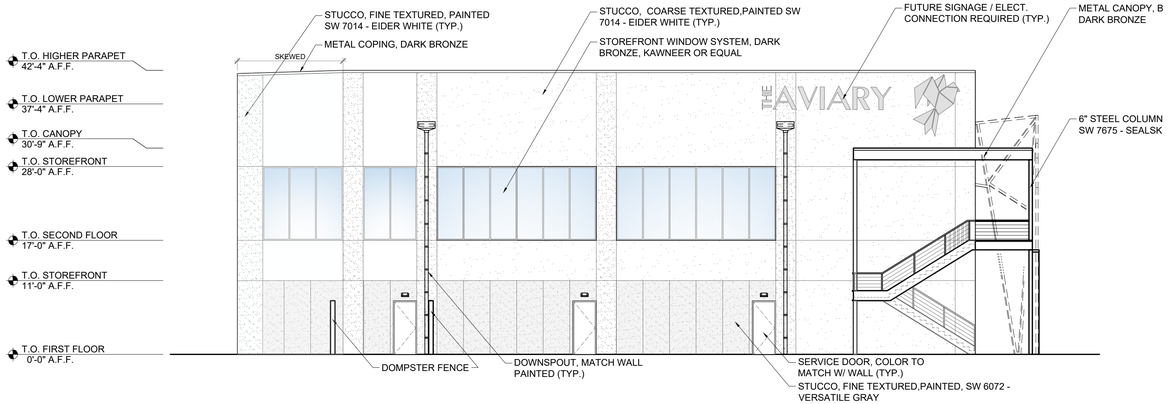

DOLPHIN'S COVE
(R.O.W. VARIES)
1
DOLPHIN'S COVE
SUBDIVISION
FINAL PLAT
F.C. NO. 695410 H.C.M.R.
LOT 3
CALL 1.85 AC.
GRACE CHAPEL CHINESE-AMERICAN NEW TESTAMENT
H.C.C.F. NO. V568780
EX BUILDING
(TO REMAIN)
CALL 1.658 AC.
WALLACE AND MARIE DILLARD
FAMILY LIMITED PARTNERSHIP, LTD.
H.C.C.F. NO. RP-2022-152249
LOT 7
LOT 8
LOT 6
LOT 5
WOODSBOROUGH CIRCLE
(CONCRETE)
(28' R.O.W.)
PUMP STATION ESMT
VOL. 326, PG.16 H.C.M.R.
W MEMORIAL PARK DR.
(CONCRETE)
(R.O.W. VARIES)
BINGLE RD
(CONCRETE)
(R.O.W. VARIES)
23 LF - 8" FIRE LINE
(TO BE REMOVED)
EX 6" ASH TREE
(TO BE REMOVED)
EX 36" TREE CLUSTER
(TO BE REMOVED)
EX 24" PECAN TREE
(TO BE REMOVED)
EX 24" SWEETGUM TREE
(TO BE REMOVED)
EX 6" TALLOW TREE
(TO BE REMOVED)
EX 8" MAGNOLIA TREE
(TO BE REMOVED)
EX 10" ASH TREE
(TO BE REMOVED)
EX 14" MAGNOLIA TREE
(TO BE REMOVED)
EX 6" MAGNOLIA TREE
(TO BE REMOVED)
EX 24" PECAN TREE
(TO BE REMOVED)
EX 40" OAK TREE
(TO REMAIN)
EX 18" PECAN TREE
(TO BE REMOVED)
℄ EX BRIAR BAYOU
EX 14" TREE CLUSTER
(TO BE REMOVED)
EX 24" PECAN TREE
(TO BE REMOVED)
EX 12" ELM TREE
(TO BE REMOVED)
EX 10" CEDAR TREE
(TO BE REMOVED)
EX 12" TREE CLUSTER
(TO BE REMOVED)
EX 18" TREE CLUSTER
(TO BE REMOVED)
EX 30" CEDAR TREE
(TO REMAIN)
EX 18" PECAN TREE
(TO BE REMOVED)
EX 4" TREE
(TO BE REMOVED)
EX 24" OAK TREE
(TO BE REMOVED)
EX 36" PECAN TREE
(TO BE REMOVED)
EX 18" CEDAR TREE
(TO BE REMOVED)
EX 18" CEDAR TREE
(TO BE REMOVED)
EX 18" CEDAR TREE
(TO BE REMOVED)
EX 19" TREE
(TO BE REMOVED)
EX 24" PECAN TREE
(TO BE REMOVED)
(3) Ex. Oak Trees
(1) Ex. 12" Sycamore
EX TOP OF BANK
(TO BE REMODELED)
(1) Ex. Oak Tree
(2) Ex. 18" Pecan
(5) Ex. Oak Trees
ZONE X (SHADED)
ZONE X (UNSHADED)
ZONE AE
REGULATORY FLOODWAY
1 inch = 30 ft.
GRAPHIC SCALE
BENCHMARK NOTES
RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)
RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)
TBM 25.0076-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTH-WEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.5 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 33.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)
TBM 25.0076-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)
KEYED NOTES
EXISTING FEATURES TO BE REMOVED
1 EX FIRE HYDRANT ASSEMBLY & GATE VALVE (TO BE RELOCATED)
2 EX PEDESTRIAN TRAFFIC SIGNAL POLE (TO BE RELOCATED)
3 EX UNDERGROUND ELECTRICAL BOX (TO BE RELOCATED)
4 EX WATER METER (TO BE REMOVED)
5 EX POWER POLE W/ GUY WIRE (TO BE RELOCATED)
6 EX TELEPHONE PEDESTAL (TO BE RELOCATED)
7 EX TYPE "A" INLET (TO BE REMOVED)
8 EX MAILBOX (TO BE REMOVED)
EX TREE (TO BE REMOVED)
EXISTING BUILDING (TO BE REMOVED) (SEE NOTE 4)
EXISTING CONCRETE PAVEMENT (TO BE REMOVED)
EXISTING ASPHALT PAVEMENT (TO BE REMOVED)
EXISTING SIDEWALK (TO BE REMOVED)
SAWCUT (FULL DEPTH)
LEGEND
GAS EXISTING GAS LINE
EXISTING STORM SEWER
WL EXISTING WATER LINE
SS EXISTING SANITARY SEWER
OH EXISTING OH POWER LINE
EXISTING MANHOLE
100 EXISTING MAJOR CONTOUR
99 EXISTING MINOR CONTOUR
GENERAL NOTES
1. ALL SAWCUTS TO EXTEND FULL DEPTH OF EXISTING PAVEMENT, AND IN NO CASE SHALL THE PROPOSED CONCRETE PAVEMENT SECTION BE LESS THAN 24 INCHES IN WIDTH. CONTRACTOR TO SAWCUT ALONG GUTTER OF EXISTING PAVEMENT AND ADJUST LOCATION OF SAWCUT TO ENSURE ADEQUATE WIDTH OF PROPOSED PAVEMENT.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL FOR ALL WORK TO BE DONE IN RIGHT-OF-WAY ACCORDING TO THE LATEST MUTCD REQUIREMENTS.
3. CONTRACTOR TO CLEAR AND GRUB PROJECT SITE AS NECESSARY FOR INSTALLATION OF PROPOSED FACILITIES. CLEARING AND GRUBBING CONSISTS OF REMOVAL AND DISPOSAL OF TREES, STUMPS, BRUSH, ROOTS, VEGETATION, LOGS, RUBBISH AND OTHER OBJECTIONABLE MATTER WITHIN THE DESIGNATED AREA. CONTRACTOR TO REMOVE STUMPS AND ROOTS WITHIN CLEARING LIMITS TO MINIMUM DEPTH OF TWO (2') FEET BELOW NATURAL GROUND ELEVATION. CLEARED AND GRUBBED MATERIAL BECOMES PROPERTY OF THE CONTRACTOR. TO BE THE REMOVED FROM THE WORK SITE OR DISPOSED OF AT NO EXTRA COST TO THE OWNER.
4. CONTRACTOR TO REMOVE CONCRETE SLAB AND GRADE BEAMS IN THEIR ENTIRETY. CONTRACTOR TO NOTE ALL CONCRETE FOOTINGS LEFT IN PLACE ON A SURVEY AND PROVIDE THAT INFORMATION TO THE OWNER.
MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.
CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST
72 HOURS NOTICE BEFORE YOU DIG, DRILL
OR BLAST - STOP CALL
TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567
No.
REVISIONS
DATE
ALJ PROJECT NO.
022.25.CV.620
DATE: MARCH 2026
SCALE: 1:XX
DRAWN BY: SRH
CHECKED BY: BTH
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
10 MARCH 2026
DEMOLITION PLAN
BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055
SHEET
C0.3


THE AVIARY
THE BURGER BARN
Central Office
Zen Spa
Art Gallery
DENTIX
BARBER
Crema Coffee
CRAFT CLOSET
22099-04
identity
ARCHITECTURE



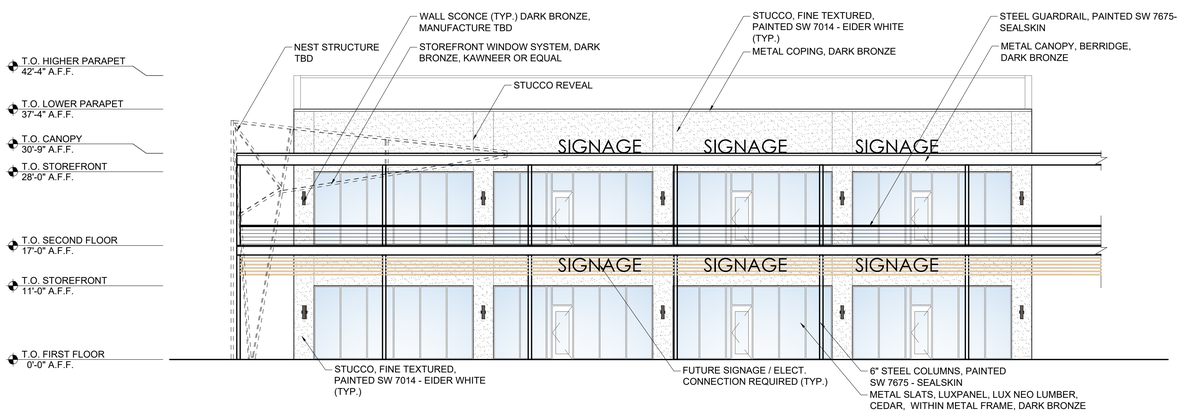
03 WEST ELEVATION

Scale: 3/32" = 1'-0"



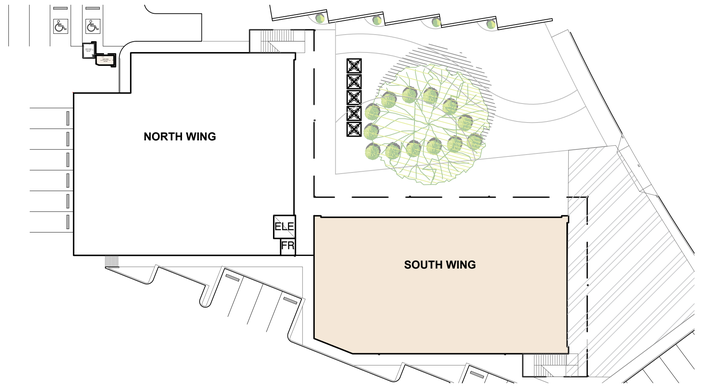
02 SOUTH ELEVATION (FACING I-10)

Scale: 3/32" = 1'-0"



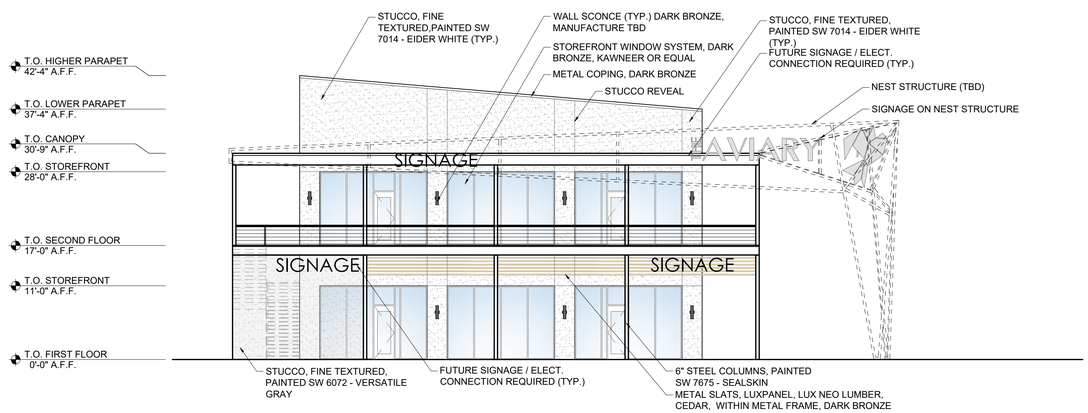
01 NORTH ELEVATION (FACING COURTYARD)

Scale: 3/32" = 1'-0"



05 KEY PLAN

Scale: NTS



04 EAST ELEVATION (FACING BINGLE RD)

Scale: 3/32" = 1'-0"

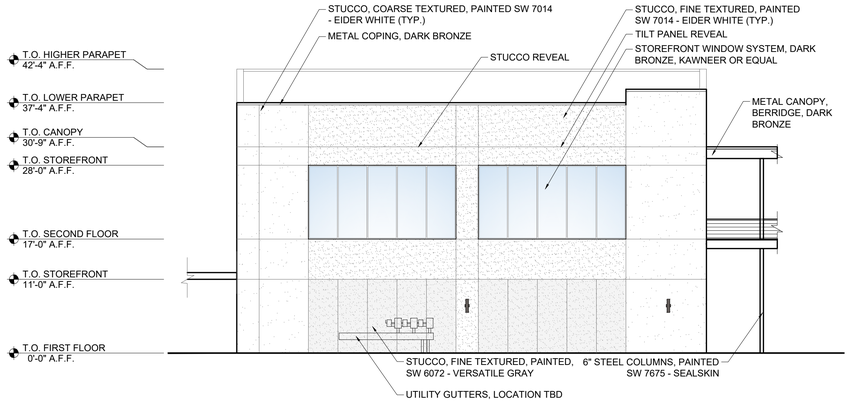
PRELIMINARY ELEVATIONS (SOUTH WING)

May 19, 2026
THE AVIARY
1045 BINGLE RD.
HOUSTON, TX 77055
22099-03_ELEV.dwg 6:54 PM

Scale: 3/32" = 1'-0"

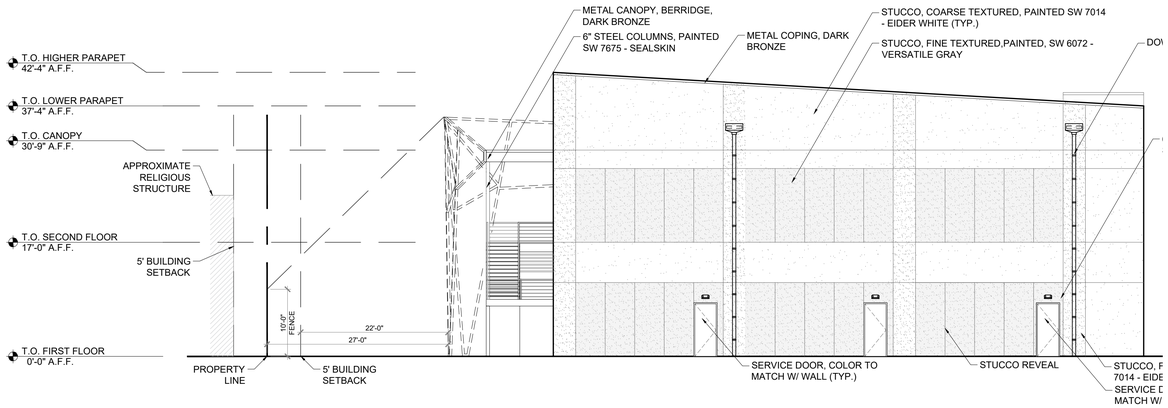
0 5' 10' 20'

N:\DA\22099-00_NWQ Bingle I-10\22099-03_NWQ Bingle I-10 SD\200 SD\250 ELEVATIONS\22099-03_ELEV.dwg plotted by Nakia Alomaja on 2026-05-19 at 6:54 PM



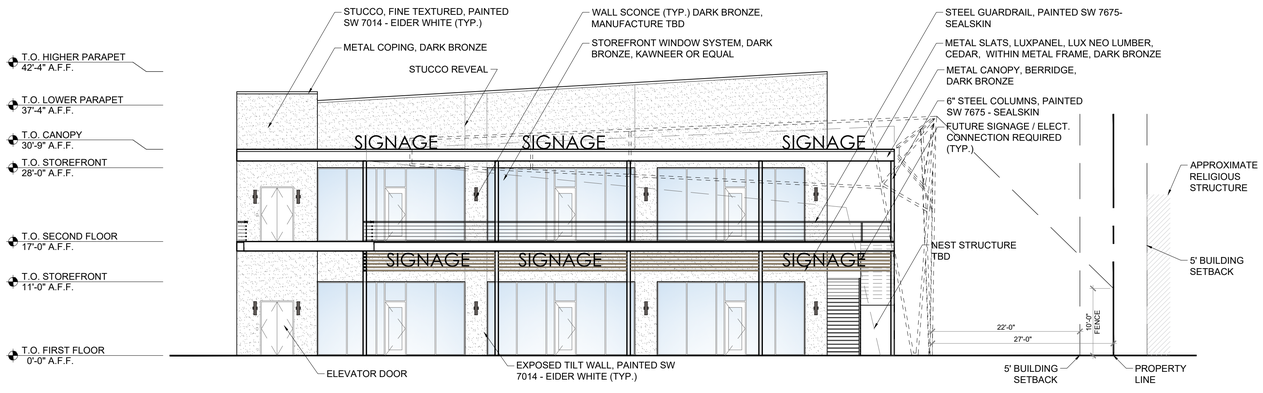
03 SOUTH ELEVATION (FACING I-10)

Scale: 3/32" = 1'-0"



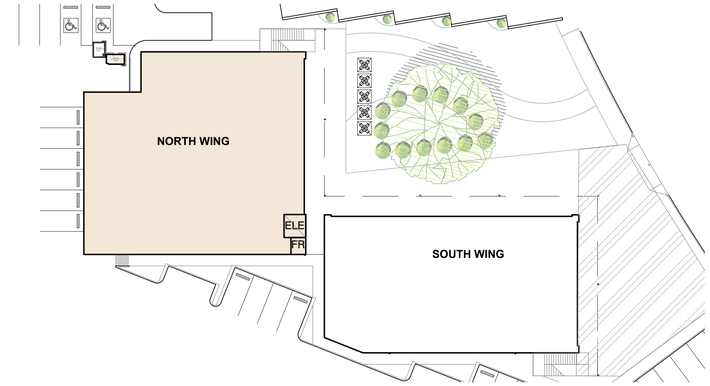
02 WEST ELEVATION & SIGHT DIAGRAM

Scale: 3/32" = 1'-0"



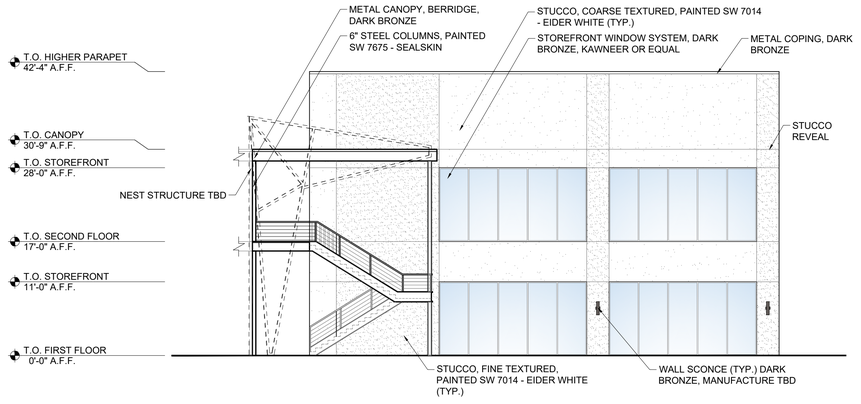
01 EAST ELEVATION & SIGHT DIAGRAM (FACING COURTYARD)

Scale: 3/32" = 1'-0"



05 KEY PLAN

Scale: NTS



04 NORTH ELEVATION (FACING CHURCH)

Scale: 3/32" = 1'-0"

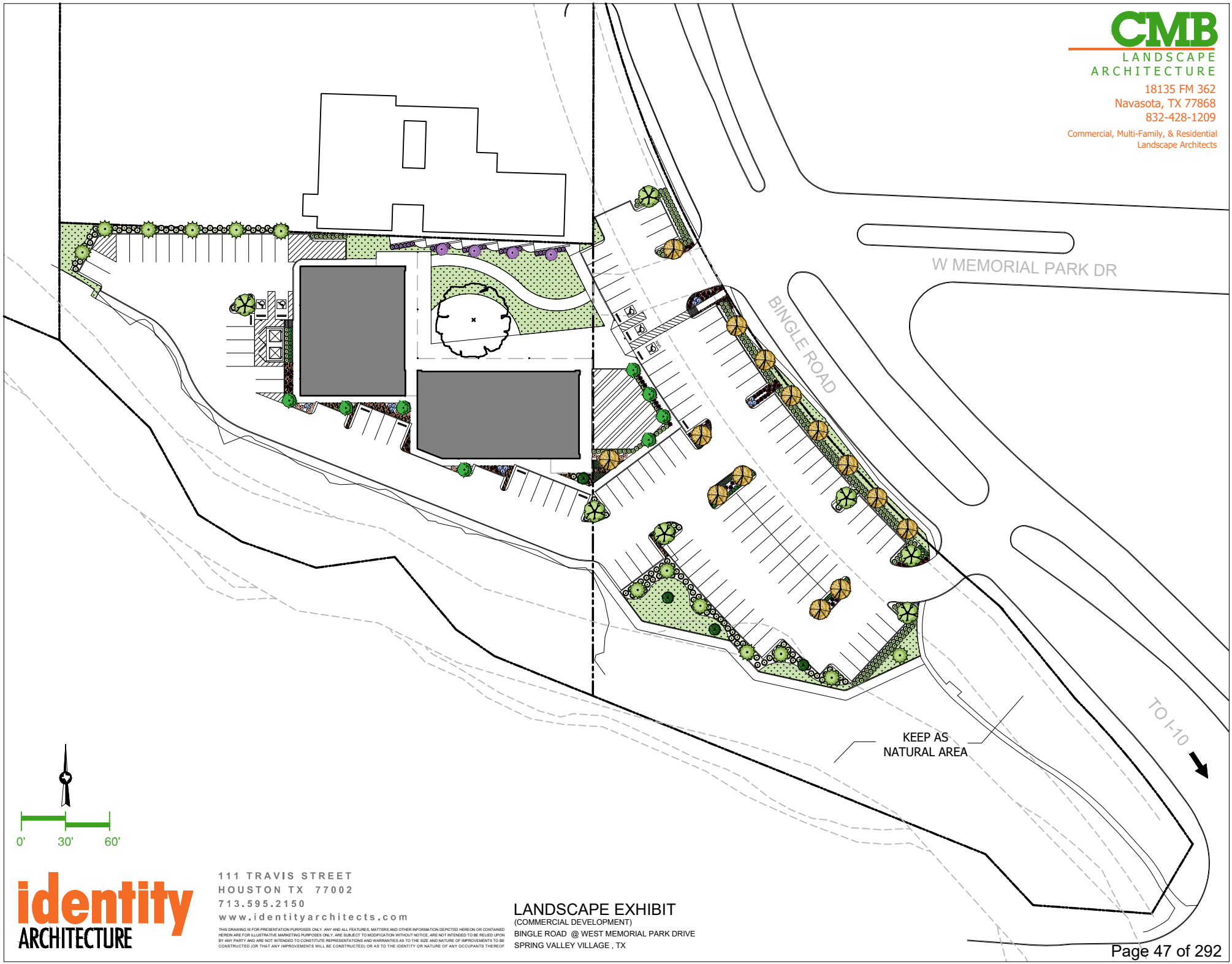
PRELIMINARY ELEVATIONS (NORTH WING)

August 20, 2026
THE AVIARY
1045 BINGLE RD.
HOUSTON, TX 77055
22099-03_ELEV.dwg 3:02 PM

Scale: 3/32" = 1'-0"

0 5' 10' 20'

N:\DA\22099-00_NWQ Bingle I-10\22099-03_NWQ Bingle I-10 SD\200 SD\250 ELEVATIONS\22099-03_ELEV.dwg plotted by Nakia Alomaja on 2026-08-21 at 3:02 PM



CMB
LANDSCAPE
ARCHITECTURE
18135 FM 362
Navasota, TX 77868
832-428-1209
Commercial, Multi-Family, & Residential
Landscape Architects

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LANDSCAPE EXHIBIT

(COMMERCIAL DEVELOPMENT)
BINGLE ROAD @ WEST MEMORIAL PARK DRIVE
SPRING VALLEY VILLAGE , TX

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PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
	4	Chilopsis linearis	Desert Willow 'Bubba'	8` Ht.	2" cal. Container Grown; Texas Native
	4	Ilex vomitoria 'Pride of Houston'	Pride of Houston Yaupon Holly	8` Ht.	45gal, 2.5" Total cal. :Multi-trunk; TREE FORM; Texas Native
	8	Ilex x attenuata 'Eagleston'	Eagleston Holly	8` Ht.	45gal, 2" cal.; TREE FORM; Texas Native Hybrid
	13	Pinus taeda	Loblolly Pine	65 gal.	2" cal. DBH. 12'ht, 6'sprd specimen quality; StraightTrunk, Symmetrical Head Texas Native
	7	Quercus virginiana	Live Oak	65 gal.	2" cal. DBH. 12'ht, 6'sprd specimen quality; StraightTrunk, Symmetrical Head Texas Native
	14	Taxodium mucronatum	Montezuma Cypress	65 gal.	2" cal. DBH. 12'ht, 6'sprd specimen quality; StraightTrunk, Symmetrical Head Texas Native
SHRUBS					
	59	Hesperaloe parviflora	Red Yucca	3 gal.	Texas Native
	51	Ilex vomitoria 'Nana'	Dwarf Yaupon Holly	3 gal.	Texas Native
	31	Leucophyllum frutescens 'Green Cloud'	Green Cloud Texas Sage	3 gal.	Texas Native
	30	Malvaviscus drummondii	Turk's Cap	3 gal.	Texas Native
	53	Moraea iridioides	Butterfly Iris	3 gal.	
	156	Muhlenbergia capillaris 'Gulf Coast'	Gulf Muhly Grass	3 gal.	Texas Native
	310	Myrica cerifera	Wax Myrtle	3 gal.	Texas Native
	16	Yucca recurvifolia	Soft Leaf Yucca	3 gal.	Texas Native
GROUND COVERS					
	8,122 sf	Cynodon dactylon 'Tif 419'	Tif 419 Bermudagrass	SOD	
	100	Trachelospermum asiaticum	Asian Jasmine	1 gal.	

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Desert Willow 'Bubba'
Chilopsis linearis



Eagleston Holly
Ilex x attenuata 'Eagleston'

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Live Oak
Quercus virginiana



Loblolly Pine
Pinus taeda

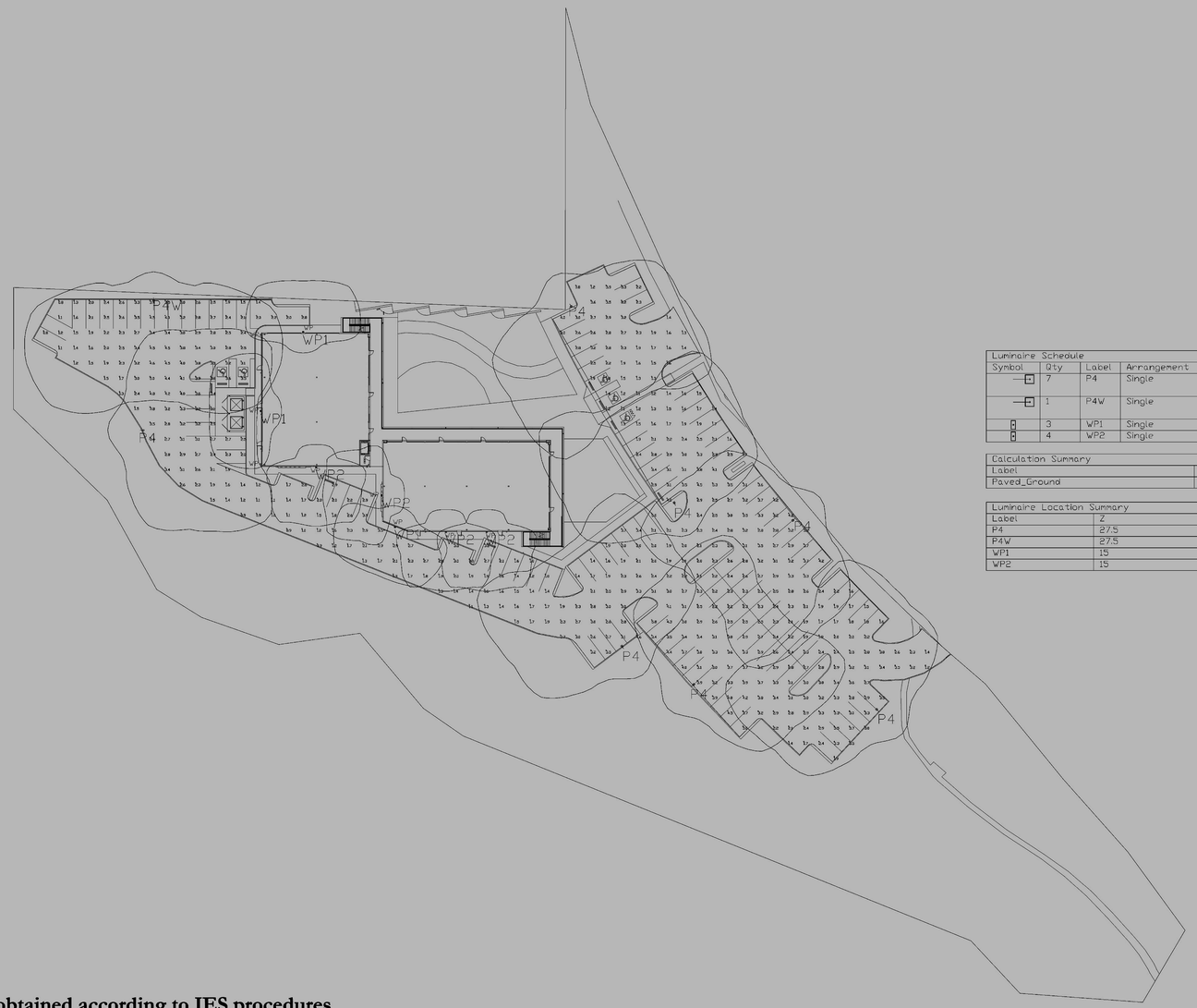
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Ilex vomitoria 'Pride of Houston'
Pride of Houston Yaupon Holly



Montezuma Cypress
Taxodium mucronatum


WP1
WP1
WP2
WP2
WP2
WP2
P4
P4
P4

Project		Catalog #		Type	Fixture Type A
Prepared by		Notes		Date	



Metalux

Vaportite LED

2' and 4' Industrial LED
Vaportite Industrial

Typical Applications

Parking Garage • Cold Storage • Canopy • Warehouse • Food Processing • Manufacturing • Complex Environments

Interactive Menu

- Order Information page 2
- Photometric Data page 3
- Product Warranty

Product Certification

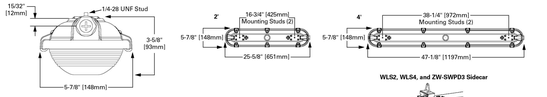
Product Features

Connected Systems · LINEAR DISCONNECT (Switches power, not electronics. Designed to provide safe and convenient means of disconnecting power) · Wet location · BAA

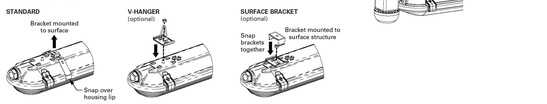
Top Product Features

- Compact and durable fiberglass reinforced polyester housing
- Precision optics in general, wide, or parking garage distribution
- High Impact Polycarbonate optical lens
- Available in 2ft and 4ft, with lumen packages up to 8,000 lumens
- Wet Location and IP67 Listed
- Impact protection rating IK07 Lens and IK07 Housing
- Options to meet Buy American and other domestic preference requirements

Dimensional, Mounting Details



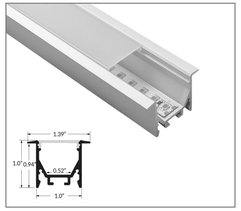
Installation Data



LLI ARCHITECTURAL LIGHTING

PROJECT	
SKU	Fixture Type B
QUANTITY	DATE

ICON 1 FLANGED EXTRUSION + LED TAPELIGHT



5 YEAR LIMITED WARRANTY · cULus · DIMMABLE · ASSEMBLED IN THE USA

SPECIFICATIONS

FINISH	Silver Anodized
LENS	Frosted
WATTAGE	1.5W/ft to 7.6W/ft
IP RATING	IP20 dry, IP65 wet, IP68 wet
CCT / COLOR	2200K - 5200K; RGB; RGBW; tunable white; warm fade
BEAM SPREAD	100°
INPUT VOLTAGE	24VDC
LENGTH	Made to order. Actual lengths vary by LED tapelight cutpoints.
OUTPUT	76 to 421 lm/ft
LEDS	Single binned LEDs +/- 30-70 CCT, MacAdam 3 SDCM
MATERIAL	Extrusion - Anodized aluminum; Lens - Polycarbonate
MOUNTING	Mounting clips recommended
POWER SUPPLY	Requires a 24V power supply ~ see page 5
WARRANTY	IP20 - 5 year limited, IP65/68 - 3 year limited

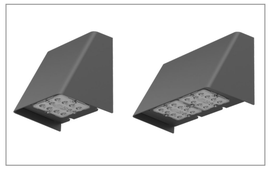
FEATURES & RECOMMENDED APPLICATIONS

Modular extrusion with a frosted lens that provides a dot-free line of light. Pre-assembled corners available for making turns in a variety of applications, such as general lighting, accents, displays, shelving, and signage.



PRODUCT: LLI-IC1F-SF-H3.5W-40K-24V-94IN

Project		Catalog #		Type	Fixture Type C
Prepared by		Notes		Date	



McGraw-Edison

GKO Gekko

Wall Mount Luminaire

Product Features

Product Certifications

Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Optical Configurations page 3
- Energy and Performance Data page 4
- Control Options page 10

Quick Facts

- Available in small and medium housing sizes
- Choice of 5 optical distributions
- 11 lumen packages from 750 up to 13,500
- Efficacies up to 169 lumens per watt

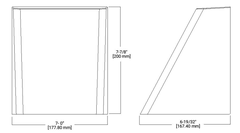
Connected Systems

- WaveLinx PRO Wireless
- WaveLinx LITE Wireless

Dimensional Details

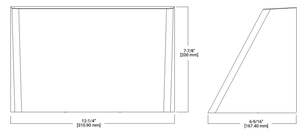
PB1

Net Weight: 6.0 lbs (2.7 kg)



PB2

Net Weight: 10.6 lbs (4.8 kg)



NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

STATE OF TEXAS
STEVEN A. FREDERICKS
108587
LICENSED PROFESSIONAL ENGINEER
02/25/2026

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NO.	DATE	REVISION ISSUE
	02.25.26	ISSUE FOR PERMIT

PROJECT NAME AND ADDRESS:

THE AVIARY

1045 BINGLE RD.

DRAWN: **Author** CHECKED: **Checker**

REFERENCE NUMBER: **22099-07**

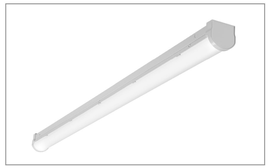
TITLE:

ELECTRICAL CUTSHEETS

DRAWING NUMBER:

E3.02

Project		Catalog #		Type	Fixture Type D
Prepared by		Notes		Date	



Metalux

SLSTP Lensed LED

Lensed LED Striplight

Typical Applications

Commercial • Industrial • Retail • Residential

Interactive Menu

- Order Information page 2
- Photometric Data page 3
- Control Solutions page 4
- Product Warranty

Product Certification

Product Features

damp location · MWS CLICK HERE · LINEAR DISCONNECT (Switches power, not electronics. Designed to provide safe and convenient means of disconnecting power) · DIMMABLE 0-10V

Top Product Features

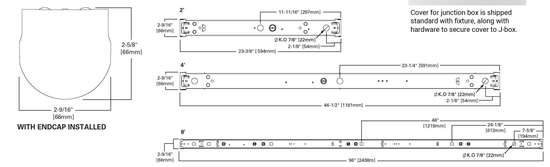
- From 2800 to 6200 lumens for a 4 foot strip
- 8ft. 4ft. and 2ft. Lengths with single lens (no tandem) to address any application
- Up to 125 LPW and DLC compliant to enable rebates and energy savings
- Frost white polycarbonate lens, linear prisms for even illumination
- 4000K and 5000K CCT, 80 CRI Min

J-box Cover and Endcap included



Cover for junction box is shipped standard with fixture, along with hardware to secure cover to J-box.

Dimensional and Mounting Details



Project		Catalog #		Type	Fixture Type P3, P4, P4W, P5
Prepared by		Notes		Date	



McGraw-Edison

GALN Galleon II

Area / Site Luminaire

Product Features

Product Certifications

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 5
- Product Specifications page 5
- Energy and Performance Data page 6
- Control Options page 17

Quick Facts

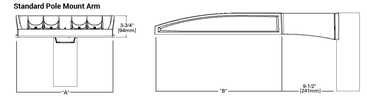
- Lumen packages range from 3,300 - 102,700 (33W - 658W)
- 22 optical distributions
- Efficacy up to 178 LPW

Connected Systems

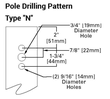
- Wavelinx LITE Wireless
- Wavelinx PRO Wireless
- AirMesh Wireless

Dimensional Details

Standard Pole Mount Arm



Pole Drilling Pattern Type "N"



Number of Light Squares	Width "A"	Housing Length "B"	Weight with Standard or QM Arm	EPA with Standard or QM Arm
1-4	16"	22"	29 lb	0.95
5-6	22"	22"	39 lb	0.95
7-9	22"	28-1/8"	48 lb	1.1

NOTES: For arm selection requirements and additional line art, see Mounting Details section.

NOTES:
1. IDA Certified (3000K CCT and warmer only, fixed mounting options).

Project		Catalog #		Type	Fixture Type WP
Prepared by		Notes		Date	



McGraw-Edison

GWC Galleon Wall

Wall Mount Luminaire

Product Features

Product Certifications

Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Optical Configurations page 3
- Energy and Performance Data page 4
- Control Options page 6

Quick Facts

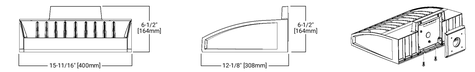
- Choice of thirteen high-efficiency, patented AccuLED Optics
- Downward and inverted wall mounting configurations
- Eight lumen packages from 3,215 up to 17,056
- Efficacies up to 154 lumens per watt

Connected Systems

- WaveLinx PRO Wireless
- WaveLinx LITE Wireless

Dimensional Details

Net Weight: 17.0 lbs (7.7 kgs)



GWC with CBP option installed
(Thru-Branch Back Box accessory MA1059XX)

GWC with accessory BB/GWCXX Back Box installed



NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

2/27/2026 3:33:49 PM
C:\Users\Michael Saldana\Documents\125186 IDA NWQ Bingle I-10 Retail MEP Model R24 C_msaldanaKZ3LJ.rvt

PANELBOARD: **HB**
LOCATION: EXTERIOR
480 | 277 | VOLT (L-L / L-N) | 3 PH 4 W 100% NEUTRAL
100 | AMP PANEL | WITH COPPER EQUIPMENT GROUND BAR
60 | AMP MAIN BREAKER

MOUNTING: SURFACE
ENCLOSURE: NEMA 3R
AIC RATING 42,000

WIRE SIZE*	KVA	LOAD DESCRIPTION	AMP / P	CKT	PHASE A	PHASE B	PHASE C	CKT	AMP / P	LOAD DESCRIPTION	KVA	WIRE SIZE*
2#10,#10G,3/4"C	0.60	Site Lighting	20 / 1	1	X			2		Space		
2#10,#10G,3/4"C	0.60	Site Lighting	20 / 1	3		X		4		Space		
2#10,#10G,3/4"C	0.14	Exterior Lighting	20 / 1	5			X	6		Space		
2#10,#10G,3/4"C	0.84	Exterior Lighting	20 / 1	7	X			8		Space		
		Space		9		X		10		Space		
		Space		11			X	12		Space		
		Space		13	X			14		Space		
		Space		15		X		16		Space		
		Space		17			X	18		Space		
		Space		19	X			20		Space		
		Space		21		X		22		Space		
		Space		23			X	24		Space		

* ALL BRANCH CIRCUITS ARE 2#12, #12G THWN-2 CU, 1/2"C MINIMUM UNLESS OTHERWISE NOTED

LIGHTING (KVA)	RCPT (KVA)	MOTORS (KVA)	FIXED ELEC HTG (KVA)	KITCHEN EQUIP(KVA)	OTHER EQUIP (KVA)	PHASE	CONNECTED LOAD (KVA)	PANEL DESIGN LOAD KVA	PANEL DESIGN LOAD AMPS
1.44	0.00	0.00	0.00	0.00	0.00	A	1.44	1.79	6
0.60	0.00	0.00	0.00	0.00	0.00	B	0.60	0.75	3
0.14	0.00	0.00	0.00	0.00	0.00	C	0.14	0.17	1
2.17	0.00	0.00	0.00	0.00	0.00	TOTAL	2.17	2.72	3
125%	+	100% (125%OF LARGEST)	100%	100%	100%	DESIGN FACTORS (+ = FIRST 10KVA @ 100%, BAL @ 50% PROP.)			

NOTES:

IMMEDIATELY DOWNSTREAM ELECTRICAL EQUIPMENT CONNECTED LOADS (KVA):							LOAD DESCRIPTION:	DESIGN LOAD:	
						-	PANEL LB	0.00	0
						-		0.00	0
						-		0.00	0
						-		0.00	0
2.17	0.00	0.00	0.00	0.00	0.00		**TOTAL DESIGN LOAD:**	2.72	3

PANELBOARD: **HA**
LOCATION: EXTERIOR
480 | 277 | VOLT (L-L / L-N) | 3 PH 4 W 100% NEUTRAL
200 | AMP PANEL | WITH COPPER EQUIPMENT GROUND BAR
150 | AMP MAIN BREAKER

MOUNTING: SURFACE
ENCLOSURE: NEMA 3R
AIC RATING 42,000

WIRE SIZE*	KVA	LOAD DESCRIPTION	AMP / P	CKT	PHASE A	PHASE B	PHASE C	CKT	AMP / P	LOAD DESCRIPTION	KVA	WIRE SIZE*
3#12, 1#12G,	9.43	Elevator	70 / 3	1	X			2		Space		
1/2"C	9.43	-	- / -	3		X		4		Space		
-	9.43	-	- / -	5			X	6		Space		
		Shunt Trip	- - -	7	X			8		Space		
	3.30	EUH-1	20 / 1	9		X		10		Space		
	3.30	EUH-1	20 / 1	11			X	12		Space		
2#10,#10G,3/4"C	0.40	Site Lighting	20 / 1	13	X			14		Space		
2#10,#10G,3/4"C	0.17	Exterior Lighting	20 / 1	15		X		16		Space		
2#10,#10G,3/4"C	0.39	Exterior Lighting	20 / 1	17			X	18		Space		
		Space		19	X			20	30 / 3	Panel LA via XFMR	1.53	RE: One-line
		Space		21		X		22	- / -	-	0.68	-
		Space		23			X	24	- / -	-	0.08	-

* ALL BRANCH CIRCUITS ARE 2#12, #12G THWN-2 CU, 1/2"C MINIMUM UNLESS OTHERWISE NOTED

LIGHTING (KVA)	RCPT (KVA)	MOTORS (KVA)	FIXED ELEC HTG (KVA)	KITCHEN EQUIP(KVA)	OTHER EQUIP (KVA)	PHASE	CONNECTED LOAD (KVA)	PANEL DESIGN LOAD KVA	PANEL DESIGN LOAD AMPS
0.40	0.00	9.43	0.00	0.00	0.00	A	9.84	12.29	44
0.17	0.00	9.43	3.30	0.00	0.00	B	12.90	15.30	55
0.39	0.00	9.43	3.30	0.00	0.00	C	13.12	15.58	56
0.96	0.00	28.30	6.60	0.00	0.00	TOTAL	35.86	43.18	52
125%	+	100% (125%OF LARGEST)	100%	100%	100%	DESIGN FACTORS (+ = FIRST 10KVA @ 100%, BAL @ 50% PROP.)			

NOTES:

IMMEDIATELY DOWNSTREAM ELECTRICAL EQUIPMENT CONNECTED LOADS (KVA):							LOAD DESCRIPTION:	DESIGN LOAD:	
0.06	0.18	1.13	0.00	0.00	0.90	-	PANEL LA	2.29	3
						-		0.00	0
						-		0.00	0
						-		0.00	0
1.02	0.18	29.43	6.60	0.00	0.90		**TOTAL DESIGN LOAD:**	45.46	55

Light Fixture Schedule

FIXTURE TAG	FIXTURE DESCRIPTION	VOLTAGE	BALLAST/DRIVER TYPE	LAMP NUMBER	LAMP TYPE	LAMP KELVIN TEMPERATURE	FIXTURE WATTAGE	MOUNTING	REMARKS
A	METALUX 4VT3-4-W-UNV-L840-CD1-U	UNV	Included	-	LED	4000K	31	SURFACE	SEALED ELEVATOR PIT FIXTURE
B	LLI ARCHITECTURAL LIGHTING LLI-IC1F-S-F-H3.5-30K-XX-HW-XX	UNV	Included	-	LED	3000K	3.5W/FT	RECESSED	LED STRIP FIXTURE. COORDINATE INSTALLATION WITH ARCHITECT PLANS.
C	McGraw Edison GKO-PB-1-B-730-U-T1-XX	UNV	Included	-	LED	3000K	9	SURFACE	TYPE I DISTRIBUTION WALLPACK. VERIFY FINISH WITH ARCHITECT. COORDINATE MOUNTING HEIGHT WITH ARCHITECT.
D	METALUX 4SLSTP4040DD-UNV	UNV	Included	-	LED	4000K	39	SURFACE/ SUSPENDED	4' BACK OF HOUSE LENSED STRIP LIGHT
P4	McGraw Edison GALN-SB4C-740-U-T4FT-COLOR-HSS SSP25-5.0-11-COLOR-DM10-BC	UNV	Included	-	LED	4000K	201	POLE	FORWARD THROW POLE LIGHT WITH HOUSE SIDE SHIELD MOUNTED AT 25'. VERIFY FINISH WITH ARCHITECT.
P4W	McGraw Edison GALN-SB4C-740-U-T4W-COLOR-HSS SSP25-5.0-11-COLOR-DM10-BC	UNV	Included	-	LED	4000K	201	POLE	WIDE FORWARD THROW POLE LIGHT WITH HOUSE SIDE SHIELD MOUNTED AT 25'. VERIFY FINISH WITH ARCHITECT.
WP	McGraw Edison GWC-SA1A-740-U-T4W-COLOR	UNV	Included	-	LED	4000K	34	SURFACE	WIDE-THROW WALLPACK. VERIFY FINISH WITH ARCHITECT. COORDINATE MOUNTING HEIGHT WITH ARCHITECT.
WP2	McGraw Edison GWC-SA1A-740-U-T4FT-COLOR	UNV	Included	-	LED	4000K	34	SURFACE	FORWARD-THROW WALLPACK. VERIFY FINISH WITH ARCHITECT. COORDINATE MOUNTING HEIGHT WITH ARCHITECT.

General Notes
1.) PROVIDE FIXTURE PACK AS SPECIFIED ONLY (NO SUBSTITUTIONS UNLESS WRITTEN PRIOR APPROVAL BY ARCHITECT AND/OR ENGINEER.)
2.) REFER TO PLAN FOR EMERGENCY/BACKUP POWER REQUIREMENTS FOR FIXTURES.
3.) CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT QUANTITIES OF LIGHT FIXTURES AND ACCESSORIES PRIOR TO PROCUREMENT OF LIGHT FIXTURES.
4.) PROVIDE ILLUMINATED EMERGENCY LIGHTING AND EXIT SIGNS WITH CIRCUITING PER CODE.
5.) ALL EXITS SHALL BE MARKED BY APPROVED ILLUMINATED SIGN AND READILY VISIBLE FROM ANY DIRECTION OF EXIT ACCESS AND MEANS OF EGRESS.
6.) FIXTURES SHALL HAVE A LUMINAIRE DISCONNECT PER NEC.
7.) ALL LAMPS SHALL HAVE THE SAME COLOR/TEMPERATURE. VERIFY TEMPERATURE WITH ARCHITECT.
8.) REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES TO DETERMINE GYP BOARD CEILING AND LAY-IN GRID MOUNTING.

PANELBOARD: **LA**
LOCATION: EXTERIOR
208 | 120 | VOLT (L-L / L-N) | 3 PH 4 W 100% NEUTRAL
100 | AMP PANEL | WITH COPPER EQUIPMENT GROUND BAR
50 | AMP MAIN BREAKER

MOUNTING: SURFACE
ENCLOSURE: NEMA 3R
AIC RATING 10,000

WIRE SIZE*	KVA	LOAD DESCRIPTION	AMP / P	CKT	PHASE A	PHASE B	PHASE C	CKT	AMP / P	LOAD DESCRIPTION	KVA	WIRE SIZE*
	0.30	Fire Alarm Control Panel	20 / 1	1	X			2		Space		
	0.20	Elevator Cab Lights	20 / 1	3		X		4		Space		
		Shunt Trip	- - -	5			X	6		Space		
	1.13	ESP-1	20 / 1	7	X			8		Space		
	0.18	Elevator Pit Receptacle	20 / 1	9		X		10		Space		
	0.06	Elevator Pit Lighting	20 / 1	11			X	12		Space		
	0.10	Network Hub	20 / 1	13	X			14		Space		
2#8,#10G,1"C	0.30	Monument Sign	20 / 1	15		X		16		Space		
		Spare	20 / 1	17			X	18		Space		
		Spare	20 / 1	19	X			20		Space		
		Spare	20 / 1	21		X		22		Space		
		Space		23			X	24		Space		
		Space		25	X			26		Space		
		Space		27		X		28		Space		
		Space		29			X	30		Space		

* ALL BRANCH CIRCUITS ARE 2#12, #12G THWN-2 CU, 1/2"C MINIMUM UNLESS OTHERWISE NOTED

LIGHTING (KVA)	RCPT (KVA)	MOTORS (KVA)	FIXED ELEC HTG (KVA)	KITCHEN EQUIP(KVA)	OTHER EQUIP (KVA)	PHASE	CONNECTED LOAD (KVA)	PANEL DESIGN LOAD KVA	PANEL DESIGN LOAD AMPS
0.00	0.00	1.13	0.00	0.00	0.40	A	1.53	1.53	13
0.00	0.18	0.00	0.00	0.00	0.50	B	0.68	0.68	6
0.06	0.00	0.00	0.00	0.00	0.00	C	0.06	0.08	1
0.06	0.18	1.13	0.00	0.00	0.90	TOTAL	2.27	2.29	6
125%	+	100% (125%OF LARGEST)	100%	100%	100%	DESIGN FACTORS (+ = FIRST 10KVA @ 100%, BAL @ 50% PROP.)			

NOTES:

STATE OF TEXAS
STEVEN A. FREDERICKS
108587
LICENSED PROFESSIONAL ENGINEER
02/25/2026

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MECHANICAL•ELECTRICAL•PLUMBING
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Texas Reg. No.: F-20152 SDE Project No.: 125186.00
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NO.	DATE	REVISION ISSUE
	02.25.26	ISSUE FOR PERMIT

PROJECT NAME AND ADDRESS:

THE AVIARY

1045 BINGLE RD.

DRAWN: **MS** CHECKED: **SF**

REFERENCE NUMBER: **22099-07**

TITLE:

ELECTRICAL SCHEDULES

DRAWING NUMBER:

E3.01

3/16/2026 10:18:06 AM
C:\Users\Michael Saldana\Documents\125186 IDA NWQ Bingle I-10 Retail MEP Model R24 C_msaldanaK23LJ.rvt

SHARED PARKING ANALYSIS

Class		Use	Parking Required	Weekday Midnight to 7AM	Weekday 7AM to 2PM	Weekday 2PM to 8PM	Weekday 8PM to Midnight	Weekend Midnight to 7AM	Weekend 7AM to 2PM	Weekend 2PM to 8PM	Weekend 8PM to Midnight
1		Office	0	0	0	0	0	0	0	0	0
		Financial Facility	0	0	0	0	0	0	0	0	0
2		Apartment	0	0	0	0	0	0	0	0	0
		Hotel	0	0	0	0	0	0	0	0	0
3		Clinic (Medical Complex)	0	0	0	0	0	0	0	0	0
		Clinic (Medical or Dental)	40	0	40	10	0	0	10	0	0
		Veterinary Clinic	0	0	0	0	0	0	0	0	0
4		Industrial/Warehouse/ Manufacturing	0	0	0	0	0	0	0	0	0
5		Church	0	0	0	0	0	0	0	0	0
		Day Care	0	0	0	0	0	0	0	0	0
		School	0	0	0	0	0	0	0	0	0
		Library	0	0	0	0	0	0	0	0	0
		Art Gallery	0	0	0	0	0	0	0	0	0
6		Movie Theater	0	0	0	0	0	0	0	0	0
		Bowling Alley	0	0	0	0	0	0	0	0	0
		Gym/Health Spa	0	0	0	0	0	0	0	0	0
7		Dessert Shop	0	0	0	0	0	0	0	0	0
		Small Restaurant	0	0	0	0	0	0	0	0	0
		Neighborhood Restaurant	0	0	0	0	0	0	0	0	0
		Restaurant	51	5.1	25.5	38.25	20.4	7.65	38.25	51	25.5
		Tavern	0	0	0	0	0	0	0	0	0
		Small Bar	0	0	0	0	0	0	0	0	0
		Bar, club or lounge	0	0	0	0	0	0	0	0	0
8		Retail (excluding shopping center)	44	2.2	22	33	4.4	2.2	44	33	4.4
9		Auto Parts and Supply Store	0	0	0	0	0	0	0	0	0
		All Others	0	0	0	0	0	0	0	0	0
		Total	135	7.3	87.5	81.25	24.4	9.85	92.25	84	29.9
			92.25								
		Put 1 if this qualifies as a historic building		0				0			
		Total Reduction									
PARKING SPACES REQUIRED:			92.25								

PARKING ANALYSIS

TOTAL BUILDING AREA: **27,199** SQ. FT.

SOUTH WING:		**PS REQ'D**
6,469 SF	RESTAURANT (@8 PS/1K)	51
12,721 SF	RETAIL (@3.5 PS/1K)	3.5
8,009 SF	MEDICAL OFFICE (@5 PS/1K)	44

TOTAL PARKING REQUIRED: **135 SPACES**

SHARED PARKING REDUCTION ANALYSIS (CoH) **92 SPACES**

TOTAL PARKING PROVIDED: 118 SPACES

ACCESSIBLE PARKING REQUIRED BY CODE = **5** SPACES
ACCESSIBLE PARKING PROVIDED = **5** SPACES (**1** VAN)

DATA TABLE:

SITE	***172,062 SF (3.95 AC)*** ***(PROPERTY: +/- 1.8 AC, CITY PARCEL +/- 2.15 AC)***
JURISTICTION	***SPRING VALLEY VILLAGE***
ZONING	- -

SITE PLAN LEGEND

RE: CIVIL DRAWINGS FOR CONTINUATION OF SITE RELATED SCOPE

RE: A031 AND A032 FOR SITE DETAILS

PROPERTY LINE

FIRE LINE, RE: D1/A031

NOT IN SCOPE

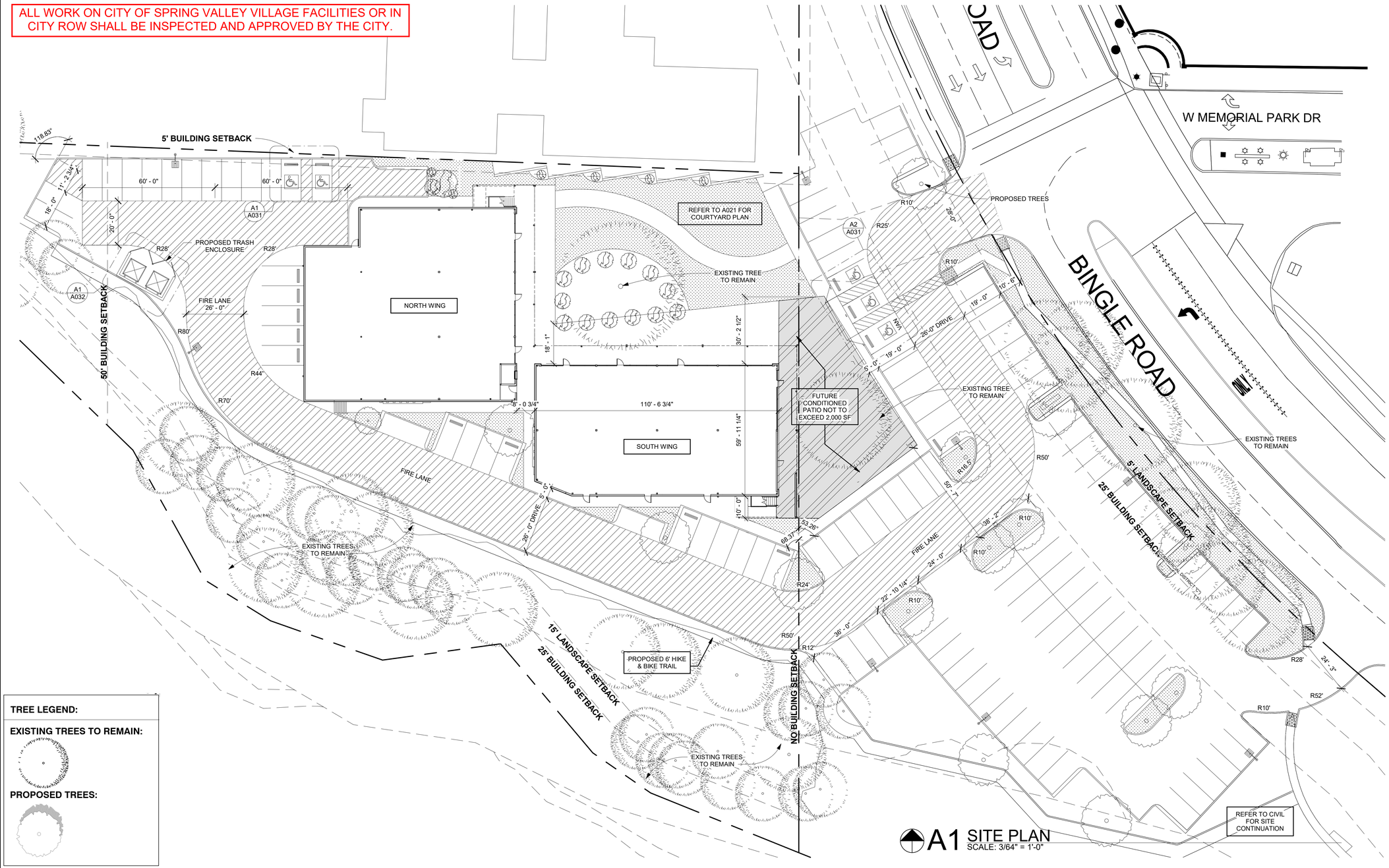
LANDSCAPE AREA RE; LANDSCAPE DWGS

LIGHT POLE, RE: A5/A031

GENERAL NOTES

A. CONTRACTOR TO NOTIFY TENANT, A MINIMUM OF TWO (2) WEEKS PRIOR TO SLAB POUR FOR COORDINATION.
B. CONTRACTOR TO PROVIDE FOUNDATION VERIFY EXACT LOCATION; SPECIFICATIONS AND ANCHOR BOLT LAYOUTS WITH INTERIOR PACKAGE, SKIN VENDORS.
C. FIRE HYDRANT WITHIN 400' OF ALL PORTIONS OF THE BUILDING.
D. GENERAL CONTRACTOR SHALL DELIVER A LEVEL AND SMOOTH CONCRETE SLAB FREE OF LEVELING PRODUCTS WITH NOT MORE THAN ONE QUARTER (1/4") VARIATION IN TEN FEET (10'). ALL EXPANSION AND CONTROL JOINTS SHALL BE PROPERLY INSTALLED AND SHALL BE READY TO ACCEPT TENANT'S FLOOR FINISHES. FLOOR SLAB SHALL BE BROOM CLEAN, FREE OF TRASH AND DEBRIS.
E. REVIEW DOCUMENTS, VERIFY DIMENSIONS AND FIELD CONDITIONS, AND CONFIRM THAT WORK IS BUILDABLE AS SHOWN. REPORT ANY CONFLICTS OR OMISSIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK IN QUESTION.
F. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATIONS FROM THE ARCHITECT.
G. PARTITIONS ARE DIMENSIONED FROM FINISH FACE TO FINISH FACE, U.N.O. MAINTAIN DIMENSIONS MARKED CLEAR. ALLOW FOR THE THICKNESS OF FINISHES AS REQUIRED.
H. ALL CONSTRUCTION TO COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING CODES, REGULATIONS, AND CITY ORDINANCES.
I. REFER TO SHEET A601 FOR DOOR/FRAME/HARDWARE TYPES AND SCHEDULES.
J. ALL NEW DOORS TO HAVE TAS COMPLIANT LEVER HARDWARE SETS, U.N.O. REFER TO A601 FOR DOOR/HARDWARE SCHEDULES.
K. CAULK AT JUNCTURE OF INTERIOR FACES OF DOOR FRAMES, VIEW WINDOW FRAMES, EXT. WINDOW FRAMES, CABINET WORK, AND CASEWORK W/ADJACENT MATERIALS EVEN THOUGH JOINT MAY NOT BE VISIBLE.
L. GC TO PROVIDE HM DOORS AND FRAMES, AS NEEDED, ON REAR OF BUILDING; VERIFY WITH OWNER FOR DOOR LOCATIONS PRIOR TO INSTALL.
M. CONCRETE SIDEWALKS, PROVIDE CONTROL JOINTS @ 5'-0" O.C. MAX. AND EXPANSION JOINTS @ 25'-O" O.C. MAX UNLESS INDICATED OTHERWISE ON THE SIDEWALK PLAN.
N. TYPICAL 6" CONCRETE CURB, TYPICAL 18" CONCRETE CURB & LANDING @ ADJACENT LANDSCAPE AREA, RE: CIVIL DRAWINGS.
O. LIGHT POLE, INSTALL 3'-0" BEHIND CURB, UNO., RE: STRUCTURAL AND MEP FOR SPECS AND FOUNDATION.
P. **PARKING REQUIREMENTS AND CALCULATIONS ARE BASED ON THE APPLICABLE CITY OF SPRING VALLEY VILLAGE PARKING REQUIREMENTS. THE SHARED PARKING ANALYSIS IS BASED ON THE CITY OF HOUSTON SHARED PARKING STANDARDS AND METHODOLOGY.**

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.



TREE LEGEND:

EXISTING TREES TO REMAIN:

PROPOSED TREES:

A1 SITE PLAN
SCALE: 3/64" = 1'-0"

8/21/2026 2:34:46 PM
C:\Users\nalomaja\Documents\22099-07_BINGLE_R24_nalomajaXRSDM.rvt

CERTIFICATION AND SEAL

I HEREBY CERTIFY THAT THIS PLAN AND SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT OR ENGINEER UNDER THE LAWS OF THE STATE OF TEXAS AS SIGNIFIED BY MY HAND AND SEAL.

JAMES BRYAN CATER
TEXAS REG: 25719
EXP: 08/31/2026

02/25/2026

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NO.	DATE	REVISION ISSUE
3	02/25/26	ISSUE FOR PERMIT

PROJECT NAME AND ADDRESS:

THE AVIARY

1045 BINGLE RD. HOUSTON, TX 77055

DRAWN: **CQ** CHECKED: **TW**

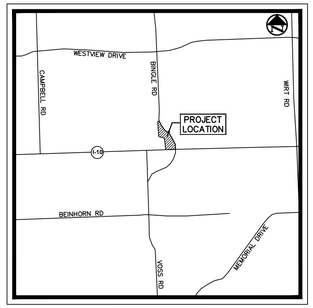
REFERENCE NUMBER: **22099-07**

TITLE:

SITE PLAN

DRAWING NUMBER:

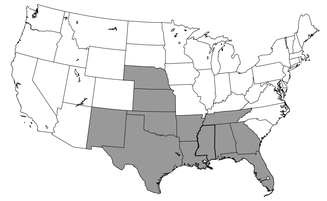
A001_Opt2



LOCATION MAP
N.T.S.

GIMS TILE: 5058b
KEYMAP NO.: 490D
ZIP CODE: 77055

CIVIL PLANS
FOR
BINGLE ROAD RETAIL
LOCATED @
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

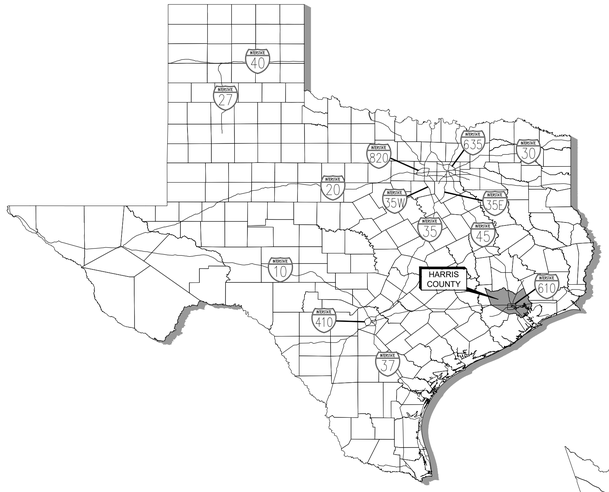


*LICENSED IN AL, AR, FL, GA, KS, LA, MS, NE, NM, OK, TN, & TX

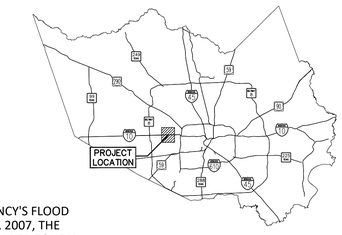
ALL WATER, SANITARY, AND STORM SEWER LINES PROPOSED IN THIS PLAN SET ARE PRIVATE AND SHALL BE MAINTAINED BY THE PROPERTY OWNER OR THEIR SUCCESSORS IN TITLE UNLESS SPECIFICALLY NOTED AS PUBLIC LINES.

PLANS SUBMITTAL/REVIEW LOG

50% REVIEW SET -NOT FOR CONSTRUCTION	01/21/2026
90% REVIEW SET -NOT FOR CONSTRUCTION	01/30/2026
SUBMIT TO CITY OF SPRING VALLEY VILLAGE -NOT FOR CONSTRUCTION	03/10/2026
RESUBMIT TO CITY OF SPRING VALLEY VILLAGE -NOT FOR CONSTRUCTION	06/04/2026



HARRIS COUNTY



ACCORDING TO MAP NO. 48201C0645L OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS FOR HARRIS COUNTY AND INCORPORATED AREAS, DATED JUNE 18, 2007, THE SUBJECT TRACT IS SITUATED WITHIN: FLOODWAY AREA, ZONE AE, SHADED ZONE X & UNSHADED ZONE X

INDEX OF SHEETS

CIVIL ENGINEERING (ALJ LINDSEY, LLC)	
SHEET NO.	DESCRIPTION
C0.0	COVER SHEET
C0.1	GENERAL NOTES
C0.2	TOPOGRAPHIC SURVEY (1 OF 2)
C0.3	TOPOGRAPHIC SURVEY (2 OF 2)
C0.4	DEMOLITION PLAN
C1.0	DIMENSION CONTROL PLAN
C1.1	LEFT TURN LANE PLAN & PROFILE
C2.0	OVERALL UTILITY PLAN
C2.1	SANITARY SEWER PLAN
C2.2	SANITARY SEWER PLAN & PROFILE
C2.3	WATER PLAN
C3.0	STORM SEWER PLAN
C3.1	STORM SEWER OUTFALL PLAN & PROFILE
C3.2	STORM SEWER CALCULATIONS
C4.0	GRADING PLAN (1 OF 2)
C4.1	GRADING PLAN (2 OF 2)
C5.0	PAVING PLAN
C6.0	EROSION CONTROL PLAN
C7.0	CONSTRUCTION DETAILS (1 OF 7)
C7.1	CONSTRUCTION DETAILS (2 OF 7)
C7.2	CONSTRUCTION DETAILS (3 OF 7)
C7.3	CONSTRUCTION DETAILS (4 OF 7)
C7.4	CONSTRUCTION DETAILS (5 OF 7)
C7.5	CONSTRUCTION DETAILS (6 OF 7)
C7.6	CONSTRUCTION DETAILS (7 OF 7)

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST
72 HOURS NOTICE BEFORE YOU DIG, DRILL
OR BLAST – STOP CALL
TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567

No.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
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281.320.9955
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: N/A
DRAWN BY: SRH
CHECKED BY: BTH

COVER SHEET

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C0.0

GENERAL NOTES

1. THE LOCATION OF ALL UTILITIES SHOWN ON THESE PLANS WAS TAKEN FROM AVAILABLE SURVEY INFORMATION AND/OR EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES MUST BE DETERMINED BY CONTRACTOR. IT SHALL BE THE DUTY AND RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF A DISCREPANCY AND/OR CONFLICT IS DISCOVERED. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES DURING CONSTRUCTION.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PUBLIC UTILITIES, PAVEMENT TO REMAIN, CURBS, SIDEWALKS, SIGNS, TREES, ETC., IN THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES. DURING CONSTRUCTION ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE OWNING/OPERATING AUTHORITY, WITH NO COST TO THE CITY, COUNTY, PRIVATE UTILITY OWNERS, ENGINEER, OR THE OWNER.

3. CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITY LINES AND SHALL NOTIFY THE FOLLOWING AGENCIES 72 HOURS PRIOR TO EXCAVATING OR AUGERING NEAR EXISTING FACILITIES.

   A. TEXAS ONE CALL SYSTEM AT 1-800-245-4545
   B. LONE STAR NOTIFICATION CENTER AT 1-800-669-8344
   C. TEXAS EXCAVATION SAFETY SYSTEM AT 1-800-344-8377

4. PRIOR TO ANY CONSTRUCTION ACTIVITY, CONTRACTOR IS TO ACQUIRE ALL REQUIRED CONSTRUCTION PERMITS FROM APPROPRIATE AUTHORITIES. CONTRACTOR SHALL GIVE AT LEAST 48 HOURS NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PUBLIC AND PRIVATE UTILITY LINES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK.

5. THE ENGINEER AND THE AUTHORITY HAVING JURISDICTION ("A.H.J.") SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE CONTRACTOR CONNECTING TO ANY EXISTING UTILITY LINES.

6. NO CONNECTIONS SHALL BE MADE TO EXISTING PUBLIC WATER LINES OR PUBLIC SANITARY SEWERS UNTIL ALL PROPOSED WATER OR SEWER LINES HAVE BEEN THOROUGHLY CLEANED, TESTED (AS REQUIRED) AND APPROVED BY THE APPROPRIATE AUTHORITIES.

7. HORIZONTAL AND VERTICAL INFORMATION REGARDING UTILITY CONNECTIONS TO PROPOSED BUILDINGS ON THIS SET OF PLANS TERMINATE AT FIVE (5) FEET FROM THE NEAREST BUILDING WALL.

8. ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, ETC MUST BE ADJUSTED TO PROPER LINE AND GRADE BY THE CONTRACTOR PRIOR TO AND AFTER THE PLACING OF PERMANENT PAVING. UTILITIES MUST BE MAINTAINED TO PROPER LINE AND GRADE DURING CONSTRUCTION OF THE PAVING FOR THIS DEVELOPMENT. ALL UTILITY STRUCTURES, BOXES, AND VALVES PLACED WITHIN EXISTING/PROPOSED PAVING SHALL BE HEAVY DUTY TRAFFIC RATED.

9. ALL APPURTENANCES WILL BE ASSUMED TO BE IN GOOD CONDITION UNLESS OTHERWISE CONFIRMED IN WRITING PRIOR TO COMMENCEMENT OF WORK.

10. OVERHEAD LINES EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSON OR EQUIPMENT MAY COME WITHIN 6 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. CONTRACTORS ARE LEGALLY RESPONSIBLE FOR SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CIVIL AND CRIMINAL LIABILITY.

11. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND ALL REGULATIONS OF UTILITY COMPANIES CONCERNING SAFETY AND HEALTH PRACTICES. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SITE TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH A.H.J. STANDARDS, TEXAS STATE LAW, AND O.S.H.A. STANDARDS FOR ALL EXCAVATION.

12. PRIOR TO THE START OF CONSTRUCTION, OWNER AND CONTRACTOR ARE RESPONSIBLE FOR SUBMITTING THE "NOTICE OF INTENT" (N.O.I.) AND ANY ADDITIONAL INFORMATION REQUIRED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ). UPON COMPLETION OF THE PROJECT, OWNER AND CONTRACTOR ARE RESPONSIBLE FOR SUBMITTING THE "NOTICE OF TERMINATION" (N.O.T.).

13. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION

14. CONTRACTOR SHALL REMOVE ALL MUD, DIRT, AND DEBRIS DEPOSITED OR DROPPED ON THE EXISTING ROADWAY AT THE END OF EACH WORK DAY. MATERIAL THAT IS HAZARDOUS TO TRAFFIC OR OTHERWISE PRESENTS A SAFETY CONCERN, SHALL BE REMOVED IMMEDIATELY.

15. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL STATE AND LOCAL REGULATIONS RELATED TO STORM WATER POLLUTION AND QUALITY. REFER TO EROSION CONTROL PLAN.

16. CONTRACTOR SHALL REESTABLISH ALL TURF DISTURBED DURING CONSTRUCTION TO ACCEPTABLE OPERATING CONDITION, AS DETERMINED BY OWNER AND/OR REGULATORY AGENCIES.

17. CONTRACTOR SHALL MAINTAIN A WORKSITE FREE OF TRASH AND DEBRIS.

18. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES. NO TREE SHALL BE REMOVED OR ALTERED WITHOUT WRITTEN PERMISSION FROM OWNER OR ENGINEER. EQUIPMENT OR MATERIALS SHALL NOT BE STAGED UNDER THE DRIP LINE OF EXISTING TREES.

19. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A SET OF "AS-BUILT" PLANS FOR ALL WORK PERFORMED ON AND OFF SITE. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE AS-BUILT PLANS IDENTIFYING ALL DEVIATIONS OR VARIATIONS FROM ORIGINAL PLANS TO THE OWNER AND THE ENGINEER. ANY REQUIREMENTS BY THE A.H.J. TO PROVIDE AN AS-BUILT TOPO SURVEY SHALL BE PERFORMED BY THE CONTRACTOR AND INCLUDED WITHIN THE BASE BID.

20. ALL TRAFFIC CONTROL AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

21. ALL SIDEWALKS, RAMPS, AND HANDRAILS TO MEET OR EXCEED A.H.J., TAS, AND ADA REQUIREMENTS.

22. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO APPLICABLE "A.H.J. RULES AND REGULATIONS, CONSTRUCTION SPECIFICATIONS, AND CONSTRUCTION DETAILS.

23. ALL EXCESS SPOIL MATERIAL GENERATED FROM CONSTRUCTION ACTIVITY TO BE HAULED OFFSITE AND DISPOSED IN ACCORDANCE WITH LOCAL LAWS, RULES, AND REGULATIONS, UNLESS OTHERWISE NOTED ON THE PLANS.

24. AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES, TO EQUAL TO BETTER THAN EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. ALL FINISHED GRADES SHALL VARY UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN.

25. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING LANDSCAPING AND IRRIGATION. NO SEPARATE PAY.

26. PRIOR TO SUBMITTAL OF BID OR PROPOSAL, CONTRACTOR SHALL VISIT PROJECT SITE AND BECOME FAMILIAR WITH THE PROJECT AND THE EXISTING CONDITIONS ON THE SITE. NO ADDITIONAL CONSIDERATION WILL BE GIVEN FOR ADDITIONAL WORK CAUSED BY FIELD CONDITIONS VISIBLE ON SITE DURING BIDDING BUT NOT SHOWN ON THESE PLANS.

27. THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS, UNLESS SPECIFICALLY ESTABLISHED IN THE BID SECTION OF THE CONTRACT DOCUMENTS. INCLUDE COST OF SAME TO WHICH THIS WORK IS A COMPONENT PART.

28. IN THE EVENT OF A DISCREPANCY WITHIN THESE PLANS, OR BETWEEN THESE PLANS AND THE GEOTECHNICAL REPORT, THE MOST CONSERVATIVE CRITERIA SHALL APPLY.

29. ALL UTILITY TRENCHES BELOW PROPOSED OR FUTURE PAVING SHALL BE BACKFILLED WITH CEMENT SAND.

30. UTILITY TRENCHES ARE A COMMON SOURCE OF WATER INFILTRATION AND MIGRATION. ALL UTILITY TRENCHES THAT PENETRATE BENEATH THE BUILDING SHOULD BE EFFECTIVELY SEALED TO RESTRICT WATER INTRUSION AND FLOW THROUGH THE TRENCHES THAT COULD MIGRATE BELOW THE BUILDING. WE RECOMMEND CONSTRUCTING AN EFFECTIVE CLAY "TRENCH PLUG" THAT EXTENDS AT LEAST 5 FEET OUT FROM THE FACE OF THE BUILDING EXTERIOR. THE PLUG MATERIAL SHOULD CONSIST OF CLAY COMPACTED AT A WATER CONTENT AT OR ABOVE THE SOILS OPTIMUM WATER CONTENT. THE CLAY FILL SHOULD BE PLACED TO COMPLETELY SURROUND THE UTILITY LINE AND BE COMPACTED IN ACCORDANCE WITH RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT.

31. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY TIE IN LOCATIONS FOR MATERIAL, SIZE, ELEVATION, AND FIELD CONDITIONS. IN THE EVENT THE PLANS DO NOT REPRESENT FIELD CONDITIONS, THE CONTRACTOR IS TO CONTACT THE ENGINEER AND OWNER IMMEDIATELY AND PRIOR TO PERFORMING ANY WORK.

32. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO CONFIRM POSSESSION OF LATEST DRAWINGS, INCLUDING ANY REVISIONS. IF THE DRAWINGS ARE NOT LABELED AS "CONSTRUCTION SET" ON THE COVER PAGE, CONTRACTOR TO CONTACT ENGINEER IMMEDIATELY.

33. CONTRACTOR TO OBTAIN ALL PERMITS. OWNER WILL PROVIDE PAYMENT AS NECESSARY AND REQUESTED BY CONTRACTOR.

34. THE REVIEW/APPROVAL OF CONTRACTOR SUBMITTALS BY THE CIVIL ENGINEER DOES NOT RELIVE THE CONTRACTOR'S RESPONSIBILITIES OF CONFIRMING THAT ALL QUANTITIES, FLOW LINES, AND MATERIALS ARE PER THE LATEST ISSUED PLANS AND SPECIFICATIONS, INCLUDING ANY REQUIREMENTS FOR WORK IN THE PUBLIC R.O.W. AS SPECIFIED BY THE A.H.J.

GRADING & EXCAVATION NOTES

1. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.

2. BEFORE STARTING CONSTRUCTION, CONTRACTOR SHALL VERIFY BENCHMARK ELEVATION AND NOTIFY ENGINEER IF ANY DISCREPANCY AND/OR CONFLICT IS FOUND.

3. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND NO PONDING IN EITHER PAVED OR LANDSCAPE AREAS, AND SHALL NOTIFY ENGINEER IF ANY GRADING DISCREPANCIES ARE FOUND IN THE EXISTING AND PROPOSED GRADES PRIOR TO PLACEMENT OF PAVEMENT OR UTILITIES.

4. CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.

5. ALL EXISTING CONCRETE PAVING, SIDEWALK, AND CURB DEMOLITION SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR. DISPOSAL SHALL BE AT AN APPROVED OFF-SITE, LAWFUL LOCATION, UNLESS DIRECTED OTHERWISE BY THE OWNER.

6. FOR BUILDING PAD SUBGRADE PREPARATION AND GENERAL EARTHWORK OBSERVATIONS, REFER TO THE GEOTECHNICAL REPORT PREPARED BY GEOTEST ENGINEERING, INC., DATED JANUARY 2023 (PROJECT NUMBER 1140278201). ALL MATERIAL SPECIFICATIONS AND TESTING SHALL BE ADHERED TO AS OUTLINED IN THIS REPORT.

7. FINAL PAVEMENT GRADES SHALL BE WITHIN 0.05' OF DESIGN ELEVATIONS, EXCEPT FOR ADA AREAS, WHICH SHALL BE WITHIN 0.01' OF DESIGN ELEVATIONS. FINAL NON-PAVEMENT ELEVATIONS SHALL BE WITHIN 0.1' OF PROPOSED GRADE.

8. ALL DETENTION PONDS SHALL BE GRADED TO WITHIN 0.1' OF PROPOSED ELEVATIONS AND WITHIN 6" OF HORIZONTAL LOCATION. AFTER COMPLETION AN AS-BUILT SURVEY WILL BE ORDERED BY OWNER, AND ANY POND NOT BUILT PER PLAN, WILL BE CORRECTED AT CONTRACTOR'S SOLE COST.

9. ALL DISTURBED AREAS NOT COVERED BY PAVEMENT OR LANDSCAPING SHALL BE HYDROSEEDED WITH 95% GRASS COVER ESTABLISHED. THIS INCLUDES, BUT IS NOT LIMITED TO, DETENTION PONDS AND ROADSIDE DITCHES.

10. GROUNDWATER MAY BE ENCOUNTERED DURING DETENTION POND AND/OR UTILITY CONSTRUCTION. THE CIVIL ENGINEER OF RECORD HAS NOT ATTEMPTED TO DEPICT THESE CONDITIONS ON THE PLANS. BUT CONTRACTOR SHALL REVIEW APPLICABLE GEOTECHNICAL REPORTS AND STUDIES PRIOR TO SUBMITTING BID AND ACCOUNT FOR REQUISITE GROUNDWATER CONTROL.

11. CONTRACTOR SHALL THE ENGINEER OF RECORD WITH AS-BUILT SURVEY IF THE POND FOR VERIFICATION OF FINAL GRADES PRIOR TO PLACEMENT OF CONCRETE PILOT CHANNEL AND/OR SEEDING.

12. CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY WASHOUT OR RILLS THAT OCCUR PRIOR TO TURF ESTABLISHMENT.

STORM SEWERS

1. STORM SEWER PIPE USED FOR CONNECTION TO STORM SEWER IN PUBLIC RIGHT-OF-WAY OR CONSTRUCTED WITHIN PUBLIC EASEMENTS SHALL BE REINFORCED CONCRETE PIPE ASTM C-76, CLASS III, WITH O-RING RUBBER GASKET JOINTS PER ASTM C-443 AND SHALL EXTEND TO FIRST PRIVATE INLET OR MANHOLE. ALL OTHER PRIVATE STORM SEWER MAY BE SELECTED PER THE FOLLOWING CRITERIA:

   A. CORRUGATED HIGH-DENSITY POLYETHYLENE (HDPE) (4 INCHES TO 60 INCHES IN DIAMETER): AASHTO M 294, DUAL WALL WITH WATER TIGHT (ASTM D3212) BELL-TO-BELL COUPLER, TRADE NAME N-12 BY ADS OR EQUAL
   B. POLYVINYL CHLORIDE (PVC) CORRUGATED PIPE WITH SMOOTH INTERIOR PER ASTM F 949 (4 INCHES TO 36 INCHES (102-MM TO 914-MM)) WITH ELASTOMETRIC GASKET JOINTS, TRADE NAME A-2000 BY CONTECH OR EQUAL
   C. STEEL REINFORCED HIGH-DENSITY POLYETHYLENE (HDPE) (24 INCHES TO 48 INCHES IN DIAMETER): AASHTO M 294, HIGH PERFORMANCE JOINTS (ASTM D3212), TRADE NAME DUROMAXX OR EQUAL
   D. REINFORCED CONCRETE PIPE (RCP): ASTM C76, CLASS III WITH O-RING RUBBER GASKET JOINTS PER ASTM C-443

2. STORM SEWERS IN PUBLIC R.O.W. OR PUBLIC EASEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST A.H.J. STANDARD CONSTRUCTION SPECIFICATIONS FOR STORM DRAINAGE INCLUDING ALL CURRENT AMENDMENTS THERETO. ALL STORM SEWER ON PRIVATE PROPERTY SHALL BE CONSTRUCTED PER SPECIFICATIONS AND DETAILS IN THESE DRAWINGS AND IN ACCORDANCE WITH THE PIPE MANUFACTURERS RECOMMENDATIONS.

3. ALL SEWERS UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1 1/2 SACK CEMENT/C.Y. STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE. CEMENT STABILIZED SAND TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C33, LATEST EDITION

4. TRENCH BACKFILL SHALL BE SUITABLE EARTH MATERIAL PLACED IN 8 INCH LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS ON EACH LIFT. BACKFILL TO BE MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM DESIGNATION D-698/AASHTO T99). MOISTURE CONTENT OF BACKFILL SHALL BE WITHIN PARAMETERS ESTABLISHED BY THE PROCTOR TEST.

5. PROPOSED PIPE STUB-OUTS ARE TO BE CAPPED AND MARKED WITH A VERTICAL PVC PIPE, UNLESS OTHERWISE NOTED.

6. ALL GRAVITY BASED STORM LINES ARE TO BE CONSTRUCTED FROM THE LOWEST POINT IN THE SYSTEM AND WORKED UP IN ELEVATION. PLEASE NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

PAVING AND STRIPING NOTES

1. PAVEMENT DESIGN AND SOIL PREPARATION RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT PREPARED BY GEOTEST ENGINEERING, INC., DATED JANUARY 2023 (PROJECT NUMBER 1140278201) SHALL BE ADHERED TO FOR BOTH MATERIALS AND PRACTICE OF INSTALLATION. CONTRACTOR SHALL ENSURE ALL SPECIFICATIONS AND TESTING ARE MET AS OUTLINED IN THIS REPORT.

2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND A.H.J. STANDARDS.

3. CONTRACTOR SHALL FURNISH ALL PAVEMENT MARKINGS FOR FIRE LANES, ROADWAY LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, ACCESS AISLES, STOP BARS AND SIGNS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AS SHOWN ON THE PLANS.

4. ALL JOINTS SHALL BE SEALED PER A.H.J. SPECIFICATIONS. ALL JOINTS SHALL EXTEND THROUGH THE CURB.

5. THE MATERIALS AND PROPERTIES OF CONCRETE SHALL MEET THE APPLICABLE REQUIREMENTS IN THE A.C.I. (AMERICAN CONCRETE INSTITUTE) MANUAL OF CONCRETE PRACTICE AS WELL AS A.H.J. STANDARDS. IN THE EVENT OF A CONTRADICTION BETWEEN THESE TWO STANDARDS, THE MOST RESTRICTIVE (AS DETERMINED BY THE ENGINEER) SHALL APPLY.

6. PAVEMENT THICKNESS'S SHOWN IN THIS PLAN SET ARE "MINIMUM" NOT AVERAGE. PAVEMENT THICKNESS AT ALL LOCATIONS SHALL EXCEED THE THICKNESS SPECIFIED.

7. ANY DAMAGED PAVEMENT, CURB AND/OR SIDEWALK WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE TO THE SATISFACTION OF THE ENGINEER AND OWNER.

8. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE HANDICAPPED ROUTES (PER A.D.A. & T.A.S) EXIST TO AND FROM EVERY DOOR. IN NO CASE SHALL:

   A. HANDICAP RAMP SLOPES EXCEED 1 VERTICAL TO 12 HORIZONTAL.
   B. SIDEWALK CROSS SLOPES EXCEED 2.0 PERCENT.
   C. LONGITUDINAL SIDEWALK SLOPES EXCEED 5.0 PERCENT.
   D. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVEMENT CONSTRUCTION IF ANY SLOPES EXCEED THE ABOVE LIMITS.

9. REINFORCING BAR SPLICES SHALL BE STAGGERED WITH NO MORE THAN 2 SPLICES ADJACENT TO EACH OTHER.

10. STABILIZED SUBGRADE SHALL EXTEND A MINIMUM OF 1 FOOT BEYOND EDGE OF ALL PAVEMENT, OR AS DIRECTED IN GEOTECHNICAL REPORT.

11. ALL CONCRETE PAVEMENT SHALL BE FLOAT FINISHED MECHANICALLY WITH APPROVED SELF-PROPELLED MACHINES. HANDING FLOATING SHALL BE PERMITTED ONLY IN AREAS INACCESSIBLE TO A FINISHING MACHINE. AFTER FLOATING, CONTRACTOR SHALL PROVIDE A FINE OR MEDIUM-COARSE "BROOM FINISH," UNLESS OTHERWISE INDICATED BY THE OWNER, FOR ALL EXTERIOR SIDEWALKS, EXTERIOR RAMPS, EQUIPMENT AND TRANSFORMER PADS, AND SITE PAVING. BROOMING SHALL BE DONE TRANSVERSELY TO THE DIRECTION OF MAIN TRAFFIC. ALL FINISHING SHALL CONFORM TO A.C.I.301. CONTRACTOR SHALL DETERMINE THE APPROPRIATE MEANS & METHODS TO PROTECT THE FINISHED CONCRETE FROM PRECIPITATION FOR A MINIMUM OF 24 HOURS.

12. CONTRACTOR SHALL PROTECT THE FINISHED CONCRETE PAVEMENT AGAINST LOSS OF MOISTURE FOR NO LESS THAN 72 HOURS IN CONFORMANCE WITH THE A.C.I. MANUAL OF CONCRETE PRACTICE.

13. ALL PROPOSED PAVEMENT WITHIN ANY PUBLIC ROW SHALL BE CONSTRUCTED IN ACCORDANCE W/ THE APPROPRIATE DETAILS FROM THE APPLICABLE GOVERNING ENTITY AND WITH PROPER CONSTRUCTION INSPECTIONS.

14. UNLESS OTHERWISE SPECIFIED IN THE PLANS PAVEMENT STRIPING SHALL MEET THE FOLLOWING CRITERIA:
   A. MARKING PAINT: HIGH SOLIDS, WATER BASED ACRYLIC PAINT CONTAINING ULTRAVIOLET RESISTANT PIGMENTS.
      A.1. ICI PAINTS; TRAFFIC MARKING PAINT, #4800
      A.2. M.A.B. PAINTS; ZONE MARKING LATEX TRAFFIC PAINT, #072 LINE
      A.3. BENJAMIN MOORE AND CO.; SAFETY AND ZONE MARKING LATEX, M58
      A.4. PITTSBURGH PAINTS; ZONE & TRAFFIC MARKING PAINT, #11-23
      A.5. PORTER PAINT CO.; PORTERGUARD ACRYLIC TRAFFIC PAINT, #2408
      A.6. THE SHERWIN WILLIAMS CO.; PROMAR TRAFFIC MARKING PAINT, B29 SERIES

   B. COLORS:
      B.1. PARKING: WHITE
      B.2. TRAFFIC LANES, DIRECTIONS, LETTERING, ETC.:
           ON PRIVATE PROPERTY: WHITE
           IN PUBLIC R.O.W.: PER LOCAL CODE
      B.3. HANDICAPPED EMBLEMS: BLUE.
      B.4. FIRE LANE: RED.

15. CONTRACTOR TO CONFIRM AND/OR ADJUST ALL EXISTING AND PROPOSED UTILITIES AND APPURTENANCES TO FINISH GRADE PRIOR TO PLACEMENT OF ANY PAVEMENT.

WATER LINES

1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST A.H.J. AND TCEQ REGULATIONS, STANDARD SPECIFICATIONS, AND CONSTRUCTION DETAILS.

2. 4" THRU 12" WATER LINES SHALL BE P.V.C. CLASS 150, DR-18, AWWA C-900 AND 1" THRU 3" WATER LINES SHALL BE PVC SCHEDULE 40. 4" THRU 54" D.I.P. WATER LINES SHALL BE AWWA C151 (ANSI A21.51) AND DOUBLE WRAPPED IN 8-MIL POLYETHYLENE. PIPE SHALL BE LINED IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).

3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. WHERE PREVENTING MOVEMENT OF 16" OR GREATER PIPE IS NECESSARY DUE TO THRUST, USE RESTRAINED JOINTS.

4. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.

5. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER A.H.J. AND TCEQ REGULATIONS.

6. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.

7. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EACH 1,000 LINEAR FEET OF WATER LINE AND SHALL BE REPEATED IF CONTAMINATION PERSISTS.

8. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.

9. 4" THRU 12" FITTINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS PER ANSI A21.53, OR PUSH ON FITTINGS PER ANSI A21.10 PRESSURE RATED AT 250 PSIG.

10. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST A.H.J. AND TCEQ REQUIREMENTS. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF WATER PIPE LINE INCLUDED IN THE PROJECT.

11. ALL WATER LINES TO HAVE 5' MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEAR TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS. ALL WATER LINE INSTALLED OVER 8' DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.

12. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAP (OR OTHERWISE EFFECTIVELY COVER) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.

13. ALL FIRE LINES ARE TO BE DESIGNED AND INSTALLED BY A LICENSED RME-U, INCLUDING BUT NOT LIMITED TO MATERIALS, THRUST BLOCKING, AND APPURTENANCES, AND ARE TO BE TESTED PER NFPA REGULATIONS.

14. ALL UTILITY STRUCTURES, BOXES, AND VALVES PLACED WITHIN EXISTING/PROPOSED PAVING SHALL BE HEAVY DUTY TRAFFIC RATED.

SANITARY SEWERS

1. ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST A.H.J. AND TCEQ CRITERIA AND BE SUBJECT TO A REQUIRED FIELD TESTING. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF SEWER LINE INCLUDED IN THE PROJECT. REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 217, "DESIGN CRITERIA FOR SEWERAGE SYSTEMS" SHALL GOVERN WHERE CONFLICTS EXIST EXCEPT WHERE A.H.J. REQUIREMENTS ARE OF HIGHER STANDARDS.

2. SANITARY SEWER PIPE USED FOR CONNECTION TO SEWER IN PUBLIC RIGHT-OF-WAY SHALL BE C900 P.V.C. PIPE MEETING ASTM SPECIFICATION D3034 WITH RUBBER GASKET JOINTS. ALL OTHER PRIVATE SANITARY SEWER PIPE MATERIAL SHALL CONFORM TO THE FOLLOWING CRITERIA:

   A. POLYVINYL CHLORIDE (PVC) SCHEDULE 40 TO BE USED FOR PIPE SIZES 6 INCHES AND SMALLER.

   B. STANDARD DIMENSION RATIO (SDR) 35 PVC OR 26 PVC CAN BE USED FOR PIPE SIZES 8 INCHES AND LARGER. SEE NOTE 6 BELOW REGARDING SDR 26 FITTINGS.

3. ALL SEWERS UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1 1/2 SACK CEMENT/C.Y. STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE. CEMENT STABILIZED SAND TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C33, LATEST EDITION

4. ALL SANITARY SEWERS AND WATER LINES CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH A.H.J. AND TCEQ REGULATIONS.

5. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3"- 6" ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING AND GRADING OPERATIONS.

6. SDR 26 P.V.C. PIPE USES "FULL BODIED" SDR 26 P.V.C. FITTINGS OR D.I.P. FITTINGS WITH APPROPRIATE ADAPTERS. AWWA C-900 DR-18 P.V.C. PIPE USES EITHER AWWA C900 DR-18 P.V.C. FITTINGS OR D.I.P. FITTINGS.

7. DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE BETWEEN MANHOLES. SERVICE LEADS SHALL NOT BE TESTED. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. THE DEFLECTION TEST SHALL USE A RIGID 7-SIDED MANDREL, WITH A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. NO MECHANICAL PULLING IS ALLOWED.

8. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 217.2 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.

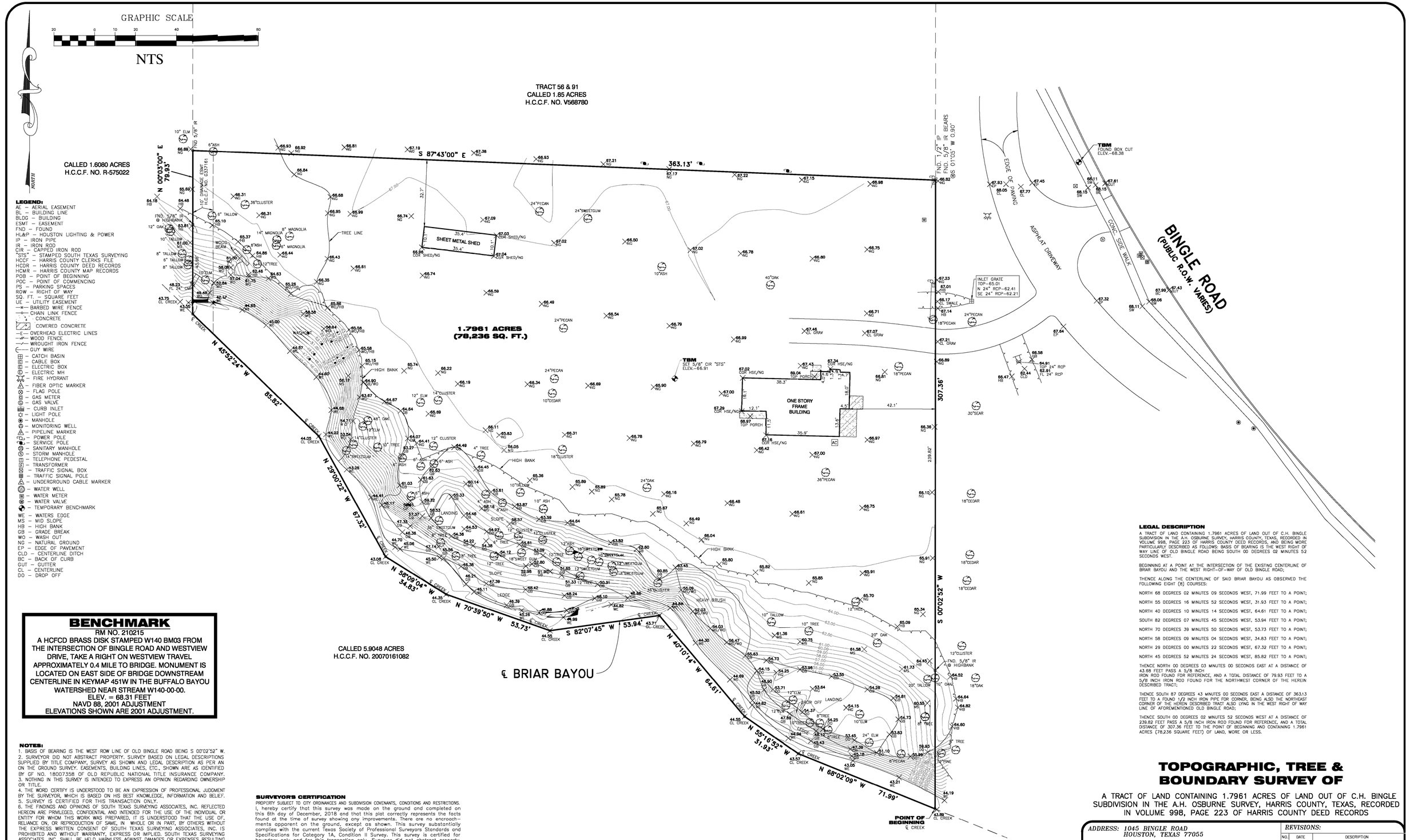
9. NO CONNECTIONS SHALL BE MADE TO THE EXISTING SANITARY SEWER LINES UNTIL ALL PROPOSED SEWER LINES HAVE BEEN THOROUGHLY CLEANED, TESTED AND APPROVED BY THE ENGINEER. THE ENGINEER AND A.H.J. SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE CONTRACTOR CONNECTING TO ANY EXISTING SEWER LINES.

10. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE A.H.J. AT LEAST 48 HOURS PRIOR TO PRESSURE AND DEFLECTION TEST ON ALL SANITARY LINES.

11. ALL SEWER LINES ENTERING A MANHOLE AT A FLOWLINE HIGHER THAN 3.0' OR 36" ABOVE THE MANHOLE INVERT MUST BE PROVIDED WITH A DROP PIPE OUTSIDE OF THE MANHOLE.

12. PROPOSED SANITARY SEWER CONNECTIONS AND/OR PROPOSED SANITARY SEWER MANHOLES TO BE CONNECTED TO AN EXISTING SANITARY SEWER MAIN MAY REQUIRE BYPASS PUMPING OPERATIONS OR OTHER MEANS AS REQUIRED BY THE A.H.J. TO AVOID THE INTERRUPTION OF SERVICE DURING CONSTRUCTION. CONTRACTOR SHALL INCLUDE THIS COST IN THE BASE BID.

13. ALL GRAVITY BASED SANITARY SEWER LINES ARE TO BE CONSTRUCTED FROM THE POINT OF CONNECTION AND WORKED UP IN ELEVATION. PLEASE N



LEGEND:
AE – AERIAL EASEMENT
BL – BUILDING LINE
BLDG – BUILDING
ESMT – EASEMENT
FND – FOUND
HL&P – HOUSTON LIGHTING & POWER
IP – IRON PIPE
IR – IRON ROD
CIR – CAPPED IRON ROD
"STS" – STAMPED SOUTH TEXAS SURVEYING
HCCF – HARRIS COUNTY CLERKS FILE
HCDR – HARRIS COUNTY DEED RECORDS
HCMR – HARRIS COUNTY MAP RECORDS
POB – POINT OF BEGINNING
POC – POINT OF COMMENCING
PS – PARKING SPACES
ROW – RIGHT OF WAY
SQ. FT. – SQUARE FEET
UE – UTILITY EASEMENT
–x– BARBED WIRE FENCE
–o– CHAIN LINK FENCE
– CONCRETE
COVERED CONCRETE
–E– OVERHEAD ELECTRIC LINES
WOOD FENCE
WROUGHT IRON FENCE
GUY WIRE
CATCH BASIN
CABLE BOX
ELECTRIC BOX
ELECTRIC MH
FIRE HYDRANT
FIBER OPTIC MARKER
FLAG POLE
GAS METER
GAS VALVE
CURB INLET
LIGHT POLE
MANHOLE
MONITORING WELL
PIPELINE MARKER
POWER POLE
SERVICE POLE
SANITARY MANHOLE
STORM MANHOLE
TELEPHONE PEDESTAL
TRANSFORMER
TRAFFIC SIGNAL BOX
TRAFFIC SIGNAL POLE
UNDERGROUND CABLE MARKER
WATER WELL
WATER METER
WATER VALVE
TEMPORARY BENCHMARK
WE – WATERS EDGE
MS – MID SLOPE
HB – HIGH BANK
GB – GRADE BREAK
WO – WASH OUT
NG – NATURAL GROUND
EP – EDGE OF PAVEMENT
OLD – CENTERLINE DITCH
BC – BACK OF CURB
GUT – GUTTER
CL – CENTERLINE
DO – DROP OFF

BENCHMARK

RM NO. 210215
A HCFCD BRASS DISK STAMPED W140 BM03 FROM THE INTERSECTION OF BINGLE ROAD AND WESTVIEW DRIVE, TAKE A RIGHT ON WESTVIEW TRAVEL APPROXIMATELY 0.4 MILE TO BRIDGE. MONUMENT IS LOCATED ON EAST SIDE OF BRIDGE DOWNSTREAM CENTERLINE IN KEYMAP 451W IN THE BUFFALO BAYOU WATERSHED NEAR STREAM W140-00-00.
ELEV. = 68.31 FEET
NAVD 88, 2001 ADJUSTMENT
ELEVATIONS SHOWN ARE 2001 ADJUSTMENT.

NOTES:
1. BASIS OF BEARING IS THE WEST ROW LINE OF OLD BINGLE ROAD BEING S 00°02'52" W.
2. SURVEYOR DID NOT ABSTRACT PROPERTY. SURVEY BASED ON LEGAL DESCRIPTIONS SUPPLIED BY TITLE COMPANY, SURVEY AS SHOWN AND LEGAL DESCRIPTION AS PER AN ON THE GROUND SURVEY. EASEMENTS, BUILDING LINES, ETC., SHOWN ARE AS IDENTIFIED BY GF NO. 18007358 OF OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY.
3. NOTHING IN THIS SURVEY IS INTENDED TO EXPRESS AN OPINION REGARDING OWNERSHIP OR TITLE.
4. THE WORD CERTIFY IS UNDERSTOOD TO BE AN EXPRESSION OF PROFESSIONAL JUDGMENT BY THE SURVEYOR, WHICH IS BASED ON HIS BEST KNOWLEDGE, INFORMATION AND BELIEF.
5. SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.
6. THE FINDINGS AND OPINIONS OF SOUTH TEXAS SURVEYING ASSOCIATES, INC. REFLECTED HEREON ARE PRIVILEGED, CONFIDENTIAL AND INTENDED FOR THE USE OF THE INDIVIDUAL OR ENTITY FOR WHOM THIS WORK WAS PREPARED, IT IS UNDERSTOOD THAT THE USE OF, RELIANCE ON, OR REPRODUCTION OF SAME, IN WHOLE OR IN PART, BY OTHERS WITHOUT THE EXPRESS WRITTEN CONSENT OF SOUTH TEXAS SURVEYING ASSOCIATES, INC. IS PROHIBITED AND WITHOUT WARRANTY, EXPRESS OR IMPLIED. SOUTH TEXAS SURVEYING ASSOCIATES, INC. SHALL BE HELD HARMLESS AGAINST DAMAGES OR EXPENSES RESULTING FROM SUCH UNAUTHORIZED USE, RELIANCE OR REPRODUCTION. COPYRIGHT 2018. ALL RIGHTS RESERVED.

FLOOD NOTE:
PROPERTY LIES WITHIN FLOOD ZONE X & AE BFE: 53.0' ACCORDING TO F.I.R.M. MAP NO. 48201C 0644L, DATE 06-18-2007, BY GRAPHING PLOTTING ONLY, WE DO NOT ASSUME RESPONSIBILITY FOR EXACT DETERMINATION.
BEFORE ANY DEVELOPMENT PLANNING, DESIGN, OR CONSTRUCTION IS STARTED, THE COMMUNITY, CITY AND COUNTY IN WHICH SUBJECT TRACT EXISTS SHOULD BE CONTACTED. SAID ENTITIES MAY IMPOSE LARGER FLOOD PLAIN AND FLOODWAY AREAS THAN SHOWN BY F.I.R.M. MAPS THAT WILL AFFECT DEVELOPMENT.

SURVEYORS CERTIFICATION
PROPERTY SUBJECT TO CITY ORDINANCES AND SUBDIVISION COVENANTS, CONDITIONS AND RESTRICTIONS.
I, hereby certify that this survey was made on the ground and completed on this 6th day of December, 2018 and that this plat correctly represents the facts found at the time of survey showing any improvements. There are no encroachments apparent on the ground, except as shown. This survey substantially complies with the current Texas Society of Professional Surveyors Standards and Specifications for Category 1A, Condition II Survey. This survey is certified for boundary only and for this transaction only. Surveyor did not abstract property. Easements, building lines, etc., shown are as identified by:
GF 18007358 of OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

STATE OF TEXAS REGISTERED FRED W. LAWTON 2321 PROFESSIONAL LAND SURVEYOR

Fred W. Lawton, Registered Professional Land Surveyor No. 2321

LEGAL DESCRIPTION
A TRACT OF LAND CONTAINING 1.7961 ACRES OF LAND OUT OF C.H. BINGLE SUBDIVISION IN THE A.H. OSBURNE SURVEY, HARRIS COUNTY, TEXAS, RECORDED IN VOLUME 998, PAGE 223 OF HARRIS COUNTY DEED RECORDS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BASIS OF BEARING IS THE WEST RIGHT OF WAY LINE OF OLD BINGLE ROAD BEING SOUTH 00 DEGREES 02 MINUTES 52 SECONDS WEST.

BEGINNING AT A POINT AT THE INTERSECTION OF THE EXISTING CENTERLINE OF BRIAR BAYOU AND THE WEST RIGHT-OF-WAY OF OLD BINGLE ROAD;

THENCE ALONG THE CENTERLINE OF SAID BRIAR BAYOU AS OBSERVED THE FOLLOWING EIGHT (8) COURSES:

NORTH 68 DEGREES 02 MINUTES 09 SECONDS WEST, 71.99 FEET TO A POINT;

NORTH 55 DEGREES 16 MINUTES 52 SECONDS WEST, 31.93 FEET TO A POINT;

NORTH 40 DEGREES 10 MINUTES 14 SECONDS WEST, 64.61 FEET TO A POINT;

SOUTH 82 DEGREES 07 MINUTES 45 SECONDS WEST, 53.94 FEET TO A POINT;

NORTH 70 DEGREES 39 MINUTES 50 SECONDS WEST, 53.73 FEET TO A POINT;

NORTH 58 DEGREES 09 MINUTES 04 SECONDS WEST, 34.83 FEET TO A POINT;

NORTH 29 DEGREES 00 MINUTES 22 SECONDS WEST, 67.32 FEET TO A POINT;

NORTH 45 DEGREES 52 MINUTES 24 SECONDS WEST, 85.82 FEET TO A POINT;

THENCE NORTH 00 DEGREES 03 MINUTES 00 SECONDS EAST AT A DISTANCE OF 43.68 FEET PASS A 5/8 INCH IRON ROD FOUND FOR REFERENCE, AND A TOTAL DISTANCE OF 79.93 FEET TO A 5/8 INCH IRON ROD FOUND FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE SOUTH 87 DEGREES 43 MINUTES 00 SECONDS EAST A DISTANCE OF 363.13 FEET TO A FOUND 1/2 INCH IRON PIPE FOR CORNER, BEING ALSO THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT ALSO LYING IN THE WEST RIGHT OF WAY LINE OF AFOREMENTIONED OLD BINGLE ROAD;

THENCE SOUTH 00 DEGREES 02 MINUTES 52 SECONDS WEST AT A DISTANCE OF 239.82 FEET PASS A 5/8 INCH IRON ROD FOUND FOR REFERENCE, AND A TOTAL DISTANCE OF 307.36 FEET TO THE POINT OF BEGINNING AND CONTAINING 1.7961 ACRES (78,236 SQUARE FEET) OF LAND, MORE OR LESS.

TOPOGRAPHIC, TREE & BOUNDARY SURVEY OF

A TRACT OF LAND CONTAINING 1.7961 ACRES OF LAND OUT OF C.H. BINGLE SUBDIVISION IN THE A.H. OSBURNE SURVEY, HARRIS COUNTY, TEXAS, RECORDED IN VOLUME 998, PAGE 223 OF HARRIS COUNTY DEED RECORDS

TOPOGRAPHIC SURVEY (1 OF 2)
C0.2

ADDRESS: 1045 BINGLE ROAD
HOUSTON, TEXAS 77055

JOB NO: 2099-18
DATE: 12-06-18
SCALE: 1" = 20'
SHEET 1 OF 1

REVISIONS:

NO.	DATE	DESCRIPTION
1.	12-12-18	1' CONTOURS
2.	1-24-19	COMMENTS

SOUTH TEXAS SURVEYING ASSOCIATES, INC.
11281 Richmond Ave. Bldg J, Suite 101, Houston, Texas 77082
281-556-6918 FAX 281-556-9331
Firm Number: 10045400
Copyright 2018 South Texas Surveying Associates, Inc.
K:\COMRES 2018\2099-18.DWG (BP)

JOB NO: 2099-18

TOPOGRAPHIC SURVEY (2 OF 2)
C0.3

NTS



VICINITY MAP
NOT TO SCALE
KEY MAP NO. 490D

LEGEND

AIN	TYPE A INLET
B	BOLLARD
BBIN	TYPE BB INLET
BRS.	BEARS
BS	BRICK SIGN MONUMENT
CIN	TYPE C INLET
CONC.	CONCRETE
EB	ELECTRICAL BOX
ECR	ELECTRICAL CONDUIT RISER
ELEV.	ELEVATION
EM	ELECTRIC METER
EMP	ELECTRIC METER POLE
ESMT.	EASEMENT
FH	FIRE HYDRANT
FL	FLOOD LAMP
FND.	FOUND
FOM	FIBER OPTIC MARKER
FP	FLAG POLE
GXX.XX	GUTTER ELEVATION
H.C.C.F. NO.	HARRIS COUNTY CLERK FILE NUMBER
H.C.M.R.	HARRIS COUNTY MAP RECORDS
I.	IRON
ICV	IRRIGATION CONTROL VALVE
MP	METER POLE
PG.	PAGE
PLM	PIPELINE MARKER
PP	POWER POLE
PPG	POWER POLE WITH GUY
PPT	POWER POLE WITH TRANSFORMER
PPTG	POWER POLE WITH TRANSFORMER AND GUY
R.O.W.	RIGHT-OF-WAY
RCP	REINFORCED CONCRETE PIPE
SAMH	SANITARY MANHOLE
SAN.	SANITARY
SP	SERVICE POLE
SPG	SERVICE POLE WITH GUY
SQ. FT.	SQUARE FEET
STM.	STORM
STMH	STORM MANHOLE
TBM	TEMPORARY BENCHMARK
TCXX.XX	TOP OF CURB ELEVATION
TH	THROAT
TMH	TELEPHONE MANHOLE
TPED	TELEPHONE PEDESTAL
TSP	TRAFFIC SIGNAL POLE
U.E.	UTILITY EASEMENT
UCB	UNDERGROUND COMMUNICATION BOX
UEB	UNDERGROUND ELECTRICAL BOX
UTB	UNDERGROUND TELEPHONE BOX
VOL.	VOLUME
WIF	WROUGHT IRON FENCE
WM	WATER METER
WV	WATER VALVE
—— E ——	OVERHEAD ELECTRIC

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

NOTES

1. BEARING ORIENTATION IS BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, SOUTH CENTRAL ZONE.
2. THE SQUARE FOOTAGE VALUES SHOWN HEREON IS A MATHEMATICAL VALUE CALCULATED FROM THE BOUNDARY DATA SHOWN HEREON AND DOES NOT REPRESENT THE PRECISION OF CLOSURE OF THIS SURVEY OR THE ACCURACY OF CORNER MONUMENTS FOUND OR PLACED.
3. SURVEYED PROPERTY LIES IN UNSHADED ZONE X (AREAS OUTSIDE 0.2% ANNUAL CHANCE FLOOD HAZARD), ZONE X SHADED (0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE), ZONE AE (AREAS WITHOUT A BASE FLOOD ELEVATION), AND ZONE AE REGULATORY FLOODWAY ACCORDING TO FLOOD INSURANCE RATE MAP FOR THE CITY OF SPRING VALLEY, MAP NUMBER 48201C0645L, DATED EFFECTIVE 08/18/2007 AND MAP NUMBER 48201C0665M, DATED EFFECTIVE 06/09/2014.
4. THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A TITLE REPORT OR TITLE COMMITMENT. SURVEYOR DID NOT ABSTRACT SURVEYED PROPERTY AND THERE MAY BE EASEMENTS, OF RECORD OR NOT THAT AFFECT SURVEYED PROPERTY.
5. VISIBLE IMPROVEMENTS AND UTILITIES WERE LOCATED AT TIME OF SURVEY AND SHOWN HEREON. SUBSURFACE PROBING, EXCAVATION OR EXPLORATION IS BEYOND THE SCOPE OF THIS SURVEY AND WAS NOT CONDUCTED BY SURVEYOR.
6. ALL NATURAL GROUND ELEVATIONS SHOWN HEREON ARE MEASURED TO THE NEAREST TENTH OF A FOOT AND ALL HARD SURFACE ELEVATIONS SHOWN HEREON ARE MEASURED TO THE NEAREST HUNDREDTH OF A FOOT.

I, SEAN CONLEY, A REGISTERED PROFESSIONAL LAND SURVEYOR OF THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS MANUAL OF PRACTICE REQUIREMENTS FOR A CATEGORY 6, CONDITION I SURVEY.
FIELDWORK WAS COMPLETED ON APRIL 28, 2025.

DATE OF SURVEY: MAY 5, 2025.

STATE OF TEXAS · REGISTERED · SEAN CONLEY · 6739 · PROFESSIONAL · LAND SURVEYOR

SEAN CONLEY RPLS NO. 6739
SEAN@CONLEYLAND.COM

ADDRESS NOT AVAILABLE

PARTIAL TOPOGRAPHIC SURVEY OF
BINGLE ROAD
SITUATED IN THE
A.H. OSBOURNE SURVEY, ABSTRACT 610
CITY OF SPRING VALLEY
HARRIS COUNTY, TEXAS

CONLEY LAND SERVICES, LLC
18635 NORTH ELDRIDGE PARKWAY, SUITE 101
TOMBALL, TX 77377
TEL. (832) 729-4997
CONLEYLAND.COM
TBPELS FIRM NO. 10194732

SCALE: 1"=40'	JOB NO. 25.0070	DATE: 05/05/2025	FB NO. 57

DOLPHIN'S COVE
(R.O.W. VARIES)

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

1
DOLPHIN'S COVE
SUBDIVISION
FINAL PLAT
F.C. NO. 695410 H.C.M.R.

LOT 3

CALL 1.85 AC.
GRACE CHAPEL CHINESE-AMERICAN NEW TESTAMENT
H.C.C.F. NO. V568780

EX BUILDING
(TO REMAIN)

EX SIDEWALK
(TO REMAIN)

EX DRIVEWAY
(TO BE REMOVED)

LOT 7 | LOT 8 | LOT 9

WOODSBOROUGH CIRCLE
(CONCRETE)
(28' R.O.W.)

LOT 6 | LOT 5 | LOT 4

PUMP STATION FSMT
VOL. 326, PG.16 H.C.M.R.

W MEMORIAL PARK DR.
(CONCRETE)
(R.O.W. VARIES)

EX CURB CUT
(TO REMAIN)

BEG. 30 LF OF CURB
(TO BE REMOVED)

END 30 LF OF CURB
(TO BE REMOVED)

BEG. 18 LF OF CURB
(TO BE REMOVED)

END 18 LF OF CURB
(TO BE REMOVED)

BEG. 270 LF OF CURB
(TO BE REMOVED)

END 270 LF OF CURB
(TO BE REMOVED)

BEG. 55 LF OF CURB
(TO BE REMOVED)

END 55 LF OF CURB
(TO BE REMOVED)

BEG. 108 LF OF CURB
(TO BE REMOVED)

END 108 LF OF CURB
(TO BE REMOVED)

76 LF - 24" STORM
SEWER (TO BE REMOVED)

EX TOP OF BANK
(TO BE REMODELED)

BINGLE RD
(CONCRETE)
(R.O.W. VARIES)

EX 6" ASH TREE
(TO BE REMOVED)

EX 6" TALLOW TREE
(TO BE REMOVED)

EX 36" TREE CLUSTER
(TO BE REMOVED)

EX 8" MAGNOLIA TREE
(TO BE REMOVED)

EX 14" MAGNOLIA TREE
(TO BE REMOVED)

EX 6" MAGNOLIA TREE
(TO BE REMOVED)

EX 24" PECAN TREE
(TO BE REMOVED)

EX 24" SWEETGUM TREE
(TO BE REMOVED)

CALL 1.658 AC.
WALLACE AND MARIE DILLARD
FAMILY LIMITED PARTNERSHIP, LTD.
H.C.C.F. NO. RP-2022-152249

EX 10" ASH TREE
(TO BE REMOVED)

EX 40" OAK TREE
(TO REMAIN)

EX 24" PECAN TREE
(TO BE REMOVED)

EX 18" PECAN TREE
(TO BE REMOVED)

EX 24" PECAN TREE
(TO BE REMOVED)

℄ EX BRIAR BAYOU

EX 14" TREE CLUSTER
(TO BE REMOVED)

EX 12" ELM TREE
(TO BE REMOVED)

EX 24" PECAN TREE
(TO BE REMOVED)

EX 10" CEDAR TREE
(TO BE REMOVED)

EX 18" PECAN TREE
(TO BE REMOVED)

EX 24" PECAN TREE
(TO BE REMOVED)

EX 12" TREE CLUSTER
(TO BE REMOVED)

EX 18" TREE CLUSTER
(TO BE REMOVED)

EX 4" TREE
(TO BE REMOVED)

EX 30" CEDAR TREE
(TO REMAIN)

EX 24" OAK TREE
(TO BE REMOVED)

EX 18" CEDAR TREE
(TO BE REMOVED)

EX 36" PECAN TREE
(TO BE REMOVED)

EX 18" CEDAR TREE
(TO BE REMOVED)

EX 18" CEDAR TREE
(TO BE REMOVED)

EX 12" TREE
(TO BE REMOVED)

EX TOP OF BANK
(TO BE REMODELED)

EX TOP OF BANK
(TO BE REMODELED)

EX TOP OF BANK
(TO BE REMODELED)

EX TOP OF BANK
(TO BE REMODELED)

EX TOP OF BANK
(TO BE REMODELED)

ZONE X (SHADED)

REGULATORY FLOODWAY

℄ EX BRIAR BAYOU

ZONE AE

ZONE X (SHADED)

ZONE X (UNSHADED)

ZONE X (SHADED)

℄ EX BRIAR BAYOU

ZONE AE

ZONE X (SHADED)

REGULATORY FLOODWAY

ZONE X (UNSHADED)

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST
72 HOURS NOTICE BEFORE YOU DIG, DRILL
OR BLAST - STOP CALL
TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

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BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

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SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
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TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

0 15 30 60
1 inch = 30 ft.
GRAPHIC SCALE

KEYED NOTES

EXISTING FEATURES TO BE REMOVED

1. EX FIRE HYDRANT ASSEMBLY & GATE VALVE (TO BE RELOCATED)
2. EX PEDESTRIAN TRAFFIC SIGNAL POLE (TO BE RELOCATED)
3. EX UNDERGROUND ELECTRICAL BOX (TO BE RELOCATED)
4. EX WATER METER (TO BE REMOVED)
5. EX POWER POLE W/ GUY WIRE (TO BE RELOCATED)
6. EX TELEPHONE PEDESTAL (TO BE RELOCATED)
7. EX TYPE "A" INLET (TO BE REMOVED)
8. EX MAILBOX (TO BE REMOVED)
9. EX TRAFFIC SIGNAL POLE (TO BE RELOCATED)
10. EX UNDERGROUND ELECTRICAL BOX (TO BE RELOCATED)

EX TREE (TO BE REMOVED)
EXISTING BUILDING (TO BE REMOVED) (SEE NOTE 4)
EXISTING CONCRETE PAVEMENT (TO BE REMOVED)
EXISTING ASPHALT PAVEMENT (TO BE REMOVED)
EXISTING SIDEWALK (TO BE REMOVED)
SAWCUT (FULL DEPTH)

LEGEND

- GAS — EXISTING GAS LINE
- STORM — EXISTING STORM SEWER
- WL — EXISTING WATER LINE
- SS — EXISTING SANITARY SEWER
- OH — EXISTING OH POWER LINE
- EXISTING MANHOLE
- 100 — EXISTING MAJOR CONTOUR
- 99 — EXISTING MINOR CONTOUR

GENERAL NOTES

1. ALL SAWCUTS TO EXTEND FULL DEPTH OF EXISTING PAVEMENT, AND IN NO CASE SHALL THE PROPOSED CONCRETE PAVEMENT SECTION BE LESS THAN 24 INCHES IN WIDTH. CONTRACTOR TO SAWCUT ALONG GUTTER OF EXISTING PAVEMENT AND ADJUST LOCATION OF SAWCUT TO ENSURE ADEQUATE WIDTH OF PROPOSED PAVEMENT.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL FOR ALL WORK TO BE DONE IN RIGHT-OF-WAY ACCORDING TO THE LATEST MUTCD REQUIREMENTS.
3. CONTRACTOR TO CLEAR AND GRUB PROJECT SITE AS NECESSARY FOR INSTALLATION OF PROPOSED FACILITIES. CLEARING AND GRUBBING CONSISTS OF REMOVAL AND DISPOSAL OF TREES, STUMPS, BRUSH, ROOTS, VEGETATION, LOGS, RUBBISH AND OTHER OBJECTIONABLE MATTER WITHIN THE DESIGNATED AREA. CONTRACTOR TO REMOVE STUMPS AND ROOTS WITHIN CLEARING LIMITS TO MINIMUM DEPTH OF TWO (2') FEET BELOW NATURAL GROUND ELEVATION. CLEARED AND GRUBBED MATERIAL BECOMES PROPERTY OF THE CONTRACTOR, TO BE THE REMOVED FROM THE WORK SITE OR DISPOSED OF AT NO EXTRA COST TO THE OWNER.
4. CONTRACTOR TO REMOVE CONCRETE SLAB AND GRADE BEAMS IN THEIR ENTIRETY. CONTRACTOR TO NOTE ALL CONCRETE FOOTINGS LEFT IN PLACE ON A SURVEY AND PROVIDE THAT INFORMATION TO THE OWNER.

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

NO.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.304.2000
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1:XX
DRAWN BY: SRH
CHECKED BY: BTH

DEMOLITION PLAN

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C0.4

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

Point Table		
Point #	Northing	Easting
1000	13851464.61	3078487.91
1001	13851467.45	3078559.42
1002	13851379.52	3078562.91
1003	13851375.69	3078466.61
1004	13851446.16	3078463.82
1005	13851447.14	3078488.61
2000	13851397.00	3078570.30
2001	13851401.38	3078680.77
2002	13851341.50	3078683.15
2003	13851337.78	3078589.42
2004	13851343.76	3078572.41

DOLPHIN'S COVE (R.O.W. VARIES)

① DOLPHIN'S COVE SUBDIVISION FINAL PLAT F.C. NO. 695410 H.C.M.R.

LOT 3

CALL 1.85 AC. GRACE CHAPEL CHINESE–AMERICAN NEW TESTAMENT H.C.C.F. NO. V568780

CALL 1.658 AC. WALLACE AND MARIE DILLARD FAMILY LIMITED PARTNERSHIP, LTD. H.C.C.F. NO. RP–2022–152249

CALLED 2.0 ACRES CITY OF SPRING VALLEY, TEXAS H.C.C.F. NO. L945365

EX TYPE "A" INLET TG 68.13(±) EX 24" ST 63.21(±)(N) EX 24" FL 63.16(±)(S)

EX FIRE HYDRANT

EX TYPE "C" INLET RIM 67.89(±) TH 67.20(±) EX 24" FL 63.39(±)(E)

EX STM MH RIM 67.89(±) EX 24" FL 63.06(±)(E) EX 72" FL 53.53(±)(S) EX 72" FL 53.41(±)(N)

EX SSWR MH RIM 67.01(±) EX 8" FL 61.84(±)(W) EX 12" FL 61.74(±)(S) EX 12" FL 61.67(±)(N)

EX STM MH RIM 67.73(±) EX 24" FL 58.65(±)(W) EX 72" FL 53.28(±)(N) EX 72" FL 53.23(±)(S)

EX TYPE "A" INLET TG 67.71(±) EX 24" ST 62.87(±)(N) EX 24" FL 59.08(±)(E)

EX DRIVEWAY (TO BE MODIFIED)

BEG. 50 – LF PROP DOWELED ON CONCRETE CURB

END 50 – LF PROP DOWELED ON CONCRETE CURB

EX BLDG (TO REMAIN) 10,000+ SQ FT

PROP BLDG 8,003 SQ FT FF = 67.75

PROP BLDG 6,469 SQ FT FF = 67.75

109.93' (±) (SEE NOTE 4)

96.37' (±) (SEE NOTE 4)

87.99' (±) (SEE NOTE 4)

59.28' (±) (SEE NOTE 4)

70.52' (±) (SEE NOTE 4)

WOODSBOROUGH CIRCLE (CONCRETE) (28' R.O.W.)

LOT 7 LOT 8 LOT 9 LOT 6 LOT 5 LOT 4

EX TELEPHONE MH

EX SSWR MH RIM 66.60(±) EX 8" FL 63.71(±)(SE) EX 12" FL 62.10(±)(N)

PUMP STATION ESMT VOL. 326, PG.16 H.C.M.R.

EX LIFT STATION VAULT

W MEMORIAL PARK DR. (CONCRETE) (R.O.W. VARIES)

EX STM MH RIM 67.82(±) EX 72" FL 53.16(±)(N) EX 72" FL 53.13(±)(SE)

EX TYPE "C" INLET RIM 66.06(±) TH 65.44(±) EX 24" FL 60.68(±)(SW)

EX STM MH RIM 67.30(±) EX 24" FL 60.12(±)(NE) EX 72" FL 53.18(±)(NW) EX 72" FL 53.11(±)(SE)

EX TELEPHONE MH

EX TYPE "A" INLET TG 65.97(±) EX 24" ST 63.36(±)(NE)

EX TYPE "D" INLET RIM 65.10(±) EX 24" FL 62.50(±)(SW)

EX STM MH RIM 65.54(±) EX 72" FL 53.04(±)(NW) EX 72" FL 52.91(±)(SE)

EX TYPE "C" INLET RIM 65.09(±) TH 64.42(±) EX 24" FL 68.19(±)(S)

EX STM MH RIM 64.88(±) EX 24" FL 57.46(±)(N) EX 24" FL 56.82(±)(W) EX 72" FL 53.03(±)(NW) EX 72" FL 52.89(±)(S)

EX TYPE "C" INLET RIM 65.60(±) TH 64.65(±) EX 24" FL 58.14(±)(S)

EX TYPE "C" INLET RIM 65.36(±) TH 64.39(±) EX 24" FL 57.81(±)(NW) EX 24" FL 57.73(±)(SE) EX 24" FL 57.65(±)(E)

EX TYPE "C" INLET RIM 65.62(±) TH 64.71(±) EX 24" FL 58.08(±)(NW)

BINGLE RD (CONCRETE) (R.O.W. VARIES)

EX WOOD BEAM

℄ EX BRIAR BAYOU

REGULATORY FLOODWAY

ZONE X (SHADED)

ZONE AE

ZONE X (UNSHADED)

EX SIDEWALK

EX GAS

EX 72" STM

EX 24" STM

EX 12" SAN

EX OH

EX WL

EX SS

EX GAS

EX 100

EX 99

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST 72 HOURS NOTICE BEFORE YOU DIG, DRILL OR BLAST – STOP CALL
TEXAS ONE CALL SYSTEM
1–800–344–8377
IN HOUSTON
(713)–223–4567

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

0 15 30 60
1 inch = 30 ft.
GRAPHIC SCALE

LEGEND

- PROPOSED FIRE LANE (RED STRIPING)
- 1000 — BUILDING POINT NUMBER
- PROPOSED BUILDING PERIMETER SIDEWALK
- PROPOSED CURB RAMP
- ① — PARKING SPACE COUNT
- EX. MANHOLE
- EX. STORM SEWER
- WL — EX. WATER LINE
- SS — EX. SANITARY SEWER LINE
- OH — EX. OVERHEAD POWER LINE
- GAS — EX. UNDERGROUND GAS LINE
- 100 — EX. MAJOR CONTOUR
- 99 — EX. MINOR CONTOUR

GENERAL NOTES

1. PAVEMENT DIMENSIONS AND RADII ARE FACE TO FACE OF CURB, UNLESS OTHERWISE NOTED.
2. RADII ARE 3' UNLESS OTHERWISE NOTED.
3. REFER TO SITE ELECTRICAL PLAN FOR PROPOSED SITE LIGHTING LAYOUT.
4. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING/FOUNDATION DIMENSIONS.

FIRE LANE MARKING NOTES

CURBS LOCATED ON EITHER SIDE OF A FIRE LANE SHALL BE PAINTED **RED** OR A **RED** STRIPE SHALL BE PLACED ALONG THE PAVEMENT WHERE THERE IS NO CURB. WHERE A FIRE LANE PASSES BETWEEN HEAD–IN PARKING SPACES, THE RED STRIPE SHOULD BE PLACED ALONG THE REAR OF THESE SPACES CLEARLY DEFINING THE FIRE LANE. PAINTED CURBS AND FIRE LANE STRIPES SHALL ALSO BE CONSPICUOUSLY AND LEGIBLY MARKED WITH THE WARNING '**FIRE LANE-TOW AWAY ZONE**' IN WHITE LETTERS AT LEAST THREE (3) INCHES IN HEIGHT, AT INTERVALS NOT EXCEEDING (50) FEET

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

NO. | REVISIONS | DATE

ALJ Lindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.320.9955
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

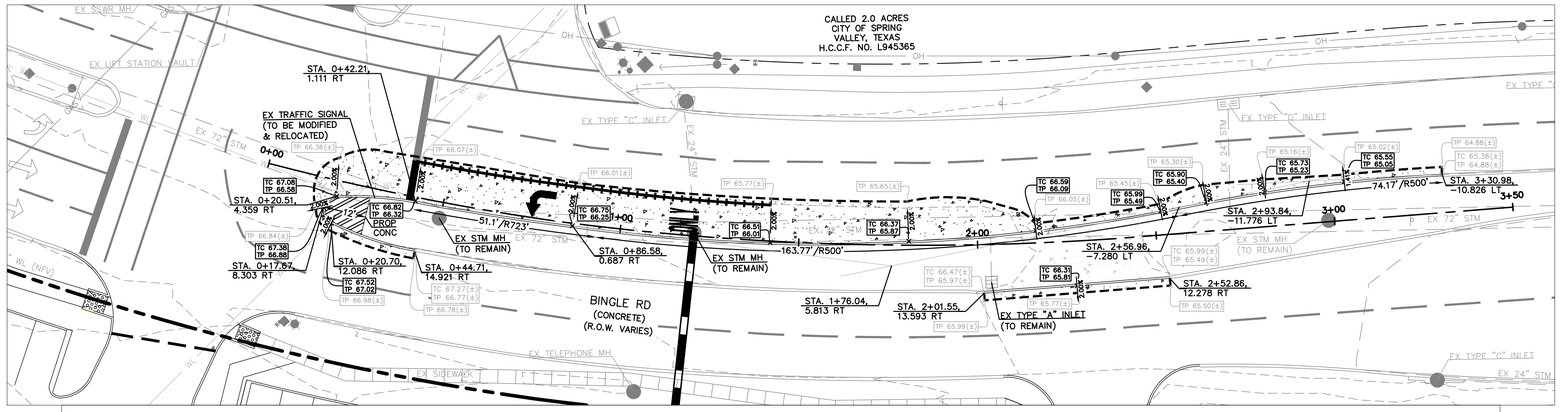
ALJ PROJECT NO. 022.25.CV.620 | DATE: AUGUST 2026 | SCALE: 1" = 30' | DRAWN BY: SRH | CHECKED BY: BTH

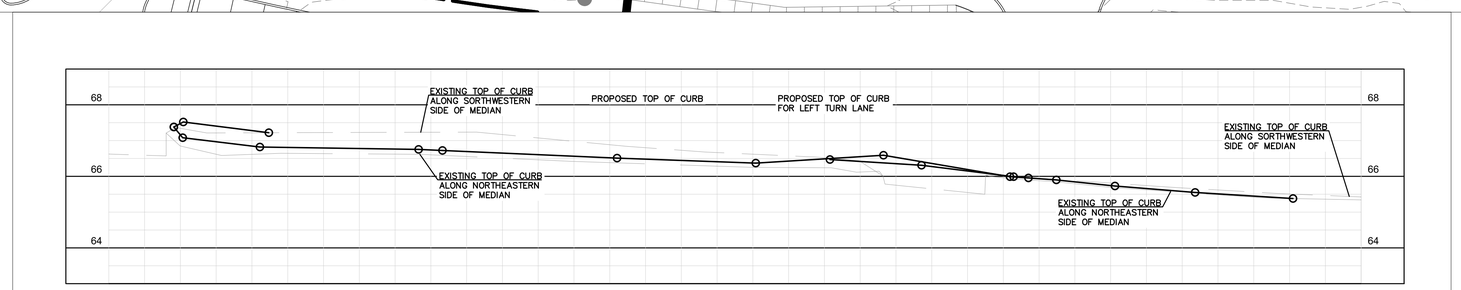
DIMENSION CONTROL PLAN

BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C1.0





BINGLE RD. LEFT TURN LANE PROFILE

SCALE: 1"=20' H; 1"=2' V

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
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TBM 25.0070-7
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ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

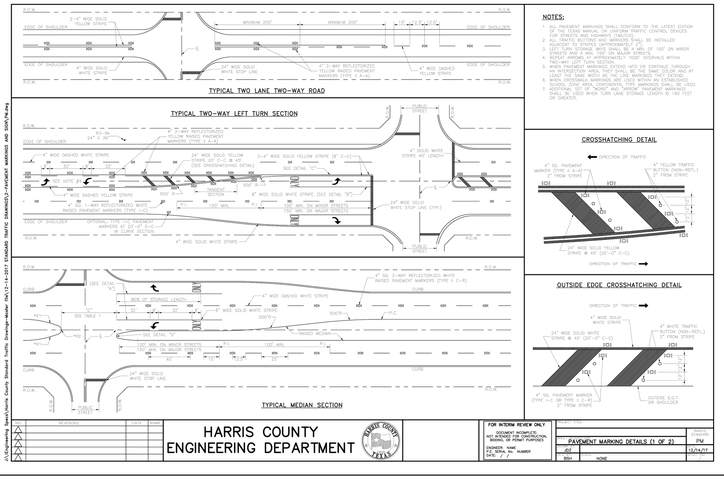
TBM 25.0070-8
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ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

POINT	STATION	OFFSET		TC
A	0+07.80	12.10'	LT	142.78'
B	0+50.73	5.80'	LT	143.13'
C	0+53.81	1.55'	LT	142.95'
D	0+51.51	3.04'	RT	142.77'
E	0+12.23	16.61'	RT	142.41'
F	1+60.65	8.18'	RT	143.00'
G	1+29.75	3.18'	RT	142.98'
H	1+27.55	0.00'	RT	143.26'
I	1+29.60	3.37'	LT	143.55'
J	1+61.73	9.85'	LT	143.55'
K	2+09.77	9.92'	LT	143.70'
L	2+46.27	10.82'	LT	143.57'
M	2+89.01	13.44'	LT	143.36'
N	3+69.68	11.85'	LT	143.07'

*ALL POINTS AND INFORMATION REFLECT BACK OF CURB.

LEGEND

- PROPOSED TYPE "A" INLET (SEE DETAIL, SHEET C7.4)
- TG — TOP OF GRATE
- TP — TOP OF PAVEMENT
- TC — TOP OF CURB
- TS — TOP OF SIDEWALK
- FG — FINISHED GROUND
- FF — FINISHED FLOOR
- TR — TOP OF RAMP
- EXISTING SANITARY OR STORM SEWER MANHOLE
- PROPOSED SAW CUT
- DRAINAGE FLOW ARROWS
- 100 — EXISTING MAJOR CONTOUR
- 99 — EXISTING MINOR CONTOUR

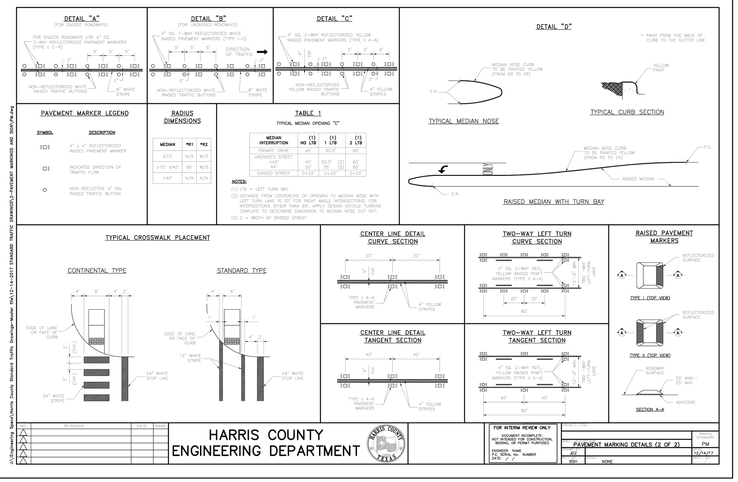


NOTES:

1. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND TXDOT STANDARDS.
2. ALL TRAFFIC BUTTONS AND MARKERS SHALL BE INSTALLED ADJACENT TO STRIPES (APPROXIMATELY 6" AWAY).
3. REPEAT ARROWS AT APPROXIMATELY 500' INTERVALS OF TWO-WAY STREETS AND 1,000' ON MAJOR STREETS.
4. REPEAT ARROWS AT APPROXIMATELY 1000' INTERVALS WITHIN ONE-WAY STREETS.
5. WHEN PAVEMENT MARKINGS EXTEND INTO OR CONTINUE THROUGH AN INTERSECTION AREA, THEY SHALL BE THE SAME COLOR AND AT THE SAME WIDTH AS THE LINE BEING EXTENDED OR CONTINUED.
6. WHEN INTERMINAL MARKINGS ARE USED WITHIN AN ESTABLISHED ROADWAY, TURN AREA, CONFIGURATION, TYPE MARKINGS SHALL BE USED.
7. ALL TWO-WAY LEFT TURN LANES, REGARDLESS OF LENGTH, SHALL BE SOLID WHICH TURN LANE STORAGE LENGTH IS USED FOR GRADE(S).

CROSSHATCHING DETAIL

OUTSIDE EDGE CROSSHATCHING DETAIL



PAVEMENT MARKER LEGEND

SYMBOL	DESCRIPTION
HDI	4" x 4" REFLECTORIZED RAISED PAVEMENT MARKER
DI	INDICATED DIRECTION OF TRAFFIC FLOW
O	NON-REFLECTIVE 4" DIA. RAISED TRAFFIC BUTTON

RADIUS DIMENSIONS

MEDIAN	*R1	*R2
6'-12"	N/A	R/3
6'-15" &AND 30'	R/3	R/3
>45'	N/A	N/A

TABLE 1
TYPICAL MEDIAN OPENING "C"

MEDIAN INTERSECTION	NO LTB	(1) 1 LTB	(1) 2 LTB
PRIVATE DRIVE	42'	52.5'	63'
UNDIVIDED STREET	42'	52.5'	63'
44' DIVIDED STREET	42'	52.5'	63'
64' DIVIDED STREET	54'-72'	64'-82'	74'-92'

NOTES:
(1) LTB = LEFT TURN BAY
(2) DISTANCE FROM CENTERLINE OF OPENING TO MEDIAN NOSE WITH LEFT TURN LANE IS 30' FOR RIGHT ANGLE INTERSECTIONS. FOR SKEWED INTERSECTIONS, USE THE TEMPLATE ON THE FOLLOWING TEMPLATE TO DETERMINE DIMENSION TO MEDIAN NOSE (LT. SIDE).
(3) D = WIDTH OF DIVIDED STREET

Appendix F

CONSTRUCTION NOTES FOR ESPLANADE OPENINGS AND TURN LANES

NO	DESCRIPTION OF ITEM
1	Esplanade noses at the crossover are to be bullet type, painted reflectorized yellow, in accordance with the Harris County Pavement Marking Detail and to be six inches (6") thick with surface colored black for concrete pavement and uncolored for asphalt pavement, a minimum of six feet (6') deep measured from the end of the median nose and the curbs are at least four feet (4') in width face to face.
2	The relocation of existing trees, landscaping, sprinkler systems, water meters, fire hydrants, manholes, and pipelines (if applicable) are to be re-installed as recommended by the Harris County Engineering Department – Permit Office and/or the Harris County Precinct (If located in Precinct 3, add note: **Contractor(s) to contact Precinct 3 Parks Administration Office @ (281-531-1592) two (2) weeks prior to construction for tree(s) and landscaping relocation.**
3	Existing reinforced concrete pavement is to be machine saw-cut 1-1/2 inches deep to expose a minimum of twenty-four (24) inches of reinforcing bars and place new reinforcing bars to match existing steel size and spacing and tie new reinforcing bars to existing reinforcing bars with eighteen (18) inch laps. Full depth saw-cut may be used as an alternative.
4	Reinforcing concrete pavement is to be a minimum eight (8) inches with a minimum of 5.0 sack cement per cubic yard, [4500 psi in twenty-eight (28) days]. Note: Depth of concrete to meet current requirements of depth of existing pavement whenever it is greater.
5	Asphalt turn lane to be minimum (2) inches H.M.A.C. with (10) inch base. Road widening's done on asphalt roadways for turn lanes must be overlaid full width of the roadway from beginning to ending transition.
6	Subgrade shall be a minimum of six (6) inches for asphalt and eight (8) inches for concrete, of a material as specified by the engineer and approved by Harris County, and compacted to ninety-five (95) percent standard proctor density (+/-) two (2) percent moisture. Cement stabilized sand, as prescribed by Harris County specs, may be used as an alternative.
7	Slope on proposed concrete left turn slots is to be a minimum of 1/8 inch per foot with crown at center of esplanade.
8	All sewers under or within one (1) foot of proposed or future pavement shall be backfilled with 1-1/2 sack cement stabilized sand to within one (1) foot of subgrade.
9	The contractor shall notify the Harris County Engineering Department – Permit Office twenty-four (24) hours in advance of commencing construction at (713) 274-3931 and written notification forty-eight (48) hours in advance of commencing construction for commercial and residential development.

Appendix F

CONSTRUCTION NOTES FOR ESPLANADE OPENINGS AND TURN LANES

NO	DESCRIPTION OF ITEM
10	All pavement work will require an accredited lab certification for subgrade, concrete compressive strength, in place core. Asphalt work will require a sieve test, subgrade and base compaction results.
11	Paving shall be in accordance with the "Regulations of Harris County, Texas for the Approval and Acceptance of Infrastructure" relating to the approval and acceptance of improvements in subdivisions or re-subdivisions and/or amendments of the same.
12	Guidelines set for in the "Manual on Uniform Traffic Control Devices" shall be observed.
13	Include Harris County Drawing SD-1 as part of the construction plans.
14	Include Harris County Pavement Marking Detail as a part of the construction plans.
15	**NOTE:** "Notification(s) issued by Harris County Engineering Department - Permit Office required prior to construction of utilities or turn lanes within Harris County rights-of-way". Contact Harris County Permit Office at (713) 274-3931.
16	**OWNER OR OWNER'S AGENT** to obtain all permits and notification(s) required by Harris County, Texas prior to starting construction of utilities and/or culverts within Harris County road rights-of-way.

PLEASE ADD ALL NOTES CIRCLED IN RED TO THE CONSTRUCTION PLANS.

GENERAL NOTES

1. CONTRACTOR RESPONSIBLE FOR ANY REMOVAL/REPLACEMENT OF ANY EXISTING FEATURES IN THE R.O.W. AND WITHIN ANY LANDSCAPE AREA.

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST
72 HOURS NOTICE BEFORE YOU DIG, DRILL
OR BLAST – STOP CALL
TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567

NO.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.304.2053
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1" = 20'
DRAWN BY: SRH
CHECKED BY: BTH

LEFT TURN LANE PLAN & PROFILE

BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C1.1

DOLPHIN'S COVE
(R.O.W. VARIES)

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

EXISTING UTILITY NOTE

CONTRACTOR TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. IF ANY CONFLICT ARISES IN THE FIELD, CONTRACTOR TO CONTACT ENGINEER IMMEDIATELY.

① DOLPHIN'S COVE SUBDIVISION FINAL PLAT
F.C. NO. 695410 H.C.M.R.

LOT 3

EX TYPE "A" INLET
TG 68.13(±)
EX 24" ST 63.21(±)(N)
EX 24" FL 63.16(±)(S)

EX 24" STM

EX TYPE "A" INLET
TG 67.71(±)
EX 24" ST 62.87(±)(N)
EX 24" FL 59.08(±)(E)

EX FIRE HYDRANT

EX TYPE "C" INLET
RIM 67.89(±)
TH 67.20(±)
EX 24" FL 63.39(±)(E)

EX STM MH
RIM 67.89(±)
EX 24" FL 63.06(±)(E)
EX 72" FL 53.53(±)(S)
EX 72" FL 53.41(±)(N)

EX SSWR MH
RIM 67.01(±)
EX 8" FL 61.84(±)(W)
EX 12" FL 61.74(±)(S)
EX 12" FL 61.67(±)(N)

EX STM MH
RIM 67.73(±)
EX 24" FL 58.65(±)(W)
EX 72" FL 53.28(±)(N)
EX 72" FL 53.23(±)(S)

EX 72" STM
EX 12" SAN
EX 24" STM

LOT 7 | LOT 8 | LOT 9

WOODSBOROUGH CIRCLE
(CONCRETE)
(28' R.O.W.)

LOT 6 | LOT 5 | LOT 4

INSTALL:
1 – 8" X 8" TS&V
1 – 8" 22.5° BENDS
1 – 8" X 1" TEE
1 – 8" F.R.C.M.A.
6 – 8" 45° BENDS
1 – 8" X 2" TEE
1 – 8" RPZ BFP
1 – 2" 90° BEND
1 – 2" RPZ BFP
1 – 1" IRR METER
1 – 1" RPZ BFP W/ CAGE, PLUG, CLAMP & MARK

PROP 25' X 15' W.M.E.

EX TELEPHONE MH

STA. 0+95.65, LINE A
PROP SSWR LIFT STATION
SEE SHEET (C7.3) FOR DETAIL
RIM – 68.25
PROP 2" FORCE MAIN 63.42
PROP 8" FL 55.45

STA. 0+00.00, LINE A
PROP SSWR CONNECTION TO EX SSWR MH
EX RIM – 66.60 (±)
PROP 2" FORCE MAIN 63.42
EX 6" FL 63.71 (±)
EX 12" FL 62.10 (±)

PUMP STATION ESMT
VOL. 326, PG.16 H.C.M.R.

CALL 1.85 AC.
GRACE CHAPEL CHINESE-AMERICAN NEW TESTAMENT
H.C.C.F. NO. V568780

EX BLDG
10,000+ SQ FT

INSTALL:
1 – 8" 22° BEND
1 – 8" 45° BEND
1 – 2" 22° BEND
1 – 2" 45° BEND

INSTALL:
1 – 2" 45° BEND
1 – 8" X 8" TEE

INSTALL:
1 – 8" X 6" TEE

PROP 8" FIRE LOOP

PROP 8" SSWR @ 1.00% — FIRE

INSTALL:
2 – 8" 45° BENDS

STA. 3+87.27 LINE A
PROP 6" SSWR CONN
PROP. 6" FL 62.75
(REF MEP PLANS FOR CONTINUATION)

PROP BLDG
8,003 SQ FT
FF = 67.75

PROP 6" FIRE LINE CONN (REF MEP PLANS FOR CONTINUATION)

INSTALL:
1 – STANDARD FH ASSEMBLY W/ GATE VALVE

INSTALL:
1 – 8" 45° BEND
1 – 8" 22.5° BEND

℄ EX BRIAR BAYOU

PROP 8" FIRE LOOP

SS
STA. 1+50.51 LINE A
STA. 0+00.00 LINE B
PROP SSWR MH W/ EXTERNAL DROP CONNECTIONS
RIM – 66.50
PROP 6" FL 61.33 (S)
PROP 6" FL 60.75 (W)
PROP 8" FL 56.00 (E)

PROP 8' LF – 2" FORCE MAIN & 4" STEEL CASING

INSTALL:
1 – 8" X 6" TEE

INSTALL:
1 – 6" FH W/ GATE VALVE ON EXISTING 8" FIRE LINE (NFV)

PROP 7.5' X 5' FIRE HYDRANT EASEMENT

PROP 16 LF – 8" SSWR & 16" STEEL CASING @ 1.00%

CALL 1.658 AC.
WALLACE AND MARIE DILLARD
FAMILY LIMITED PARTNERSHIP, LTD.
H.C.C.F. NO. RP–2022–152249

PROP BLDG. TO BE SERVED BY FIRE CONNECTION FROM ADJACENT BLDG. (REF MEP PLANS FOR CONNECTION)

PROP BLDG
6,469 SQ FT
FF = 67.75

STA. 1+24.97 LINE B
PROP 6" SSWR CONN
PROP. 6" FL 62.75
(REF MEP PLANS FOR CONTINUATION)

PROP 2" DOM WL CONN (REF MEP PLANS FOR CONTINUATION)

PROP 6" FIRE LINE

PROP 2" DOM WL CONN (REF MEP PLANS FOR CONTINUATION)

INSTALL:
1 – 8" X 6" TEE

INSTALL:
1 – 8" X 6" WYE

INSTALL:
1 – 8" 1300° RADIAL BEND

PROP 6" FIRE LOOP

PROP 2" DOM WL

PROP 2" WATER LINE

PROP 8" SSWR @ 1.00%

INSTALL:
1 – 8" 11° BEND
1 – 8" 45° BEND
1 – 2" 11° BEND
1 – 2" 45° BEND

INSTALL:
1 – 8" 45° BEND
1 – 2" 45° BEND

W MEMORIAL PARK DR.
(CONCRETE)
(R.O.W. VARIES)

BINGLE RD
(CONCRETE)
(R.O.W. VARIES)

EX STM MH
RIM 67.82(±)
EX 72" FL 53.16(±)(N)
EX 72" FL 53.13(±)(SE)

CALLED 2.0 ACRES
CITY OF SPRING VALLEY, TEXAS
H.C.C.F. NO. L945365

EX TYPE "C" INLET
RIM 66.06(±)
TH 65.44(±)
EX 24" FL 60.68(±)(SW)

EX STM MH
RIM 67.30(±)
EX 24" FL 60.12(±)(NE)
EX 72" FL 53.18(±)(NW)
EX 72" FL 53.11(±)(SE)

EX TELEPHONE MH

EX TYPE "D" INLET
RIM 65.10(±)
EX 24" FL 62.50(±)(SW)

EX TYPE "A" INLET
TG 65.97(±)
EX 24" ST 63.36(±)(NE)

EX STM MH
RIM 65.54(±)
EX 72" FL 53.04(±)(NW)
EX 72" FL 52.91(±)(SE)

EX TYPE "C" INLET
RIM 65.60(±)
TH 64.65(±)
EX 24" FL 58.14(±)(S)

EX TYPE "C" INLET
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TH 64.39(±)
EX 24" FL 57.81(±)(NW)
EX 24" FL 57.77(±)(SE)
EX 24" FL 57.65(±)(E)

EX TYPE "C" INLET
RIM 65.09(±)
TH 64.42(±)
EX 24" FL 68.19(±)(S)

EX STM MH
RIM 64.88(±)
EX 24" FL 57.46(±)(N)
EX 24" FL 56.82(±)(W)
EX 72" FL 53.03(±)(NW)
EX 72" FL 52.89(±)(S)

EX TYPE "C" INLET
RIM 65.62(±)
TH 64.71(±)
EX 24" FL 58.08(±)(NW)

ZONE X (SHADED)
REGULATORY FLOODWAY
ZONE AE
ZONE X (SHADED)
℄ EX BRIAR BAYOU
ZONE X (UNSHADED)
ZONE X (SHADED)
ZONE AE
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REGULATORY FLOODWAY
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ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

0 15 30 60
1 inch = 30 ft.
GRAPHIC SCALE

LEGEND

W/ CLEAN OUT

- SS — PROPOSED SANITARY SEWER
- WL — PROPOSED WATER LINE
- FIRE — PROPOSED FIRE LINE
- PROPOSED STORM SEWER
- EX. STORM SEWER
- WL — EX. WATER LINE
- SS — EX. SANITARY SEWER LINE
- 100 — EX. MAJOR CONTOUR
- 99 — EX. MINOR CONTOUR

GENERAL NOTES

1. REFERENCE SANITARY SEWER AND WATER LINE NOTES ON SHEET C0.1 FOR PIPE MATERIAL REQUIREMENTS.
2. REFER TO SITE ELECTRICAL PLAN FOR PROPOSED SITE LIGHTING LAYOUT.
3. REFERENCE MEP PLANS FOR CONTINUATION OF SANITARY AND WATER FACILITIES INSIDE BUILDING.
4. ALL CLEANOUTS LOCATED WITHIN CONCRETE PAVEMENT TO BE TRAFFIC RATED.
5. CONTRACTOR TO VERIFY ALL PROPOSED UTILITY CONNECTIONS FOR BOTH LOCATION AND DEPTH PRIOR TO ORDERING MATERIALS OR COMMENCEMENT OF WORK.
6. FIRE LINE IS SHOWN FOR ALIGNMENT AND POINT OF CONNECTION PURPOSES ONLY. ALL FIRE LINES ARE TO BE DESIGNED AND INSTALLED BY A LICENSED RME–U, INCLUDING BUT NOT LIMITED TO MATERIALS, THRUST BLOCKING, APPURTENANCES, ETC..
7. ALL GRAVITY BASED SANITARY SEWER LINES ARE TO BE CONSTRUCTED FROM POINT OF CONNECTION AND WORKED UP IN ELEVATION.

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

NO.	REVISIONS	DATE

ALJ Lindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.251.2063
FRN F-11526

BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS

24 AUGUST 2026

ALJ PROJECT NO.	022.25.CV.620
DATE:	AUGUST 2026
SCALE:	1" = 30'
DRAWN BY:	SRH
CHECKED BY:	BTH

OVERALL UTILITY PLAN

BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C2.0

DOLPHIN'S COVE
(R.O.W. VARIES)

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

EXISTING UTILITY NOTE

CONTRACTOR TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. IF ANY CONFLICT ARISES IN THE FIELD, CONTRACTOR TO CONTACT ENGINEER IMMEDIATELY.

1
DOLPHIN'S COVE
SUBDIVISION
FINAL PLAT
F.C. NO. 695410 H.C.M.R.

LOT 3

EX TYPE "A" INLET
TG 68.13(±)
EX 24" ST 63.21(±)(N)
EX 24" FL 63.16(±)(S)

EX TYPE "A" INLET
TG 67.71(±)
EX 24" ST 62.87(±)(N)
EX 24" FL 59.08(±)(E)

EX TYPE "C" INLET
RIM 67.89(±)
TH 67.20(±)
EX 24" FL 63.39(±)(E)

EX STM MH
RIM 67.89(±)
EX 24" FL 63.06(±)(E)
EX 72" FL 53.53(±)(S)
EX 72" FL 53.41(±)(N)

EX SSWR MH
RIM 67.01(±)
EX 8" FL 61.84(±)(W)
EX 12" FL 61.74(±)(S)
EX 12" FL 61.67(±)(N)

EX STM MH
RIM 67.73(±)
EX 24" FL 58.65(±)(W)
EX 72" FL 53.28(±)(N)
EX 72" FL 53.23(±)(S)

EX FIRE HYDRANT

EX 72" STM
EX 24" STM

LOT 7 | LOT 8 | LOT 9 | LOT 6 | LOT 5 | LOT 4

WOODSBOROUGH CIRCLE
(CONCRETE)
(28' R.O.W.)

EX TELEPHONE MH

CALL 1.85 AC.
GRACE CHAPEL CHINESE-AMERICAN NEW TESTAMENT
H.C.C.F. NO. V568780
EX BLDG
10,000+ SQ FT

STA. 1+50.51 LINE A
STA. 0+00.00 LINE B
PROP SSWR MH W/
EXTERNAL DROP
CONNECTIONS
RIM = 66.50
PROP 6" FL 61.33 (S)
PROP 6" FL 60.75 (W)
PROP 8" FL 56.00 (E)

PROP 87 LF - 2" FORCE MAIN & 4" STEEL CASING

STA. 0+00.00, LINE A
PROP SSWR CONNECTION
TO EX SSWR MH
EX RIM = 66.60 (±)
PROP 2" FORCE MAIN 63.42
EX 6" FL 63.71 (±)
EX 12" FL 62.10 (±)

W MEMORIAL PARK DR.
(CONCRETE)
(R.O.W. VARIES)

PROP 6" SSWR
@ 1.00%

STA. 3+50.90 LINE A
PROP 6" SSWR CONN
PROP. 6" FL 62.75
(REF MEP PLANS
FOR CONTINUATION)

PROP BLDG
8,003 SQ FT
FF = 67.75

STA. 0+95.65, LINE A
PROP SSWR LIFT STATION
SEE SHEET (C7.3) FOR
DETAIL
RIM = 68.25
PROP 2" FORCE MAIN 63.42
PROP 8" FL 55.45

PROP 16 LF - 8"
SSWR & 16" STEEL
CASING @ 1.00%

BINGLE RD
(CONCRETE)
(R.O.W VARIES)

EX STM MH
RIM 67.82(±)
EX 72" FL 53.16(±)(N)
EX 72" FL 53.13(±)(SE)

CALLED 2.0 ACRES
CITY OF SPRING VALLEY, TEXAS
H.C.C.F. NO. L945365

EX TYPE "C" INLET
RIM 66.06(±)
TH 65.44(±)
EX 24" FL 60.68(±)(SW)

CALL 1.658 AC.
WALLACE AND MARIE DILLARD
FAMILY LIMITED PARTNERSHIP, LTD.
H.C.C.F. NO. RP-2022-152249

PROP BLDG
6,469 SQ FT
FF = 67.75

STA. 1+42.09 LINE B
PROP 6" SSWR CONN
PROP. 6" FL 62.75
(REF MEP PLANS
FOR CONTINUATION)

PROP 6" SSWR
@ 1.00%

EX 16" WL (NRV)

EX TELEPHONE MH

EX STM MH
RIM 67.30(±)
EX 24" FL 60.12(±)(NE)
EX 72" FL 53.18(±)(NW)
EX 72" FL 53.11(±)(SE)

EX TYPE "A" INLET
TG 65.97(±)
EX 24" ST 63.36(±)(NE)

EX TYPE "D" INLET
RIM 65.10(±)
EX 24" FL 62.50(±)(SW)

EX STM MH
RIM 65.54(±)
EX 72" FL 53.04(±)(NW)
EX 72" FL 52.91(±)(SE)

EX TYPE "C" INLET
RIM 65.60(±)
TH 64.65(±)
EX 24" FL 58.14(±)(S)

EX TYPE "C" INLET
RIM 65.36(±)
TH 64.39(±)
EX 24" FL 57.81(±)(NW)
EX 24" FL 57.73(±)(SE)
EX 24" FL 57.65(±)(E)

EX TYPE "C" INLET
RIM 65.42(±)
TH 64.71(±)
EX 24" FL 58.08(±)(NW)

ZONE X (SHADED)
REGULATORY FLOODWAY
ZONE AE
ZONE X (SHADED)
ZONE X (UNSHADED)
ZONE X (SHADED)
ZONE AE
REGULATORY FLOODWAY
ZONE X (SHADED)
ZONE X (UNSHADED)

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

0 15 30 60
1 inch = 30 ft.
GRAPHIC SCALE

LEGEND

SS (W/ CLEANOUT)	PROPOSED SANITARY SEWER
WL	PROPOSED WATER LINE
FIRE	PROPOSED FIRE LINE
	PROPOSED STORM SEWER
1	PROPOSED WATER & SSWR CROSSING
	EX. STORM SEWER
WL	EX. WATER LINE
SS	EX. SANITARY SEWER LINE
100	EX. MAJOR CONTOUR
99	EX. MINOR CONTOUR

SANITARY SEWER NOTES

1. REFERENCE SANITARY SEWER LINE NOTES ON SHEET C0.1 FOR PIPE MATERIAL REQUIREMENTS.
2. REFERENCE MEP PLANS FOR CONTINUATION OF SANITARY FACILITIES INSIDE BUILDING.
3. ALL CLEANOUTS LOCATED WITHIN CONCRETE PAVEMENT TO BE TRAFFIC RATED.
4. SANITARY SEWER CLEANOUTS TO BE LOCATED EVERY 90'.
5. ALL WATER & SANITARY SEWER CROSSINGS TO BE INSTALLED PER AHJ & TCEQ REGULATIONS.
6. PRIVATE SANITARY SEWER PIPE MATERIAL SHALL CONFORM TO THE FOLLOWING CRITERIA:
   A. POLYVINYL CHLORIDE (PVC) SCHEDULE 40 TO BE USED FOR PIPE SIZES 6 INCHES AND SMALLER.
   B. STANDARD DIMENSION RATIO (SDR) 35 PVC OR 26 PVC CAN BE USED FOR PIPE SIZES 8 INCHES AND LARGER. SEE NOTE 6 BELOW REGARDING SDR 26 FITTINGS.

UTILITY CONSTRUCTION NOTES

1. CONTRACTOR TO VERIFY ALL PROPOSED UTILITY CONNECTIONS FOR BOTH LOCATION AND DEPTH PRIOR TO ORDERING MATERIALS OR COMMENCEMENT OF WORK.
2. ALL GRAVITY LINES ARE TO BE CONSTRUCTED BEGINNING AT THE LOWEST POINT AND PROGRESSING UPSTREAM. IF CONTRACTOR ELECTS TO PROCEED WITH CONSTRUCTION OF UPSTREAM PORTIONS FIRST, AND ADDITIONAL COSTS ARE INCURRED, NO ADDITIONAL PAY OR CHANGE ORDERS WILL BE APPROVED BY ENGINEER.
3. CONTRACTOR SHALL CORE DRILL TO MAKE OPENING IN EXISTING MANHOLE. OPENING SHALL BE NO MORE THAN 3" AND NO LESS THAN 1" LARGER IN DIAMETER THAN PROPOSED PIPE. PIPE SHALL NOT PROTRUDE MORE THAN 3" PAST INSIDE FACE OF MANHOLE. FILL VOID AROUND PIPE WITH NON-SHRINK WATERPROOF GROUT AND BACKFILL MANHOLE WITH CEMENT-SAND.

GENERAL NOTES

1. REFER TO SITE ELECTRICAL PLAN BY MEP FOR PROPOSED SITE LIGHTING LAYOUT.
2. GRAPHICAL LIMITS OF PAVEMENT REMOVAL AND REPLACEMENT FOR INSTALLATION OF PROPOSED UTILITIES ARE APPROXIMATE. CONTRACTOR TO ENSURE PROPOSED PAVEMENT MEETS LOCAL AHJ REQUIREMENTS, DETAILS, & SPECS.
3. PROPOSED UTILITY WORK WITHIN CITY OF SPRING VALLEY VILLAGE ROW WILL REQUIRE A TRAFFIC CONTROL PLAN. TRAFFIC CONTROL PLAN IS TO BE PROVIDED BY CONTRACTOR, NO SEPARATE PAY. UNLESS ALREADY PROVIDED IN THIS PLAN SET.

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

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TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567

NO.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.907.4909
FRN F-11526

PRELIMINARY
FOR REVIEW ONLY. NOT FOR CONSTRUCTION OR BIDDING PURPOSES
Engineer: BRETT T. HANRAHAN
P.E. No.: 112908 Date: 07/02/2026

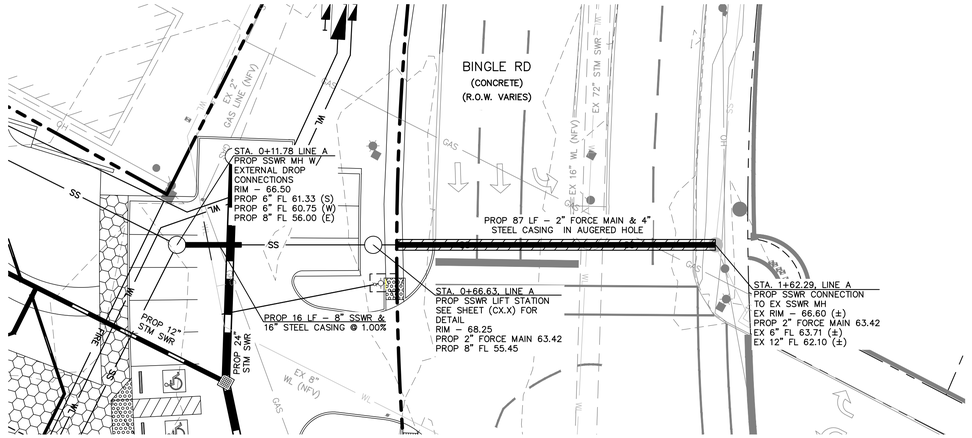
ALJ PROJECT NO. 022.25.CV.620
DATE: JULY 2026
SCALE: 1:30
DRAWN BY: SRH
CHECKED BY: BTH

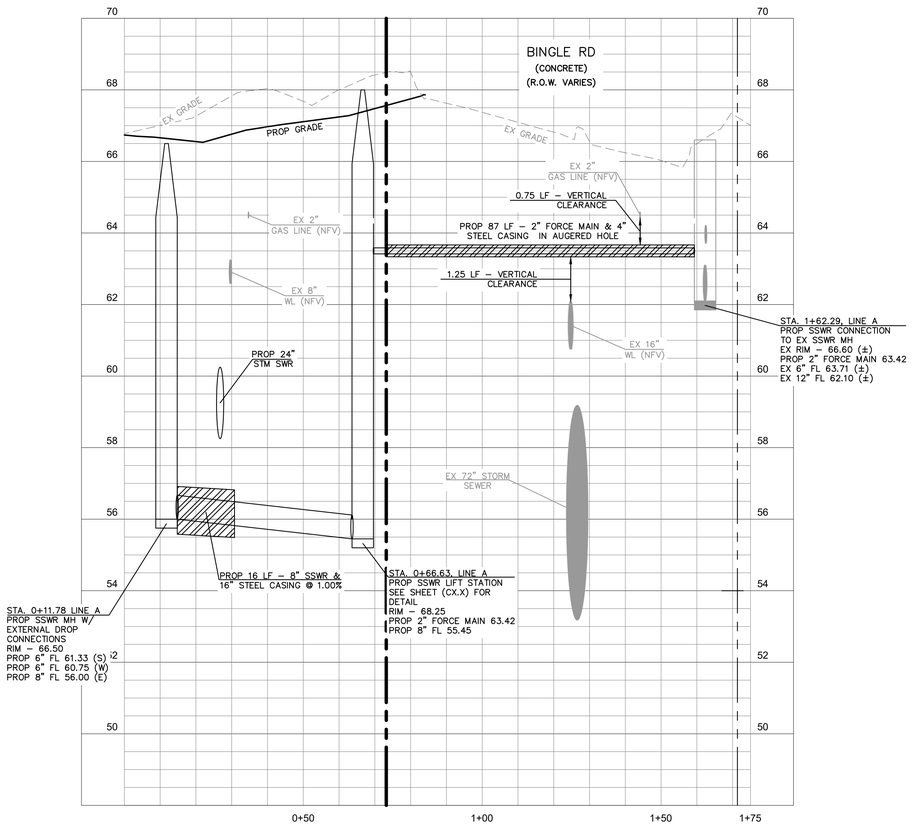
SANITARY SEWER PLAN

BINGLE ROAD RETAIL

BINGLE ROAD & W. MEMORIAL PARK DRIVE
HOUSTON, TEXAS 77055

SHEET
C2.1





BINGLE ROAD SANITARY SEWER PROFILE

SCALE: 1"=20' H; 1"=2' V

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

0 10 20 40

1 inch = 20 ft.

GRAPHIC SCALE

LEGEND

- EX. STORM SEWER
- WL — EX. WATER LINE
- SS — EX. SANITARY SEWER LINE

GENERAL NOTES

1. REFER TO SITE ELECTRICAL PLAN BY MEP FOR PROPOSED SITE LIGHTING LAYOUT.
2. GRAPHICAL LIMITS OF PAVEMENT REMOVAL AND REPLACEMENT FOR INSTALLATION OF PROPOSED UTILITIES ARE APPROXIMATE. CONTRACTOR TO ENSURE PROPOSED PAVEMENT MEETS LOCAL AHJ REQUIREMENTS, DETAILS, & SPECS.
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SANITARY SEWER NOTES

1. REFERENCE SANITARY SEWER LINE NOTES ON SHEET C0.1 FOR PIPE MATERIAL REQUIREMENTS.
2. REFERENCE MEP PLANS FOR CONTINUATION OF SANITARY FACILITIES INSIDE BUILDING.
3. ALL CLEANOUTS LOCATED WITHIN CONCRETE PAVEMENT TO BE TRAFFIC RATED.
4. SANITARY SEWER CLEANOUTS TO BE LOCATED EVERY 90'.
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6. PRIVATE SANITARY SEWER PIPE MATERIAL SHALL CONFORM TO THE FOLLOWING CRITERIA:
   A. POLYVINYL CHLORIDE (PVC) SCHEDULE 40 TO BE USED FOR PIPE SIZES 6 INCHES AND SMALLER.
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UTILITY CONSTRUCTION NOTES

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No.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.907.4909
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1:20
DRAWN BY: SRH
CHECKED BY: BTH

SANITARY SEWER PLAN & PROFILE

BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C2.2

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

EXISTING UTILITY NOTE

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BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

0 15 30 60
1 inch = 30 ft.
GRAPHIC SCALE

LEGEND

- PROPOSED WATER LINE
- PROPOSED FIRE LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED WATER & SSWR CROSSING
- EX. STORM SEWER
- EX. WATER LINE
- EX. SANITARY SEWER LINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR

WATER NOTES

1. REFERENCE WATER LINE NOTES ON SHEET C0.1 FOR PIPE MATERIAL REQUIREMENTS.
2. REFERENCE MEP PLANS FOR CONTINUATION OF WATER FACILITIES INSIDE BUILDING.
3. FIRE LINE IS SHOWN FOR ALIGNMENT AND POINT OF CONNECTION PURPOSES ONLY. ALL FIRE LINES ARE TO BE DESIGNED, INSTALLED, AND TESTED BY A LICENSED RME-U PER NFPA REGULATIONS, INCLUDING BUT NOT LIMITED TO SIZE, MATERIALS, THRUST BLOCKING, APPURTENANCES, ETC.
4. ALL UTILITY BOXES LOCATED WITHIN CONCRETE PAVEMENT TO BE TRAFFIC RATED.
5. FITTINGS IDENTIFIED ON THESE PLANS ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. NOT ALL FITTINGS ARE SHOWN OR INDICATED ON THESE PLANS.
6. ALL WATER & SANITARY SEWER CROSSINGS TO BE INSTALLED PER AHJ & TCEQ REGULATIONS.
7. 4" THRU 12" WATER LINES SHALL BE P.V.C. CLASS 150, DR-18, AWWA C-900 AND 1" THRU 3" WATER LINES SHALL BE PVC SCHEDULE 40, 4" THRU 54" D.I.P. WATER LINES SHALL BE AWWA C151 (ANSI A21.51) AND DOUBLE WRAPPED IN 8-MIL POLYETHYLENE. PIPE SHALL BE LINED IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).

UTILITY CONSTRUCTION NOTES

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GENERAL NOTES

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No.	REVISIONS	DATE

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FRN F-11526

BRETT T. HANRAHAN
112908
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1:XX
DRAWN BY: SRH
CHECKED BY: BTH

WATER PLAN

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C2.3

DOLPHIN'S COVE
(R.O.W. VARIES)

CITY OF SPRING VALLEY VILLAGE NOTE

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EXISTING UTILITY NOTE

CONTRACTOR TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. IF ANY CONFLICT ARISES IN THE FIELD, CONTRACTOR TO CONTACT ENGINEER IMMEDIATELY.

DETENTION CALCULATIONS

TOTAL SERVICE AREA=	2.01 AC
EXISTING IMPERVIOUS COVER=	0.179 AC
PROPOSED IMPERVIOUS COVER=	1.791 AC
INCREASED IMPERVIOUS COVER=	1.612 AC
REQUIRED DETENTION VOLUME=	1.36 AC-FT
PROVIDED DETENTION VOLUME=	1.40 AC-FT
OUTFLOW RATE ALLOWED FOR LOW FLOW=	1.005 CFS
OUTFLOW RATE ALLOWED FOR HIGH FLOW=	4.02 CFS
OUTFLOW RATE PROVIDED FOR LOW FLOW=	1.668 CFS
OUTFLOW RATE PROVIDED FOR HIGH FLOW=	3.574 CFS
PRIMARY RESTRICTOR SIZE=	6 IN
SECONDARY RESTRICTOR SIZE=	N/A

1
DOLPHIN'S COVE
SUBDIVISION
FINAL PLAT
F.C. NO. 695410 H.C.M.R.

LOT 3

CROSSING TABLE

		FL		FL	CLR
A	72" STM	53.18	*8" SSWR*	50.59	1.58'
B	24" STM	58.21	*8" SSWR*	51.08	6.13'
C	24" STM	58.21	8" WTR	62.58	2.37'
D	24" STM	58.23	8" WTR	62.58	2.35'
E	12" STM	58.30	6" SSWR	61.60	2.30'
F	6" STM	59.07	6" SSWR	61.34	1.77'
G	6" STM	59.59	6" SSWR	61.84	1.75'
H	6" STM	61.49	6" SSWR	62.46	0.47'

INCLUDES 16" STEEL CASING

TOTAL DETENTION VOLUME REQUIRED

$V_T = (A_P \times 0.80 \text{ ACRE-FT/ACRE}) - (A_E \times 0.40 \text{ ACRE-FT/ACRE})$

V_T = TOTAL DETENTION VOLUME REQUIRED (ACRE-FEET)

A_P = PROPOSED IMPERVIOUS ONSITE (ACRE-FEET)

A_E = EXISTING IMPERVIOUS ONSITE TO BE REMOVED WITH REDEVELOPMENT (ACRE-FEET)

R_D = DETENTION RATE (ACRE-FOOT/ACRE) REQUIRED BY TABLE 9.5

$V_T = (1.79^* \times 0.80) - (0.18 \times 0.40) = 1.36$ ACRE-FEET (59,242 CU FT)

*VARIES DEPENDING ON YOUR SITE ACREAGE

TOTAL DETENTION VOLUME PROVIDED

DETENTION PROVIDED IN UNDERGROUND	=	59,238 CU FT
DETENTION PROVIDED IN PIPES	=	1,735 CU FT
TOTAL DETENTION PROVIDED	=	60,973 CU FT

RESTRICTOR CALCULATIONS

MAX WSE = 63.50
75% WSE = 61.50
25% WSE = 57.50

℄ OF PRIMARY RESTRICTOR – 55.75
℄ SECONDARY RESTRICTOR – N/A

LOW LEVEL RESTRICTOR (25% FLOW)

TOTAL DRAINAGE AREA=		2.01 ACRES
OUTFLOW RATE ALLOWED FOR LOW FLOW Q^{L1} =	0.50 * TOTAL DRAINAGE AREA = 0.50 * 2.01	1.005CFS (BASED ON 0.5 CFS/AC)
HEAD H^{L1} (WATER SURFACE DIFFERENTIAL FOR LOW FLOW=	25% WSE – ℄ OF PRIMARY RESTRICTOR = 57.50 – 55.75	1.75
CALCULATED LOW LEVEL RESTRICTOR SIZE D^L =	$Q^{L1\ 1/2}/(2.25H^{L1\ 1/4}) = 1.005^{1/2}/(2.25*1.75^{1/4})$	0.39 FEET
PROVIDED/ DESIGNED LOW LEVEL RESTRICTOR SIZE D^{L1} =		6" INCHES

HIGH LEVEL RESTRICTOR (75% FLOW)

TOTAL DRAINAGE AREA=		2.01 ACRES
TOTAL OUTFLOW RATE ALLOWED (100%) Q=	2.00 * TOTAL DRAINAGE AREA = 2.00 * 2.01	4.02 CFS (BASED ON 2.0 CFS/AC)
RE-CALCULATED HEAD H^{L2} (WATER SURFACE DIFFERENTIAL) FOR LOW LEVEL RESTRICTOR =	MAX WSE – ℄ OF PRIMARY RESTRICTOR = 63.50 – 55.75	7.75 FT
RE-CALCULATED LOW FLOW Q^{L2} FOR LOW FLOW LEVEL RESTRICTOR=	$CA\sqrt{2GH^{L2}}$ = 0.80 * 0.20 $\sqrt{2*32.2*7.75}$	3.574 CFS (BASED ON D^{L1} AND H^{L2})
OUTFLOW RATE ALLOWED FOR HIGH FLOW Q^{H1} (75%)= *	Q – Q^{L2} = 4.02 – 3.574	0.446 CFS (BASED Q AND Q^{L2})
HEAD H^{H2} (WATER SURFACE DIFFERENTIAL FOR HIGH LEVEL RESTRICTOR=	MAX WSE – ℄ SECONDARY RESTRICTOR = 63.50 – 61.50	2
CALCULATED HIGH LEVEL RESTRICTOR SIZE D^H =	$Q^{H1\ 1/2}/(2.25H^{H2\ 1/4})$ = .249	*NO SECONDARY RESTRICTOR
OUTFLOW RATE PROVIDED FOR HIGH FLOW Q^{H2} =	$CA\sqrt{2GH^{H1}}$ = 0.80*0.20 $\sqrt{2*32.2*X.XX}$ = X	PROVIDED DUE TO BEING LESS THAN 6"*

EX TYPE "A" INLET
TG 68.13(±)
EX 24" ST 63.21(±)(N)
EX 24" FL 63.16(±)(S)

EX SSWR MH
RIM 67.01(±)
EX 8" FL 61.84(±)(W)
EX 12" FL 61.74(±)(S)
EX 12" FL 61.67(±)(N)

EX TYPE "A" INLET
TG 67.71(±)
EX 24" ST 62.87(±)(N)
EX 24" FL 59.08(±)(E)

EX STM MH
RIM 67.73(±)
EX 24" FL 58.65(±)(W)
EX 72" FL 53.28(±)(N)
EX 72" FL 53.23(±)(S)

EX TELEPHONE MH
EX SSWR MH
RIM 66.60(±)
EX 8" FL 63.71(±)(SE)
EX 12" FL 62.10(±)(N)

LOT 7 | LOT 8 | LOT 9 | LOT 6 | LOT 5

WOODSBOROUGH CIRCLE
(CONCRETE)
(28' R.O.W.)

W MEMORIAL PARK DR.
(CONCRETE)
(R.O.W. VARIES)

PUMP STATION ESMT
VOL. 326, PG.16 H.C.M.R.

EX LIFT STATION VAULT

CALL 1.85 AC.
GRACE CHAPEL CHINESE–AMERICAN
NEW TESTAMENT
H.C.C.F. NO. V568780

EX BLDG
10,000(±) SQ FT

CALL 1.658 AC.
WALLACE AND MARIE DILLARD
FAMILY LIMITED PARTNERSHIP, LTD.
H.C.C.F. NO. RP–2022–152249

PROP BLDG.
8,003 SQ FT
FF = 67.75

PROP BLDG
6,469 SQ FT
FF = 67.75

CALLED 2.0 ACRES
CITY OF SPRING VALLEY, TEXAS
H.C.C.F. NO. L945365

BINGLE RD
(CONCRETE)
(R.O.W. VARIES)

EX TYPE "C" INLET
RIM 66.06(±)
TH 65.44(±)
EX 24" FL 60.68(±)(SW)

EX TELEPHONE MH

EX TYPE "A" INLET
TG 65.97(±)
EX 24" ST 63.36(±)(NE)

EX TYPE "D" INLET
RIM 65.10(±)
EX 24" FL 62.50(±)(SW)

EX STM MH
RIM 65.54(±)
EX 72" FL 53.04(±)(NW)
EX 72" FL 52.91(±)(SE)

EX TYPE "C" INLET
RIM 65.60(±)
TH 64.65(±)
EX 24" FL 58.14(±)(S)

EX TYPE "C" INLET
RIM 65.36(±)
TH 64.39(±)
EX 24" FL 57.81(±)(NW)
EX 24" FL 57.73(±)(SE)
EX 24" FL 57.65(±)(E)

EX TYPE "C" INLET
RIM 65.62(±)
TH 64.71(±)
EX 24" FL 58.08(±)(NW)

STA. 0+54.14, LAT B2A
EX STM SWR INLET
EX RIM = 66.79 (±)
EX 24" FL 63.30 (±)

STA. 0+63.15, LAT B2A
PROP STM SWR MH
CENTERED ON EX 24"
STM SWR
RIM = 67.13
EX 24" FL 62.90 (±)
PROP 24" FL 58.29

STA. 5+24.99, LINE D
PROP NDS INLET
RIM = 67.00
PROP 12" FL XX.XX

STA. 2+11.02, LINE B
PROP 12" STUB LINE FOR
FUTURE LANDSCAPE
CONNECTION
PROP 12" FL 58.67

STA. 4+16.68, LINE D
PROP TYPE "A" INLET
RIM = 65.75
PROP 12" FL 63.51 (NE)
PROP 12" FL 63.30 (S)

109 LF – 12" STM
SWR @ 0.45%

52 LF – 12" STM
SWR @ 0.45%

57 LF – 12" STM
SWR @ 0.45%

STA. 3+64.75, LINE D
PROP TYPE "A" INLET
RIM = 66.25
PROP 12" FL 63.07

℄ EX BRIAR
BAYOU

PROP 12" X 6"
INSERTA TEE

STA. 3+08.15, LINE D
PROP TYPE "A" INLET
RIM = 66.00
PROP 12" FL 62.82
PROP 18" FL 61.32

119 LF – 18" STM SWR
@ 0.25%

STA. 2+08.51, LINE D
STA. 0+00.00, LAT D
PROP INSERTA TEE
PROP 6" FL 61.57
PROP 18" FL 61.07

STA. 1+89.64, LINE D
PROP TYPE "A" INLET
RIM = 66.05
PROP 18" FL 61.02

129 LF – 18" STM
SWR @ 0.25%

STA. 0+60.74, LINE D
PROP TYPE "A" INLET
RIM = 66.00
PROP 18" FL 60.70
PROP 24" FL 60.20

PROP 12" STM
SWR @ 0.45%

63 LF – 24" STM
SWR @ 0.17%

82 LF – 24" STM
SWR @ 0.17%

41 LF – 24" STM
SWR @ 0.17%

61 LF – 24" STM
SWR @ 0.17%

STA. 1+03.18, LINE B
STA. 0+00.00, LAT B2
PROP TYPE "A" INLET
RIM = 66.00
PROP 12" FL 58.18
PROP 24" FL 58.18

STA. 0+41.19, LINE B
STA. 0+00.00, LAT B1
PROP TYPE "A" INLET
RIM = 65.85
PROP 12" FL 61.10
PROP 24" FL 58.07

STA. 0+66.70, LAT D
PROP NDS INLET
RIM = 67.67
PROP 6" FL 62.24

STA. 0+53.50, LAT B1
PROP STM SWR STUB
(FOR FUTURE CONNECTION)
PROP 12" FL 62.93

STA. 0+00.00, LINE B
PROP STM SWR CONN.
TO PROP UNDERGROUND
STM SWR SYSTEM
PROP 24" FL 58.00

STA. 0+00.00, LINE D
PROP STM SWR CONN.
TO PROP UNDERGROUND
STM SWR SYSTEM
PROP 24" FL 60.10

PROP TYPE "A" INLET
OUTFALL DIRECTLY INTO
UNDERGROUND
DETENTION SYSTEM
RIM = 65.85

PROP TYPE "A" INLET
OUTFALL DIRECTLY INTO
UNDERGROUND
DETENTION SYSTEM
RIM = 65.75

STA. 0+00.00, LINE C
PROP STM SWR CONN.
TO PROP UNDERGROUND
STM SWR SYSTEM
PROP 12" FL 61.99

24 LF – 12" STM
SWR @ 0.45%

STA. 0+24.09, LINE C
PROP TYPE "A" INLET
RIM = 65.10
PROP 12" FL 62.10

STA. 0+00.00, LINE A
PROP STM SWR CONN.
TO EX STM SWR MH
EX RIM = 67.30 (±)
EX 24" FL 60.12 (±)
EX 72" FL 53.18 (±)
EX 72" FL 53.11 (±)
PROP 24" FL 55.38

37 LF – 24" STM
SWR @ 18%
IN NUSED HOLE
CONSTRUCTION

STA. 0+67.34, LINE A
PROP STM SWR CONN.
TO PROP UNDERGROUND
DETENTION SYSTEM
PROP 6" RESTRICTOR 55.50
PROP 24" FL 55.50

EX 72" STM

EX 2" GAS LINE

EX 8" WL (NFV)

EX 12" WL (NFV)

EX 24" STM

EX 18" STM

EX 8" SS

EX 6" SS

EX 4" SS

EX WOOD BEAM

FIRE

GAS

WL

SS

OH

REGULATORY FLOODWAY

ZONE X (UNSHADED)

ZONE X (SHADED)

D6 0.14 0.45
D5 0.19 0.59
D4 0.04 0.12
D3 0.09 0.27
D2 0.12 0.36
D2A 0.003 0.01
D1 0.16 0.48
R2 0.18 0.57
R1 0.15 0.48
B3 0.25 0.79
B2 0.13 0.42
B2A 0.21 0.57
B1 0.19 0.59
A2 0.21 0.57
A1 0.18 0.65
C1 0.12 0.39
EX-1 0.33 1.03

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

0 15 30 60
1 inch = 30 ft.
GRAPHIC SCALE

LEGEND

- D–A / AC / CFS — DRAINAGE AREA NUMBER / ACREAGE (AC) / DRAINAGE AREA FLOW (CFS)
- PROP. DRAINAGE AREA BOUNDARY
- EXISTING OFFSITE DRAINAGE FLOW DIRECTION
- EE — EXTREME EVENT OVERLAND FLOW
- PROPOSED STORM SEWER
- SS — PROPOSED SANITARY SEWER LINE
- WL — PROPOSED WATER LINE
- PROPOSED GRATE INLET
- A — UTILITY CROSSING
- 1 — PROPOSED DOWNSPOUT CONNECTION (REF. ARCHITECTURAL PLANS)
- EX. STORM SEWER
- WL — EX. WATER LINE
- SS — EX. SANITARY SEWER LINE
- 100 — EX. MAJOR CONTOUR
- 99 — EX. MINOR CONTOUR

GENERAL NOTES

1. REFERENCE STORM SEWER NOTES SHEET C0.1 FOR PIPE MATERIAL REQUIREMENTS.
2. REFERENCE MEP PLANS FOR EXACT CONTINUATION OF PROPOSED STORM SEWER INSIDE OF BUILDING.
3. FOR TYPE "A" INLET AND BACKFILL DETAILS, SEE SHEET C7.4.
4. CONTRACTOR TO VERIFY STORM SEWER CONNECTION FOR LOCATION AND DEPTH PRIOR TO ORDERING MATERIALS OR COMMENCEMENT OF WORK.
5. TOP OF GRATE ELEVATIONS SHOWN ARE FOR REFERENCE ONLY. SEE GRADING ON SHEET C4.0 & C4.1 FOR FINAL TOP OF GRATE ELEVATIONS.
6. ALL GRAVITY STORM LINES TO BE CONSTRUCTED STARTING FROM THE LOWEST POINT.

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST 72 HOURS NOTICE BEFORE YOU DIG, DRILL OR BLAST – STOP CALL
TEXAS ONE CALL SYSTEM
1–800–344–8377
IN HOUSTON
(713)–223–4567

NO.	REVISIONS	DATE

ALJ Lindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.320.9955
FRN F-11526

BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
24 AUGUST 2026

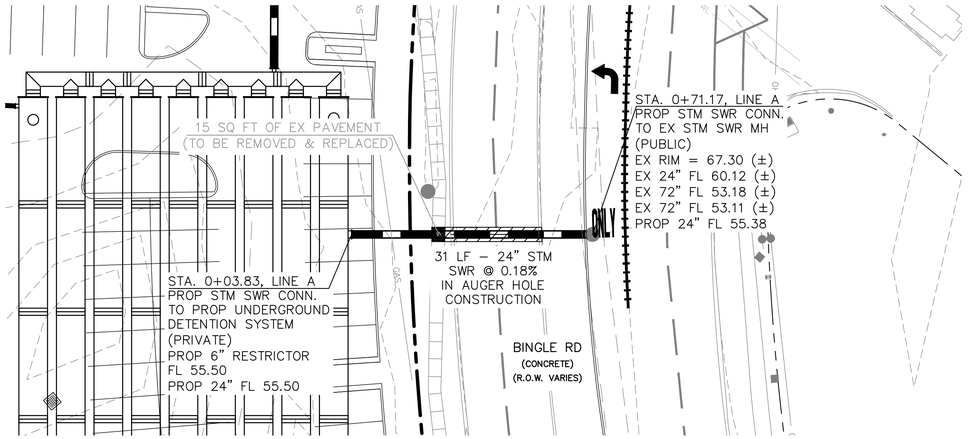
ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1:30
DRAWN BY: SRH
CHECKED BY: BTH

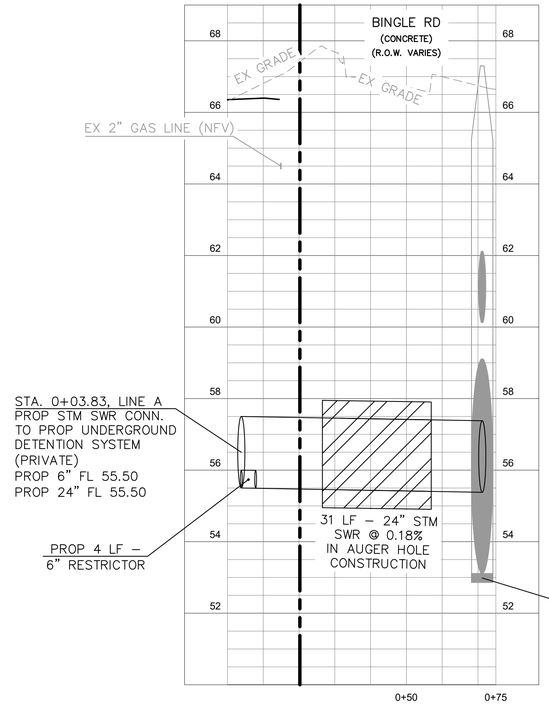
STORM SEWER PLAN

BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C3.0





STORM SEWER OUTFALL PROFILE

SCALE: 1"=20' H; 1"=2' V

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

0 10 20 40

1 inch = 20 ft.

GRAPHIC SCALE

LEGEND

- EX. STORM SEWER
- WL — EX. WATER LINE
- SS — EX. SANITARY SEWER LINE

GENERAL NOTES

1. REFER TO SITE ELECTRICAL PLAN BY MEP FOR PROPOSED SITE LIGHTING LAYOUT.
2. GRAPHICAL LIMITS OF PAVEMENT REMOVAL AND REPLACEMENT FOR INSTALLATION OF PROPOSED UTILITIES ARE APPROXIMATE. CONTRACTOR TO ENSURE PROPOSED PAVEMENT MEETS LOCAL AHJ REQUIREMENTS, DETAILS, & SPECS.
3. PROPOSED UTILITY WORK WITHIN CITY OF SPRING VALLEY VILLAGE ROW WILL REQUIRE A TRAFFIC CONTROL PLAN. TRAFFIC CONTROL PLAN IS TO BE PROVIDED BY CONTRACTOR, NO SEPARATE PAY. UNLESS ALREADY PROVIDED IN THIS PLAN SET.

STORM SEWER NOTES

1. REFERENCE STORM SEWER NOTES SHEET C0.1 FOR PIPE MATERIAL REQUIREMENTS.
2. REFERENCE MEP PLANS FOR EXACT CONTINUATION OF PROPOSED STORM SEWER INSIDE OF BUILDING.
3. FOR TYPE "A" INLET AND BACKFILL DETAILS, SEE SHEET C7.4.
4. CONTRACTOR TO VERIFY STORM SEWER CONNECTION FOR LOCATION AND DEPTH PRIOR TO ORDERING MATERIALS OR COMMENCEMENT OF WORK.
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No.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, TX 77377
281.907.4909
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
111908
REGISTERED
PROFESSIONAL ENGINEER

24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1:XX
DRAWN BY: SRH
CHECKED BY: BTH

STORM SEWER OUTFALL PLAN & PROFILE

BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C3.1

Storm Sewer Design Analysis

Bingle Road Retail
Bingle Road & IH-10
Houston, Texas

Design Frequency: 2 years
100-Year Multiplier: 1.00
100-Year HGL 59.11 feet

Manhole No. From	to	Sta. Up (ft)	Sta. Down (ft)	Drainage Area (acres)	Total Area (acres)	Runoff Coefficient C	DA C * A	Total C * A	Time of Conc. (min)	Intensity I (in/hr)	Drainage Area Flow (cfs)	Total Flow (cfs)	Reach Length (ft)	Diameter (in)	Slope %	Manning's Roughness Coefficient "n"	Design Capacity (cfs)	Design Velocity (ft/sec)	Full Pipe Flow Area (sq ft)	Full Pipe Flow Wetted Perimeter (ft)	Fall (ft)	Drop from Downstream Manhole (ft)	Flowline Elevation Upstream (ft)	Flowline Elevation Downstream (ft)	Minimum Depth Ratio (y/d or y/h)	Minimum W.S. Elev. Downstream (ft)	Actual Depth Ratio y/d or y/h	Actual Flow per Barrel Actual Velocity (ft/sec)	Actual Flow per Barrel Area (sq ft)	Actual Flow per Barrel Wetted Perimeter (ft)	Actual Flow per Barrel Hydraulic Gradient %	Change in Head (ft)	Elevation of Hyd. Grad. Upstream (ft)	Elevation of Hyd. Grad. Downstream (ft)	Top of Pipe Elevation Upstream (ft)	Top of Pipe Elevation Downstream (ft)	Pvmt / Grate Elevation Upstream (ft)
A2	A1	0+00.00	0+00.00	0.18	0.18	0.80	0.14	0.14	22.39	3.98	0.57	0.57	0	12	0.500	0.013	2.5	3.2	0.8	3.1	0.00	0.00	0.00														65.75
A1	A0	0+00.00	0+00.00	0.21	0.39	0.80	0.17	0.31	23.47	3.88	0.65	1.21	0	12	0.500	0.013	2.5	3.2	0.8	3.1	0.00		0.00														65.85
B3	B2	2+11.02	1+03.18	0.25	0.25	0.80	0.20	0.20	22.83	3.94	0.79	0.79	108	12	0.450	0.013	2.4	3.0	0.8	3.1	0.49	0.00	58.67	58.18	0.39	58.57	0.97	1.02	0.77	2.74	0.043	0.05	59.19	59.15	59.67	59.18	66.00
B2	B1	1+03.18	0+41.19	0.13	0.71	0.80	0.10	0.57	24.41	3.80	0.40	2.16	62	24	0.170	0.013	9.3	3.0	3.1	6.3	0.11	0.00	58.18	58.07	0.32	58.71	0.53	1.31	1.65	3.22	0.032	0.02	59.15	59.13	60.18	60.07	66.00
B1	B0	0+41.19	0+00.00	0.19	0.90	0.80	0.15	0.72	24.82	3.77	0.57	2.71	41	24	0.170	0.013	9.3	3.0	3.1	6.3	0.07		58.07	58.00	0.36	58.72	0.56	1.53	1.77	3.34	0.042	0.02	59.13	59.11	60.07	60.00	65.85
C1	C0	0+24.09	0+00.00	0.12	0.12	0.80	0.10	0.10	21.88	4.02	0.39	0.39	24	12	0.450	0.013	2.4	3.0	0.8	3.1	0.11		62.10	61.99	0.27	62.26	1.00	0.49	0.79	3.14	0.012	0.00	62.99	62.99	63.10	62.99	65.10
D6	D5	5+24.99	4+16.68	0.14	0.14	0.80	0.11	0.11	22.07	4.00	0.45	0.45	108	12	0.450	0.013	2.4	3.0	0.8	3.1	0.49	0.21	64.00	63.51	0.29	63.80	0.48	1.24	0.36	1.51	0.078	0.08	64.07	63.99	65.00	64.51	67.00
D5	D4	4+16.68	3+64.75	0.19	0.33	0.80	0.15	0.26	23.23	3.90	0.59	1.03	52	12	0.450	0.013	2.4	3.0	0.8	3.1	0.23	0.00	63.30	63.07	0.45	63.52	0.88	1.42	0.73	2.40	0.076	0.04	63.99	63.95	64.30	64.07	65.75
D4	D3	3+64.75	3+08.15	0.04	0.55	0.80	0.03	0.44	24.00	3.83	0.12	1.69	57	12	0.450	0.013	2.4	3.0	0.8	3.1	0.25	1.50	63.07	62.82	0.61	63.43	1.00	2.15	0.79	3.14	0.224	0.13	63.95	63.82	64.07	63.82	66.25
D3	D2	3+08.15	1+89.64	0.09	0.64	0.80	0.07	0.51	24.24	3.81	0.27	1.95	119	18	0.250	0.013	5.3	3.0	1.8	4.7	0.30	0.00	61.32	61.02	0.42	61.65	0.78	1.34	1.46	3.21	0.039	0.05	62.24	62.19	62.82	62.52	66.00
D2	D1	1+89.64	0+60.74	0.12	0.91	0.80	0.10	0.73	24.84	3.77	0.36	2.75	129	18	0.250	0.013	5.3	3.0	1.8	4.7	0.32	0.50	61.02	60.70	0.51	61.47	0.94	1.60	1.72	3.97	0.059	0.08	62.19	62.11	62.52	62.20	66.05
D1	D0	0+60.74	0+00.00	0.16	1.07	0.80	0.13	0.86	25.12	3.74	0.48	3.21	61	24	0.170	0.013	9.3	3.0	3.1	6.3	0.10		60.20	60.10	0.40	60.90	1.00	1.02	3.14	6.28	0.020	0.01	62.11	62.10	62.20	62.10	66.00
D2A	D2	0+66.70	0+00.00	0.003	0.003	0.80	0.002	0.002	18.60	4.36	0.01	0.01	67	12	0.500	0.013	2.5	3.2	0.8	3.1	0.33		0.33	0.00													
EX-1	B2A	1+38.54	0+63.15	0.33	0.33	0.80	0.26	0.26	23.23	3.90	1.03	1.03	75	24	0.530	0.013	16.5	5.2	3.1	6.3	0.40	4.61	63.30	62.90	0.16	63.22	1.00	0.33	3.14	6.28	0.002	0.00	64.90	64.90	65.30	64.90	66.79
B2A	B2	0+63.15	0+00.00	0.00	0.33	0.80	0.00	0.26	23.23	3.90	0.00	1.03	63	24	0.170	0.013	9.3	3.0	3.1	6.3	0.11		58.29	58.18	0.22	58.62	1.00	0.33	3.14	6.28	0.002	0.00	60.18	60.18	60.29	60.18	67.13
R1	D2	0+01.00	0+00.00	0.15	0.15	0.80	0.12	0.12	22.16	4.00	0.48	0.48	1	12	0.500	0.013	2.5	3.2	0.8	3.1	0.01		0.01	0.00													
R2	D4	0+01.00	0+00.00	0.18	0.18	0.80	0.14	0.14	22.39	3.98	0.57	0.57	1	12	0.500	0.013	2.5	3.2	0.8	3.1	0.01		0.01	0.00													

Storm Sewer Design Analysis

Bingle Road Retail
Bingle Road & IH-10
Houston, Texas

Design Frequency: 100 years
100-Year Multiplier: 1.00
100-Year HGL 59.11 feet

Manhole No. From	to	Sta. Up (ft)	Sta. Down (ft)	Drainage Area (acres)	Total Area (acres)	Runoff Coefficient C	DA C * A	Total C * A	Time of Conc. (min)	Intensity I (in/hr)	Drainage Area Flow (cfs)	Total Flow (cfs)	Reach Length (ft)	Diameter (in)	Slope %	Manning's Roughness Coefficient "n"	Design Capacity (cfs)	Design Velocity (ft/sec)	Full Pipe Flow Area (sq ft)	Full Pipe Flow Wetted Perimeter (ft)	Fall (ft)	Drop from Downstream Manhole (ft)	Flowline Elevation Upstream (ft)	Flowline Elevation Downstream (ft)	Minimum Depth Ratio (y/d or y/h)	Minimum W.S. Elev. Downstream (ft)	Actual Depth Ratio y/d or y/h	Actual Flow per Barrel Actual Velocity (ft/sec)	Actual Flow per Barrel Area (sq ft)	Actual Flow per Barrel Wetted Perimeter (ft)	Actual Flow per Barrel Hydraulic Gradient %	Change in Head (ft)	Elevation of Hyd. Grad. Upstream (ft)	Elevation of Hyd. Grad. Downstream (ft)	Top of Pipe Elevation Upstream (ft)	Top of Pipe Elevation Downstream (ft)	Pvmt / Grate Elevation Upstream (ft)
A2	A1	0+00.00	0+00.00	0.18	0.18	0.80	0.14	0.14	22.39	9.01	1.30	1.30	0	12	0.500	0.013	2.5	3.2	0.8	3.1	0.00	0.00	0.00														65.75
A1	A0	0+00.00	0+00.00	0.21	0.39	0.80	0.17	0.31	23.47	8.81	1.48	2.75	0	12	0.500	0.013	2.5	3.2	0.8	3.1	0.00		0.00														65.85
B3	B2	2+11.02	1+03.18	0.25	0.25	0.80	0.20	0.20	22.83	8.92	1.78	1.78	108	12	0.450	0.013	2.4	3.0	0.8	3.1	0.49	0.00	58.67	58.18	0.64	58.82	1.00	2.27	0.79	3.14	0.251	0.27	59.59	59.32	59.67	59.18	66.00
B2	B1	1+03.18	0+41.19	0.13	0.71	0.80	0.10	0.57	24.41	8.64	0.90	4.91	62	24	0.170	0.013	9.3	3.0	3.1	6.3	0.11	0.00	58.18	58.07	0.51	59.09	0.59	2.54	1.93	3.50	0.110	0.07	59.32	59.26	60.18	60.07	66.00
B1	B0	0+41.19	0+00.00	0.19	0.90	0.80	0.15	0.72	24.82	8.57	1.30	6.17	41	24	0.170	0.013	9.3	3.0	3.1	6.3	0.07		58.07	58.00	0.59	59.18	0.59	3.27	1.89	3.46	0.183	0.08	59.26	59.18	60.07	60.00	65.85
C1	C0	0+24.09	0+00.00	0.12	0.12	0.80	0.10	0.10	21.88	9.11	0.87	0.87	24	12	0.450	0.013	2.4	3.0	0.8	3.1	0.11		62.10	61.99	0.41	62.40	1.00	1.11	0.79	3.14	0.060	0.01	63.00	62.99	63.10	62.99	65.10
D6	D5	5+24.99	4+16.68	0.14	0.14	0.80	0.11	0.11	22.07	9.07	1.02	1.02	108	12	0.450	0.013	2.4	3.0	0.8	3.1	0.49	0.25	64.04	63.55	0.45	64.00	1.00	1.29	0.79	3.14	0.081	0.09	64.79	64.70	65.04	64.55	67.00
D5	D4	4+16.68	3+64.75	0.19	0.33	0.80	0.15	0.26	23.23	8.85	1.35	2.34	52	12	0.450	0.013	2.4	3.0	0.8	3.1	0.23	0.00	63.30	63.07	0.80	63.87	1.00	2.98	0.79	3.14	0.430	0.22	64.70	64.48	64.30	64.07	65.75
D4	D3	3+64.75	3+08.15	0.04	0.55	0.80	0.03	0.44	24.00	8.71	0.28	3.83	57	12	0.450	0.013	2.4	3.0	0.8	3.1	0.25	1.50	63.07	62.82	1.00	63.82	1.00	4.88	0.79	3.14	1.157	0.66	64.48	63.82	64.07	63.82	66.25
D3	D2	3+08.15	1+89.64	0.09	0.64	0.80	0.07	0.51	24.24	8.67	0.62	4.44	119	18	0.250	0.013	5.3	3.0	1.8	4.7	0.30	0.00	61.32	61.02	0.70	62.07	1.00	2.51	1.77	4.71	0.178	0.21	62.87	62.66	62.82	62.52	66.00
D2	D1	1+89.64	0+60.74	0.12	0.91	0.80	0.10	0.73	24.84	8.56	0.82	6.26	129	18	0.250	0.013	5.3	3.0	1.8	4.7	0.32	0.50	61.02	60.70	1.00	62.20	1.00	3.54	1.77	4.71	0.355	0.46	62.66	62.20	62.52	62.20	66.05
D1	D0	0+60.74	0+00.00	0.16	1.07	0.80	0.13	0.86	25.12	8.52	1.09	7.31	61	24	0.170	0.013	9.3	3.0	3.1	6.3	0.10		60.20	60.10	0.66	61.42	1.00	2.33	3.14	6.28	0.104	0.06	62.16	62.10	62.20	62.10	66.00
D2A	D2	0+66.70	0+00.00	0.003	0.003	0.80	0.002	0.002	18.60	9.84	0.02	0.02	67	12	0.500	0.013	2.5	3.2	0.8	3.1	0.33		0.33	0.00													
EX-1	B2A	1+38.54	0+63.15	0.33	0.33	0.80	0.26	0.26	23.23	8.85	2.34	2.34	75	24	0.530	0.013	16.5	5.2	3.1	6.3	0.40	4.61	63.30	62.90	0.25	63.40	1.00	0.74	3.14	6.28	0.011	0.01	64.91	64.90	65.30	64.90	66.79
B2A	B2	0+63.15	0+00.00	0.00	0.33	0.80	0.00	0.26	23.23	8.85	0.00	2.34	63	24	0.170	0.013	9.3	3.0	3.1	6.3	0.11		58.29	58.18	0.34	58.86	1.00	0.74	3.14	6.28	0.011	0.01	60.19	60.18	60.29	60.18	67.13
R1	D2	0+01.00	0+00.00	0.15	0.15	0.80	0.12	0.12	22.16	9.06	1.09	1.09	1	12	0.500	0.013	2.5	3.2	0.8	3.1	0.01		0.01	0.00													
R2	D4	0+01.00	0+00.00	0.18	0.18	0.80	0.14	0.14	22.39	9.01	1.30	1.30	1	12	0.500	0.013	2.5	3.2	0.8	3.1	0.01		0.01	0.00													

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST
72 HOURS NOTICE BEFORE YOU DIG, DRILL
OR BLAST – STOP CALL
TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567

NO.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, TX 77377
281.251.2000
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO: 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1:XX
DRAWN BY: SRH
CHECKED BY: BTH

STORM SEWER CALCULATIONS

BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C3.2

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST
72 HOURS NOTICE BEFORE YOU DIG, DRILL
OR BLAST – STOP CALL
TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567

GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR GRADES INSIDE THE BUILDING ENVELOPE.
2. PAVING CONTRACTOR TO CONFIRM AND/OR ADJUST ALL EXISTING AND PROPOSED UTILITIES AND APPURTENANCES TO FINISHED GRADE PRIOR TO PLACEMENT OF ANY PAVING.
3. CONTRACTOR TO MATCH EXISTING TOP OF PAVEMENT AND CURB ELEVATIONS.
4. CONTRACTOR TO INSTALL NEW SIDEWALK IN ADA ACCESSIBLE ROUTES AT MAXIMUM 5% LONGITUDINAL SLOPE AND 2% CROSS SLOPE.

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

LEGEND

- PROPOSED TYPE "A" INLET (SEE DETAIL, SHEET C7.4)
- TG — TOP OF GRADE
- TP — TOP OF PAVEMENT
- TC — TOP OF CURB
- TS — TOP OF SIDEWALK
- FG — FINISHED GROUND
- FF — FINISHED FLOOR
- TR — TOP OF RAMP
- EXISTING SANITARY OR STORM SEWER MANHOLE
- PROPOSED HIGH POINT OF PAVEMENT
- DRAINAGE FLOW ARROWS
- 100 — EXISTING MAJOR CONTOUR
- 99 — EXISTING MINOR CONTOUR

0 10 20 40
1 inch = 20 ft.
GRAPHIC SCALE

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

CONTRACTOR TO ENSURE THAT ALL SIDEWALK IS INSTALLED IN ACCORDANCE WITH GENERAL NOTE NO. 4

CALL 1.85 AC.
GRACE CHAPEL CHINESE-AMERICAN NEW TESTAMENT
H.C.C.F. NO. V568780

CALL 1.658 AC.
WALLACE AND MARIE DILLARD
FAMILY LIMITED PARTNERSHIP, LTD.
H.C.C.F. NO. RP-2022-152249

CALLED 2.0 ACRES
CITY OF SPRING
VALLEY, TEXAS
H.C.C.F. NO. L945365

BINGLE RD
(CONCRETE)
(R.O.W. VARIES)

W MEMORIAL PARK DR.
(CONCRETE)
(R.O.W. VARIES)

PUMP STATION ESMT
VOL. 326, PG.16 H.C.M.R.

EX BLDG
10,000± SQ FT

PROP BLDG
8,003 SQ FT
FF = 67.75

PROP BLDG
6,469 SQ FT
FF = 67.75

PROP PATIO

PROP CURB CUT

BEG. 445 LF OF TURN DOWN CURB (DETAIL ON SHEET C7.1)

BEG. 63 LF OF TURN DOWN CURB (DETAIL ON SHEET C7.1)

END 63 LF OF TURN/ DOWN CURB (DETAIL ON SHEET C7.1)

GRADING & STORM IN THIS AREA (BY OTHERS)

EX TYPE "A" INLET
TG 67.71(±)
EX 24" ST 62.87(±)(N)
EX 24" FL 59.08(±)(E)

EX TYPE "C" INLET
RIM 66.06(±)
TP 65.44(±)
EX 24" FL 60.68(±)(SW)

EX STM MH
RIM 67.82(±)
EX 72" FL 53.16(±)(N)
EX 72" FL 53.13(±)(SE)

EX STM MH
RIM 67.30(±)
EX 72" FL 60.12(±)(NE)
EX 72" FL 53.18(±)(NW)
EX 72" FL 53.11(±)(SE)

EX TELEPHONE MH

EX LIFT STATION VAULT

EX WOOD BEAM

EX BRIAR BAYOU

MATCHLINE A-A (SEE SHEET C4.1)

No.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, TX 77377
281.205.3557
FRN F-11526

BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
24 AUGUST 2026

ALJ PROJECT NO.	022.25.CV.620
DATE:	AUGUST 2026
SCALE:	1" = 20'
DRAWN BY:	SRH
CHECKED BY:	BTH

GRADING PLAN (1 OF 2)

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C4.0

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

GENERAL NOTES

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3. CONTRACTOR TO MATCH EXISTING TOP OF PAVEMENT AND CURB ELEVATIONS.
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LEGEND

- PROPOSED TYPE "A" INLET (SEE DETAIL, SHEET C7.4)
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- TP — TOP OF PAVEMENT
- TC — TOP OF CURB
- TS — TOP OF SIDEWALK
- FG — FINISHED GROUND
- FF — FINISHED FLOOR
- TR — TOP OF RAMP
- EXISTING SANITARY OR STORM SEWER MANHOLE
- PROPOSED HIGH POINT OF PAVEMENT
- DRAINAGE FLOW ARROWS
- 100 — EXISTING MAJOR CONTOUR
- 99 — EXISTING MINOR CONTOUR

0 10 20 40

1 inch = 20 ft.

GRAPHIC SCALE

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

MATCHLINE A-A (SEE SHEET C4.0)

ZONE X (SHADED)
REGULATORY FLOODWAY
℄ EX BRIAR BAYOU
ZONE AE
ZONE X (SHADED)
ZONE X (UNSHADED)
ZONE AE
℄ EX BRIAR BAYOU
ZONE X (SHADED)
ZONE X (UNSHADED)
REGULATORY FLOODWAY
ZONE X (SHADED)

TOB 64.93(±)
TOB 64.98(±)
TOB 65.05(±)
TOB 64.49(±)

END 445 LF OF TURN DOWN CURB (DETAIL ON SHEET C7.1)

BEG. OF 61 LF OF WALL (HEIGHT TO BE DETERMINED PENDING TOPO VERIFICATION) (REF. STRUCTURAL FOR WALL DETAILS)

END OF 61 LF OF WALL (HEIGHT TO BE DETERMINED PENDING TOPO VERIFICATION) (REF. STRUCTURAL FOR WALL DETAILS)

EX TYPE "A" INLET
TG 65.97(±)
EX-24" ST 63.36(±)(NE)

CONTRACTOR TO ENSURE THAT ALL SIDEWALK IS INSTALLED IN ACCORDANCE WITH GENERAL NOTE NO. 4

EX SIDEWALK

OH

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST 72 HOURS NOTICE BEFORE YOU DIG, DRILL OR BLAST – STOP CALL
TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567

No.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.320.9955
FRN F-11526

BRETT T. HANRAHAN
112908
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS

24 AUGUST 2026

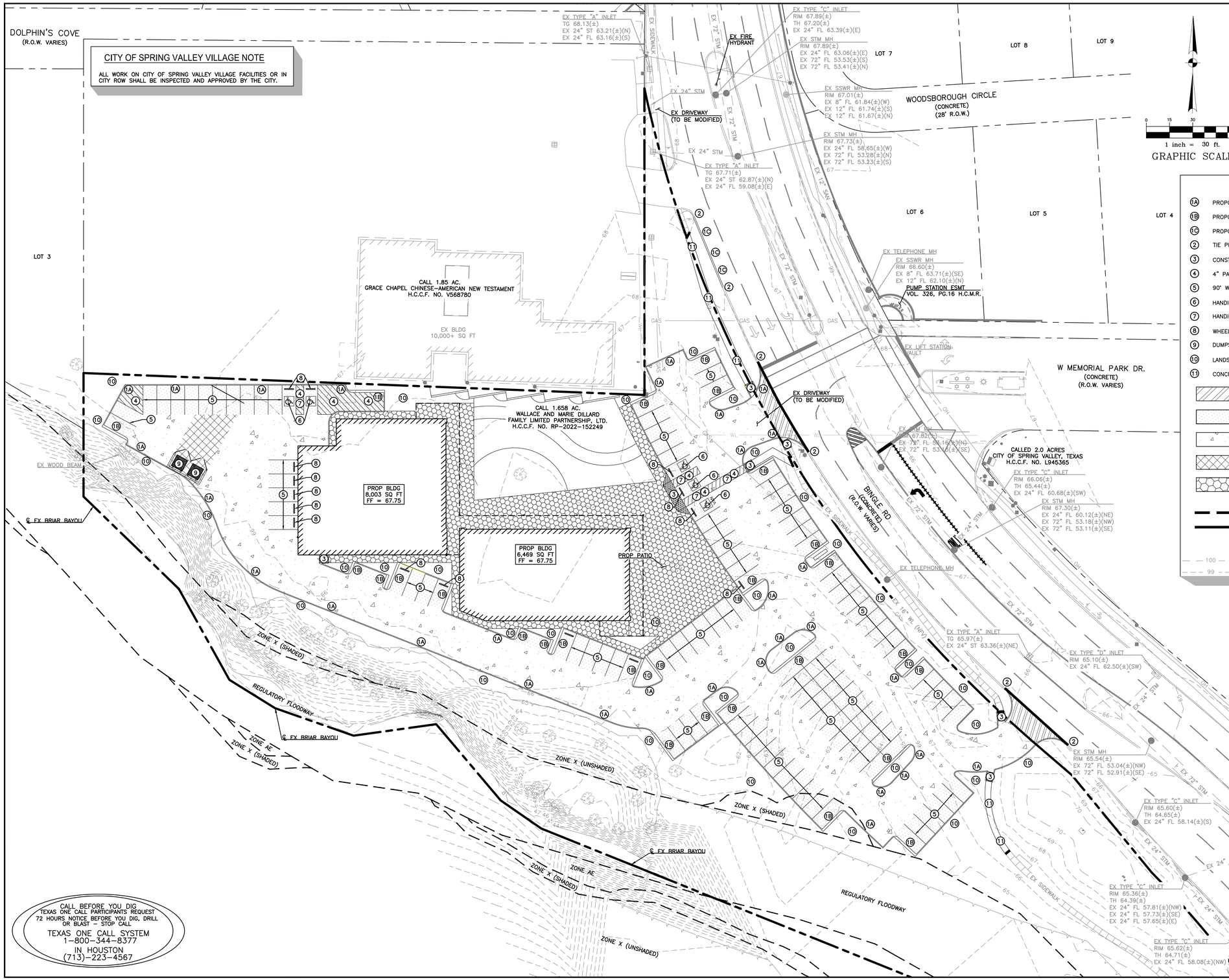
ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1" = 20'
DRAWN BY: SRH
CHECKED BY: BTH

GRADING PLAN (2 OF 2)

BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C4.1



BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

KEYED NOTES

1A PROPOSED 6" MONOLITHIC CONCRETE CURB (SEE DETAIL, SHEET C7.0)
1B PROPOSED 6" X 18" MONOLITHIC CONCRETE CURB (SEE DETAIL, SHEET C7.0)
1C PROPOSED 6" DOWELLED CONCRETE CURB (SEE DETAIL, SHEET C7.1)
2 TIE PROPOSED CURB INTO EXISTING CURB
3 CONSTRUCT CURB RAMP (SEE DETAIL, SHEET C7.1)
4 4" PAINTED WHITE STRIPING @ 2' O.C. @ 45°
5 90° WHITE PARKING LOT STRIPING
6 HANDICAP PARKING SYMBOL W/ SIGNAGE (SEE DETAIL, SHEET C7.1)
7 HANDICAP ACCESSIBLE PARKING STALL STRIPING
8 WHEEL STOP (SEE DETAIL, SHEET C7.1)
9 DUMPSTER ENCLOSURE
10 LANDSCAPED AREA (REF. LANDSCAPE PLANS)
11 CONCRETE SIDEWALK (WIDTH PER PLANS)

PROPOSED DRIVEWAY WITHIN CITY OF SPRING VALLEY VILLAGE R.O.W. (PER DETAIL, SHEET C7.6)
PROPOSED LIGHT DUTY CONCRETE PAVEMENT WITH STABILIZED SUBGRADE (SEE NOTE 2 BELOW)
PROPOSED MEDIUM DUTY CONCRETE PAVEMENT WITH STABILIZED SUBGRADE (SEE NOTE 2 BELOW)
PROPOSED HEAVY DUTY CONCRETE PAVEMENT WITH STABILIZED SUBGRADE (SEE NOTE 2 BELOW)
PROPOSED BUILDING PERIMETER SIDEWALK (REF. ARCHITECTURAL PLANS FOR SURFACE FINISH, SEE GRADING ON SHEET C4.0)
PROPOSED IRRIGATION SLEEVE (SEE NOTE 3)
CONCRETE TO CONCRETE PAVEMENT CONNECTION (INCLUDING 2' SAWCUT, EXISTING PAVEMENT REMOVAL, EXISTING CURB REMOVAL, DOWEL INTO EXISTING PAVEMENT, CONCRETE PAVEMENT HEADER AND SEALED JOINTS)
100 EX. MAJOR CONTOUR
99 EX. MINOR CONTOUR

GENERAL NOTES

1. REFER TO SITE ELECTRICAL PLAN FOR PROPOSED SITE LIGHTING LAYOUT.
2. PAVEMENT AND SUBGRADE THICKNESS INCLUDED ON THIS SHEET FOR REFERENCE ONLY. REFER TO GEOTECHNICAL REPORT PREPARED BY GEOTEST ENGINEERING, INC., DATED JANUARY 26, 2023 (PROJECT NO. 1140278201).
3. REFER TO IRRIGATION PLAN FOR EXACT LOCATION, SIZE, AND QUANTITY OF IRRIGATION SLEEVES.
4. MAXIMUM CONTROL JOINT SPACING TO BE 15-FT AND EXPANSION JOINT SPACING TO BE 60-FT.
5. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS AND ALL STEEL TO BE GRADE 60, UNLESS OTHERWISE SPECIFIED IN GEOTECHNICAL REPORT.
6. PAVING CONTRACTOR TO CONFIRM AND/OR ADJUST ALL EXISTING AND PROPOSED UTILITIES AND APPURTENANCES TO FINISHED GRADE PRIOR TO PLACEMENT OF ANY PAVING.

PAVEMENT MARKING NOTE

"NO PARKING" SHALL BE PAINTED ON THE ACCESS AISLE IN CAPITAL LETTERS WITH HEIGHT OF AT LEAST 12" AND A STROKE OF AT LEAST 2" CENTERED WITHIN THE AISLE

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

CALL BEFORE YOU DIG
TEXAS ONE CALL PARTICIPANTS REQUEST 72 HOURS NOTICE BEFORE YOU DIG, DRILL OR BLAST - STOP CALL
TEXAS ONE CALL SYSTEM
1-800-344-8377
IN HOUSTON
(713)-223-4567

NO.	REVISIONS	DATE

ALJ Lindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.304.3563
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO.	022.25.CV.620
DATE:	AUGUST 2026
SCALE:	1" = 30'
DRAWN BY:	SRH
CHECKED BY:	BTH

PAVING PLAN

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C5.0

DOLPHIN'S COVE
(R.O.W. VARIES)

CITY OF SPRING VALLEY VILLAGE NOTE

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.

1
DOLPHIN'S COVE
SUBDIVISION
FINAL PLAT
F.C. NO. 695410 H.C.M.R.

LOT 3

CALL 1.85 AC.
GRACE CHAPEL CHINESE-AMERICAN NEW TESTAMENT
H.C.C.F. NO. V568780

EX BLDG
10,000+ SQ FT

CALL 1.658 AC.
WALLACE AND MARIE DILLARD
FAMILY LIMITED PARTNERSHIP, LTD.
H.C.C.F. NO. RP-2022-152249

PROP BLDG
8,003 SQ FT
FF = 67.75

PROP BLDG
6,469 SQ FT
FF = 67.75

℄ EX BRIAR
BAYOU

EX WOOD BEAM

ZONE X (SHADED)

REGULATORY FLOODWAY

ZONE AE

ZONE X (SHADED)

ZONE X (UNSHADED)

EX TYPE "A" INLET
TG 68.13(±)
EX 24" ST 63.21(±)(N)
EX 24" FL 63.16(±)(S)

EX SIDEWALK

EX 72" STM

EX 24" STM

EX SSWR MH
RIM 67.01(±)
EX 8" FL 61.84(±)(W)
EX 12" FL 61.74(±)(S)
EX 12" FL 61.67(±)(N)

EX STM MH
RIM 67.73(±)
EX 24" FL 58.65(±)(W)
EX 72" FL 53.28(±)(N)
EX 72" FL 53.23(±)(S)

EX TYPE "A" INLET
TG 67.71(±)
EX 24" ST 62.87(±)(N)
EX 24" FL 59.08(±)(E)

LOT 7

LOT 8

LOT 9

WOODSBOROUGH CIRCLE
(CONCRETE)
(28' R.O.W.)

LOT 6

LOT 5

LOT 4

EX TELEPHONE MH

EX SSWR MH
RIM 66.60(±)
EX 8" FL 63.71(±)(SE)
EX 12" FL 62.10(±)(N)
PUMP STATION ESMT
VOL. 326, PG.16 H.C.M.R.

EX LIFT
STATION VAULT

W MEMORIAL PARK DR.
(CONCRETE)
(R.O.W. VARIES)

GAS

OH

W

EX STM MH
RIM 67.82(±)
EX 72" FL 53.16(±)(N)
EX 72" FL 53.13(±)(SE)

CALLED 2.0 ACRES
CITY OF SPRING VALLEY, TEXAS
H.C.C.F. NO. L945365

EX TYPE "C" INLET
RIM 66.06(±)
TH 65.44(±)
EX 24" FL 60.68(±)(SW)

BINGLE RD
(CONCRETE)
(R.O.W. VARIES)

EX 16" WL (MPV)

EX STM MH
RIM 67.30(±)
EX 24" FL 60.12(±)(NE)
EX 72" FL 53.18(±)(NW)
EX 72" FL 53.11(±)(SE)

EX TYPE "A" INLET
TG 65.97(±)
EX 24" ST 63.36(±)(NE)

EX TYPE "D" INLET
RIM 65.10(±)
EX 24" FL 62.50(±)(SW)

EX STM MH
RIM 65.54(±)
EX 72" FL 53.04(±)(NW)
EX 72" FL 52.91(±)(SE)

EX TYPE "C" INLET
RIM 65.60(±)
TH 64.65(±)
EX 24" FL 58.14(±)(S)

EX TYPE "C" INLET
RIM 65.36(±)
TH 64.39(±)
EX 24" FL 57.81(±)(NW)
EX 24" FL 57.73(±)(SE)
EX 24" FL 57.65(±)(E)

EX TYPE "C" INLET
RIM 65.62(±)
TH 64.71(±)
EX 24" FL 58.08(±)(NW)

0 15 30 60
1 inch = 30 ft.
GRAPHIC SCALE

BENCHMARK NOTES

RM 210215
BRASS DISK LOCATED ON THE SOUTH WALKWAY OF BRIDGE AT THE INTERSECTION OF WESTVIEW DRIVE AND SPRING BRANCH (STREAM W140-00-00)
ELEV. 68.31 NAVD88 (2001 ADJUSTMENT)

RM 210255
BRASS DISK LOCATED ON THE EAST WALKWAY OF BRIDGE ON FRIES ROAD, BEING APPROX 0.5 MILES NORTH FROM THE INTERSECTION WITH INTERSTATE 10 (STREAM W140-00-00)
ELEV. 70.83 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-7
SCRIBED "X" ON TOP OF A CURB LOCATED ON THE SOUTHWEST SIDE OF BINGLE ROAD, BEING APPROX 400 FEET NORTHWEST FROM THE INTERSECTION WITH INTERSTATE 10, APPROX 35.9 FEET NORTHEAST FROM A "NO DUMPING OR TRESPASSING" SIGN, AND APPROX 30.1 FEET SOUTHWEST FROM A STORM INLET.
ELEV. 66.74 NAVD88 (2001 ADJUSTMENT)

TBM 25.0070-8
SCRIBED "X" ON TOP OF A CURB INLET LOCATED ON THE NORTH SIDE OF INTERSTATE 10 WEST BOUND SERVICE ROAD, BEING THE FIRST INLET WEST FROM THE INTERSECTION WITH BINGLE ROAD.
ELEV. 65.74 NAVD88 (2001 ADJUSTMENT)

LEGEND

- SC-H — STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL, SHEET C7.5)
- CTW — CONCRETE TRUCK WASHOUT (SEE DETAIL, SHEET C7.5)
- RFB — SILT FENCE (SEE DETAIL, SHEET C7.5)
- IPT — INLET PROTECTION TRAP (STAGE 1) (SEE DETAIL, SHEET C7.5)
- SS — SILT STACK INLET PROTECTION BARRIER (SEE DETAIL, SHEET C7.5)
- IPB-II — INLET PROTECTION BARRIER – STAGE II (SEE DETAIL, SHEET C7.5)
- LIMITS OF DISTURBED AREA
- 100 — EX. MAJOR CONTOUR
- 99 — EX. MINOR CONTOUR

GENERAL NOTES

1. CONTRACTOR TO MAINTAIN A CLEAN PROJECT SITE AND ENSURE THAT ALL DEBRIS IS PLACED IN DESIGNATED AREA PER PLANS. ALL SPOIL MATERIAL GENERATED FROM CONSTRUCTION ACTIVITY TO BE HAULED OFFSITE AND DISPOSED IN ACCORDANCE WITH LOCAL LAWS, RULES, AND REGULATIONS.

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

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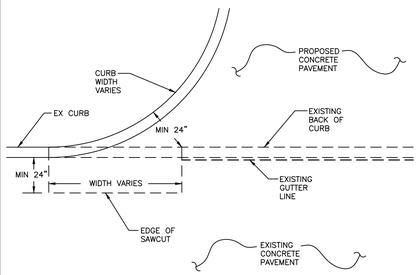
STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: 1:30
DRAWN BY: SRH
CHECKED BY: BTH

EROSION CONTROL PLAN

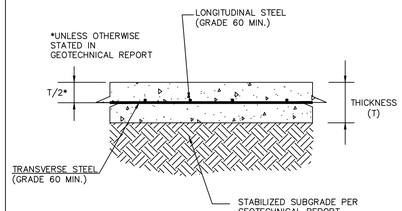
BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C6.0



SAWCUT DETAIL

N.T.S.



GENERAL NOTES:

1. SEE GEOTECH REPORT PREPARED BY GEOTEST ENGINEERING, INC., DATED JANUARY 26, 2023, (PROJECT NUMBER 1140278201), FOR ALL RECOMMENDATIONS. THIS IS PROVIDED FOR PICTORIAL REPRESENTATION ONLY.

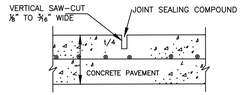
2. IN THE EVENT THE GEOTECHNICAL REPORT DOES NOT SPECIFY, THE FOLLOWING CRITERIA SHALL BE APPLIED:

   A. LONGITUDINAL & TRANSVERSE STEEL:
   LIGHT DUTY: #4 @ 24" O.C.E.W. OR #3 @ 18" O.C.E.W.
   MEDIUM DUTY: #4 @ 18" O.C.E.W. OR #3 @ 12" O.C.E.W.
   HEAVY DUTY: #4 @ 18" O.C.E.W.

   B. SUBGRADE SHALL BE LIME/FLY ASH STABILIZED TO A MIN. DEPTH OF 6" IN CONFORMANCE WITH TXDOT 2004 STANDARD SPECIFICATIONS ITEM 260

CONCRETE PAVING SECTION

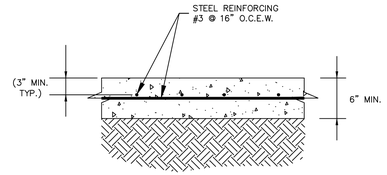
N.T.S.



ALL JOINT TO BE PROPERLY SEALED WITH JOINT SEALING COMPOUND CONSISTING OF TWO-PART POURABLE URETHANE JOINT SEALANT, TYPE M, GRADE P, CLASS 25, USE T

CONTROL JOINT

N.T.S.



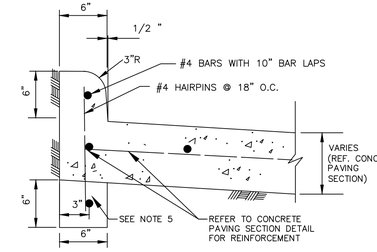
GENERAL NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS AND ALL STEEL TO BE GRADE 60.

2. CONTRACTOR TO COORDINATE WITH OWNER AND/OR ARCHITECT FOR CONCRETE FINISH.

CONCRETE PAVING SECTION

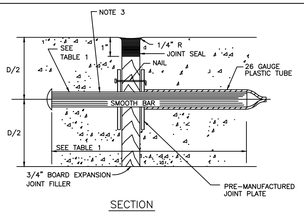
N.T.S.



1. PROVIDE EXPANSION JOINTS AT ALL CURVES, TANGENTS AND CORNERS.
2. SUBGRADE TO EXTEND 1' PAST BACK OF CURB.
3. SACK FINISH EXPOSED SURFACES.
4. FINISH TO BE ACCOMPLISHED BY FLOATING, STEEL TROWELLING AND THEN BRUSHING. HAND FINISH NOT REQUIRED WHEN CURB IS NOT POURED BY A MACHINE, BUT CURB WILL HAVE THE SAME OUTSIDE DIMENSIONS, AND HAVE A BRUSHED FINISH.
5. ADD ONLY IF RECOMMENDED BY GEOTECH REPORT

6" MONOLITHIC CONCRETE CURB

N.T.S.



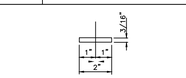
SECTION

DOWEL TYPE EXPANSION JOINT

NTS

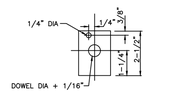
TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
6	3/4	18	12
7	1	18	12
8	1	18	12
9	1 1/4	18	12
10	1 1/4	18	12
11	1 1/4	18	12
12	1 1/4	18	12



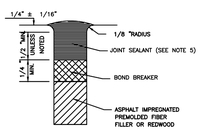
PLAN – JOINT PLATE

NTS



ELEVATION – JOINT PLATE

NTS

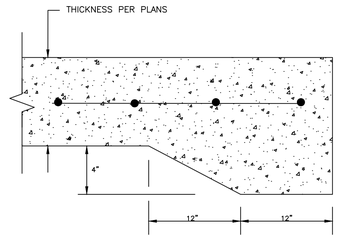


EXPANSION JOINT

N.T.S.

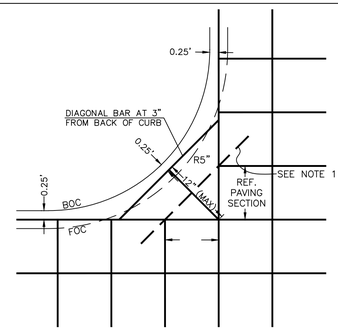
NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS. SPACING AND BAR SIZE MAY BE REDUCED IF GEOTECHNICAL REPORT PROVIDES RECOMMENDATIONS.
2. CENTER DOWEL HORIZONTALLY ON JOINT.
3. CENTER DOWEL VERTICALLY IN CONCRETE BASE. EXTEND THICKENED CONCRETE AS NEEDED TO MAINTAIN 3" MIN COVER.
4. THE LOCATION OF CONSTRUCTION JOINTS MAY BE VARIED WITH THE APPROVAL OF THE COUNTY ENGINEER.
5. JOINT SEALANT TO BE TWO-PART POURABLE URETHANE JOINT SEALANT, TYPE M, GRADE P, CLASS 25, USE T



STANDARD PAVING HEADER

N.T.S.



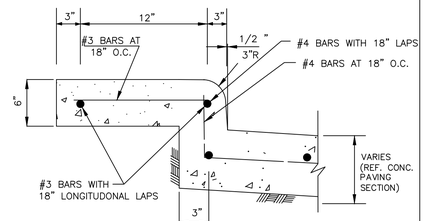
NOTES

1. CONTRACTOR TO ADD EXTRA DIAGONAL BAR IF DISTANCE TO NEAREST CORNER EXCEEDS 12".

2. FOR RADIUS OVER 10', CONTRACTOR TO PLACE LONG BAR AT 3" FROM BACK OF CURB ALONG ENTIRE RADIUS.

BAR SCHEMATIC FOR SMALL RADIUS CURVE

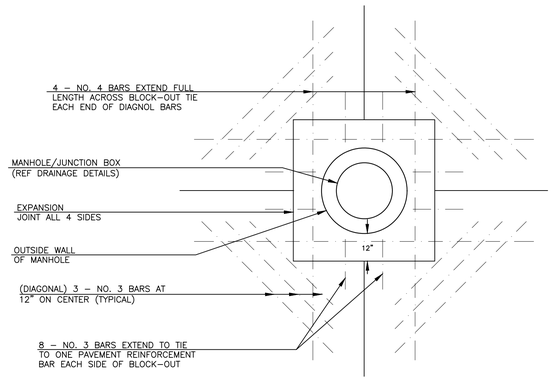
N.T.S.



1. PROVIDE EXPANSION JOINTS AT ALL CURVES, TANGENTS AND CORNERS.
2. SUBGRADE TO EXTEND 1' PAST BACK OF CURB.
3. SACK FINISH EXPOSED SURFACES.
4. FINISH TO BE ACCOMPLISHED BY FLOATING, STEEL TROWELLING AND THEN BRUSHING. HAND FINISH NOT REQUIRED WHEN CURB IS NOT POURED BY A MACHINE, BUT CURB WILL HAVE THE SAME OUTSIDE DIMENSIONS, AND HAVE A BRUSHED FINISH.

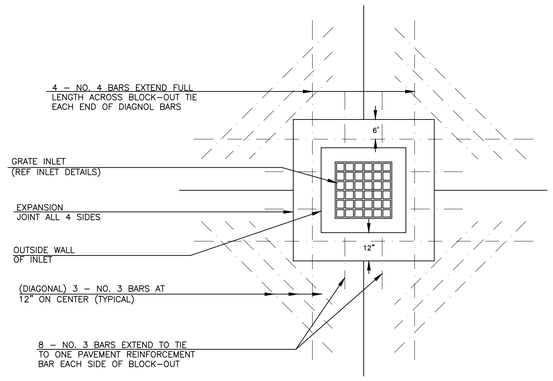
6" x 18" MONOLITHIC CONCRETE CURB

N.T.S.



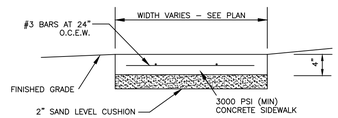
MANHOLE CONCRETE BLOCKOUT

N.T.S.



GRATE INLET CONCRETE BLOCKOUT

N.T.S.



NOTES:

1. PROVIDE 3/8" GROOVED CONTROL JOINTS AT 5' CENTERS.
2. PROVIDE 1/2" EXPANSION JOINTS AT 25', MAXIMUM, SPACING AND FILLED WITH PREMOLDED BITUMINOUS EXPANSION JOINT FILLER MATERIAL OR REDWOOD. EXPANSION JOINTS SHALL HAVE #4 DOWELS, LUBRICATED, 18" LONG, AT 12" CENTERS, 6" FROM EDGE.
3. PROVIDE 1/2" BITUMINOUS EXPANSION JOINT FILLER MATERIAL WHERE WALK ABUTS EXISTING IMPROVEMENTS AND AT ALL CHANGES IN GRADE.
4. REFER TO CITY OR COUNTY DETAILS FOR ALL PUBLIC SIDEWALKS.
5. SIDEWALK SHALL NEVER EXCEED 2% CROSS SLOPE OR 5% LONGITUDINAL SLOPE
6. ALL SIDEWALK TO BE BROOM FINISH UNLESS OTHERWISE NOTED ON PLANS.
7. CONTRACTOR TO CONFIRM ALL SIDEWALK TO HAVE POSITIVE DRAINAGE AWAY FROM THE BUILDING.

CONCRETE SIDEWALK

N.T.S.

NO.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, TX 77377
281.304.2000
FRN F-11526

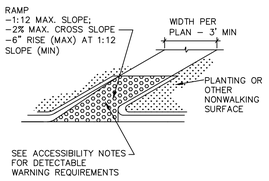
BRETT T. HANRAHAN
112908
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: N/A
DRAWN BY: SRH
CHECKED BY: BTH

CONSTRUCTION DETAILS (1 OF 7)

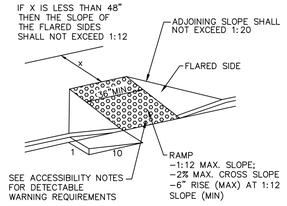
BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C7.0



CURB RAMP DETAIL - SQUARE SIDES

N.T.S.



CURB RAMP DETAIL - FLARED SIDES

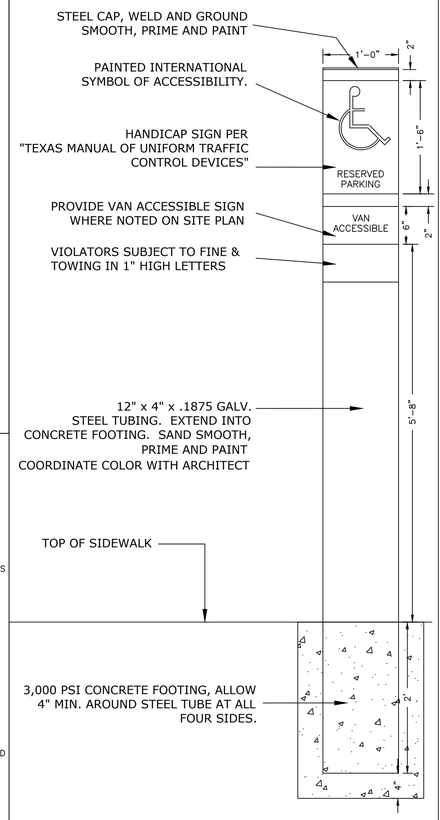
N.T.S.

ACCESSIBILITY NOTES:

1. ALL ACCESSIBLE SPACES AND ACCESSIBLE ROUTES SHALL COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND CITY/COUNTY REQUIREMENTS.
2. ACCESSIBLE PARKING SPACES AND DRIVE AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:48 (2.08%) IN ALL DIRECTIONS. CURB RAMPS SHALL BE PROVIDED AT ALL PASSENGER LOADING ZONES.
3. EACH ACCESSIBLE PARKING SPACE SHALL BE DESIGNATED AS RESERVED BY AN APPROPRIATE SIGN SHOWING THE SYMBOL OF ACCESSIBILITY PER TAS SECTION 216.5. SPACES COMPLYING WITH TAS SECTION 502.6 SHALL HAVE AN ADDITIONAL SIGN "VAN-ACCESSIBLE" MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY.
   A. SIGNS SHALL BE LOCATED 48" – 80" ABOVE THE GROUND, FLOOR, OR PAVING SURFACE MEASURED TO THE BOTTOM OF THE SIGN SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
   B. SIGNS LOCATED WITHIN AN ACCESSIBLE ROUTE SHALL COMPLY WITH TAS SECTION 307.4.
   C. CHARACTERS AND SYMBOLS ON OVERHEAD SIGNS SHALL COMPLY WITH TAS SECTION 703.5.
4. SLOPES OF CURB RAMPS SHALL COMPLY WITH TAS SECTION 405.2. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20.
5. SURFACES OF CURB RAMPS SHALL COMPLY WITH TAS SECTIONS 405.4 AND 302.1.

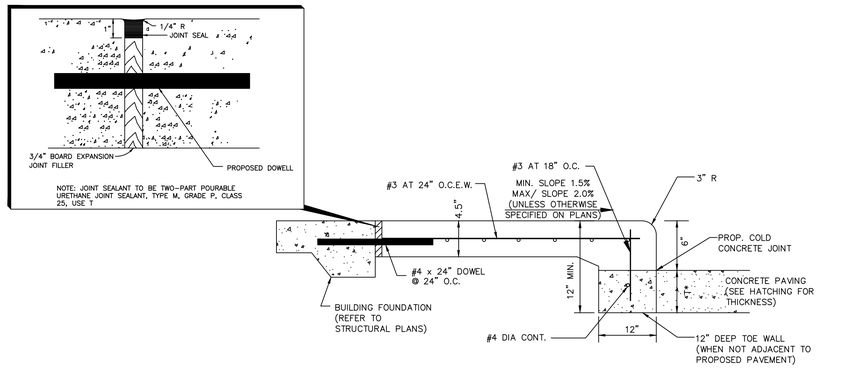
CURB RAMPS IN PUBLIC RIGHT-OF-WAY
ALL CURB RAMPS SHALL COMPLY WITH ARCHITECTURAL BARRIERS ADMINISTRATIVE RULE 68.102(B)(2):
   A. DETECTABLE WARNING STRIP SHALL EXTEND A MINIMUM OF 24" IN DEPTH (IN DIRECTION OF PEDESTRIAN TRAVEL)
   B. DETECTABLE WARNING STRIP SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING.

CURB RAMPS NOT IN PUBLIC RIGHT-OF-WAY
ALL CURB RAMPS NOT CONSTRUCTED IN PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH TAS 406.
   A. DETECTABLE WARNING STRIPS ARE NOT REQUIRED ON CURB RAMPS NOT IN PUBLIC RIGHT-OF-WAY.



ACCESSIBLE PARKING SIGN

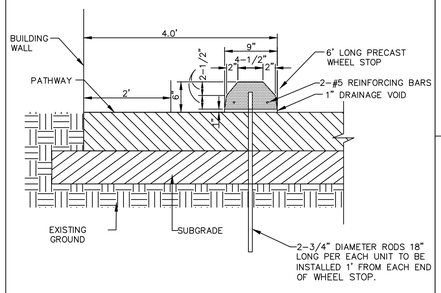
N.T.S.



BUILDING PERIMETER SIDEWALK

N.T.S.

* = FOR REQUIRED PAVEMENT/SUBGRADE THICKNESS, SEE HATCHING ON PLAN. REFERENCE GEOTECHNICAL REPORT FOR SPECIFICATIONS.

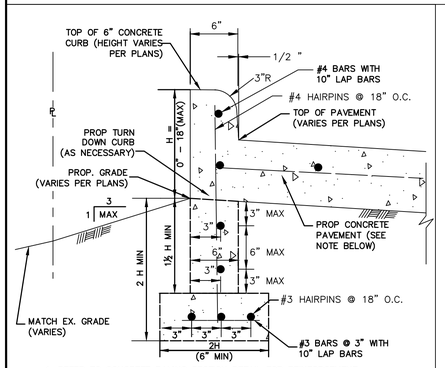


NOTES:

1. CONCRETE USED FOR WHEEL STOP TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI.

WHEEL STOP WITH PATHWAY

N.T.S.



1. REFER TO CONCRETE PAVING SECTION DETAIL FOR REINFORCEMENT
2. REFER TO GEOTECH REPORT FOR PAVING THICKNESS

TYPICAL TURNDOWN CURB DETAIL

N.T.S.

No.	REVISIONS	DATE

ALJ Lindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.350.8555
FRN F-11526

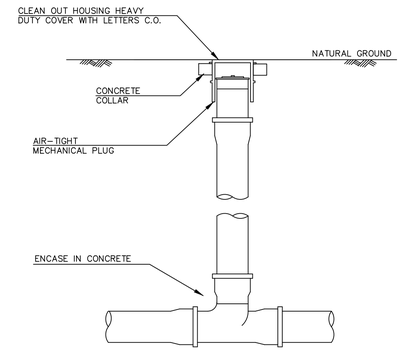
STATE OF TEXAS
BRETT T. HANRAHAN
112908
REGISTERED
PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO.	022.25.CV.620
DATE:	AUGUST 2026
SCALE:	N/A
DRAWN BY:	SRH
CHECKED BY:	BTH

CONSTRUCTION DETAILS (2 OF 7)

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

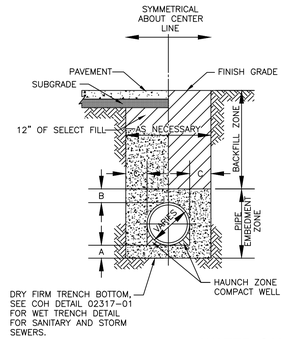
SHEET
C7.1



CLEANOUT SERIES 8310 MADE BY JOSAM MANUFACTURING CO., OR APPROVED EQUAL WITH SCORIATED COVER AND BRASS INTERNAL PLUG.

CLEANOUT DETAIL

N.T.S.



DIMENSIONAL REQUIREMENTS

PIPE SIZE	A	B	C
20" AND SMALLER	6"	12"	9"
21" THRU 48"	6"	12"	12"
54" THRU 66"	9"	12"	15"
72" AND LARGER	12"	18"	15"

MATERIAL REQUIREMENTS

BACKFILL ZONE

1. IN PAVED AREAS, USE CEMENT STABILIZED SAND, PLACE IN 8" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY, TO WITHIN 12" OF SUBGRADE.

2. IN UNPAVED AREAS, USE SOIL EXCAVATED FROM TRENCH, PLACE IN 8" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

PIPE EMBEDMENT ZONE

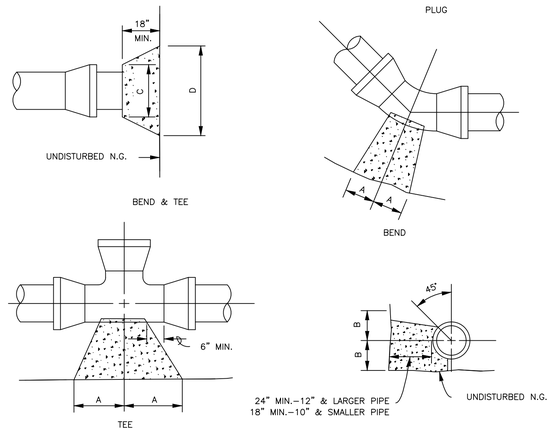
1. FOR STORM AND SANITARY SEWERS, USE CEMENT STABILIZED SAND, PLACE IN 8" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

2. FOR WATER LINES, USE SAND, PLACE IN 8" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

WATER, SANITARY AND STORM BEDDING AND BACKFILL FOR DRY STABLE TRENCH

N.T.S.

SIZE	90° BEND		45° BEND		22 1/2°BEND		TEES		PLUGS	
	A	B	A	B	A	B	A	B	C	D
2 1/2 "	12"	7"	6"	7"	6"	6"	7"	8"	8"	14"
4"	14"	8"	7"	9"	6"	6"	8"	11"	8"	18"
6"	16"	10"	9"	10"	6"	8"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"

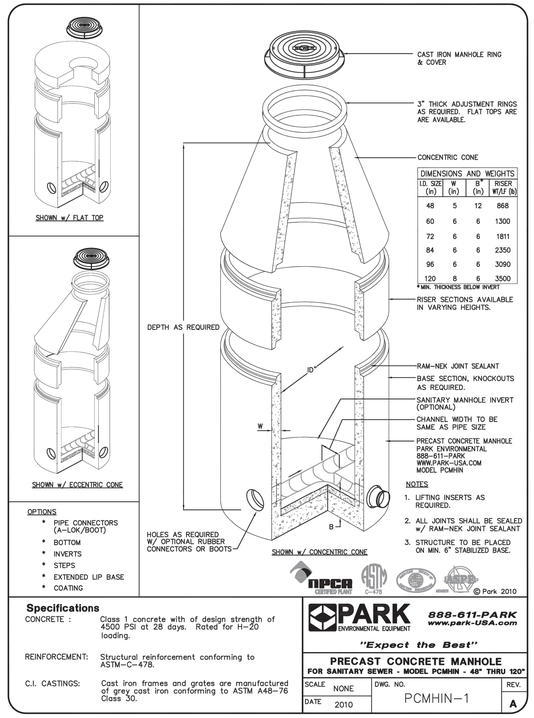


NOTE:

THRUST BLOCKS AT TRENCH FACE MUST HAVE A MINIMUM BEARING SURFACE OF 1.0 SQ. FOOT AND THE LEAST DIMENSION SHALL BE NO SMALLER THAN 1.5 TIMES PIPE DIAMETER, BUT NOT LESS THAN 1.0 FT.

THRUST-BLOCKING

N.T.S.



DIMENSIONS AND WEIGHTS			
I.D. SIZE (in)	W (in)	B* (in)	RISER W/I/F (lb)
48	5	12	868
60	6	6	1300
72	6	6	1811
84	6	6	2350
96	6	6	3090
120	8	6	3500

*MIN. THICKNESS BELOW INVERT

NOTES
1. LIFTING INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED w/ RAM-NEK JOINT SEALANT
3. STRUCTURE TO BE PLACED ON MIN. 6" STABILIZED BASE.

OPTIONS
* PIPE CONNECTORS (A-LOK/BOOT)
* BOTTOM
* INVERTS
* STEPS
* EXTENDED LIP BASE
* COATING

Specifications

CONCRETE : Class 1 concrete with of design strength of 4500 PSI at 28 days. Rated for H-20 loading.

REINFORCEMENT: Structural reinforcement conforming to ASTM-C-478.

C.I. CASTINGS: Cast iron frames and grates are manufactured of grey cast iron conforming to ASTM A48-76 Class 30.

PARK ENVIRONMENTAL EQUIPMENT 888-611-PARK www.park-USA.com

"Expect the Best"

PRECAST CONCRETE MANHOLE
FOR SANITARY SEWER - MODEL PCMHIN - 48" THRU 120"

SCALE	NONE	DWG. NO.	REV.
DATE	2010	PCMHIN-1	A

All drawings are avalible for download at www.park-usa.com in .dwg & .pdf formats

No.	REVISIONS	DATE

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FRN F-11526

BRETT T. HANRAHAN
112908
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS

24 AUGUST 2026

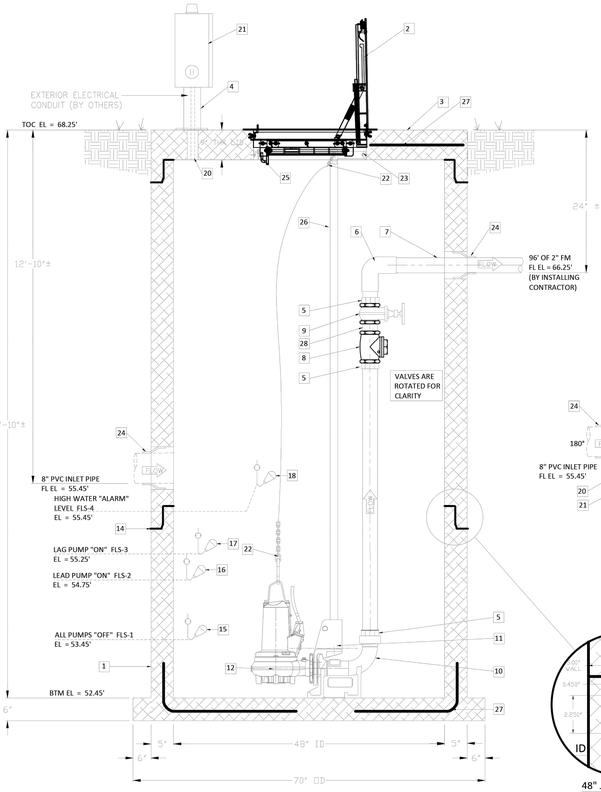
ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: N/A
DRAWN BY: SRH
CHECKED BY: BTH

CONSTRUCTION DETAILS (3 OF 7)

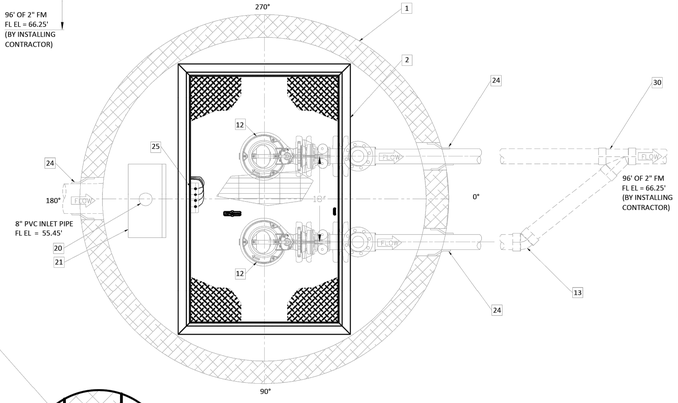
BINGLE ROAD RETAIL

1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C7.2



ELEVATION



PLAN VIEW

48" JOINT DETAIL

ALL DASHED PIPING BY OTHERS

FLOAT or XDCR CYCLE
RISING & FALLING WATER LEVELS
(DEFINE LEAD/LAG SIGNAL TRIGGER POINTS)

FLOAT No. (NO or NC)	LEVEL SETTING	RESULT of ACTION (RISING)
FLS-2 NO => C	54.75'	LEAD PUMP TURNS "ON"
FLS-3 NO => C	55.25'	LAG PUMP TURNS "ON" +(LEAD PUMP ON)
FLS-4 NO => C	55.45'	ALARM (HI-LEVEL) TURNS "ON"
		(FALLING)
FLS-4 NO <= C	55.45'	ALARM (HI-LEVEL) "OFF"
FLS-1 NO <= C	53.45'	ALL PUMPS TURN "OFF". LAG PUMP ALTERNATES TO LEAD PUMP

WET WELL BOM w/ NOTES

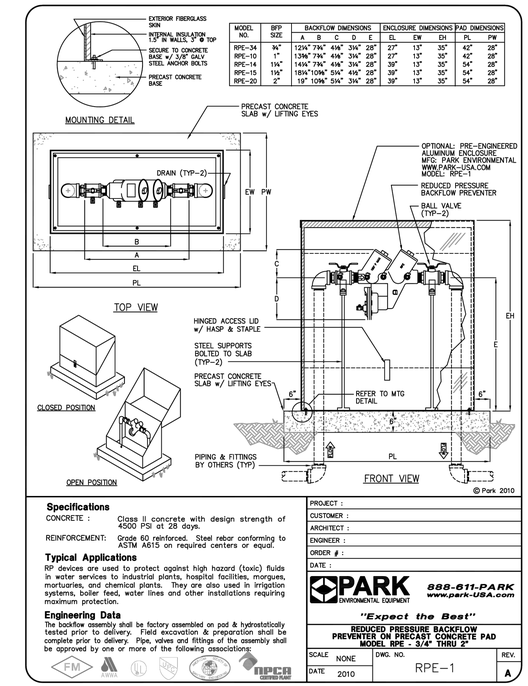
BOM No.	QTY REQ.	DESCRIPTION
1	1	Ø 48" x 15'-10" DEEP REINFORCED CONCRETE WET WELL & LID
2	1	30" x 36" ALUMINUM HATCHWAY w/ SAFETY GRATE
3	1	6" THK FLAT CONCRETE TOP
4	1	VENTED ALUMINUM PEDESTAL
5	6	2" SCH80 PVC MALE ADAPTER
6	2	2" SCH 80 PVC 90° ELBOW
7	2	2" SCH 80 PVC DISCHARGE PIPE
8	2	2" BRONZE SWING CHECK VALVE
9	2	2" BRONZE GATE VALVE
10	2	2" BASE ELBOW
11	2	2" PUMP LIFT-OUT ASSY
12	2	2" GRINDER SUBMERSIBLE PUMPS
13	1	2" SCH80 PVC 45 DEGREE ELBOW (BY INSTALLING CONTRACTOR)
14	AS REQUIRED	WATER TIGHT PLASTIC FLEXIBLE GASKETS
15	1	FLS-1, LEVEL CONTROL FLOAT, SYSTEM ON/OFF - 53.45' EL
16	1	FLS-2, LEVEL CONTROL FLOAT, LEAD PUMP ON - 54.75' EL
17	1	FLS-3, LEVEL CONTROL FLOAT, LAG PUMP ON - 55.25' EL
18	1	FLS-4, LEVEL CONTROL FLOAT, HI-LEVEL ALARM - 55.45' EL
19	-	NOT USED
20	1	3" ELECTRICAL CONDUIT SLEEVES
21	1	CONTROL PANEL, DUPLEX, NEMA 4X FRP w/GENERATOR RECEPTACLE
22	2	SS LIFT CHAINS
23	2	SS UPPER GUIDE RAIL BRACKETS
24	3	RESILIENT RUBBER BOOT
25	1	SS CABLE/CORD HANGER
26	4	SS GUIDE RAILS
27	AS REQUIRED	REINFORCEMENT REBAR (per specification)
28	2	2" X 3" LONG SCH80 PVC SPOOL PIECE
29	-	NOT USED
30	1	2" PVC WYE (BY INSTALLING CONTRACTOR)
		LIFT CKC MODEL No.: GR-48-2 PHONE No.: 281-808-8719
NOTES:	A.	DRAWING IS REPRESENTATIVEONLY UNTIL "CERTIFIED".
	B.	ALL DASHED LINES ARE BY OTHERS UNLESS OTHERWISE NOTED.
	C.	ALL ELEVATIONS MUST BE VERIFIED PRIOR TO FABRICATION.
	CONCRETE GRADE:	TYPE I/II CONCRETE w/ GRADE STRENGTH OF 5000 PSI @ 28 DAYS. -FLOOR CONSTRUCTION IS "MONOLITHIC", -MEETS or EXCEEDS ASTM C478 -HL93 LOADING -60000 PSI REINFORCEMENT STEEL REBAR TO ASTM A-185 WWR w/ REQUIRED CENTERS. ANY WALL OPENING REQUIRES WWR. -REBAR MIN. SPLICE LENGTHS: **#4 - 22", #5 - 28", #6 - 33"**
BOM No. 2	HATCHWAY:	ALUMINUM HATCH 300 PSF RATED, 0.25" ALUMINUM ANTI-SKID FLOOR PLATE, SS TAMPERPROOF FASTENERS, HINGES, & SLAMLOCK.
BOM No. 12	PUMPS:	PUMPS: SUBMERSIBLE CENTRIFUGAL GRINDER PUMPS (see PUMP SCHEDULE for mechanical/electrical detail)
BOM No. 21	CONTROLS:	CONTROLS: NEMA-4X ENCLOSURE (REMOTE OPERATION) (see CONTROLS SCHEDULE for electrical detail)
	SUBMITTALS:	SUBMITTAL TO FOLLOW AFTER RECEIPT OF AN INITIAL APPROVAL BY CLIENT'S AUTHORIZED REPRESENTATIVE.

PUMPS and CONTROLS SCHEDULE

PUMP No.	CLASS	PUMP SPECIFICATION
PUMP 1	SUBMERSIBLE GRINDER	31 USgpm @ 15' TDH 2 HP, 3450 RPM, 3/60/460vAC
PUMP 2	SUBMERSIBLE GRINDER	31 USgpm @ 15' TDH 2 HP, 3450 RPM, 3/60/460vAC
		CONTROL PANEL SPECIFICATION
PANEL 1	NEMA-4X FRP, UL	Duplex Type w/ IEC Starter, Circuit Breakers, Alarm Circuit Fuse, H-O-A, Alternator Relay, Generator Receptacle, Visual Alarm Beacon (mounted & wired by contractor)

BY	REVISION	REVISION DESCRIPTION	DC	DC
JLE	A	REV B - REV A - 07-14-26 - ORIGINAL DRAWING		

JOB NAME: BINGLE ROAD RETAIL
ENGINEER: ALJ LINDSEY
DATE: 14-JULY-2026
LIFT CKC
11969 FM 529
HOUSTON, TX 77041
PO BOX 73149
HOUSTON TX 77273
281.808.8719
DESCRIPTION: SANITARY SEWER LIFT STATION
CUSTOMER: TBD
DWG NO. GR-48-2
REV A
SCALE N/A



MODEL NO.	BFP SIZE	BACKFLOW DIMENSIONS A	B	C	D	E	ENCLOSURE DIMENSIONS EL	EW	EH	PAD DIMENSIONS PL	PW
RPE-34	¾"	12¼"	7¾"	4⅛"	3¼"	28"	27"	13"	35"	42"	28"
RPE-10	1"	13⅜"	7¾"	4⅛"	3¼"	28"	27"	13"	35"	42"	28"
RPE-14	1¼"	14⅛"	7¾"	4⅛"	3¼"	28"	39"	13"	35"	54"	28"
RPE-15	1½"	18¼"	10⅝"	5¼"	4⅛"	28"	39"	13"	35"	54"	28"
RPE-20	2"	19"	10⅝"	5¼"	3¼"	28"	39"	13"	35"	54"	28"

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Specifications

CONCRETE : Class II concrete with design strength of 4500 PSI at 28 days.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

Typical Applications

RP devices are used to protect against high hazard (toxic) fluids in water services to industrial plants, hospital facilities, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feed, water lines and other installations requiring maximum protection.

Engineering Data

The backflow assembly shall be factory assembled on pad & hydrostatically tested prior to delivery. Field excavation & preparation shall be complete prior to delivery. Pipe, valves and fittings of the assembly shall be approved by one or more of the following associations:

PARK ENVIRONMENTAL EQUIPMENT 888-611-PARK www.park-USA.com

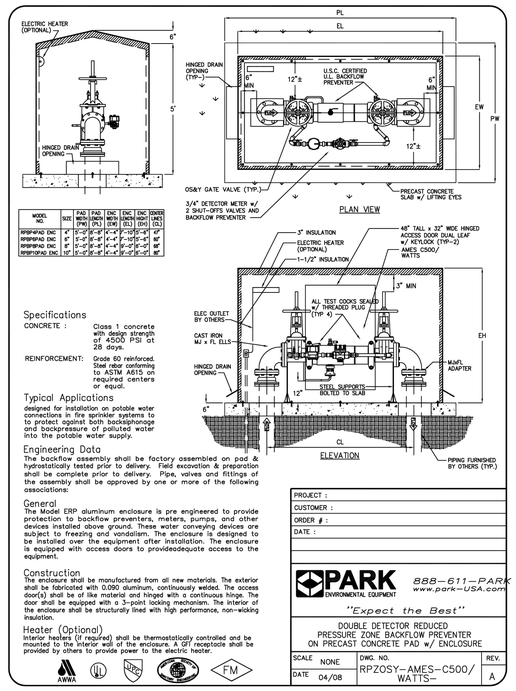
"Expect the Best"

REDUCED PRESSURE BACKFLOW PREVENTER ON PRECAST CONCRETE PAD MODEL RPE - 3/4" THRU 2"

SCALE	NONE	DWG. NO.	REV.
DATE	2010	RPE-1	A

PROJECT :
CUSTOMER :
ARCHITECT :
ENGINEER :
ORDER # :
DATE :

All drawings are avalible for download at www.park-usa.com in .dwg & .pdf formats



MODEL NO.	SIZE	PAD WIDTH (PW)	PAD LNGTH (PL)	ENC WDTH (EW)	ENC LNGTH (EL)	ENC HGHT (EH)	SEWER LINE (CL)
RPSPDFPAD ENC	4"	5'-0"	8'-0"	4'-4"	7'-10⅝"	5'-8"	48"
RPSPDFPAD ENC	6"	5'-0"	8'-0"	4'-4"	7'-10⅝"	5'-8"	48"
RPSPDFPAD ENC	8"	5'-0"	8'-0"	4'-4"	8'-0"	5'-8"	48"
RPSPDFPAD ENC	10"	5'-0"	8'-0"	4'-4"	8'-0"	5'-8"	48"

Specifications

CONCRETE : Class 1 concrete with design strength of 4500 PSI at 28 days.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

Typical Applications

designed for installation on potable water connections in fire sprinkler systems to to protect against both backsiphonage and backpressure of polluted water into the potable water supply.

Engineering Data

The backflow assembly shall be factory assembled on pad & hydrostatically tested prior to delivery. Field excavation & preparation shall be complete prior to delivery. Pipe, valves and fittings of the assembly shall be approved by one or more of the following associations:

General

The Model ERP aluminum enclosure is pre engineered to provide protection to backflow preventers, meters, pumps, and other devices installed above ground. These water conveying devices are subject to freezing and vandalism. The enclosure is designed to be installed over the equipment after installation. The enclosure is equipped with access doors to provideadequate access to the equipment.

Construction

The enclosure shall be manufactured from all new materials. The exterior shall be fabricated with 0.090 aluminum, continuously welded. The access door(s) shall be of like material and hinged with a continuous hinge. The door shall be equipped with a 3-point locking mechanism. The interior of the enclosure shall be structurally lined with high performance, non-wicking insulation.

Heater (Optional)

Interior heaters (if required) shall be thermostatically controlled and be mounted to the interior wall of the enclosure. A GFI receptacle shall be provided by others to provide power to the electric heater.

PARK ENVIRONMENTAL EQUIPMENT 888-611-PARK www.park-USA.com

"Expect the Best"

DOUBLE DETECTOR REDUCED PRESSURE ZONE BACKFLOW PREVENTER ON PRECAST CONCRETE PAD w/ ENCLOSURE

SCALE	NONE	DWG. NO.	REV.
DATE	04/08	RPZOSY-AMES-C500/ WATTS-	A

No.	REVISIONS	DATE

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Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
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FRN F-11526

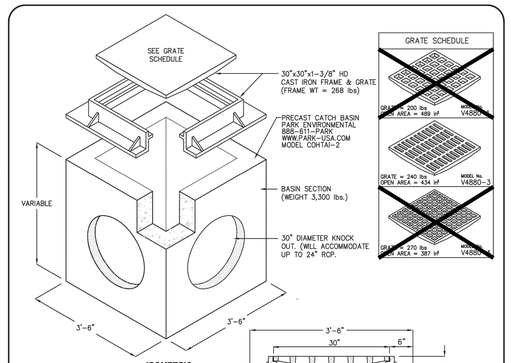
BRETT T. HANRAHAN
112908
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: N/A
DRAWN BY: SRH
CHECKED BY: BTH

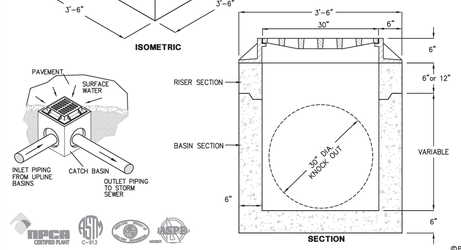
CONSTRUCTION DETAILS (4 OF 7)

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C7.3



ISOMETRIC



SECTION

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SPECIFICATIONS

CONCRETE : Class II concrete with of design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth. Rated for H-20 Loading.

REINFORCEMENT: Grade 60 reinforced with steel rebar to conform to ASTM A615 on required centers or equal.

C.I. CASTINGS: Cast iron frames and grates are manufactured of grey cast iron conforming to ASTM A48-76 Class 30.

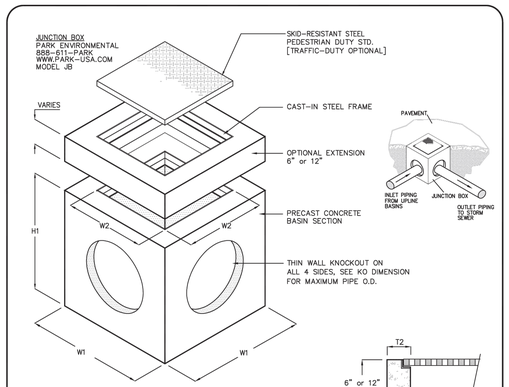
PARK ENVIRONMENTAL EQUIPMENT 888-611-PARK www.park-USA.com

"Expect the Best"

TYPE-A GRATE INLET
MODEL COHTAI - SIZE 30"

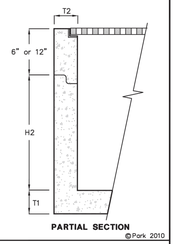
SCALE	NONE	DWG. NO.	REV.
DATE	2010	COHTAI-2	A

All drawings are avalible for download at www.park-usa.com in .dwg & .pdf formats



MODEL #	DIMENSIONS								
JUNCTION BOX[1]	W1	W2	H1	H2	T1	T2	KO	GRATE SIZE	WEIGHT LBS
JB-12	15"	10"	21"	18"	3"	2½"	10"	12"x12"x1"	180
JB-14	20"	14"	28"	24"	4"	3"	12"	14"x14"x1½"	600
JB-18	24"	16"	34"	30"	4"	4"	15"	18"x18"x1½"	1,000
JB-20	26"	18"	34"	30"	4"	4"	17"	20"x20"x1½"	1,335
JB-24	32"	22"	41"	36"	5"	5"	22"	24"x24"x2"	2,245
JB-27	37"	25"	42"	36"	6"	6"	24"	27"x27"x2"	2,875
JB-30	42"	30"	42"	36"	6"	6"	30"	32"x32"x2"	3,675
JB-36	48"	36"	42"	36"	6"	6"	32"	38"x38"x2"	4,585

1. ALL JUNCTION BOXES ARE STANDARD PEDESTRIAN DUTY OR OPTIONAL TRAFFIC DUTY.



PARTIAL SECTION

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SPECIFICATIONS

CONCRETE : Class II concrete with of design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

COVER & FRAME : All steel fabrication shall be in accordance to AWA D1.1. Steel shall be ASTM A36 carbon steel, and hot-dipped galvanized after fabrication in accordance to ASTM A123

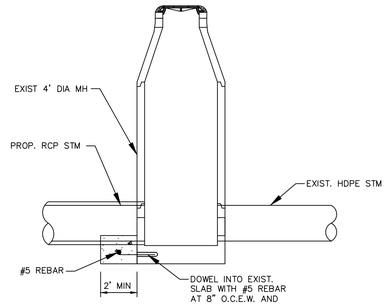
PARK ENVIRONMENTAL EQUIPMENT 888-611-PARK www.park-USA.com

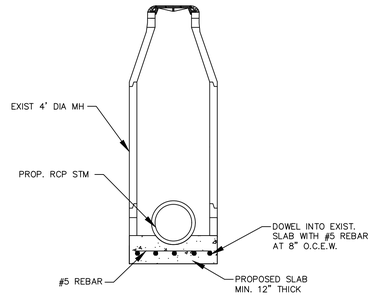
"Expect the Best"

JUNCTION BOX
MODEL JB - 12" THRU 36"

SCALE	NONE	DWG. NO.	REV.
DATE	2010	JB-01	A

All drawings are avalible for download at www.park-usa.com in .dwg & .pdf formats





RCP TO EXISTING MANHOLE CONNECTION DETAIL

N.T.S.

NO.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, Texas 77377
281.516.2001
FRN F-11526

BRETT T. HANRAHAN
112908
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
24 AUGUST 2026

ALJ PROJECT NO.: 022.25.CV.620
DATE: AUGUST 2026
SCALE: N/A
DRAWN BY: SRH
CHECKED BY: BTH

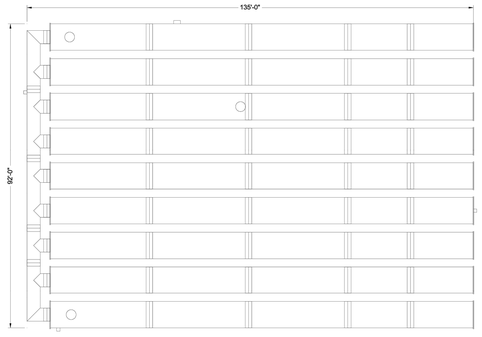
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 1,258 LF

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 58,816 CF
- PIPE STORAGE VOLUME = 59,238 CF
- BACKFILL STORAGE VOLUME = 0 CF
- TOTAL STORAGE PROVIDED = 59,238 CF

PIPE DETAILS
- DIAMETER = 96"
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 30"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"



NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN. QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 20'

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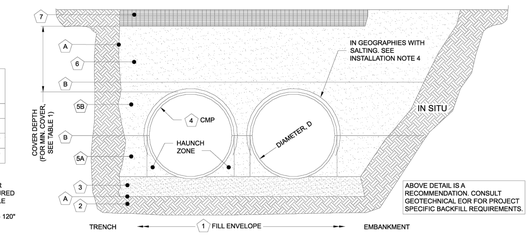
DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO98760 Bingle Road Retail
96" Diameter Solid
Houston, TX
DETENTION SYSTEM

PROJECT No.: 73242	SEQ. No.: 98760	DATE: 1/29/2026
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:	1	



MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT

TABLE 1:

DIAMETER, D	MIN. COVER	CORR. PROFILE
6"-10"	12"	1 1/2" x 1/4"
12"-48"	12"	2 2/3" x 1/2"
>48"-96"	12"	3" x 1", 5" x 1"
>96"	D/8	3" x 1", 5" x 1"

- STRUCTURAL BACKFILL MUST EXTEND TO LIMITS OF THE TABLE
- TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT
- ULTRAFLO ALSO AVAILABLE FOR SIZES 18" - 120" WITH 3/4"x 3/4"x 7 1/2" CORRUGATION

INSTALLATION NOTES

1. WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES.
2. OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.
3. BACKFILL USING CONTROLLED LOW-STRENGTH MATERIAL (CLSM, "FLASH FILL" OR "FLOWABLE FILL") MAY BE USED WHEN THE SPACING BETWEEN THE PIPES WILL NOT ALLOW FOR PLACEMENT AND ADEQUATE COMPACTION OF THE BACKFILL. CONTACT CONTECH FOR FURTHER EVALUATION.
4. IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, A GEOMEMBRANE BARRIER IS RECOMMENDED OVER THE UPPER HALF OF THE PIPE. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

TABLE 2: SOLID STANDARD

CMP DETENTION AND CMP DRAINAGE STANDARD BACKFILL SPECIFICATIONS

	MATERIAL LOCATION	MATERIAL SPECIFICATION	DESCRIPTION	
1	FILL ENVELOPE WIDTH	PER ENGINEER OF RECORD	MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE SUGGESTED MINIMUM TRENCH WIDTH, OR EOR RECOMMENDATION: PIPE ≤ 12": D + 16" PIPE > 12": 1.5D + 12"	MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE: PIPE < 24": 3.0D PIPE 24" - 144": D + 4'0" PIPE > 144": D + 10'0"
2	FOUNDATION	**AASHTO 26.5.2** OR PER ENGINEER OF RECORD	PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND FOUNDATION BROUGHT BACK TO GRADE WITH A FILL MATERIAL APPROVED BY THE ENGINEER OF RECORD.	
3	BEDDING	**AASHTO M 43: 3, 357, 4, 467, 5, 56, 57** (APPROVED REGIONAL EQUIVALENTS INCLUDE CA-7)	ENGINEER OF RECORD TO DETERMINE IF BEDDING IS REQUIRED. PIPE MAY BE PLACED ON THE TRENCH BOTTOM OF A RELATIVELY LOOSE, NATIVE SUITABLE WELL GRADED GRANULAR MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 2" MIN DEPTH. THE BEDDING MATERIAL MAY BE SUITABLE FOUNDATION SOILS CONFORMING TO AASHTO SOIL CLASSIFICATIONS A1, A2, OR A3 WITH MAXIMUM PARTICLE SIZE OF 3" PER AASHTO 26.3.8.1	
4		CORRUGATED METAL PIPE		
5A	CRITICAL BACKFILL	**AASHTO M 145: A-1, A-2, A-3 ***	HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION WITHOUT SOFT SPOTS. BACKFILL SHALL BE PLACED IN 8" +/- LOOSE LIFTS AND COMPACTED TO 90% STANDARD PROCTOR PER AASHTO T 99. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A THREE LIFT (24") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHOULD BE ADVANCED ALONG THE LENGTH OF THE SYSTEM TO AVOID DIFFERENTIAL LOADING. WELL GRADED GRANULAR MATERIAL WHICH MAY CONTAIN SMALL AMOUNTS OF SILT OR CLAY AND MAXIMUM PARTICLE SIZE OF 3" (PER AASHTO 26.3.8.1 AND 12.4-1.3).	
5B	BACKFILL	**AASHTO M 145: A-1, A-2, A-3**		
6	COVER MATERIAL	UP TO MIN. COVER - SEE 5A AND 5B ABOVE ABOVE MIN. COVER - PER ENGINEER OF RECORD	COVER MATERIAL MAY INCLUDE NON-BITUMINOUS, GRANULAR ROAD BASE MATERIAL WITHIN MIN COVER LIMITS	
7	RIGID OR FLEXIBLE PAVEMENT (IF APPLICABLE)	PER ENGINEER OF RECORD	FLEXIBLE PAVEMENT SHOULD NOT BE COUNTED AS PART OF THE FILL HEIGHT OVER THE CMP. FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.	
A	OPTIONAL SIDE GEOTEXTILE	NONE	GEOTEXTILE LAYER IS RECOMMENDED ON SIDES OF EXCAVATION TO PREVENT SOIL MIGRATION.	
B	OPTIONAL GEOTEXTILE BETWEEN LAYERS	NONE	IF SOIL TYPES DIFFER AT ANY POINT ABOVE PIPE INVERT, A GEOTEXTILE LAYER IS RECOMMENDED TO BE PLACED BETWEEN THE LAYERS TO PREVENT SOIL MIGRATION.	

NOTES:
- FOR MULTIPLE BARREL INSTALLATIONS, THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE THE PIPE DIAMETER /2 BUT NO LESS THAN 12" FOR DIAMETERS <72". FOR 72" AND LARGER DIAMETERS, THE MINIMUM SPACING IS 36". CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.
- APPROVED REGIONAL EQUIVALENTS FOR SECTION 5A INCLUDE CA-7, MIDOT 2G, 34G, OR 214A STONE OR GRAVEL; #8; #57; MIDOT 6A, 2G, 3G, 34G.

MANUFACTURER RECOMMENDED BACKFILL

NOT TO SCALE

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800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

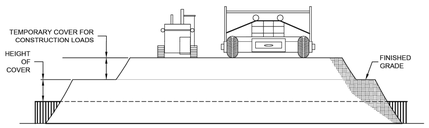
SOLID DETENTION SYSTEM DETAILS

PROJECT No.: 29235	SEQ. No.: 38329	DATE: 9/21/2023
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:	1	

CONSTRUCTION DETAILS (5 OF 7)

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C7.4



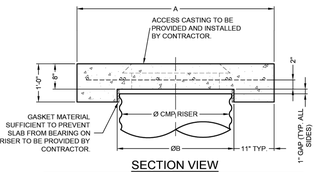
CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

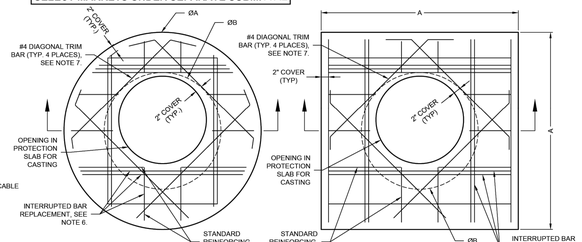


SECTION VIEW

ACCESS CASTING SUPPLIED BY CONTECH IN SELECT MARKETS UNDER SEPARATE SUBMITTAL

REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW

SQUARE OPTION PLAN VIEW

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745

HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSPS (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

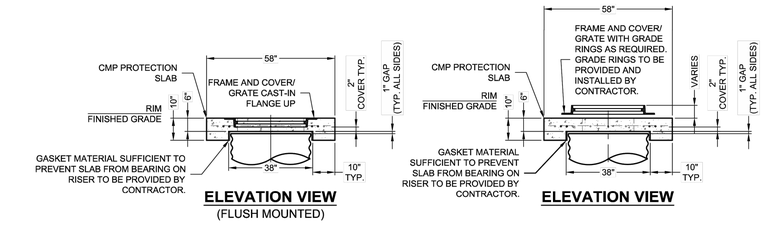
INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

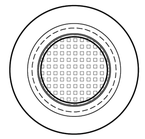
IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

NOTES:
1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

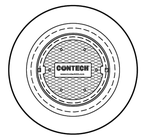
MANHOLE CAP DETAIL
SCALE: N.T.S.

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PLAN VIEW
(GRATED CASTING)
30"Ø HS25 LOAD RATED



PLAN VIEW
(SOLID CASTING)
24"Ø HS25 LOAD RATED
30"Ø HS25 LOAD RATED

FABRICATION NOTES:

1. CONCRETE STRENGTH = 4,000 PSI
2. REINFORCING STEEL - ASTM A615, GRADE 60, OR EQUIVALENT WELDED WIRE FABRIC.
3. NICE LIGHT BROOM FINISH FOR UNITS W/ CAST-IN FRAME AND COVER
4. LIFTERS IN SIDE FOR UNITS W/ CAST-IN FRAME AND COVER AND LIFTERS IN TOP SLAB FOR UNITS W/ SEPARATE COVER

GENERAL NOTES:

1. DESIGN LOAD HS20/HS25
2. EARTH COVER = 1' MAX
3. RISER CAP MUST BE ADEQUATELY SUPPORTED WITH PROPER BEDDING AND BEARING PRESSURE OF 3350 PSF AS TO NOT TRANSFER LOADS ONTO RISER.
4. HEAVY PICK WEIGHT = 1,900 LBS

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

58" OD CMP RISER CAP
UP TO 36" RISERS
PRECASTER: SEALY, TX

CONTECH CMP DETENTION SYSTEMS

DATE: 04/07/2021 | SCALE: NONE | PROJECT No.: | SEQUENCE No.: | DRAWN: TJS | CHECKED: KMR

NO.	REVISIONS	DATE

ALJ Lindsey
Civil Engineers
18636 N. Eldridge Pkwy, Suite 200
Tomball, TX 77377
281.320.8563
FRN F-11526

STATE OF TEXAS
BRETT T. HANRAHAN
112905
REGISTERED PROFESSIONAL ENGINEER
24 AUGUST 2026

ALJ PROJECT NO.: 022.25.CV.620
DATE: AUGUST 2026
SCALE: N/A
DRAWN BY: SRH
CHECKED BY: BTH

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

CONSTRUCTION DETAILS (6 OF 7)

SHEET
C7.5

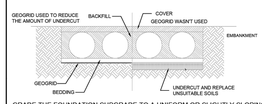
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

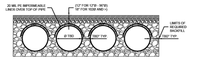


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMNED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

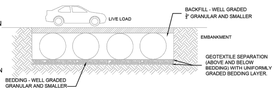
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

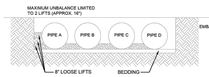
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



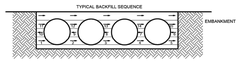
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

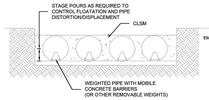


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STOCKPILES MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

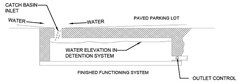


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION, POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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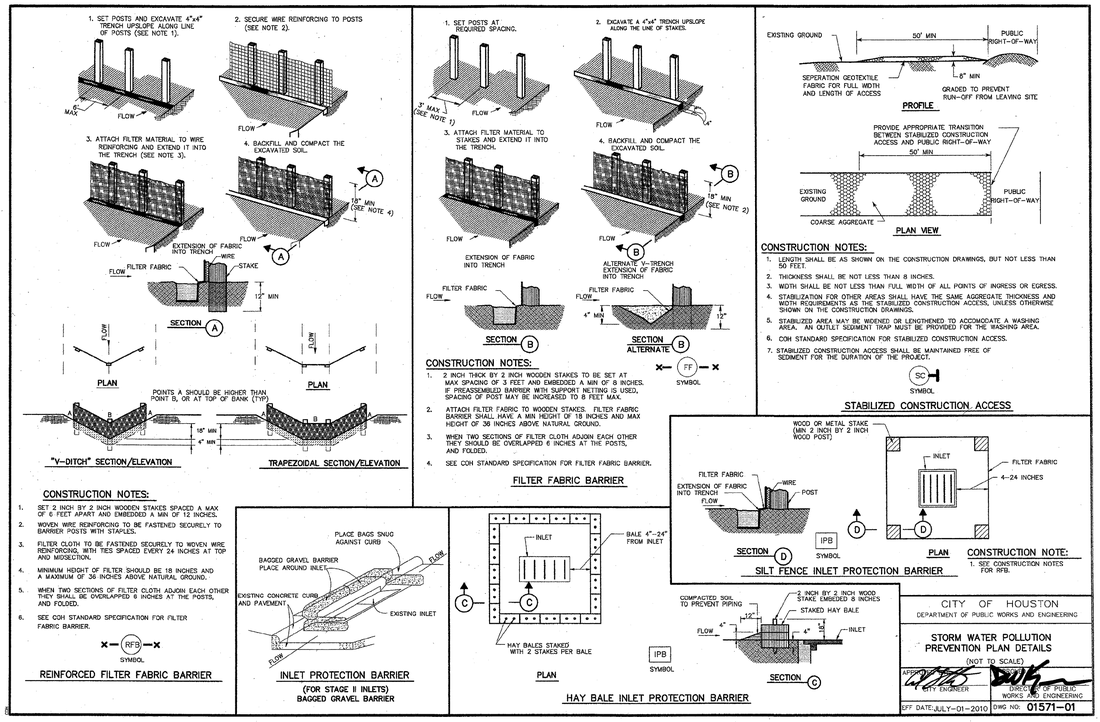
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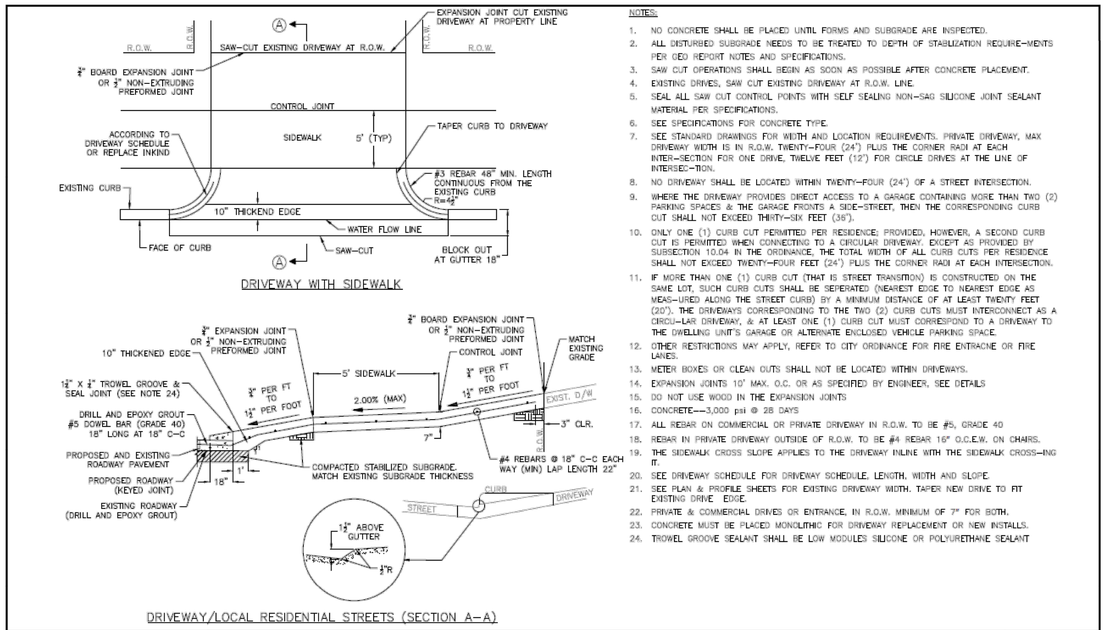
CONTECH ENGINEERED SOLUTIONS LLC
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9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

SOLID DETENTION SYSTEM DETAILS

PROJECT No.:	SEQ. No.:	DATE:
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:		





NOTES:

1. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED.
2. ALL DISTURBED SUBGRADE NEEDS TO BE TREATED TO DEPTH OF STABILIZATION REQUIREMENTS PER GEO REPORT NOTES AND SPECIFICATIONS.
3. SAW CUT OPERATIONS SHALL BEGIN AS SOON AS POSSIBLE AFTER CONCRETE PLACEMENT.
4. EXISTING DRIVES, SAW CUT EXISTING DRIVEWAY AT R.O.W. LINE.
5. SEAL ALL SAW CUT CONTROL POINTS WITH SELF SEALING NON-SAG SILICONE JOINT SEALANT MATERIAL PER SPECIFICATIONS.
6. SEE SPECIFICATIONS FOR CONCRETE TYPE.
7. SEE STANDARD DRAWINGS FOR WIDTH AND LOCATION REQUIREMENTS. PRIVATE DRIVEWAY, MAX DRIVEWAY WIDTH IS IN R.O.W. TWENTY-FOUR (24') PLUS THE CORNER RADI AT EACH INTER-SECTION FOR ONE DRIVE, TWELVE FEET (12') FOR CIRCLE DRIVES AT THE LINE OF INTERSEC-TION.
8. NO DRIVEWAY SHALL BE LOCATED WITHIN TWENTY-FOUR (24') OF A STREET INTERSECTION.
9. WHERE THE DRIVEWAY PROVIDES DIRECT ACCESS TO A GARAGE CONTAINING MORE THAN TWO (2) PARKING SPACES & THE GARAGE FRONTS A SIDE-STREET, THEN THE CORRESPONDING CURB CUT SHALL NOT EXCEED THIRTY-SIX FEET (36').
10. ONLY ONE (1) CURB CUT PERMITTED PER RESIDENCE; PROVIDED, HOWEVER, A SECOND CURB CUT IS PERMITTED WHEN CONNECTING TO A CIRCULAR DRIVEWAY, EXCEPT AS PROVIDED BY SUBSECTION 10.04 IN THE ORDINANCE, THE TOTAL WIDTH OF ALL CURB CUTS PER RESIDENCE SHALL NOT EXCEED TWENTY-FOUR FEET (24') PLUS THE CORNER RADI AT EACH INTERSECTION.
11. IF MORE THAN ONE (1) CURB CUT (THAT IS STREET TRANSITION) IS CONSTRUCTED ON THE SAME LOT, SUCH CURB CUTS SHALL BE SEPERATED (NEAREST EDGE TO NEAREST EDGE AS MEAS-URED ALONG THE STREET CURB) BY A MINIMUM DISTANCE OF AT LEAST TWENTY FEET (20'). THE DRIVEWAYS CORRESPONDING TO THE TWO (2) CURB CUTS MUST INTERCONNECT AS A CIRCU-LAR DRIVEWAY, & AT LEAST ONE (1) CURB CUT MUST CORRESPOND TO A DRIVEWAY TO THE DWELLING UNIT'S GARAGE OR ALTERNATE ENCLOSED VEHICLE PARKING SPACE.
12. OTHER RESTRICTIONS MAY APPLY, REFER TO CITY ORDINANCE FOR FIRE ENTRACNE OR FIRE LANES.
13. METER BOXES OR CLEAN OUTS SHALL NOT BE LOCATED WITHIN DRIVEWAYS.
14. EXPANSION JOINTS 10' MAX. O.C. OR AS SPECIFIED BY ENGINEER, SEE DETAILS
15. DO NOT USE WOOD IN THE EXPANSION JOINTS
16. CONCRETE---3,000 psi @ 28 DAYS
17. ALL REBAR ON COMMERCIAL OR PRIVATE DRIVEWAY IN R.O.W. TO BE #5, GRADE 40
18. REBAR IN PRIVATE DRIVEWAY OUTSIDE OF R.O.W. TO BE #4 REBAR 16" O.C.E.W. ON CHAIRS.
19. THE SIDEWALK CROSS SLOPE APPLIES TO THE DRIVEWAY INLINE WITH THE SIDEWALK CROSS-ING IT.
20. SEE DRIVEWAY SCHEDULE FOR DRIVEWAY SCHEDULE, LENGTH, WIDTH AND SLOPE.
21. SEE PLAN & PROFILE SHEETS FOR EXISTING DRIVEWAY WIDTH. TAPER NEW DRIVE TO FIT EXISTING DRIVE EDGE.
22. PRIVATE & COMMERCIAL DRIVES OR ENTRANCE, IN R.O.W. MINIMUM OF 7" FOR BOTH.
23. CONCRETE MUST BE PLACED MONOLITHIC FOR DRIVEWAY REPLACEMENT OR NEW INSTALLS.
24. TROWEL GROOVE SEALANT SHALL BE LOW MODULES SILICONE OR POLYURETHANE SEALANT

EST. 1955 SPRING VALLEY VILLAGE

Texas 811 Know what's below. Call before you dig.

DRIVEWAY WITH SIDEWALK DETAILS — DETAIL ST - 5

APPROVED BY | DATE: | REVISED

SWPPP NOTES

1) POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION SITE:

–ADHESIVES, PESTICIDES, DETERGENTS, PAINTS, FUELS, SOLVENTS, SEALANTS, FERTILIZERS, OILS, HERBICIDES, CLEANING SOLUTIONS, CONCRETE/CEMENT/PLASTER

2) STORM WATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND DISTURBING ACTIVITIES:

A) PRIOR TO CONSTRUCTION: SILT FENCING SHALL BE INSTALLED IN ALL LOCATIONS SHOWN ON SITE MAP THAT WILL NOT BE DISTURBED DURING THE INITIAL GRADING PROCESS. THE STABILIZED CONSTRUCTION EXIT SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

B) DURING CONSTRUCTION:

a)IMMEDIATELY AFTER PAVING CONSTRUCTION IS COMPLETE, INLET PROTECTION TRAPS WILL BE INSTALLED ON ALL NEWLY CONSTRUCTED INLETS.
b)WHEN EXISTING SILT FENCING NEEDS TO BE REMOVED FOR CONSTRUCTION OR ACCESS PURPOSES, IT WILL BE REPLACED AS SOON AS POSSIBLE AFTER CONSTRUCTION IN THE VICINITY OF THE REMOVED FENCE IS COMPLETE.
c)AS SOON AS PRACTICABLE AFTER SITE GRADING IS COMPLETE, FINAL STABILIZATION PROCEDURES SUCH AS TURF ESTABLISHMENT AND INSTALLATION OF PLANT MATERIAL WILL BE COMMENCED.

C) AFTER CONSTRUCTION: AFTER CONSTRUCTION ACTIVITY AND SITE STABILIZATION PROCEDURES ARE COMPLETE, STRUCTURAL EROSION AND SEDIMENT CONTROLS WILL BE REMOVED. SOIL DISTURBED BY THE REMOVAL OF CONTROLS WILL BE STABILIZED.

3) PERMANENT STORM WATER CONTROLS: AFTER CONSTRUCTION ACTIVITY IS COMPLETE, AREAS NOT COVERED BY CONCRETE PAVEMENT OR BY STRUCTURES WILL BE LANDSCAPED AND IRRIGATED. ONCE ESTABLISHED, THIS VEGETATION WILL HELP PREVENT SEDIMENT RUNOFF IN THE FUTURE STORM EVENTS. NEWLY GRADED AREA WILL BE TEXTURED TO REDUCE FLOW VELOCITY.

4) MATERIAL HANDLING AND SPILL PREVENTION PLAN:

A) HAZARDOUS MATERIALS WILL BE STORED AND USED IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. DISPOSAL WILL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION, AND IN ACCORDANCE WITH STATE AND LOCAL LAWS AND REGULATIONS.

B) THE FOLLOWING PROCEDURES WILL BE FOLLOWED FOR CONTAINMENT AND CLEAN–UP OF SPILLS:

a)ALL SPILLS WILL BE CLEANED UP AND PROPERLY REMOVED IN ACCORDANCE WITH STATE REGULATIONS AND LOCAL ORDINANCES.
b)SOIL AND SPILLED MATERIALS WILL BE COLLECTED UNTIL NO VISIBLE EVIDENCE OF SPILLED MATERIAL REMAINS
c)THE TYPE OF MATERIAL AND QUANTITY OF RELEASE SHALL BE IDENTIFIED, AND APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE) SHALL BE WORN AS RECOMMENDED BY THE PRODUCT–SPECIFIC MSDS.
d)SPILL CONTAINMENT MAY BE INCLUDE CONSTRUCTION OF EARTH DIKES AROUND THE SPILL AREA, DEPLOYMENT OF ABSORBENT MATERIALS, OR USE OF COMMERCIALLY AVAILABLE KITS.
e)CONTAMINATED SOIL AND SPILLED MATERIAL WILL BE STORED IN APPROPRIATE AND PROPERLY LABELED CONTAINERS, AND DISPOSED OF IN ACCORDANCE WITH STATE, LOCAL, AND FEDERAL RULES AND REGULATIONS.

5) GENERAL PERMIT MAINTENANCE REQUIREMENTS (FROM GENERAL PERMIT):

A) ALL PROTECTIVE MEASURES IDENTIFIED IN THIS SWPPP MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. IF, THROUGH INSPECTION OR OTHER MEANS, THE PERMITEE DETERMINES THAT BMP'S ARE NOT OPERATING EFFECTIVELY, THEN THE PERMITEE SHALL PERFORM MAINTENANCE AS NECESSARY TO MAINTAIN THE CONTINUED EFFECTIVENESS OF STORM WATER CONTROLS, AND PRIOR TO THE NEXT RAIN EVENT, IF FEASIBLE. IF MAINTENANCE PRIOR TO THE NEXT ANTICIPATED STORM EVENT IS IMPRACTICABLE, THE REASON SHALL BE DOCUMENTED IN THE SWPPP AND MAINTENANCE MUST BE SCHEDULED AND ACCOMPLISHED AS SOON AS PRACTICABLE. EROSION AND SEDIMENT CONTROLS THAT HAVE BEEN INTENTIONALLY DISABLED, RUN–OVER, REMOVED, OR OTHERWISE RENDERED INEFFECTIVE MUST BE REPLACED OR CORRECTED IMMEDIATELY UPON DISCOVERY.

B) IF PERIODIC INSPECTIONS OR OTHER INFORMATION INDICATES A CONTROL HAS BEEN USED INCORRECTLY, IS PERFORMING INADEQUATELY, OR IS DAMAGED, THEN THE OPERATOR MUST REPLACE OR MODIFY THE CONTROL AS SOON AS PRACTICABLE AFTER MAKING THE DISCOVERY.

C) SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS AND SEDIMENTATION PONDS NO LATER THAN THE TIME THAT DESIGN CAPACITY HAS BEEN REDUCED BY 50% FOR PERIMETER CONTROLS SUCH AS SILT FENCES, BERMS, ETC., THE TRAPPED SEDIMENT MUST BE REMOVED BEFORE IT REACHES 50% OF THE ABOVE GROUND HEIGHT.

D) IF SEDIMENT ESCAPES THE SITE, ACCUMULATIONS MUST BE REMOVED AT A FREQUENCY THAT MINIMIZES OFF–SITE IMPACTS, AND PRIOR TO THE NEXT RAIN EVENT, IF FEASIBLE. IF THE PERMITEE DOES NOT OWN THE OFFSITE CONVEYANCE, THEN THE PERMITEE MUST WORK WITH THE OWNER OR OPERATOR OF THE PROPERTY TO REMOVE THE SEDIMENT.

6) EROSION AND SEDIMENT CONTROLS:

A) THE FOLLOWING NON–STRUCTURAL EROSION AND SEDIMENT CONTROLS WILL BE UTILIZED ON THE PROJECT SITE:

a)WHERE PRACTICAL, CARE WILL BE TAKEN TO PROTECT NATURAL VEGETATION THAT DOES NOT NEED TO BE REMOVED FOR CONSTRUCTION PURPOSES.
b)PLACEMENT OF CONCRETE PARKING AND DRIVEWAY AREAS WILL BE PERFORMED AS SOON AS POSSIBLE AFTER SUB–GRADE STABILIZATION, TO MINIMIZE THE AMOUNT OF TIME DISPOSED SOIL IS EXPOSED TO THE ELEMENTS. THIS PRACTICE WILL REDUCE THE FREQUENCY THAT MAINTENANCE IS REQUIRED ON THE STRUCTURAL BMP'S.
c)THE GENERAL PERMIT REQUIRES THAT EROSION AND STABILIZATION MEASURES MUST BE INITIATED WITHIN 14 DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED. IF CONSTRUCTION ACTIVITY IS SCHEDULED TO RESUME WITHIN 21 DAYS FROM THE CESSATION OF CONSTRUCTION ACTIVITY, EROSION AND STABILIZATION MEASURES ARE NOT REQUIRED FOR THAT PORTION OF THE SITE.
e)STABILIZATION PROCEDURES SUCH AS TURF ESTABLISHMENT AND INSTALLATION OF PLANT MATERIAL SHOULD BE COMMENCED AS SOON AS PRACTICABLE AFTER SITE GRADING IS COMPLETE AND FINAL.

B) THE FOLLOWING STRUCTURAL EROSION AND SEDIMENT CONTROLS WILL BE UTILIZED ON THE PROJECT SITE:

a)A STABILIZED CONSTRUCTION EXIT WILL BE INSTALLED AT THE LOCATION WHERE CONSTRUCTION TRAFFIC EXITS THE PROJECT SITE
b)INLET PROTECTION TRAPS WILL BE INSTALLED AT ALL INLETS IMMEDIATELY AFTER CONCRETE PAVEMENT IS PLACED
c)SILT FENCING (FILTER FABRIC FENCE OR REINFORCED FILTER FABRIC FENCE) WILL BE INSTALLED ALONG THE PROPERTY BOUNDARY AND ADJACENT TO EXISTING DITCHES, BAYOUS, STREAMS, RIVERS, AND/OR CHANNELS.
d)ANY SEDIMENT THAT ENTERS THE STORM SEWER SYSTEM WILL BE REMOVED IMMEDIATELY (NOT FLUSHED).
e)SINCE ALL PROPOSED INLETS DRAIN LESS THAN 10–ACRES, SEDIMENT BASINS ARE NOT REQUIRED FOR THIS SITE.
f)WHERE PRACTICAL, CARE WILL BE TAKEN TO PROTECT NATURAL VEGETATION THAT DOES NOT NEED TO BE REMOVED FOR CONSTRUCTION PURPOSES.

No.	REVISIONS	DATE

ALJLindsey
Civil Engineers
18635 N. Eldridge Pkwy, Suite 200
Tomball, TX 77377
281.907.4909
FRN F-11526

BRETT T. HANRAHAN
112908
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
24 AUGUST 2026

ALJ PROJECT NO. 022.25.CV.620
DATE: AUGUST 2026
SCALE: N/A
DRAWN BY: SRH
CHECKED BY: BTH

CONSTRUCTION DETAILS (7 OF 7)

BINGLE ROAD RETAIL
1045 BINGLE ROAD
HOUSTON, TEXAS 77055

SHEET
C7.6

The drainage plan resubmittal(second civil site submittal) for the 1045 Bingle project was received in early July and comments were returned on July 20th to the Engineer. Current coordination on the project includes detention volume requirements, outfall location, along with grading considerations adjacent to the property lines and neighboring structures.

CobbFendley also contacted Harris County Flood Control District (HCFCD) to determine if a review was required and they have requested to review the proposed development as it pertains to grading adjacent to Briar Branch. They would also like to review the outfall location (if the project elects to outfall to Briar Branch rather than Bingle Storm Sewer) with regard to possible impacts to the channel.

Currently, all City drainage reviews and coordination have been completed and the City is awaiting resubmittal from the Owner/Engineer.

Thanks,
Stephen Ray, P.E.
Principal | Municipal Senior Project Manager | Group Lead
Licensed: TX

SHARED PARKING ANALYSIS

Class	Use	Parking Required	Weekday Midnight to 7AM	Weekday 7AM to 2PM	Weekday 2PM to 8PM	Weekday 8PM to Midnight	Weekend Midnight to 7AM	Weekend 7AM to 2PM	Weekend 2PM to 8PM	Weekend 8PM to Midnight
1	MERCANTILE									
	Office	0	0	0	0	0	0	0	0	0
	Financial Facility	0	0	0	0	0	0	0	0	0
2	Apartment	0	0	0	0	0	0	0	0	0
	Hotel	0	0	0	0	0	0	0	0	0
3	Clinic (Medical Complex)	0	0	0	0	0	0	0	0	0
	Clinic (Medical or Dental)	40	0	40	10	0	0	10	0	0
	Veterinary Clinic	0	0	0	0	0	0	0	0	0
4	Industrial/Warehouse/ Manufacturing	0	0	0	0	0	0	0	0	0
5	Church	0	0	0	0	0	0	0	0	0
	Day Care	0	0	0	0	0	0	0	0	0
	School	0	0	0	0	0	0	0	0	0
	Library	0	0	0	0	0	0	0	0	0
	Art Gallery	0	0	0	0	0	0	0	0	0
6	Movie Theater	0	0	0	0	0	0	0	0	0
	Bowling Alley	0	0	0	0	0	0	0	0	0
	Gym/Health Spa	0	0	0	0	0	0	0	0	0
7	Dessert Shop	0	0	0	0	0	0	0	0	0
	Small Restaurant	0	0	0	0	0	0	0	0	0
	Neighborhood Restaurant	0	0	0	0	0	0	0	0	0
	Restaurant	51	5.1	25.5	38.25	20.4	7.65	38.25	51	25.5
	Tavern	0	0	0	0	0	0	0	0	0
	Small Bar	0	0	0	0	0	0	0	0	0
	Bar, club or lounge	0	0	0	0	0	0	0	0	0
8	Retail (excluding shopping center)	44	2.2	22	33	4.4	2.2	44	33	4.4
9	Auto Parts and Supply Store	0	0	0	0	0	0	0	0	0
	All Others	0	0	0	0	0	0	0	0	0
	Total	135	7.3	87.5	81.25	24.4	9.85	92.25	84	29.9
		92.25								
	Put 1 if this qualifies as a historic building		0				0			
	Total Reduction									
	PARKING SPACES REQUIRED:	92.25								

PARKING ANALYSIS

TOTAL BUILDING AREA: **27,199** SQ. FT.

SOUTH WING:		**PS REQ'D**
6,469 SF	RESTAURANT (@8 PS/1K)	51
12,721 SF	RETAIL (@3.5 PS/1K)	3.5
8,009 SF	MEDICAL OFFICE (@5 PS/1K)	44

TOTAL PARKING REQUIRED: **135 SPACES**

SHARED PARKING REDUCTION ANALYSIS (CoH) **92 SPACES**

TOTAL PARKING PROVIDED: 118 SPACES

ACCESSIBLE PARKING REQUIRED BY CODE = **5** SPACES
ACCESSIBLE PARKING PROVIDED = **5** SPACES (**1** VAN)

DATA TABLE:

SITE	***172,062 SF (3.95 AC)*** ***(PROPERTY: +/- 1.8 AC, CITY PARCEL +/- 2.15 AC)***
JURISTICTION	***SPRING VALLEY VILLAGE***
ZONING	- -

SITE PLAN LEGEND

RE: CIVIL DRAWINGS FOR CONTINUATION OF SITE RELATED SCOPE

RE: A031 AND A032 FOR SITE DETAILS

PROPERTY LINE

FIRE LINE, RE: D1/A031

NOT IN SCOPE

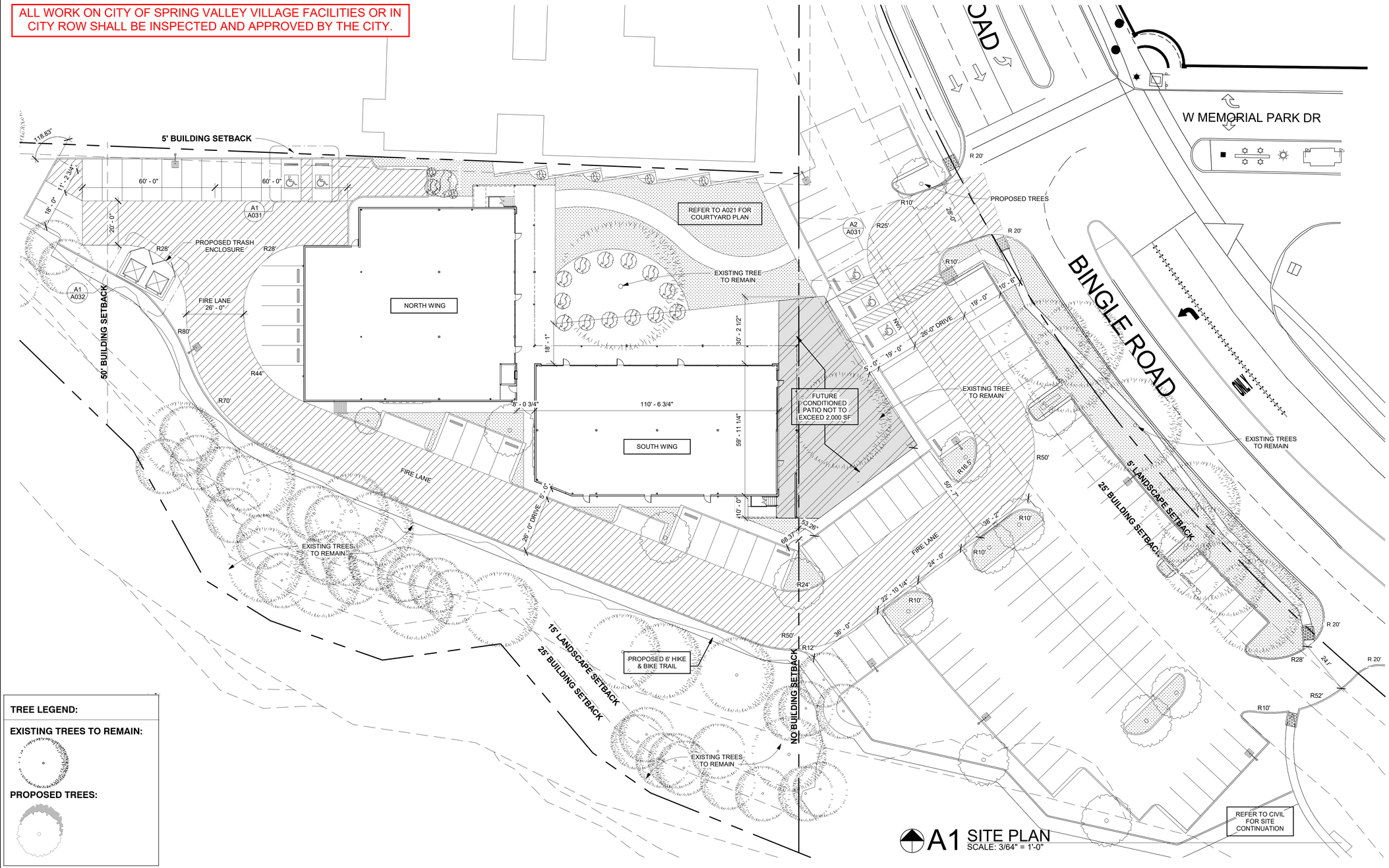
LANDSCAPE AREA RE; LANDSCAPE DWGS

LIGHT POLE, RE: A5/A031

GENERAL NOTES

A. CONTRACTOR TO NOTIFY TENANT, A MINIMUM OF TWO (2) WEEKS PRIOR TO SLAB POUR FOR COORDINATION.
B. CONTRACTOR TO PROVIDE FOUNDATION VERIFY EXACT LOCATION; SPECIFICATIONS AND ANCHOR BOLT LAYOUTS WITH INTERIOR PACKAGE, SKIN VENDORS.
C. FIRE HYDRANT WITHIN 400' OF ALL PORTIONS OF THE BUILDING.
D. GENERAL CONTRACTOR SHALL DELIVER A LEVEL AND SMOOTH CONCRETE SLAB FREE OF LEVELING PRODUCTS WITH NOT MORE THAN ONE QUARTER (1/4") VARIATION IN TEN FEET (10'). ALL EXPANSION AND CONTROL JOINTS SHALL BE PROPERLY INSTALLED AND SHALL BE READY TO ACCEPT TENANT'S FLOOR FINISHES. FLOOR SLAB SHALL BE BROOM CLEAN, FREE OF TRASH AND DEBRIS.
E. REVIEW DOCUMENTS, VERIFY DIMENSIONS AND FIELD CONDITIONS, AND CONFIRM THAT WORK IS BUILDABLE AS SHOWN. REPORT ANY CONFLICTS OR OMISSIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK IN QUESTION.
F. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATIONS FROM THE ARCHITECT.
G. PARTITIONS ARE DIMENSIONED FROM FINISH FACE TO FINISH FACE, U.N.O. MAINTAIN DIMENSIONS MARKED CLEAR. ALLOW FOR THE THICKNESS OF FINISHES AS REQUIRED.
H. ALL CONSTRUCTION TO COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING CODES, REGULATIONS, AND CITY ORDINANCES.
I. REFER TO SHEET A601 FOR DOOR/FRAME/HARDWARE TYPES AND SCHEDULES.
J. ALL NEW DOORS TO HAVE TAS COMPLIANT LEVER HARDWARE SETS, U.N.O. REFER TO A601 FOR DOOR/HARDWARE SCHEDULES.
K. CAULK AT JUNCTURE OF INTERIOR FACES OF DOOR FRAMES, VIEW WINDOW FRAMES, EXT. WINDOW FRAMES, CABINET WORK, AND CASEWORK W/ADJACENT MATERIALS EVEN THOUGH JOINT MAY NOT BE VISIBLE.
L. GC TO PROVIDE HM DOORS AND FRAMES, AS NEEDED, ON REAR OF BUILDING; VERIFY WITH OWNER FOR DOOR LOCATIONS PRIOR TO INSTALL.
M. CONCRETE SIDEWALKS, PROVIDE CONTROL JOINTS @ 5'-0" O.C. MAX. AND EXPANSION JOINTS @ 25'-O" O.C. MAX UNLESS INDICATED OTHERWISE ON THE SIDEWALK PLAN.
N. TYPICAL 6" CONCRETE CURB, TYPICAL 18" CONCRETE CURB & LANDING @ ADJACENT LANDSCAPE AREA, RE: CIVIL DRAWINGS.
O. LIGHT POLE, INSTALL 3'-0" BEHIND CURB, UNO., RE: STRUCTURAL AND MEP FOR SPECS AND FOUNDATION.
P. **PARKING REQUIREMENTS AND CALCULATIONS ARE BASED ON THE APPLICABLE CITY OF SPRING VALLEY VILLAGE PARKING REQUIREMENTS. THE SHARED PARKING ANALYSIS IS BASED ON THE CITY OF HOUSTON SHARED PARKING STANDARDS AND METHODOLOGY.**

ALL WORK ON CITY OF SPRING VALLEY VILLAGE FACILITIES OR IN CITY ROW SHALL BE INSPECTED AND APPROVED BY THE CITY.



A1 SITE PLAN
SCALE: 3/64" = 1'-0"

TREE LEGEND:

EXISTING TREES TO REMAIN:

PROPOSED TREES:

8/21/2026 2:34:46 PM
C:\Users\nalomaja\Documents\22099-07_BINGLE_R24_nalomajaXRSDM.rvt

CERTIFICATION AND SEAL

I HEREBY CERTIFY THAT THIS PLAN AND SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT OR ENGINEER UNDER THE LAWS OF THE STATE OF TEXAS AS SIGNIFIED BY MY HAND AND SEAL.

JAMES BRYAN CATER
TEXAS REG: 25719
EXP: 08/31/2026

02/25/2026

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FIRM # :5713

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sfredericks@spectrumde.com

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CMB LANDSCAPE ARCHITECTURE
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NAVASOTA, TX 77868
ATTN:CHARLES BRIDGES
O:832-428-1209
cbridges@cmblandarch.com

NO.	DATE	REVISION ISSUE
3	02/25/26	ISSUE FOR PERMIT

PROJECT NAME AND ADDRESS:

THE AVIARY

1045 BINGLE RD. HOUSTON, TX 77055

DRAWN: **CQ** CHECKED: **TW**

REFERENCE NUMBER: **22099-07**

TITLE:

SITE PLAN

DRAWING NUMBER:

A001_Opt2

EXHIBIT “C” USE TABLE -ALL FLOORS

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06P:07:08 Permitted Uses for the BWPADD:

The provisions of this Section 06P:07:08 shall apply only to the Bingle West Planned Area Development District. No use shall be allowed within the BWPADD except as specifically provided in this Section.

.01 Use of Land and Buildings: Buildings, structures, land or premises shall be used only in accordance with the uses specifically permitted for the Bingle West Planned Area Development District, together with such accessory uses as are customarily incidental to that of the primary permitted use. All permitted uses shall be subject to compliance with applicable requirements of the City, this Chapter 12, and all terms and conditions of this ordinance.

.01 Retail Uses: Except as otherwise specifically provided herein, retail uses only shall be permitted on the ground level within the BWPADD. Retail uses may also be located on levels other than the ground level. Permitted retail uses shall include only those identified and described in the permitted use list set forth below.

.02 Office and Professional/Personal Service Uses: Office and professional/personal service uses shall be permitted on upper levels only within the BWPADD, it being specifically provided that no such use shall be permitted on the ground floor of any building. Permitted office and professional/personal service uses shall include only those identified and described in the permitted use list set forth below.

.03 Residential Uses: Notwithstanding 06P:07:08.03 below, detached single family residential dwelling uses shall be permitted within the BWPADD. Provided further, only detached single family residential dwelling uses shall be permitted within one hundred (100) feet of the northern boundary of the BWPADD.

.02 Permitted Uses: Permitted uses in the BWPADD are as shown in the permitted use list set forth in Subsection 06P:08.05 below.

.03 Prohibited Uses: The following uses are specifically prohibited.

.01 Uses Not Listed: Uses not specifically identified as permitted uses in the permitted use list below are not authorized unless a specific use permit is granted therefor by the City Council, following hearing thereon, and a determination that such proposed use is equivalent to a permitted use on the permitted use list.

.02 Categorical Prohibitions: The following uses are hereby found, determined and declared to be inconsistent and detrimental to the use and development of land within the BWPADD as set forth in the comprehensive development plan and as set forth hereinabove, to wit: industrial uses; warehousing and other commercial or private storage other than the storage of inventory or supplies that are clearly subordinate and incidental to a permitted use; distribution facilities; outdoor commercial recreational facilities; any form of drive-up or drive-thru service; theaters or other places of assembly; storage, display or parking of automobiles, trucks, trailers, boats, motorcycles, or other similar devices relating or incidental to their sales, rentals, service, repair or maintenance, or for use for deliveries of any kind; storage or display of rental equipment; the storage or display of a vehicle fleet used for any purpose; any use not specifically authorized in the permitted use list set forth in Subsection 06P:07.08.05 below unless a specific use permit has been issued by the City Council in accordance with Subsection .01 next above.

.04 North American Industry Classification System. The North American Industry Classification System, 1997 Edition, as published by the Office of Management and Budget ("NAICS"), a true and correct copy of which is on file in the office of the City Secretary, is hereby adopted and incorporated herein by reference. The group descriptions and classifications shall control in determining the uses permitted hereunder. An identified

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classification sector or sub-sector in the permitted use list below shall mean and include only that classified use and its subcategories, as described and defined in the NAICS.

.05 Permitted Use List. The uses listed below are permitted in the BWPADD, except as otherwise limited herein. The symbol "P" in the right column means the use is permitted, while the symbol "O" means the use is permitted only for business office purposes. For instance, a manufacturing establishment would not be authorized to use a tract for manufacturing purposes, but the corporate offices for the manufacturing business would be authorized if indicated by the symbol "O."

GROUND OR FIRST FLOOR

Use Description	*NAICS Sector. #*	
Retail Trade	44	
Furniture Stores	442110	P
Floor Covering Stores	442210	P
Window Treatment Stores	442291	P
All Other Home Furnishings Stores	442299	P
Household Appliance Stores	443111	P
Radio, Television, and Other Electronics Stores	443112	P
Computer and Software Stores	443120	P
Camera and Photographic Supplies Stores	443130	P
Home Centers	444110	P
Paint and Wallpaper Stores	444120	P
Hardware Stores	444130	P
Baked Goods Stores	445291	P
Confectionery and Nut Stores	445292	P
All Other Specialty Food Stores	445299	P
Cosmetics, Beauty Supplies, and Perfume Stores	446120	P
Optical Goods Stores	446130	P
Food (Health) Supplement Stores	446191	P
Men's Clothing Stores	448110	P
Women's Clothing Stores	448120	P
Children's and Infants' Clothing Stores	448130	P
Family Clothing Stores	448140	P
Clothing Accessories Stores	448150	P
Shoe Stores	448210	P
Jewelry Stores	448310	P
Luggage and Leather Goods Stores	448320	P
Retail Trade	45	
Sporting Goods Stores	451110	P
Hobby, Toy, and Game Stores	451120	P
Sewing, Needlework, and Piece Goods Stores	451130	P
Musical Instrument and Supplies Stores	451140	P
Book Stores	451211	P
Prerecorded Tape, Compact Disc, and Record Stores	451220	P
Department Stores (except Discount Department Stores)	452111	P
Florists	453110	P

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Office Supplies and Stationery Stores	453210	P
Gift, Novelty, and Souvenir Stores	453220	P
Pet and Pet Supplies Stores	453910	P
Art Dealers	453920	P
Accommodation and Food Services	72	
Full-Service Restaurants	722110	P
Limited-Service Restaurants	722211	P
Snack and Nonalcoholic Beverage Bars	722213	P
Other Services (except Public Administration)	81	
Parking Lots and Garages	812930	P

ABOVE GROUND/FIRST FLOOR

Use Description	*NAICS Sector. #*	
Agriculture, Forestry, Fishing and Hunting	11	O
Mining	21	O
Utilities	22	O
Construction	23	O
Manufacturing	31-33	O
Wholesale Trade	42	O
Retail Trade	44	O
Furniture Stores	442110	P
Floor Covering Stores	442210	P
Window Treatment Stores	442291	P
All Other Home Furnishings Stores	442299	P
Household Appliance Stores	443111	P
Radio, Television, and Other Electronics Stores	443112	P
Computer and Software Stores	443120	P
Camera and Photographic Supplies Stores	443130	P
Home Centers	444110	P
Paint and Wallpaper Stores	444120	P
Hardware Stores	444130	P
Baked Goods Stores	445291	P
Confectionery and Nut Stores	445292	P
All Other Specialty Food Stores	445299	P
Pharmacies and Drug Stores	446110	P
Cosmetics, Beauty Supplies, and Perfume Stores	446120	P
Optical Goods Stores	446130	P
Food (Health) Supplement Stores	446191	P
All Other Health and Personal Care Stores	446199	P
Men's Clothing Stores	448110	P
Women's Clothing Stores	448120	P
Children's and Infants' Clothing Stores	448130	P
Family Clothing Stores	448140	P
Clothing Accessories Stores	448150	P

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Shoe Stores	448210	P
Jewelry Stores	448310	P
Luggage and Leather Goods Stores	448320	P
Retail Trade	45	O
Sporting Goods Stores	451110	P
Hobby, Toy, and Game Stores	451120	P
Sewing, Needlework, and Piece Goods Stores	451130	P
Musical Instrument and Supplies Stores	451140	P
Book Stores	451211	P
Prerecorded Tape, Compact Disc, and Record Stores	451220	P
Department Stores (except Discount Department Stores)	452111	P
Florists	453110	P
Office Supplies and Stationery Stores	453210	P
Gift, Novelty, and Souvenir Stores	453220	P
Pet and Pet Supplies Stores	453910	P
Art Dealers	453920	P
Transportation and Warehousing	48-49	O
Warehousing and Storage	493	O
Information	51	O
Finance and Insurance	52	O
Monetary Authorities - Central Bank	521110	P
Commercial Banking	522110	P
Savings Institutions	522120	P
Credit Unions	522130	P
Other Depository Credit Intermediation	522190	P
Credit Card Issuing	522210	P
Sales Financing	522220	P
Consumer Lending	522291	P
Real Estate Credit	522292	P
International Trade Financing	522293	P
Secondary Market Financing	522294	P
Mortgage and Nonmortgage Loan Brokers	522310	P
Financial Transactions Processing, Reserve, and Clearinghouse Activities	522320	P
Other Activities Related to Credit Intermediation	522390	P
Investment Banking and Securities Dealing	523110	P
Securities Brokerage	523120	P
Commodity Contracts Dealing	523130	P
Commodity Contracts Brokerage	523140	P
Securities and Commodity Exchanges	523210	P
Miscellaneous Intermediation	523910	P
Portfolio Management	523920	P
Investment Advice	523930	P
Trust, Fiduciary, and Custody Activities	523991	P
Miscellaneous Financial Investment Activities	523999	P
Direct Life Insurance Carriers	524113	P
Direct Health and Medical Insurance Carriers	524114	P

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Direct Property and Casualty Insurance Carriers	524126	P
Direct Title Insurance Carriers	524127	P
Other Direct Insurance (except Life, Health, and Medical) Carriers	524128	P
Reinsurance Carriers	524130	P
Insurance Agencies and Brokerages	524210	P
Third Party Administration of Insurance and Pension Funds	524292	P
All Other Insurance Related Activities	524298	P
Pension Funds	525110	P
Health and Welfare Funds	525120	P
Other Insurance Funds	525190	P
Open-End Investment Funds	525910	P
Trusts, Estates, and Agency Accounts	525920	P
Real Estate Investment Trusts	525930	P
Other Financial Vehicles	525990	P
Real Estate and Rental and Leasing	53	O
Lessors of Residential Buildings and Dwellings	531110	P
Lessors of Nonresidential Buildings (except Miniwarehouses)	531120	P
Lessors of Other Real Estate Property	531190	P
Offices of Real Estate Agents and Brokers	531210	P
Residential Property Managers	531311	P
Nonresidential Property Managers	531312	P
Offices of Real Estate Appraisers	531320	P
Other Activities Related to Real Estate	531390	P
Formal Wear and Costume Rental	532220	P
Professional, Scientific, and Technical Services	54	P
Management of Companies and Enterprises	55	P
Administrative and Support and Waste Management and Remediation Services	56	O
Office Administrative Services	561110	P
Professional Employer Organizations	561330	P
Document Preparation Services	561410	P
Telephone Answering Services	561421	P
Private Mail Centers	561431	P
Other Business Service Centers (including Copy Shops)	561439	P
Credit Bureaus	561450	P
Court Reporting and Stenotype Services	561492	P
Travel Agencies	561510	P
Tour Operators	561520	P
Convention and Visitors Bureaus	561591	P
Investigation Services	561611	P
Locksmiths	561622	P
Convention and Trade Show Organizers	561920	P
Educational Services	61	O
Health Care and Social Assistance	62	O
Offices of Physicians (except Mental Health Specialists)	621111	P
Offices of Physicians, Mental Health Specialists	621112	P
Offices of Dentists	621210	P

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Offices of Chiropractors	621310	P
Offices of Optometrists	621320	P
Offices of Mental Health Practitioners (except Physicians)	621330	P
Offices of Physical, Occupational and Speech Therapists, and Audiologists	621340	P
Offices of Podiatrists	621391	P
Offices of All Other Miscellaneous Health Practitioners	621399	P
Diagnostic Imaging Centers	621512	P
Home Health Care Services	621610	P
Arts, Entertainment, and Recreation	71	O
Accommodation and Food Services	72	O
Full-Service Restaurants	722110	P
Limited-Service Restaurants	722211	P
Snack and Nonalcoholic Beverage Bars	722213	P
Other Services (except Public Administration)	81	O
Barber Shops	812111	P
Beauty Salons	812112	P
Nail Salons	812113	P
Diet and Weight Reducing Centers	812191	P
Parking Lots and Garages	812930	P
Business Associations	813910	P
Professional Organizations	813920	P
Private Households	814110	P
Public Administration	92	O
Executive Offices	921110	P
Legislative Bodies	921120	P
Public Finance Activities	921130	P
Executive and Legislative Offices, Combined	921140	P
Other General Government Support	921190	P
Courts	922110	P
Police Protection	922120	P
Gift, Novelty, and Souvenir Stores	453220	P
Pet and Pet Supplies Stores	453910	P
Art Dealers	453920	P
Transportation and Warehousing	48-49	O
Warehousing and Storage	493	O
Information	51	O
Finance and Insurance	52	O
Monetary Authorities - Central Bank	521110	P
Commercial Banking	522110	P
Savings Institutions	522120	P
Credit Unions	522130	P
Other Depository Credit Intermediation	522190	P
Credit Card Issuing	522210	P
Sales Financing	522220	P
Consumer Lending	522291	P
Real Estate Credit	522292	P

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International Trade Financing	522293	P
Secondary Market Financing	522294	P
Mortgage and Nonmortgage Loan Brokers	522310	P
Financial Transactions Processing, Reserve, and Clearinghouse Activities	522320	P
Other Activities Related to Credit Intermediation	522390	P
Investment Banking and Securities Dealing	523110	P
Securities Brokerage	523120	P
Commodity Contracts Dealing	523130	P
Commodity Contracts Brokerage	523140	P
Securities and Commodity Exchanges	523210	P
Miscellaneous Intermediation	523910	P
Portfolio Management	523920	P
Investment Advice	523930	P
Trust, Fiduciary, and Custody Activities	523991	P
Miscellaneous Financial Investment Activities	523999	P
Direct Life Insurance Carriers	524113	P
Direct Health and Medical Insurance Carriers	524114	P
Direct Property and Casualty Insurance Carriers	524126	P
Direct Title Insurance Carriers	524127	P
Other Direct Insurance (except Life, Health, and Medical) Carriers	524128	P
Reinsurance Carriers	524130	P
Insurance Agencies and Brokerages	524210	P
Third Party Administration of Insurance and Pension Funds	524292	P
All Other Insurance Related Activities	524298	P
Pension Funds	525110	P
Health and Welfare Funds	525120	P
Other Insurance Funds	525190	P
Open-End Investment Funds	525910	P
Trusts, Estates, and Agency Accounts	525920	P
Real Estate Investment Trusts	525930	P
Other Financial Vehicles	525990	P
Real Estate and Rental and Leasing	53	O
Lessors of Residential Buildings and Dwellings	531110	P
Lessors of Nonresidential Buildings (except Miniwarehouses)	531120	P
Lessors of Other Real Estate Property	531190	P
Offices of Real Estate Agents and Brokers	531210	P
Residential Property Managers	531311	P
Nonresidential Property Managers	531312	P
Offices of Real Estate Appraisers	531320	P
Other Activities Related to Real Estate	531390	P
Formal Wear and Costume Rental	532220	P
Professional, Scientific, and Technical Services	54	P
Management of Companies and Enterprises	55	P
Administrative and Support and Waste Management and Remediation Services	56	O
Office Administrative Services	561110	P
Professional Employer Organizations	561330	P

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Document Preparation Services	561410	P
Telephone Answering Services	561421	P
Private Mail Centers	561431	P
Other Business Service Centers (including Copy Shops)	561439	P
Credit Bureaus	561450	P
Court Reporting and Stenotype Services	561492	P
Travel Agencies	561510	P
Tour Operators	561520	P
Convention and Visitors Bureaus	561591	P
Investigation Services	561611	P
Locksmiths	561622	P
Convention and Trade Show Organizers	561920	P
Educational Services	61	O
Health Care and Social Assistance	62	O
Offices of Physicians (except Mental Health Specialists)	621111	P
Offices of Physicians, Mental Health Specialists	621112	P
Offices of Dentists	621210	P
Offices of Chiropractors	621310	P
Offices of Optometrists	621320	P
Offices of Mental Health Practitioners (except Physicians)	621330	P
Offices of Physical, Occupational and Speech Therapists, and Audiologists	621340	P
Offices of Podiatrists	621391	P
Offices of All Other Miscellaneous Health Practitioners	621399	P
Diagnostic Imaging Centers	621512	P
Home Health Care Services	621610	P
Arts, Entertainment, and Recreation	71	O
Accommodation and Food Services	72	O
Full-Service Restaurants	722110	P
Limited-Service Restaurants	722211	P
Snack and Nonalcoholic Beverage Bars	722213	P
Other Services (except Public Administration)	81	O
Barber Shops	812111	P
Beauty Salons	812112	P
Nail Salons	812113	P
Diet and Weight Reducing Centers	812191	P
Parking Lots and Garages	812930	P
Business Associations	813910	P
Professional Organizations	813920	P
Private Households	814110	P
Public Administration	92	O
Executive Offices	921110	P
Legislative Bodies	921120	P
Public Finance Activities	921130	P
Executive and Legislative Offices, Combined	921140	P
Other General Government Support	921190	P
Courts	922110	P

Created with a trial version of Syncfusion Essential DocIO.

Police Protection	922120	P

(Ordinance 2007-25 adopted 11-13-07)

Exhibit D: Traffic Study

Project Title: Bingle Road Retail TIA

Engineer of Record (EOR) PM: Chad Zorn

Project No.

ACE Traffic Engineering

Submittal Dates:	**2nd Submittal**	**Comments**	**3rd Submittal**
	7/27/2026	8/12/2026	8/18/2026

					EOR		**City of Sugar Land**		
					EOR RESPONSE		City RESOLUTION		
Comment No.	Reviewer Name	Reviewer Functional Area	Page No.	Comment	Action Code	Response (Describe adjustment, reason for disagreement, or requested points of clarification)	Resolve Code	Resolve Date	Final Response
The following comments are from the May Submittal:									
1	Cobb-Fendley	Traffic	Comment Response Log	Photos should preferably be a few feet before the intersection, taken on the side where traffic flow and clerly shows lane assignment and pavement markings, if present.	A	pictures adjusted and additional photos added for clarity			
2	Cobb-Fendley	Traffic	Comment Response Log	Please see exhibit markups and revise as needed.	A	All comments addressed			
3	Cobb-Fendley	Traffic	Comment Response Log	It looks like figures 10A and 10 B check out but I do not follow the "peak hour tables" part	A	"Peak hour tables" refers to the traffic volume calculation tables that are located in the Appendix.			
4	Cobb-Fendley	Traffic	Page i (5 of 165)	This would change based on the rest of the report.	A	Executive Summary has been updated per the mitigation updates.			
5	Cobb-Fendley	Traffic	Executive Summary Exhibit II	A pedestal pole with a vertical 4-section left turn head would help with ingress from the south.	A	Mitigations include a new proposed signal head as indicated.			
6	Cobb-Fendley	Traffic	Executive Summary Exhibit II	Need ped signals for the driveway crossing	A	ped crosswalk, ped signals, and ramps identified in mitigations (Mitigation V) as recommended.			
7	Cobb-Fendley	Traffic	Executive Summary Exhibit II	Need a mast arm for the driveway approach with an incresase in traffic.	D	As agreed in the meeting (8/14/26) and as shown in the report, the volumes are minimal and the two existing signal heads will be sufficient to regulate this approach.			
8	Cobb-Fendley	Traffic	Executive Summary Exhibit II	Mention in the text of the report that this will be worked out in design plans that would need to be approved by Spring Valley	A	Text has been added to the report and the NOTE on the Executive Summary Exhibit II has also been updated to state this.			
9	Cobb-Fendley	Traffic	Executive Summary Exhibit II	Some signs will need o tbe adjusted/added as well	A	Mitigation VII added to address signage. "To be addressed and approved in the design phase."			
10	Cobb-Fendley	Traffic	Executive Summary Exhibit II	Show ped ramps for the proposed driveway	A	Ramps called out by Mitigation V and are shown on the site plan in Exhibit 2.			
11	Cobb-Fendley	Traffic	Executive Summary Exhibit II	Need a ped curb ramp here. It is expected that residents and business employees will walk here. Lots of homes are within a 10 minute walk.	A	Ramps called out by Mitigation V and are shown on the site plan in Exhibit 2.			
12	Cobb-Fendley	Traffic	Executive Summary Exhibit II	It looks like this median nose would need to be cut back to allow for thru traffic to cross.	A	Mitigation VI added to address the median nose.			
13	Cobb-Fendley	Traffic	Executive Summary Exhibit II	Left turn lane would need to be in the median to maintain the two thru lanes and not hinder any future lane asignment options. Also, with 2 curves after coming from I-10 this may cause issues.	A	Mitigation II updated to show the proposed left turn lane within the median.			
14	Cobb-Fendley	Traffic	Exhibit 2	North arrow?	D	Site Plan updated with larger north arrow and to show the propsoed left turn lane in the median.			
15	Cobb-Fendley	Traffic	Page 12 (21 of 165)	Why 1%? How does this compare to the AADT trend of nearby intersections over the past years?	A	Expanded explanation added to Section V-A to discuss the justification for applying 1%.			
16	Cobb-Fendley	Traffic	Page 17 (26 of 165)	Where are the ITE report documents for these trip generation values?	A	ITE Data Sheets are referenced and listed in the Appendix.			
17	Cobb-Fendley	Traffic	Exhibit 10A & 10B	Put this before Build condition information since this is used as part of calculating the build volumes	A	Table 10A and 10B moved as directed.			

18	Cobb-Fendley	Traffic	Page 27 (36 of 165)	With two receiving lanes on the north side of the intersection, this would likely end up with drivers not obeying the pavement markings and just going through the intersection via the left turn lane. Any left turn lane would need to be a dedicated left turn lane in the existing median in order to not hinder any future options for lane assignments and timings with only 1 thru lane to work with. See exhibit markup.	A	Executive Summary Exhibit has been updaed to show a proposed left turn lane within the median. Corresponding sections of the report have been updated accordingly.			
19	Cobb-Fendley	Traffic	Page 29 (38 of 165)	(Mitigation II) This needs to be in the existing median.	A	Exhibits and report updated to show and discuss the left turn lane within the median as directed.			
20	Cobb-Fendley	Traffic	Page 29 (38 of 165)	Also need traffic signal modifications and pedestrian curb ramp modifications.	A	The signal modifications and ped ramps have been called out in the updated mitigation list.			
21	Cobb-Fendley	Traffic	Synchro-Existing (page 43 of 165)	Is the driveway already built for existing study?	A	Yes, the driveway is existing.			

ACTION CODES / RESOLVE CODES

A = Accept; adjustments made C = Clarification Requested D = Disagree; adjustments not made

ACE Traffic Engineering, LLC.

Bingle Road Mixed Use Development

Traffic Impact Analysis

Spring Valley Village, Texas

Prepared for:

Identity Architects
111 Travis Street
Houston, TX 77002

August 2026



Bingle Road Mixed Use Development
Traffic Impact Analysis

Spring Valley Village, Texas

Prepared for:

Identity Architects
111 Travis Street
Houston, TX 77002

Prepared by:

ACE Traffic Engineering, LLC

ACE Traffic Engineering, LLC.
10810 Evanfield Ct
Cypress, TX 77433

Executive Summary

This traffic impact assessment is for a proposed mixed use development located in Spring Valley Village, Texas. The site is located on the west side of Bingle Rd at the intersection with W memorial Park Dr. The study area intersections include:

1. Bingle Rd @ Winningham Ln
2. Bingle Rd @ W. Memorial Park Dr
3. Bingle Rd @ I-10 Westbound Feeder Rd (WBFR)
4. Voss Rd @ I-10 Eastbound Feeder Rd (EBFR), and
5. Bingle Rd @ the two Site Driveways

The scope and analysis of the proposed development was proposed to and accepted by Public Works Staff. The **Executive Summary Exhibit** shows the boundaries of the study area. The development is planned to be constructed in one phase and is planned to be completed by 2027.

This development will consist of various restaurants, businesses, and medical office space. When completed, the overall development is projected to generate net new trips totaling 66 AM Trips (32 entering; 14 exiting) and 138 PM trips (77 entering; 71 exiting).

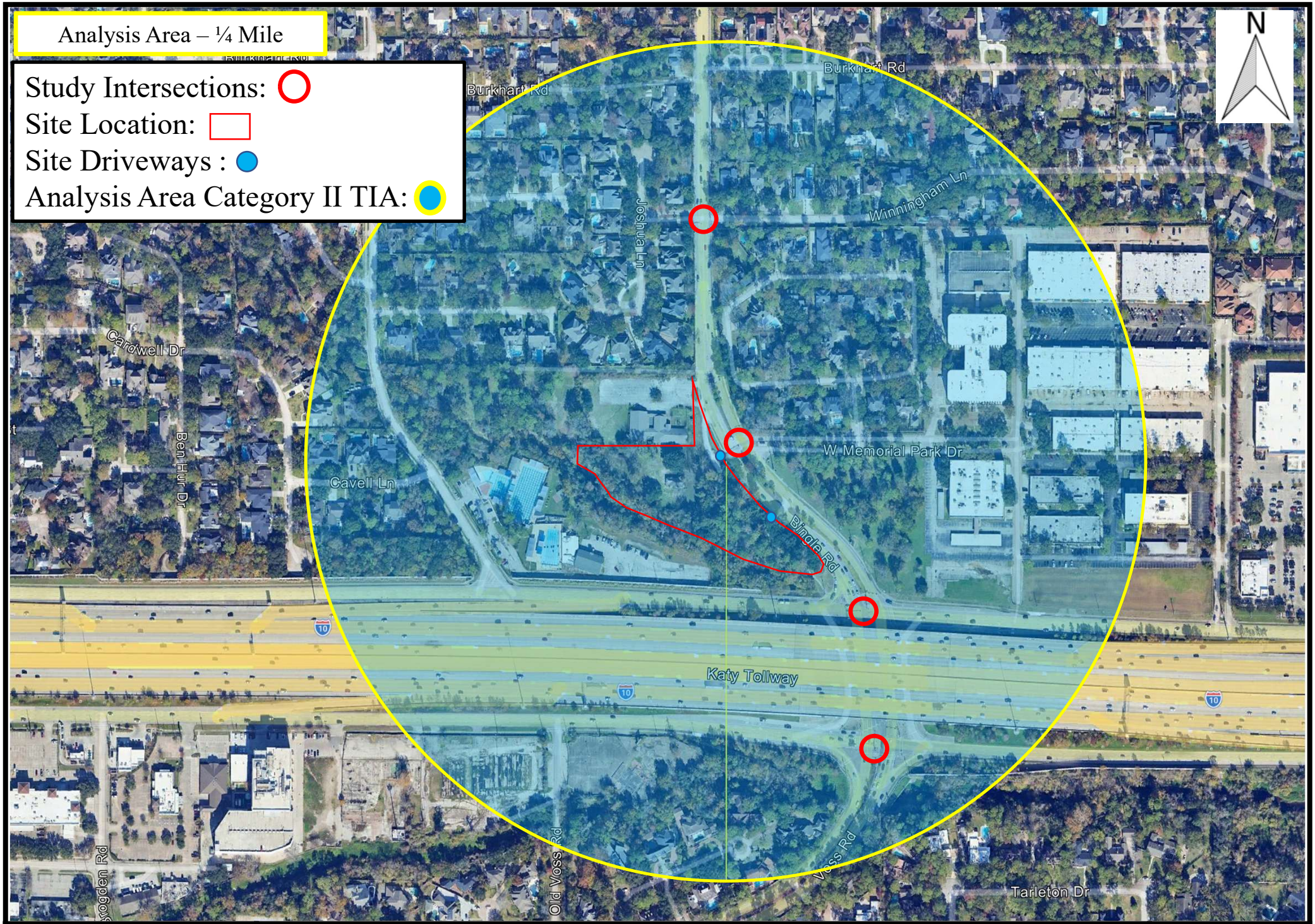
Traffic volume data was collected by Ally General Solutions at all study intersections on 5/19/26 and 5/21/26, between 7-9:00AM and 4-6:00PM. The peak hours identified for study within the report were 7:45-8:45AM and 4:30-5:30PM. The LOS results of the 2027 Build Conditions at all intersections remain at LOS D or better when moving from the No-Build to the Build Scenarios. Analyses indicates that vehicles entering the proposed development will not experience any additional notable delay during AM and PM peak hours at the site driveways and the site has sufficient storage on site to accommodate the projected on-site queue lengths.

The analysis of the turning volumes at Driveway 1 determined that a northbound left turn lane is warranted based on the left turn warrant criteria outlined in NCHRP Report 348. This can be accomplished within the existing raised median. Queueing Analysis of the existing intersections requires that Driveway 2 function as a right-in-right-out driveway and the existing median opening adjacent to Driveway 2 be closed.

Based on this analysis, the proposed development is projected to have no major impacts to the study intersections. The following mitigations are the responsibility of the developer and should be installed as part of the project.

- Mitigation I: Close the existing median opening that is aligned with Driveway 2 as shown on **Executive Summary Exhibit II**.
- Mitigation II: Install a northbound Left-Turn lane on Bingle Rd at the intersection with Driveway 1 within the existing raised median as shown on **Executive Summary Exhibit II**.
- Mitigation III: Install a new vertical left turn signal to regulate the proposed northbound left turn lane.
- Mitigation IV: Relocate the existing signal pole located in the median on the south side of the intersection as a result of the new left turn lane construction.
- Mitigation V: Install a pedestrian crosswalk, ped signals, and access ramps across Driveway 1.
- Mitigation VI: Modify the existing median nose on the south side of the intersection, as needed, to ensure proper lane alignment through the intersection.
- Mitigation VII: All intersection signage shall be updated to safely regulate the intersection.

As discussed with City Staff, any change to the site plan including land use changes, or the size of proposed development will result in the need for a new TIA or an amendment to this TIA as determined by the City. All mitigations listed above are to be addressed and approved by Spring Valley Village in the design phase.

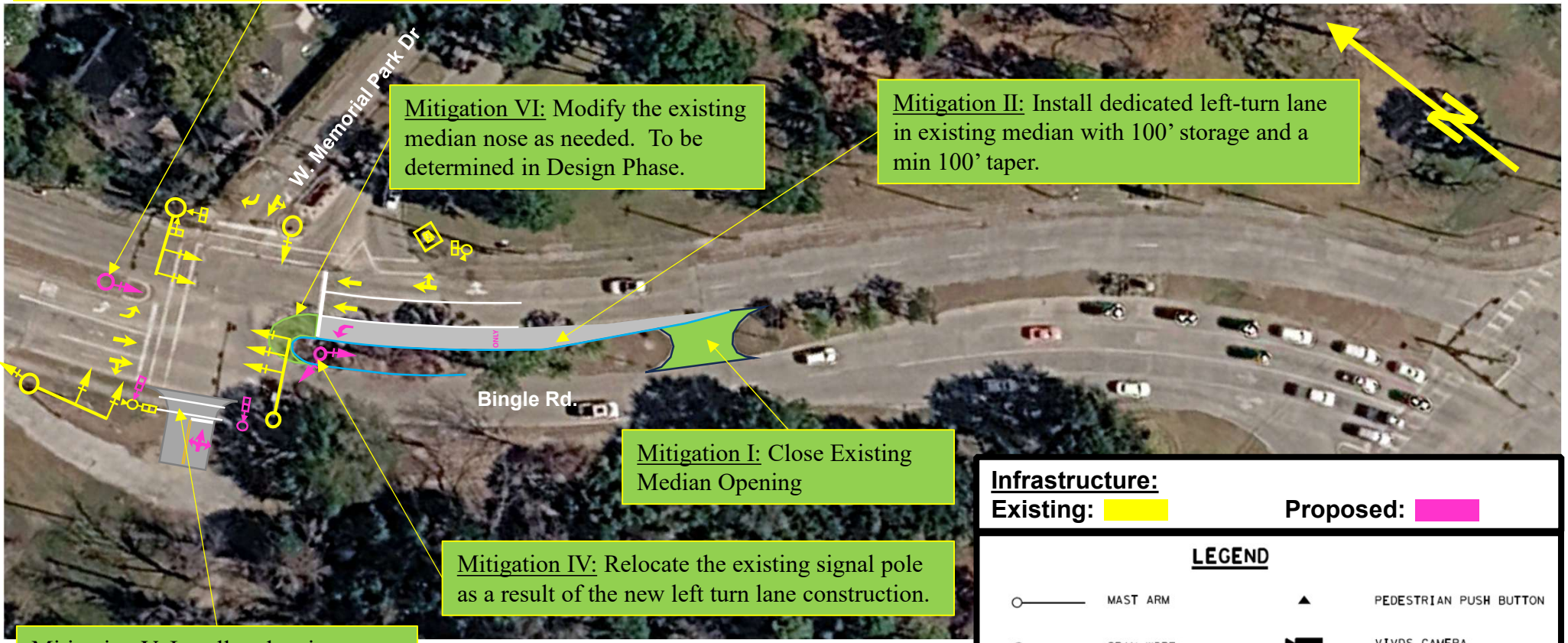


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ANALYSIS AREA & STUDY INTERSECTIONS

Executive Summary Exhibit I

Mitigation III: Install new vertical signal pole and signal head for northbound left turn lane within the existing median.



Mitigation VI: Modify the existing median nose as needed. To be determined in Design Phase.

Mitigation II: Install dedicated left-turn lane in existing median with 100' storage and a min 100' taper.

Mitigation I: Close Existing Median Opening

Mitigation IV: Relocate the existing signal pole as a result of the new left turn lane construction.

Mitigation V: Install pedestrian cross-walk, ped signals, and access ramps across Driveway 1

Mitigation VII: All intersection signage shall be updated to safely regulate the intersection. Signage to be addressed and approved in the design phase.

Infrastructure:
Existing: **Proposed:**

LEGEND

MAST ARM	PEDESTRIAN PUSH BUTTON
SPAN WIRE	VIVDS CAMERA
LUMINAIRE	DIRECTION OF TRAVEL
SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
SIGN	TRAFFIC CABINET
RADAR DETECTION	

NOTE: THE LOCATIONS OF ALL ITEMS SHOWN IN THE EXHIBIT ARE APPROXIMATE. THIS EXHIBIT IS NOT INTENDED FOR ANY CONSTRUCTION USE. ALL MITIGATIONS TO BE APPROVED BY SPRING VALLEY VILLAGE IN THE DESIGN PHASE.

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MITIGATIONS: LEFT-TURN LANE AND MEDIAN MODIFICATIONS
BINGLE RD AT SITE DRIVEWAYS

Executive Summary Exhibit II

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Synchro Output – 2027 No Build Conditions AM and PM Peak

Synchro Output - 2027 Build Conditions AM and PM Peak

SimTraffic Output – All Conditions Queuing Report AM and PM Peak

Signal Timing Sheets

Traffic Count Volume Data

Historical Growth Rate Data

TxDOT C.R.I.S. Accident Reports

ITE Trip Generation Sheets & Pass-By Justification

NCHRP Report 348

Alternate Left Turn Lane Designs

TxDOT Letter of No Objection

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I. INTRODUCTION

A. PURPOSE

ACE Traffic Engineering, LLC. has been retained by Identity Architects to perform a Traffic Impact Analysis (TIA) for a proposed mixed use development located in Spring Valley Village, Texas. The site is located on the west side of Bingle Rd at the intersection with W memorial Park Dr. The site/vicinity map is shown in **Exhibit 1**

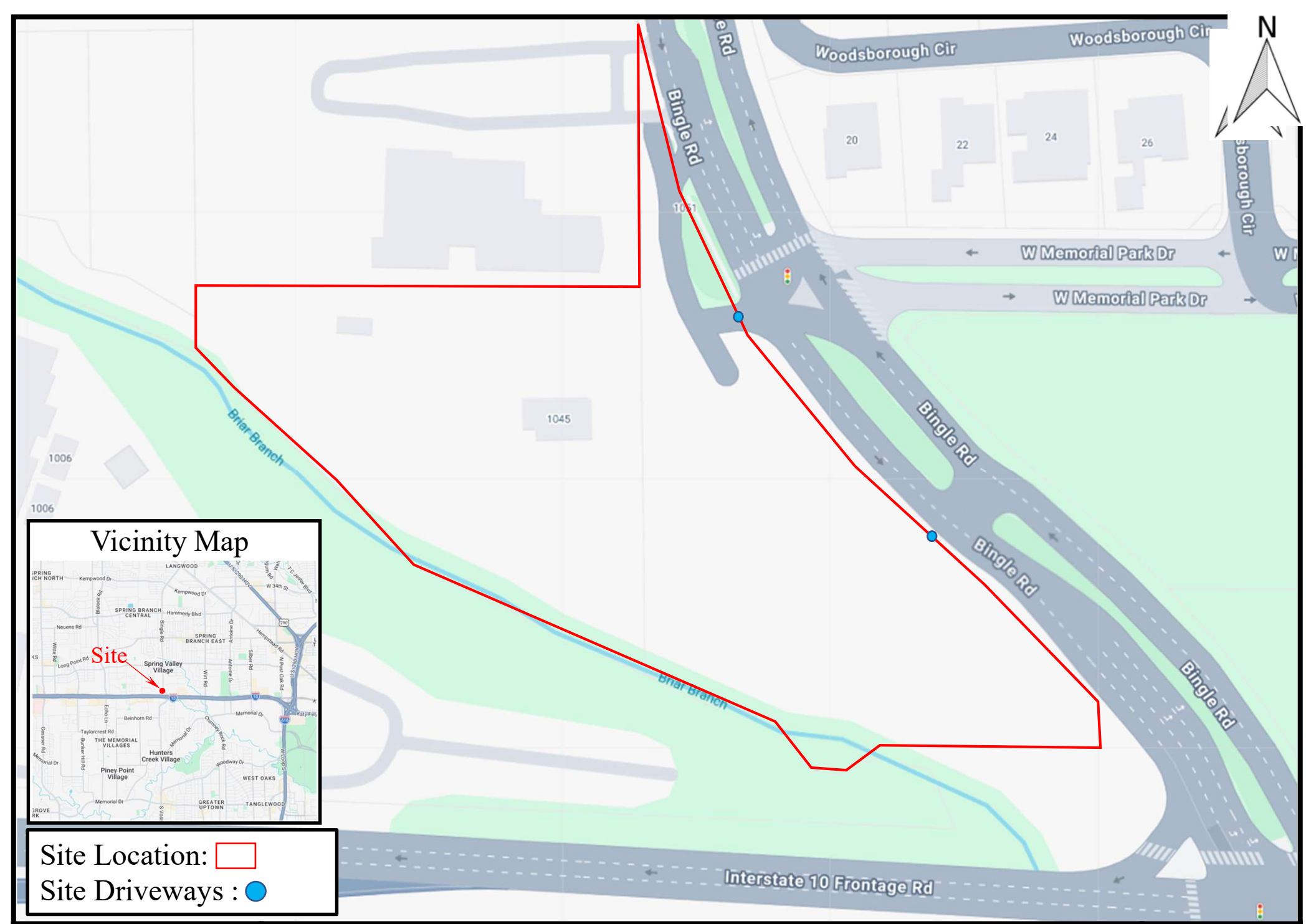
The purpose of this study is to address any potential traffic impacts of the proposed development on roadways and intersections within the study area. Objectives of this study are to determine the existing and future Levels-of-Service (LOS) at various study intersections and to recommend mitigation improvements, if necessary.

B. METHODOLOGY

The traffic evaluation is comprised of three (3) scenarios for which AM and PM peak hour LOS analyses were performed. For both signalized and unsignalized intersections, this analysis was conducted using *Synchro 11*™ software. **Table 1** provides a summary of the assumptions used in this TIA

Table 1 – Analysis Scenario Summary

Scenario	Roadway Conditions	Development Assumptions	Traffic Volumes
Existing Conditions (2026)	Existing Conditions	Existing Conditions	Existing Conditions
No Build Conditions (2027)	Existing Conditions	Existing Conditions	Existing Conditions + 1 year of Background Growth (1.0% Annually)
Build Conditions (2027)	No Build Conditions + Proposed Development Driveways	No Build Conditions + Full Development	No Build Conditions + Site Related Traffic


N
Woodsborough Cir
Bingle Rd
W Memorial Park Dr
Briar Branch
1045
1006
Interstate 10 Frontage Rd
Vicinity Map
Site
Site Location:
Site Driveways :

II. EXISTING AND PROPOSED LAND USE

A. EXISTING DEVELOPMENT

The site currently consists of vacant undeveloped land that will be cleared for the proposed development. There is one existing driveway located at the intersection of Bingle Rd at W. Memorial Park Dr which is the proposed location for Driveway 1.

B. SITE LOCATION / STUDY AREA

The subject site is located on the west side of Bingle Rd, at the intersection with W memorial Park Dr, within the City Limits. The study area analyzed as part of this TIA was developed based on a ¼ mile study area which was agreed to by City staff. The surrounding land uses within the study area consist of mostly of residential, with a few commercial properties. A list of intersections and associated traffic control analyzed within the study area are as described below:

Existing Signalized Intersection:

- Bingle Rd @ W Memorial Park Dr
- Bingle Rd @ Winningham Ln
- Bingle Rd @ I-10 WBFR
- Voss Rd @ I-10 EBFR

Proposed Unsignalized Intersection:

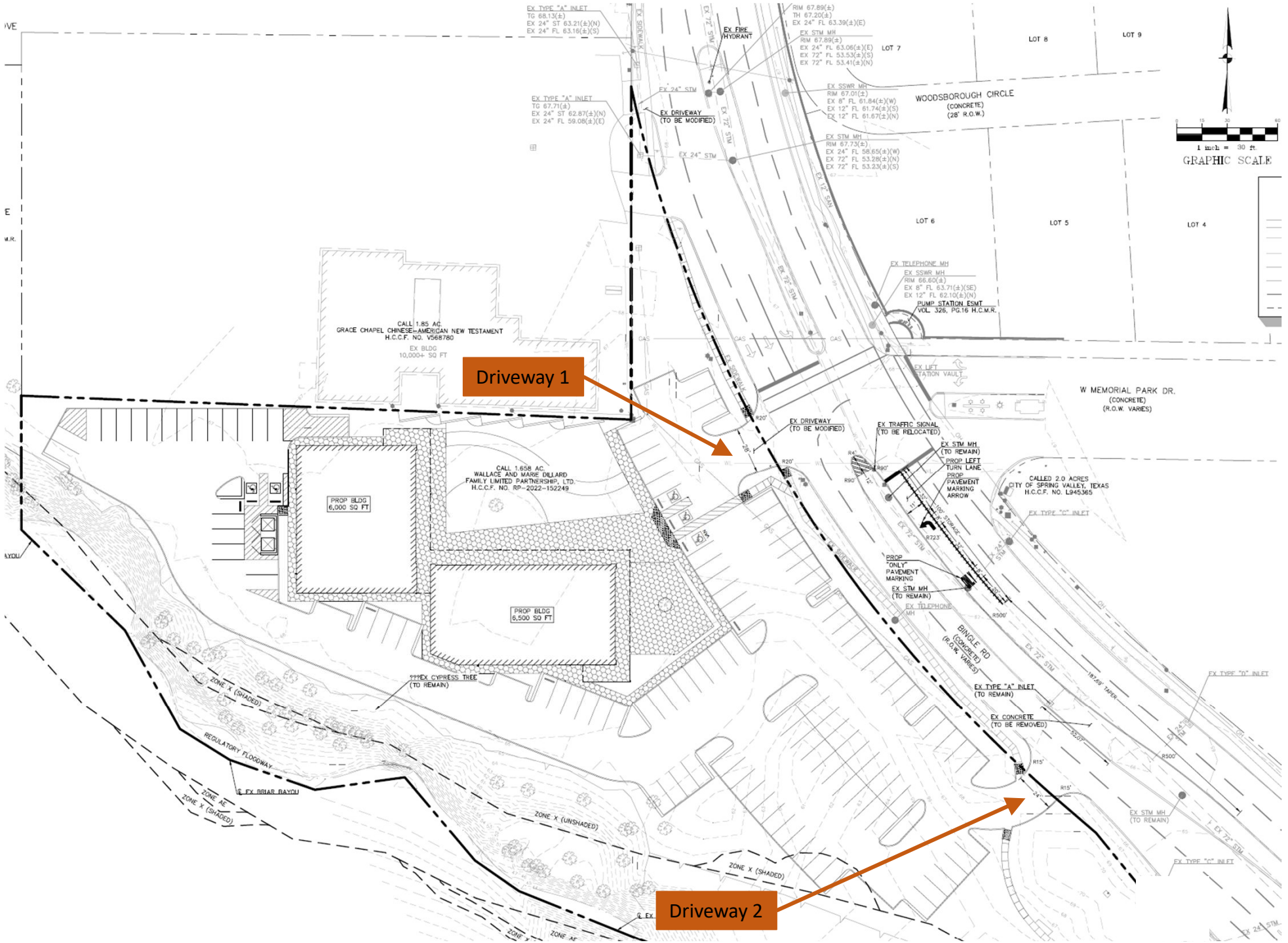
- Bingle Rd @ Site Driveway 2

C. PROPOSED DEVELOPMENT

Based on information provided by Identity Architects, the proposed development will consist of a mixed use development which will be built in one phase. Two driveways are proposed as part of this development. The main access driveway will be the fourth leg of the intersection of Bingle Rd at W. Memorial Park Dr. The secondary driveway will align with the existing median cut along Bingle Rd, just north of I-10. The two site driveways are shown in **Exhibit 2**. Driveway 1 will be full-access and is the main access driveway. Driveway 2 is currently proposed as a full-access driveway (see **Section VI** for further description of proposed driveways). The proposed development is summarized below:

Proposed Development:

- Land Use: Mixed Use
  - Fine Dining Restaurant (931)
  - Strip Retail Plaza (822)
  - Medical Office (720)
  - Health/Fitness Club (492)
  - Fast Casual Restaurant (930)
- Driveways:
  - 2 Proposed Driveways
- Completion Year 2027


Driveway 1
Driveway 2
WOODSBOROUGH CIRCLE
(CONCRETE)
(28' R.O.W.)
W MEMORIAL PARK DR.
(CONCRETE)
(R.O.W. VARIES)
BINGLE RD
(CONCRETE)
(R.O.W. VARIES)
CALL 1.85 AC.
GRACE CHAPEL CHINESE-AMERICAN NEW TESTAMENT
H.C.C.F. NO. V568780
CALL 1.658 AC.
WALLACE AND MARIE DILLARD
FAMILY LIMITED PARTNERSHIP, LTD.
H.C.C.F. NO. RP-2022-152249
CALLED 2.0 ACRES
CITY OF SPRING VALLEY, TEXAS
H.C.C.F. NO. L945365
PROP BLDG
6,000 SQ FT
PROP BLDG
6,500 SQ FT
EX BLDG
10,000± SQ FT
EX DRIVEWAY
(TO BE MODIFIED)
EX DRIVEWAY
(TO BE MODIFIED)
EX TRAFFIC SIGNAL
(TO BE RELOCATED)
EX STM MH
(TO REMAIN)
PROP LEFT
TURN LANE
PROP
PAVEMENT
MARKING
ARROW
PROP
"ONLY"
PAVEMENT
MARKING
EX TYPE "A" INLET
(TO REMAIN)
EX CONCRETE
(TO BE REMOVED)
EX FIRE
HYDRANT
EX TELEPHONE MH
EX SSWR MH
PUMP STATION ESMT
VOL. 326, PG.16 H.C.M.R.
EX LIFT
STATION VAULT
???EX CYPRESS TREE
(TO REMAIN)
REGULATORY FLOODWAY
ZONE X (SHADED)
ZONE AE
ZONE X (UNSHADED)
℄ EX BRIAR BAYOU
LOT 7
LOT 8
LOT 9
LOT 6
LOT 5
LOT 4
1 inch = 30 ft.
GRAPHIC SCALE

III. ROADWAY SYSTEM

A. EXISTING THOROUGHFARE SYSTEM

The transportation network in the immediate vicinity of the proposed development includes Bingle Rd, Winningham Ln, W Memorial Park Dr, and the I-10 feeder roads. The following is a general description of the major roadways within the study area. **Table 2** provides a summary of the existing roadway characteristics. The existing lane assignments and traffic control devices within the study area are displayed on **Exhibit 3**.

Bingle Rd runs north and south along the east property boundary of the development. It is classified as a Major Thoroughfare. The roadway has a boulevard cross-section with two lanes in each direction, concrete paving with curb and gutters, and sidewalks on both sides. North of W Memorial Park Dr the roadway narrows to four undivided lanes.

Winningham Ln runs east and west and is located to the north of the development. Winningham Ln is local residential street. The roadway has two lanes in each direction, concrete paving with curb and gutters, and no sidewalks. The street flares out at the intersection with Bingle into a boulevard cross-section.

W. Memorial Park Dr runs east and west and is located east of the development. W. Memorial Park Dr. is a local street. The roadway has a boulevard cross-section with two lanes in each direction, concrete paving with curb and gutters, and no sidewalks.

I-10 feeder roads run east and west adjacent to the I-10 main lanes. The feeder roads provide access to and from the ramps to the I-10 main lanes and to other destinations further east and west. Both feeder roads have 3 lanes in each direction but widen at the intersection with Bingle Rd to include additional lanes. They are concrete paved with curb & gutters, and sidewalks.

Table 2 – Existing Roadway Characteristics

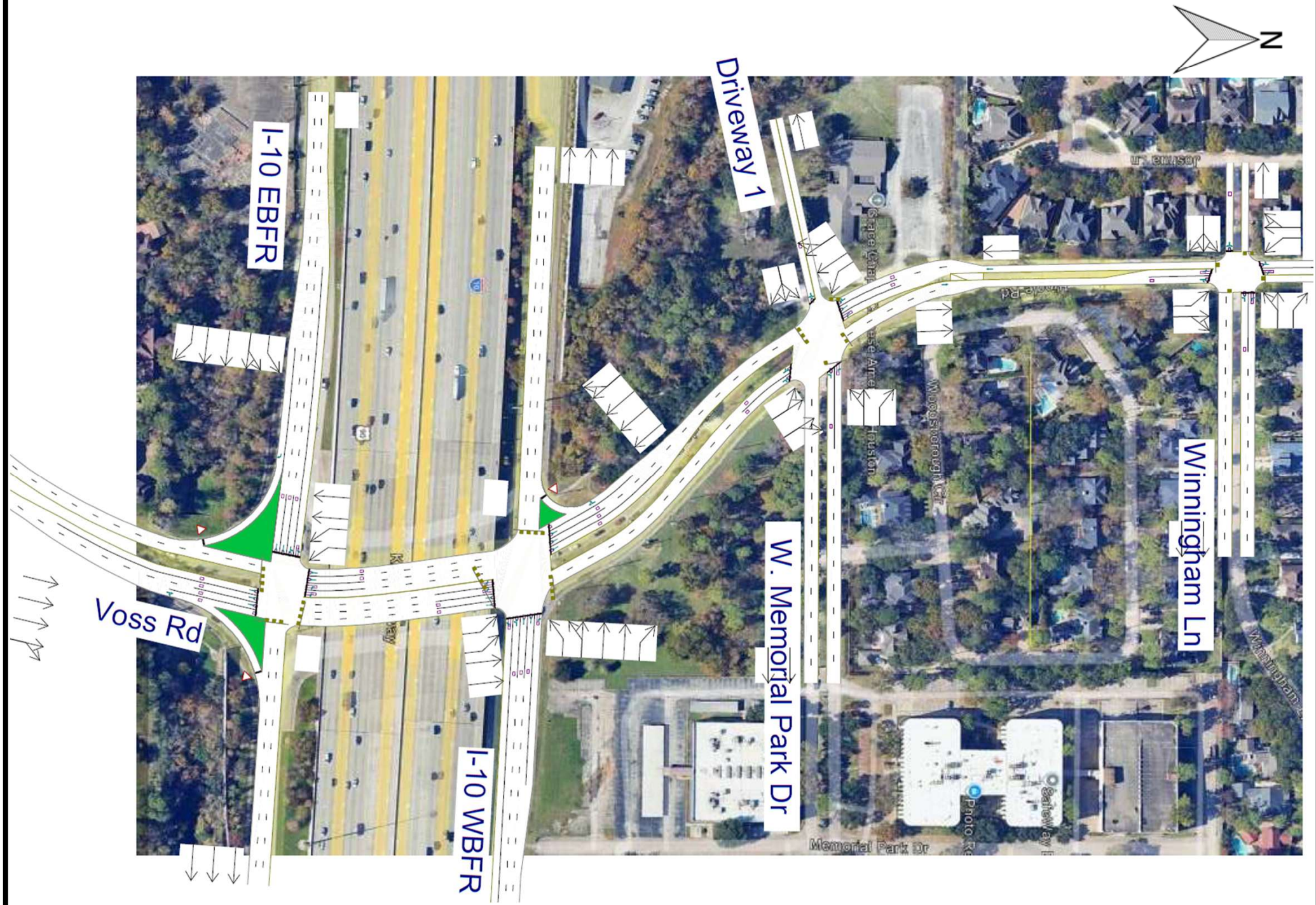
Existing Roadway	Pavement Width	Number of Lanes	Lane Width	Median Type	Speed Limit
Bingle Rd	Varies	Varies	12	Varies	30 MPH
Winningham Ln	26’	2	13’	Undivided	30 MPH
W. Memorial Park Dr	60’	4	12’	Boulevard	30 MPH
I-10 feeder roads.	Varies	3	12’	One-Way	45 MPH

B. EXISTING TRAFFIC VOLUMES

Traffic volume data was collected by Ally General Solutions at all study intersections on 5/19/26 and 5/21/26 between 7-9:00AM and 4-6:00PM. The peak hours identified for study within the report were 7:45-8:45AM and 4:30-5:30PM. The resulting traffic volumes used as existing traffic in this report are shown in **Exhibit 4A** and **Exhibit 4B**. Intersection turning movement counts at each of the study intersections were used to calculate the Peak Hour Factor (PHF) for each turning movement for use in the Synchro Modeling. The PHF is calculated by dividing the hourly volume of the analysis hour by the peak 15-minute flow rate within the analysis hour. This is represented by the following formula:

$$PHF = \frac{Hourly\ Volume}{4 * V_{15}}$$

The PHF for each movement at each intersection are listed in the peak hour traffic count volume data sheets and are provided in the appendix.



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2026 EXISTING LANE ASSIGNMENTS AND TRAFFIC CONTROL

Exhibit
3



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2026 EXISTING AM PEAK HOUR VOLUMES

Exhibit
4A



ACE Traffic Engineering, LLC.	2026 EXISTING PM PEAK HOUR VOLUMES	Exhibit 4B Page 110 of 292

IV. ANALYSIS OF EXISTING CONDITIONS

A. LEVEL-OF-SERVICE EVALUATIONS

The evaluation of the existing roadway system consists of AM and PM peak hour level-of-service (LOS) analyses. The purpose of this analysis is to determine if any deficiencies exist within the study network and to establish a baseline condition.

Traffic operations are affected by various geometric factors including roadway type (e.g., divided or undivided), number of lanes, lane widths, and grades. LOS, which is a measure of the degree of congestion, ranges from LOS A (free flowing) to LOS F (a congested, forced flow condition). For intersections operating at LOS D or worse, reasonable efforts must be made to maintain the existing LOS. LOS thresholds for both unsignalized and signalized intersections are presented in **Table 3**.

Table 3 – Level-of-Service Thresholds for Unsignalized and Signalized Intersections

LOS	Control Delay for Unsignalized Intersections (sec/veh)	Control Delay for Signalized Intersections (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Source: Transportation Research Board. (2010). Highway Capacity Manual. Washington, DC.

For both unsignalized and signalized intersection LOS, if the volume-to-capacity ratio is greater than one, then the intersection/approach LOS is LOS F. LOS D or better is generally deemed as acceptable operations for an urban area.

The following paragraphs (excerpts from the *Highway Capacity Manual 2010*) describe each LOS condition for a signalized intersection

- LOS A describes operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

- LOS B describes operations with a control delay between 10 and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

- LOS C describes operations with a control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length moderate. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersections without stopping.

- LOS D describes operations with a control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

- LOS E describes operations with a control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

- LOS F describes operations with a control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: Transportation Research Board. (2010). Highway Capacity Manual. Washington, DC.

Approach delays at the study intersections for the 2026 Existing Conditions are compiled in **Table 4**. This table indicates the LOS results of intersections for the Existing Conditions based on volumes shown in **Exhibit 4A** and **Exhibit 4B**. Existing signal timings for all intersections were used for the analysis.

Table 4 – 2026 Existing Condition Intersection Capacity Analysis by Approach

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS
Signalized Intersection					
Bingle Rd @ Winningham Ln	EB Approach	0.3	A	18.4	B
	WB Approach	53.0	D	31.9	C
	NB Approach	5.2	A	6.6	A
	SB Approach	6.8	A	4.2	A
	Intersection	**8.3**	**A**	**6.5**	**A**
Bingle Rd @ W. Memorial Park Dr / Driveway 1	EB Approach	0.0	A	0.0	A
	WB Approach	37.1	D	56.4	E
	NB Approach	6.0	A	11.1	B
	SB Approach	5.8	A	10.7	B
	Intersection	**7.1**	**A**	**17.5**	**B**
Bingle Rd @ I-10 WBFR	WB Approach	35.8	D	37.7	D
	NB Approach	10.1	B	6.9	A
	SB Approach	39.6	D	47.2	D
	Intersection	**28.4**	**C**	**29.9**	**C**
Voss Rd @ I-10 EBFR	EB Approach	39.5	D	36.8	D
	NB Approach	52.4	D	49.4	D
	SB Approach	5.4	A	6.0	A
	Intersection	**33.2**	**C**	**32.7**	**C**

In the 2026 Existing Condition, all signalized intersections within the study area operate at acceptable LOS (LOS D or better) in both AM and PM peak hours.

SimTraffic Analysis reports that the 95% queue length for the southbound approach of Bingle Rd at I-10 WBFR is 435 feet in the AM peak hour and 426 feet in the PM peak hour. Both of these distances surpass and block the existing median opening where Driveway 2 is proposed. Although the median may be clear in the off-peak hours, allowing access at the median for northbound traffic has the potential to create lane blocking during the peak hours.

B. Crash History

A review of the existing crash history at the study intersections was conducted in an attempt to identify any potential conflict movements that may present a safety issue. The search for crash history was conducted using the TxDOT C.R.I.S. Database. The date range for the search was (three years) from 01/01/2023 to 12/05/2025. The results are discussed below and copy of the generated crash reports are provided in the appendix.

- Bingle Rd @ Winningham Ln – This intersection had 2 reported crashes, or less than 1 per year.
- Bingle Rd @ W. Memorial Park Dr – This intersection had 3 crashes, or 1 per year.
- Bingle Rd @ I-10 WBFR – This intersection had 30 total reported crashes, but only had 3 correctable crashes, for an average of 1 per year.
- Voss Rd @ I-10 EBFR – This intersection had 11 total reported crashes, but only had 2 correctable crashes, or less than 1 per year.

Based on the findings of the search for crash history, the subject intersections do not meet the thresholds to warrant additional mitigation based on safety.

V. 2027 NO BUILD CONDITION ANALYSIS

A. Background Traffic Development

To determine background traffic volumes not associated with the proposed development, an annual growth rate was used. Available data from the TxDOT Traffic Count Database shows an average negative growth rate in traffic volumes over recent years along Bingle Rd. Additionally, the greater area in the vicinity of the site is mostly built out with commercial developments and established neighborhoods which are not expected to generate a large increase in traffic. Consequently, a conservative growth rate of 1.0% per year was applied to the 2026 existing traffic volumes to determine the 2027 projected background traffic volumes as they relate to the study area. The resulting volumes are depicted in **Exhibit 5A** and **Exhibit 5B** respectively.

B. Level-of-Service Evaluations

The evaluation of year 2027 No Build Conditions comprised of AM and PM peak hour intersection LOS analyses. The purpose of these analyses was to determine deficiencies that may exist in the projected roadway network as it relates to the 2027 No Build Conditions, and in turn, to establish a baseline condition. Approach delays at the study intersections for the 2027 No Build Conditions are compiled in **Table 5**. This table indicates the LOS results of intersections for the 2027 No Build Conditions based on volumes shown in **Exhibit 5A**, and **Exhibit 5B**. Signal timings, including cycle length and splits, were kept the same as the 2026 Existing Conditions for this analysis.

Table 5 – 2027 No Build Condition Intersection Capacity Analysis by Approach

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS
Signalized Intersection					
Bingle Rd @ Winningham Ln	EB L/T/R	0.3	A	18.4	B
	WB L/Thru	57.2	E	39.2	D
	WB Right	12.0	B	15.9	B
	NB Left	3.0	A	2.5	A
	NB Thru/R	5.3	A	6.9	A
	SB Left	3.0	A	2.5	A
	SB Thru/R	7.0	A	4.3	A
	Intersection	**8.4**	**A**	**6.7**	**A**
Bingle Rd @ W. Memorial Park Dr / Driveway 1	EB L/T/R	0.0	A	0.0	A
	WB L/T	58.8	E	72.5	E
	WB Right	8.3	A	9.0	A
	NB Left				
	NB Thru/R	6.0	A	11.2	B
	SB Left	60.8	E	78.2	E
	SB Thru/R	2.4	A	6.1	A
	Intersection	**7.1**	**A**	**17.7**	**B**
Bingle Rd @ I-10 WBFR	WB Left	54.6	D	52.2	D
	WB Thru	41.0	D	44.5	D
	WB Right	9.1	A	12.9	B
	NB Left	20.4	C	12.9	B
	NB Thru	1.8	A	1.6	A
	SB Thru/R	39.8	D	47.2	D
	Intersection	**28.7**	**C**	**30.1**	**C**
Voss Rd @ I-10 EBFR	EB Left	59.0	E	50.1	D
	EB Thru	44.9	D	42.7	D
	EB Right	8.0	A	7.6	A
	NB Thru/R	53.4	D	50.7	D
	SB Left	12.9	B	15.7	B
	SB Thru	1.5	A	2.4	A
	Intersection	**33.6**	**C**	**33.3**	**C**

With an increase in vehicle volume background growth on the roadway network, the delay increases at the study intersection. All intersections continue to operate at acceptable level of service (LOS D, or better).



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2027 NO-BUILD AM PEAK HOUR VOLUMES

Exhibit
5A



ACE
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2027 NO-BUILD PM PEAK HOUR VOLUMES

Exhibit
5B

VI. SITE CHARACTERISTICS

A. PROPOSED SITE ACCESS

Based on the current site plan, two driveways are proposed for the development. Both driveways are proposed along Bingle Rd.. The locations and specifications for the driveways are depicted in Exhibit 2 and are described below:

- **Site Driveway 1 –** Driveway 1 forms the fourth leg of the signalized intersection of Bingle Rd. at W. Memorial Park Dr. This driveway will be a full access driveway and is intended to serve as the main access driveway.
- **Site Driveway 2 –** Driveway 2 forms a T-intersection with Bingle Rd. and is aligned with the first median opening north of the I-10 westbound feeder road. This driveway will be a Right-In/Right-Out Driveway. The existing median opening will be closed as part of this development. The closure of the existing median opening is not anticipated to have any effect on existing traffic or the intersection of Driveway 1 at Bingle Rd. An additional observation made during both the AM and PM peak hours showed no vehicles making U-Turns at the subject median opening during a 20 min observation of each peak hour.

Based on the current site plan and driveways as defined above, **Exhibit 6** displays the lane configurations for the Build Condition.



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FUTURE LANE ASSIGNMENTS AND TRAFFIC CONTROL

Exhibit 6

B. Proposed Site Trip Generation

Traffic projections were prepared for the proposed development based on the trip generation rates found in the *Institute of Transportation Engineers* (ITE) publication entitled *Trip Generation Manual, 12th Edition*. This recognized standard for trip generation is based on actual surveys (traffic counts) of existing developments of various types. The proposed development will consist of a mix of Land Uses. Each proposed land use and the corresponding ITE trip rates used are listed in **Table 6**. The ITE data sheets are provided in the Appendix.822

Table 6 – Trip Generation Rates

Land Use	AM Peak		PM Peak		Weekday Total	
	Rate	IN:OUT Split (%)	Rate	IN:OUT Split (%)	Rate	IN:OUT Split (%)
Fine Dining Restaurant (931)	0.41	*80:20	8.10	69:31	79.03	50:50
Strip Retail Plaza (822)	3.93	55:45	6.29	50:50	54.45	50:50
Medical Office Building (720)	3.21	78:22	3.42	30:70	34.03	50:50
Health/Fitness Club (492)	1.79	51:49	3.77	57:43	30.02	50:50
Fast Casual Restaurant (930)	1.58	64:36	14.35	53:47	225.89	50:50

Adjustments were made to the trip generation for pass-by trips and internal capture. **Table 7** summarizes the total number of trips expected to be generated by the proposed development. The trip generation rates in **Table 6** and the total square feet were used to determine the trips generated during the AM and PM peak periods. A copy of the corresponding ITE trip generation sheets and the justification for 40% pass-by for Strip Retail Plaza land use are provided in the appendix.

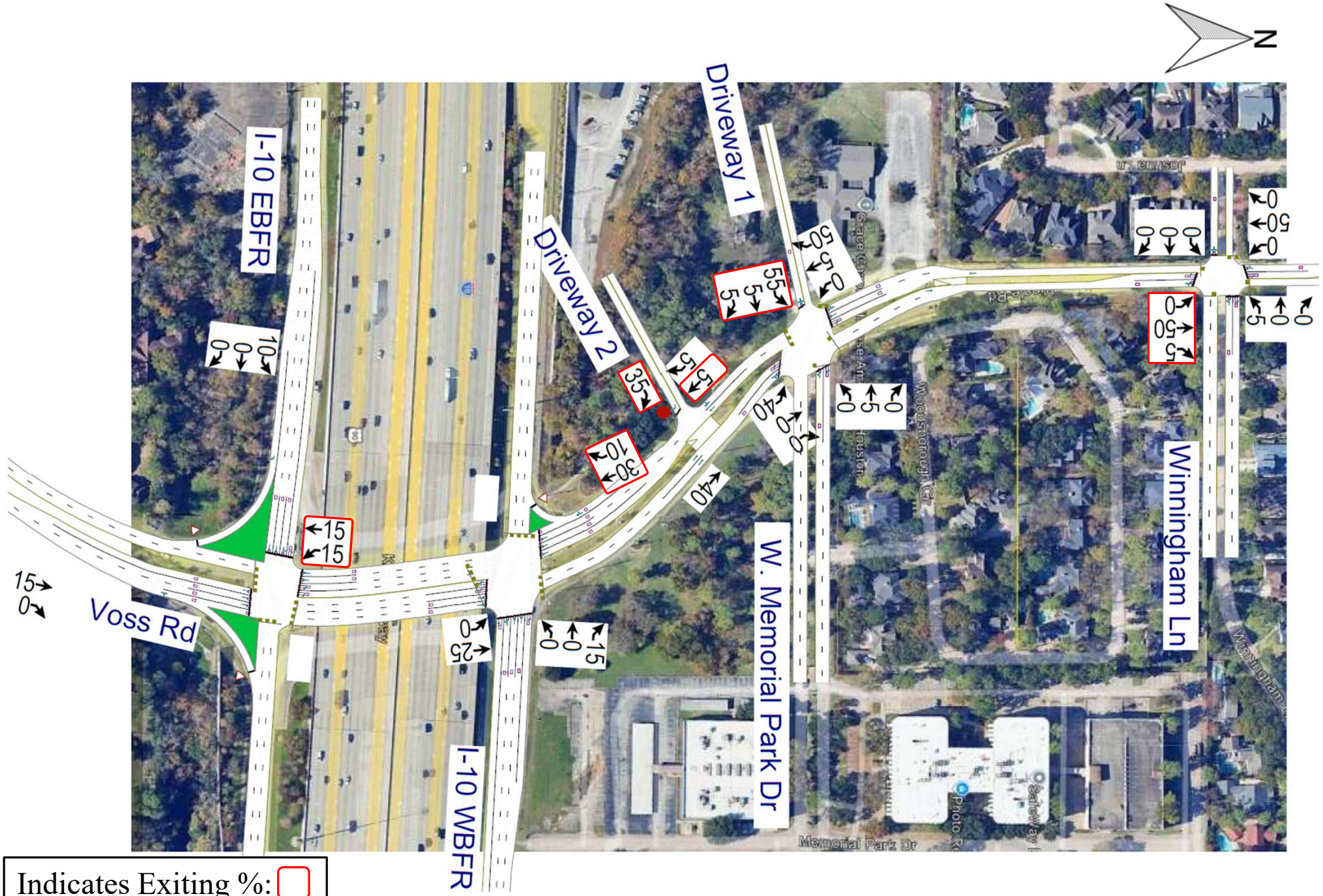
Table 7 – Estimated Trip Generation

Proposed Land Use	Intensity	Units	ITE Code	Daily Total	AM Peak			PM Peak		
					In	Out	Total	In	Out	Total
Fine Dining Restaurant	6.470	K-GFA	931	352	2	1	3	36	16	52
Pass-By Reduction	44% per ITE			225	0	0	0	16	7	23
Strip Retail Plaza	3.595	K-GFA	822	196	8	6	14	11	12	23
Pass-By Reduction	40% per ITE			78	3	3	6	4	5	9
Medical Office Building	8.009	K-GFA	720	273	20	6	26	8	19	27
Pass-By Reduction	0%			0	0	0	0	0	0	0
Helth/Fitness Club	3.126	K-GFA	492	94	3	3	6	7	5	12
Pass-By Reduction	0%			0	0	0	0	0	0	0
Fast Casual Restaurant	6.000	K-GFA	930	1,355	6	3	9	46	40	86
Pass-By Reduction	0%			0	0	0	0	0	0	0
Total Trips				2,270	39	19	58	108	92	200
Pass-By Trips				303	3	3	6	20	12	32
10% Internal Capture				227	4	2	6	11	9	20
Net New Trips				1740	32	14	46	77	71	148
= Engineering Judgment				**Daily Total**	**AM Peak**			**PM Peak**		

C. Trip Distribution and Traffic Assignment

The distribution and assignment of site-generated traffic to the study area roadway network were developed to reflect the anticipated local traffic patterns. The distribution and assignment were determined based upon the existing traffic volumes, knowledge of the study area roadway network, and the proposed access locations to and from the site. Two separate peak hour distribution were created, one for the AM peak hour and one for the PM peak hours to reflect the existing distribution of traffic.

Exhibit 7A presents the inbound and outbound directional distribution percentages for the AM peak hour and **Exhibit 7B** presents the inbound and outbound directional distribution percentages for the PM peak hour for the proposed development on the roadway network. **Exhibit 8A** and **Exhibit 8B** present the projected trip assignment (site generated traffic) of the proposed development for the AM and PM peak hours during the 2027 Build Conditions. These volumes are based on the trip information and directional distribution assumptions. The pass-by trips are shown in **Exhibit 9**. Pass-by trips are trips that reroute to the development, but originate from trips already on the roadway network. Pass-by trips add to the movements into and out of the site driveways and are deducted from the through movements.


N
I-10 EBFR
Driveway 1
Driveway 2
W. Memorial Park Dr
Winningham Ln
Voss Rd
I-10 WBFR
Memorial Park Dr
Indicates Exiting %:



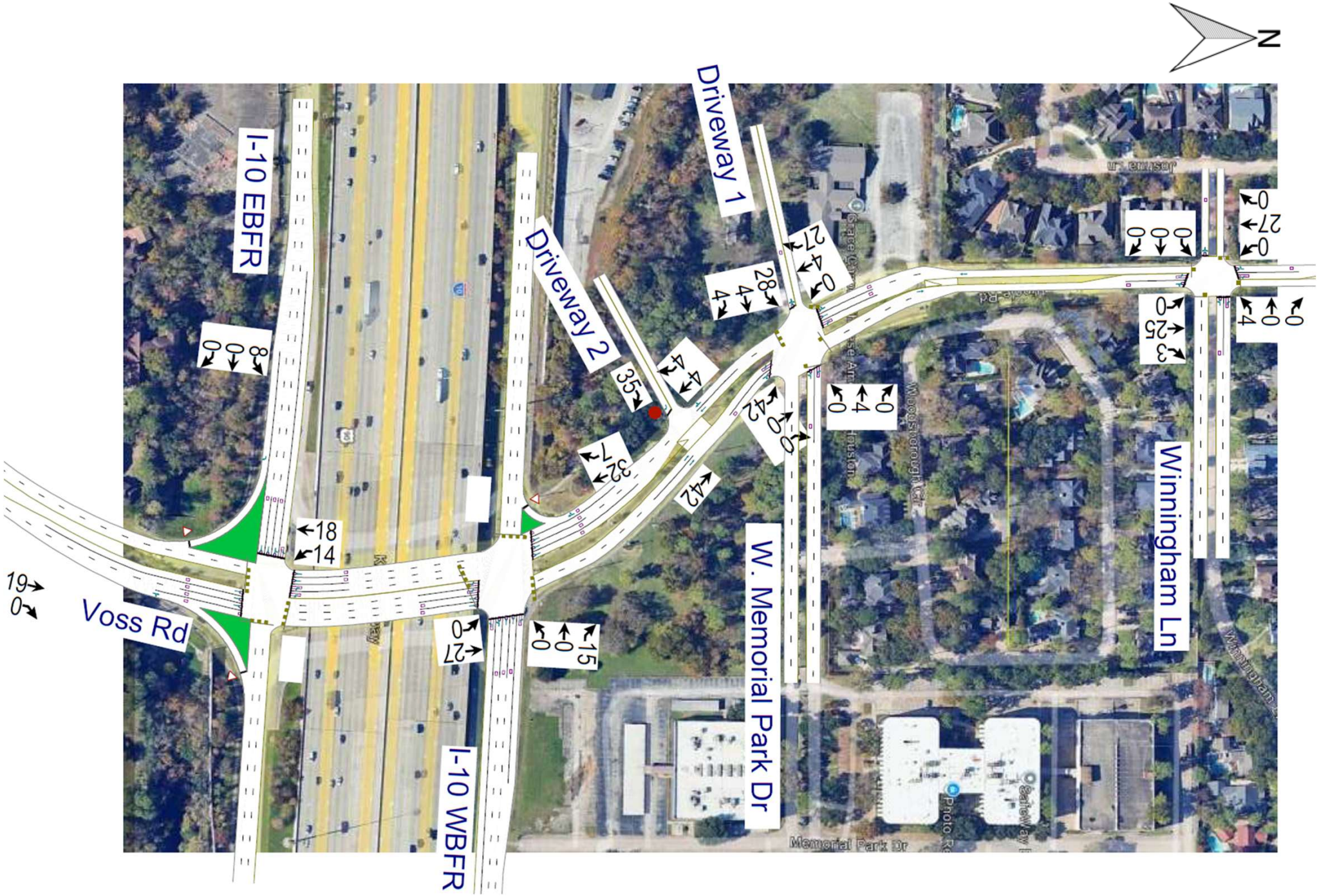
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PM PEAK HOUR SITE TRIP DISTRIBUTION PERCENTAGES



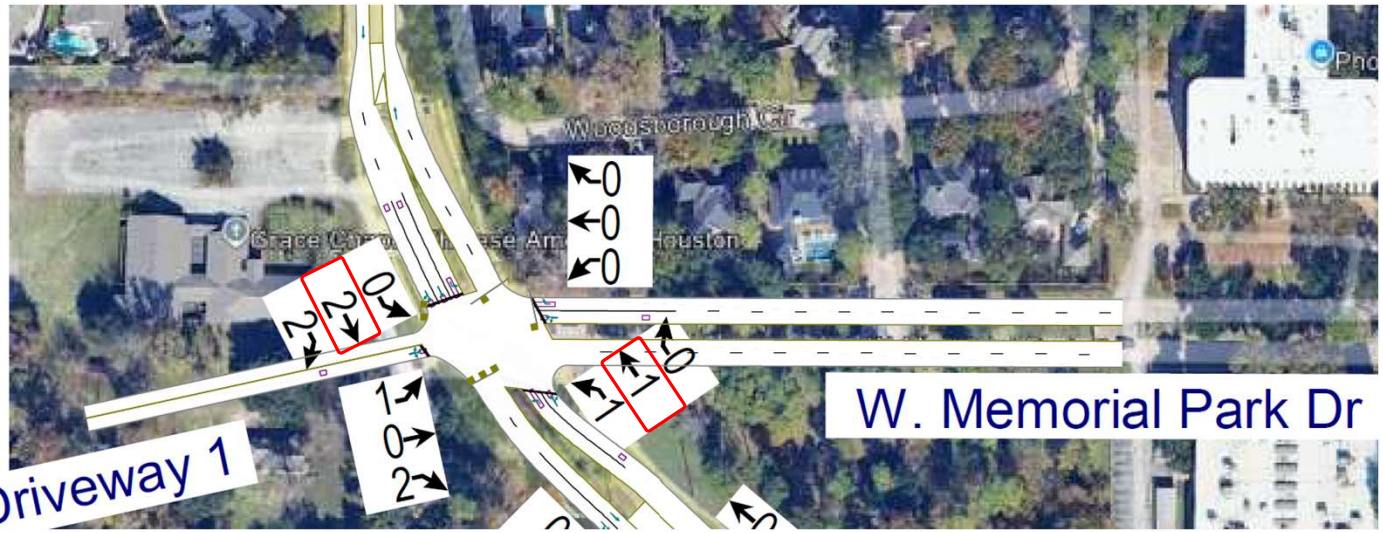
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2027 AM PEAK HOUR SITE TRIP ASSIGNMENT VOLUMES

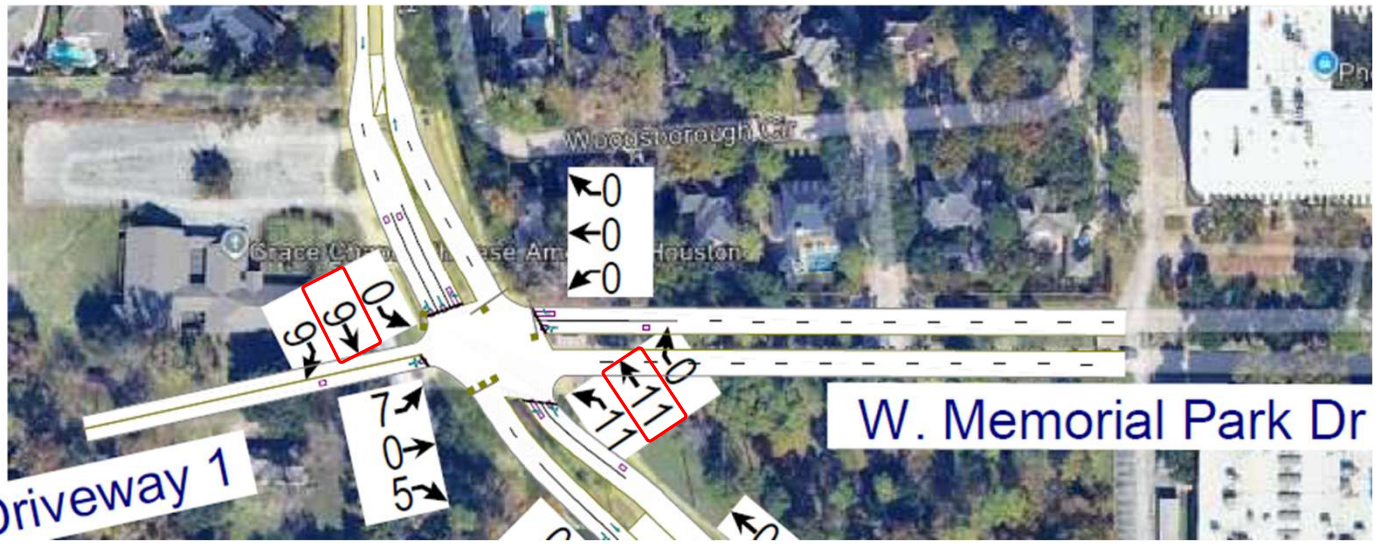


ACE Traffic Engineering, LLC.	2027 PM PEAK HOUR SITE TRIP ASSIGNMENT VOLUMES	Exhibit 8B Page 124 of 292

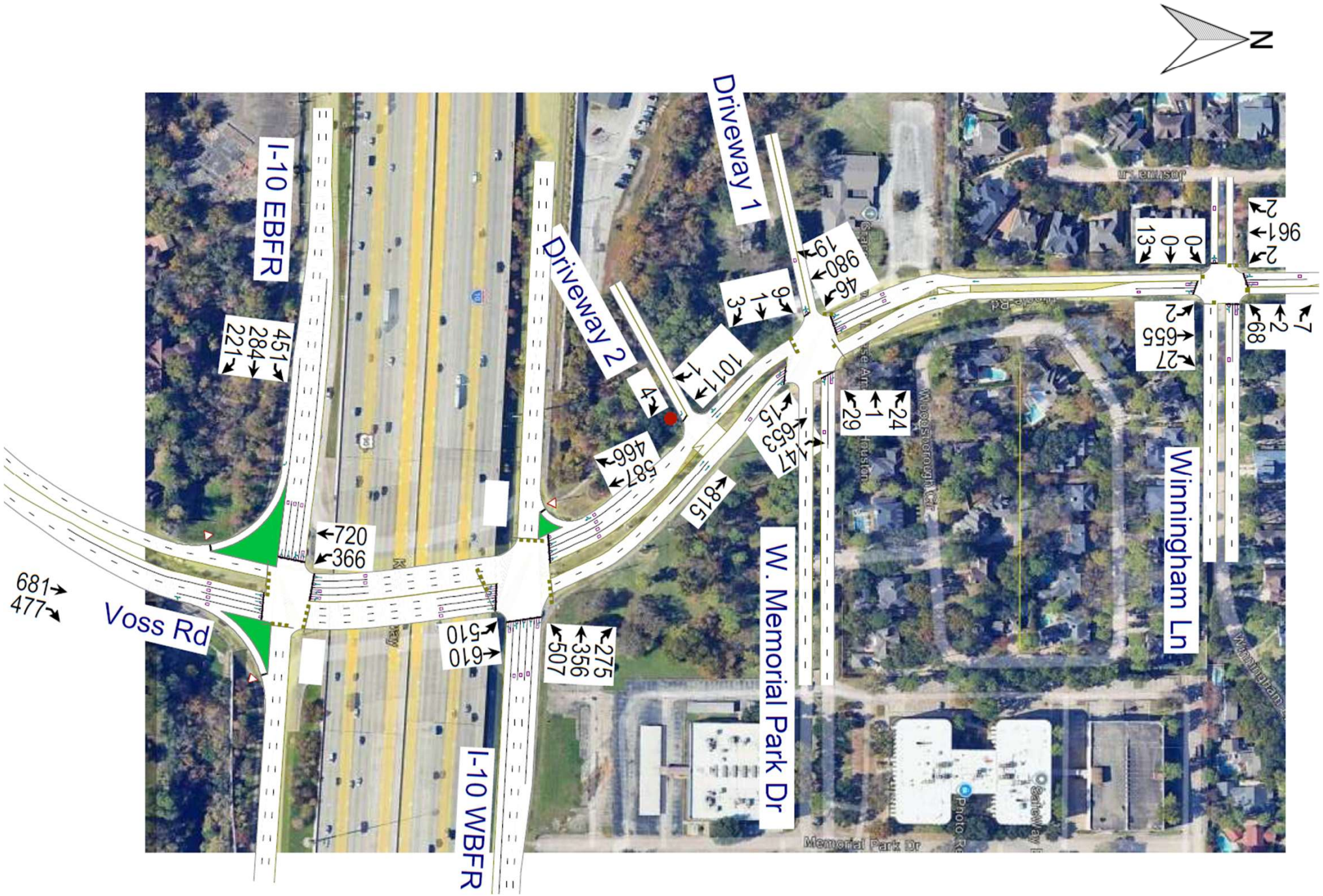
AM Peak Hour



PM Peak Hour



Indicates Negative Trips:



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2027 AM PEAK HOUR: SITE + BACKGROUND TRAFFIC VOLUMES

Exhibit
10A



ACE Traffic Engineering, LLC.	2027 PM PEAK HOUR: SITE + BACKGROUND TRAFFIC VOLUMES	Exhibit 10B Page 127 of 292

VII. 2027 BUILD CONDITIONS ANALYSIS

A. Level-of-Service Evaluations

The evaluation of Year 2027 Build Conditions are comprised of AM and PM peak hour intersection LOS analyses. The purpose of this analysis was to determine deficiencies within the study area as a result of the traffic generated by the proposed development. Approach delays at the study intersections for the 2027 Build Conditions are compiled in **Table 8**. This table indicates the LOS results of intersections for the Build Conditions based on volumes shown in **Exhibit 10A** and **Exhibit 10B**. Signal timing, including cycle length and splits, were kept the same as 2026 Existing Conditions for this analysis.

Table 8 – 2027 Build Conditions Intersection Capacity Analysis by Approach

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS
Signalized Intersection					
Bingle Rd @ Winningham Ln	EB L/T/R	0.3	A	18.3	B
	WB L/Thru	57.4	E	39.3	D
	WB Right	12.0	B	15.9	B
	NB Left	3.0	A	2.6	A
	NB Thru/R	5.4	A	7.5	A
	SB Left	3.0	A	2.5	A
	SB Thru/R	7.3	A	4.6	A
	Intersection	**8.6**	**A**	**7.2**	**A**
Bingle Rd @ W. Memorial Park Dr / Driveway 1	EB L/T/R	41.7	D	31.3	C
	WB L/T	60.1	E	78.2	E
	WB Right	8.2	A	8.9	A
	NB Left	5.7	A	10.0	A
	NB Thru/R	5.9	A	11.2	B
	SB Left	61.0	E	78.4	E
	SB Thru/R	2.5	A	6.3	A
	Intersection	**7.3**	**A**	**18.4**	**B**
Bingle Rd @ I-10 WBFR	WB Left	54.7	D	52.6	D
	WB Thru	41.1	D	44.7	D
	WB Right	10.0	B	16.5	B
	NB Left	20.4	C	13.1	B
	NB Thru	1.8	A	1.7	A
	SB Thru/R	40.0	D	48.1	D
	Intersection	**28.8**	**C**	**30.8**	**C**
Voss Rd @ I-10 EBFR	EB Left	59.2	E	50.6	D
	EB Thru	44.9	D	42.8	D
	EB Right	8.0	A	7.6	A
	NB Thru/R	53.8	D	54.0	D
	SB Left	12.9	B	15.4	B
	SB Thru	1.5	A	2.5	A
	Intersection	**33.8**	**C**	**34.5**	**C**
Unsignalized Intersections					
Bingle Rd @ Driveway 2	EB Approach	12.6	B	12.8	B
	NB Approach	Free Flow		Free Flow	
	SB Approach	Free Flow		Free Flow	
	Intersection	**0.0**	**A**	**0.2**	**A**

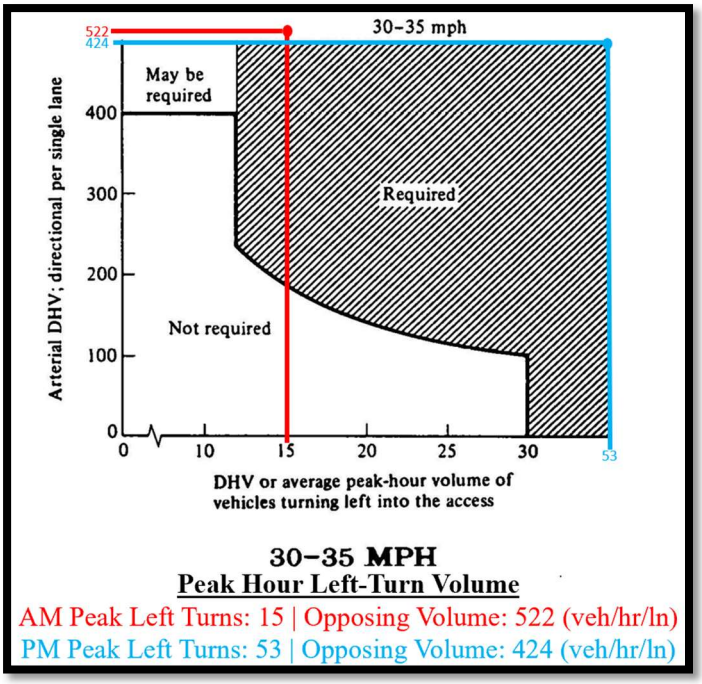
With the added traffic from the proposed development, the delay results of the 2027 Build Conditions are increased from those reported in the corresponding No Build Conditions; however, all intersections, both signalized and unsignalized, remain at LOS D or better in both build scenarios.

B. Turn Lane Analysis

Left Turn Lanes

The need for a left-turn lane at Driveway 1 was analyzed using the criteria outlined in NCHRP Report 348. This report provides procedures to determine the need for a left turn deceleration lane at a driveway by comparing the advancing and approaching traffic volumes per lane to threshold volumes and the number of left turns at the driveway for various speed limits. This analysis determined that a left-turn lane would be warranted in both the AM and PM peak hours. Figure 1, shown below, illustrates the plotted values of the projected left turns generated by the development and the existing through traffic on the left turn warrant taken from NCHRP Report 348 which is provided in the Appendix.

Figure 1



*Source: *NCHRP Report 348; Access Management Guidelines for Activity Centers. Figure 9-11, Left-turn deceleration lane warrant.*

As illustrated in the warrant graph above, the volumes associated with the development warrant the consideration of a northbound left-turn lane based on the volume projections in the both peak hours.

In addition to the Driveway 1, *SimTraffic* analysis was performed at all of the existing study intersections. Driveway 2 was not considered for a left-turn lane because the existing queue length from southbound vehicle at the intersection of Bingle Rd at I-10 WBFR stacks up past the existing median opening that is aligned with the proposed location of Driveway 2. This would cause northbound left-turning vehicles at Driveway 2 to queue back into the northbound through lane. Additionally, the existing median at Driveway 2 will fall within the taper length for the required left turn lane at Driveway 1. Based on these geometric limitations and the safety implications, it is recommended that Driveway 2 operate as a right-in/right-out driveway and the existing median be closed.

In order to establish the dedicated northbound left turn lane at the intersection of Bingle Rd at Driveway 1, the northbound left turn lane should be constructed within the existing median. This will require the relocation or modification of existing infrastructure which is to be finalized and approved by Spring Valley Village in the design phase.

The new left turn lane is proposed with a minimum 100' storage length and 100' taper as specified in Harris County Design Standards. The 95% queue length for the proposed northbound left turn lane is 6' in the AM Peak Hour and 107' in the PM Peak Hour.

Left Turn Lane Alternate Designs

Two alternate designs were considered to for the northbound left turn movement. Alternate Design 1 involved changing the left through lane into a designated left turn lane at the intersection of Bingle Rd at Driveway 1 and tapering down to one lane south to the intersection. Alternate Design 2 involved moving the location of Driveway 2 north and installing a hooded left turn at Driveway 2. Alternate Design 2 would require the restriction of northbound left turns at the intersection of Bingle Rd at Driveway 1. Illustrations of these two options are provided in the Appendix.

Right Turn Lanes

TxDOT warrant criteria for the consideration of right-turn deceleration lanes states that for roadways with a speed limit ≤45 MPH right-turn lanes should be considered when right turns exceed 60 turns per hour. The NCHRP Report 348 provides additional guidance for right-turn lanes and suggests that a separate right-turn lane should be considered when the right-turn volume exceeds 300 vph and the adjacent through lanes also exceed 300 vph per lane. The right-turn volume is 17 in the AM peak hour and 27 in the PM peak hour. Therefore, the projected volumes do not justify the installation of a dedicated right-turn lane.

C. Pedestrian, Bus, and Bicycle Facilities

Existing sidewalks are provided on both sides of Bingle Rd in the vicinity of the proposed site which provide connection from the I-10 feeder roads to W. Memorial Park Dr, Winningham Ln, and locations further north.

No bus routes exist along Bingle Rd within Spring Valley Village.

The cross-section of Bingle Road, north of W. Memorial Park Dr, was recently modified to include one lane in each direction with dedicated bicycle lanes on each side.

VIII. CONCLUSIONS AND RECOMMENDATIONS

Based on this analysis, the proposed development is projected to have no major impacts to the study intersections. All signalized intersections are projected to remain at acceptable LOS (LOS D, or better) when moving from the No-Build to the Build Scenarios. Analyses indicates that vehicles entering the proposed development will not experience any additional notable delay during AM and PM peak hours at the site driveways and the site has sufficient storage on site to accommodate the projected on-site queue lengths.

The analysis of the turning volumes at Driveway 1 determined that a northbound left turn lane is warranted based on the left turn warrant criteria outlined in NCHRP Report 348. This can be accomplished within the existing raised median. Queueing Analysis of the existing intersections requires that Driveway 2 function as a right-in-right-out driveway and the existing median opening adjacent to Driveway 2 be closed.

Based on this analysis, the proposed development is not expected to have any major impacts to the surrounding roadway network. In order to provide a clear and convenient review of the approach delays at the study intersections, **Table 9** illustrates the LOS results of the study intersections for the 2027 No Build, and 2027 Build Scenarios.

Table 9 - All Scenarios - Comparison of Intersection Capacity Analysis

	Delay LOS			
	2027 No Build		2027 Build	
Intersection	**AM**	**PM**	**AM**	**PM**
Signalized Intersection				
Bingle Rd @ Winningham Ln	A	A	A	A
Bingle Rd @ W. Memorial Park Dr	A	B	A	B
Bingle Rd @ I-10 WBFR	C	C	C	C
Voss Rd @ I-10 EBFR	C	C	C	C
Unsignalized Intersections (Worst Approach)				
Bingle Rd @ Driveway 2			B	B

The following mitigations are the responsibility of the developer and should be installed as part of the project:

- Mitigation I: Close the existing median opening that is aligned with Driveway 2 as shown on **Executive Summary Exhibit II**.
- Mitigation II: Install a northbound Left-Turn lane on Bingle Rd at the intersection with Driveway 1 within the existing raised median as shown on **Executive Summary Exhibit II**.
- Mitigation III: Install a new vertical left turn signal to regulate the proposed northbound left turn lane.
- Mitigation IV: Relocate the existing signal pole located in the median on the south side of the intersection as a result of the new left turn lane construction.
- Mitigation V: Install a pedestrian crosswalk, ped signals, and access ramps across Driveway 1.
- Mitigation VI: Modify the existing median nose on the south side of the intersection, as needed, to ensure proper lane alignment through the intersection.
- Mitigation VII: All intersection signage shall be updated to safely regulate the intersection.

As discussed with City Staff, any change to the site plan including land use changes, or the size of proposed development will result in the need for a new TIA or an amendment to this TIA as determined by the City. All mitigations listed above are to be addressed and approved by Spring Valley Village in the design phase.

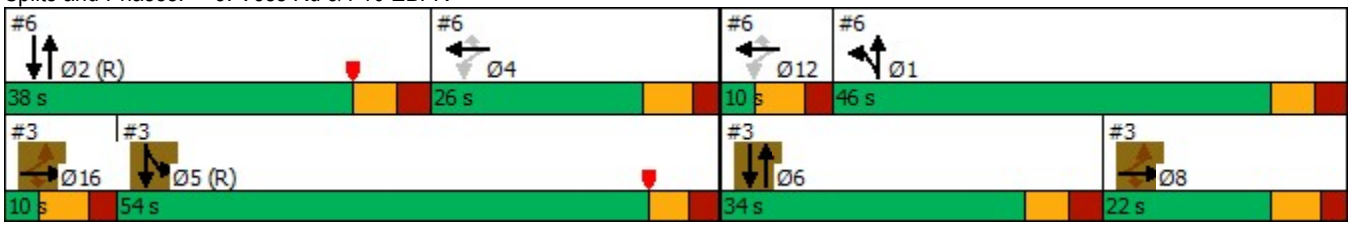
APPENDIX

SYNCHRO OUTPUT
2026 EXISTING CONDITIONS AM AND PM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	444	281	219	0	0	0	0	669	472	360	711	0
Future Volume (vph)	444	281	219	0	0	0	0	669	472	360	711	0
Satd. Flow (prot)	1522	4705	1583	0	0	0	0	5979	0	3433	3539	0
Flt Permitted	0.950	0.979								0.950		
Satd. Flow (perm)	1522	4705	1583	0	0	0	0	5979	0	3433	3539	0
Satd. Flow (RTOR)			233					156				
Peak Hour Factor	0.95	0.90	0.94	0.92	0.92	0.92	0.92	0.89	0.78	0.87	0.94	0.92
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	233	546	233	0	0	0	0	1357	0	414	756	0
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8 16						6		5	5 6	
Permitted Phases	8 16		8 16									
Total Split (s)								34.0		54.0		
Total Lost Time (s)								7.0		6.5		
Act Effct Green (s)	25.3	25.3	25.3					26.9		47.3	81.2	
Actuated g/C Ratio	0.21	0.21	0.21					0.22		0.39	0.68	
v/c Ratio	0.73	0.55	0.45					1.26dr		0.31	0.32	
Control Delay	58.6	44.8	8.0					52.4		12.5	1.0	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.5	
Total Delay	58.6	44.8	8.0					52.4		12.5	1.5	
LOS	E	D	A					D		B	A	
Approach Delay		39.5						52.4			5.4	
Approach LOS		D						D			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 45 (38%), Referenced to phase 2:NBSB and 5:, Start of Yellow	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 33.2	Intersection LOS: C
Intersection Capacity Utilization 60.8%	ICU Level of Service B
Analysis Period (min) 15	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

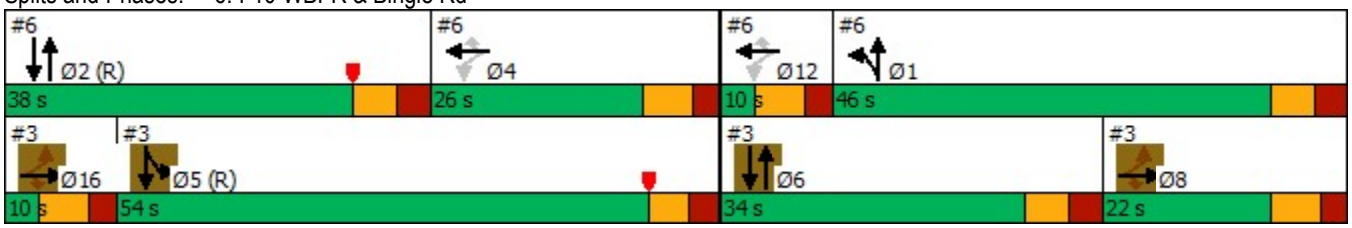
Splits and Phases: 3: Voss Rd & I-10 EBFR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	502	352	267	505	596	0	0	577	460
Future Volume (vph)	0	0	0	502	352	267	505	596	0	0	577	460
Satd. Flow (prot)	0	0	0	1522	4705	1583	3433	3539	0	0	6004	0
Flt Permitted				0.950	0.979		0.950					
Satd. Flow (perm)	0	0	0	1522	4705	1583	3433	3539	0	0	6004	0
Satd. Flow (RTOR)						285					129	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.96	0.88	0.92	0.90	0.92	0.92	0.86	0.95
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	285	652	303	549	662	0	0	1155	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					4 12		1	1 2			2	
Permitted Phases				4 12		4 12						
Total Split (s)							46.0				38.0	
Total Lost Time (s)							7.0				7.0	
Act Effct Green (s)				30.8	30.8	30.8	38.4	75.2			29.8	
Actuated g/C Ratio				0.26	0.26	0.26	0.32	0.63			0.25	
v/c Ratio				0.73	0.54	0.49	0.50	0.30			0.97dr	
Control Delay				53.6	40.7	8.4	19.1	1.1			39.6	
Queue Delay				0.0	0.0	0.0	1.1	0.6			0.0	
Total Delay				53.6	40.7	8.4	20.3	1.7			39.6	
LOS				D	D	A	C	A			D	
Approach Delay					35.8			10.1			39.6	
Approach LOS					D			B			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 45 (38%), Referenced to phase 2:NBSB and 5:, Start of Yellow	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 28.4	Intersection LOS: C
Intersection Capacity Utilization 60.8%	ICU Level of Service B
Analysis Period (min) 15	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

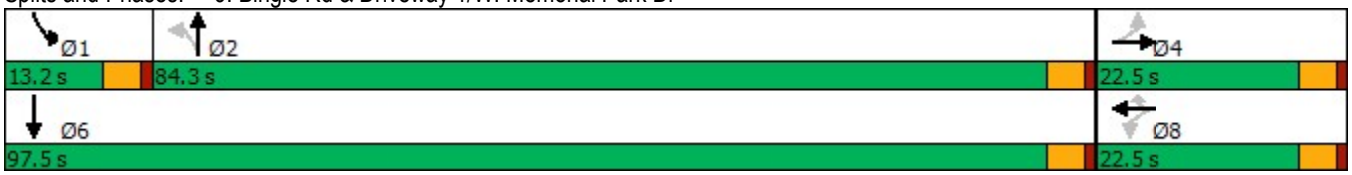
Splits and Phases: 6: I-10 WBFR & Bingle Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	29	0	24	1	648	146	46	971	0
Future Volume (vph)	0	0	0	29	0	24	1	648	146	46	971	0
Satd. Flow (prot)	0	1863	0	0	1770	1583	0	3426	0	1770	3539	0
Flt Permitted					0.757			0.955		0.950		
Satd. Flow (perm)	0	1863	0	0	1410	1583	0	3272	0	1770	3539	0
Satd. Flow (RTOR)						55		60				
Peak Hour Factor	0.92	0.92	0.92	0.60	0.92	0.67	0.92	0.93	0.78	0.72	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	48	36	0	885	0	64	1055	0
Turn Type				Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2					
Total Split (s)	22.5	22.5		22.5	22.5	22.5	84.3	84.3		13.2	97.5	
Total Lost Time (s)		4.5			4.5	4.5		4.5		4.5	4.5	
Act Effct Green (s)					9.1	9.1		80.1		8.7	94.3	
Actuated g/C Ratio					0.08	0.08		0.73		0.08	0.86	
v/c Ratio					0.41	0.20		0.37		0.45	0.35	
Control Delay					58.8	8.3		6.0		60.8	2.4	
Queue Delay					0.0	0.0		0.0		0.0	0.0	
Total Delay					58.8	8.3		6.0		60.8	2.4	
LOS					E	A		A		E	A	
Approach Delay					37.1			6.0			5.8	
Approach LOS					D			A			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.2	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 7.1	Intersection LOS: A
Intersection Capacity Utilization 49.9%	ICU Level of Service A
Analysis Period (min) 15	

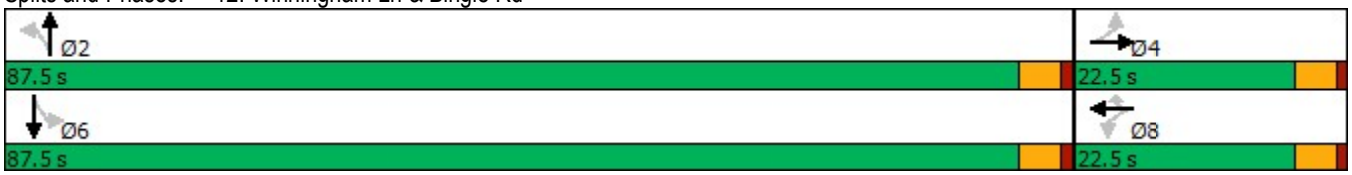
Splits and Phases: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	13	65	2	7	2	642	26	2	936	2
Future Volume (vph)	0	0	13	65	2	7	2	642	26	2	936	2
Satd. Flow (prot)	0	1611	0	0	1779	1583	1770	1852	0	1770	1861	0
Flt Permitted					0.722		0.242			0.339		
Satd. Flow (perm)	0	1611	0	0	1345	1583	451	1852	0	631	1861	0
Satd. Flow (RTOR)		201				15		6			1	
Peak Hour Factor	0.92	0.92	0.65	0.86	0.50	0.88	0.50	0.89	0.81	0.25	0.96	0.50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	80	8	4	753	0	8	979	0
Turn Type		NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	22.5	22.5		22.5	22.5	22.5	87.5	87.5		87.5	87.5	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Act Effct Green (s)		11.3			11.5	11.5	87.1	87.1		87.1	87.1	
Actuated g/C Ratio		0.11			0.11	0.11	0.83	0.83		0.83	0.83	
v/c Ratio		0.06			0.54	0.04	0.01	0.49		0.02	0.63	
Control Delay		0.3			57.1	12.0	3.0	4.8		3.0	6.8	
Queue Delay		0.0			0.0	0.0	0.0	0.4		0.0	0.0	
Total Delay		0.3			57.1	12.0	3.0	5.2		3.0	6.8	
LOS		A			E	B	A	A		A	A	
Approach Delay		0.3			53.0			5.2			6.8	
Approach LOS		A			D			A			A	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 104.4	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 8.3	Intersection LOS: A
Intersection Capacity Utilization 67.3%	ICU Level of Service C
Analysis Period (min) 15	

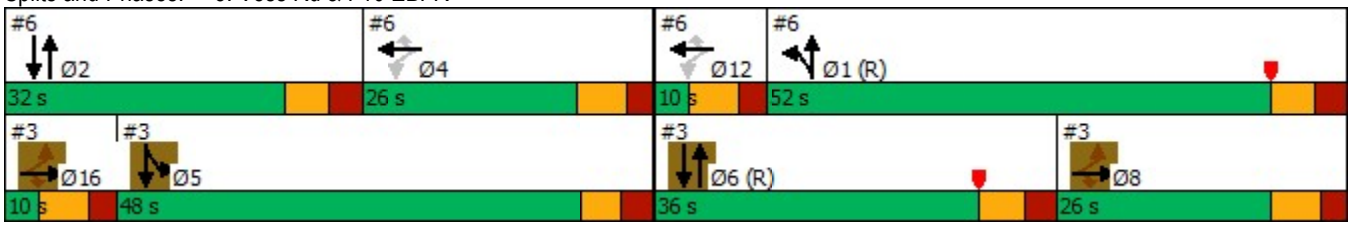
Splits and Phases: 12: Winningham Ln & Bingle Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	401	346	204	0	0	0	0	782	549	296	632	0
Future Volume (vph)	401	346	204	0	0	0	0	782	549	296	632	0
Satd. Flow (prot)	1522	4724	1583	0	0	0	0	6017	0	3433	3539	0
Flt Permitted	0.950	0.983								0.950		
Satd. Flow (perm)	1522	4724	1583	0	0	0	0	6017	0	3433	3539	0
Satd. Flow (RTOR)			227					138				
Peak Hour Factor	0.87	0.82	0.89	0.92	0.92	0.92	0.92	0.89	0.90	0.94	0.80	0.92
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	230	653	229	0	0	0	0	1489	0	315	790	0
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8 16						6		5	5 6	
Permitted Phases	8 16		8 16									
Total Split (s)								36.0		48.0		
Total Lost Time (s)								7.0		6.5		
Act Effct Green (s)	28.7	28.7	28.7					30.4		40.4	77.8	
Actuated g/C Ratio	0.24	0.24	0.24					0.25		0.34	0.65	
v/c Ratio	0.63	0.58	0.42					1.19dr		0.27	0.34	
Control Delay	49.8	42.6	7.3					49.4		15.3	1.5	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.9	
Total Delay	49.8	42.6	7.3					49.4		15.3	2.3	
LOS	D	D	A					D		B	A	
Approach Delay		36.8						49.4			6.0	
Approach LOS		D						D			A	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 25 (21%), Referenced to phase 1:NBTL and 6:, Start of Yellow		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.91		
Intersection Signal Delay: 32.7	Intersection LOS: C	
Intersection Capacity Utilization 61.6%	ICU Level of Service B	
Analysis Period (min) 15		
dr Defacto Right Lane. Recode with 1 though lane as a right lane.		

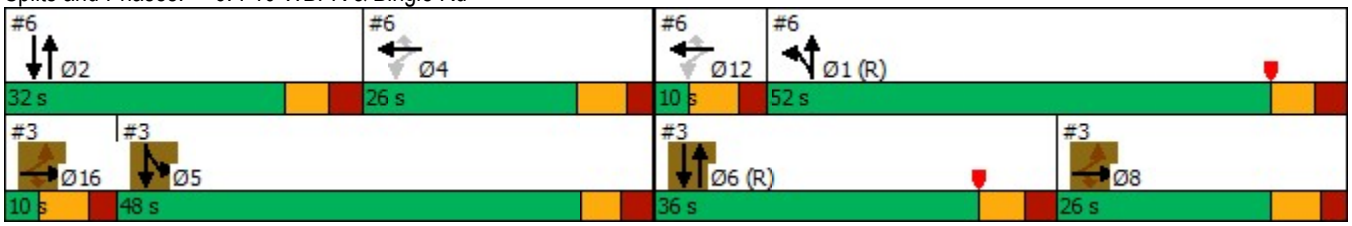
Splits and Phases: 3: Voss Rd & I-10 EBFR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	425	552	325	562	621	0	0	484	391
Future Volume (vph)	0	0	0	425	552	325	562	621	0	0	484	391
Satd. Flow (prot)	0	0	0	1522	4743	1583	3433	3539	0	0	6030	0
Flt Permitted				0.950	0.987		0.950					
Satd. Flow (perm)	0	0	0	1522	4743	1583	3433	3539	0	0	6030	0
Satd. Flow (RTOR)						294					99	
Peak Hour Factor	0.92	0.92	0.92	0.89	0.93	0.91	0.94	0.96	0.92	0.92	0.79	0.97
Shared Lane Traffic (%)				45%								
Lane Group Flow (vph)	0	0	0	263	809	357	598	647	0	0	1016	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					4 12		1	1 2			2	
Permitted Phases				4 12		4 12						
Total Split (s)							52.0				32.0	
Total Lost Time (s)							7.0				7.0	
Act Effct Green (s)				30.0	30.0	30.0	45.6	76.0			23.4	
Actuated g/C Ratio				0.25	0.25	0.25	0.38	0.63			0.20	
v/c Ratio				0.69	0.68	0.58	0.46	0.29			1.03dr	
Control Delay				51.9	44.3	12.3	11.6	1.0			47.2	
Queue Delay				0.0	0.0	0.0	1.0	0.6			0.0	
Total Delay				51.9	44.3	12.3	12.6	1.5			47.2	
LOS				D	D	B	B	A			D	
Approach Delay					37.7			6.9			47.2	
Approach LOS					D			A			D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 25 (21%), Referenced to phase 1:NBTL and 6:, Start of Yellow			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 29.9		Intersection LOS: C	
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			

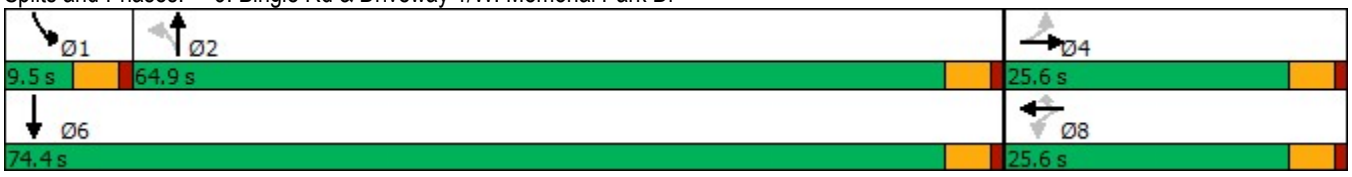
Splits and Phases: 6: I-10 WBFR & Bingle Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	177	0	54	0	920	86	42	768	0
Future Volume (vph)	0	0	0	177	0	54	0	920	86	42	768	0
Satd. Flow (prot)	0	1863	0	0	1770	1583	0	3493	0	1770	3539	0
Flt Permitted					0.757					0.950		
Satd. Flow (perm)	0	1863	0	0	1410	1583	0	3493	0	1770	3539	0
Satd. Flow (RTOR)						79		19				
Peak Hour Factor	0.92	0.92	0.92	0.70	0.92	0.68	0.92	0.94	0.90	0.75	0.93	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	253	79	0	1075	0	56	826	0
Turn Type				Perm	NA	Perm		NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2					
Total Split (s)	25.6	25.6		25.6	25.6	25.6	64.9	64.9		9.5	74.4	
Total Lost Time (s)		4.5			4.5	4.5		4.5		4.5	4.5	
Act Effct Green (s)					20.1	20.1		63.1		5.0	70.7	
Actuated g/C Ratio					0.20	0.20		0.63		0.05	0.71	
v/c Ratio					0.89	0.21		0.49		0.64	0.33	
Control Delay					71.2	9.1		11.1		78.2	6.1	
Queue Delay					0.0	0.0		0.0		0.0	0.0	
Total Delay					71.2	9.1		11.1		78.2	6.1	
LOS					E	A		B		E	A	
Approach Delay					56.4			11.1			10.7	
Approach LOS					E			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 99.8	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 17.5	Intersection LOS: B
Intersection Capacity Utilization 52.2%	ICU Level of Service A
Analysis Period (min) 15	

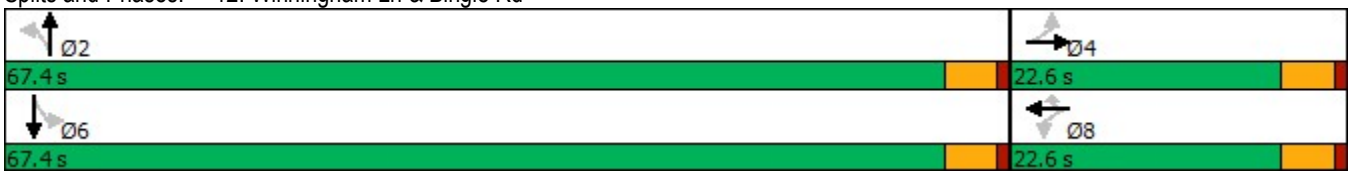
Splits and Phases: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	7	37	0	9	10	909	51	2	772	5
Future Volume (vph)	4	0	7	37	0	9	10	909	51	2	772	5
Satd. Flow (prot)	0	1639	0	0	1770	1583	1770	1848	0	1770	1861	0
Flt Permitted		0.932			0.742		0.312			0.216		
Satd. Flow (perm)	0	1540	0	0	1382	1583	581	1848	0	402	1861	0
Satd. Flow (RTOR)		20				20		8			1	
Peak Hour Factor	1.00	0.92	0.35	0.84	0.92	0.45	0.42	0.91	0.85	0.25	0.94	0.63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	44	20	24	1059	0	8	829	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	22.6	22.6		22.6	22.6	22.6	67.4	67.4		67.4	67.4	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Act Effct Green (s)		7.8			8.0	8.0	69.1	69.1		69.1	69.1	
Actuated g/C Ratio		0.10			0.10	0.10	0.86	0.86		0.86	0.86	
v/c Ratio		0.14			0.32	0.11	0.05	0.66		0.02	0.52	
Control Delay		18.4			39.2	15.9	2.5	6.4		2.5	4.2	
Queue Delay		0.0			0.0	0.0	0.0	0.3		0.0	0.0	
Total Delay		18.4			39.2	15.9	2.5	6.7		2.5	4.2	
LOS		B			D	B	A	A		A	A	
Approach Delay		18.4			31.9			6.6			4.2	
Approach LOS		B			C			A			A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 79.9	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 6.5	Intersection LOS: A
Intersection Capacity Utilization 70.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Winningham Ln & Bingle Rd

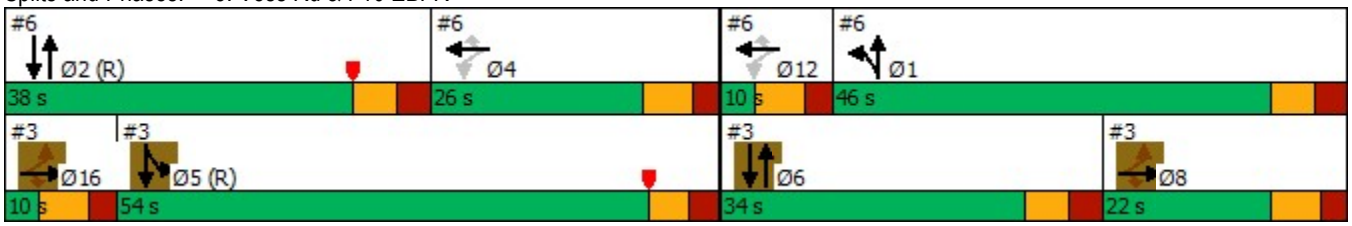


SYNCHRO OUTPUT
2027 NO BUILD CONDITIONS AM AND PM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	448	284	221	0	0	0	0	676	477	364	718	0
Future Volume (vph)	448	284	221	0	0	0	0	676	477	364	718	0
Satd. Flow (prot)	1522	4705	1583	0	0	0	0	5979	0	3433	3539	0
Flt Permitted	0.950	0.979								0.950		
Satd. Flow (perm)	1522	4705	1583	0	0	0	0	5979	0	3433	3539	0
Satd. Flow (RTOR)			235					156				
Peak Hour Factor	0.95	0.90	0.94	0.92	0.92	0.92	0.92	0.89	0.78	0.87	0.94	0.92
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	236	552	235	0	0	0	0	1372	0	418	764	0
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8 16						6		5	5 6	
Permitted Phases	8 16		8 16									
Total Split (s)								34.0		54.0		
Total Lost Time (s)								7.0		6.5		
Act Effct Green (s)	25.4	25.4	25.4					26.9		47.2	81.1	
Actuated g/C Ratio	0.21	0.21	0.21					0.22		0.39	0.68	
v/c Ratio	0.73	0.55	0.45					1.27dr		0.31	0.32	
Control Delay	59.0	44.9	8.0					53.4		12.9	1.0	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.5	
Total Delay	59.0	44.9	8.0					53.4		12.9	1.5	
LOS	E	D	A					D		B	A	
Approach Delay		39.7						53.4			5.5	
Approach LOS		D						D			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 45 (38%), Referenced to phase 2:NBSB and 5:, Start of Yellow	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 33.6	Intersection LOS: C
Intersection Capacity Utilization 61.2%	ICU Level of Service B
Analysis Period (min) 15	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

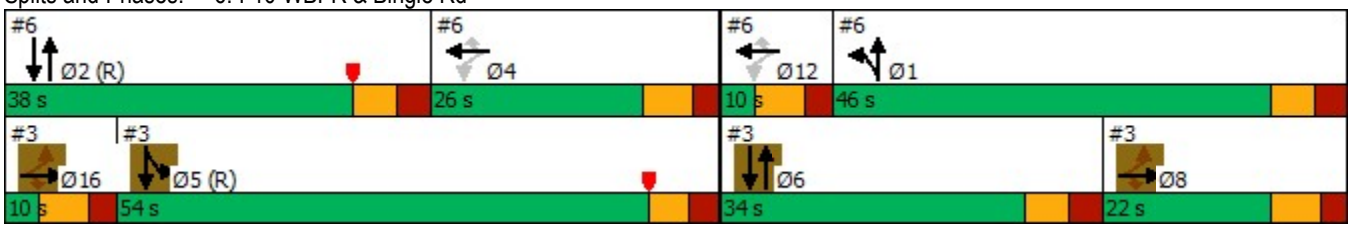
Splits and Phases: 3: Voss Rd & I-10 EBFR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	507	356	270	510	602	0	0	583	465
Future Volume (vph)	0	0	0	507	356	270	510	602	0	0	583	465
Satd. Flow (prot)	0	0	0	1522	4705	1583	3433	3539	0	0	6004	0
Flt Permitted				0.950	0.979		0.950					
Satd. Flow (perm)	0	0	0	1522	4705	1583	3433	3539	0	0	6004	0
Satd. Flow (RTOR)						281					127	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.96	0.88	0.92	0.90	0.92	0.92	0.86	0.95
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	288	659	307	554	669	0	0	1167	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					4 12		1	1 2			2	
Permitted Phases				4 12		4 12						
Total Split (s)							46.0				38.0	
Total Lost Time (s)							7.0				7.0	
Act Effct Green (s)				30.6	30.6	30.6	38.5	75.4			29.9	
Actuated g/C Ratio				0.26	0.26	0.26	0.32	0.63			0.25	
v/c Ratio				0.74	0.55	0.50	0.50	0.30			0.99dr	
Control Delay				54.6	41.0	9.1	19.2	1.1			39.8	
Queue Delay				0.0	0.0	0.0	1.2	0.7			0.0	
Total Delay				54.6	41.0	9.1	20.4	1.8			39.8	
LOS				D	D	A	C	A			D	
Approach Delay					36.3			10.2			39.8	
Approach LOS					D			B			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 45 (38%), Referenced to phase 2:NBSB and 5:, Start of Yellow	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 28.7	Intersection LOS: C
Intersection Capacity Utilization 61.2%	ICU Level of Service B
Analysis Period (min) 15	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

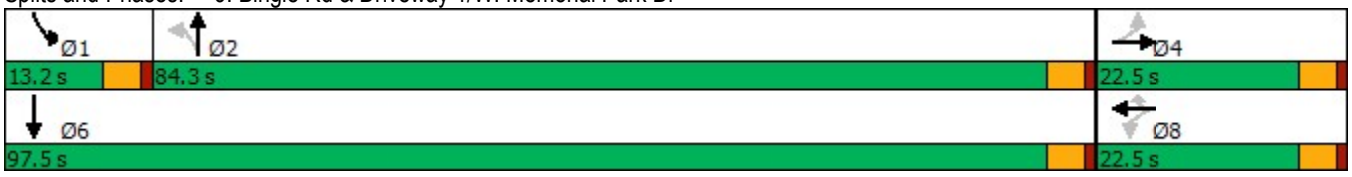
Splits and Phases: 6: I-10 WBFR & Bingle Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	29	0	24	1	654	147	46	981	0
Future Volume (vph)	0	0	0	29	0	24	1	654	147	46	981	0
Satd. Flow (prot)	0	1863	0	0	1770	1583	0	3426	0	1770	3539	0
Flt Permitted					0.757			0.955		0.950		
Satd. Flow (perm)	0	1863	0	0	1410	1583	0	3272	0	1770	3539	0
Satd. Flow (RTOR)						55		60				
Peak Hour Factor	0.92	0.92	0.92	0.60	0.92	0.67	0.92	0.93	0.78	0.72	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	48	36	0	892	0	64	1066	0
Turn Type				Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2					
Total Split (s)	22.5	22.5		22.5	22.5	22.5	84.3	84.3		13.2	97.5	
Total Lost Time (s)		4.5			4.5	4.5		4.5		4.5	4.5	
Act Effct Green (s)					9.1	9.1		80.1		8.7	94.3	
Actuated g/C Ratio					0.08	0.08		0.73		0.08	0.86	
v/c Ratio					0.41	0.20		0.37		0.45	0.35	
Control Delay					58.8	8.3		6.0		60.8	2.4	
Queue Delay					0.0	0.0		0.0		0.0	0.0	
Total Delay					58.8	8.3		6.0		60.8	2.4	
LOS					E	A		A		E	A	
Approach Delay					37.1			6.0			5.7	
Approach LOS					D			A			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.2	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 7.1	Intersection LOS: A
Intersection Capacity Utilization 49.9%	ICU Level of Service A
Analysis Period (min) 15	

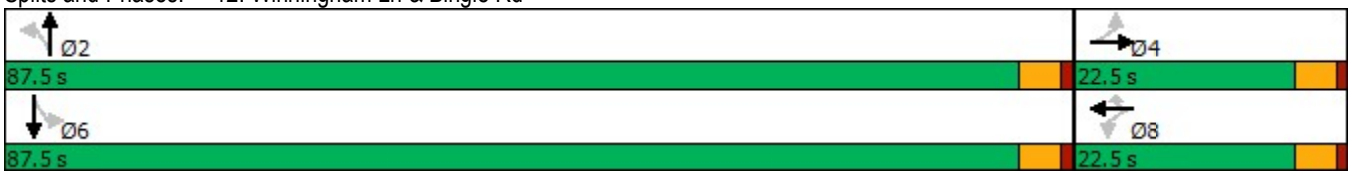
Splits and Phases: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	13	66	2	7	2	648	26	2	945	2
Future Volume (vph)	0	0	13	66	2	7	2	648	26	2	945	2
Satd. Flow (prot)	0	1611	0	0	1779	1583	1770	1852	0	1770	1861	0
Flt Permitted					0.722		0.238			0.335		
Satd. Flow (perm)	0	1611	0	0	1345	1583	443	1852	0	624	1861	0
Satd. Flow (RTOR)		198				15		6			1	
Peak Hour Factor	0.92	0.92	0.65	0.86	0.50	0.88	0.50	0.89	0.81	0.25	0.96	0.50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	81	8	4	760	0	8	988	0
Turn Type		NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	22.5	22.5		22.5	22.5	22.5	87.5	87.5		87.5	87.5	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Act Effct Green (s)		11.3			11.6	11.6	87.0	87.0		87.0	87.0	
Actuated g/C Ratio		0.11			0.11	0.11	0.83	0.83		0.83	0.83	
v/c Ratio		0.06			0.55	0.04	0.01	0.49		0.02	0.64	
Control Delay		0.3			57.2	12.0	3.0	4.9		3.0	7.0	
Queue Delay		0.0			0.0	0.0	0.0	0.4		0.0	0.0	
Total Delay		0.3			57.2	12.0	3.0	5.3		3.0	7.0	
LOS		A			E	B	A	A		A	A	
Approach Delay		0.3			53.2			5.3			6.9	
Approach LOS		A			D			A			A	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 104.4	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 8.4	Intersection LOS: A
Intersection Capacity Utilization 67.8%	ICU Level of Service C
Analysis Period (min) 15	

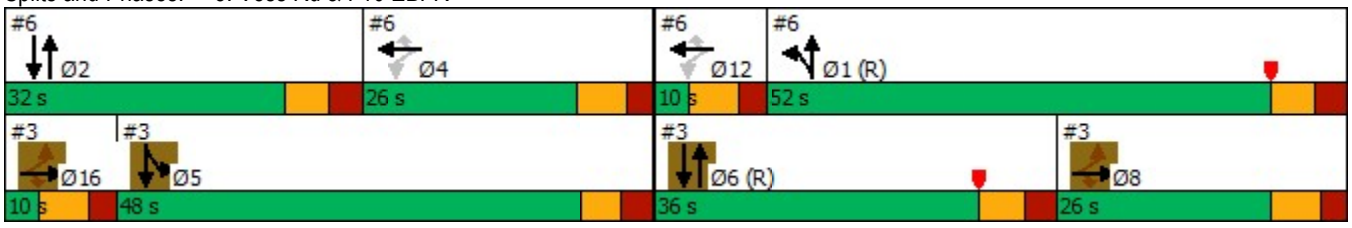
Splits and Phases: 12: Winningham Ln & Bingle Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	349	206	0	0	0	0	790	554	299	638	0
Future Volume (vph)	405	349	206	0	0	0	0	790	554	299	638	0
Satd. Flow (prot)	1522	4724	1583	0	0	0	0	6017	0	3433	3539	0
Flt Permitted	0.950	0.983								0.950		
Satd. Flow (perm)	1522	4724	1583	0	0	0	0	6017	0	3433	3539	0
Satd. Flow (RTOR)			227					138				
Peak Hour Factor	0.87	0.82	0.89	0.92	0.92	0.92	0.92	0.89	0.90	0.94	0.80	0.92
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	233	659	231	0	0	0	0	1504	0	318	798	0
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8 16						6		5	5 6	
Permitted Phases	8 16		8 16									
Total Split (s)								36.0		48.0		
Total Lost Time (s)								7.0		6.5		
Act Effct Green (s)	28.7	28.7	28.7					30.3		40.4	77.8	
Actuated g/C Ratio	0.24	0.24	0.24					0.25		0.34	0.65	
v/c Ratio	0.64	0.58	0.42					1.21dr		0.27	0.35	
Control Delay	50.1	42.7	7.6					50.7		15.7	1.4	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.9	
Total Delay	50.1	42.7	7.6					50.7		15.7	2.4	
LOS	D	D	A					D		B	A	
Approach Delay		37.0						50.7			6.2	
Approach LOS		D						D			A	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 25 (21%), Referenced to phase 1:NBTL and 6:, Start of Yellow		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.93		
Intersection Signal Delay: 33.3	Intersection LOS: C	
Intersection Capacity Utilization 62.1%	ICU Level of Service B	
Analysis Period (min) 15		
dr Defacto Right Lane. Recode with 1 though lane as a right lane.		

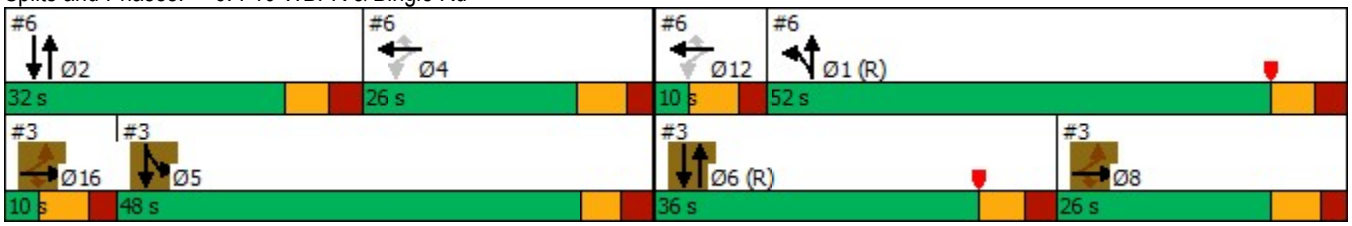
Splits and Phases: 3: Voss Rd & I-10 EBFR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	429	558	328	568	627	0	0	489	395
Future Volume (vph)	0	0	0	429	558	328	568	627	0	0	489	395
Satd. Flow (prot)	0	0	0	1522	4743	1583	3433	3539	0	0	6023	0
Flt Permitted				0.950	0.987		0.950					
Satd. Flow (perm)	0	0	0	1522	4743	1583	3433	3539	0	0	6023	0
Satd. Flow (RTOR)						291					97	
Peak Hour Factor	0.92	0.92	0.92	0.89	0.93	0.91	0.94	0.96	0.92	0.92	0.79	0.97
Shared Lane Traffic (%)				45%								
Lane Group Flow (vph)	0	0	0	265	817	360	604	653	0	0	1026	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					4 12		1	1 2			2	
Permitted Phases				4 12		4 12						
Total Split (s)							52.0				32.0	
Total Lost Time (s)							7.0				7.0	
Act Effct Green (s)				30.0	30.0	30.0	45.3	76.0			23.6	
Actuated g/C Ratio				0.25	0.25	0.25	0.38	0.63			0.20	
v/c Ratio				0.70	0.69	0.59	0.47	0.29			1.03dr	
Control Delay				52.2	44.5	12.9	11.8	1.0			47.2	
Queue Delay				0.0	0.0	0.0	1.1	0.6			0.0	
Total Delay				52.2	44.5	12.9	12.9	1.6			47.2	
LOS				D	D	B	B	A			D	
Approach Delay					38.1			7.0			47.3	
Approach LOS					D			A			D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 25 (21%), Referenced to phase 1:NBTL and 6:, Start of Yellow			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 30.1		Intersection LOS: C	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			

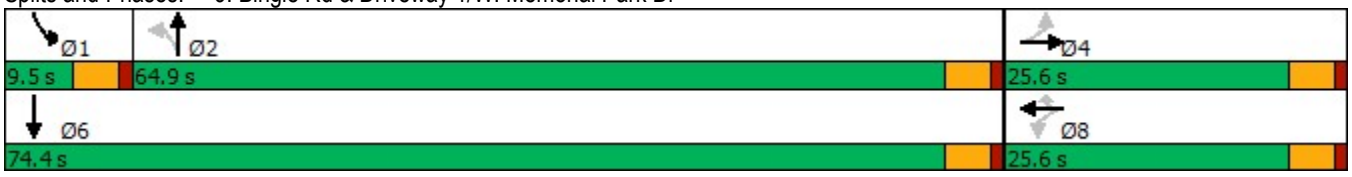
Splits and Phases: 6: I-10 WBFR & Bingle Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	179	0	55	0	929	87	42	776	0
Future Volume (vph)	0	0	0	179	0	55	0	929	87	42	776	0
Satd. Flow (prot)	0	1863	0	0	1770	1583	0	3493	0	1770	3539	0
Flt Permitted					0.757					0.950		
Satd. Flow (perm)	0	1863	0	0	1410	1583	0	3493	0	1770	3539	0
Satd. Flow (RTOR)						81		19				
Peak Hour Factor	0.92	0.92	0.92	0.70	0.92	0.68	0.92	0.94	0.90	0.75	0.93	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	256	81	0	1085	0	56	834	0
Turn Type				Perm	NA	Perm		NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2					
Total Split (s)	25.6	25.6		25.6	25.6	25.6	64.9	64.9		9.5	74.4	
Total Lost Time (s)		4.5			4.5	4.5		4.5		4.5	4.5	
Act Effct Green (s)					20.2	20.2		63.0		5.0	70.6	
Actuated g/C Ratio					0.20	0.20		0.63		0.05	0.71	
v/c Ratio					0.90	0.21		0.49		0.64	0.33	
Control Delay					72.5	9.0		11.2		78.2	6.1	
Queue Delay					0.0	0.0		0.0		0.0	0.0	
Total Delay					72.5	9.0		11.2		78.2	6.1	
LOS					E	A		B		E	A	
Approach Delay					57.3			11.2			10.7	
Approach LOS					E			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 99.8	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 52.3%	ICU Level of Service A
Analysis Period (min) 15	

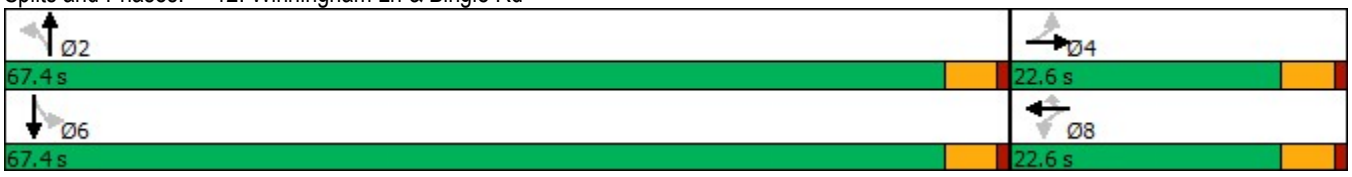
Splits and Phases: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	7	37	0	9	10	918	52	2	780	5
Future Volume (vph)	4	0	7	37	0	9	10	918	52	2	780	5
Satd. Flow (prot)	0	1639	0	0	1770	1583	1770	1846	0	1770	1861	0
Flt Permitted		0.932			0.742		0.308			0.212		
Satd. Flow (perm)	0	1540	0	0	1382	1583	574	1846	0	395	1861	0
Satd. Flow (RTOR)		20				20		8			1	
Peak Hour Factor	1.00	0.92	0.35	0.84	0.92	0.45	0.42	0.91	0.85	0.25	0.94	0.63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	44	20	24	1070	0	8	838	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	22.6	22.6		22.6	22.6	22.6	67.4	67.4		67.4	67.4	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Act Effct Green (s)		7.8			8.0	8.0	69.1	69.1		69.1	69.1	
Actuated g/C Ratio		0.10			0.10	0.10	0.86	0.86		0.86	0.86	
v/c Ratio		0.14			0.32	0.11	0.05	0.67		0.02	0.52	
Control Delay		18.4			39.2	15.9	2.5	6.6		2.5	4.3	
Queue Delay		0.0			0.0	0.0	0.0	0.3		0.0	0.0	
Total Delay		18.4			39.2	15.9	2.5	6.9		2.5	4.3	
LOS		B			D	B	A	A		A	A	
Approach Delay		18.4			31.9			6.8			4.3	
Approach LOS		B			C			A			A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 79.9	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 6.7	Intersection LOS: A
Intersection Capacity Utilization 71.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Winningham Ln & Bingle Rd

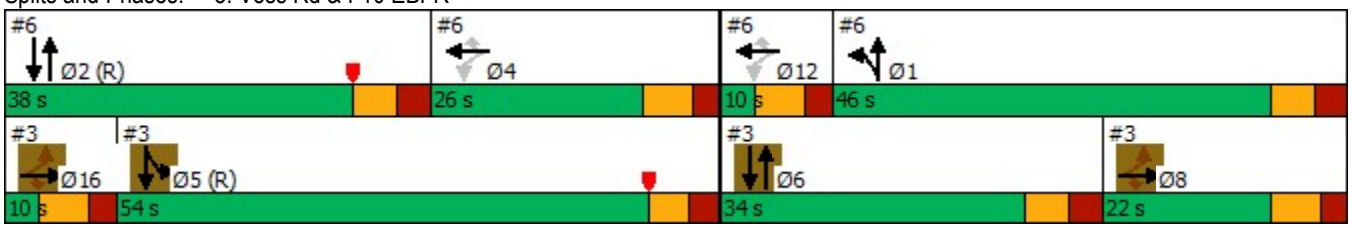


SYNCHRO OUTPUT
2027 BUILD CONDITIONS AM AND PM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	451	284	221	0	0	0	0	681	477	366	720	0
Future Volume (vph)	451	284	221	0	0	0	0	681	477	366	720	0
Satd. Flow (prot)	1522	4705	1583	0	0	0	0	5979	0	3433	3539	0
Flt Permitted	0.950	0.979								0.950		
Satd. Flow (perm)	1522	4705	1583	0	0	0	0	5979	0	3433	3539	0
Satd. Flow (RTOR)			235					155				
Peak Hour Factor	0.95	0.90	0.94	0.92	0.92	0.92	0.92	0.89	0.78	0.87	0.94	0.92
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	237	554	235	0	0	0	0	1377	0	421	766	0
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8 16						6		5	5 6	
Permitted Phases	8 16		8 16									
Total Split (s)								34.0		54.0		
Total Lost Time (s)								7.0		6.5		
Act Effct Green (s)	25.4	25.4	25.4					27.0		47.1	81.1	
Actuated g/C Ratio	0.21	0.21	0.21					0.22		0.39	0.68	
v/c Ratio	0.74	0.56	0.45					1.27dr		0.31	0.32	
Control Delay	59.2	44.9	8.0					53.8		12.9	1.0	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.5	
Total Delay	59.2	44.9	8.0					53.8		12.9	1.5	
LOS	E	D	A					D		B	A	
Approach Delay		39.7						53.8			5.6	
Approach LOS		D						D			A	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 45 (38%), Referenced to phase 2:NBSB and 5:, Start of Yellow		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.94		
Intersection Signal Delay: 33.8	Intersection LOS: C	
Intersection Capacity Utilization 61.3%	ICU Level of Service B	
Analysis Period (min) 15		
dr Defacto Right Lane. Recode with 1 though lane as a right lane.		

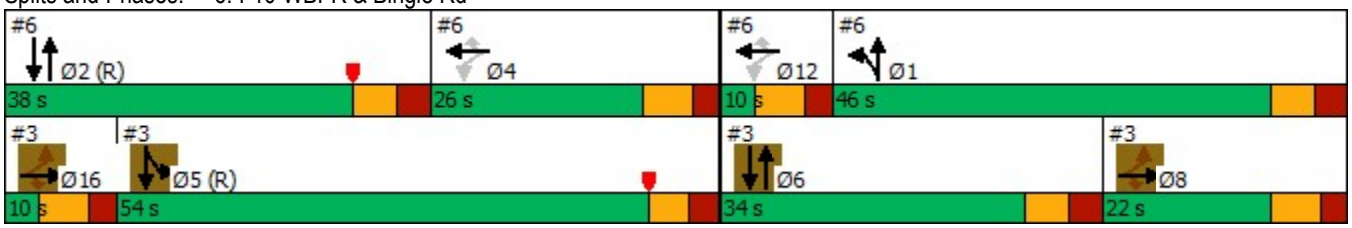
Splits and Phases: 3: Voss Rd & I-10 EBFR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	507	356	275	510	610	0	0	587	466
Future Volume (vph)	0	0	0	507	356	275	510	610	0	0	587	466
Satd. Flow (prot)	0	0	0	1522	4705	1583	3433	3539	0	0	6004	0
Flt Permitted				0.950	0.979		0.950					
Satd. Flow (perm)	0	0	0	1522	4705	1583	3433	3539	0	0	6004	0
Satd. Flow (RTOR)						276					127	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.96	0.88	0.92	0.90	0.92	0.92	0.86	0.95
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	0	0	288	659	313	554	678	0	0	1174	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					4 12		1	1 2			2	
Permitted Phases				4 12		4 12						
Total Split (s)							46.0				38.0	
Total Lost Time (s)							7.0				7.0	
Act Effct Green (s)				30.5	30.5	30.5	38.6	75.5			29.9	
Actuated g/C Ratio				0.25	0.25	0.25	0.32	0.63			0.25	
v/c Ratio				0.75	0.55	0.51	0.50	0.30			0.99dr	
Control Delay				54.7	41.1	10.0	19.2	1.1			40.0	
Queue Delay				0.0	0.0	0.0	1.2	0.7			0.0	
Total Delay				54.7	41.1	10.0	20.4	1.8			40.0	
LOS				D	D	B	C	A			D	
Approach Delay					36.5			10.2			40.0	
Approach LOS					D			B			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 45 (38%), Referenced to phase 2:NBSB and 5:, Start of Yellow	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 28.8	Intersection LOS: C
Intersection Capacity Utilization 61.3%	ICU Level of Service B
Analysis Period (min) 15	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

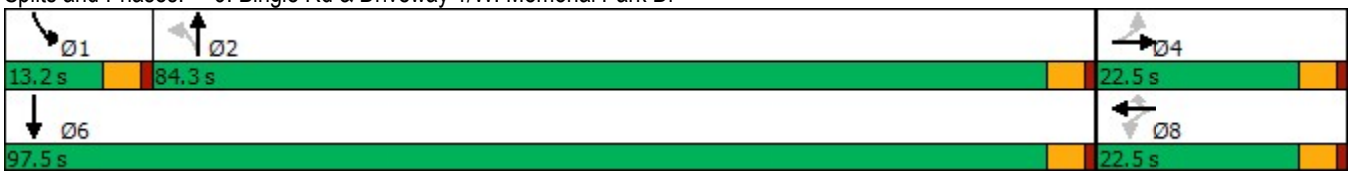
Splits and Phases: 6: I-10 WBFR & Bingle Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1	3	29	1	24	15	653	147	46	980	19
Future Volume (vph)	9	1	3	29	1	24	15	653	147	46	980	19
Satd. Flow (prot)	0	1747	0	0	1775	1583	1770	3426	0	1770	3529	0
Flt Permitted		0.784			0.721		0.263			0.950		
Satd. Flow (perm)	0	1418	0	0	1343	1583	490	3426	0	1770	3529	0
Satd. Flow (RTOR)		3				55		60			5	
Peak Hour Factor	0.92	0.92	0.92	0.60	0.92	0.67	0.92	0.93	0.78	0.72	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	49	36	16	890	0	64	1086	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2					
Total Split (s)	22.5	22.5		22.5	22.5	22.5	84.3	84.3		13.2	97.5	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Act Effct Green (s)		9.3			9.3	9.3	80.1	80.1		8.7	94.3	
Actuated g/C Ratio		0.09			0.09	0.09	0.73	0.73		0.08	0.86	
v/c Ratio		0.11			0.43	0.20	0.04	0.35		0.45	0.36	
Control Delay		41.7			60.1	8.2	5.7	5.9		61.0	2.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		41.7			60.1	8.2	5.7	5.9		61.0	2.5	
LOS		D			E	A	A	A		E	A	
Approach Delay		41.7			38.1			5.9			5.8	
Approach LOS		D			D			A			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.4	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 7.3	Intersection LOS: A
Intersection Capacity Utilization 50.5%	ICU Level of Service A
Analysis Period (min) 15	

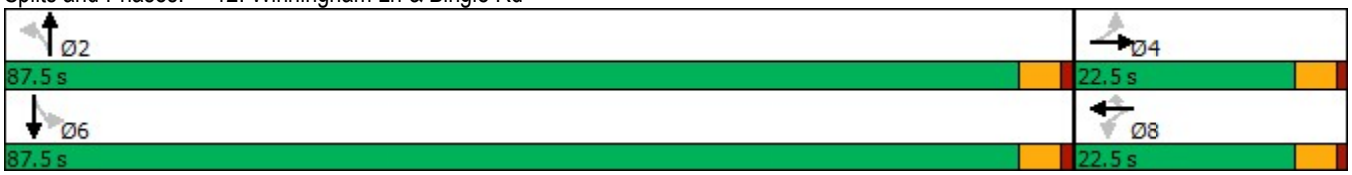
Splits and Phases: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	13	68	2	7	2	655	27	2	961	2
Future Volume (vph)	0	0	13	68	2	7	2	655	27	2	961	2
Satd. Flow (prot)	0	1611	0	0	1779	1583	1770	1852	0	1770	1861	0
Flt Permitted					0.722		0.230			0.331		
Satd. Flow (perm)	0	1611	0	0	1345	1583	428	1852	0	617	1861	0
Satd. Flow (RTOR)		192				15		6			1	
Peak Hour Factor	0.92	0.92	0.65	0.86	0.50	0.88	0.50	0.89	0.81	0.25	0.96	0.50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	83	8	4	769	0	8	1005	0
Turn Type		NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	22.5	22.5		22.5	22.5	22.5	87.5	87.5		87.5	87.5	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Act Effct Green (s)		11.5			11.7	11.7	87.0	87.0		87.0	87.0	
Actuated g/C Ratio		0.11			0.11	0.11	0.83	0.83		0.83	0.83	
v/c Ratio		0.06			0.55	0.04	0.01	0.50		0.02	0.65	
Control Delay		0.3			57.4	12.0	3.0	5.0		3.0	7.3	
Queue Delay		0.0			0.0	0.0	0.0	0.4		0.0	0.0	
Total Delay		0.3			57.4	12.0	3.0	5.4		3.0	7.3	
LOS		A			E	B	A	A		A	A	
Approach Delay		0.3			53.4			5.4			7.2	
Approach LOS		A			D			A			A	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 104.6	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 8.6	Intersection LOS: A
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Winningham Ln & Bingle Rd



Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	0	4	1011	1	0	815
Future Vol, veh/h	0	4	1011	1	0	815
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	1099	1	0	886

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	550	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	479	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	479	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

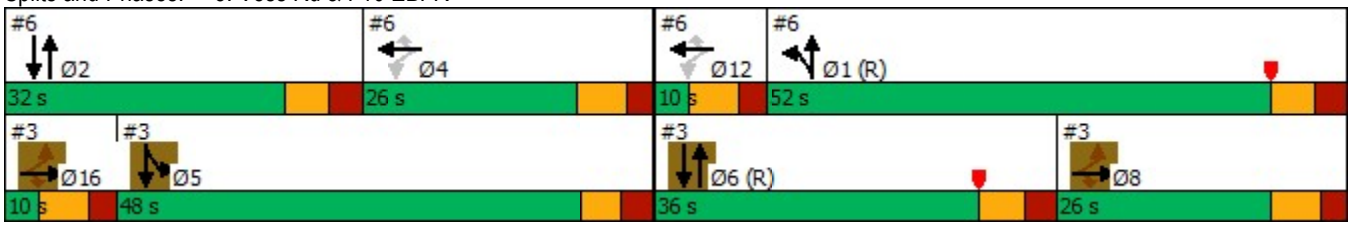
Approach	EB	SE	NW
HCM Control Delay, s	12.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NWT	EBLn1	SET	SER
Capacity (veh/h)	-	479	-	-
HCM Lane V/C Ratio	-	0.009	-	-
HCM Control Delay (s)	-	12.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	413	349	206	0	0	0	0	809	554	313	656	0
Future Volume (vph)	413	349	206	0	0	0	0	809	554	313	656	0
Satd. Flow (prot)	1522	4719	1583	0	0	0	0	6017	0	3433	3539	0
Flt Permitted	0.950	0.982								0.950		
Satd. Flow (perm)	1522	4719	1583	0	0	0	0	6017	0	3433	3539	0
Satd. Flow (RTOR)			227					135				
Peak Hour Factor	0.87	0.82	0.89	0.92	0.92	0.92	0.92	0.89	0.90	0.94	0.80	0.92
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	237	664	231	0	0	0	0	1525	0	333	820	0
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8 16						6		5	5 6	
Permitted Phases	8 16		8 16									
Total Split (s)								36.0		48.0		
Total Lost Time (s)								7.0		6.5		
Act Effct Green (s)	28.7	28.7	28.7					30.0		40.7	77.8	
Actuated g/C Ratio	0.24	0.24	0.24					0.25		0.34	0.65	
v/c Ratio	0.65	0.59	0.42					1.22dr		0.29	0.36	
Control Delay	50.6	42.8	7.6					54.0		15.4	1.4	
Queue Delay	0.0	0.0	0.0					0.0		0.0	1.1	
Total Delay	50.6	42.8	7.6					54.0		15.4	2.5	
LOS	D	D	A					D		B	A	
Approach Delay		37.2						54.0			6.2	
Approach LOS		D						D			A	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 25 (21%), Referenced to phase 1:NBTL and 6:, Start of Yellow		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.95		
Intersection Signal Delay: 34.5	Intersection LOS: C	
Intersection Capacity Utilization 62.6%	ICU Level of Service B	
Analysis Period (min) 15		
dr Defacto Right Lane. Recode with 1 though lane as a right lane.		

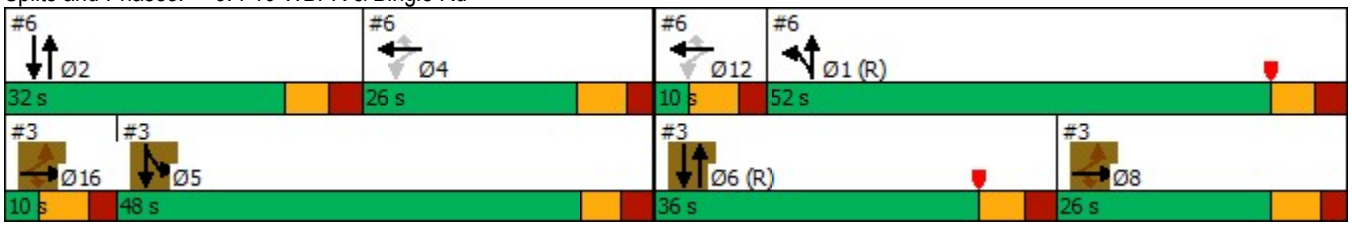
Splits and Phases: 3: Voss Rd & I-10 EBFR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	429	558	343	568	654	0	0	521	402
Future Volume (vph)	0	0	0	429	558	343	568	654	0	0	521	402
Satd. Flow (prot)	0	0	0	1522	4743	1583	3433	3539	0	0	6036	0
Flt Permitted				0.950	0.987		0.950					
Satd. Flow (perm)	0	0	0	1522	4743	1583	3433	3539	0	0	6036	0
Satd. Flow (RTOR)						274					97	
Peak Hour Factor	0.92	0.92	0.92	0.89	0.93	0.91	0.94	0.96	0.92	0.92	0.79	0.97
Shared Lane Traffic (%)				45%								
Lane Group Flow (vph)	0	0	0	265	817	377	604	681	0	0	1073	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					4 12		1	1 2			2	
Permitted Phases				4 12		4 12						
Total Split (s)							52.0				32.0	
Total Lost Time (s)							7.0				7.0	
Act Effct Green (s)				29.9	29.9	29.9	45.0	76.1			24.1	
Actuated g/C Ratio				0.25	0.25	0.25	0.38	0.63			0.20	
v/c Ratio				0.70	0.69	0.63	0.47	0.30			1.03dr	
Control Delay				52.6	44.7	16.5	11.9	1.0			48.1	
Queue Delay				0.0	0.0	0.0	1.2	0.7			0.0	
Total Delay				52.6	44.7	16.5	13.1	1.7			48.1	
LOS				D	D	B	B	A			D	
Approach Delay					38.9			7.0			48.1	
Approach LOS					D			A			D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 25 (21%), Referenced to phase 1:NBTL and 6:, Start of Yellow			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 30.8		Intersection LOS: C	
Intersection Capacity Utilization 62.6%		ICU Level of Service B	
Analysis Period (min) 15			
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			

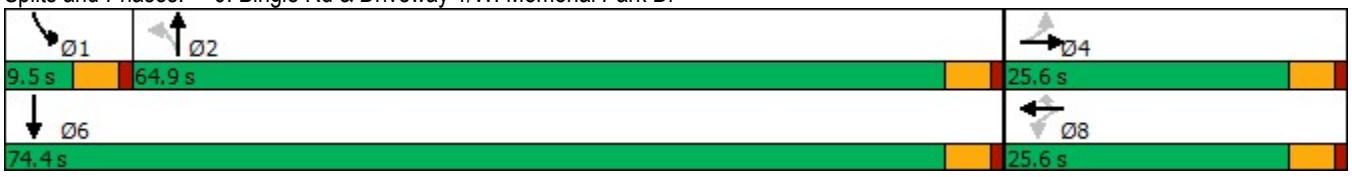
Splits and Phases: 6: I-10 WBFR & Bingle Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	4	9	179	4	55	53	918	87	42	771	36
Future Volume (vph)	35	4	9	179	4	55	53	918	87	42	771	36
Satd. Flow (prot)	0	1751	0	0	1775	1583	1770	3490	0	1770	3514	0
Flt Permitted		0.542			0.734		0.327			0.950		
Satd. Flow (perm)	0	983	0	0	1367	1583	609	3490	0	1770	3514	0
Satd. Flow (RTOR)		10				81		19			11	
Peak Hour Factor	0.92	0.92	0.92	0.70	0.92	0.68	0.92	0.94	0.90	0.75	0.93	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	0	0	260	81	58	1074	0	56	868	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2					
Total Split (s)	25.6	25.6		25.6	25.6	25.6	64.9	64.9		9.5	74.4	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Act Effct Green (s)		20.6			20.6	20.6	62.9	62.9		5.0	70.5	
Actuated g/C Ratio		0.21			0.21	0.21	0.63	0.63		0.05	0.70	
v/c Ratio		0.25			0.93	0.21	0.15	0.49		0.64	0.35	
Control Delay		31.3			78.2	8.9	10.0	11.2		78.4	6.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		31.3			78.2	8.9	10.0	11.2		78.4	6.3	
LOS		C			E	A	A	B		E	A	
Approach Delay		31.3			61.8			11.2			10.6	
Approach LOS		C			E			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100.1	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 56.2%	ICU Level of Service B
Analysis Period (min) 15	

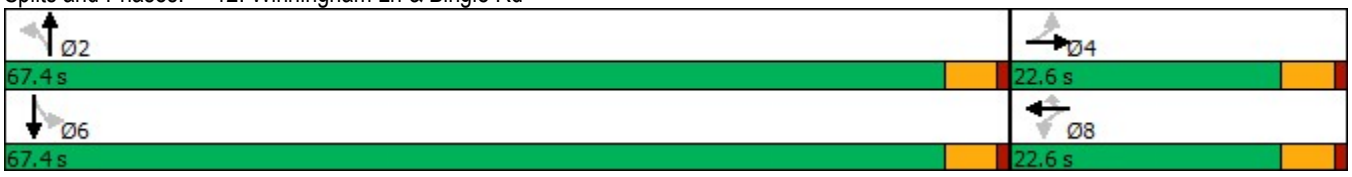
Splits and Phases: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	7	41	0	9	10	943	55	2	807	5
Future Volume (vph)	4	0	7	41	0	9	10	943	55	2	807	5
Satd. Flow (prot)	0	1639	0	0	1770	1583	1770	1846	0	1770	1861	0
Flt Permitted		0.933			0.742		0.294			0.197		
Satd. Flow (perm)	0	1542	0	0	1382	1583	548	1846	0	367	1861	0
Satd. Flow (RTOR)		20				20		8			1	
Peak Hour Factor	1.00	0.92	0.35	0.84	0.92	0.45	0.42	0.91	0.85	0.25	0.94	0.63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	49	20	24	1101	0	8	867	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	22.6	22.6		22.6	22.6	22.6	67.4	67.4		67.4	67.4	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Act Effct Green (s)		8.0			8.3	8.3	68.1	68.1		68.1	68.1	
Actuated g/C Ratio		0.10			0.11	0.11	0.86	0.86		0.86	0.86	
v/c Ratio		0.14			0.34	0.11	0.05	0.69		0.03	0.54	
Control Delay		18.3			39.3	15.9	2.6	7.2		2.5	4.6	
Queue Delay		0.0			0.0	0.0	0.0	0.3		0.0	0.0	
Total Delay		18.3			39.3	15.9	2.6	7.5		2.5	4.6	
LOS		B			D	B	A	A		A	A	
Approach Delay		18.3			32.5			7.4			4.6	
Approach LOS		B			C			A			A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 79	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 7.2	Intersection LOS: A
Intersection Capacity Utilization 72.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Winningham Ln & Bingle Rd



Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	0	35	955	4	0	1058
Future Vol, veh/h	0	35	955	4	0	1058
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	38	1038	4	0	1150

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	521	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	500	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	500	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	12.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NWT	EBLn1	SET	SER
Capacity (veh/h)	-	500	-	-
HCM Lane V/C Ratio	-	0.076	-	-
HCM Control Delay (s)	-	12.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

SIMTRAFFIC OUTPUT
ALL CONDITIONS
QUEUEING REPORT
AM AND PM PEAK

Intersection: 3: Voss Rd & I-10 EBFR

Movement	EB	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T	TR	L	L	T	T
Maximum Queue (ft)	325	398	280	63	163	245	341	314	48	55	5	8
Average Queue (ft)	225	327	219	23	99	167	198	182	27	31	1	2
95th Queue (ft)	351	435	331	84	204	273	383	371	61	62	11	13
Link Distance (ft)		785	785	785		738	738		315	315	315	315
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	490				350			140				
Storage Blk Time (%)							16	11				
Queuing Penalty (veh)							99	18				

Intersection: 6: I-10 WBFR & Bingle Rd

Movement	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	T	T	R	L	L	T	T	T	T	TR
Maximum Queue (ft)	351	439	355	134	117	72	82	8	113	152	398	282
Average Queue (ft)	246	355	248	45	71	35	42	2	57	95	241	235
95th Queue (ft)	421	503	390	143	139	89	100	15	138	169	435	313
Link Distance (ft)		691	691	691		315	315	315		487	487	
Upstream Blk Time (%)											1	
Queuing Penalty (veh)											3	
Storage Bay Dist (ft)	527				280				222			176
Storage Blk Time (%)		1			0				0	0	10	22
Queuing Penalty (veh)		2			0				0	0	58	32

Intersection: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr

Movement	WB	NB	NB	SB	SB	SB
Directions Served	LT	LT	TR	L	T	TR
Maximum Queue (ft)	16	74	112	58	50	95
Average Queue (ft)	5	34	67	30	16	43
95th Queue (ft)	22	83	123	74	57	129
Link Distance (ft)	496	487	487		623	623
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				135		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Winningham Ln & Bingle Rd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	LT	TR	LT	TR
Maximum Queue (ft)	24	67	23	52	90	49	114
Average Queue (ft)	8	39	8	22	44	21	59
95th Queue (ft)	29	76	28	62	103	55	125
Link Distance (ft)	144	440	440	623	623	189	189
Upstream Blk Time (%)							0
Queuing Penalty (veh)							0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 213

Intersection: 3: Voss Rd & I-10 EBFR

Movement	EB	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T	TR	L	L	T	T
Maximum Queue (ft)	286	383	297	112	214	360	496	365	44	58	18	2
Average Queue (ft)	209	314	209	38	165	243	323	269	21	27	4	0
95th Queue (ft)	325	402	334	128	270	450	583	445	54	65	22	6
Link Distance (ft)		785	785	785		738	738		315	315	315	315
Upstream Blk Time (%)							1					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	490				350			140				
Storage Blk Time (%)						0	23	15				
Queuing Penalty (veh)						1	175	29				

Intersection: 6: I-10 WBFR & Bingle Rd

Movement	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	R	L	L	T	T	T	T	T
Maximum Queue (ft)	340	460	376	176	134	46	70	10	7	90	237	388
Average Queue (ft)	225	363	287	97	74	27	49	3	2	38	102	212
95th Queue (ft)	406	507	430	225	145	60	86	18	12	103	270	426
Link Distance (ft)		691	691	691		315	315	315	315		487	487
Upstream Blk Time (%)		0									0	1
Queuing Penalty (veh)		0									0	5
Storage Bay Dist (ft)	527				280					222		
Storage Blk Time (%)		1										8
Queuing Penalty (veh)		3										39

Intersection: 6: I-10 WBFR & Bingle Rd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	275
Average Queue (ft)	214
95th Queue (ft)	324
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	176
Storage Blk Time (%)	26
Queuing Penalty (veh)	31

Intersection: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	TR	L	T	TR
Maximum Queue (ft)	117	11	168	186	62	86	151
Average Queue (ft)	71	3	88	120	34	39	88
95th Queue (ft)	143	19	184	203	80	96	179
Link Distance (ft)	496	496	487	487		623	623
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					135		
Storage Blk Time (%)					0	0	
Queuing Penalty (veh)					2	0	

Intersection: 12: Winningham Ln & Bingle Rd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	LT	TR	LT	TR
Maximum Queue (ft)	26	48	19	88	98	40	61
Average Queue (ft)	6	24	7	35	48	15	28
95th Queue (ft)	26	57	26	96	113	49	67
Link Distance (ft)	144	440	440	623	623	189	189
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 285

Intersection: 3: Voss Rd & I-10 EBFR

Movement	EB	EB	EB	EB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	T	T	T	T	T	TR	L	L
Maximum Queue (ft)	338	420	340	31	175	231	324	366	50	45
Average Queue (ft)	281	342	292	6	95	153	235	256	30	28
95th Queue (ft)	352	421	352	26	210	234	337	369	60	44
Link Distance (ft)		785	785	785		738	738		315	315
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	490				350			140		
Storage Blk Time (%)							22	13		
Queuing Penalty (veh)							142	22		

Intersection: 6: I-10 WBFR & Bingle Rd

Movement	WB	WB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	T	T	R	L	L	T	T	T	TR
Maximum Queue (ft)	342	356	355	183	85	95	98	91	105	494	288
Average Queue (ft)	265	326	254	89	69	63	65	56	91	300	276
95th Queue (ft)	374	364	345	213	100	106	104	98	110	497	301
Link Distance (ft)		691	691	691		315	315		487	487	
Upstream Blk Time (%)										1	
Queuing Penalty (veh)										6	
Storage Bay Dist (ft)	527				280			222			176
Storage Blk Time (%)										17	42
Queuing Penalty (veh)										105	61

Intersection: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr

Movement	WB	NB	NB	SB	SB	SB
Directions Served	LT	LT	TR	L	T	TR
Maximum Queue (ft)	18	121	144	64	55	126
Average Queue (ft)	11	56	105	43	21	86
95th Queue (ft)	23	129	143	73	62	164
Link Distance (ft)	496	487	487		623	623
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				135		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Winningham Ln & Bingle Rd

Movement	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	LT	TR	LT	TR
Maximum Queue (ft)	116	29	173	125	68	204
Average Queue (ft)	76	6	57	68	28	78
95th Queue (ft)	123	25	166	122	64	195
Link Distance (ft)	440	440	623	623	189	189
Upstream Blk Time (%)						3
Queuing Penalty (veh)						0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 336

Intersection: 3: Voss Rd & I-10 EBFR

Movement	EB	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T	TR	L	L	T
Maximum Queue (ft)	195	339	274	52	204	242	252	322	49	72	29
Average Queue (ft)	139	289	215	32	166	218	185	187	23	32	6
95th Queue (ft)	257	350	292	63	212	249	293	385	50	70	25
Link Distance (ft)		785	785	785		738	738		315	315	315
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	490				350			140			
Storage Blk Time (%)							11	8			
Queuing Penalty (veh)							85	15			

Intersection: 6: I-10 WBFR & Bingle Rd

Movement	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	T	T	R	L	L	T	T	T	T	TR
Maximum Queue (ft)	343	450	414	196	131	30	71	23	65	84	297	281
Average Queue (ft)	187	353	271	82	74	12	47	5	52	63	163	179
95th Queue (ft)	369	474	400	209	129	36	75	20	72	98	284	317
Link Distance (ft)		691	691	691		315	315	315		487	487	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	527				280				222			176
Storage Blk Time (%)											9	15
Queuing Penalty (veh)											44	19

Intersection: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	TR	L	T	TR
Maximum Queue (ft)	105	30	202	220	63	69	110
Average Queue (ft)	81	6	118	150	39	33	83
95th Queue (ft)	122	26	210	230	65	83	110
Link Distance (ft)	496	496	487	487		623	623
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					135		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 12: Winningham Ln & Bingle Rd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	LT	TR	LT	TR
Maximum Queue (ft)	30	48	29	49	56	68	46
Average Queue (ft)	6	16	11	30	28	30	20
95th Queue (ft)	25	49	35	58	68	74	54
Link Distance (ft)	144	440	440	623	623	189	189
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 163

Intersection: 3: Voss Rd & I-10 EBFR

Movement	EB	EB	EB	EB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	T	T	T	T	T	TR	L	L
Maximum Queue (ft)	331	412	335	227	251	284	322	307	49	48
Average Queue (ft)	252	353	243	100	142	178	154	106	10	35
95th Queue (ft)	362	421	334	245	250	274	301	279	42	55
Link Distance (ft)		785	785	785		738	738		314	314
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	490				350			140		
Storage Blk Time (%)							3	7		
Queuing Penalty (veh)							20	12		

Intersection: 6: I-10 WBFR & Bingle Rd

Movement	WB	WB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	T	T	R	L	L	T	T	T	TR
Maximum Queue (ft)	334	528	401	162	130	90	82	122	122	378	288
Average Queue (ft)	240	389	294	51	68	41	44	77	101	215	212
95th Queue (ft)	319	586	470	147	134	108	98	137	137	354	280
Link Distance (ft)		691	691	691		314	314		308	308	
Upstream Blk Time (%)										3	
Queuing Penalty (veh)										13	
Storage Bay Dist (ft)	527				280			222			176
Storage Blk Time (%)		1								16	21
Queuing Penalty (veh)		3								99	31

Intersection: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	23	17	10	7	151	26	77	102	116
Average Queue (ft)	17	3	2	1	78	10	46	55	59
95th Queue (ft)	29	15	9	6	164	31	84	120	114
Link Distance (ft)	311	494	494		125	125		186	186
Upstream Blk Time (%)					5				
Queuing Penalty (veh)					19				
Storage Bay Dist (ft)				100			135		
Storage Blk Time (%)					6				
Queuing Penalty (veh)					1				

Intersection: 12: Winningham Ln & Bingle Rd

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	TR	TR
Maximum Queue (ft)	30	95	30	182	87
Average Queue (ft)	6	44	6	103	56
95th Queue (ft)	26	107	26	210	108
Link Distance (ft)	150	447	447	386	188
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)				4	0
Queuing Penalty (veh)				0	0

Intersection: 15: Bingle Rd & Driveway 2

Movement	NW
Directions Served	T
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	308
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 198

Intersection: 3: Voss Rd & I-10 EBFR

Movement	EB	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	T	T	T	T	T	TR	L	L	T	T
Maximum Queue (ft)	217	442	329	30	258	316	332	308	33	29	73	22
Average Queue (ft)	167	270	152	15	146	232	278	264	28	19	15	4
95th Queue (ft)	219	428	324	36	272	317	386	359	33	36	63	19
Link Distance (ft)		785	785	785		738	738		314	314	314	314
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	490				350			140				
Storage Blk Time (%)							21	23				
Queuing Penalty (veh)							157	46				

Intersection: 6: I-10 WBFR & Bingle Rd

Movement	WB	WB	WB	WB	WB	NB	NB	SB	SB	SB	SB	
Directions Served	L	LT	T	T	R	L	L	T	T	T	TR	
Maximum Queue (ft)	371	468	464	185	61	47	70	307	321	326	288	
Average Queue (ft)	292	425	309	150	34	21	37	69	172	304	281	
95th Queue (ft)	386	481	444	239	66	51	73	266	363	359	302	
Link Distance (ft)		691	691	691		314	314		308	308		
Upstream Blk Time (%)								0	2	19		
Queuing Penalty (veh)								0	8	95		
Storage Bay Dist (ft)	527				280			222			176	
Storage Blk Time (%)									5	6	69	
Queuing Penalty (veh)									7	33	89	

Intersection: 9: Bingle Rd & Driveway 1/W. Memorial Park Dr

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LT	L	T	TR	L	T	TR
Maximum Queue (ft)	114	99	124	171	150	27	185	224
Average Queue (ft)	58	64	30	118	55	18	82	119
95th Queue (ft)	128	102	107	181	167	36	177	211
Link Distance (ft)	311	494		125	125		186	186
Upstream Blk Time (%)			0	12	2		0	1
Queuing Penalty (veh)			0	63	12		1	5
Storage Bay Dist (ft)			100			135		
Storage Blk Time (%)				15				
Queuing Penalty (veh)				8				

Intersection: 12: Winningham Ln & Bingle Rd

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	TR
Maximum Queue (ft)	30	121	29	174	440	169
Average Queue (ft)	12	61	11	48	268	94
95th Queue (ft)	37	122	35	155	518	166
Link Distance (ft)	150	447	447		386	188
Upstream Blk Time (%)					3	0
Queuing Penalty (veh)					26	0
Storage Bay Dist (ft)				100		
Storage Blk Time (%)					10	3
Queuing Penalty (veh)					1	0

Intersection: 15: Bingle Rd & Driveway 2

Movement	EB	SE	SE	NW	NW
Directions Served	R	T	TR	T	T
Maximum Queue (ft)	44	118	174	279	286
Average Queue (ft)	18	24	97	136	100
95th Queue (ft)	45	102	214	317	307
Link Distance (ft)	253	125	125	308	308
Upstream Blk Time (%)		0	8		
Queuing Penalty (veh)		0	37		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 588

SIGNAL TIMING SHEETS

Installed: 05/29/2019

Houston TRANSTAR, TXDOT

ECONOLITE

MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Configuration Cabinet Settings

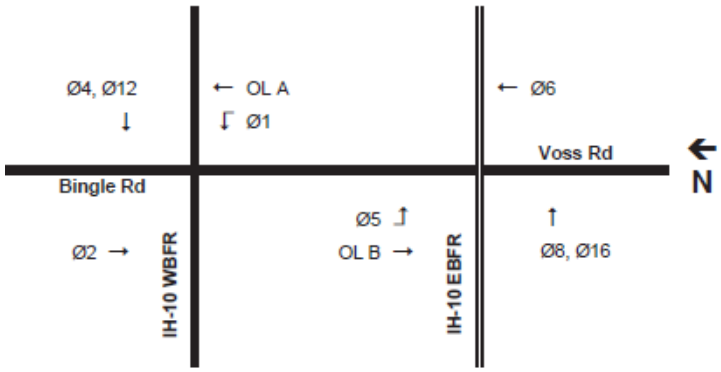
Cabinet Type (MM) 1-1-1

Cabinet Type: TS2-1

Channel	1	2	3	4
BIU Terminal & Facility	X	X		
BIU Detector	X			

Enable SDLC Stop Time: Yes

Latch 3 Critical Errors: No



Load Switch Configuration (MM) 1-1-2

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Channel Type	O	V	O	O	O	V	O	O	O	O	O	O	P	P	P	P
Phase/Overlap	9	2	10	11	12	6	13	14	1	2	0	0	2	4	6	8

Color Check Enable (MM) 1-1-3

Enable Color Check: No

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Red	X	X	X	X	X	X	X	X					X	X	X	X
Yellow	X	X	X	X	X	X	X	X					X	X	X	X
Green	X	X	X	X	X	X	X	X					X	X	X	X

Monitor Programming (MM) 1-1-4

Channel Can Serve With Channel	
Channel 1	**Channel 2**
1	5
1	6
1	7
1	8
1	9
1	10
1	15
1	16
2	5
2	6
2	7
2	8
2	9
2	10
2	13
2	15

Secondary Stations/Tests (MM) 1-1-6

The Cabinet Type does not support this feature.

2	16
3	5
3	6
3	7
3	8
3	10
3	15
3	16
4	5
4	6
4	7
4	8
4	10
4	14
4	15
4	16
5	9
5	10
5	13
5	14
6	9
6	10
6	13
6	14
6	15
7	9
7	13
7	14
8	9
8	13
8	14
8	16
9	10
9	13
9	15
9	16
10	13
10	14
10	15
13	15
13	16
14	15
14	16

Phase and Overlap Descriptions

Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Approach	SW	S	E	W	S	N	W	E	N	N	N	N	N	N	N	N
Movement	L	T	L	T	L	T	L	T								
Associated PED																
Overlap	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
Approach	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Movement																

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MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Configuration Communications

Ethernet Port Configuration (MM) 1-2-1

DHCP Enable:	No
Controller IP:	10.54.145.52
Subnet Mask:	255.255.255.0
Default Gateway IP:	10.54.145.1
Server IP:	10.1.70.170

NTCIP (MM) 1-2-5

NTCIP Backup Time (Sec):	0
NTCIP UDP Port:	501
Ethernet Priority:	1
Port 2(C50S) Priority:	4
Port 3A(C21S) Priority:	3
Port 3B(C22S) Priority:	2

Port Configuration (MM) 1-2-2 to 1-2-4

Port	2 (C50S)	3A (C21S)	3B (C22S)
Comm Module	n/a	Auto	Auto
Enable	No	No	No
Data Rate (BPS)	9600	9600	9600
Data, Parity, Stop	8 N 1	8 N 1	8 N 1
Duplex - Half or Full	Half	Full	Full
Protocol	NTCIP	NTCIP	NTCIP
Address	0	0	0
Group Address	0	0	0
Dropout Time	10	10	10
Single Flag Enable	Yes	Yes	Yes

Peer to Peer Setup (MM) 1-2-6

Local Port: 503

Peer	Port	IP Address	Timeout	Peer Name
1	503	10.40.36.33	1	

V2I / Connected Veh (MM) 1-2-7

SPAT/MAP Destinations

	IP Address	Port

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MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Configuration Logging / Display

Event Logging (MM) 1-3

Critical RFE's (MMU/TF):	Yes	Access:	Yes
MMU Flash Faults:	Yes	Data Change:	Yes
3 Critical Errors Within 24 Hours:	Yes	Low Battery:	Yes
Non-Critical RFE's (Det/Test):	Yes	Controller Download:	Yes
Detector Errors:	Yes	Power On/Off:	Yes
SCP (TSP/EVP):	Yes	Local Flash Fault:	Yes
Preemption Events:	Yes	Online / Offline:	Yes
Coordination Errors:	Yes	Hi-Res MOE:	15 min

Alarm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable Logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

NTCIP SCP MSG: No

Database (MM) 1-6

Enable Controller/Cabinet Interlock CRC:	No
CRC (16 bit):	A1A2
Enable Automatic Backup to Datakey:	No

Display Options (MM) 1-4

Key Click Enable:	No
Switch to Graphics Mode:	Yes
Trans Mode Pop-Up Disable:	No
Display Mode:	Advanced
LED Mode:	Auto

Sign On (MM) 8-5

Sign On Message Line 1: TEXAS DIAMOND EVALUATION 6/13/19
Sign On Message Line 2: 3/4/STANDARD I10 @ VOSS

Software Modules (MM) 8-7

Application Version: 03.02.02
OS (Boot) Version: 06.11.00

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MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Controller Timing Plan (MM) 2-1

Plan 1 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
2-1-1	Minimum Green															
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Variable Initial															
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1-2	Vehicle Passage															
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Volume Occupancy															
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-1-3	Max Green Data															
Max1	30	45	0	35	30	35	0	35	25	25	3	3	25	25	3	3
Max2	40	55	0	45	50	45	0	40	25	25	3	3	25	25	3	3
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
	Dynamic Max															
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-1-4	Pedestrian															
Delay Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	5	0	5	0	5	0	5	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	8	0	9	0	9	0	0	0	0	0	0	0	0
	Alternate															
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pedestrian Carry Over															
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Max Extension															
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1-5	Clearance															
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

	Max Extension															
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 1 - ""Continued

Phase Recall (MM) 2-1-6

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall																
Ped Recall																
Max Recall																
Soft Recall																
No Rest																

Overlap (MM) 2-1-7

Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Leading															
Adv. Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adv. Ped	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay FYA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Trailing															
Lag Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Outputs (MM) 2-1-8

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Double Serve															
Dbl Serv Ph.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Plan 2 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
2-1-1	Minimum Green															
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Variable Initial															
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1-2	Vehicle Passage															
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Volume Occupancy															
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2-1-3	Max Green Data															
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dynamic Max															
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-1-4	Pedestrian															
Delay Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	0	0	0	0	0	0	0
	Alternate															
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pedestrian Carry Over															
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Max Extension															
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1-5	Clearance															
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	Max Extension															
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2 - ""Continued

Phase Recall (MM) 2-1-6

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall																
Ped Recall																
Max Recall																
Soft Recall																
No Rest																

Overlap (MM) 2-1-7

Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Leading															
Adv. Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adv. Ped	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay FYA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Trailing															
Lag Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Outputs (MM) 2-1-8

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Double Serve															
Dbl Serv Ph.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Plan 3 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
2-1-1	Minimum Green															
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	5	5	5	5	5	5	5	5	3	3	3	3	3	3	3	3
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Variable Initial															
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1-2	Vehicle Passage															
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Volume Occupancy															
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-1-3	Max Green Data															
Max1	10	10	10	10	10	10	10	10	0	3	0	0	3	3	0	0
Max2	40	40	40	40	40	40	40	40	0	3	0	0	3	3	0	0
Max3	40	40	40	40	40	40	40	40	0	3	0	0	3	3	0	0
	Dynamic Max															
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-1-4	Pedestrian															
Delay Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	0	0	0	0	0	0	0
	Alternate															
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pedestrian Carry Over															
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Max Extension															
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1-5	Clearance															
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	Max Extension															
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3 - ""Continued

Phase Recall (MM) 2-1-6

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																

Vehicle Recall															
Ped Recall															
Max Recall															
Soft Recall															
No Rest															

Overlap (MM) 2-1-7

Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Leading																
Adv. Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adv. Ped	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay FYA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trailing																
Lag Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Outputs (MM) 2-1-8

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Double Serve																
Dbl Serv Ph.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Plan 4 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
2-1-1	Minimum Green															
Delay Green	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0
Min Green	5	7	0	5	5	7	0	5	5	5	3	3	5	5	3	3
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Variable Initial															
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1-2	Vehicle Passage															
Vehicle Ext	1.0	1.0	0.0	2.5	1.0	1.0	0.0	2.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Volume Occupancy															
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-1-3	Max Green Data															
Max1	30	45	0	35	30	35	0	35	25	25	3	3	25	25	3	3
Max2	40	55	0	45	50	45	0	40	25	25	3	3	25	25	3	3
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dynamic Max															
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-1-4	Pedestrian															

Delay Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Ped Clear	0	19	0	13	0	14	0	12	0	0	0	0	0	0	0	0
	Alternate															
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pedestrian Carry Over															
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Max Extension															
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1-5	Clearance															
Yellow	4.0	4.0	3.0	4.5	3.5	4.0	3.0	4.5	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5
Red Clear	3.0	3.0	1.0	2.5	3.0	3.0	1.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	Max Extension															
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4 - ""Continued

Phase Recall (MM) 2-1-6

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall	X	X		X	X	X		X								
Ped Recall																
Max Recall																
Soft Recall																
No Rest									X		X	X	X		X	X

Overlap (MM) 2-1-7

Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Leading															
Adv. Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adv. Ped	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay FYA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Trailing															
Lag Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Outputs (MM) 2-1-8

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Double Serve															
Dbl Serv Ph.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Controller Overlaps

Vehicle Overlaps (MM) 2-2

Overlap - A - Type - Overlap

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included Phase	X	X							X	X						
Protected Phase																
Inhibit with Ped																
Inhibit With Phase																
Inhibit With Green																
Trailing When Exit																
Trailing When Next																
Trailing Phase Allow																
Green When Next																
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit With Overlap																

Overlap - B - Type - Overlap

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included Phase					X	X							X	X		
Protected Phase																
Inhibit with Ped																
Inhibit With Phase																
Inhibit With Green																
Trailing When Exit																
Trailing When Next																
Trailing Phase Allow																
Green When Next																
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit With Overlap																

Overlap - I - Type - Overlap

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included Phase	X								X	X						
Protected Phase																
Inhibit with Ped																
Inhibit With Phase																
Inhibit With Green																
Trailing When Exit																
Trailing When Next																
Trailing Phase Allow																
Green When Next																
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit With Overlap																

Overlap - J - Type - Overlap

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included Phase			X								X					
Protected Phase																
Inhibit with Ped																
Inhibit With Phase																
Inhibit With Green																
Trailing When Exit																
Trailing When Next																
Trailing Phase Allow																
Green When Next																
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit With Overlap																

Overlap - K - Type - Overlap

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included Phase				X								X				
Protected Phase																
Inhibit with Ped																
Inhibit With Phase																

Inhibit With Green															
Trailing When Exit															
Trailing When Next															
Trailing Phase Allow															
Green When Next															
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit With Overlap															

Overlap - L - Type - Overlap

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included Phase					X								X	X		
Protected Phase																
Inhibit with Ped																
Inhibit With Phase																
Inhibit With Green																
Trailing When Exit																
Trailing When Next																
Trailing Phase Allow																
Green When Next																
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit With Overlap																

Overlap - M - Type - Overlap

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included Phase							X								X	
Protected Phase																
Inhibit with Ped																
Inhibit With Phase																
Inhibit With Green																
Trailing When Exit																
Trailing When Next																
Trailing Phase Allow																
Green When Next																

Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit With Overlap															

Overlap - N - Type - Overlap

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included Phase								X								X
Protected Phase																
Inhibit with Ped																
Inhibit With Phase																
Inhibit With Green																
Trailing When Exit																
Trailing When Next																
Trailing Phase Allow																
Green When Next																
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit With Overlap																

Vehicle / Pedestrian Overlaps (MM) 2-3

Included	Pedestrian Overlaps

Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	3
B02	5	0	7	3.0	0.0	3
C03	5	0	7	3.0	0.0	3
D04	5	0	7	3.0	0.0	3
E05	5	0	7	3.0	0.0	3
F06	5	0	7	3.0	0.0	3
G07	5	0	7	3.0	0.0	3
H08	5	0	7	3.0	0.0	3
I09	3	0	7	3.0	0.0	3
J10	3	0	7	3.0	0.0	3
K11	3	0	7	3.0	0.0	3
L12	3	0	7	3.0	0.0	3
M13	3	0	7	3.0	0.0	3
N14	3	0	7	3.0	0.0	3
O15	3	0	7	3.0	0.0	3
P16	3	0	7	3.0	0.0	3

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MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Controller Start / Flash Data (MM) 2-5

Power Start Up

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Start Phase	.	Y	.	.	Y	.	.	.	.	.	.	.	.	.	.	.
Start Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

Flash Minimum Time: 6 All Red Time: 6 Sequence Plan: 4

Automatic Flash

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Entry Phase		X			X											
Wig / Wag		X		X		X		X						X		
Phase Color	R	R	R	R	R	R	R	R	.	.	.	.	R	R	R	R
Exit Phase		X			X											
Olp Wig / Wag																
Exit Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Overlap Color	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

Flash Thru CVM: No Cycle Thru Phase: No Exit Flash: W

Mimimum Recall: No Minimum Flash: 8

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MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Controller Options

Controller Options (MM) 2-6

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X		X	X	X		X				X				X
Dual Entry	X				X											
Simultaneous Gap																
Lock Phase Next																
Passage After Init																
Guaranteed Passage																
Cond Service From																
Cond Service To																
Non-Actuated I		X				X										
Non-Actuated II				X				X								
Pre-Timed																
Exclusive Ped																
Rest In Walk																
Ped Re-Service																
Flashing Walk																
Ped Clear Thru Yellow																
Ped Clear Thru Red																
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ped Omit																

Unit Red Revert:	2.0
Ped Clear Protect:	Off
MUTCD 3 Seconds Don't Walk:	No
Enable Pre-Timed Mode:	No
Free Input Disables Pre-Timed:	No

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MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Configuration Controller Sequence

Controller Sequence (MM) 2-7-1

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B				B				B		B					
Sequence 1																
Ring 1	1	2	3	4	.	.	.	.	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	.	.	.	.	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	1	2	.	.	3	4	.	.	.	.	.	.	.	.	.	.
Ring 2	5	6	.	.	7	8	.	.	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	10	4	.	.	9	3	.	.	2	1	.	.	.	.	.	.
Ring 2	14	8	.	.	13	7	.	.	6	5	.	.	.	.	.	.
Sequence 4																
Ring 1	2	3	4	9	11	12	1	.	.	.	.	.	.	.	.	.
Ring 2	15	16	5	.	6	7	8	13	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 13																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 14																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 15																

Ring 1	|	**1**	**2**	**4**	**3**	|	**9**	**10**	**14**	**13**	|	.	.	|	.	.	.	.	.	.
Ring 2	|	**6**	**5**	**8**	**7**	|	**12**	**11**	**16**	**15**	|	.	.	|	.	.	.	.	.	.
Sequence 16																					
Ring 1	|	**2**	**1**	**4**	**3**	|	**10**	**9**	**14**	**13**	|	.	.	|	.	.	.	.	.	.
Ring 2	|	**6**	**5**	**8**	**7**	|	**12**	**11**	**16**	**15**	|	.	.	|	.	.	.	.	.	.

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Serve																

Independent Ring Group: No
Hardware Alternate Sequence Enable: Yes

Backup Prevent (MM) 2-7-2

Coordination Options

Options (MM) 3-1

System Source:	TBC	ECPI Coord:	Yes
Splits In:	Seconds	Offsets In:	Seconds
Transition:	Smooth	Calc Min Cycle Using Ped Time:	No
Dwell / Add Time:	0	Ped Reservice:	No
Delay Coord Wk-LZ:	No	FO Added Ini Green:	No
Offset Reference:	Yellow	Re-sync Count:	0
Local Zero Override:	No		

Auto Perm Min Green (Sec) (MM) 3-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Preempt TSP/SCP Plan and Split

Enable Preempt Filtering & TSP/SCP (MM) 4-2

Input	Solid	Pulsing
1	...BYPASSED...	...BYPASSED...
2	...BYPASSED...	...BYPASSED...
3	PREEMPTION 3	PREEMPTION 7
4	PREEMPTION 4	PREEMPTION 8
5	PREEMPTION 5	PREEMPTION 9
6	PREEMPTION 6	PREEMPTION 10
7	...BYPASSED...	...BYPASSED...
8	...BYPASSED...	...BYPASSED...
9	...BYPASSED...	...BYPASSED...
10	...BYPASSED...	...BYPASSED...

SCP Strategy Plan (MM) 4-3

SCP Split Pattern (MM) 4-4

TSP/SCP Split Pattern	Max Type	Phase 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
2	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
2	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
3	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
3	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
5	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
5	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
6	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
6	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
7	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
7		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	Max Extension																
8	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
8	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
9	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
9	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
10	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
10	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
12	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
12	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
13	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
13	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
15	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
15	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
16	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
16	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
17	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
17	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
18	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
18	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
19	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
19	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
20	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
20	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
21	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
21	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
22		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	Max Reduction																
22	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
23	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
23	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
24	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
24	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
25	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
25	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
26	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
26	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
27	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
27	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
28	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
28	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
29	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
29	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
30	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
30	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
31	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
31	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
32	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
32	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
33	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
33	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
34	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
34	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
35	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
35	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
36	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
36		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	Max Extension																
37	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
37	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
38	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
38	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
39	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
39	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
40	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
40	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
41	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
41	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
42	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
42	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
43	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
43	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
44	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
44	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
45	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
45	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
46	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
46	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
47	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
47	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
48	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
48	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
49	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
49	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
50	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
50	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
51		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	Max Reduction																
51	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
52	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
52	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
53	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
53	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
54	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
54	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
55	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
55	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
56	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
56	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
57	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
57	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
58	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
58	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
59	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
59	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
60	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
60	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
61	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
61	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
62	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
62	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
63	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
63	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
64	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
64	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
65	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
65		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	Max Extension																
66	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
66	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
67	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
67	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
68	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
68	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
69	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
69	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
70	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
70	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
71	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
71	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
72	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
72	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
73	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
73	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
74	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
74	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
75	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
75	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
76	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
76	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
77	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
77	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
78	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
78	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
79	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
79	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
80		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	Max Reduction																
80	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
81	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
81	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
82	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
82	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
83	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
83	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
84	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
84	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
85	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
85	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
86	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
86	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
87	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
87	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
88	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
88	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
89	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
89	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
90	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
90	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
91	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
91	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
92	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
92	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
93	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
93	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
94	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
94		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	Max Extension																
95	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
95	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
96	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
96	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
97	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
97	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
98	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
98	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
99	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
99	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
100	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
101	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
101	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
102	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
102	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
103	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
103	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
104	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
104	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
105	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
105	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
106	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
106	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
107	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
107	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
108	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
108	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
109		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

	Max Reduction																
109	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
110	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
110	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
111	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
111	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
112	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
112	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
113	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
113	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
114	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
114	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
115	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
115	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
116	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
116	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
117	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
117	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
118	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
118	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
119	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
119	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
120	Max Reduction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
120	Max Extension	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

SCP Detector Plan (MM) 4-5

SCP Detector Plan: **1**

Detector	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
SCP Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Travel Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class Type	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hold Over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Lock	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Max Call	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Check In Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Delay In TSP	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

SCP Detector Plan: **2**

Detector	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
SCP Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Travel Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class Type	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hold Over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Lock	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Max Call	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Check In Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Delay In TSP	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

SCP Detector Plan: **3**

Detector	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
SCP Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Travel Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class Type	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hold Over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Lock	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Max Call	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Check In Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Delay In TSP	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

SCP Detector Plan: **4**

Detector	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
SCP Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Travel Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class Type	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hold Over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Lock	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Max Call	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Check In Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Delay In TSP	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

SCP Detector Plan: **5**

Detector	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
SCP Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Travel Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class Type	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hold Over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Lock	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Max Call	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Check In Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

No Delay In TSP															

SCP Detector Plan: 6

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SCP Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Travel Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class Type	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hold Over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Lock	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Max Call	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Check In Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Delay In TSP	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

SCP Detector Plan: 7

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SCP Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Travel Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class Type	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hold Over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Lock	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Max Call	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Check In Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Delay In TSP	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

SCP Detector Plan: 8

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SCP Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Travel Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class Type	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hold Over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Lock	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Max Call	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Check In Delay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Delay In TSP	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Time Base Clock/Calendar

Clock/Calendar Data (MM) 5-1

Manual Event Plan: 0
SYNC Reference Time: 00:00
SYNC Reference: Reference Time
Standard Time From GMT: 0
Day Light Savings: No
Time Reset Input Set Time: 3:30:00

Houston TRANSTAR, TXDOT

ECONOLITE

MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Time Base Event Plan
Event Plan (MM) 5-2

Event Plan - 1 - Event Type: "Coord"

Cycle Length: 90 Offset Value: 15s Actuated Coord: Yes Splits In: Seconds Offsets In: Seconds

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split	38	22	0	20	32	28	0	20	0	0	0	10	0	0	0	10

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase	X					X										
Fixed Force Off																
Adaptive Split																
Veh Ext 2																
Vehicle Recall	X					X										
Walk 2																
Pedestrian Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit Phase									X	X	X		X	X	X	

Dwell/Add Time: 0
Timing Plan: 4
Sequence: 4
Actuated Walk Rest: No
Phase Reservice: No
Max Select: MAXINH
Max Transition: 0
Ring Group Offset Disp: 0

Ring	1	2	3	4
Ring Split Ext	5	5	0	0
Split Sum	80s	80s	0s	0s

Veh Perm 1: 0 Veh Perm 2 Disp: 0
Veh Perm 2: 0

SCP Strategy Plan: 0
SCP Detector Plan: 0
Override Sys: No
Backup Prevent Plan: 0
:

Veh Detector Plan: 4
Veh Det Diag Plan: 0
Ped Det Diag Plan: 0
Det Log: None

Outputs	1	2	3	4	5	6	7	8
Coord Patt Spec Func Outputs								
Spec Func (1-8)								
Aux Func (1-3)								

Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
LP 1-25	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 26-50	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 51-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Event Plan - 2 - Event Type: "Coord"

Cycle Length:	120	Offset Value:	45s	Actuated Coord:	Yes	Splits In:	Seconds	Offsets In:	Seconds

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split	46	38	0	26	54	34	0	22	0	0	0	10	0	0	0	10

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase	X					X										
Fixed Force Off																
Adaptive Split																
Veh Ext 2																
Vehicle Recall	X					X										
Walk 2																
Pedestrian Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit Phase									X	X	X		X	X	X	

Dwell/Add Time:	0
Timing Plan:	4
Sequence:	4
Actuated Walk Rest:	No
Phase Reservice:	No
Max Select:	MAXINH
Max Transition:	0
Ring Group Offset Disp:	0

Ring	1	2	3	4
Ring Split Ext	5	5	0	0
Split Sum	110s	110s	0s	0s

Veh Perm 1:	0	Veh Perm 2 Disp:	0
Veh Perm 2:	0		

SCP Strategy Plan:	0	Veh Detector Plan:	4
SCP Detector Plan:	0	Veh Det Diag Plan:	0
Override Sys:	No	Ped Det Diag Plan:	0
Backup Prevent Plan:	0	Det Log:	None
	:		

Outputs	1	2	3	4	5	6	7	8
Coord Patt Spec Func Outputs								
Spec Func (1-8)								
Aux Func (1-3)								

Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
LP 1-25	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 26-50	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 51-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Event Plan - 3 - Event Type: "Coord"

Cycle Length:	120	Offset Value:	25s	Actuated Coord:	Yes	Splits In:	Seconds	Offsets In:	Seconds

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split	52	32	0	26	48	36	0	26	0	0	0	10	0	0	0	10

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase	X					X										
Fixed Force Off																
Adaptive Split																
Veh Ext 2																
Vehicle Recall	X					X										
Walk 2																
Pedestrian Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit Phase																

Dwell/Add Time: 0
Timing Plan: 4
Sequence: 4
Actuated Walk Rest: No
Phase Reservice: No
Max Select: MAXINH
Max Transition: 0
Ring Group Offset Disp: 0

Ring	1	2	3	4
Ring Split Ext	5	5	0	0
Split Sum	110s	110s	0s	0s

Veh Perm 1: 0
Veh Perm 2 Disp: 0
Veh Perm 2: 0

SCP Strategy Plan: 0
SCP Detector Plan: 0
Override Sys: No
Backup Prevent Plan: 0
:

Veh Detector Plan: 4
Veh Det Diag Plan: 0
Ped Det Diag Plan: 0
Det Log: None

Outputs	1	2	3	4	5	6	7	8
Coord Patt Spec Func Outputs								
Spec Func (1-8)								
Aux Func (1-3)								

Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
LP 1-25	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 26-50	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 51-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Event Plan - 4 - Event Type: "Coord"

Cycle Length: 90 Offset Value: 15s Actuated Coord: Yes Splits In: Seconds Offsets In: Seconds

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split	40	22	0	18	30	32	0	18	0	0	0	10	0	0	0	10

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase	X					X										
Fixed Force Off																
Adaptive Split																
Veh Ext 2																
Vehicle Recall	X					X										
Walk 2																
Pedestrian Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit Phase																

Dwell/Add Time: 0
Timing Plan: 4
Sequence: 4
Actuated Walk Rest: No
Phase Reservice: No
Max Select: MAXINH
Max Transition: 0
Ring Group Offset Disp: 0

Ring	1	2	3	4
Ring Split Ext	5	5	0	0
Split Sum	80s	80s	0s	0s

Veh Perm 1: 0 Veh Perm 2 Disp: 0
Veh Perm 2: 0

SCP Strategy Plan: 0
Veh Detector Plan: 4
SCP Detector Plan: 0
Veh Det Diag Plan: 0
Override Sys: No
Ped Det Diag Plan: 0
Backup Prevent Plan: 0
Det Log: None
:

Outputs	1	2	3	4	5	6	7	8
Coord Patt Spec Func Outputs								
Spec Func (1-8)								
Aux Func (1-3)								

Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
LP 1-25	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 26-50	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 51-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Event Plan - 100 - Event Type: "Coord"

Cycle Length: 80 Offset Value: 0s Actuated Coord: No Splits In: Seconds Offsets In: Seconds

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	SW-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split	20	20	0	20	20	20	0	20	0	0	0	2	0	0	0	2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase				X	X											
Fixed Force Off																
Adaptive Split																
Veh Ext 2																
Vehicle Recall																
Walk 2																
Pedestrian Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit Phase									X	X	X	X	X	X	X	X

Dwell/Add Time:	0
Timing Plan:	0
Sequence:	0
Actuated Walk Rest:	No
Phase Reservice:	No
Max Select:	MAXINH
Max Transition:	4
Ring Group Offset Disp:	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Split Sum	60s	60s	0s	0s

Veh Perm 1:	0	Veh Perm 2 Disp:	0
Veh Perm 2:	0		

SCP Strategy Plan:	0	Veh Detector Plan:	0
SCP Detector Plan:	0	Veh Det Diag Plan:	0
Override Sys:	No	Ped Det Diag Plan:	0
Backup Prevent Plan:	0	Det Log:	None
	:		

Outputs	1	2	3	4	5	6	7	8
Coord Patt Spec Func Outputs								
Spec Func (1-8)								
Aux Func (1-3)								

Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
LP 1-25	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 26-50	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 51-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Time Base Day Plan/Schedule

Day Plan (MM) 5-3

Day Plan #1 - "1"

Event	Event Plan	Start Time
1	1	00:00
2	4	09:00
3	1	22:00

Day Plan #2

Event	Event Plan	Start Time
1	1	00:00
2	2	06:00
3	4	09:00
4	3	15:00
5	4	19:00
6	1	22:00

Schedule (MM) 5-4

Schedule Number - 1

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Houston TRANSTAR, TXDOT

ECONOLITE

MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Detectors

Vehicle Detectors (MM) 6-1 and 6-2

Vehicle Detector Descriptions

Veh Detector	Description (detectors with no description are not shown)

Vehicle Detector Plan Number - 1

Veh Det	Phase Primary - Addit.	Lock In	Delay Time	Ext Option	Delay Mode	Queue Lim. / Extend Time	Call Option	Cross Switch Ph	Bike Call	Use Added Initial	Red Extend	TS2 Det	Detector Log Enable		
													NTCIP Vol.	NTCIP Occ.	ECPI Log
1	1	None	0.0	None	Red/Yellow		Call	0				X			
2	2	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
3	3	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
4	4	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
5	5	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
6	6	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
7	7	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
8	8	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
11	0	None	0.0	Queue	Red/Yellow	2.0	Call	0							
12	0	None	0.0	Queue	Red/Yellow	2.0	Call	0							
15	0	None	0.0	Queue	Red/Yellow	2.0	Call	0							
16	0	None	0.0	Queue	Red/Yellow	2.0	Call	0							
17	0	None	0.0	Queue	Red/Yellow	2.0	Call	0							
18	0	None	0.0	Queue	Red/Yellow	2.0	Call	0							
19	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
20	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
21	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
22	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
23	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
24	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
25	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
26	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
27	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
28	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
29	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
30	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
31	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
32	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
33	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
34	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
35	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
36	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
37	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
38	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
39	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
40	0	Yellow	0.0	None	Red/Yellow		Call	0				X			

41	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
42	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
43	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
44	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
45	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
46	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
47	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
48	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
49	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
50	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
51	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
52	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
53	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
54	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
55	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
56	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
57	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
58	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
59	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
60	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
61	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
62	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
63	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
64	0	Yellow	0.0	None	Red/Yellow		Call	0				X			

Vehicle Detector Plan Number - 2

Veh Det	Phase Primary - Addit.	Lock In	Delay Time	Ext Option	Delay Mode	Queue Lim. / Extend Time	Call Option	Cross Switch Ph	Bike Call	Use Added Initial	Red Extend	TS2 Det	Detector Log Enable		
													NTCIP Vol.	NTCIP Occ.	ECPI Log
1	1	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
2	2	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
3	3	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
4	4	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
5	5	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
6	6	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
7	7	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
8	8	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
9	2	None	0.0	Passage	Red/Yellow	0.0	Call	0							
10	2	None	0.0	Passage	Red/Yellow	0.0	Call	0							
11	4	None	0.0	Passage	Red/Yellow	0.0	Call	0							
12	4	None	0.0	Passage	Red/Yellow	0.0	Call	0							
13	6	None	0.0	Passage	Red/Yellow	0.0	Call	0							
14	6	None	0.0	Passage	Red/Yellow	0.0	Call	0							
15	8	None	0.0	Passage	Red/Yellow	0.0	Call	0							
16	8	None	0.0	Passage	Red/Yellow	0.0	Call	0							
17	1	None	0.0	Passage	Red/Yellow	0.0	Call	0							
18	2	None	0.0	Passage	Red/Yellow	0.0	Call	0							
19	3	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
20	4	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
21	5	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
22	6	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
23	7	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
24	8	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
25	2	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			

26	4	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
27	6	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
28	8	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
29	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
30	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
31	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
32	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
33	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
34	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
35	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
36	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
37	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
38	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
39	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
40	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
41	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
42	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
43	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
44	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
45	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
46	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
47	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
48	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
49	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
50	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
51	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
52	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
53	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
54	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
55	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
56	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
57	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
58	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
59	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
60	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
61	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
62	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
63	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
64	0	Yellow	0.0	None	Red/Yellow		Call	0				X			

Vehicle Detector Plan Number - 3

Veh Det	Phase Primary - Addit.	Lock In	Delay Time	Ext Option	Delay Mode	Queue Lim. / Extend Time	Call Option	Cross Switch Ph	Bike Call	Use Added Initial	Red Extend	TS2 Det	Detector Log Enable		
													NTCIP Vol.	NTCIP Occ.	ECPI Log
1	1 - 9, 10	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
2	2	None	2.0	Passage	Red/Yellow	0.0	Call	0				X			
3	3	None	2.0	Passage	Red/Yellow	0.0	Call	0				X			
4	4	None	2.0	Passage	Red/Yellow	0.0	Call	0				X			
5	5 - 13, 14	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
6	6	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
7	7	None	2.0	Passage	Red/Yellow	0.0	Call	0				X			
8	8	None	2.0	Passage	Red/Yellow	0.0	Call	0				X			
9	9	None	0.0	Passage	Red/Yellow	0.0	Call	0							

10	10	None	0.0	Passage	Red/Yellow	0.0	Call	0							
11	2	None	0.0	Queue	Red/Yellow	0.2	Call	0							
12	4	None	0.0	Queue	Red/Yellow	0.2	Call	0							
13	13	None	0.0	Passage	Red/Yellow	0.0	Call	0							
14	14	None	0.0	Passage	Red/Yellow	0.0	Call	0							
15	6	None	0.0	Queue	Red/Yellow	0.2	Call	0							
16	8	None	0.0	Queue	Red/Yellow	0.2	Call	0							
17	3	None	0.0	Queue	Red/Yellow	0.2	Call	0							
18	7	None	0.0	Queue	Red/Yellow	0.2	Call	0							
19	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
20	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
21	1	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
22	0	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
23	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
24	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0							
25	5	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
26	0	None	0.0	Passage	Red/Yellow	0.0	Call	0							
27	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
28	0	Yellow	0.0	Passage	Red/Yellow	0.0	Call	0				X			
29	9	Yellow	0.0	None	Red/Yellow		Call	0				X			
30	10	Yellow	0.0	None	Red/Yellow		Call	0				X			
31	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
32	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
33	13	Yellow	0.0	None	Red/Yellow		Call	0				X			
34	14	Yellow	0.0	None	Red/Yellow		Call	0				X			
35	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
36	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
37	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
38	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
39	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
40	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
41	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
42	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
43	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
44	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
45	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
46	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
47	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
48	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
49	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
50	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
51	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
52	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
53	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
54	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
55	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
56	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
57	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
58	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
59	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
60	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
61	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
62	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
63	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
64	0	Yellow	0.0	None	Red/Yellow		Call	0				X			

Vehicle Detector Plan Number - 4

Veh Det	Phase Primary - Addit.	Lock In	Delay Time	Ext Option	Delay Mode	Queue Lim. / Extend Time	Call Option	Cross Switch Ph	Bike Call	Use Added Initial	Red Extend	TS2 Det	Detector Log Enable		
													NTCIP Vol.	NTCIP Occ.	ECPI Log
1	1	None	0.0	Passage	Red/Yellow	0.0	Call	9				X			
2	2	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
3	3	None	2.0	Passage	Red/Yellow	0.0	Call	11				X			
4	4	None	0.0	Passage	Red/Yellow	0.0	Call	12				X			
5	5	None	0.0	Passage	Red/Yellow	0.0	Call	13				X			
6	6	None	2.0	Passage	Red/Yellow	0.0	Call	0				X			
7	7	None	2.0	Passage	Red/Yellow	0.0	Call	15				X			
8	8	None	0.0	Passage	Red/Yellow	0.0	Call	16				X			
9	9	None	0.0	Passage	Red/Yellow	0.0	Call	9							
10	0	None	0.0	Passage	Red/Yellow	0.0	Call	9							
11	0	None	0.0	Passage	Red/Yellow	0.2	Call	0							
12	0	None	0.0	Passage	Red/Yellow	0.2	Call	12							
13	0	None	0.0	Passage	Red/Yellow	0.0	Call	13							
14	0	None	0.0	Passage	Red/Yellow	0.0	Call	13							
15	0	None	0.0	Passage	Red/Yellow	0.2	Call	0							
16	0	None	0.0	Passage	Red/Yellow	0.2	Call	16							
17	0	None	0.0	Passage	Red/Yellow	0.2	Call	11							
18	0	None	0.0	Passage	Red/Yellow	0.2	Call	15							
19	0	None	0.0	Passage	Red/Yellow	0.0	Call	0							
20	0	None	0.0	Passage	Red/Yellow	0.0	Call	0							
21	4	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
22	8	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
23	0	None	0.0	Passage	Red/Yellow	0.0	Call	0							
24	0	None	0.0	Passage	Red/Yellow	0.0	Call	0							
25	0	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
26	0	None	0.0	Passage	Red/Yellow	0.0	Call	0							
27	0	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
28	0	None	0.0	Passage	Red/Yellow	0.0	Call	0				X			
29	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
30	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
31	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
32	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
33	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
34	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
35	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
36	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
37	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
38	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
39	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
40	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
41	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
42	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
43	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
44	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
45	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
46	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
47	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
48	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
49	0	Yellow	0.0	None	Red/Yellow		Call	0				X			

50	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
51	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
52	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
53	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
54	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
55	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
56	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
57	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
58	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
59	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
60	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
61	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
62	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
63	0	Yellow	0.0	None	Red/Yellow		Call	0				X			
64	0	Yellow	0.0	None	Red/Yellow		Call	0				X			

Ped Detector Phase Assignment (MM) 6-3

Ped Detector Number	Called Phase																Ped Extend
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	No
2	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	No
3	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	No
4	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	No
5	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	No
6	.	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.	No
7	.	.	.	.	.	.	X	.	.	.	.	.	.	.	.	.	No
8	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.	.	No
9	.	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.	No
10	.	.	.	.	.	.	.	.	.	X	.	.	.	.	.	.	No
11	.	.	.	.	.	.	.	.	.	.	X	.	.	.	.	.	No
12	.	.	.	.	.	.	.	.	.	.	.	X	.	.	.	.	No
13	.	.	.	.	.	.	.	.	.	.	.	.	X	.	.	.	No
14	.	.	.	.	.	.	.	.	.	.	.	.	.	X	.	.	No
15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	X	.	No
16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	X	No

Houston TRANSTAR, TXDOT

ECONOLITE

MOVING TRAFFIC FORWARD

IH 10 at Bingle/Voss Eos - (D) - Econolite Type - EOS

Detectors

Detectors - Pg 2

Log - Speed Detector Setup (MM) 6-4

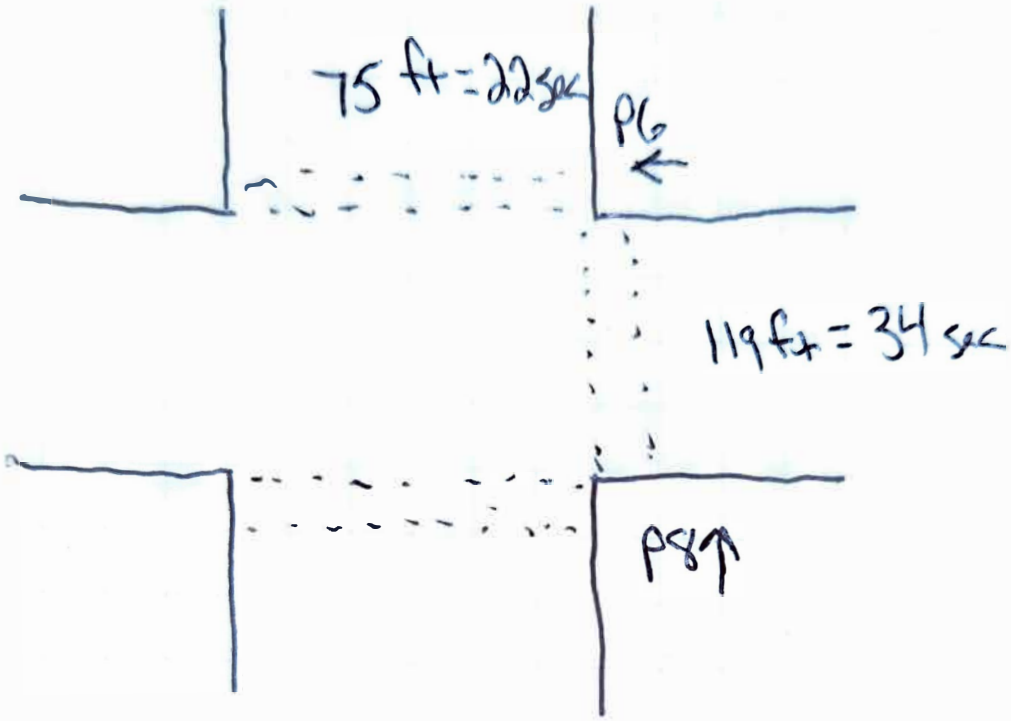
ECPI Log Period: NTCIP Log Length Unit:
TBEP Period: 60 Inches

Speed Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Local Detector	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
One/Two Detector	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vehicle Length	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trap length	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enable Log	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Vehicle Detector Diagnostics (MM) 6-5

Pedestrian Detector Diagnostics (MM) 6-6

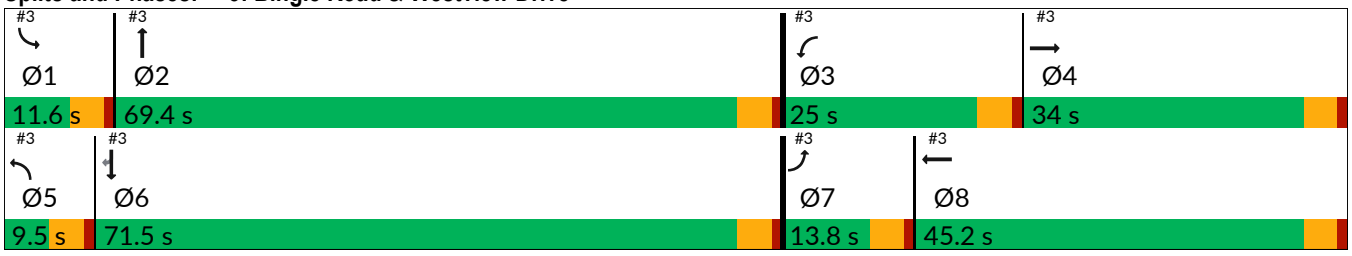
Bingle @ West Memorial



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	44	210	240	214	40	472	46	811	81
Future Volume (vph)	44	210	240	214	40	472	46	811	81
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	13.8	34.0	25.0	45.2	9.5	69.4	11.6	71.5	71.5
Total Split (%)	9.9%	24.3%	17.9%	32.3%	6.8%	49.6%	8.3%	51.1%	51.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	8.8	29.5	20.5	43.7	5.0	65.4	6.9	67.1	67.1
Actuated g/C Ratio	0.06	0.21	0.15	0.32	0.04	0.47	0.05	0.49	0.49
v/c Ratio	0.66	1.12	1.09	0.66	0.75	0.82	0.60	1.04	0.18
Control Delay (s/veh)	92.4	128.4	135.0	48.1	122.9	40.7	91.7	77.0	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.4	128.4	135.0	48.1	122.9	40.7	91.7	77.0	5.9
LOS	F	F	F	D	F	D	F	E	A
Approach Delay (s/veh)		123.5		85.4		45.9		68.6	
Approach LOS		F		F		D		E	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 138.1	
Natural Cycle: 140	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay (s/veh): 75.8	Intersection LOS: E
Intersection Capacity Utilization 85.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Bingle Road & Westview Drive





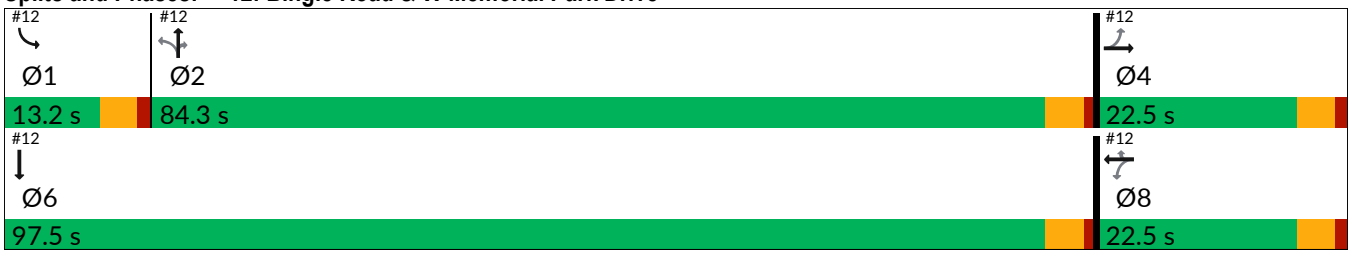
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	13.8	34.0	25.0	45.2	9.5	69.4	11.6	71.5	71.5
Total Split (%)	9.9%	24.3%	17.9%	32.3%	6.8%	49.6%	8.3%	51.1%	51.1%
Maximum Green (s)	9.3	29.5	20.5	40.7	5.0	64.9	7.1	67.0	67.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	None	Max	Max
Walk Time (s)		7.0		7.0		7.0		7.0	7.0
Flash Don't Walk (s)		11.0		11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0		0		0	0
90th %ile Green (s)	9.3	29.5	20.5	40.7	5.0	64.9	7.1	67.0	67.0
90th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR	MaxR
70th %ile Green (s)	9.3	29.5	20.5	40.7	5.0	64.9	7.1	67.0	67.0
70th %ile Term Code	Max	Max	Max	Hold	Max	MaxR	Max	MaxR	MaxR
50th %ile Green (s)	9.3	29.5	20.5	40.7	5.0	64.9	7.1	67.0	67.0
50th %ile Term Code	Max	Max	Max	Hold	Max	MaxR	Max	MaxR	MaxR
30th %ile Green (s)	9.3	29.5	20.5	40.7	5.0	64.9	7.1	67.0	67.0
30th %ile Term Code	Max	Max	Max	Hold	Max	MaxR	Max	MaxR	MaxR
10th %ile Green (s)	0.0	29.5	20.5	54.5	0.0	67.0	0.0	67.0	67.0
10th %ile Term Code	Skip	Max	Max	Hold	Skip	Hold	Skip	MaxR	MaxR

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 138.1
Control Type: Semi Act-Uncoord
90th %ile Actuated Cycle: 140
70th %ile Actuated Cycle: 140
50th %ile Actuated Cycle: 140
30th %ile Actuated Cycle: 140
10th %ile Actuated Cycle: 130.5

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	1	1	38	1	15	1	694	135	34	1295
Future Volume (vph)	1	1	38	1	15	1	694	135	34	1295
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	Prot	NA
Protected Phases		4		8			2		1	6
Permitted Phases	4		8		8	2		2		
Detector Phase	4	4	8	8	8	2	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	22.5	84.3	84.3	84.3	13.2	97.5
Total Split (%)	18.8%	18.8%	18.8%	18.8%	18.8%	70.3%	70.3%	70.3%	11.0%	81.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag						Lag	Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Max	Max	Max	None	Max
Act Effct Green (s)		8.8		8.8	8.8		89.3	89.3	7.7	99.5
Actuated g/C Ratio		0.08		0.08	0.08		0.78	0.78	0.07	0.87
v/c Ratio		0.02		0.40	0.12		0.52	0.16	0.41	0.89
Control Delay (s/veh)		41.3		60.8	1.3		8.2	3.8	61.1	15.7
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	5.1
Total Delay (s/veh)		41.3		60.8	1.3		8.2	3.8	61.1	20.8
LOS		D		E	A		A	A	E	C
Approach Delay (s/veh)		41.3		41.3			7.3			22.1
Approach LOS		D		D			A			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.4	
Natural Cycle: 120	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay (s/veh): 16.9	Intersection LOS: B
Intersection Capacity Utilization 92.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: Bingle Road & W Memorial Park Drive





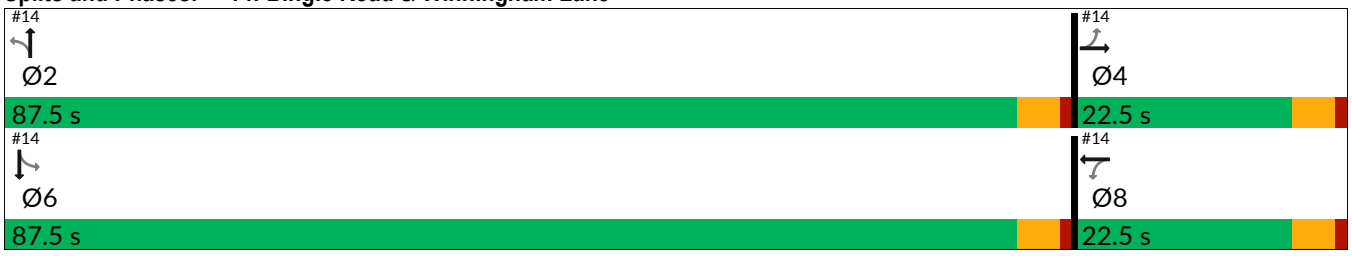
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4		8			2		1	6
Permitted Phases	4		8		8	2		2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	22.5	84.3	84.3	84.3	13.2	97.5
Total Split (%)	18.8%	18.8%	18.8%	18.8%	18.8%	70.3%	70.3%	70.3%	11.0%	81.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	79.8	79.8	79.8	8.7	93.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag						Lag	Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0
90th %ile Green (s)	12.4	12.4	12.4	12.4	12.4	79.8	79.8	79.8	8.7	93.0
90th %ile Term Code	Hold	Hold	Gap	Gap	Gap	MaxR	MaxR	MaxR	Max	MaxR
70th %ile Green (s)	10.1	10.1	10.1	10.1	10.1	79.8	79.8	79.8	8.7	93.0
70th %ile Term Code	Hold	Hold	Gap	Gap	Gap	MaxR	MaxR	MaxR	Max	MaxR
50th %ile Green (s)	8.7	8.7	8.7	8.7	8.7	82.2	82.2	82.2	8.4	95.1
50th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Dwell	Dwell	Dwell	Gap	Dwell
30th %ile Green (s)	7.4	7.4	7.4	7.4	7.4	91.8	91.8	91.8	7.3	103.6
30th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Dwell	Dwell	Dwell	Gap	Dwell
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	108.0	108.0	108.0	0.0	108.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Dwell	Dwell	Dwell	Skip	Dwell

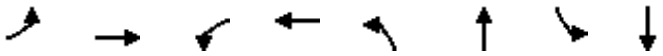
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 114.4
Control Type: Semi Act-Uncoord
90th %ile Actuated Cycle: 114.4
70th %ile Actuated Cycle: 112.1
50th %ile Actuated Cycle: 112.8
30th %ile Actuated Cycle: 120
10th %ile Actuated Cycle: 112.5

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	1	51	1	4	676	2	1280
Future Volume (vph)	1	1	51	1	4	676	2	1280
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	87.5	87.5	87.5	87.5
Total Split (%)	20.5%	20.5%	20.5%	20.5%	79.5%	79.5%	79.5%	79.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		11.7	11.9	11.9	92.1	92.1	92.1	92.1
Actuated g/C Ratio		0.11	0.11	0.11	0.84	0.84	0.84	0.84
v/c Ratio		0.13	0.56	0.06	0.05	0.51	0.01	0.91
Control Delay (s/veh)		24.5	59.8	27.0	4.8	5.0	3.0	20.2
Queue Delay		0.0	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay (s/veh)		24.5	59.8	27.0	4.8	5.6	3.0	20.2
LOS		C	E	C	A	A	A	C
Approach Delay (s/veh)		24.5		55.7		5.6		20.2
Approach LOS		C		E		A		C

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 109.7	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay (s/veh): 16.7	Intersection LOS: B
Intersection Capacity Utilization 84.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: Bingle Road & Winningham Lane





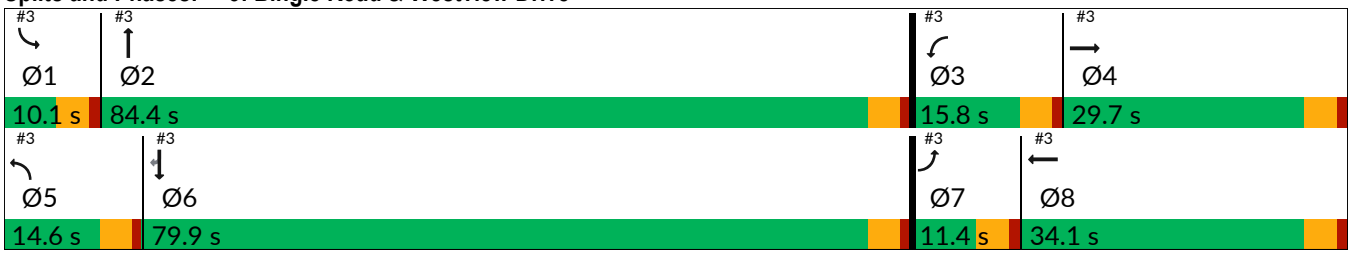
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	87.5	87.5	87.5	87.5
Total Split (%)	20.5%	20.5%	20.5%	20.5%	79.5%	79.5%	79.5%	79.5%
Maximum Green (s)	18.0	18.0	18.0	18.0	83.0	83.0	83.0	83.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	17.0	17.0	17.0	17.0	83.0	83.0	83.0	83.0
90th %ile Term Code	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	13.9	13.9	13.9	13.9	84.7	84.7	84.7	84.7
70th %ile Term Code	Hold	Hold	Gap	Gap	Dwell	Dwell	Dwell	Dwell
50th %ile Green (s)	12.1	12.1	12.1	12.1	91.1	91.1	91.1	91.1
50th %ile Term Code	Hold	Hold	Gap	Gap	Dwell	Dwell	Dwell	Dwell
30th %ile Green (s)	10.1	10.1	10.1	10.1	98.0	98.0	98.0	98.0
30th %ile Term Code	Hold	Hold	Gap	Gap	Dwell	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	0.0	0.0	0.0	98.0	98.0	98.0	98.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Dwell	Dwell	Dwell	Dwell

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 109.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 109
70th %ile Actuated Cycle: 107.6
50th %ile Actuated Cycle: 112.2
30th %ile Actuated Cycle: 117.1
10th %ile Actuated Cycle: 102.5

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	66	262	123	242	71	853	36	685	62
Future Volume (vph)	66	262	123	242	71	853	36	685	62
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	11.4	29.7	15.8	34.1	14.6	84.4	10.1	79.9	79.9
Total Split (%)	8.1%	21.2%	11.3%	24.4%	10.4%	60.3%	7.2%	57.1%	57.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	6.9	25.2	11.3	29.6	9.7	79.9	5.6	75.8	75.8
Actuated g/C Ratio	0.05	0.18	0.08	0.21	0.07	0.57	0.04	0.54	0.54
v/c Ratio	0.92	1.08	0.99	1.04	0.72	1.08	0.86	0.77	0.08
Control Delay (s/veh)	141.2	125.3	135.1	108.2	94.6	80.3	138.1	31.9	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	141.2	125.3	135.1	108.2	94.6	80.3	138.1	31.9	2.3
LOS	F	F	F	F	F	F	F	C	A
Approach Delay (s/veh)		128.2		115.1		81.3		36.7	
Approach LOS		F		F		F		D	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Natural Cycle: 140	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay (s/veh): 80.8	Intersection LOS: F
Intersection Capacity Utilization 95.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Bingle Road & Westview Drive





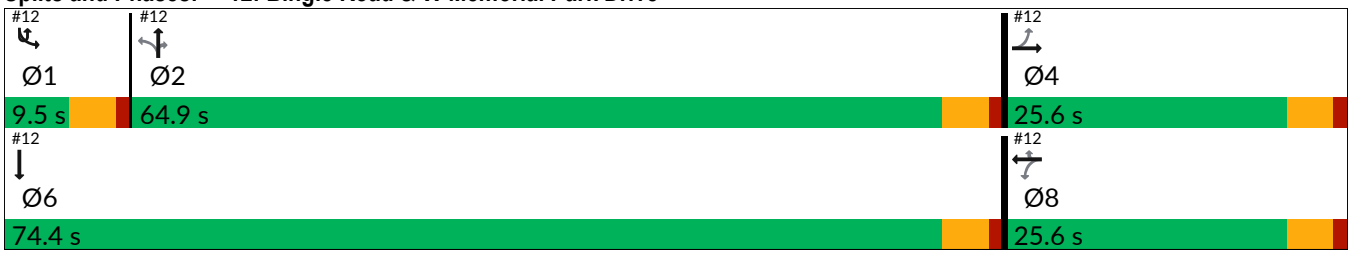
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	11.4	29.7	15.8	34.1	14.6	84.4	10.1	79.9	79.9
Total Split (%)	8.1%	21.2%	11.3%	24.4%	10.4%	60.3%	7.2%	57.1%	57.1%
Maximum Green (s)	6.9	25.2	11.3	29.6	10.1	79.9	5.6	75.4	75.4
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	None	Max	Max
Walk Time (s)		7.0		7.0		7.0		7.0	7.0
Flash Don't Walk (s)		11.0		11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0		0		0	0
90th %ile Green (s)	6.9	25.2	11.3	29.6	10.1	79.9	5.6	75.4	75.4
90th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR	MaxR
70th %ile Green (s)	6.9	25.2	11.3	29.6	10.1	79.9	5.6	75.4	75.4
70th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR	MaxR
50th %ile Green (s)	6.9	25.2	11.3	29.6	10.1	79.9	5.6	75.4	75.4
50th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR	MaxR
30th %ile Green (s)	6.9	25.2	11.3	29.6	10.1	79.9	5.6	75.4	75.4
30th %ile Term Code	Max	Max	Max	Max	Max	MaxR	Max	MaxR	MaxR
10th %ile Green (s)	6.9	25.2	11.3	29.6	8.0	79.9	5.6	77.5	77.5
10th %ile Term Code	Max	Max	Max	Max	Gap	MaxR	Max	Hold	Hold

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Control Type: Semi Act-Uncoord
90th %ile Actuated Cycle: 140
70th %ile Actuated Cycle: 140
50th %ile Actuated Cycle: 140
30th %ile Actuated Cycle: 140
10th %ile Actuated Cycle: 140

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	1	1	189	1	75	1	1046	100	39	946
Future Volume (vph)	1	1	189	1	75	1	1046	100	39	946
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	Prot	NA
Protected Phases		4		8			2		1	6
Permitted Phases	4		8		8	2		2		
Detector Phase	4	4	8	8	8	2	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	25.6	25.6	25.6	25.6	25.6	64.9	64.9	64.9	9.5	74.4
Total Split (%)	25.6%	25.6%	25.6%	25.6%	25.6%	64.9%	64.9%	64.9%	9.5%	74.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag						Lag	Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Max	Max	Max	None	Max
Act Effct Green (s)		21.1		21.1	21.1		62.3	62.3	5.0	69.9
Actuated g/C Ratio		0.21		0.21	0.21		0.62	0.62	0.05	0.70
v/c Ratio		0.01		1.01	0.26		0.96	0.12	0.73	0.80
Control Delay (s/veh)		28.0		96.2	8.3		38.3	4.6	89.6	16.3
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	2.9
Total Delay (s/veh)		28.0		96.2	8.3		38.3	4.6	89.6	19.2
LOS		C		F	A		D	A	F	B
Approach Delay (s/veh)		28.0		72.0			35.0			23.3
Approach LOS		C		E			C			C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay (s/veh): 35.6	Intersection LOS: D
Intersection Capacity Utilization 80.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: Bingle Road & W Memorial Park Drive





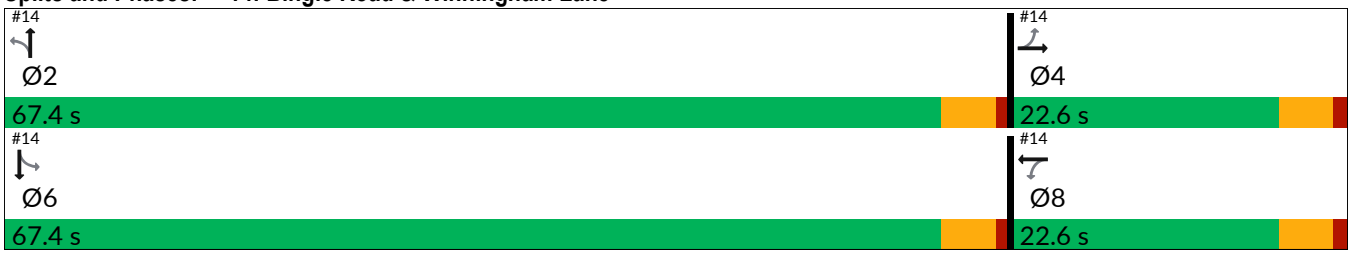
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4		8			2		1	6
Permitted Phases	4		8		8	2		2		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	25.6	25.6	25.6	25.6	25.6	64.9	64.9	64.9	9.5	74.4
Total Split (%)	25.6%	25.6%	25.6%	25.6%	25.6%	64.9%	64.9%	64.9%	9.5%	74.4%
Maximum Green (s)	21.1	21.1	21.1	21.1	21.1	60.4	60.4	60.4	5.0	69.9
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag						Lag	Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0
90th %ile Green (s)	21.1	21.1	21.1	21.1	21.1	60.4	60.4	60.4	5.0	69.9
90th %ile Term Code	Hold	Hold	Max	Max	Max	MaxR	MaxR	MaxR	Max	MaxR
70th %ile Green (s)	21.1	21.1	21.1	21.1	21.1	60.4	60.4	60.4	5.0	69.9
70th %ile Term Code	Hold	Hold	Max	Max	Max	MaxR	MaxR	MaxR	Max	MaxR
50th %ile Green (s)	21.1	21.1	21.1	21.1	21.1	60.4	60.4	60.4	5.0	69.9
50th %ile Term Code	Hold	Hold	Max	Max	Max	MaxR	MaxR	MaxR	Max	MaxR
30th %ile Green (s)	21.1	21.1	21.1	21.1	21.1	60.4	60.4	60.4	5.0	69.9
30th %ile Term Code	Hold	Hold	Max	Max	Max	MaxR	MaxR	MaxR	Max	MaxR
10th %ile Green (s)	21.1	21.1	21.1	21.1	21.1	69.9	69.9	69.9	0.0	69.9
10th %ile Term Code	Hold	Hold	Max	Max	Max	Hold	Hold	Hold	Skip	MaxR

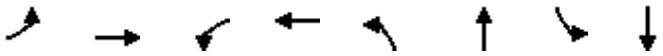
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Control Type: Semi Act-Uncoord
90th %ile Actuated Cycle: 100
70th %ile Actuated Cycle: 100
50th %ile Actuated Cycle: 100
30th %ile Actuated Cycle: 100
10th %ile Actuated Cycle: 100

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	1	42	1	10	1162	6	942
Future Volume (vph)	1	1	42	1	10	1162	6	942
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.6	22.6	22.6	22.6	67.4	67.4	67.4	67.4
Total Split (%)	25.1%	25.1%	25.1%	25.1%	74.9%	74.9%	74.9%	74.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		10.0	10.1	10.1	71.7	71.7	71.7	71.7
Actuated g/C Ratio		0.11	0.12	0.12	0.82	0.82	0.82	0.82
v/c Ratio		0.08	0.48	0.14	0.06	0.86	0.06	0.69
Control Delay (s/veh)		23.7	45.3	16.3	3.5	15.7	4.3	8.2
Queue Delay		0.0	0.0	0.0	0.0	2.0	0.0	0.0
Total Delay (s/veh)		23.7	45.3	16.3	3.5	17.8	4.3	8.2
LOS		C	D	B	A	B	A	A
Approach Delay (s/veh)		23.7		37.5		17.6		8.1
Approach LOS		C		D		B		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 87.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay (s/veh): 14.5	Intersection LOS: B
Intersection Capacity Utilization 80.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: Bingle Road & Winningham Lane





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.6	22.6	22.6	22.6	67.4	67.4	67.4	67.4
Total Split (%)	25.1%	25.1%	25.1%	25.1%	74.9%	74.9%	74.9%	74.9%
Maximum Green (s)	18.1	18.1	18.1	18.1	62.9	62.9	62.9	62.9
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	14.2	14.2	14.2	14.2	62.9	62.9	62.9	62.9
90th %ile Term Code	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	11.6	11.6	11.6	11.6	63.9	63.9	63.9	63.9
70th %ile Term Code	Hold	Hold	Gap	Gap	Dwell	Dwell	Dwell	Dwell
50th %ile Green (s)	10.2	10.2	10.2	10.2	70.9	70.9	70.9	70.9
50th %ile Term Code	Hold	Hold	Gap	Gap	Dwell	Dwell	Dwell	Dwell
30th %ile Green (s)	8.6	8.6	8.6	8.6	77.9	77.9	77.9	77.9
30th %ile Term Code	Hold	Hold	Gap	Gap	Dwell	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	0.0	0.0	0.0	77.9	77.9	77.9	77.9
10th %ile Term Code	Skip	Skip	Skip	Skip	Dwell	Dwell	Dwell	Dwell

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 87.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 86.1
70th %ile Actuated Cycle: 84.5
50th %ile Actuated Cycle: 90.1
30th %ile Actuated Cycle: 95.5
10th %ile Actuated Cycle: 82.4

TRAFFIC COUNT VOLUME DATA

Intersection: Bingle Rd @ Winningham Ln

Date 5/19/2026

AM

End Time	Northbound Left	Northbound Thru	Northbound Right	Northbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Southbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	Westbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Eastbound U-Turn
	---	---	---	---	---	---	---		---	---	---		---	---	---	
8:00	1	180	6	0	0	242	1	0	19	0	2	0	0	0	2	0
8:15	0	153	6	0	0	210	0	0	19	1	2	0	0	0	5	0
8:30	0	154	8	0	2	244	0	0	15	0	1	0	0	0	4	0
8:45	1	155	6	0	0	240	1	0	12	1	2	0	0	0	2	0
Peak Hour To	2	642	26	0	2	936	2	0	65	2	7	0	0	0	13	0
PHF	0.50	0.89	0.81	#DIV/0!	0.25	0.96	0.50	#DIV/0!	0.86	0.50	0.88	#DIV/0!	#DIV/0!	#DIV/0!	0.65	#DIV/0!

Existing Volumes 2026	Northbound NBL	NBT	NBR	U-Turn	Southbound SBL	SBT	SBR	U-Turn	Westbound WBL	WBT	WBR	U-Turn	Eastbound EBL	EBT	EBR	U-Turn
	2	642	26	0	2	936	2	0	65	2	7	0	0	0	13	0
No Build Volumes 2027	Northbound NBL	NBT	NBR	U-Turn	Southbound SBL	SBT	SBR	U-Turn	Westbound WBL	WBT	WBR	U-Turn	Eastbound EBL	EBT	EBR	U-Turn
	2	648	26	0	2	945	2	0	66	2	7	0	0	0	13	0
Trip Generation	Northbound NBL	NBT	NBR	U-Turn	Southbound SBL	SBT	SBR	U-Turn	Westbound WBL	WBT	WBR	U-Turn	Eastbound EBL	EBT	EBR	U-Turn
	0	7	1	0	0	16	0	0	2	0	0	0	0	0	0	0
Build Volumes 2027	Northbound NBL	NBT	NBR	U-Turn	Southbound SBL	SBT	SBR	U-Turn	Westbound WBL	WBT	WBR	U-Turn	Eastbound EBL	EBT	EBR	U-Turn
	2	655	27	0	2	961	2	0	68	2	7	0	0	0	13	0

PM

End Time	Northbound Left	Northbound Thru	Northbound Right	Northbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Southbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	Westbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Eastbound U-Turn
	---	---	---		---	---	---		---	---	---		---	---	---	
4:45	2	250	12	0	0	184	2	0	5	0	0	0	1	0	1	0
5:00	1	214	11	0	2	205	0	0	10	0	5	0	1	0	0	0
5:15	1	224	13	0	0	180	2	0	11	0	2	0	1	0	5	0
5:30	6	221	15	0	0	203	1	0	11	0	2	0	1	0	1	0
Peak Hour To	10	909	51	0	2	772	5	0	37	0	9	0	4	0	7	0
PHF	0.42	0.91	0.85	#DIV/0!	0.25	0.94	0.63	#DIV/0!	0.84	#DIV/0!	0.45	#DIV/0!	1.00	#DIV/0!	0.35	#DIV/0!

Existing Volumes 2026	Northbound NBL	NBT	NBR	U-Turn	Southbound SBL	SBT	SBR	U-Turn	Westbound WBL	WBT	WBR	U-Turn	Eastbound EBL	EBT	EBR	U-Turn
	10	909	51	0	2	772	5	0	37	0	9	0	4	0	7	0
No Build Volumes 2027	Northbound NBL	NBT	NBR	U-Turn	Southbound SBL	SBT	SBR	U-Turn	Westbound WBL	WBT	WBR	U-Turn	Eastbound EBL	EBT	EBR	U-Turn
	10	918	52	0	2	780	5	0	37	0	9	0	4	0	7	0
Trip Generation	Northbound NBL	NBT	NBR	U-Turn	Southbound SBL	SBT	SBR	U-Turn	Westbound WBL	WBT	WBR	U-Turn	Eastbound EBL	EBT	EBR	U-Turn
	0	25	3	0	0	27	0	0	4	0	0	0	0	0	0	0
Build Volumes 2027	Northbound NBL	NBT	NBR	U-Turn	Southbound SBL	SBT	SBR	U-Turn	Westbound WBL	WBT	WBR	U-Turn	Eastbound EBL	EBT	EBR	U-Turn
	10	943	55	0	2	807	5	0	41	0	9	0	4	0	7	0

Intersection: Bingle Rd @ W. Memorial Park Dr

Date 5/19/2026

AM

	Northbound				Southbound				Westbound				Eastbound			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
End Time	---	---	---	---	---	---	---		---	---	---		---	---	---	
8:00	0	174	30	0	10	244	0	0	7	0	6	0	0	0	0	0
8:15	0	160	38	0	13	221	0	0	12	0	5	0	0	0	0	0
8:30	0	167	31	1	7	263	0	0	7	0	4	0	0	0	0	0
8:45	0	147	47	0	16	243	0	0	3	0	9	0	0	0	0	0
Peak Hour To	0	648	146	1	46	971	0	0	29	0	24	0	0	0	0	0
PHF	#DIV/0!	0.93	0.78	0.25	0.72	0.92	#DIV/0!	#DIV/0!	0.60	#DIV/0!	0.67	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Existing	Northbound				Southbound				Westbound				Eastbound			
Volumes	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn	EBL	EBT	EBR	U-Turn
2026	0	648	146	1	46	971	0	0	29	0	24	0	0	0	0	0
No Build	**Northbound**				**Southbound**				**Westbound**				**Eastbound**			
Volumes	**NBL**	**NBT**	**NBR**	**U-Turn**	**SBL**	**SBT**	**SBR**	**U-Turn**	**WBL**	**WBT**	**WBR**	**U-Turn**	**EBL**	**EBT**	**EBR**	**U-Turn**
2027	**0**	**654**	**147**	**1**	**46**	**981**	**0**	**0**	**29**	**0**	**24**	**0**	**0**	**0**	**0**	**0**
Trip	Northbound				Southbound				Westbound				Eastbound			
Generation	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn	EBL	EBT	EBR	U-Turn
	13	0	0	0	0	1	17	0	0	1	0	0	8	1	1	0
	Northbound				Southbound				Westbound				Eastbound			
Pass-By	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn	EBL	EBT	EBR	U-Turn
	1	-1	0	0	0	-2	2	0	0	0	0	0	1	0	2	0
Build	Northbound				Southbound				Westbound				Eastbound			
Volumes	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn	EBL	EBT	EBR	U-Turn
2027	14	653	147	1	46	980	19	0	29	1	24	0	9	1	3	0

PM

	Northbound				Southbound				Westbound				Eastbound			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
End Time	---	---	---		---	---	---		---	---	---		---	---	---	
4:45	0	233	22	0	9	175	0	0	43	0	12	0	0	0	0	0
5:00	0	237	21	0	9	199	0	0	26	0	9	0	0	0	0	0
5:15	0	205	24	0	14	188	0	0	63	0	13	0	0	0	0	0
5:30	0	245	19	0	10	206	0	0	45	0	20	0	0	0	0	0
Peak Hour To	0	920	86	0	42	768	0	0	177	0	54	0	0	0	0	0
PHF	#DIV/0!	0.94	0.90	#DIV/0!	0.75	0.93	#DIV/0!	#DIV/0!	0.70	#DIV/0!	0.68	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Existing	Northbound				Southbound				Westbound				Eastbound			
Volumes	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn	EBL	EBT	EBR	U-Turn
2026	0	920	86	0	42	768	0	0	177	0	54	0	0	0	0	0
No Build	**Northbound**				**Southbound**				**Westbound**				**Eastbound**			
Volumes	**NBL**	**NBT**	**NBR**	**U-Turn**	**SBL**	**SBT**	**SBR**	**U-Turn**	**WBL**	**WBT**	**WBR**	**U-Turn**	**EBL**	**EBT**	**EBR**	**U-Turn**
2027	**0**	**929**	**87**	**0**	**42**	**776**	**0**	**0**	**179**	**0**	**55**	**0**	**0**	**0**	**0**	**0**
Trip	Northbound				Southbound				Westbound				Eastbound			
Generation	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn	EBL	EBT	EBR	U-Turn
	42	0	0	0	0	4	27	0	0	4	0	0	28	4	4	0
	Northbound				Southbound				Westbound				Eastbound			
Pass-By	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn	EBL	EBT	EBR	U-Turn
	11	-11	0	0	0	-9	9	0	0	0	0	0	7	0	5	0
Build	Northbound				Southbound				Westbound				Eastbound			
Volumes	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn	EBL	EBT	EBR	U-Turn
2027	53	918	87	0	42	771	36	0	179	4	55	0	35	4	9	0

Intersection: Bingle Rd @ I-10 WBFR

Date 5/21/2026

AM

End Time	Northbound Left	Northbound Thru	Northbound Right	Northbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Southbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	Westbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Eastbound U-Turn
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8:00	135	165	0	0	0	167	121	0	142	91	65	40				
8:15	129	139	0	0	0	137	114	0	128	89	60	33				
8:30	104	150	0	0	0	143	104	0	105	92	76	38				
8:45	137	142	0	0	0	130	121	0	127	80	66	43				
Peak Hour To	505	596	0	0	0	577	460	0	502	352	267	154	0	0	0	0
PHF	0.92	0.90	#DIV/0!	#DIV/0!	#DIV/0!	0.86	0.95	#DIV/0!	0.88	0.96	0.88	0.90	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Existing Volumes	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn				
2026	505	596	0	0	0	577	460	0	502	352	267	154				
No Build Volumes	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn				
2027	510	602	0	0	0	583	465	0	507	356	270	156				
Trip Generation	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn				
	0	8	0	0	0	4	1	0	0	0	5	0				
Build Volumes	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn				
2027	510	610	0	0	0	587	466	0	507	356	275	156				

PM

End Time	Northbound Left	Northbound Thru	Northbound Right	Northbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Southbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	Westbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Eastbound U-Turn
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4:45	125	152	0	0	0	90	99	0	80	140	77	35				
5:00	149	152	0	0	0	128	95	0	110	137	89	53				
5:15	142	162	0	0	0	112	101	0	116	148	85	37				
5:30	146	155	0	0	0	154	96	0	119	127	74	47				
Peak Hour To	562	621	0	0	0	484	391	0	425	552	325	172	0	0	0	0
PHF	0.94	0.96	#DIV/0!	#DIV/0!	#DIV/0!	0.79	0.97	#DIV/0!	0.89	0.93	0.91	0.81	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Existing Volumes	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn				
2026	562	621	0	0	0	484	391	0	425	552	325	172				
No Build Volumes	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn				
2027	568	627	0	0	0	489	395	0	429	558	328	174				
Trip Generation	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn				
	0	27	0	0	0	32	7	0	0	0	15	0				
Build Volumes	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn	WBL	WBT	WBR	U-Turn				
2027	568	654	0	0	0	521	402	0	429	558	343	174				

Intersection: Voss Rd @ I-10 EBFR

Date 5/21/2026

AM

End Time	Northbound Left	Northbound Thru	Northbound Right	Northbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Southbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	Westbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Eastbound U-Turn
	---	---	---	---	---	---	---		---	---	---		---	---	---	
8:00	0	187	152	0	103	189	0	0					117	63	56	38
8:15	0	163	124	0	88	180	0	0					109	72	56	33
8:30	0	143	97	0	87	156	0	0					107	78	49	41
8:45	0	176	99	0	82	186	0	0					111	68	58	51
Peak Hour To	0	669	472	0	360	711	0	0	0	0	0	0	444	281	219	163
PHF	#DIV/0!	0.89	0.78	#DIV/0!	0.87	0.94	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.95	0.90	0.94	0.80

Existing Volumes	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn					EBL	EBT	EBR	U-Turn
2026	0	669	472	0	360	711	0	0					444	281	219	163
No Build Volumes	**Northbound**				**Southbound**				**Westbound**				**Eastbound**			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn					EBL	EBT	EBR	U-Turn
2027	0	676	477	0	364	718	0	0					448	284	221	165
Trip Generation	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn					EBL	EBT	EBR	U-Turn
	0	5	0	0	2	2	0	0					3	0	0	0
Build Volumes	**Northbound**				**Southbound**				**Westbound**				**Eastbound**			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn					EBL	EBT	EBR	U-Turn
2027	0	681	477	0	366	720	0	0					451	284	221	165

PM

End Time	Northbound Left	Northbound Thru	Northbound Right	Northbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Southbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	Westbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Eastbound U-Turn
	---	---	---	---	---	---	---		---	---	---		---	---	---	
4:45	0	179	147	0	67	117	0	0					100	92	46	63
5:00	0	189	139	0	73	170	0	0					96	72	53	76
5:15	0	195	153	0	79	148	0	0					115	105	48	66
5:30	0	219	110	0	77	197	0	0					90	77	57	60
Peak Hour To	0	782	549	0	296	632	0	0	0	0	0	0	401	346	204	265
PHF	#DIV/0!	0.89	0.90	#DIV/0!	0.94	0.80	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.87	0.82	0.89	0.87

Existing Volumes	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn					EBL	EBT	EBR	U-Turn
2026	0	782	549	0	296	632	0	0					401	346	204	265
No Build Volumes	**Northbound**				**Southbound**				**Westbound**				**Eastbound**			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn					EBL	EBT	EBR	U-Turn
2027	0	790	554	0	299	638	0	0					405	349	206	268
Trip Generation	Northbound				Southbound				Westbound				Eastbound			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn					EBL	EBT	EBR	U-Turn
	0	19	0	0	14	18	0	0					8	0	0	0
Build Volumes	**Northbound**				**Southbound**				**Westbound**				**Eastbound**			
	NBL	NBT	NBR	U-Turn	SBL	SBT	SBR	U-Turn					EBL	EBT	EBR	U-Turn
2027	0	809	554	0	313	656	0	0					413	349	206	268

HISTORICAL GROWTH RATE DATA

Traffic Count (TCDS)

Home | Locate | Locate All | Email This | Auto-Locate: ☑

List View | Report Center

Record 1 of 1 Goto Record [ ] go

Location ID	102HP1165	MPO ID	15
Type	SPOT	HPMS ID	ASSIGNED
SF Group	STATEWIDE FC 3 U (2025)	Route Type	
AF Group	102HP1165 (2025)	Route	
GF Group	HOUSTON FC 3 (2016)	Active	Yes
Class Dist Grp	102HP1165 (2017)	Category	ANNUAL ACR
Seas Clss Grp	HOUSTON (2016)		
WIM Group	Statewide (2017)		
QC Group	Volume Group 4		
Fnct'l Class	(3)Principal Arterial-Other		
Located On	BINGLE		
Loc On Alias	BINGLE		

More Detail

STATION DATA

Directions: 2-WAY | NB | SB

AADT

	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2024	25,232	2,294	9	66	23,856 (95%)	1,376 (5%)	
	2023	27,203	2,343	9	50	25,776 (95%)	1,427 (5%)	
	2022	24,242[2]				22,893 (94%)	1,349 (6%)	AGO
	2021	23,088	2,114	9	50	21,769 (94%)	1,319 (6%)	
	2019	25,935	2,219	9	62	24,540 (95%)	1,394 (5%)	

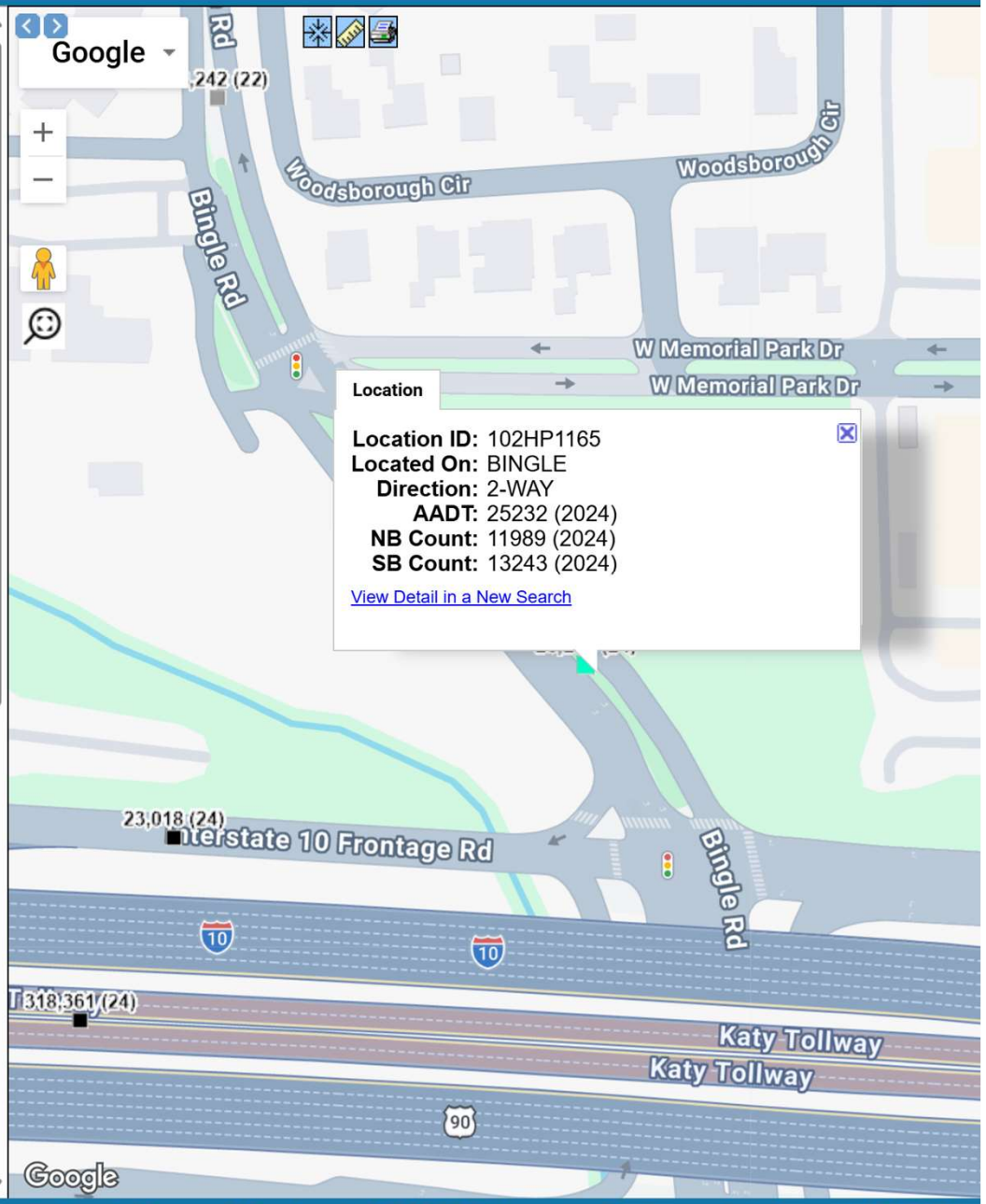
|<< | < | > | >>| 1-5 of 12

VOLUME COUNT

	Date	Int	Total
👁	Mon 4/1/2024	15	27,187
👁	Mon 2/13/2023	15	28,964
👁	Wed 4/21/2021	15	26,925
👁	Mon 3/18/2019	15	27,798
👁	Wed 2/7/2018	15	28,176
👁	Mon 5/15/2017	15	29,499
👁	Mon 2/29/2016	15	27,576

VOLUME TREND

Year	Annual Growth
2025	-4%
2024	-7%
2023	12%
2022	5%
2021	-6%
2019	-2%



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TxDOT C.R.I.S. Accident Reports

Bingle Rd @ Winningham Ln

All crash data available using this tool represents reportable data collected from Texas Peace Officer's Crash Reports (CR-3) received and processed by the Texas Department of Transportation (Department) as of 05/28/2026. The Department makes no warranty, representation or guaranty as to the content, accuracy, timeliness or completeness of any of the information provided as a result of your query. Any opinions and conclusions resulting from analysis performed on the crash data must be represented as your own and not those of the State of Texas or the Department.

Query Result Counts:
Your query returned a total of 2 Crashes containing 3 Units and 4 Persons

Filters Applied to current Query:
Crash Date Is Between 2023-01-01 00:01 and 2025-12-31 23:59

Crash Count	Crash ID	Case ID	Crash Date	Crash Time	Intersection Related	Manner of Collision
Year 2023						
1	19521700	23-15610	5/2/2023	1553	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
Year 2024 - No Crashes						
Year 2025						
1	20603834	25-00359	1/3/2025	800	NON INTERSECTION	ONE MOTOR VEHICLE - OTHER

Time Frame	Number of Crashes
*Not Correctable / Non-Intersection	2
*Correctable AM Peak 7am-9am	0
*Correctable Mid-Day 9am-4pm	0
*Correctable PM Peak 4pm-6pm	0
*Correctable Night Hours 6pm-7a	0

Collision Diagram Tables		
Type	Total	Diagram
Right Angle Crashes	0	
Left turn with Opposing Thru Traffic	0	
Right Turn not Yeilding ROW	0	
Rear End Crashes	1	
One Vehicle, Sideswipe, or Other	1	

Bingle Rd at W. Memorial Park Dr

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Query Result Counts:
Your query returned a total of 3 Crashes containing 5 Units and 7 Persons

Filters Applied to current Query:
Crash Date Is Between 2023-01-01 00:01 and 2025-12-31 23:59

Crash Count	Crash ID	Case ID	Crash Date	Crash Time	Intersection Related	Manner of Collision
Year 2023 - No Crashes						
Year 2024						
1	20015015	24-05853	2/7/2024	942	INTERSECTION	ANGLE - ONE STRAIGHT-ONE LEFT TURN
2	20491785	24-51860	11/8/2024	2211	INTERSECTION RELATED	ONE MOTOR VEHICLE - GOING STRAIGHT
Year 2025						
1	20621468	2503467	1/23/2025	1900	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE

Time Frame	Number of Crashes
*Not Correctable / Non-Intersection	2
*Correctable AM Peak 7am-9am	0
*Correctable Mid-Day 9am-4pm	1
*Correctable PM Peak 4pm-6pm	0
*Correctable Night Hours 6pm-7a	0

Collision Diagram Tables		
Type	Total	Diagram
Right Angle Crashes	1	
Left turn with Opposing Thru Traffic	0	
Right Turn not Yeilding ROW	0	
Rear End Crashes	0	
One Vehicle, Sideswipe, or Other	2	

Bingle Rd at I-10 WBFR

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Query Result Counts:
Your query returned a total of 30 Crashes containing 61 Units and 81 Persons

Filters Applied to current Query:
Crash Date Is Between 2023-01-01 00:01 and 2025-12-31 23:59

Crash Count	Crash ID	Case ID	Crash Date	Crash Time	Intersection Related	Manner of Collision
Year 2023						
1	19355284	23-02377	1/26/2023	1032	INTERSECTION RELATED	ONE MOTOR VEHICLE - GOING STRAIGHT
2	19376192	23-04049	2/7/2023	1552	INTERSECTION	SAME DIRECTION - BOTH RIGHT TURN
3	19453522	23-09877	3/22/2023	1658	INTERSECTION RELATED	SAME DIRECTION - BOTH RIGHT TURN
4	19492623	23-13715	4/16/2023	1858	NON INTERSECTION	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
5	19511659	23-14940	4/26/2023	1746	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE
6	19591657	23-21666	6/9/2023	1055	INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE
7	19760111	23-36477	9/17/2023	119	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
8	19826752	23-42141	10/19/2023	1701	NON INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-REAR END
9	19895233	23-48382	11/29/2023	825	INTERSECTION	ANGLE - BOTH GOING STRAIGHT
10	19895242	23-48484	11/29/2023	1442	INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE
11	19908237	23-48813	12/1/2023	1208	INTERSECTION	ANGLE - BOTH GOING STRAIGHT
12	19955523	23-0851	12/2/2023	1643	NON INTERSECTION	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
13	19959650	23-0885	12/14/2023	1636	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
14	19938351	23-51993	12/22/2023	1639	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE RIGHT TURN
15	19946907	23-52623	12/27/2023	1649	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
Year 2024						
1	19997584	24-0029	1/13/2024	1417	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
2	20288515	24-32031	7/6/2024	1826	INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE
3	20428963	24-46427	10/4/2024	1327	INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE
Year 2025						
1	20607101	25-02109	1/14/2025	733	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
2	20685270	25-0115	2/25/2025	1455	NON INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-REAR END
3	20747461	25-14291	3/27/2025	841	INTERSECTION RELATED	SAME DIRECTION - BOTH RIGHT TURN
4	20827172	25-23604	5/20/2025	854	INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE
5	20835883	25-25021	5/29/2025	1822	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
6	20866157	2506-03878	6/11/2025	1636	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
7	20874177	25-28328	6/20/2025	1840	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-REAR END
8	20967923	25-37232	8/10/2025	956	INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE
9	20960711	25-38010	8/14/2025	1624	INTERSECTION	ANGLE - BOTH GOING STRAIGHT
10	21093357	25-50733	10/29/2025	635	INTERSECTION	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE
11	21121087	25-52434	11/7/2025	851	INTERSECTION	SAME DIRECTION - ONE STRAIGHT-ONE RIGHT TURN
12	21171101	25-57831	12/10/2025	1208	INTERSECTION RELATED	SAME DIRECTION - ONE RIGHT TURN-ONE STOPPED

Time Frame	Number of Crashes
*Not Correctable / Non-Intersection	27
*Correctable AM Peak 7am-9am	1
*Correctable Mid-Day 9am-4pm	1
*Correctable PM Peak 4pm-6pm	1
*Correctable Night Hours 6pm-7am	0

Collision Diagram Tables		
Type	Total	Diagram
Right Angle Crashes	3	
Left turn with Opposing Thru Traffic	0	
Right Turn not Yeilding ROW	0	
Rear End Crashes	12	
One Vehicle, Sideswipe, or Other	15	

Voss Rd at I-10 EBFR

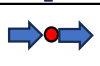
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Query Result Counts:
Your query returned a total of 11 Crashes containing 23 Units and 26 Persons

Filters Applied to current Query:
Crash Date Is Between 2023-01-01 00:01 and 2025-12-31 23:59

Crash Count	Crash ID	Case ID	Crash Date	Crash Time	Intersection Related	Manner of Collision
Year 2023						
1	19814370	230293	5/21/2023	1447	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
2	19735754	230627	8/28/2023	1144	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
Year 2024						
1	19966376	24-01187	1/8/2024	2215	NON INTERSECTION	OTHER
2	20020378	24-0089	2/6/2024	1245	INTERSECTION RELATED	SAME DIRECTION - BOTH RIGHT TURN
3	20021828	240094	2/8/2024	856	INTERSECTION RELATED	SAME DIRECTION - BOTH RIGHT TURN
4	20213164	240357	5/17/2024	1127	INTERSECTION	ANGLE - ONE STRAIGHT-ONE LEFT TURN
5	20334473	24-38573	8/13/2024	1730	INTERSECTION	ANGLE - ONE STRAIGHT-ONE RIGHT TURN
6	20415579	24-45535	9/28/2024	1340	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-REAR END
7	20497460	24-52276	11/11/2024	1541	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
Year 2025						
1	20634069	25-0047	1/28/2025	1231	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE STOPPED
2	21052264	25-46265	10/2/2025	1655	INTERSECTION RELATED	SAME DIRECTION - BOTH RIGHT TURN

Time Frame	Number of Crashes
*Not Correctable / Non-Intersection	9
*Correctable AM Peak 7am-9am	0
*Correctable Mid-Day 9am-4pm	1
*Correctable PM Peak 4pm-6pm	1
*Correctable Night Hours 6pm-7an	0

Collision Diagram Tables		
Type	Total	Diagram
Right Angle Crashes	1	
Left turn with Opposing Thru Traffic	0	
Right Turn not Yeilding ROW	1	
Rear End Crashes	5	
One Vehicle, Sideswipe, or Other	4	

ITE TRIP GENERATION SHEETS & PASS-BY JUSTIFICATION

Land Use: 930
Fast Casual Restaurant

Description

A fast casual restaurant is a sit-down restaurant with no (or very limited) wait staff or table service. A customer typically orders off a menu board, pays for food before it is prepared, and seats themselves. The menu generally contains higher-quality, made-to-order food items with fewer frozen or processed ingredients than at a fast-food restaurant. Most patrons eat their meal within the restaurant, but a significant portion of the restaurant sales can be carry-out orders. A fast casual restaurant may have a drive-through window or external order pickup window. A fast casual restaurant typically serves lunch and dinner; some also serve breakfast. The typical duration of stay for an eat-in customer is 40 minutes or less.

Additional Data

The sites were surveyed in the 2010s and the 2020s in Minnesota, North Carolina, Pennsylvania, Washington, and Wisconsin.

Source Numbers

861, 959, 962, 1020, 1048, 1231

Fast Casual Restaurant
(930)

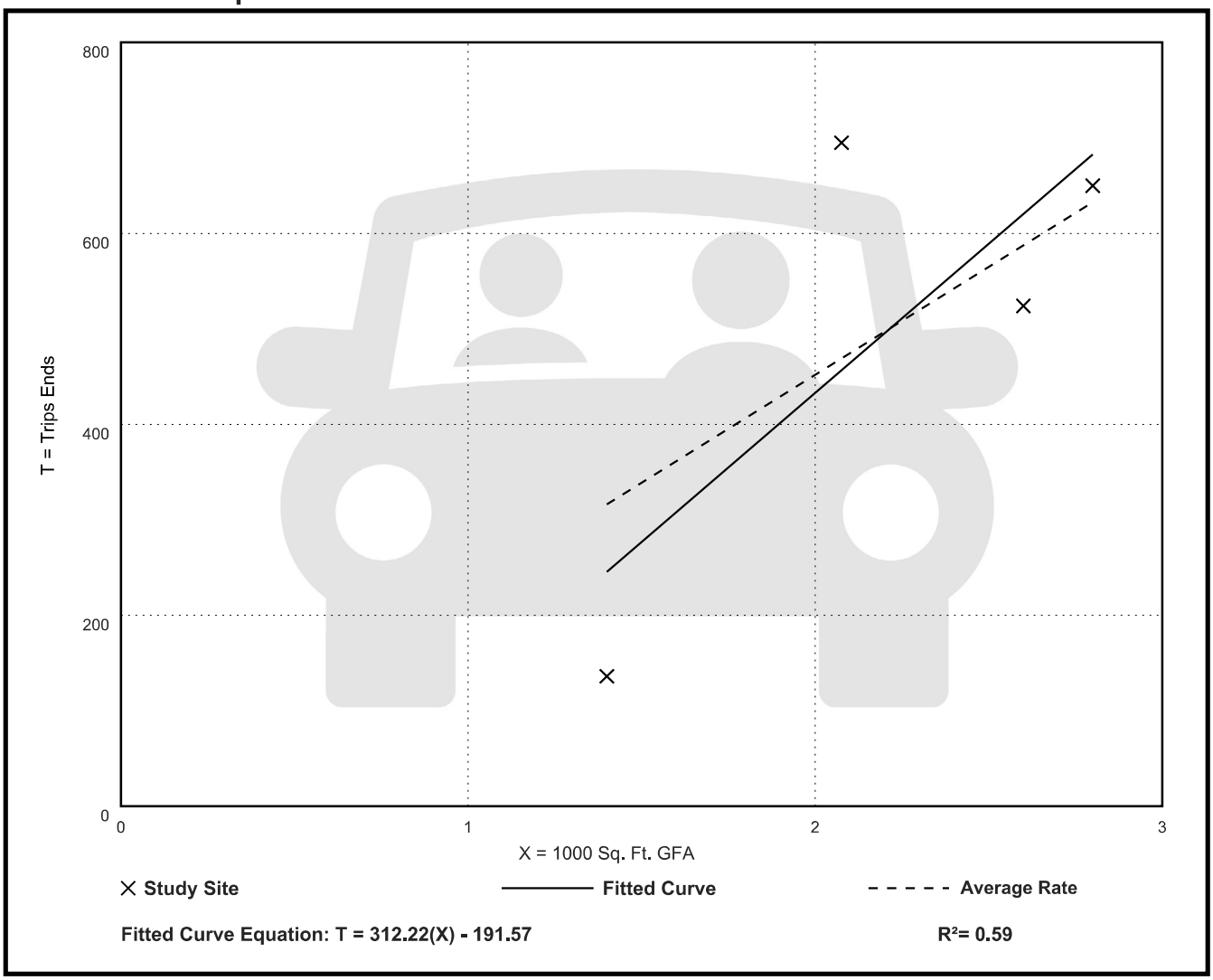
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
225.89	97.14 - 334.78	86.21

Data Plot and Equation



Fitted Curve Equation: T = 312.22(X) - 191.57

R^2= 0.59

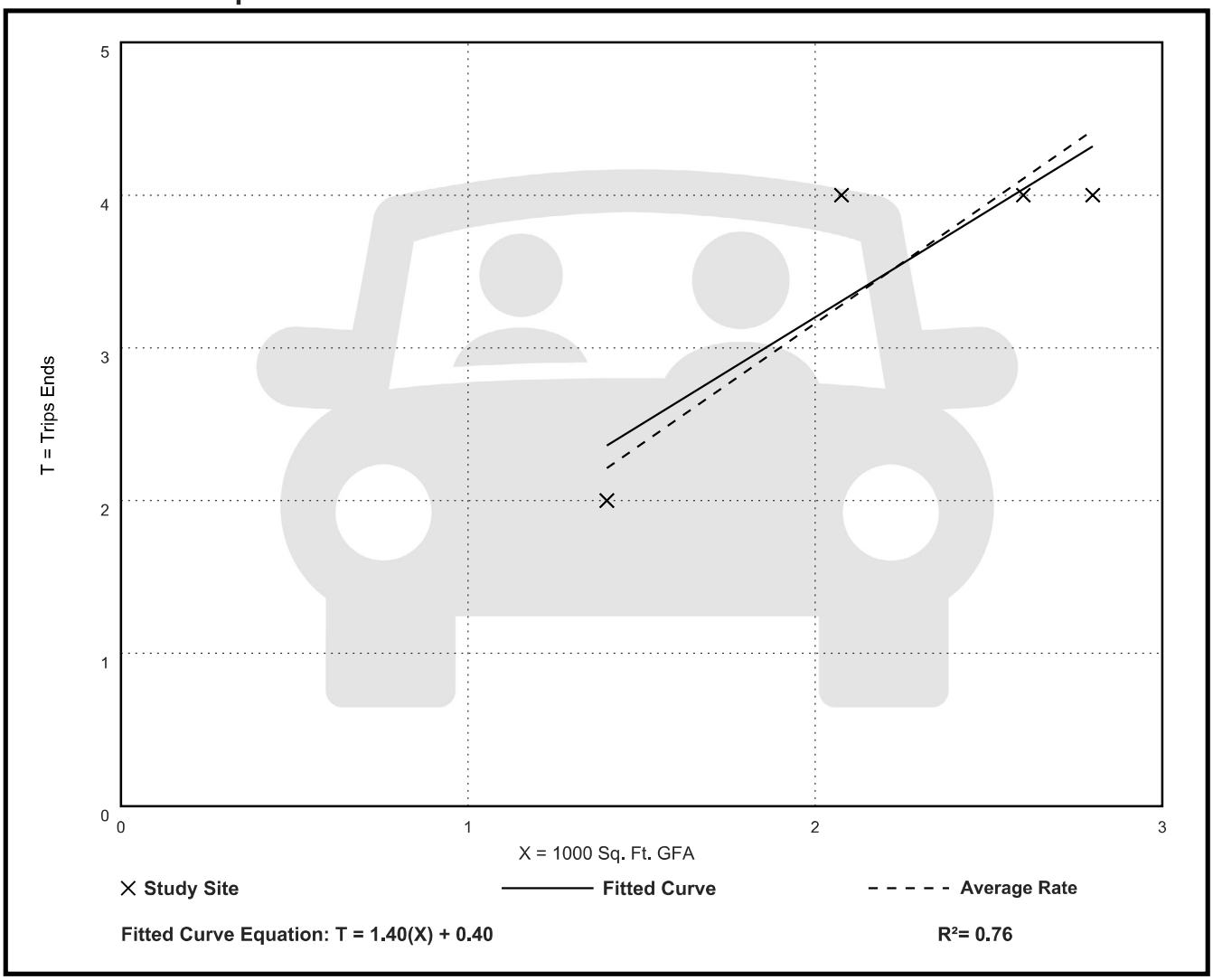
Fast Casual Restaurant
(930)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	4
Avg. 1000 Sq. Ft. GFA:	2
Directional Distribution:	64% entering, 36% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.58	1.43 - 1.93	0.23

Data Plot and Equation



Fitted Curve Equation: T = 1.40(X) + 0.40

R^2= 0.76

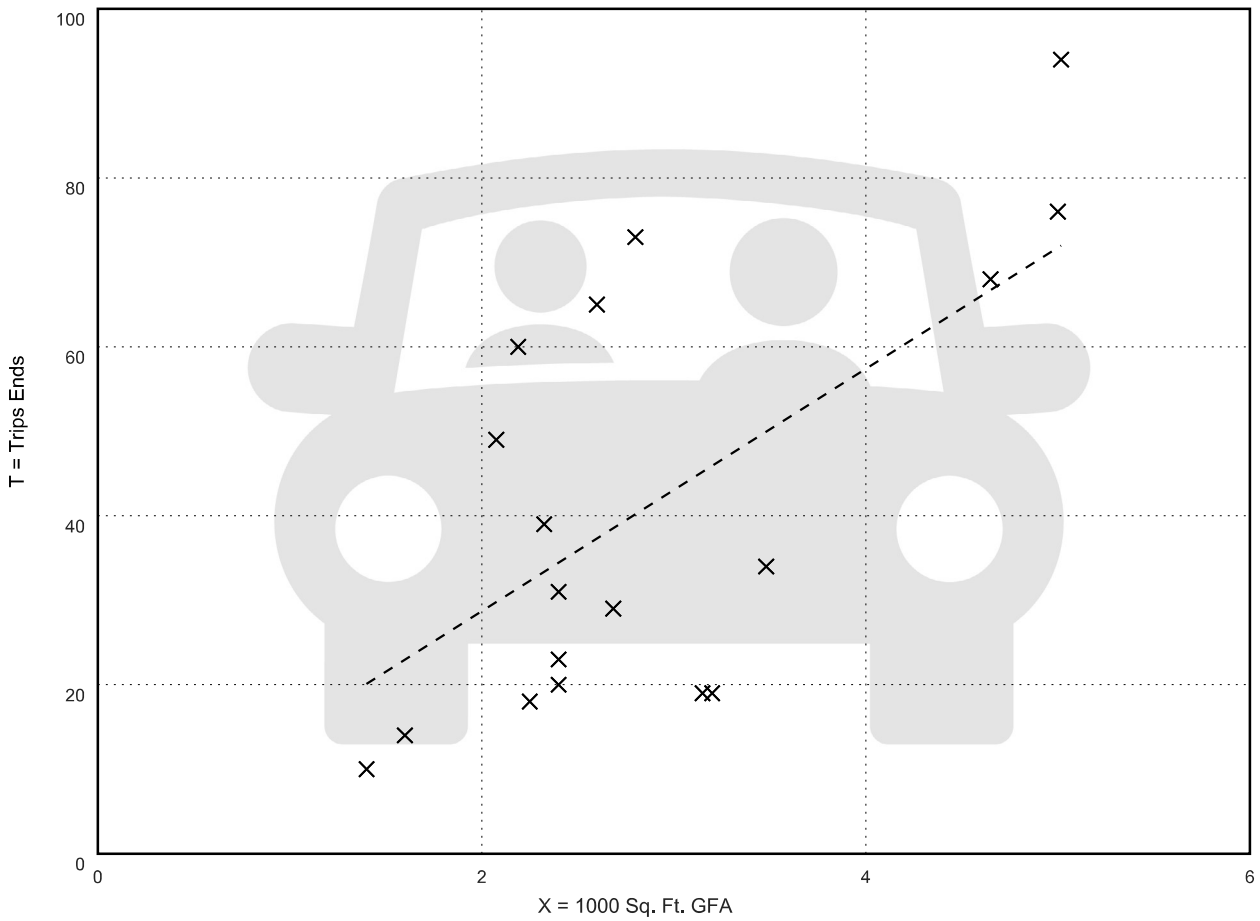
Fast Casual Restaurant
(930)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	18
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	53% entering, 47% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.35	5.94 - 27.40	6.80

Data Plot and Equation



Land Use: 931
Fine Dining Restaurant

Description

A fine dining restaurant is a full-service eating establishment with a typical duration of stay of at least 1 hour. A fine dining restaurant generally does not serve breakfast; some do not serve lunch; all serve dinner. This type of restaurant often requests and sometimes requires a reservation and is generally not part of a chain. A patron commonly waits to be seated, is served by wait staff, orders from a menu and pays after the meal. Some of the study sites have lounge or bar facilities (serving alcoholic beverages), but meal service is the primary draw to the restaurant.

Additional Data

If the fine dining restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The sites were surveyed in the 1990s, the 2010s, and the 2020s in Arizona, California, Florida, Indiana, Kentucky, New Jersey, and Utah.

Source Numbers

338, 339, 368, 437, 440, 976, 1053, 1204

Fine Dining Restaurant
(931)

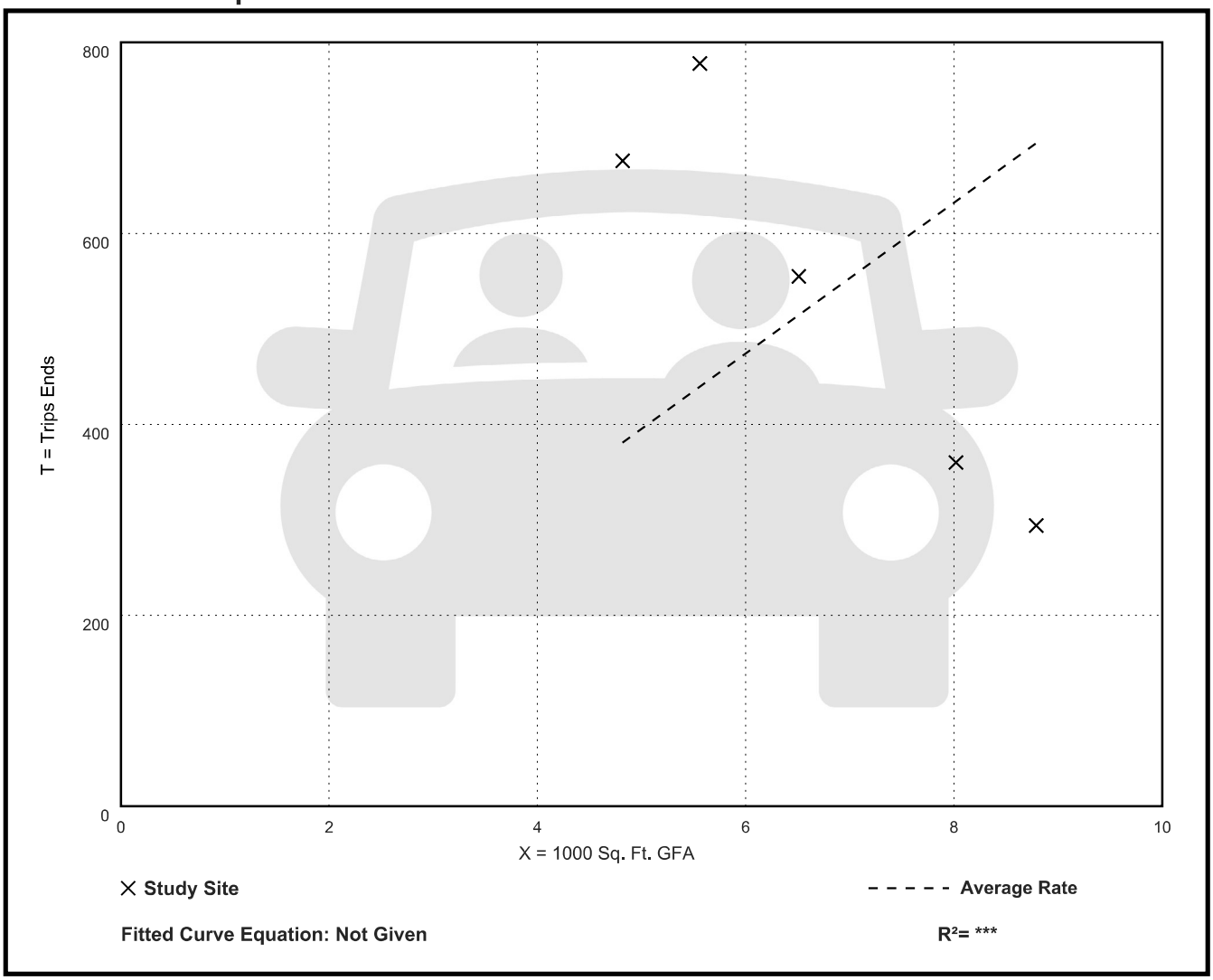
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 7
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
79.03	33.45 - 140.31	49.69

Data Plot and Equation



Fine Dining Restaurant
(931)

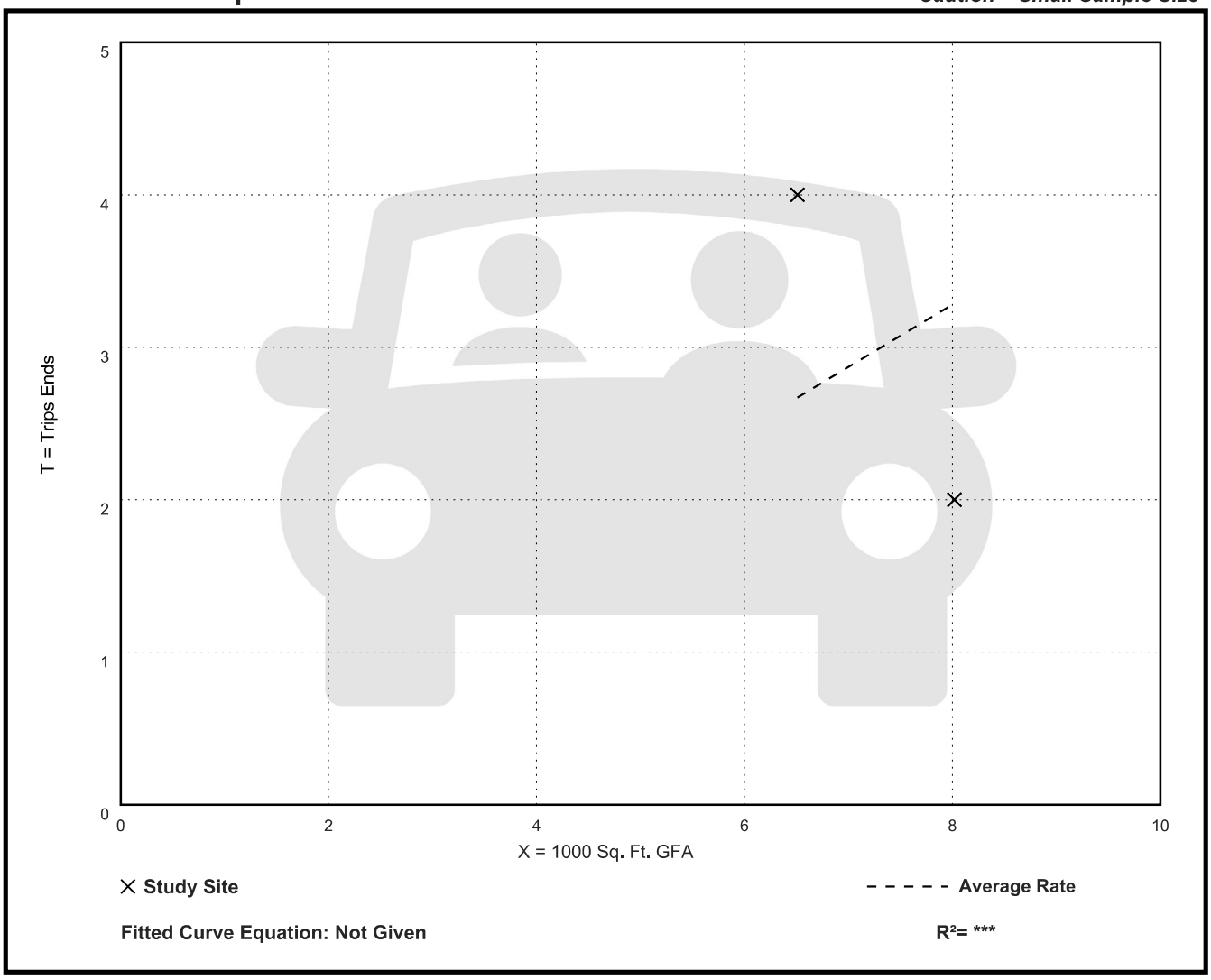
Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	2
Avg. 1000 Sq. Ft. GFA:	7
Directional Distribution:	Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.41	0.25 - 0.61	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= *

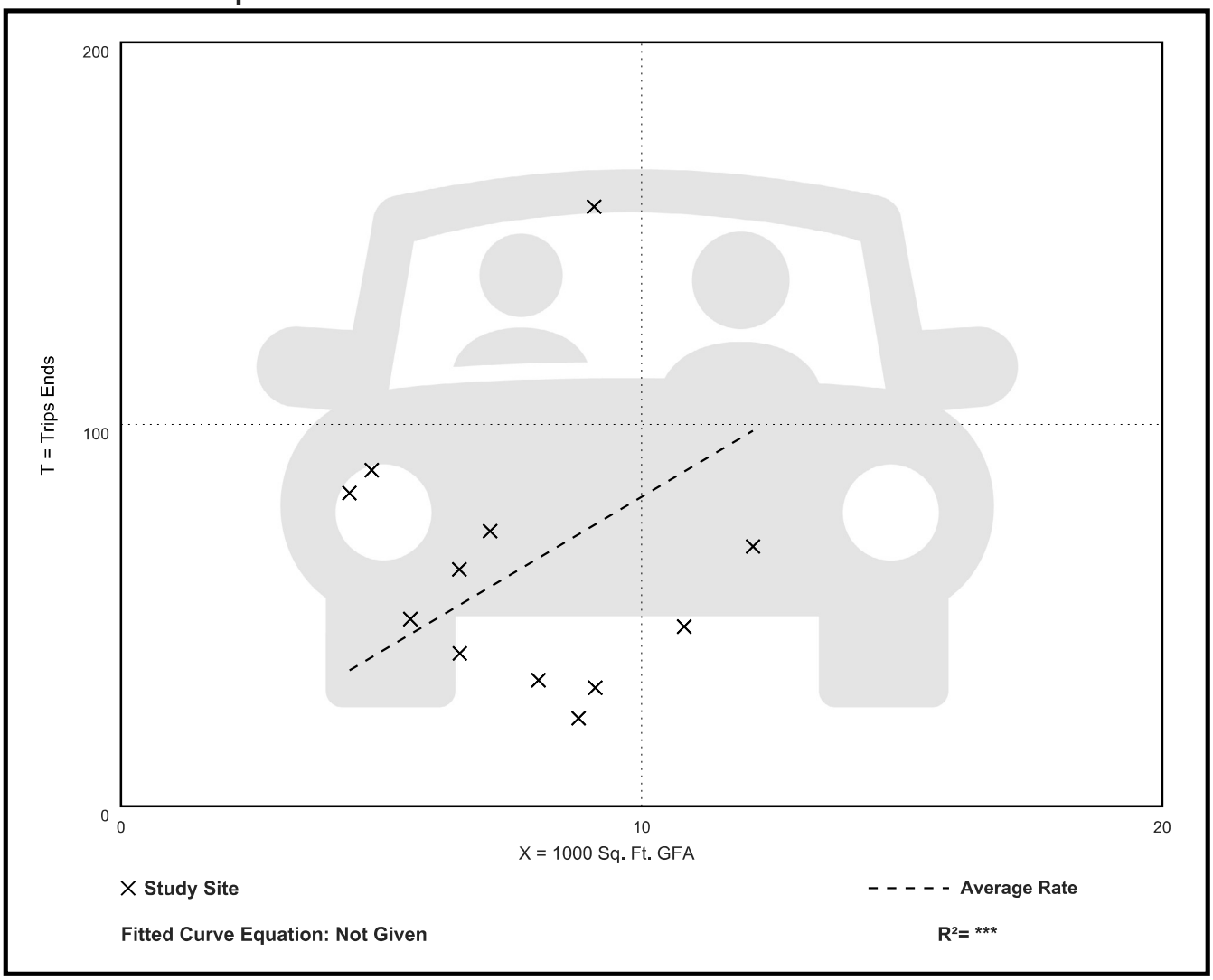
Fine Dining Restaurant
(931)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	12
Avg. 1000 Sq. Ft. GFA:	8
Directional Distribution:	69% entering, 31% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.10	2.62 - 18.68	5.58

Data Plot and Equation



Land Use: 492
Health/Fitness Club

Description

A health/fitness club is a privately-owned facility primarily focused on individual fitness or training. It typically provides exercise classes, fitness equipment, a weight room, spa, lockers rooms, and a small restaurant or snack bar. This land use may also include ancillary facilities such as a swimming pool, whirlpool, sauna, limited retail, and tennis, pickleball, racquetball, or handball courts. These facilities are membership clubs that may allow access to the public for a fee. The primary difference between Health/Fitness Club (Land Use 492) and Athletic Club (Land Use 493) is that a Health/Fitness Club primarily focuses on individual fitness or training, whereas an Athletic Club also includes competitive team sport activities and social facilities.

Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Connecticut, Florida, New Jersey, Pennsylvania, Vermont, and Wisconsin.

Source Numbers

571, 588, 598, 728, 926, 959, 1212, 1219

Health/Fitness Club
(492)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

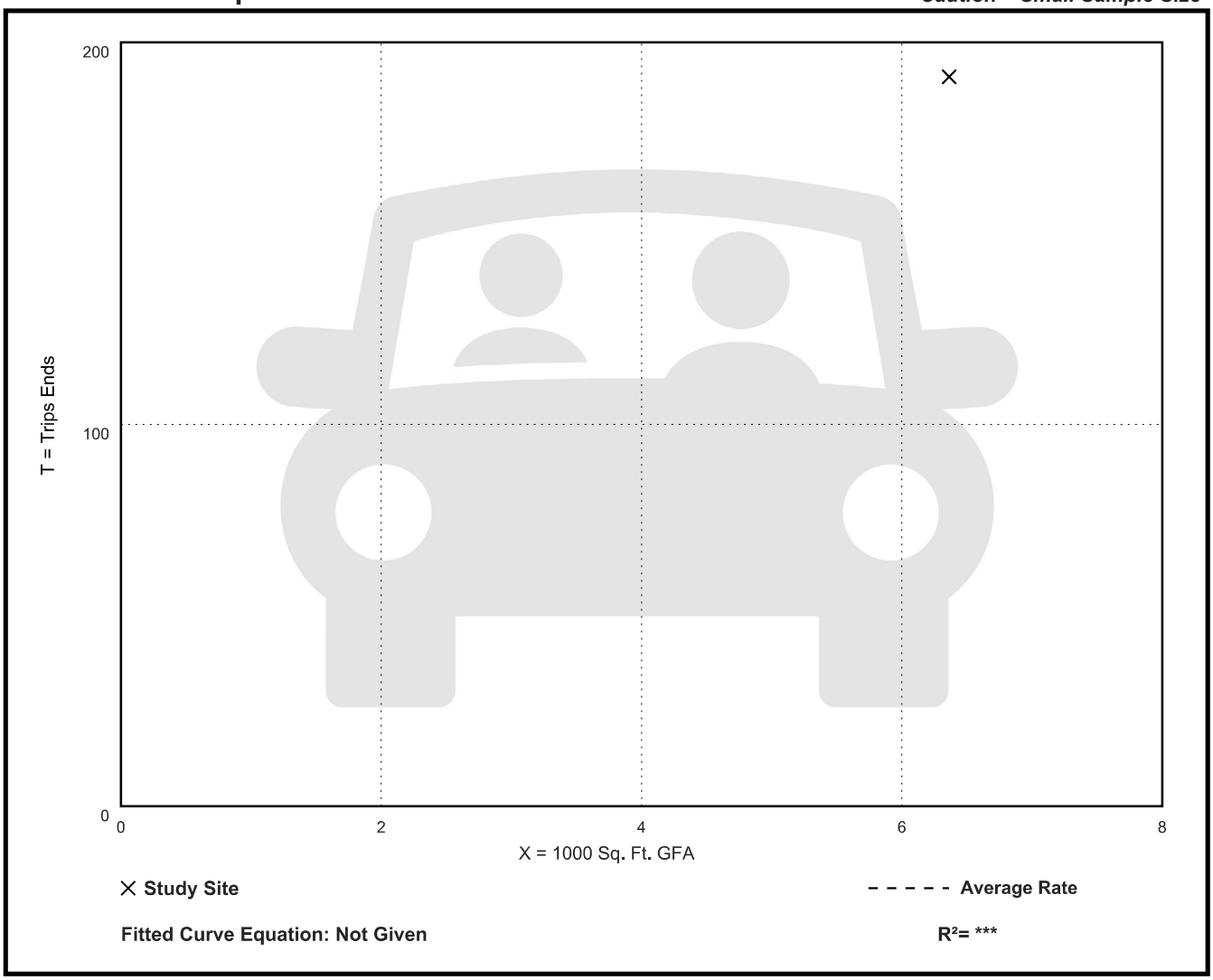
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
30.02	30.02 - 30.02	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= *

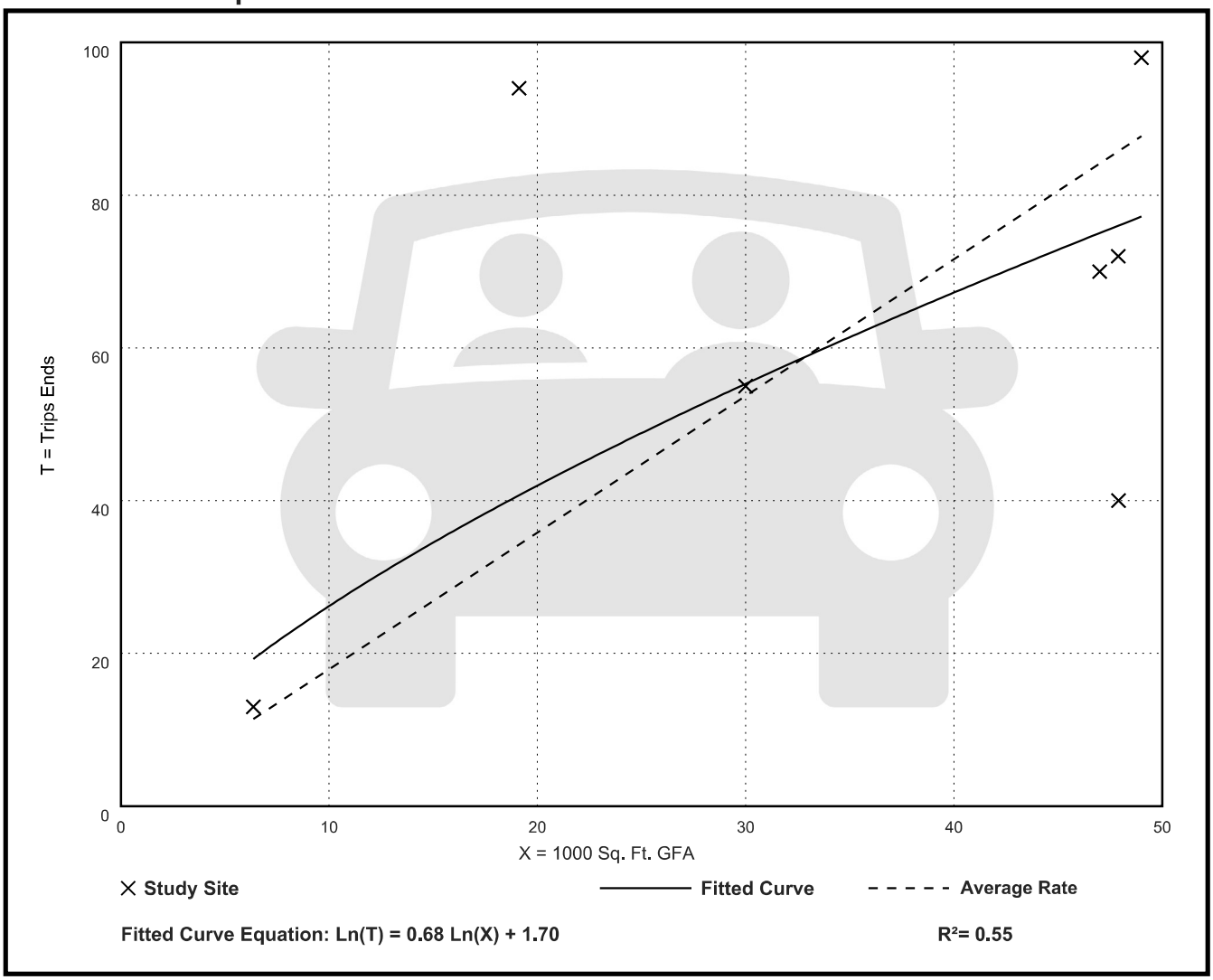
Health/Fitness Club
(492)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	7
Avg. 1000 Sq. Ft. GFA:	35
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.79	0.84 - 4.92	1.07

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.68 Ln(X) + 1.70

R^2= 0.55

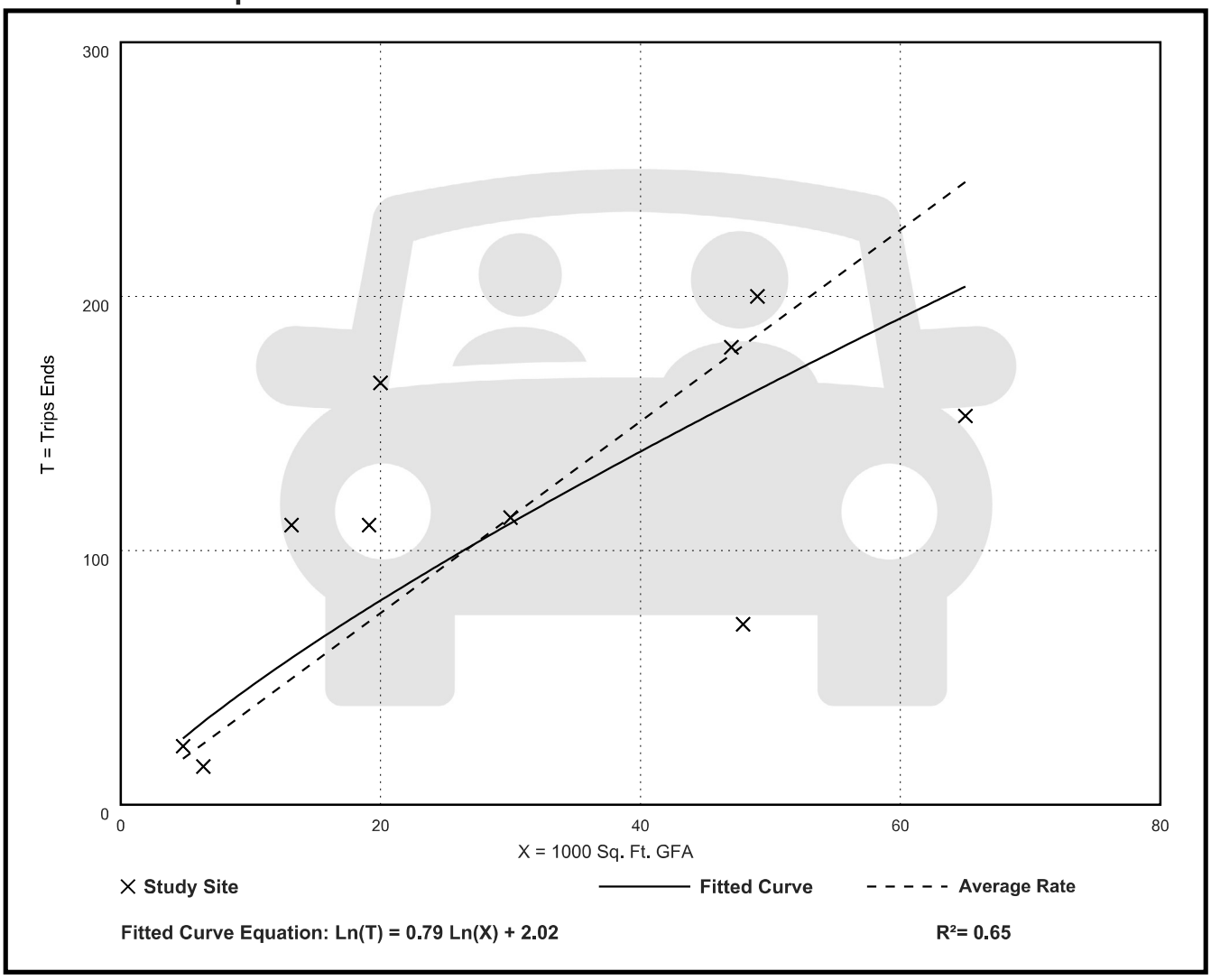
Health/Fitness Club
(492)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	10
Avg. 1000 Sq. Ft. GFA:	30
Directional Distribution:	57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.77	1.48 - 8.37	2.07

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.79 Ln(X) + 2.02

R^2= 0.65

Land Use: 720
Medical-Dental Office Building

Description

A medical-dental office building is a facility or clinic with one or more tenants that provides diagnoses and outpatient care on a routine basis. Tenants range from individual private physicians and dentists to large medical practices. Patient visits are by appointment only. Walk-in clinic (Land Use 630) is a related use.

Land Use Subcategory

Analysis of medical-dental office building data found that trip generation rates differ measurably between sites located within or adjacent to a hospital campus and sites that are stand-alone. Data plots are presented for these two land use subcategories.

Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in California, Connecticut, Hawaii, Minnesota, New Jersey, New York, Oregon, Pennsylvania, South Dakota, Texas, Washington, and Wisconsin.

Source Numbers

357, 384, 444, 509, 601, 867, 879, 901, 902, 908, 959, 1208, 1219, 1241

Medical-Dental Office Building - Stand-Alone (720)

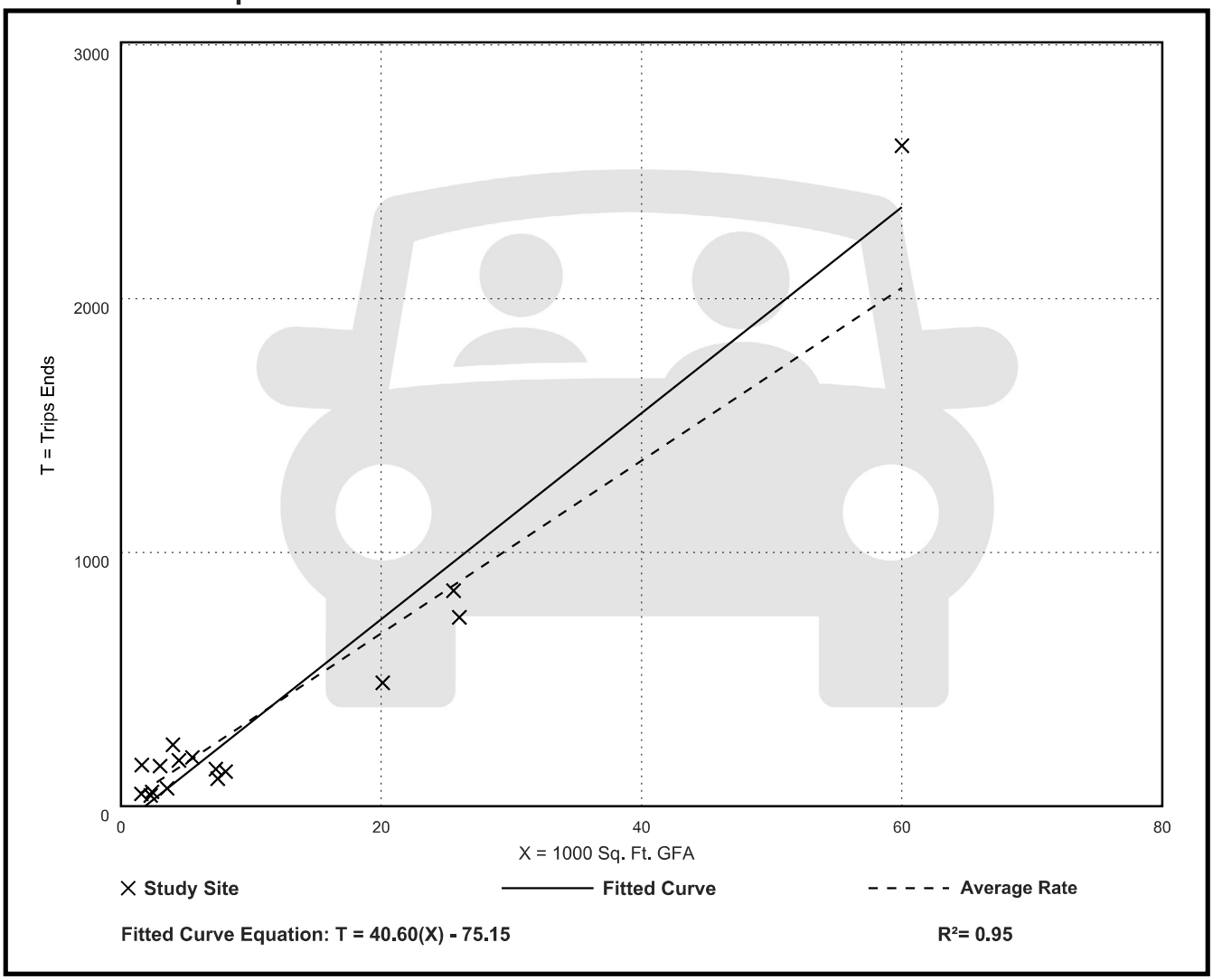
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 11
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
34.03	14.52 - 100.75	12.64

Data Plot and Equation



Fitted Curve Equation: T = 40.60(X) - 75.15

R^2= 0.95

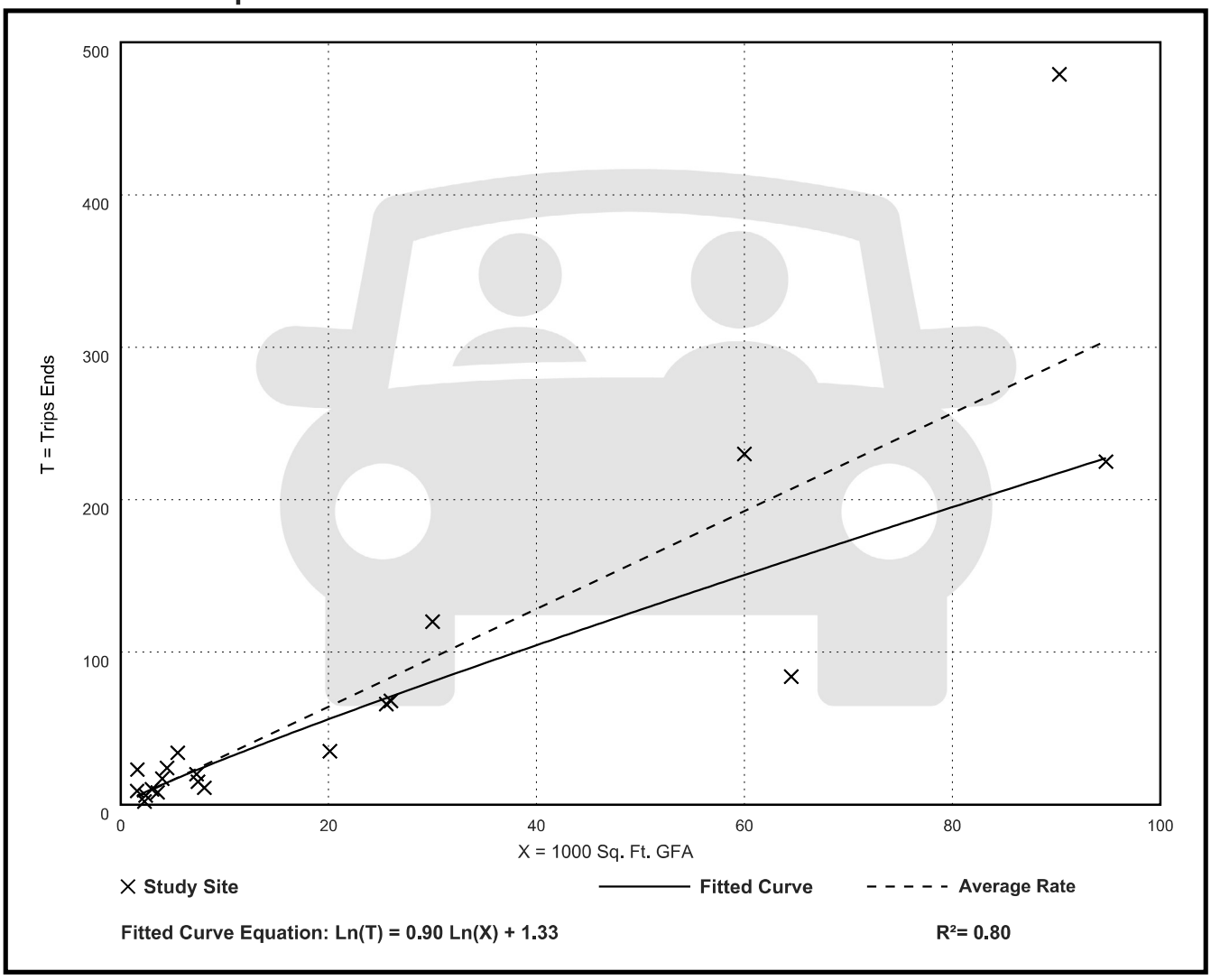
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	20
Avg. 1000 Sq. Ft. GFA:	23
Directional Distribution:	78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.21	0.87 - 14.30	1.61

Data Plot and Equation



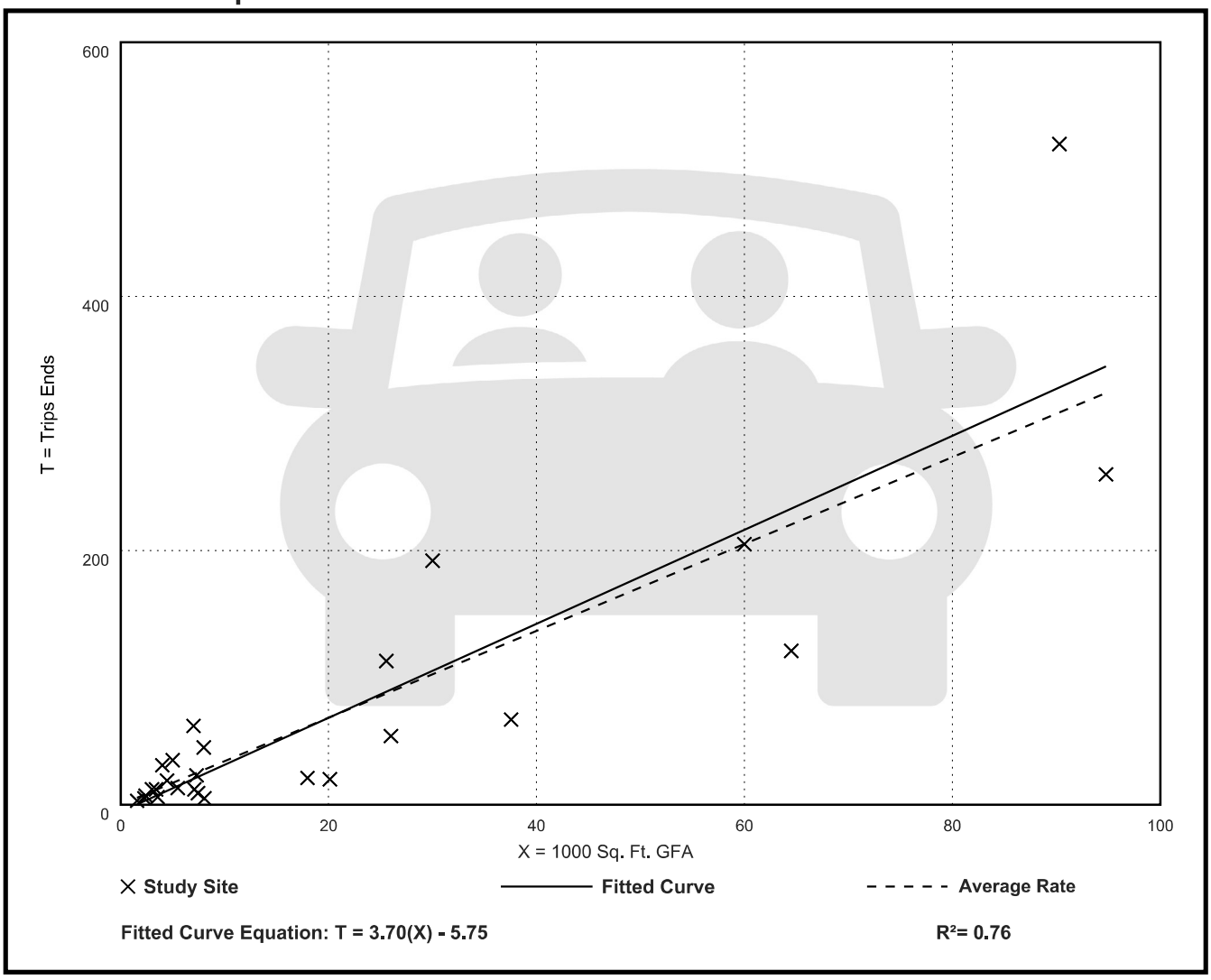
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	26
Avg. 1000 Sq. Ft. GFA:	21
Directional Distribution:	30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.42	0.62 - 8.86	1.89

Data Plot and Equation



Fitted Curve Equation: T = 3.70(X) - 5.75

R^2= 0.76

Land Use: 822
Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, its GLA is the same as the gross floor area of the building.

The 40,000-square-foot GLA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. All shopping plazas in the database with a supermarket as their anchor are larger than 40,000 square feet GLA.

Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Delaware, Florida, New Jersey, Ontario (CAN), Pennsylvania, South Dakota, Vermont, and Wisconsin.

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not contain retail that would generate significant trips during this period (for example, a coffee/donut shop).

Source Numbers

358, 428, 437, 507, 728, 936, 960, 961, 1009, 1219

Strip Retail Plaza (<40k)
(822)

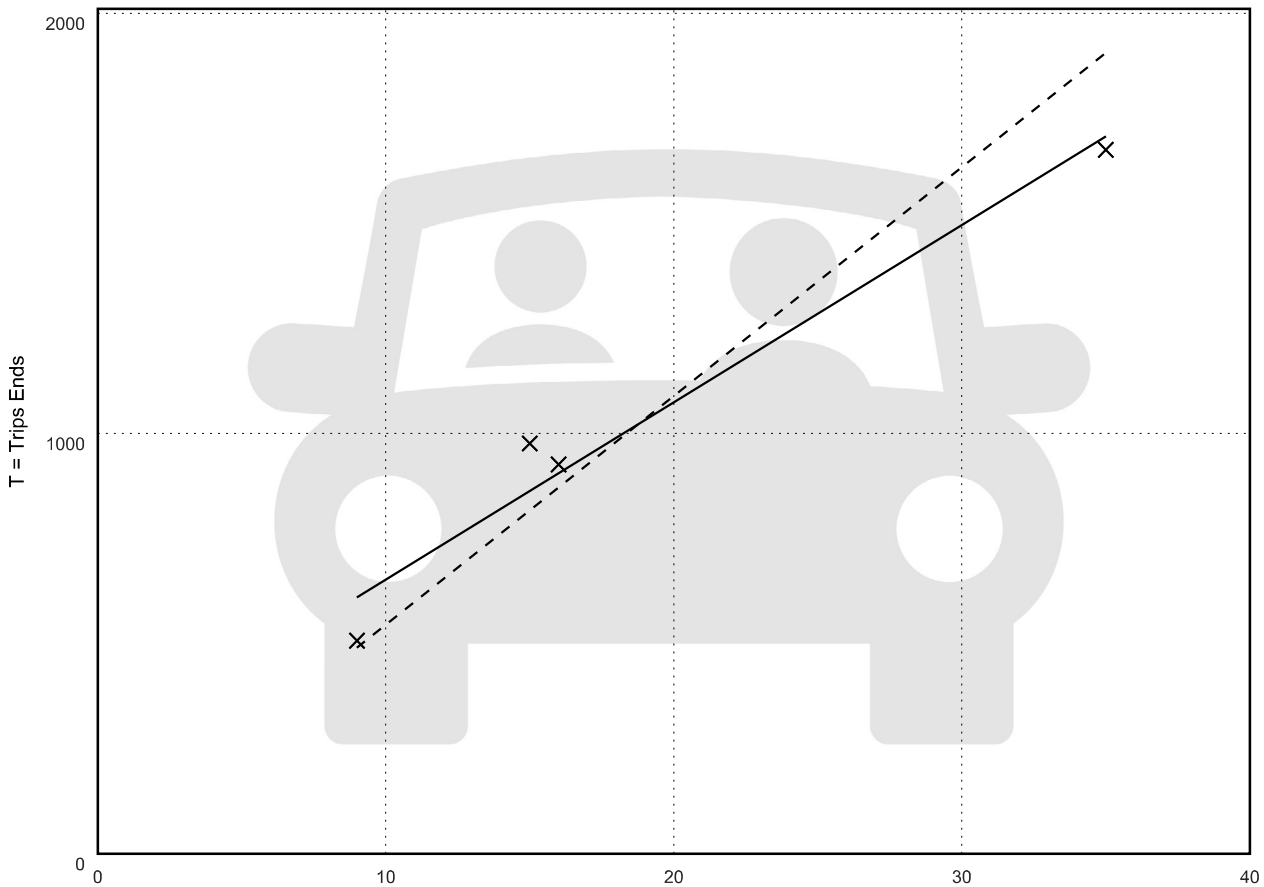
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GLA: 19
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation



Fitted Curve Equation: T = 42.20(X) + 229.68

R^2= 0.96

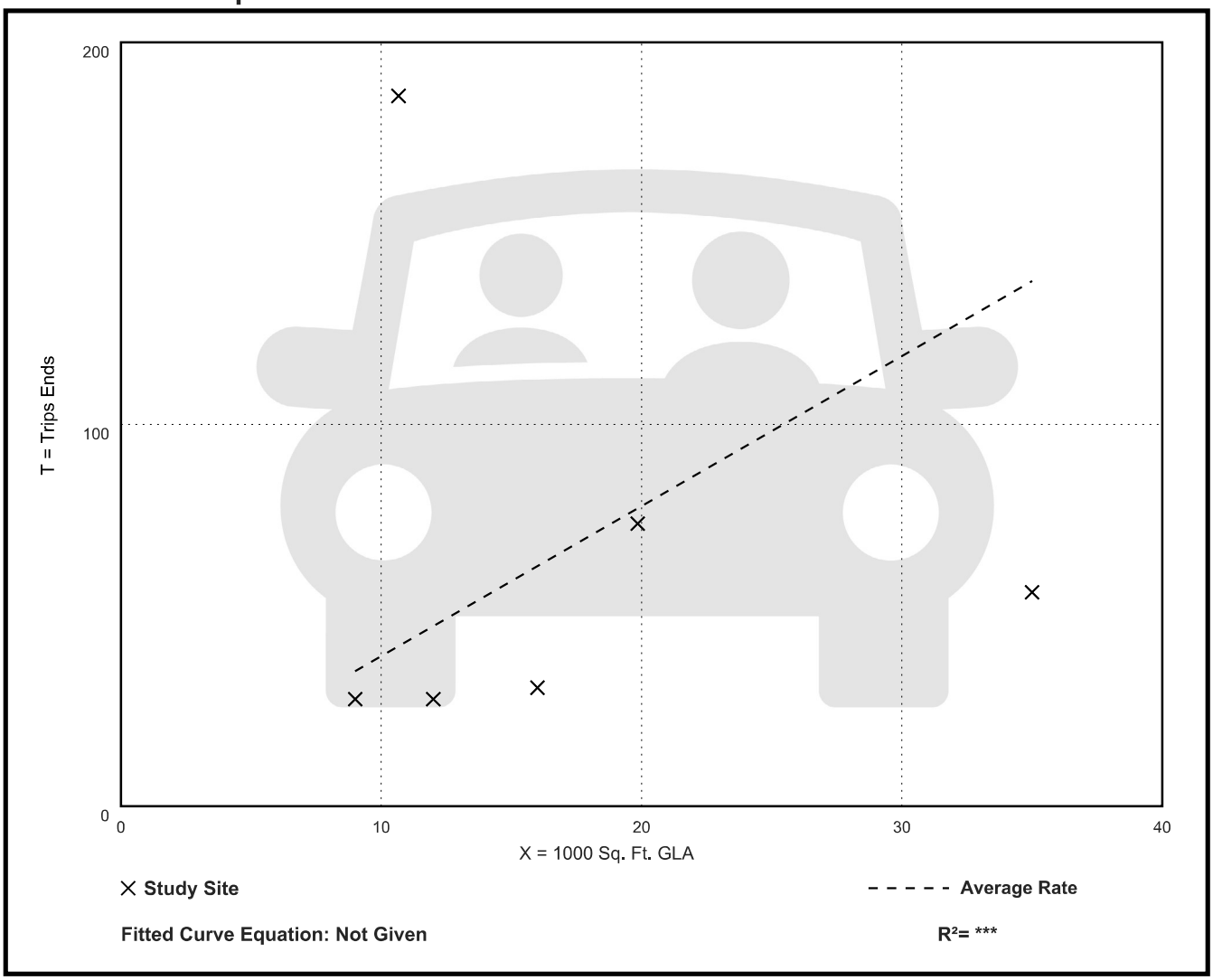
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	6
Avg. 1000 Sq. Ft. GLA:	17
Directional Distribution:	55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.93	1.60 - 17.44	5.12

Data Plot and Equation



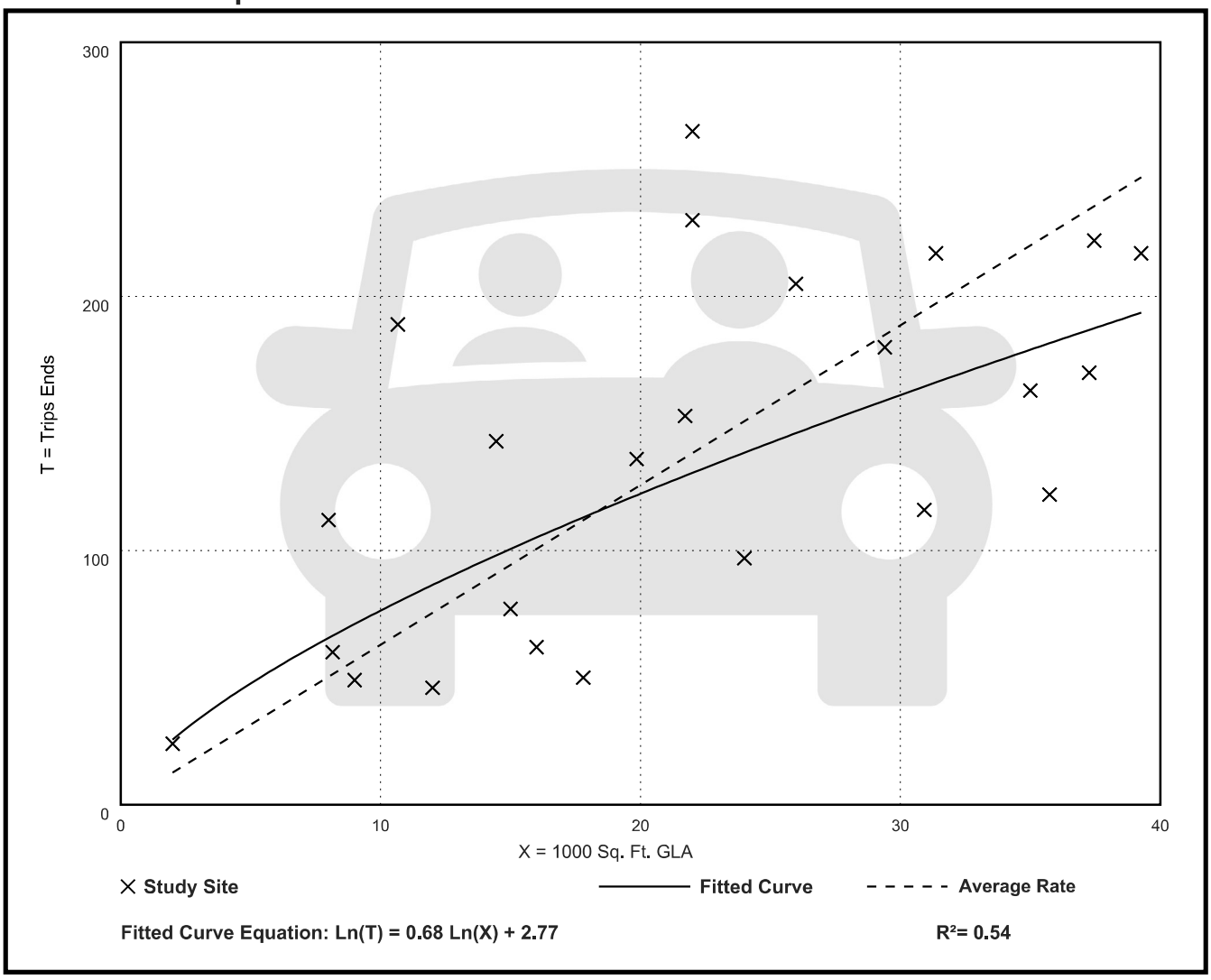
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	24
Avg. 1000 Sq. Ft. GLA:	22
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.29	2.81 - 17.72	3.02

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.68 Ln(X) + 2.77

R^2= 0.54

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	931
Land Use	Fine Dining
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	4
Average Pass-By Rate	44%

Pass-By Characteristics for Individual Sites

GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
6.5	Florida	1995	173	62	—	—	38	—	30
8	Florida	1992	168	45	—	—	55	—	30
8.8	Florida	1992	84	44	40	16	56	—	30
12	Kentucky	1993	38	26	36	38	74	4145	2

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	821
Land Use	Shopping Plaza (40 - 150k)
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	15
Average Pass-By Rate	40%

Pass-By Characteristics for Individual Sites

GLA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
45	Florida	1992	844	56	24	20	44	—	30
50	Florida	1992	555	41	41	18	59	—	30
52	Florida	1995	665	42	33	25	58	—	30
53	Florida	1993	162	59	—	—	41	—	30
57.23	Kentucky	1993	247	31	53	16	69	2659	34
60	Florida	1995	1583	40	38	22	60	—	30
69.4	Kentucky	1993	109	25	42	33	75	1559	34
77	Florida	1992	365	46	—	—	54	—	30
78	Florida	1991	702	55	23	22	45	—	30
82	Florida	1992	336	34	—	—	66	—	30
92.857	Kentucky	1993	133	22	50	28	78	3555	34
100.888	Kentucky	1993	281	28	50	22	72	2111	34
121.54	Kentucky	1993	210	53	30	17	47	2636	34
144	New Jersey	1990	176	32	44	24	68	—	24
146.8	Kentucky	1993	—	36	39	25	64	—	34

Justification for Pass-By Trip Reduction Percentage

When the ITE Trip Generation Manual went from the 10th edition to the 11th edition, it split land use 820-Shopping Center into 3 separate land uses:

- 820-Shopping Center (>150ksqft)
- 821-Shopping Plaza (40-150ksqft)
- 822-Strip Retail Plaza (<40ksqft)

The 3rd edition of the ITE Trip Generation Handbook provides pass-by trip percentage for Land use 820 as it relates to the 10th edition of the Trip Generation Manual. The overall pass-by percentage is listed at 34%. If we identify the six smallest developments (shown below) within all the studied developments listed (see attached sheets) we get an **average pass-by percentage of 52%.** Also, if we look at the relationship between the size of the development and the resulting pass-by percentage, we note that as the size of the development decreases, the pass-by percentage increases.

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
9	Kissimmee, FL	1994	107	2:00–6:00 p.m.	66	20	14	34	—	—	TPD Inc.
17	Orlando, FL	1994	196	2:00–6:00 p.m.	66	—	—	34	—	—	TPD Inc.
44	Pr. Georges Co., MD	1982/83	97	4:00–6:00 p.m.	51	—	—	49	—	—	JHK
45	Orlando, FL	1992	844	2:00–6:00 p.m.	56	24	20	44	—	—	TPD Inc.
50	Orlando, FL	1992	555	2:00–6:00 p.m.	41	41	18	59	—	—	TPD Inc.
51	Boca Raton, FL	Dec. 1987	110	4:00–6:00 p.m.	33	34	33	67	—	42,225	Kimley-Horn and Assoc. Inc.

When considering the most recent data sets (Pass-By Tables - Trip Generation Manual 11th Ed.xlsx (live.com)), we see a similar relationship between the size of the development and the pass-by percentage.

- For Sites between 300-900K, the average pass-by percentage is 19%
- For Sites between 150-300K, the average pass-by percentage is 29%
- For Sites between 40-150k, the average pass-by percentage is 40%

Vehicle Pass-By Rates by Land Use		
Source: ITE *Trip Generation Manual*, 11th Edition		
Land Use Code	820	
Land Use	Shopping Center (> 150k)	
Setting	General Urban/Suburban	
Time Period	Weekday PM Peak Period	
# Data Sites	8 Sites with GLA between 150 and 300k	16 Sites with GLA between 300 and 900k
Average Pass-By Rate	29% for Sites with GLA between 150 and 300k	19% for Sites with GLA between 300 and 900k
	Pass-By Characteristics for Individual Sites	

Vehicle Pass-By Rates by Land Use	
Source: ITE *Trip Generation Manual*, 11th Edition	
Land Use Code	821
Land Use	Shopping Plaza (40 - 150k)
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	15
Average Pass-By Rate	40%
	Pass-By Characteristics for Individual Sites

If we assume that the trend **(an increase in 10% pass-by trips for each step down in size)** will continue with each step down in development size, then for retail developments with a **size <40k** (Land Use 822) we would expect to see a pass-by percentage of **approximately 50%.** This assumed 50% Pass-By rate matches the calculated average pass-by percentage above from the data taken from the 3rd edition of the trip generation handbook as it relates to the 10th edition of the ITE Trip Generation Manual.

Based on this data, a pass-by percentage of 50% would be justifiable; however, to be conservative we used a pass-by percentage of 40%. This is 10% less than what the data above justifies, but provides a more conservative percentage to insure we adequately reflect the impact of the development. Based on the data above and engineering judgement, to use a pass-by percentage less than 40% is not representative of real life expectations and contradicts the data above.

NCHRP REPORT 348

National Cooperative Highway Research Program

NCHRP Report 348

Access Management Guidelines for Activity Centers

Transportation Research Board
National Research Council

National Cooperative Highway Research Program

Report 348

Access Management Guidelines for Activity Centers

F. J. KOEPKE
Metro Transportation Group, Inc.
Bloomingdale, Illinois
and
H. S. LEVINSON
Transportation Consultant
New Haven, Connecticut

TRANSPORTATION RESEARCH BOARD
NATIONAL RESEARCH COUNCIL

Research Sponsored by the American Association of State Highway and Transportation Officials in Cooperation with the Federal Highway Administration

NATIONAL ACADEMY PRESS
Washington, D.C. 1992

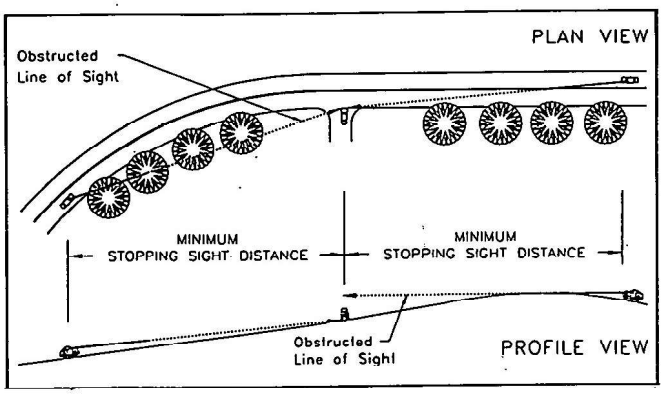


Figure 9-9. Sight distance example.

9.4 SEPARATE TURNING LANES

It may be necessary to construct turning lanes for right or left turns into an access drive for safety or capacity reasons where highway speeds or traffic volumes are high or if there are substantial turning volumes. The purpose of a separate turning lane is to expedite the movement of through traffic, increase intersection capacity, permit the controlled movement of turning traffic, and promote the safety of all traffic. This is accomplished by providing lanes that remove turning vehicles from the through-travel lanes.

The provision of left-turn lanes is essential from both capacity and safety standpoints where left turns would otherwise share the use of a through lane. Shared use of a through lane will dramatically reduce capacity, especially when opposing traffic is heavy. One left turn per signal cycle delays 40 percent of the through vehicles in the shared lane; two turns per cycle delays 60 percent (*3*). Rear-end accidents can be severe on shared lanes.

Right-turn lanes remove the speed differences in the main travel lanes, thereby reducing the frequency and severity of rear-end collisions. They also increase capacity of signalized intersections and may allow more efficient traffic signal phasing.

Table 9-7. Standard stopping sight distances. (Source: American Association of State Highway and Transportation Officials, *A Policy on Geometric Design for Highways and Streets,* 1990)

OPERATING SPEED	Stopping Sight Distances (in feet)						
	STREET GRADE IN PERCENT						
	Upgrades			Level	Downgrades		
	9%	6%	3%	0%	-3%	-6%	-9%
25 mph	140	145	150	150	155	160	165
30 mph	180	190	200	200	210	220	230
35 mph	215	225	235	240	255	270	290
40 mph	270	280	290	300	320	340	370
45 mph		340	350	365	390	420	
50 mph		410	420	440	470	510	
55 mph		460	475	500	540	590	

NOTE: For speeds greater than 35 mph, an average distance between upper and lower operations limits has been used.

Table 9-8. Intersection sight distance triangle.

POSTED SPEED (mph)	Ll (ft.)	Lr2 (ft.)	Lr4 (ft.)
30	270	190	140
35	340	230	165
40	430	280	210
45	540	340	250
50	650	400	300
55	760	460	350

NOTE: Assumes 12 foot wide traffic lanes.
Ll = Clear distance to the left.
Lr2 = Clear distance to the right - 2-lane roadway.
Lr4 = Clear distance to the right - 4-lane roadway.

Warrants

Although turning lanes may be required for some or all access locations to major activity centers, they are not always required for smaller developments. Where there are three or more through lanes in the direction of travel, the requirements for a separate right-turn lane may be dropped. Whether or not a separate turning lane is required at a specific location should be determined by a traffic engineering study. Various guidelines and warrants are suggested to guide this decision.

Left-Turn Lanes—Signalized Intersections. The 1985 "Highway Capacity Manual" recommends that an exclusive left-turn lane be provided at signalized intersections under the following conditions. (1) Where fully protected left-turn phasing is to be provided, an exclusive left-turn lane should be provided. (2) Where space permits use of a left-turn lane, it should be considered where peak-hour left-turn volumes exceed 100 vph. Left-turn lanes may be provided for lower volumes as well, based on the judged need and state or local practice. (Colorado requires by regulation that all new access connections provide a left-turn lane where the peak-hour turn volume exceeds 12 vph.) (3) Where left-turn volumes exceed 300 vph, provision of a double left-turn lane should be considered. (These lanes are essential at access points to major generators to reduce signal time requirements and spillback onto main travel lanes.)

Left-turn lanes also should be provided when delay caused by left-turning vehicles blocking through vehicles would become a problem. When the sum of left-turn and opposing volumes results in unacceptable left-turn delay, the provision of a separate turn lane would not only increase intersection capacity, but would also increase vehicle safety. The provision of left-turn

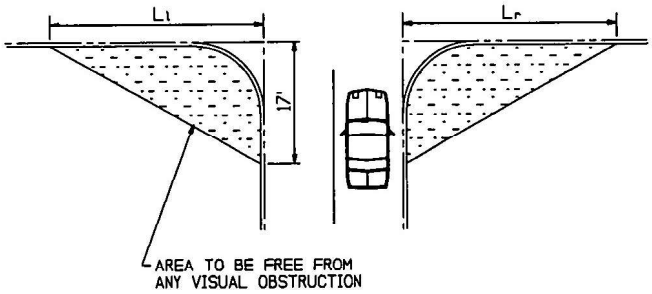


Figure 9-10. Visibility triangle for driveways.

lanes is also specified for certain access categories. In such cases, the lanes should be provided as a matter of policy. Table 9-9 can be used as an additional warrant for providing a separate left-turn lane.

Left-Turn Lanes—Unsignalized Intersection. Several studies have developed criteria for providing separate left-turn lanes at unsignalized intersections. Criteria include cases when the separate lane functions as a deceleration lane and when it becomes a storage lane. Figure 9-11 provides warrants for a left-turn lane, depending on the peak-hour volume on the intersection approach, the peak-hour volume of vehicles turning left, and the operating speed. In most cases, left-turn lanes should be provided where there are more than 12 left turns per peak hour.

Another study compares the percent of left-turning vehicles in the advancing volume against the opposing volume. Table 9-10 is a guide to traffic volumes where separate left-turn lanes should be considered.

Right-Turn Lanes. The 1985 "Highway Capacity Manual" suggests that a separate right-turn lane should be considered when the right-turn volume exceeds 300 vph and the adjacent through lanes also exceed 300 vph per lane. When calculating the adjacent through lane volume, it should be assumed that all through lanes have equal volumes.

The Colorado Department of Transportation recommends providing a separate right-turn deceleration lane, depending on the highway's single lane volume, the volume of right-turning vehicles, and the posted speed of the highway. Figure 9-12 indicates when a separate right-turn lane should be provided. When the design hour volume (DHV) of the single lane highway and the design hour volume of right turns intersect at a point on or above the curve for the posted speed, a separate right-turn lane is required.

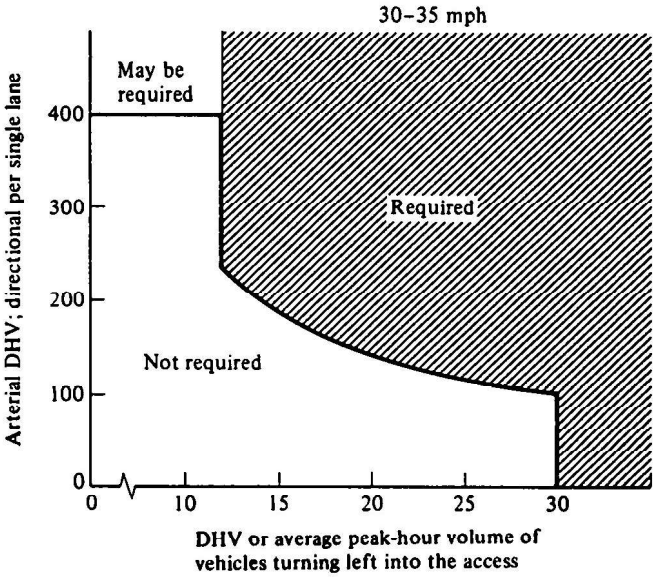
Table 9-9. Sum of left turn and opposing volumes during the peak hour necessary to create a left turn delay problem.* (Source: Kenneth R. Agent, "Warrants for Left Turn Lanes," *Transportation Quarterly,* Vol. 37, January 1983)

	Signalized Intersection (4-Lane Highway)		
	CYCLE SPLIT		
Cycle Length	70/30	60/40	50/50
120	950	800	600
90	1,000	850	700
60	1,150	1,000	850

	Signalized Intersection (2-Lane Highway)		
	CYCLE SPLIT		
Cycle Length	70/30	60/40	50/50
120	650	550	400
90	700	600	500
60	750	650	550

	Non-Signalized Intersection	
Delay Criterion	4-Lane Highway	2-Lane Highway
30 Seconds	1,000	900
20 Seconds	900	800

* Assuming a minimum left turn volume such as 50 left turns in the peak hour.



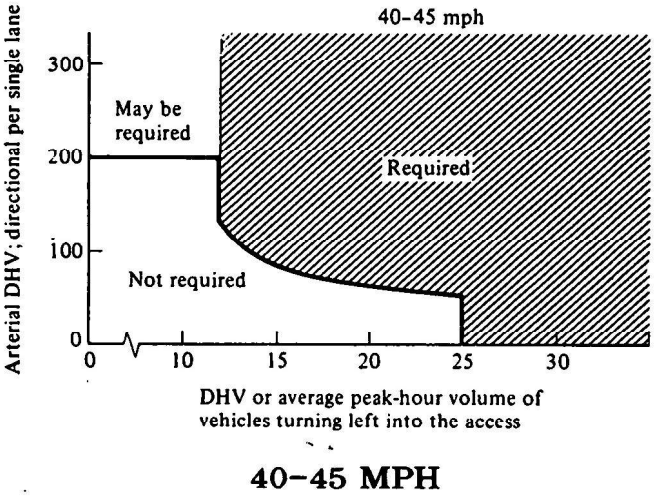


Figure 9-11. Left-turn deceleration lane warrant.

Storage Lengths

The required length of vehicle storage for turning lanes depends on several factors. These include: (1) whether the lane is for left- or right-turning vehicles; (2) the type of traffic control, including the signal timing and cycle length; (3) the number of turning vehicles; and (4) the number of other vehicles on the approach.

Signalized Intersections. Where traffic is to be controlled by a traffic signal, the auxiliary lane ideally should be of sufficient length to (1) store turning vehicles or (2) clear the equivalent lane volume of all other traffic on the approach, whichever is the longest. An equivalent lane volume can be obtained by dividing the sum of other vehicles on the approach by the number of

Table 9-10. Guide for left turn lanes for 2-lane highways. (Source: American Association of State Highway and Transportation Officials, *A Policy on Geometric Design for Highways and Streets*, 1990)

Opposing Volume (Veh./Hr.)	Advancing Volume (vehicles per hour)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
	40-mph Operating Speed			
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
	50-mph Operating Speed			
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
	60-mph Operating Speed			
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

available lanes. If separate turn lanes are to be provided, the turning volume is assigned to the separate lane and the remaining through or through and right- or left-turning volume is divided by the number of through lanes. This length is necessary to ensure that full use of the separate turn lane will be achieved and that the queue of other vehicles on the approach will not block vehicles from the turn lane.

1. The storage requirements for left-turn lanes should be based upon peak 15-min flow rates. The average number of left turns per cycle can then be multiplied by a factor to account for random variations in arrivals. The length of the lane can be estimated, based on the length of cars, the mix of cars, and other vehicles and arrival rate. This leads to the following formula.

$$L = V\text{K } 25(1 + p)/N_c \qquad (4)$$

where: L = storage length, in feet; V = peak 15-min flow rate expressed in vehicles vph; K = constant to reflect random arrival of vehicles (usually 2); N_c = number of cycles per hour; p = percent of trucks or buses.

Where there are random variations in flow, a factor of 2 is normally applied to the left turns; this implies a failure rate of only 5 percent. However, where volumes increase toward saturation flow, or where movements are controlled by coordinated traffic signal systems, the random arrival factor can be decreased to 1.5.

Figure 9-13 provides a nomograph for the length of a left-turn storage lane at signalized intersections. The 95 percent probability of storing all vehicles uses a "K" value of 2 in the preceding formula. The 90 percent probability value uses a factor of 1.5.

As illustrated, with a left-turn volume of 240 vph, a 70-sec cycle and 10 percent trucks, a storage length of about 260 ft is required for desirable conditions and about 200 ft for a minimum. These storage lengths would accommodate 10 to 11 vehicles for the desirable conditions and about 8 for the minimum. The figure can be used to estimate the storage length (excluding taper) of a double left-turn bay by dividing by 1.8. Thus, for the desirable conditions, a double left-turn bay of about 145 ft (excluding taper) would be required.

2. The storage lengths for right-turn lanes can be obtained by using the "red time" formula. This formula determines the amount of storage space necessary to accommodate vehicles arriving at a signalized intersection during the red phase of the cycle. It is as follows:

$$\text{Storage Length} = \frac{(1 - G/C)\,(\text{volume})\,(1 + \%\ \text{trucks})\,(K)\,(25\ \text{ft/vehicle})}{(\#\ \text{cycles per hour})\,(\#\ \text{traffic lanes})} \qquad (5)$$

where: G = green time, C = cycle length, and K = random arrival factor. (Note that this formula is similar to Formula 3.)

A random arrival factor, K, of 2 should be used where right-turn-on-red is not permitted. Where right-turn-on-red is allowed, a factor of 1.5 could be used to determine the length of storage for right-turning vehicles.

The cycle length chosen to estimate the length of storage lanes should consider the possibility of longer cycle lengths in future years. Where the existing cycle length is less than 90 sec, storage requirements should be based on at least a 90-sec cycle. It is better practice, especially where space is not at a premium, to add an additional 50 to 100 ft to the design initially.

3. Storage lengths at unsignalized intersections can also be determined by considering the left turning volume and the opposing volume. Figure 9-14 gives guidelines for estimating lengths for various storage combinations of traffic volumes.

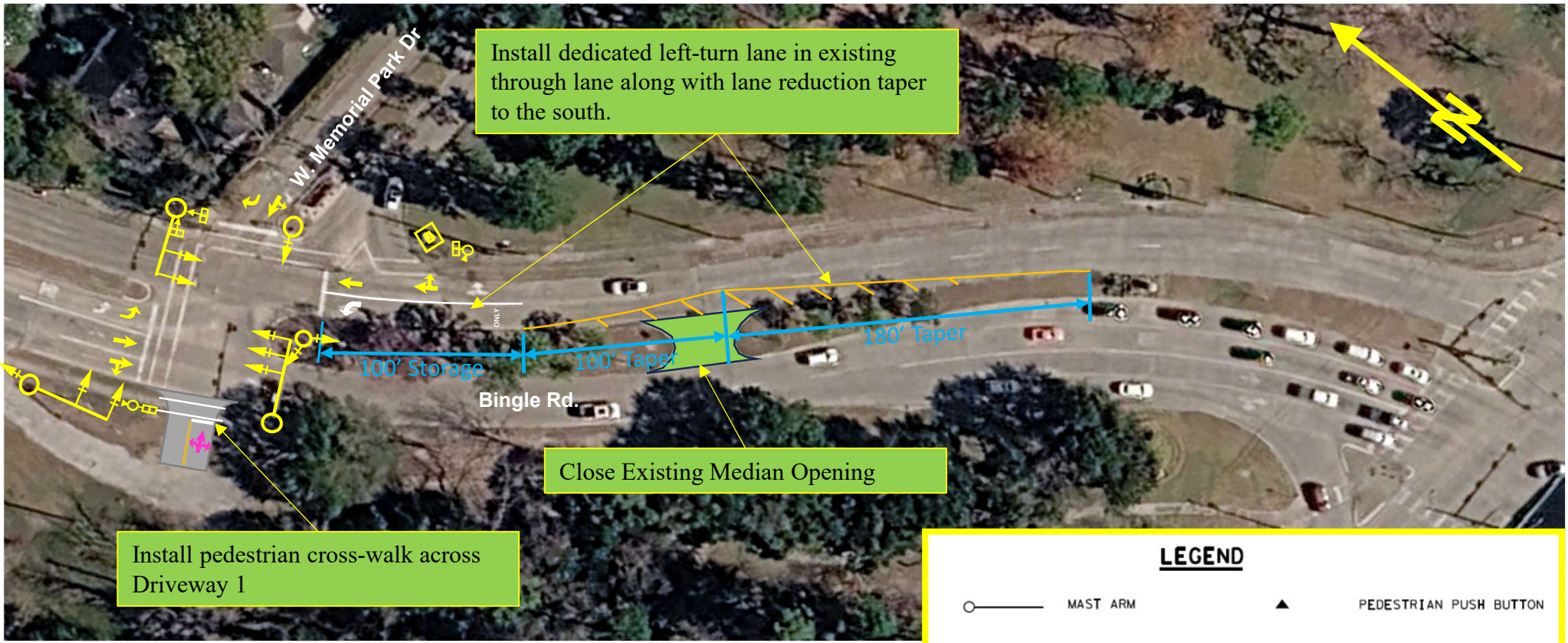
The nomograph (Figure 9-14) is used by reading horizontally from the opposing traffic volume, V_O, on the vertical axis and reading vertically from the left turn volume, V_L, on the horizontal axis and locating the minimum storage length, S, at the point where the horizontal and vertical lines cross. For example, 100 left-turning vehicles per hour, V_L, with an opposing through volume, V_O, of 950 vph, will require a minimum storage length of about 150 ft.

Total Length of Turn Lanes

A separate turning lane consists of a taper plus a full width auxiliary lane. The design of the turn lanes is based primarily on the speed at which drivers will turn into the lane, the speed to which drivers must reduce in order to turn into the driveway after traversing the deceleration lane, and the amount of vehicular storage that will be required. Other special considerations include the volume of trucks that will use the turning lane and the steepness of an ascending or descending grade.

Although vehicular storage is a principal factor used to establish the full length of the separate turn lane, it may not be the actual determining factor. At off-peak traffic periods on higher

ALTERNATE LEFT TURN LANE DESIGNS



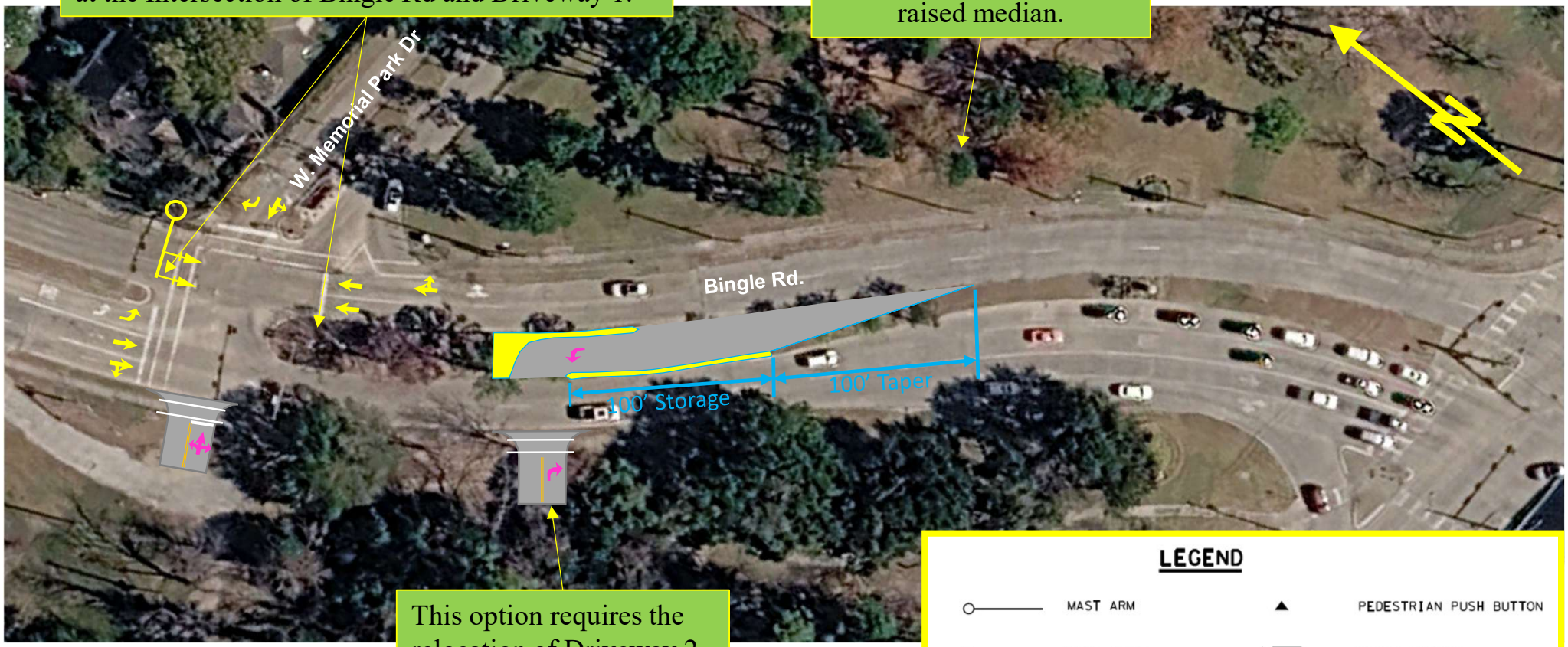
LEGEND

MAST ARM	PEDESTRIAN PUSH BUTTON
SPAN WIRE	VIVDS CAMERA
LUMINAIRE	DIRECTION OF TRAVEL
SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
SIGN	TRAFFIC CABINET
RADAR DETECTION	

NOTE: THE LOCATIONS OF ALL ITEMS SHOWN IN THE EXHIBIT ARE APPROXIMATE. THIS EXHIBIT IS NOT INTENDED FOR ANY CONSTRUCTION USE

Install "NO LEFT TURN" Signage in median and on signal mast arm to restrict northbound left turn at the Intersection of Bingle Rd and Driveway 1.

Install dedicated Hooded Left-Turn Lane within the raised median.



This option requires the relocation of Driveway 2 to a point further north.

LEGEND

MAST ARM	PEDESTRIAN PUSH BUTTON
SPAN WIRE	VIVDS CAMERA
LUMINAIRE	DIRECTION OF TRAVEL
SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
SIGN	TRAFFIC CABINET
RADAR DETECTION	

NOTE: THE LOCATIONS OF ALL ITEMS SHOWN IN THE EXHIBIT ARE APPROXIMATE. THIS EXHIBIT IS NOT INTENDED FOR ANY CONSTRUCTION USE

TxDOT Letter of No Objection

Docusign Envelope ID: 9F901338-4D82-80C6-80D6-5F777B4CB63E

125 E 11th St | Austin, Texas 78701
512.463.8588 txdot.gov

6/5/2026

Zachary Rich
ALJ Lindsey, LLC.
18635 N. Eldridge Parkway Suite 200
Tomball , TX 77377

RE: Traffic Study Review

Harris County
1045 Bingle Road, Houston, TX 77055
26080050
0271-07

Dear Zachary Rich :

We are in receipt of your request for a review of the Traffic Impact Analysis (TIA) at the subject location. After completing the review, the Texas Department of Transportation has no objections to the study's analysis of the trip generation, trip distribution, projections, and recommendations dated 06/01/2026.

This review is good for one year from the date of this letter, after which time the TIA must be re-evaluated. In order to obtain a formal permit for the location covered in the TIA, you must submit a driveway access permit application and plans signed and sealed by a licensed professional engineer registered in Texas, in concurrence with the TIA's site plan and recommendations, and a copy of this review letter with all required documents as specified on the Houston District Driveway Access Permit Checklist (located on the Houston District webpage link at https://www.txdot.gov/about/districts/houston-district/contractor-information.html). Required documentation may include a donation agreement, drainage/hydraulics studies and environmental approvals.

This review did not include the geometric design of the proposed improvements, which may be subject to change. In addition, this review assumes that existing conditions which may impact the safety and mobility of the adjacent highway facility including property use, traffic patterns, roadway operations, and adjoining property access points do not materially change prior to your submission. Depending on the type of highway facility and ownership of access rights, final approval of the proposed improvements may require consent of the Texas Transportation Commission.

Should you have any additional questions, please contact Fahad Channa , Permit Coordinator, at 346-614-8530 .

Docusign Envelope ID: 9F901338-4D82-80C6-80D6-5F777B4CB63E

Sincerely,

DocuSigned by:
Hamoon Bahrami
192FCD8CB4B444D...

Hamoon Bahrami, P.E.
Area Engineer
Houston District



TR26080050

Contact Information

Application Name	TR26080050	**Application Status**	Complete - No Objections
Date of Submittal	6/1/2026	**Upload to Box**	☐
Date of Latest Resubmittal		**Review Phase**	Submit - Phase 3
First Name (Authorized Agent)	Zachary	**Record Type**	Application record Type
Last Name (Authorized Agent)	Rich	**Mailing Street**	18635 N. Eldridge Parkway Suite 200
Name of Owner as shown on Property Deed	Bingle Roop3K 001 LLC	**Mailing City**	Tomball
Last Name (Property Owner)	Bingle ROOP3K 001 LLC	**Mailing State/Province**	TX
Consulting Firm	ALJ Lindsey, LLC.	**Mailing Zip/Postal Code**	77377
User edited Address	☐	**Login Account Email**	zrich@aljlindsey.com
Need Agreement	☐	**Owner Email**	kr@identityarchitects.com
Need ROW Land Donation Agreement	☐	**Developer or Additional Email**	bhanrahan@aljlindsey.com
Upload to OnBase Complete	☐	**Business Phone**	2813015955
Area Engineer	Hamoon Bahrami, P.E.	**Cell Phone**	8322573369
Assistant Area Engineer	William Burch	**Contact Person**	
Permit Coordinator	Fahad Channa	**Owner**	Zachary Rich
Maintenance Section Supervisor	John J Zientek III		
Maintenance Section Supervisor Number	(713) 934-5900		
Permit Coordinator Phone Number	346-614-8530		
Due Date Status			

Comments

Maintenance Office Comments	
Application Withdrawn Comments	
Applicant Response	
Maintanence Office Comments History	

Site Information

Site Name	Bingle Road Mixed Use Development	**Latitude**	29.7859681
Site Address	1045 Bingle Road	**Longitude**	-95.5010
City	Houston	**Is this parcel in current litigation?**	No
State	TX	**Control**	0271
Zip Code	77055	**Road Section**	07
County	Harris County		
Section	West Harris		

Application Information

Permit Type	TIA	**Number of requested driveway(s)**	
Highway	IH0010	**Number of requested street tie-in(s)**	
Closest Cross Street	Bingle Road	**Number of requested turn lanes**	
Is Highway within an incorporated city?	✓	**No of Existing access(s) to be modified**	
City	Spring Valley	**Date of Signed & Sealed Plans Submitted**	5/28/2026
Assigned Maintenance Section	West Harris	**Type of highway design?**	Curbed
Property on which side of highway?	Westbound	**If open ditch, inside diameter of Pipes**	
Applicant Status	Complete - No Objections	**Existing Roadway within 1000 ft**	✓
External Link for Community Users	https://txdot.my.site.com/houstondrivewaypermit/houstondrivewaypermit/s/dp-application/a07cs00003jKOmI/TR26080050	**Any drainage coming to TxDOT**	☐
		If no, name of entity/agency/authority	City of Spring Valley

Access Details

Purpose of Request	We are proposing 2 driveways along city maintained roadway Bingle Road. The City of Spring Valley requested a TIA as apart of our submittal package, and they are requesting TxDOT approval of the TIA. We are not requesting access to TxDOT ROW and we are not sending any flow to the TxDOT ROW.
Background	N/A
Existing roadway characteristics	N/A
Environmental Clearance Requirements	N/A
Agreements	

Request Customer Information.

Banner Message		**Needs Attention**	☐
Banner History		**Banner Mode**	

Permit Information

Permit Issued Date	
1058 Status	
Permit Expiration Date	
Extension Issued Date	

DocuSign Fields

c/o Account Name	c/o ALJ Lindsey, LLC.		
DSign Phone	(281) 301-5955		
Firm Address	18635 N. Eldridge Parkway Suite 200, Tomball, TX 77377		
Location	1045 Bingle Road, Houston, TX 77055		
Created By	Zachary Rich, 6/1/2026, 9:46 AM	**Last Modified By**	Fahad Channa, 6/5/2026, 9:31 AM

Notes

Follow up on missing docs

Last Modified	**6/5/2026, 7:30 AM**
Owner	**Fahad Channa**
Text Preview	

TR26080050 | after meeting called and reminded the applicant that info requested via email is still needed to issue permit

Last Modified	**6/4/2026, 1:18 PM**
Owner	**Fahad Channa**
Text Preview	

TR26080050_AO_No Objections

Last Modified	**6/3/2026, 3:00 PM**
Owner	**Marjan Helton**
Text Preview	**The Area Office has no objection to the TIA, even though a 40% pass-by reduction was used, since the proposed access is located on a City roadway rather than a TxDOT roadway. However, the Traffic Engineering Section may override the Area Office's determin**

Meeting scheduled for 06/04/26 at 1:00 PM

Last Modified	**6/3/2026, 1:48 PM**
Owner	**Marjan Helton**
Text Preview	

TR26080050 | Info requested

Last Modified	**6/3/2026, 2:52 PM**
Owner	**Fahad Channa**
Text Preview	

TR26080050_IH 10_1st Round Review

Last Modified	**6/1/2026, 11:30 AM**
Owner	**Marjan Helton**
Text Preview	**Please review the application and provide your comments/recommendations.**

Files

Bingle Road Retail TIA - 052826.pdf

Last Modified	**6/5/2026, 9:31 AM**
Created By	**DP Mulesoft Integration**

Aerial.png

Last Modified	**6/5/2026, 9:31 AM**
Created By	**DP Mulesoft Integration**

20260528_Overall Site Exhibit.pdf

Last Modified	**6/5/2026, 9:31 AM**
Created By	**DP Mulesoft Integration**

Bingle Road Grading Plan

Last Modified	**6/5/2026, 9:25 AM**
Created By	**Fahad Channa**

Certified_RP-2024-35876-_DILLARD_FLP_GP_LLC - Warranty Deed

Last Modified	**6/5/2026, 9:18 AM**
Created By	**Fahad Channa**

Engineering team review requests

TR26080050

Reviewing Office Area	**AO**
Status	**No Objections**
Assigned to	**Marjan Helton**

TR26080050

Reviewing Office Area	**TRAFFIC**
Status	**No Objections**
Assigned to	**Ijeoma Ejezie-Anusiem**

Application History

6/5/2026, 9:31 AM

User	**Fahad Channa**

Action	Changed **Accepted Date** to **6/5/2026**. Changed **Application Status** from In Progress to **Complete - No Objections.**

6/5/2026, 9:13 AM

User	**Fahad Channa**
Action	Changed **Last Name (Property Owner)** to **Bingle ROOP3K 001 LLC**.

6/4/2026, 1:05 PM

User	**Marjan Helton**
Action	Changed **Evaluation Date** to **6/4/2026**. Changed **Application Status** from New to **In Progress**.

6/1/2026, 9:46 AM

User	**Zachary Rich**
Action	Changed **Application Name** to **TR26080050**. Created.

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STUDY AREA SITE PHOTOS

WINNINGHAM LN LOOKING NORTH ON BINGLE RD



LOOKING SOUTH ON BINGLE RD BETWEEN WINNINGHAM LN AND W. MEMORIAL PARK DR



LOOKING SOUTH ON BINGLE RD ON APPROACH TO W. MEMORIAL PARK DR



LOOKING NORTH ON BINGLE RD JUST NORTH OF W. MEMORIAL PARK DR



BINGLE RD NORTHBOUND LANES AT W. MEMORIAL PARK DR, LOOKING SOUTH



W. MEMORIAL PARK DR AT BINGLE RD, LOOKING WEST



BINGLE RD AT W. MEMORIAL PARK DR, LOOKING NORTH



BINGLE RD AT W. MEMORIAL PARK DR, LOOKING EAST



BINGLE RD NORTHBOUND, JUST SOUTH OF MEDIAN OPENING



BINGLE RD SOUTHBOUND AT I-10 WBFR



BINGLE RD AT W. MEMORIAL PARK DR, LOOKING NORTH



August 27, 2026

Chad Zorn, P.E.
ACE Traffic Engieering, LLC
10810 Evanfield Ct
Cypress, TX 77433

Re: **Bingle Road Mixed Use Development TIA Review**

Dear Mr. Zorn

Cobb, Fendley & Associates, Inc. (CobbFendley) reviewed the TIA provided for the Bingle Road Mixed Use Development. We provided you comments, you responded to the comments, made adjustments to the TIA and resubmitted a revised document that was signed and sealed on August 18, 2026.

Based on the analysis included in the TIA, the following mitigations are the responsibility of the developer and must be installed as part of the project:

- Close the existing median opening that is aligned with Driveway 2.
- Construct a northbound left-turn lane within the existing raised median on Bingle Rd at the intersection with Driveway 1 / W Memorial Park Dr.
- With the Proposed PM Peak 95% queue length of 107 feet for this left turn lane in the TIA, the required geometry is 110 feet of storage and a taper length of 100 feet.
- Install a new vertical left turn signal head with new pedestal pole to regulate the proposed northbound left turn lane traffic.
- Relocate the existing pedestal pole located in the median on the south side of the intersection as a result of the new left turn lane construction. If this cannot be reused, a new pedestal pole will need to be installed.
- Install a pedestrian crosswalk, pedestrian signals / pushbuttons and access ramps across Driveway 1.
- Modify the existing median nose on the south side of the intersection, as needed, to ensure proper lane alignment through the intersection.
- Adjust intersection signage as necessary to safely regulate the intersection.
- All modifications to the intersection must meet TMUTCD requirements, most specifically Figure 4D-2 and how it relates to traffic signal head placement for the eastbound (Driveway 1) approach.
- These improvements must be submitted as a set of design plans to be considered for approval (separate from this TIA).

CobbFendley has no objections to the final TIA report. Any official approval on this project would come directly from City of Spring Valley Village. If you need anything else from me, please let me know. Thanks.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC



Brian Castille, P.E., PTOE
Traffic Department Manager | Principal