BOARD OF ADJUSTMENT, PANEL A
TUESDAY, JANUARY 21, 2014
AGENDA

BRIEFING	ROOM L1FN CONFERENCE CENTER AUDITORIUM 1500 MARILLA STREET	11:30 A.M.
PUBLIC HEARING	ROOM L1FN CONFERENCE CENTER AUDITORIUM 1500 MARILLA STREET	1:00 P.M.

Neva Dean, Interim Assistant Director
Steve Long, Board Administrator

MISCELLANEOUS ITEMS

	Approval of the **Tuesday, November 19, 2013** Board of Adjustment Public Hearing Minutes	M1
BDA 123-072	2235 Madera Street **REQUEST:** Of Robert V. Hunt, represented by Britanny Harris, to extend the time to file an application for a building permit or certificate of occupancy an additional 12 months beyond the 180 days from the Board of Adjustment's favorable action for a variance to the front yard setback regulations	M2
	EXECUTIVE SESSON: Executive session for attorney briefing pursuant to Tex. Gov't Code Section 551.071, regarding *Buckley Oil Company, et al. v. City of Dallas, et al*., Cause No. cc-12-03665-c for property located at 1803 and 1809 Rock Island Street	M3

UNCONTESTED CASE

BDA 134-006	**2713 Canton Street** **REQUEST:** Application of Whitney Barlow, represented by Audra Buckley, for a special exception to the off-street parking regulations	1

REGULAR CASE

BDA 134-003	7110 N. Janmar Drive **REQUEST:** Application of Joseph Santarelli for a variance to the side yard setback regulations	2

EXECUTIVE SESSION NOTICE

The Commission/Board may hold a closed executive session regarding any item on this agenda when:

1. seeking the advice of its attorney about pending or contemplated litigation, settlement offers, or any matter in which the duty of the attorney to the Commission/Board under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with the Texas Open Meetings Act. [Tex. Govt. Code §551.071]

2. deliberating the purchase, exchange, lease, or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the city in negotiations with a third person. [Tex. Govt. Code §551.072]

3. deliberating a negotiated contract for a prospective gift or donation to the city if deliberation in an open meeting would have a detrimental effect on the position of the city in negotiations with a third person. [Tex. Govt. Code §551.073]

4. deliberating the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; or to hear a compliant or charge against an officer or employee unless the officer or employee who is the subject of the deliberation or hearing requests a public hearing. [Tex. Govt. Code §551.074]

5. deliberating the deployment, or specific occasions for implementation, of security personnel or devices.. [Tex. Govt. Code §551.076]

6. discussing or deliberating commercial or financial information that the city has received from a business prospect that the city seeks to have locate, stay, or expand in or near the city and with which the city is conducting economic development negotiations; or deliberating the offer of a financial or other incentive to a business prospect. [Tex. Govt. Code §551.086]

(Rev. 6-24-12)

MISCELLANEOUS ITEM NO. 1

To approve the Board of Adjustment Panel A November 19, 2013 public hearing minutes.

MISCELLANEOUS ITEM NO. 3

Executive session for attorney briefing pursuant to Tex.Gov't Code Section 551.071, regarding *Buckley Oil Company, et al. v. City of Dallas, et al*., Cause No. cc-12-03665-c for property located at 1803 and 1809 Rock Island Street**.**

MISCELLANEOUS ITEM NO. 2

FILE NUMBER: BDA 123-072

REQUEST: To extend the time period in which to file an application for a building permit or certificate of occupancy an additional 12 months beyond the 180 days from the Board of Adjustment's favorable action on the request for a variance to the front yard setback regulations of 11' granted by Board of Adjustment Panel A on August 20, 2013.

LOCATION: 2235 Madera Street

APPLICANT: Robert V. Hunt
Represented by Brittany Harris

STANDARD FOR EXTENDING THE TIME PERIOD IN WHICH TO APPLY FOR A BUILDING PERMIT OR CERTIFICATE OF OCCUPANCY:

- The Dallas Development Code states:
  The applicant shall file an application for a building permit or certificate of occupancy within 180 days for the date of the favorable action of the board, unless the applicant files for and is granted an extended time period prior to the expiration of the 180 days. The filing of a request for an extended time period does not toll the 180 day time period. If the applicant fails to file an application within the time period, the request is automatically denied without prejudice, and the applicant must begin the process to have his request heard again.
- The *Board of Adjustment Working Rules of Procedure* state the following with regard to extensions of the time period for making application for a building permit or certificate of occupancy:
  A panel may not extend the time period for making application for a building permit or certificate of occupancy beyond 180 days from the date of its favorable action unless it makes a *specific finding* based on evidence presented at a public hearing that there are no substantially changed conditions or circumstances regarding the property to the satisfaction of the panel. In no event, however, may the board extend the time period beyond 18 months from the date of its favorable action.

Timeline:

August 20, 2013: The Board of Adjustment Panel A granted a variance to the front yard setback regulations of 11', and imposed the submitted site

plan as a condition to this request. The case report stated that request was made in conjunction with made in conjunction with replacing an existing approximately 1,100 square foot, one-story single family home built in (according to DCAD) 1922 with a two-story single family home with about a 3,100 square foot building footprint, part of which would be located in the site's Madera Avenue 25' front yard setback on the northeast side of the subject site. (No part of the proposed single family home was represented to be located in the site's Glencoe Avenue 25' front yard setback on the southwest). (See Attachment A for a copy of the case materials related to this application).

December 19, 2013: The Board Administrator emailed the applicant's representative acknowledging her December 18th request for the Board to extend the time period in which to file an application for a building permit or certificate of occupancy beyond the 180 days that the applicant had to do so from the August 20, 2013 favorable action (see Attachment B). The Board Administrator emailed the applicant's representative the following information:

- an attachment that provided the public hearing date of the request; and deadline to submit additional evidence to be incorporated into the Board's docket materials;
- the criteria/standard that the board will use in their decision to approve or deny the request;
- an attachment of materials related to BDA 123-072; and
- The Board of Adjustment Working Rules of Procedure pertaining to "documentary evidence."

City of Dallas

M2
Attach A
PS1

A

APPLICATION/APPEAL TO THE BOARD OF ADJUSTMENT

Case No.: BDA 123-072

Date: 6/13/13

Data Relative to Subject Property:

Location address: 2235 MADERA STREET 75206 Zoning District: R-7.5(A)

Lot No.: 2 Block No.: D/1979 Acreage: 6982 sq' Census Tract: 10.02

Street Frontage (in Feet): 1) 50' MADERA 3) 45.54 4) FEET GLENCOE SEE A

To the Honorable Board of Adjustment :

Owner of Property (per Warranty Deed): RVH REAL ESTATE OPPORTUNITY FUND, LLC

Applicant: ROBERT V. HUNT, MANAGER Telephone: 214-824-5750

Mailing Address: 5811 GASTON AVE, DALLAS Zip Code: 75214

E-mail Address: ROBERTVHUNT@SBCGLOBAL.NET

Represented by: ROBERT V. HUNT Telephone: SAME

Mailing Address: SAME Zip Code: SAME

E-mail Address: SAME

Affirm that an appeal has been made for a Variance X, ~~or Special Exception~~ , of 11' TO THE FRONT YARD SETBACK ON MADERA STREET (A 14' SETBACK TO THE ROOF EAVE AND A 16' SET BACK TO THE FOUNDATION.

Application is made to the Board of Adjustment, in accordance with the provisions of the Dallas Development Code, to grant the described appeal for the following reason:

OWING TO THE RESTRICTIVE SHAPE + SIZE (6982 SQ') IN A R-7.5(A) ZONING DISTRICT. THIS LOT IS 93% OF THE MINIMUM SIZE REQUIRED IN A R-7.5(A) ZONING DISTRICT. ALSO OWING TO THE RESTRICTIVE 2 FRONT YARD SETBACKS AND THE SHORT DEPTH OF THE LOT OF 118' ON ONE SIDE

Note to Applicant: If the appeal requested in this application is granted by the Board of Adjustment, a permit must be applied for within 180 days of the date of the final action of the Board, unless the Board specifically grants a longer period.

Affidavit

Before me the undersigned on this day personally appeared ROBERT HUNT
(Affiant/Applicant's name printed)

who on (his/her) oath certifies that the above statements are true and correct to his/her best knowledge and that he/she is the owner/or principal/or authorized representative of the subject property.

Respectfully submitted: _____
(Affiant/Applicant's signature)

Subscribed and sworn to before me this 13 day of June, 2013

CHRISTINE L. RICE
My Commission Expires
August 22, 2015

Christine Rice
Notary Public in and for Dallas County, Texas

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Attach A
Pg 2

BOARD OF ADJUSTMENT
CITY OF DALLAS, TEXAS

TUESDAY, AUGUST 20, 2013

FILE NUMBER: BDA 123-072

BUILDING OFFICIAL'S REPORT: Application of Robert V. Hunt for a variance to the front yard setback regulations at 2235 Madera Street. This property is more fully described as Lot 2, Block D/1979 and is zoned R-7.5(A), which requires a front yard setback of 25 feet. The applicant proposes to construct a structure and provide a 14 foot front yard setback, which will require an 11 foot variance to the front yard setback regulations.

LOCATION: 2235 Madera Street

APPLICANT: Robert V. Hunt

REQUEST:

A variance to the front yard setback regulations of 11' is made in conjunction with replacing an existing approximately 1,100 square foot, one-story single family home built in (according to DCAD) 1922 with a two-story single family home with about a 3,100 square foot building footprint, part of which would be located in the site's Madera Avenue 25' front yard setback on the northeast side of the subject site. (No part of the proposed single family home is represented to be located in the site's Glencoe Avenue 25' front yard setback on the southwest).

STANDARD FOR A VARIANCE:

The Dallas Development Code Section 51A-3.102(d)(10) specifies that the board has the power to grant variances from the front yard, side yard, rear yard, lot width, lot depth, coverage, floor area for structures accessory to single family uses, height, minimum sidewalks, off-street parking or off-street loading, or landscape regulations provided that the variance is:

(A) not contrary to the public interest when, owing to special conditions, a literal enforcement of this chapter would result in unnecessary hardship, and so that the spirit of the ordinance will be observed and substantial justice done;

(B) necessary to permit development of a specific parcel of land that differs from other parcels of land by being of such a restrictive area, shape, or slope, that it cannot be developed in a manner commensurate with the development upon other parcels of land with the same zoning; and

(C) not granted to relieve a self created or personal hardship, nor for financial reasons only, nor to permit any person a privilege in developing a parcel of land not permitted by this chapter to other parcels of land with the same zoning.

STAFF RECOMMENDATION:

Approval, subject to compliance with the submitted site plan

M2
Attach A
pg 3

MEMORANDUM OF
ACTION TAKEN BY THE
BOARD OF ADJUSTMENT

Date of Hearing Aug. 20, 2013

Appeal was--Granted OR Denied

Remarks Granted - Compliance with the submitted site plan is required.

Chairman

Building Official's Report

I hereby certify that Robert V. Hunt

did submit a request for a variance to the front yard setback regulations

at 2235 Madera Street

BDA123-072. Application of Robert V. Hunt for a variance to the front yard setback regulations at 2235 Madera Street. This property is more fully described as Lot 2, Block D/1979 and is zoned R-7.5(A), which requires a front yard setback of 25 feet. The applicant proposes to construct a single family residential structure and provide a 14 foot front yard setback, which will require an 11 foot variance to the front yard setback regulation.

BOARD OF ADJUSTMENT DECISION FILED IN THE OFFICE OF THE BOARD OF ADJUSTMENT THIS THE 20 **DAY OF** August, 20 13.

ADMINISTRATOR

Sincerely,

Larry V. Holmes

Larry Holmes, Building Official

City of Dallas

M2
Attach A
pg 4

August 28, 2013

Robert V. Hunt
5811 Gaston Avenue
Dallas, TX 75214

Re: BDA 123-072, Property at 2235 Madera Street

Dear Mr. Hunt:

The Board of Adjustment Panel A, at its public hearing held on Tuesday, August 20, 2013 granted your request for a variance to the front yard setback regulations of 11 feet, subject to the following condition:

- Compliance with the submitted site plan is required.

Contact Building Inspection at 320 E. Jefferson, Room 105 to file an application for a building permit or certificate of occupancy within 180 days from the date of the favorable action of the board.

Should you have any further questions regarding the Board's action, please contact me at (214) 670-4666.

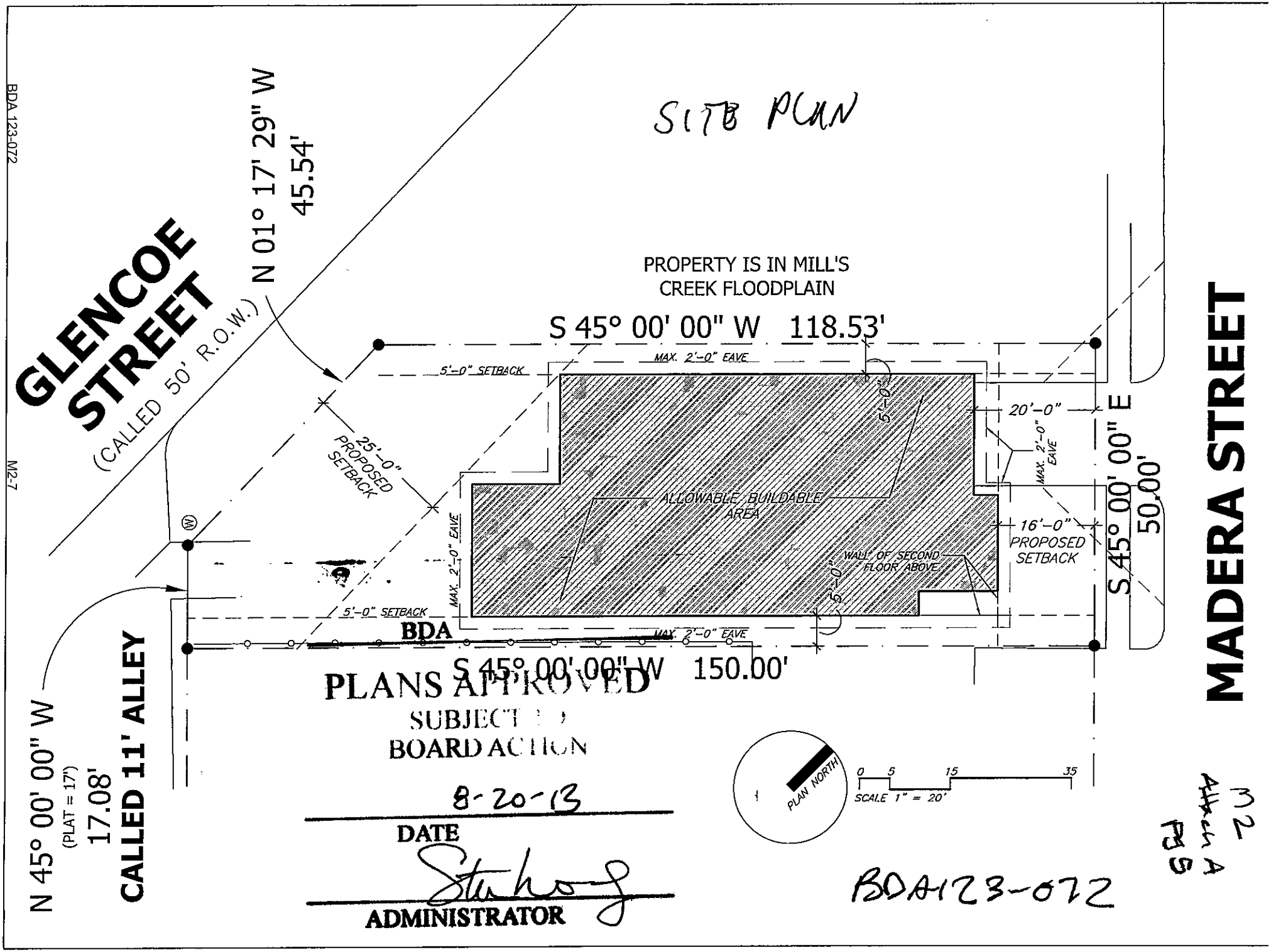
Steve Long, Board Administrator
Board of Adjustment
Sustainable Development and Construction

c: James Martin, Code Enforcement, 3112 Canton, RM 100
Todd Duerksen, Bldg. Inspection, 320 E. Jefferson #105

BDA 123-072

M2-7

SITE PLAN



PLANS APPROVED
SUBJECT TO
BOARD ACTION

8-20-13
DATE

ADMINISTRATOR

BDA123-072

M2
Attach A
pg

M 2
Attach B
Pg 1

Long, Steve

From: Long, Steve
Sent: Thursday, December 19, 2013 6:02 AM
To: 'robert hunt'
Cc: 'Harris, Brittany M'
Subject: FW: Miscellaneous Item Request for Buidling Permit Time Extension: BDA 123-072, Property at 2235 Madera Street
Attachments: BDA 123-072 realted materials.pdf; time extension.PDF; documentary evidence.pdf; Panel A hearing date and deadlines.doc

Dear Mr. Hunt,

I meant to copy you on this email that I sent to your associate, Brittany Harris.

Thanks,

Steve

From: Long, Steve
Sent: Thursday, December 19, 2013 6:01 AM
To: 'Harris, Brittany M'
Cc: Dean, Neva; Duerksen, Todd; Morrison, Laura
Subject: RE: Miscellaneous Item Request for Buidling Permit Time Extension: BDA 123-072, Property at 2235 Madera Street

Dear Ms. Harris,
Please consider this email as official notice that the miscellaneous item request for a time extension in which to file for a building permit or certificate of occupancy beyond the 180 days your associate and original applicant, Robert V. Hunt, has to do so from the August 20th favorable action by Board of Adjustment Panel A in conjunction with the board of adjustment application referenced above has been scheduled for the Tuesday, January 21st Panel A public hearing to be held at Dallas City Hall at 1:00 p.m. (Please touch base with me about a week prior to the 21st for the location of the hearing room in Dallas City Hall).

Here is additional information regarding your miscellaneous item time extension request:

1. Your email of request below- which will be included in a docket that is emailed to you and the board members about a week ahead of your January 21st public hearing.
2. Related documents to BDA 123-072.
3. The provision from the Board's Working Rules of Procedure allowing the board to extend the time period in which to make application for a building permit or certificate of occupancy (Section 9.(j)).
4. A document that provides your public hearing date and other deadlines for submittal of additional information to staff/the board.
5. The board's rule pertaining to documentary evidence.

Please write or call me at 214/670-4666 if you have any questions/concerns, or if I can be of any additional assistance to you on your request.

Thanks,

Steve

M2
Attach B
pg 2

From: Harris, Brittany M [mailto:brittany.harris@mavs.uta.edu]
Sent: Wednesday, December 18, 2013 4:36 PM
To: Long, Steve
Cc: robertvhunt@sbcglobal.net; Harris, Brittany M
Subject: Miscellaneous Item Request for Buidling Permit Time Extension: BDA 123-072, Property at 2235 Madera Street

Hi Steve,

I would like to request a 12 month extension of the above variance approval, currently expiring February 16, 2014. We are seeking NO changes to the conditions approved on the date of favorable action, August 20, 2013 in the public hearing by the Board of Adjustment.

Thank you so much for your time. I look forward to hearing from you on this matter.

Brittany Harris
Assistant to Robert V Hunt

Robert V. Hunt & Associates
www.melrosemodern.com
5811 Gaston Avenue
Dallas, TX 75214
Office: (214) 824-5750
Cell: (214) 202-3226

BOARD OF ADJUSTMENT **TUESDAY, JANUARY 21, 2014**
CITY OF DALLAS, TEXAS

FILE NUMBER: BDA 134-006

BUILDING OFFICIAL'S REPORT: Application of Whitney Barlow, represented by Audra Buckley, for a special exception to the off-street parking regulations at 2713 Canton Street. This property is more fully described as Lot 10A, Block 4/186, and is zoned PD-269 (Tract A), which requires off-street parking to be provided. The applicant proposes to construct and/or maintain a structure for an inside commercial amusement (live music venue) use and provide 320 of the required 409 off-street parking spaces, which will require an 89 space special exception to the off-street parking regulations.

LOCATION: 2713 Canton Street

APPLICANT: Whitney Barlow
Represented by Audra Buckley

REQUEST:

A special exception to the off-street parking regulations of 89 spaces is requested in conjunction with leasing and maintaining an existing approximately 41,000 square foot vacant structure with an inside commercial amusement (live music venue) use and providing 320 (or 78 percent) of the 409 off-street parking spaces required by code.

STANDARD FOR A SPECIAL EXCEPTION TO THE OFF-STREET PARKING REGULATIONS:

1) The Board of Adjustment may grant a special exception to authorize a reduction in the number of off-street parking spaces required under this article if the board finds, after a public hearing, that the parking demand generated by the use does not warrant the number of off-street parking spaces required, and the special exception would not create a traffic hazard or increase traffic congestion on adjacent and nearby streets. The maximum reduction authorized by this section is 25 percent or one space, whichever is greater, minus the number of parking spaces currently not provided due to delta credits, as defined in Section 51A-4.704(b)(A).
2) In determining whether to grant a special exception, the board shall consider the following factors:
   (A) The extent to which the parking spaces provided will be remote, shared, or packed parking.
   (B) The parking demand and trip generation characteristics of all uses for which the special exception is requested.
   (C) Whether or not the subject property or any property in the general area is part of a modified delta overlay district.
   (D) The current and probable future capacities of adjacent and nearby streets based on the city's thoroughfare plan.
   (E) The availability of public transit and the likelihood of its use.

(F) The feasibility of parking mitigation measures and the likelihood of their effectiveness.

3) In granting a special exception, the board shall specify the uses to which the special exception applies. A special exception granted by the board for a particular use automatically and immediately terminates if and when that use is changed or discontinued.
4) In granting a special exception, the board may:
   (A) Establish a termination date for the special exception or; otherwise provide for the reassessment of conditions after a specified period of time;
   (B) Impose restrictions on access to or from the subject property; or
   (C) Impose any other reasonable conditions that would have the effect of improving traffic safety or lessening congestion on the streets.
5) The board shall not grant a special exception to reduce the number of off-street parking spaces required in an ordinance granting or amending a specific use permit.

STAFF RECOMMENDATION:

Approval, subject to the following conditions:

1. The special exception of 89 spaces shall automatically and immediately terminate if and when the inside commercial amusement (live music venue) use that would normally need no more than 409 required parking spaces is changed or discontinued.
2. Compliance with the recommendations of the Traffic Management Plan (TMP) submitted by the applicant dated 10-28-13 is required.

Rationale:

- The Sustainable Development and Construction Department Engineering Division Assistant Director has indicated that he has no objections to the applicant's request with the condition that the applicant complies with the recommendations of the Traffic Management Plan (TMP) submitted by the applicant dated 10-28-13.

BACKGROUND INFORMATION:

Zoning:

Site:	PD 269 (Tract A) (Planned Development)
North:	PD 269 (Tract A) (Planned Development)
South:	PD 269 (Tract A) (Planned Development)
East:	PD 269 (Tract A) (Planned Development)
West:	PD 269 (Tract A) (Planned Development)

Land Use:

The subject site is developed with a vacant, approximately 41,000 square foot structure. The area immediately north is a surface parking lot and retail uses; and the areas to the east, south, and west are developed with a mix of residential and nonresidential uses.

Zoning/BDA History:

1. Z134-126, Property on north side of Canton Street, east of Henry Street (the subject site)	An application for an SUP (Specific Use Permit) for a live music venue and dance hall use is scheduled before the City Plan Commission on January 23, 2013.

Timeline:

November 11, 2013: The applicant submitted an "Application/Appeal to the Board of Adjustment" and related documents which have been included as part of this case report.

December 11, 2013: The Board of Adjustment Secretary randomly assigned this case to Board of Adjustment Panel A.

December 12, 2013: The Board Administrator emailed the applicant's representative the following information:

- an attachment that provided the public hearing date and panel that will consider the application; the December 30th deadline to submit additional evidence for staff to factor into their analysis; and the January 10th deadline to submit additional evidence to be incorporated into the Board's docket materials;
- the criteria/standard that the board will use in their decision to approve or deny the requests; and
- the Board of Adjustment Working Rules of Procedure pertaining to documentary evidence.

January 6, 2014: The applicant's representative submitted additional documentation on this application beyond what was submitted with the original application (see Attachment A).

January 7, 2014: The Board of Adjustment staff review team meeting was held regarding this request and the others scheduled for the January public hearings. Review team members in attendance included: the Sustainable Development and Construction Department Current Planning Division Interim Assistant Director, the Sustainable Development and Construction Department Engineering Division Assistant Director and Senior Engineer, the Assistant Building Officials, the Board Administrator, the Building Inspection Senior

Plans Examiner/Development Code Specialist, the City of Dallas Chief Arborist, and the Assistant City Attorney to the Board.

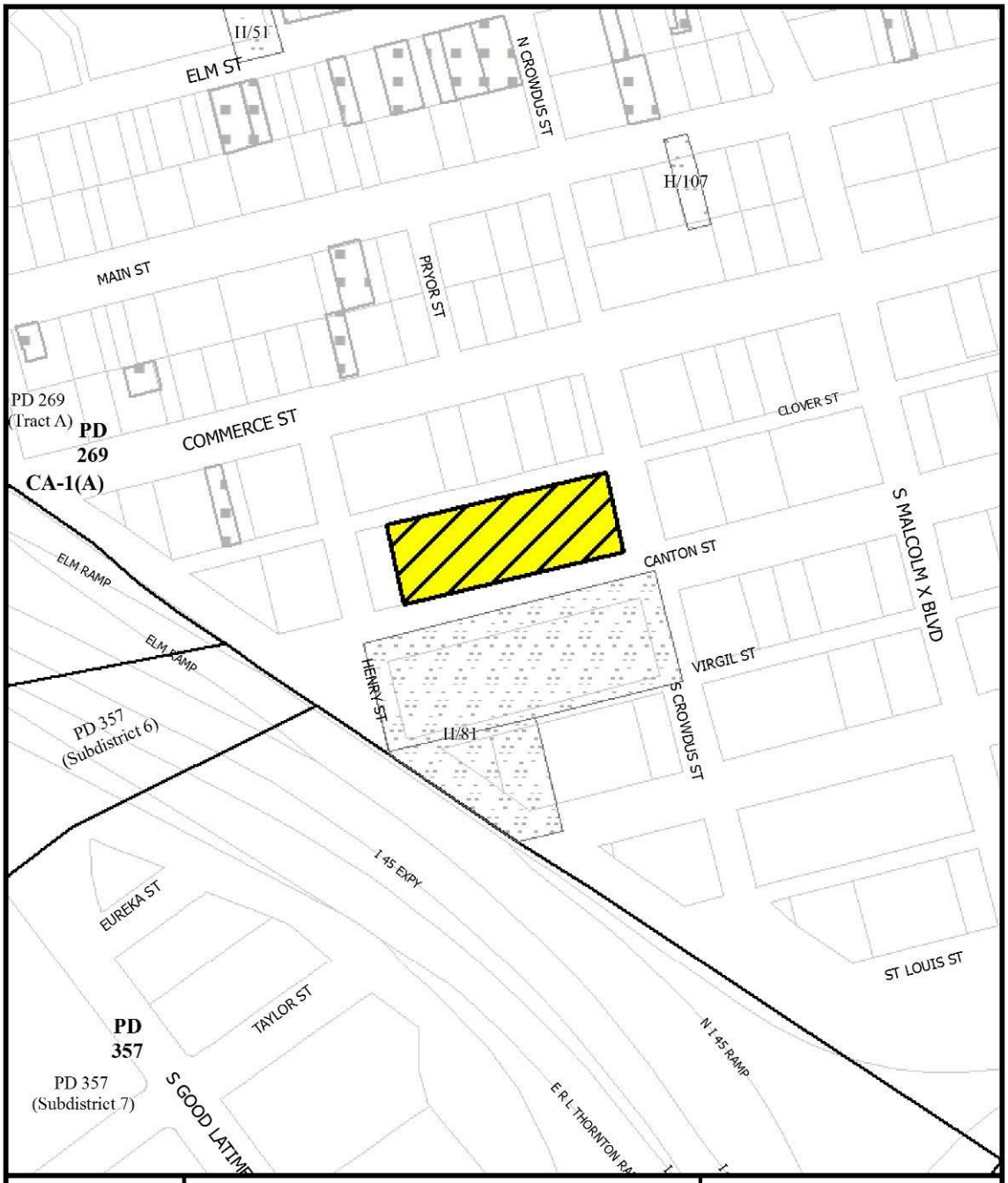
January 8, 2014: The Building Inspection Senior Plans Examiner/Development Code Specialist forwarded a revised Building Official's Report on this application to the Board Administrator (see Attachment B).

January 9, 2014: The Sustainable Development and Construction Department Engineering Division Assistant Director submitted a review comment sheet marked "Has no objections if certain conditions are met" commenting "comply with recommendations of the Traffic Management Plan (TMP) submitted by the applicant dated 10-28-13."

January 10, 2014: The applicant's representative submitted additional documentation on this application beyond what was submitted with the original application (see Attachment C).

GENERAL FACTS/STAFF ANALYSIS:

- This request focuses on leasing and maintaining an existing approximately 41,000 square foot vacant structure with an inside commercial amusement (live music venue) use and providing 320 (or 78 percent) of the 409 off-street parking spaces required by code.
- While PD 269 specifies off-street parking requirements for certain uses permitted in the zoning district, does not provide a specific off-street parking requirement for the proposed inside commercial amusement use. As a result, the PD ordinance states that the off-street parking requirement for this use is that what is provided in Chapter 51. Chapter 51requires the following off-street parking requirement:
  - Inside commercial amusement: one space per 100 square feet of floor area.
- The Sustainable Development and Construction Department Engineering Division Assistant Director has indicated that he has no objections to the applicant's request with the condition that the applicant complies with recommendations of the Traffic Management Plan (TMP) submitted by the applicant dated 10-28-13.
- The applicant has the burden of proof in establishing the following:
  - The parking demand generated by the proposed inside commercial inside (live music venue) use does not warrant the number of off-street parking spaces required, and
  - The special exception of 89 spaces (or a 22 percent reduction of the required off-street parking) would not create a traffic hazard or increase traffic congestion on adjacent and nearby streets.
- If the Board were to grant this request, and impose the condition that the special exception of 89 spaces shall automatically and immediately terminate if and when the inside commercial amusement (live music venue) use is changed or discontinued, the applicant would be allowed to maintain the structure with the proposed use, providing 320 of the 409 code required off-street parking spaces.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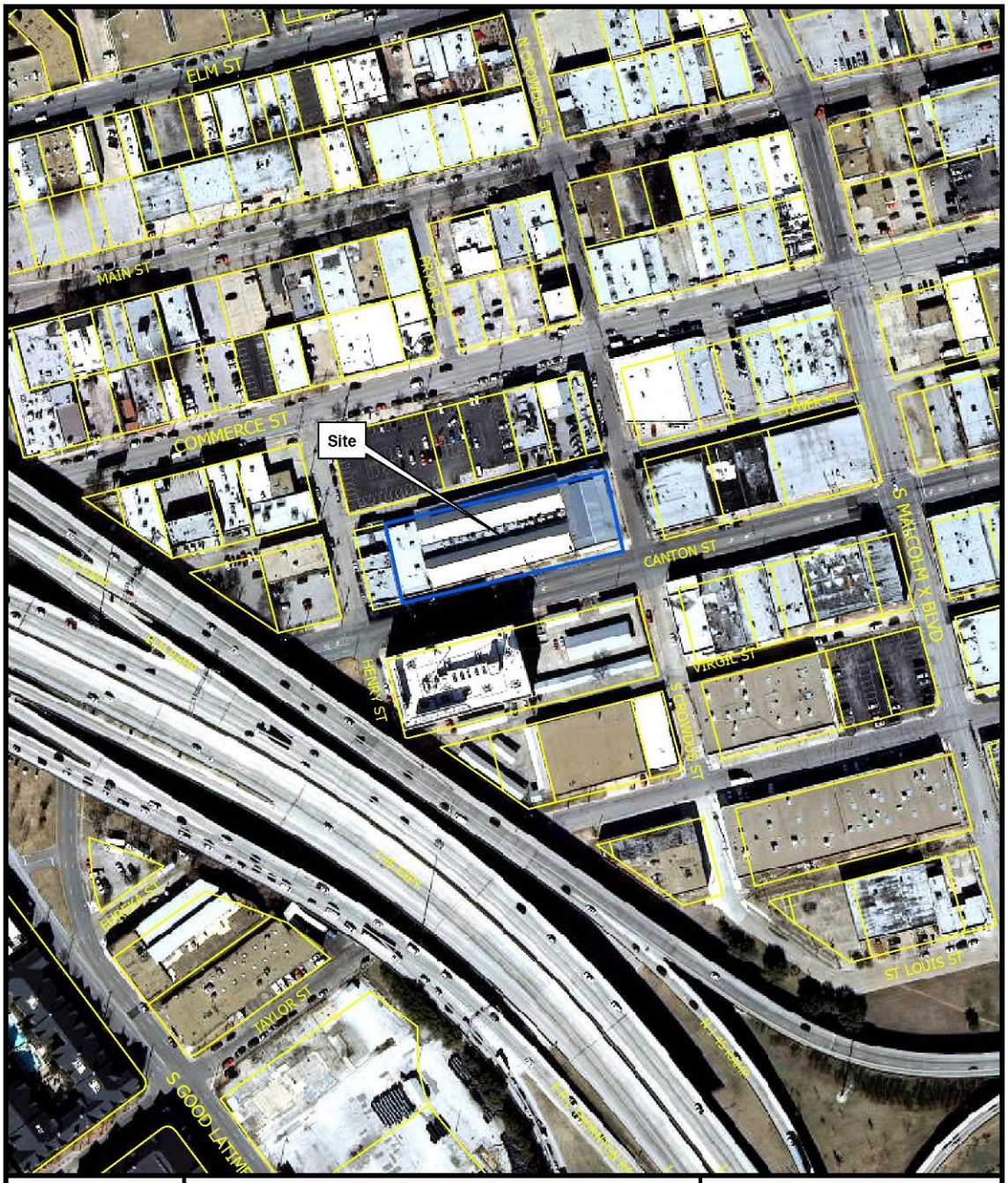
Case no: BDA134-006
Date: 12/23/2013



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AERIAL MAP

Case no: BDA134-006

Date: 12/23/2013

BDA134-006
Attach A
PS1

TRAFFIC IMPACT ANALYSIS AND
TRAFFIC MANAGEMENT PLAN
EXECUTIVE SUMMARIES FOR

THE BOMB FACTORY

DALLAS, TEXAS

Prepared for:

Clint and Whitney Barlow
2709 Elm Street
Dallas, Texas 75226

Prepared by:

DeShazo Group, Inc.
Texas Registered Engineering Firm F-3199
400 South Houston Street, Suite 330
Dallas, Texas 75202
Phone 214/748-6740

January 6, 2014
BDA 134-006

DeShazo Group

Traffic. Transportation Planning. Parking. Design.

DeShazo Project No. 13142

TRAFFIC IMPACT ANALYSIS
EXECUTIVE SUMMARY

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Clint and Whitney Barlow** to conduct a Traffic Impact Analysis (TIA) for development of the project referred to herein as *The Bomb Factory* ("the Project"). **DeShazo** is an engineering consulting firm providing licensed engineers skilled in the field of traffic/transportation engineering.

The proposed Project is an event center located at 2713 Canton Street in an existing 40,000 SF building. The subject site is currently zoned PD #269 – the Deep Ellum/Near East Side District.

The purpose of this report is to summarize the findings of the TIA for use in a request for a specific use permit (SUP) for the Project. The TIA will be provided to the City of Dallas staff ("the Staff") for technical review to fulfill the associated requirements of the local approval process.

This TIA analyzed the anticipated impact of background traffic growth and site-related traffic at specified buildout conditions. The proposed development will generate a moderate impact to the existing conditions, but the additional traffic can be effectively accommodated given that good site access is provided as is proposed on the preliminary site plan.

Based upon the findings of this analysis, the following conclusions were made:

- Under normal conditions, the proposed development will only host an average of one concert event per week. On the remaining days, the site is not expected to generate any significant amount of traffic. Most all site-related trip generation is expected to occur during the evening hours only -- the site should have no effect on weekday peak hour traffic operations.

- No intersection improvements or mitigation measures were determined to be required as a result of operational impact created by the proposed development. However, during major events, it is recommended that traffic management strategies be implemented in order to promote pedestrian and transit safety and to reduce localized operational impacts. (See separate **Traffic Management Plan**.)

END

TRAFFIC MANAGEMENT PLAN
EXECUTIVE SUMMARY

The services of **DeShazo Group, Inc.** (**DeShazo**) were retained by **Clint and Whitney Barlow** to provide a requisite traffic management plan (TMP) for development of the project referred to herein as *The Bomb Factory* ("Project"). **DeShazo** is an engineering consulting firm providing licensed engineers skilled in the field of traffic/transportation engineering.

The proposed Project is an event center located on 2713 (2705, 2713 and 2725) Canton Street in an existing, vacant 40,000-SF building. The subject site is currently zoned under Planned Development District Number 269 – the Deep Ellum/Near East Side District ("PD #269").

The proposed development will primarily be used as an event center and will host approximately 50 live concert events per year (plus, other event activities that are assumed to generate a less intense traffic impact). The facility will not provide fixed seats; however, the maximum building occupancy is estimated to be about 2,700. A typical concert event is anticipated to attract about 1,600. Essentially all events are expected to occur during the evening hours (after 7:00 PM).

Submittal of a TMP to the City of Dallas is required as a record of the preferred strategies to be used by the venue to ensure overall traffic safety and efficiency. A TMP is intended to assess the anticipated traffic conditions at the site during periods of peak site-related trip generation on the basis of satisfying these objectives. The TMP should not be considered a comprehensive set of instructions to ensure adequate safety; however, it should be used as a tool to facilitate a safer and more efficient environment. By consent of the TMP submittal, the venue is agreeing to the strategies presented herein for which it will be held self-accountable until and unless the City of Dallas deems further measures are appropriate.

Recommendations:

1. For events, it is assumed that the parking will be dedicated for event parking only and that attendees will collect a parking fee for use of the lot. A specific operational plan for the lot has not been established; however, it is recommended that fee collection be conducted in a manner that does not impede the flow of traffic into either parking lot (i.e., to the degree that traffic backs out into the public right-of-way, waiting to enter the lot).

2. Once each parking lot is full, it is recommended that parking attendants erect temporary "Lot Full" signs (or equivalent) at each of the driveways and other key locations that clearly inform motorists not to attempt to enter the lots and to proceed to other parking areas. The intent of such signs is to avoid excessive circulating traffic within the lots and to reduce congestion on the public streets. NOTE: Signs should not be placed in the public right-of-way.

Additional Suggested Measures:

1. It is suggested that arrangements be made to offer patrons the opportunity to pre-purchase the use of parking spaces in the primary and remote lots at the time of ticket purchase. Such

practice may reduce overall traffic circulation. Temporary signs (similar to the "Lot Full" signs described above) would also be used to communicate to motorists that parking is by reserved purchase only.

2. Local area public parking maps may be distributed to patrons at the time of ticket purchase to facilitate the advanced planning of parking opportunities in the area. (Alternatively, comparable websites or similar resources can be made available to inform patrons of parking options.) NOTE: This intent of this suggested measure is not meant to imply that the Owner of The Bomb Factory should be responsible for preparing such maps/websites but that any pre-existing or future resources may be distributed accordingly, if available.

3. Also at the time of ticket purchase, patrons may be made aware of all public transportation services that may be used to access the site. NOTE: DART's Green/Orange Lines of the Light Rail Service provides two stations within walking distance to the venue. Three separate DART bus routes area also provide service in the immediate vicinity.

4. Any maps that are distributed in conjunctions with Items 3 and/or 4 (described above) may also identify preferred pedestrian routes through the local street network. Such maps should encourage crossing of public streets at traffic-signal-controlled intersections and well-lighted corridors to the extent practical. NOTE: If it is determined that pedestrian safety warrants improvements, options to consider include adding street lighting, adding of new, or re-installing of existing, pedestrian crosswalk markings may also be considered. (Street lighting modifications requires coordination with the City of Dallas Department of Public Works. Crosswalk installation requires coordination with the City of Dallas Street Services Department.)

END

BDA134-006 Attach B

MEMORANDUM OF ACTION TAKEN BY THE BOARD OF ADJUSTMENT

Date of Hearing _____

Appeal was--Granted OR Denied

Remarks _____

Chairman

Building Official's Report

I hereby certify that	Whitney Barlow
represented by	AUDRA BUCKLEY
did submit a request	for a special exception to the parking regulations
at	2713 Canton Street

BDA134-006. Application of Whitney Barlow represented by Audra Buckley for a special exception to the parking regulations at 2713 Canton Street. This property is more fully described as Lot 10A, Block 4/186, and is zoned PD-269 (Tract A), which requires parking to be provided. The applicant proposes to construct and maintain a nonresidential structur for an inside commercial amusement (live music venue) use and provide 320 of the require 409 parking spaces, which will require an 89 space special exception (21.7% reduction) to the parking regulation.

Sincerely,

Larry Holmes, Building Official

BDA134-006
Attach C

To: Steve Long, Board Administrator

From: Audra Buckley, Representative

Date: January 10, 2014

RE: BDA134-006 – Amendment to Application

On January 7, 2014, I received a call that the parking calculations originally submitted with this application were in error. In the original analysis, it was assumed that live music venues would be entitled to the 2500 square foot parking waiver for retail uses granted by PDD 269, Tract A for 2705 and 2713 Canton Street. Both of these addresses are within the same building as shown on the site plan submitted with the parking special exception application. A total of 50 spaces were deducted from the required parking as a result. We concluded that we could provide 270 spaces of the required 359 spaces, bringing the special exception request to 89 spaces or 24.75% of the total.

Upon further review by staff on January 7, 2014, the assumption was incorrect. The live music venue is not associated with a retail use, such as a bar or restaurant, but rather an inside commercial use, categorized as an entertainment use under Chapter 51. Therefore, the 50 spaces deducted had to be added back in to the required parking.

In order to keep the application moving forward, I approached several property owners in Deep Ellum the evening of January 7, 2014 and found one who was willing to provide the 50 spaces via parking agreement. That information was forwarded to staff. Our provided parking increased to 320 spaces of the required 409 spaces. Our request for 89 spaces remains the same but now constitutes 21% of the total.

City of Dallas

APPLICATION/APPEAL TO THE BOARD OF ADJUSTMENT

Case No.: BDA 134-006

Data Relative to Subject Property: Date: November 11, 2013

Location address: 2713 Canton Street Zoning District: PDD 269, Tract A

Lot No.: 10A Block No.: 4/186 Acreage: .8 Census Tract: ~~0033.00~~ 204.00

Street Frontage (in Feet): 1) 275' 2) 275' 3) 125' 4) _____ 5) _____ SE 28

To the Honorable Board of Adjustment :

Owner of Property/or Principal: 2713 CANTON LTD

Applicant: Whitney Barlow Telephone: 214-562-5111

Mailing Address: 2709 Elm Street Zip Code: 75226

Represented by: Audra Buckley - Permitted Development Telephone: 214-686-3635

Mailing Address: 416 S Ervay Street, Dallas, TX Zip Code: 75201

Affirm that a request has been made for a Variance __, or Special Exception X, of Off-street parking requirements for commercial amusement (inside) - 89 space reduction for a live music venue. Required parking is 359 spaces; spaces provided is 270.

Application is now made to the Honorable Board of Adjustment, in accordance with the provisions of the Dallas Development Code, to grant the described request for the following reason:

Please see attached statement of request.

Note to Applicant: If the relief requested in this application is granted by the Board of Adjustment, said permit must be applied for within 180 days of the date of the final action of the Board, unless the Board specifically grants a longer period.

Respectfully submitted: Whitney Barlow (Applicant's name printed) (Applicant's signature)

Affidavit

Before me the undersigned on this day personally appeared Whitney Barlow **who on (his/her) oath certifies that the above statements are true and correct to his/her best knowledge and that he/she is the owner/or principal/or authorized representative of the subject property.**

Affiant (Applicant's signature)

Subscribed and sworn to before me this 15th day of November, 2013

BRANDON LEE CASTILLO
Notary Public, State of Texas
My Commission Expires
January 17, 2017

Notary Public in and for Dallas County, Texas

(Rev. 08-20-09)

MEMORANDUM OF
ACTION TAKEN BY THE
BOARD OF ADJUSTMENT

Date of Hearing _____

Appeal was--Granted OR Denied

Remarks _____

Chairman _____

Building Official's Report

I hereby certify that Whitney Barlow

represented by AUDRA BUCKLEY

did submit a request for a special exception to the parking regulations

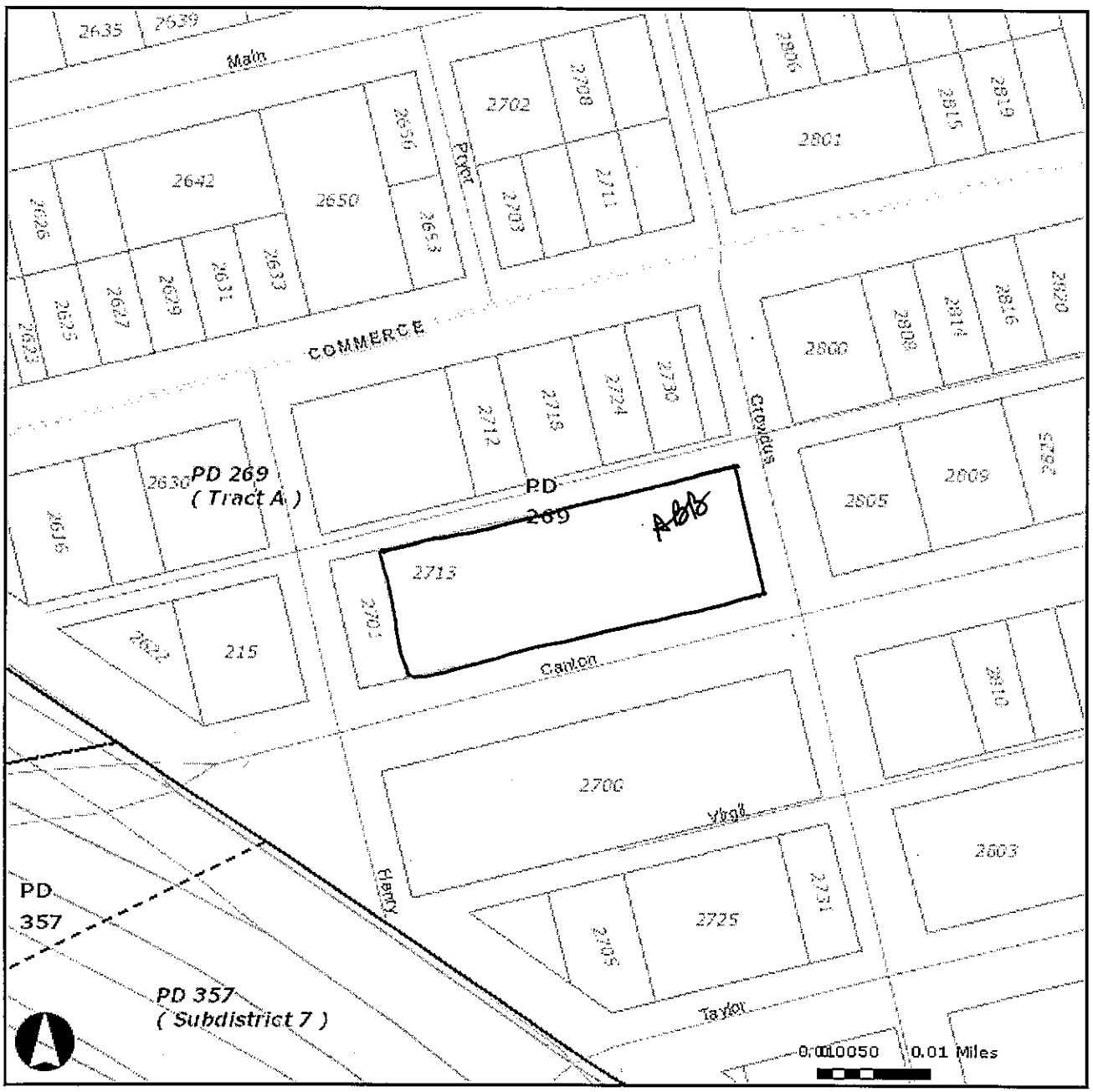
at 2713 Canton Street

BDA134-006. Application of Whitney Barlow represented by Audra Buckley for a special exception to the parking regulations at 2713 Canton Street. This property is more fully described as Lot 10A, Block 4/186, and is zoned PD-269 (Tract A), which requires parking to be provided. The applicant proposes to construct and maintain a nonresidential structure for a commercial amusement (inside) use and provide 270 of the required 359 parking spaces, which will require an 89 space special exception (24.8% reduction) to the parking regulation.

Sincerely,

Larry Holmes, Building Official

City of Dallas Zoning

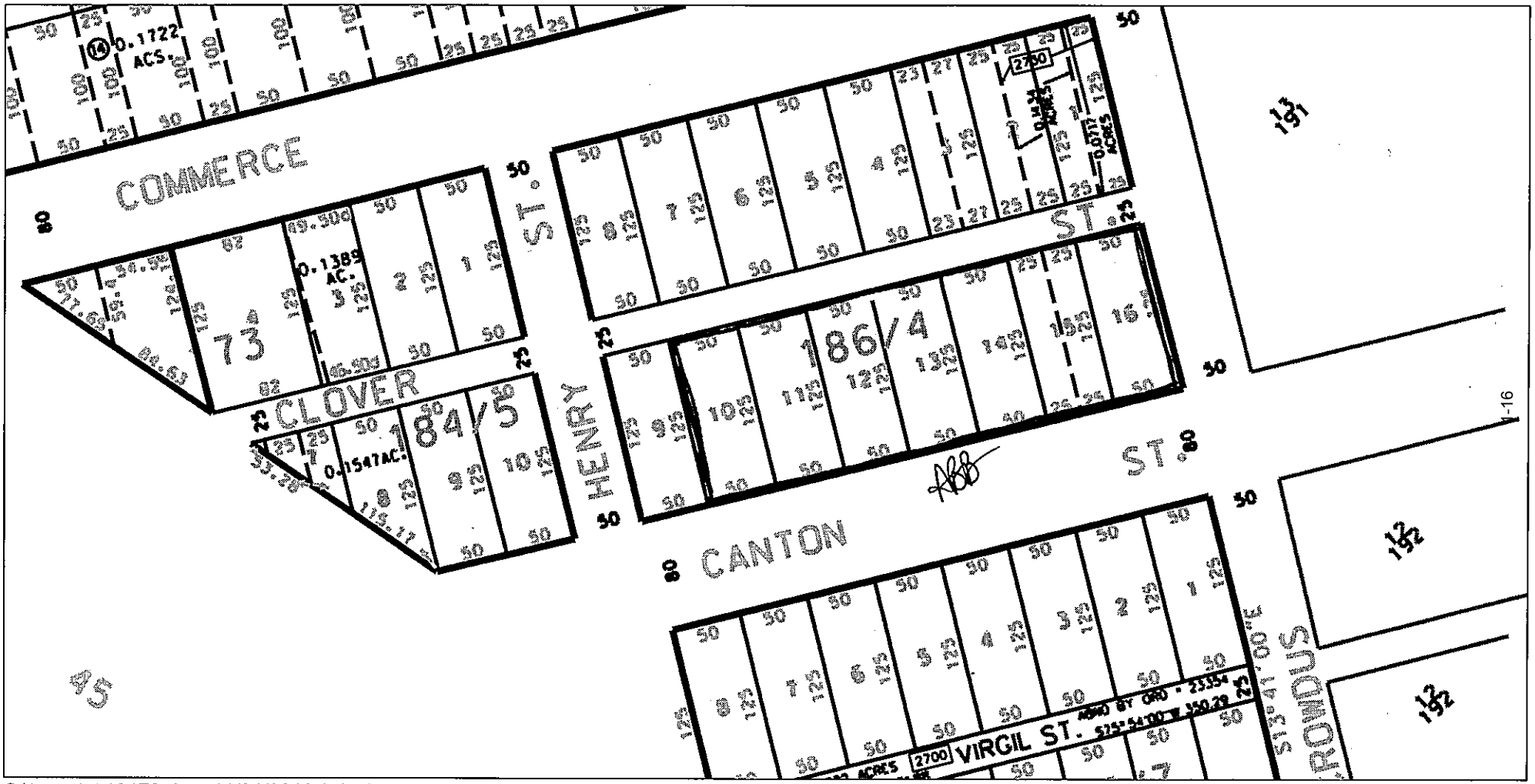


City Boundaries ☐
County ☐
Certified Parcels ☐
DISD Sites ☐
Council Districts ☐
Waterways —

Parks ☒
Major Lakes ☐
Municipal Setting Designations ☐
Deed Restrictions ☐
NSO Overlay ☐
NSO Subdistricts ☐

MD Overlay ☒
CD Subdistricts ☐
PD Subdistricts ☐
PD193 Oak Lawn ☐
PDS Subdistricts ☐
Base Zoning ☐

Zoning Disclaimer



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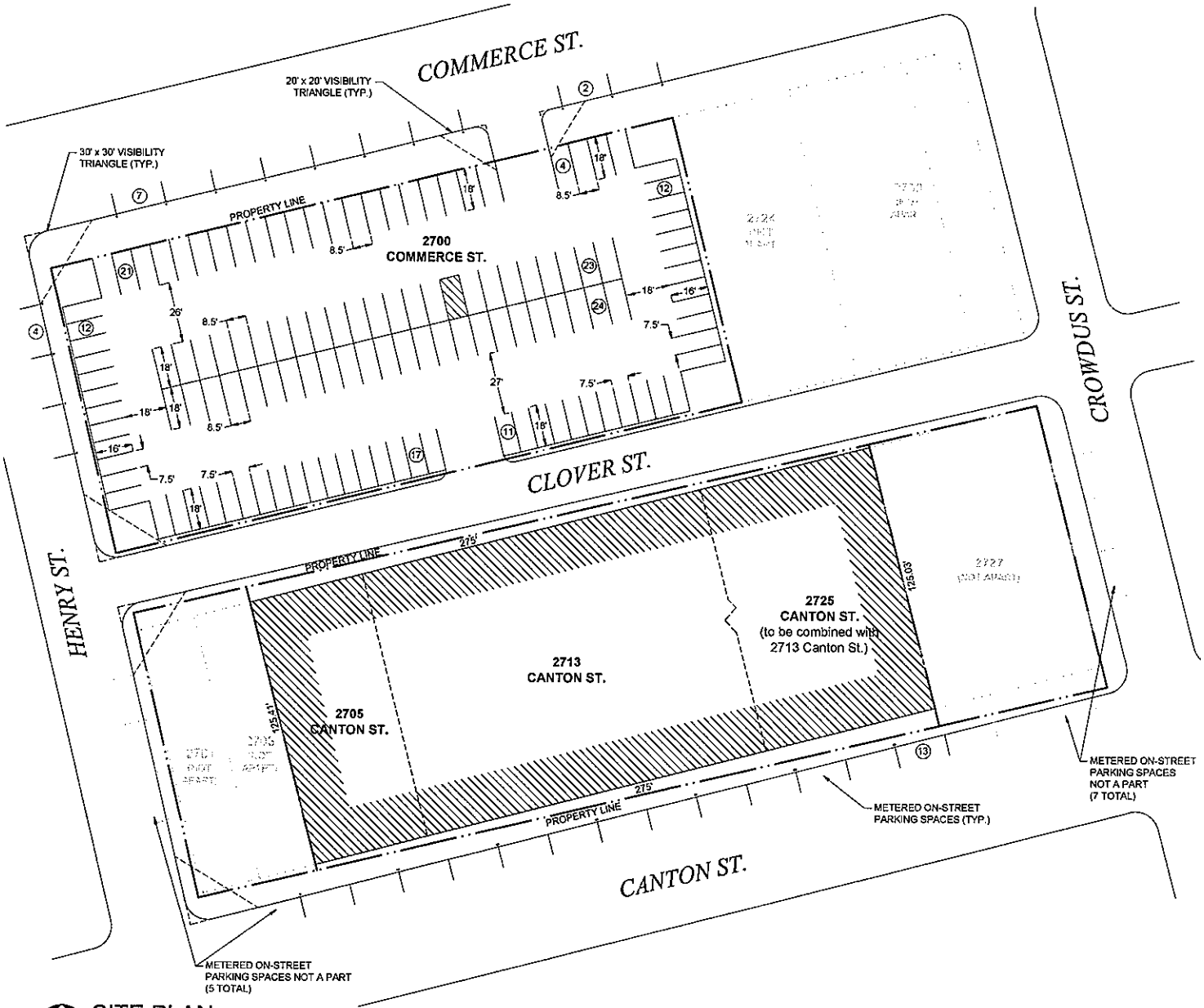
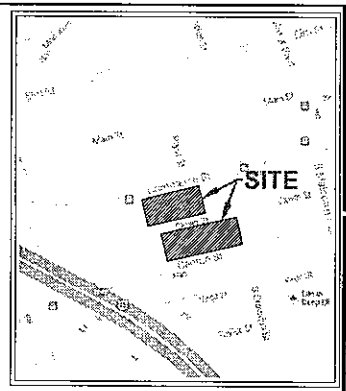
BDA 134-006

BDA 134-006

1-17





VICINITY MAP
NTS

Zoning	PD 269, Tract A
Parking Analysis:	
2705 Canton Street	5600
Required parking without permitted reductions	58
Reduction:	
2500 square foot waiver	25
Net required	33
2713 and 2725 Combined	26100
Mezzanine	9000
Preliminary required parking 1st floor	261
Preliminary required parking 2nd floor	90
Total	351
Provided:	
2500 square foot waiver	25
Net required for 2713 and 2725 combined	326
Total required for entire site	359
Provided spaces:	
Parking Agreement 2700 Commerce	123
Parking Agreement With Uplift School	134
Metered spaces along Canton	13
Total provided spaces	270
Total required spaces	359
BDA Special Exception 24.79%	89
Total required spaces with BDA approval	270
Site Information:	
Lot coverage	92.5%
FAR	2.0
Lot area	34,504 sf (0.792 ac)

SITE PLAN
SCALE: 1" = 20'-0"

20 0 10 20 40 80

PERMITTED DEVELOPMENT
416 S. Ervay Street
Dallas, Texas 75201
214.686.3635
www.permitteddevelopmentdfw.com

PD PERMITTED DEVELOPMENT

PROJECT NUMBER 11/14/13

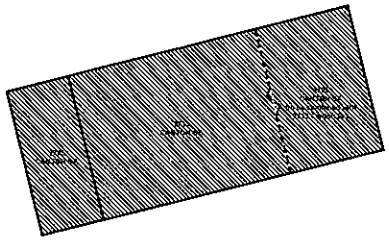
CASE NUMBER

2705 and 2713 CANTON ST.

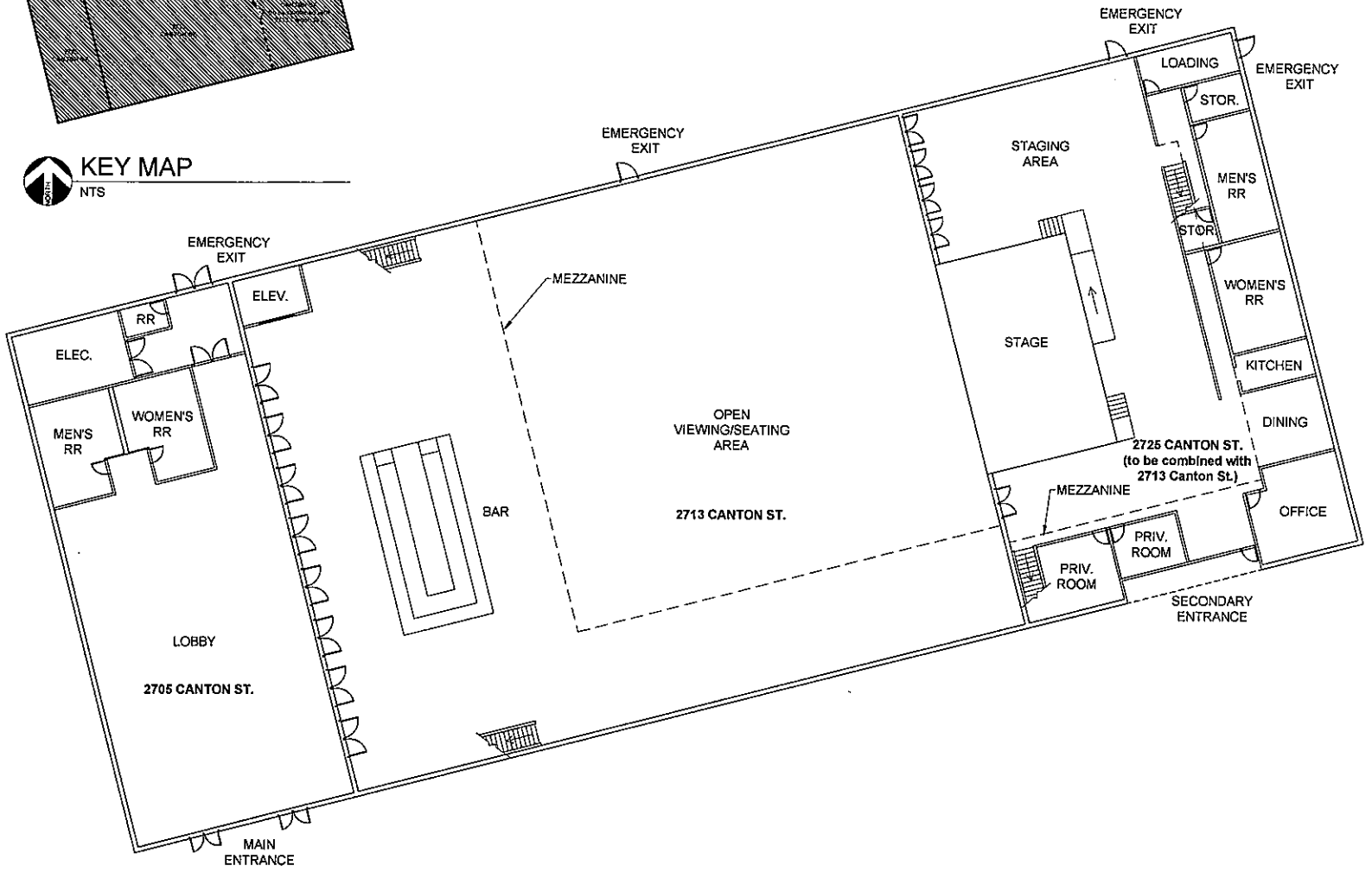
CITY OF DALLAS, TEXAS

BDA 134-006

1-18



KEY MAP
NTS



FLOOR PLAN - GROUND FLOOR
SCALE: 3/32" = 1'-00"

20' 10' 0 10' 20' 40'

11/14/13
PROJECT NUMBER
CASE NUMBER

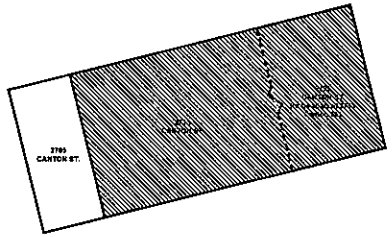
PERMITTED DEVELOPMENT
416 S. Envay Street
Dallas, Texas 75201
214.686.3635
www.permitteddevelopmentdfw.com

PD
PERMITTED DEVELOPMENT

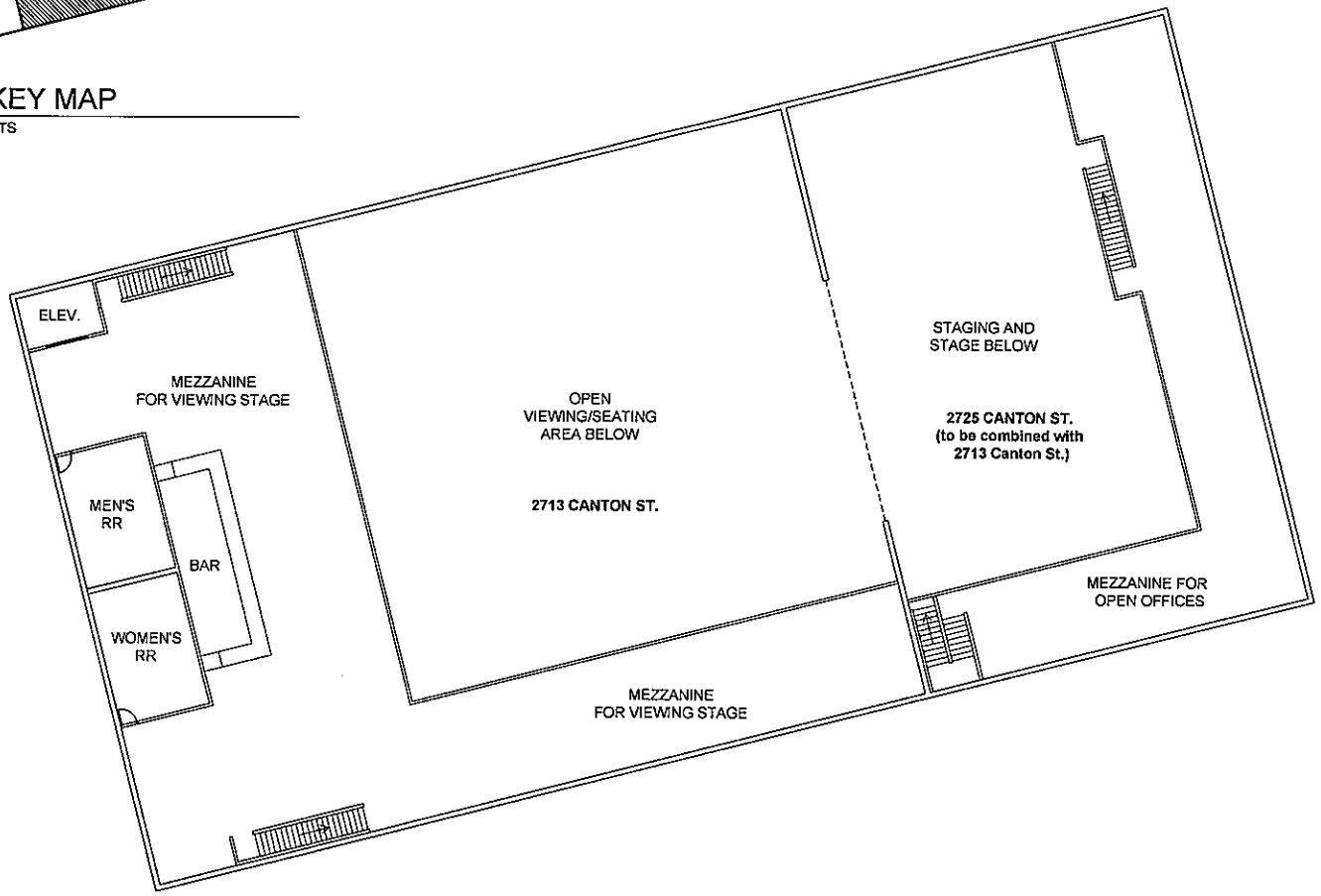
2705 and 2713 CANTON ST.
CITY OF DALLAS, TEXAS

BDA 134-006

1-19



KEY MAP
NTS



FLOOR PLAN - MEZZANINE
SCALE: 3/32" = 1'-00"

20' 10' 0 10' 20' 40'

11/14/13
PROJECT NUMBER
CASE NUMBER

PERMITTED DEVELOPMENT
416 S. Ervay Street
Dallas, Texas 75201
214.686.3535
www.permitteddevelopmentfw.com

PD
PERMITTED DEVELOPMENT

2705 and 2713 CANTON ST.
CITY OF DALLAS, TEXAS

Reason for the Request

LAND USE:

The subject site is proposed to be redeveloped with a 40,900 sq. ft. commercial amusement (inside) with live music venue. The areas adjoining the site on the north and south sides are City of Dallas right-of-way. Commercial spaces adjoin the east and west ends of the site.

Zoning:

Site and Surrounding Zoning: PD 269, Tract A: Property does not lie within a flood zone.

GENERAL FACTS:

- The Dallas Development Code requires the following parking requirements for the existing and planned uses on the subject site:
  - 1 space is required per 100 square feet of floor area for commercial amusement (inside).
- Previous use was an office located at 2705 Canton and an alcoholic beverage establishment at 2713 Canton. This site has been in existence since 1914.

- The applicant proposes to renovate the interior of the existing building for the commercial amusement (inside) use. No other improvements have been made on the property.

- The applicant is currently leasing and controlling the adjacent parking lot (2700 Commerce), which contains 123 parking spaces. There are 13 on-street, metered spaces available that will be counted towards required parking. In addition, 134 remote parking spaces will be provided on the campus of Uplift School (at the southeast corner of Crowdus Street and Indiana Street).

- DCAD records show the entire building as 2713 Canton Street. The area shown on the attached site plan as 2705 Canton will remain as that address. The area shown as 2713 and 2725 Canton will be combined under the 2713 Canton address.

- The site requires 359 parking spaces. The applicant proposes to provide 270 parking spaces.

- An SUP application for the live music venue has been filed – Case Z134-126.

Zoning	PD 269, Tract A
Parking Analysis:	
2705 Canton Street	5800
Required parking without permitted reductions	58
Reduction:	
2500 square foot waiver	25
Net required	33
2713 and 2725 Combined	26100
Mezzanine	9000
Preliminary required parking 1st floor	261
Preliminary required parking 2nd floor	90
Total	351
Provided:	
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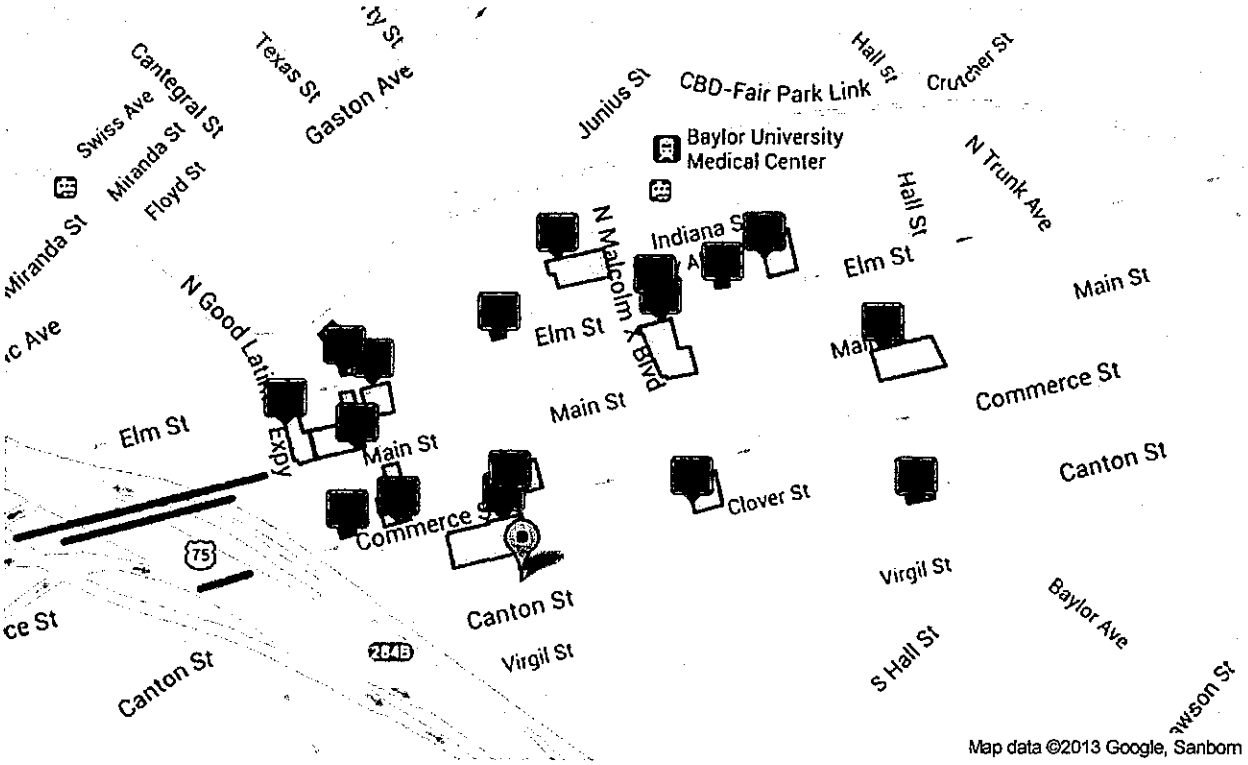
Metered spaces along Canton	13
Total provided spaces	270
Total required spaces	**359**
BDA Special Exception 24.79%	89
Total required spaces with BDA approval	**270**

Add to your site

Parkopedia



	Address	Distance	Hours	Price
1	**2700 Commerce St**	2 mins	Mon-Sun 24 hours	$5.00 / flat rate
2	**2703-2711 Commerce St / Pryor St**	2 mins	Mon-Sun 24 hours	$5.00 / flat rate
3	**2625-2629 Commerce St**	3 mins	Mon-Sun 24 hours	$5.00 / flat rate
4	**Commerce St / S Good Latimer Expy W**	3 mins	Mon-Sun 24 hours	$5.00 / flat rate
5	**S Malcolm X Blvd / Commerce St**	4 mins	Mon-Sun 24 hours	$5.00 / flat rate
6	**Main St / Elm St**	4 mins	Mon-Sun 24 hours	$5.00 / flat rate
7	**Elm St / N Crowdus St**	4 mins	Mon-Sun 24 hours	$6.00 / flat rate
8	**Elm St / Main St**	4 mins	Mon-Sun 24 hours	$5.00 / flat rate
9	**2605 Elm Street**	5 mins		$42.00 / month
10	**2603 Main St**	5 mins	Mon-Sun 24 hours	$5.00 / flat rate
11	**Elm St / Main St**	5 mins	Mon-Sun 24 hours	$5.00 / flat rate
12	**Elm St / N Malcolm X Blvd**	5 mins	Mon-Sun 24 hours	$5.00 / flat rate
13	**Indiana St / N Malcolm X Blvd**	6 mins	Mon-Sun 24 hours	$1.00 / flat rate

	Address	Distance	Hours	Price
14	**2925 Elm St**	6 mins	Mon-Sun 24 hours	$5.00 / flat rate
15	**Canton St / S Hall St**	7 mins	Mon-Sun 24 hours	N/A
16	**3001-3007 Elm / Walton**	7 mins	Mon-Sun 24 hours	$5.00 / flat rate
17	**Main St / S Hall St**	7 mins	Mon-Sun 24 hours	$5.00 / flat rate
18	**2306 Pacific Ave**	10 mins	Mon-Sun 24 hours	$5.00 / flat rate
19	**2201 Main St**	10 mins	Mon-Sun 24 hours	$5.00 / flat rate
20	**Main St / N Cesar Chavez Blvd**	11 mins	Mon-Sun 24 hours	$5.00 / flat rate
21	**2120 Main St**	11 mins	Mon-Sun 24 hours	$5.00 / flat rate
22	**Elm St / N Cesar Chavez Blvd**	12 mins	Mon-Sun 24 hours	$5.00 / flat rate
23	**Baylor Lot 2 - 705 N Hall St**	12 mins	Mon-Sun 24 hours	$5.00 / flat rate
24	**2110 Main St**	12 mins	Mon-Sun 6am-12am	$2.50 / flat rate
25	**2210 Elm St**	12 mins	Mon-Sun 24 hours	$5.00 / flat rate
26	**Commerce St / Jackson St**	12 mins		$5.00 / flat rate
27	**Baylor Lot 1 - 801 N Hall St**	12 mins	Mon-Sun 4am-12am	$5.00 / flat rate
28	**2101 Main St**	12 mins	Mon-Sun 24 hours	$6.00 / flat rate
29	**Main St / S Pearl St**	12 mins	Mon-Sun 24 hours	$5.00 / max
30	**2214 Pacific Ave**	12 mins	Mon-Sun 24 hours	$6.00 / daytime
31	**S Pearl Expy / Commerce St**	12 mins	Mon-Sun 24 hours	$5.00 / flat rate
32	**Elm St / S Pearl St**	12 mins	Mon-Sun 24 hours	$5.00 / flat rate
33	**2030-2034 Commerce St**	13 mins	Mon-Sun 24 hours	$5.00 / flat rate
34	**2115 Elm St**	13 mins	Mon-Sun 24 hours	$5.00 / flat rate
35	**2107 Elm St**	14 mins	Mon-Sun 6am-8pm	$3.00 / flat rate
36	**Jackson St / S Pearl Expy**	14 mins	Mon-Sun 24 hours	$5.00 / flat rate
37	**2012 Jackson St**	14 mins	Mon-Sun 24 hours	$5.00 / flat rate
38	**2016 Commerce St**	14 mins	Mon-Sun 24 hours	$5.00 / flat rate
39	**Elm Street Garage - 2000 Elm St**	14 mins	Mon-Sun 24 hours	$12.00 / max
40	**2004 Commerce St**	15 mins	Mon-Sun 24 hours	$3.00 / flat rate
41	**2001 Elm St**	15 mins	Mon-Sun 24 hours	$5.00 / flat rate
42	**310 S Harwood St**	15 mins	Mon-Sun 24 hours	$5.00 / flat rate
43	**N Pearl St / Bryan St**	15 mins	Mon-Sun 24 hours	$5.00 / flat rate
44	**2020 Live Oak St**	16 mins		$5.00 / flat rate
45	**2400 Bryan St**	16 mins	Mon-Sun 24 hours	$3.00 / flat rate
46	**Majestic Garage - 1920 Elm St**	16 mins	Mon-Sun 6am-7pm	$75.00 / month (unreserved)
47	**Sheraton Dallas Hotel - 400 N Olive St**	17 mins	Mon-Sun 24 hours	$21.00 / max
48	**1818 Wood St**	17 mins	Mon-Sun 24 hours	$3.00 / 12 hours
49	**Federal St / Jack Evans St**	17 mins		N/A
50	**2401 Bryan St**	17 mins		N/A

TRAFFIC MANAGEMENT PLAN FOR
THE BOMB FACTORY
DALLAS, TEXAS

Prepared for:

Clint and Whitney Barlow

2709 Elm Street

Dallas, Texas 75226

Prepared by:

DeShazo Group, Inc.

Texas Registered Engineering Firm F-3199

Engineers • Planners

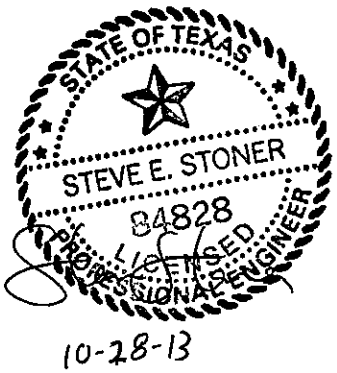
400 South Houston Street

Suite 330 • Union Station

Dallas, Texas 75202

Phone 214/748-6740

October 28, 2013



10-28-13

DeShazo Group

Traffic. Transportation Planning. Parking. Design.

DeShazo #13142

Traffic Management Plan for
The Bomb Factory
< DeShazo Project No. 13142 >

Table of Contents

DeShazo Group

Traffic. Transportation Planning. Parking. Design.

400 S. Houston Street, Suite 330
Dallas, TX 75202
ph. 214.748.6740
deshazogroup.com

Technical Memorandum

To: **Clint and Whitney Barlow**

CC: Audra Buckley — Permitted Development

From: Steve E. Stoner, P.E., PTOE — DeShazo Group, Inc.

Date: October 28, 2013

Re: Traffic Management Plan for the Bomb Factory in Dallas, Texas
DeShazo Project No. 13142

INTRODUCTION

The services of **DeShazo Group, Inc. (DeShazo)** were retained by Clint and Whitney Barlow to provide a requisite traffic management plan (TMP) for development of the project referred to herein as *The Bomb Factory* ("Project"). **DeShazo** is an engineering consulting firm providing licensed engineers skilled in the field of traffic/transportation engineering.

The proposed Project is a live music venue located on 2713 (2705, 2713 and 2725) Canton Street in an existing, vacant 40,000-SF building. The subject site is currently zoned under Planned Development District Number 269 – the Deep Ellum/Near East Side District ("PD #269"). A site location map is provided for reference in **Exhibit 1**.

Purpose

As part of the approval process for SUP amendment, submittal of a TMP to the City of Dallas is required as a record of the preferred strategies to be used by the venue to ensure overall traffic safety and efficiency. A TMP is intended to assess the anticipated traffic conditions at the site during periods of peak site-related trip generation on the basis of satisfying these objectives. By consent of the TMP submittal, the venue is agreeing to the strategies presented herein for which the it will be held self-accountable until and unless the City of Dallas deems further measures are appropriate.

The purpose of this document is to fulfill the requirements of the TMP submittal. The TMP will be provided to the City of Dallas staff ("the Staff") for review and approval.

Project Description

The proposed development will primarily be used as a live music venue and will host approximately 50 events per year. The facility will not provide fixed seats; however, the maximum building occupancy is estimated to be about 2,700. A typical event is anticipated to attract about 1,600. Essentially all events are expected to occur during the evening hours (after 7:00 PM).

For purposes of this analysis, the Project is anticipated to be in operation by 2014 (NOTE: actual opening date is to be determined). Approximately 123 off-street parking spaces will be provided on an adjacent tract (at 2700 Commerce Street – located directly across the Clover Street alley), plus 13 metered, on-street parking spaces are available around the perimeter of the site. In addition, 134 remote parking spaces will be provided on the campus of Uplift School (at the southeast corner of Crowdus Street and Indiana Street -- to be dedicated pursuant to Remote Parking Agreement). Otherwise, numerous other on-street parking spaces and publicly-owned and privately-owned commercial parking lots will be available in the area.

Preliminary site plans (by others) for the main site and the remote parking site are attached for reference.

NOTE: A Traffic Impact Analysis (TIA) was also prepared by DeShazo Group, Inc. for this SUP request. The report contains a summary of the operational impacts associated with the proposed development and a summary of the projected trip generation characteristics.

Site Access and Circulation

The primary parking lot adjacent to the building site currently has one direct driveway onto Commerce Street (one-way eastbound) and two points of access on Clover Street (i.e., the alley separating the building and the primary parking lot) via Henry Street and Crowdus Street. The remote parking lot may be accessed directly from Crowdus Street or from a driveway on Elm Street (one-way westbound).

NOTE: A designated loading area for performers/etc. will be created on Canton Street, adjacent to the building.

TRAFFIC MANAGEMENT PLAN

A Traffic Management Plan (TMP) is important to safely achieve an optimum level of traffic flow and circulation during peak traffic periods associated with before start of the event and after the end of the event. By properly managing the vehicular traffic generated during the critical periods, the safety and efficiency of other modes of travel – including walking – will also inherently improve, and the operational impact on the public street system should also be minimized. The TMP should not be considered a comprehensive set of instructions to ensure adequate safety; however, it should be used as a tool to facilitate a safer and more efficient environment.

Recommendations:

1. For events, it is assumed that the parking will be dedicated for event parking only and that attendees will collect a parking fee for use of the lot. A specific operational plan for the lot has not been established; however, it is recommended that fee collection be conducted in a manner that does not

impede the flow of traffic into either parking lot (i.e., to the degree that traffic backs out into the public right-of-way, waiting to enter the lot).

2. Once each parking lot is full, it is recommended that parking attendants erect temporary "Lot Full" signs (or equivalent) at each of the driveways and other key locations that clearly inform motorists not to attempt to enter the lots and to proceed to other parking areas. The intent of such signs is to avoid excessive circulating traffic within the lots and to reduce congestion on the public streets. NOTE: Signs should not be placed in the public right-of-way.

Additional Suggested Measures:

1. It is suggested that arrangements be made to offer patrons the opportunity to pre-purchase the use of parking spaces in the primary and remote lots at the time of ticket purchase. Such practice may reduce overall traffic circulation. Temporary signs (similar to the "Lot Full" signs described above) would also be used to communicate to motorists that parking is by reserved purchase only.

2. Local area public parking maps may be distributed to patrons at the time of ticket purchase to facilitate the advanced planning of parking opportunities in the area. (Alternatively, comparable websites or similar resources can be made available to inform patrons of parking options.) NOTE: This intent of this suggested measure is not meant to imply that the Owner of The Bomb Factory should be responsible for preparing such maps/websites but that any pre-existing or future resources may be distributed accordingly, if available.

3. Also at the time of ticket purchase, patrons may be made aware of all public transportation services that may be used to access the site. NOTE: DART's Green/Orange Lines of the Light Rail Service provides two stations within walking distance to the venue. Three separate DART bus routes area also provide service in the immediate vicinity.

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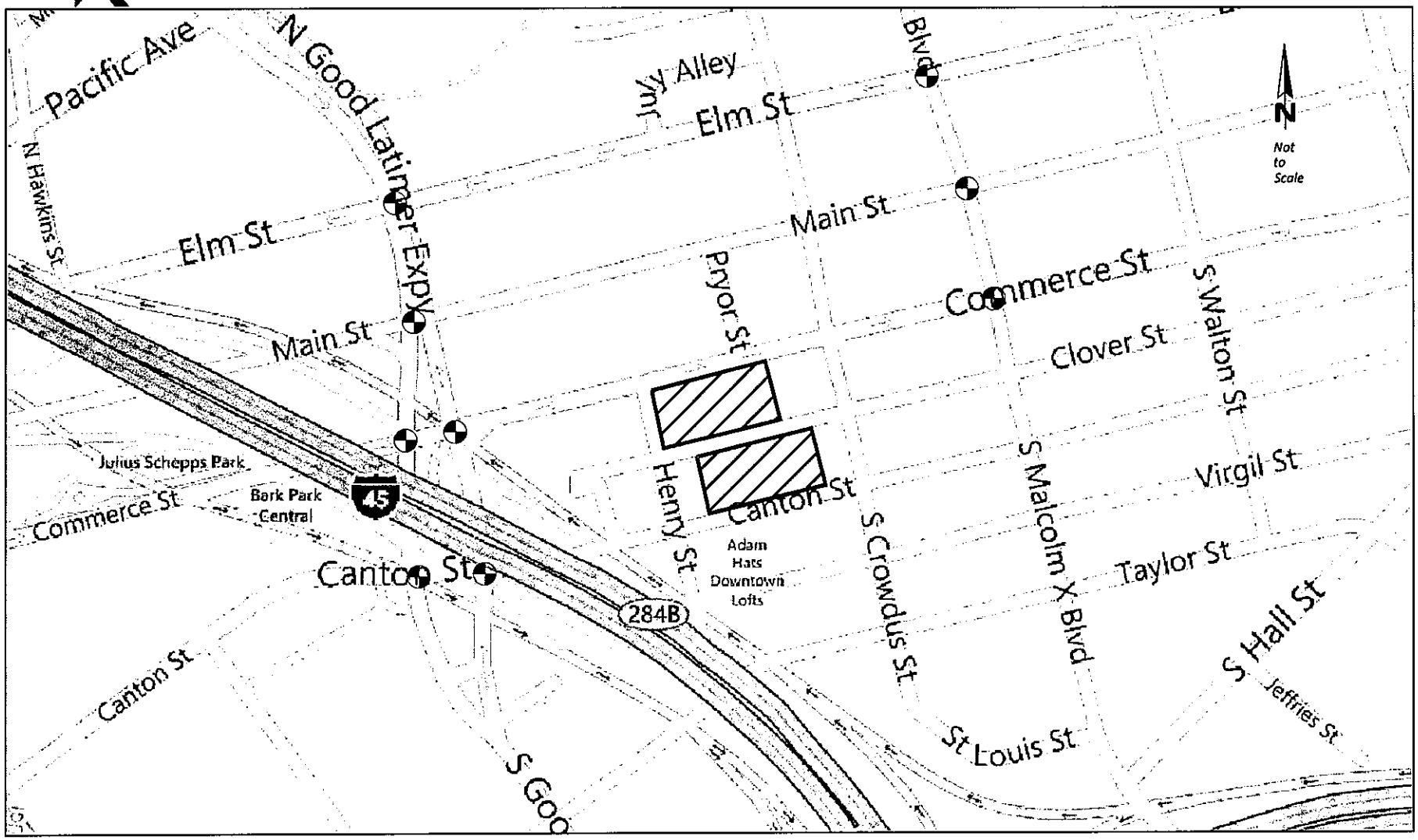
CONCLUSION

This TMP is to be used by The Bomb Factory to facilitate safe and efficient transportation of patrons, staff, and other individuals to and from the site. The Plan was developed with the intent of optimizing safety and efficiency and the goal of accommodating vehicular traffic generated by the venue at peak traffic periods within the site. The details of the TMP shall be reviewed by the facility on a regular basis to affirm its effectiveness. Adjustments to operational guidelines and procedures should be implemented as needed to improve effectiveness.

END OF MEMO

DeShazo Group



LEGEND:

★ - Study Site

⊕ - Existing Traffic Signal

Site Location Map

The Bomb Factory Traffic Impact Analysis in Dallas, Texas.

EXHIBIT 1

TRAFFIC IMPACT ANALYSIS FOR
THE BOMB FACTORY
DALLAS, TEXAS

Prepared for:
Clint and Whitney Barlow
2709 Elm Street
Dallas, Texas 75226

Prepared by:
DeShazo Group, Inc.
Texas Registered Engineering Firm F-3199
400 South Houston Street, Suite 330
Dallas, Texas 75202
Phone 214/748-6740

October 28, 2013

DeShazo Group
Traffic. Transportation Planning. Parking. Design.
DeShazo Project No. 13142

Traffic Impact Analysis for

The Bomb Factory

~ DeShazo Project No. 13142 ~

Table Of Contents

LIST OF APPENDICES:

EXECUTIVE SUMMARY

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Clint and Whitney Barlow** to conduct a Traffic Impact Analysis (TIA) for development of the project referred to herein as *The Bomb Factory* ("the Project"). **DeShazo** is an engineering consulting firm providing licensed engineers skilled in the field of traffic/transportation engineering.

The proposed Project is a live music venue located at 2713 Canton Street in an existing 40,000 SF building. The subject site is currently zoned PD #269 – the Deep Ellum/Near East Side District.

The purpose of this report is to summarize the findings of the TIA for use in a request for a specific use permit (SUP) for the Project. The TIA will be provided to the City of Dallas staff ("the Staff") for technical review to fulfill the associated requirements of the local approval process.

This TIA analyzed the anticipated impact of background traffic growth and site-related traffic at specified buildout conditions. The proposed development will generate a moderate impact to the existing conditions, but the additional traffic can be effectively accommodated given that good site access is provided as is proposed on the preliminary site plan.

Based upon the findings of this analysis, the following conclusions were made:

- Under normal conditions, the proposed development will only host an average of one concert event per week. On the remaining days, the site is not expected to generate any significant amount of traffic. Most all site-related trip generation is expected to occur during the evening hours only -- the site should have no effect on weekday peak hour traffic operations.

- No intersection improvements or mitigation measures were determined to be required as a result of operational impact created by the proposed development. However, during major events, it is recommended that traffic management strategies be implemented in order to promote pedestrian and transit safety and to reduce localized operational impacts. (See separate **Traffic Management Plan**.)

END

DeShazo Group

Traffic. Transportation Planning. Parking. Design.

400 S. Houston Street, Suite 330
Dallas, TX 75202
ph. 214.748.6740
deshazogroup.com

Technical Memorandum

To: **Clint and Whitney Barlow**

CC: Audra Buckley - Permitted Development

From: DeShazo Group, Inc.

Date: October 28, 2013

Re: Traffic Impact Analysis for The Bomb Factory in Dallas, Texas

DeShazo Project No. 13142

INTRODUCTION

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Clint and Whitney Barlow** to conduct a Traffic Impact Analysis (TIA) for development of the project referred to herein as *The Bomb Factory* ("the Project"). **DeShazo** is an engineering consulting firm providing licensed engineers skilled in the field of traffic/transportation engineering.

The proposed Project is a live music venue located on 2713 (2705, 2713 and 2725) Canton Street in an existing, vacant 40,000-SF building. The subject site is currently zoned under Planned Development District Number 269 – the Deep Ellum/Near East Side District ("PD #269"). A site location map is provided for reference in **Exhibit 1.**

Purpose

The purpose of this report is to summarize the findings of the TIA for use by **Clint and Whitney Barlow** in a request for a specific use permit (SUP) for the Project. The TIA will be provided to the City of Dallas staff ("the Staff") for technical review to fulfill the associated requirements of the local approval process.

This TIA analyzes the anticipated impact, if any, of background traffic growth and site-related traffic at specified buildout conditions. Based upon the results of this analysis, **DeShazo** has recommended traffic-related measures considered commensurate and appropriate to mitigate excessive or undue projected impacts. It is intended that the findings and recommendations presented herein be considered a credible basis to determine the traffic-related improvements essential for the Project to operate safely and efficiently.

Project Description

The proposed development will primarily be used as a live music venue and will host approximately 50 events per year. The facility will not provide fixed seats; however, the maximum building occupancy is estimated to be about 2,700. A typical event is anticipated to attract about 1,600. Essentially all events are expected to occur during the evening hours (after 7:00 PM).

For purposes of this analysis, the Project is anticipated to be in operation by 2014 (NOTE: actual opening date is to be determined). Approximately 123 off-street parking spaces will be provided on an adjacent tract (at 2700 Commerce Street – located directly across the Clover Street alley), plus 13 metered, on-street parking spaces are available around the perimeter of the site. In addition, 134 remote parking spaces will be provided on the campus of Uplift School (at the southeast corner of Crowdus Street and Indiana Street -- to be dedicated pursuant to Remote Parking Agreement). Otherwise, numerous other on-street parking spaces and publicly-owned and privately-owned commercial parking lots will be available in the area.

Preliminary site plan (by others) is provided in the **Appendix.**

Study Parameters

This TIA will analyze the day-to-day traffic operational conditions that are anticipated to be the most critically impacted by the proposed Project at buildout conditions. However, since the traffic characteristics of the Project will be varied, the parameters for this study were determined in conjunction with the staff from the City of Dallas Department of Sustainable Development and Construction who will be reviewing the study.

The following study parameters were defined and assumed:

- Conduct study area intersection operational analysis for three (3) peak hour conditions:
  - traditional weekday PM peak hours (5:00 PM to 6:00 PM) of adjacent street traffic
  - one hour before the event start time (assumed: 7:30 to 8:30 PM), and
  - one hour after the event (assumed: 10:30 PM to 11: 30 PM)
- Analyze traffic under the following scenarios:
  - at existing conditions
  - at site buildout year 2014 without site-generated traffic
  - at site buildout year 2014 with site-generated traffic

Study Area

Based upon the scale of the proposed Project, the TIA study area was defined in order to assess the most relevant traffic impacts to the local area. DeShazo consulted with the Staff to determine the appropriate study area. The following locations are included in the study area. A map of the study area intersections and roadway links considered in this analysis is also depicted in **Exhibit 1**.

Intersections:

(a) Commerce Street and Henry Street: *STOP-controlled on Henry Street*

(b) Commerce Street and S Crowdus Street: *STOP- controlled on Crowdus Street*

(c) Canton Street and Henry Street: *STOP- controlled on Henry Street*

(d) Canton Street and S Crowdus Street: *STOP- controlled on Crowdus Street*

Roadway Links:

(A) Commerce Street between Henry Street and Crowdus Street

- Existing cross-section: five lanes, one-way operation with two lanes dedicated to regulated on-street parking
- City of Dallas Thoroughfare Plan Designation: Collector - *C/S-4 -U*

(B) Canton Street between Henry Street and Crowdus Street

- Existing cross-section: five lanes, two-way operation (two lanes in each direction with a center-two-way-left-turn lane) with part-time, regulated on-street parking
- City of Dallas Thoroughfare Plan Designation: Minor Arterial - MA /S-4-D

TRAFFIC IMPACT ANALYSIS

In accordance with the requirements of the City of Dallas, submittal of a Traffic Impact Analysis is required for the Project. The study is provided to the Staff for review of the projected traffic impact of the proposed Project. Staff review comments are provided to the City of Dallas for consideration.

Approach

The TIA presented in this report will analyze the operational conditions for the peak hours and study area as defined above using standardized analytical methodologies where applicable. Current traffic volume data were collected throughout the study area to represent existing traffic conditions. Growth factors were applied to the existing volumes to project future background traffic at the site buildout year conditions. Then, traffic generated by the proposed development was projected using the standard four-step approach: Trip Generation, Mode Split, Trip Distribution, and Traffic Assignment. By adding the site-generated traffic to the background traffic, the resulting site-plus-background traffic impact to operational conditions may be assessed from which approach mitigation measures may be recommended.

Background Traffic Volume Data

Existing Volumes

Current peak period traffic volumes were collected at the study area intersections on August 22 and August 23, 2013 (Thursday and Friday) are summarized in **Exhibit 3.** Current daily roadway link volumes were also collected concurrent with the intersection traffic volume counts.

Detailed traffic volume data are provided in **Appendix A.**

Historical Traffic Characteristics

A compilation of historical traffic volume data available from the City of Dallas were assembled in **Table 1** for review and development of an average annual growth rate for background traffic in the study area. Generally, historical traffic volumes on the major area roadways followed a low-growth or decreasing trend in recent years. Although no significant growth is evident, DeShazo assumed a one percent (1.0%) per year rate of growth in order to reflect a conservative condition.

Table 1. Historical Daily Traffic Volumes

ROADWAY SEGMENT	HISTORICAL DAILY VOLUME (DATE)	ANNUAL GROWTH RATE
Commerce Street (from Henry Street to Crowdus Street)	7,550 ('13)[A] 7,923 ('02)[B]	-0.44% --
Canton Street (from Henry Street to Crowdus Street)	10,604 ('13)[A] 9,914 ('03)[B]	0.68% --

Data Source: A = DeShazo; B = City of Dallas

Projected Background Traffic Volumes

By applying the assumed growth rate(s) described previously, future background traffic volumes (i.e., traffic not directly associated with the Project) during peak periods at the Project buildout year of 2014 were calculated for the study area intersections. These volumes are summarized in **Exhibit 4.**

Site-Related Traffic

Trip Generation and Mode Split

Trip generation is summarized as trip ends – a trip end is a one-way vehicular trip (i.e., a single vehicle entering and exiting a site represents two trip ends). Trip generation for the proposed use is not a land use that is supported by published data. Hence, a customized trip generation/mode split model was required. DeShazo developed this analytical model based upon the following assumptions:

- Maximum capacity – 2,700 attendees

- Mode split – 75% by personal automobile (including 5% by drop-off/pick-up) and 25% by other mode (i.e., transit, walking, etc.)
- Average automobile occupancy – 3.0 passengers per vehicle
- Arriving trip distribution:
  - 50% during one hour preceding event start
  - 45% more than one hour preceding event start
  - 5% after event start
- Departure trip distribution:
  - 50% during one hour following event end
  - 45% more than one hour following event end
  - 5% before event end

Table 2 provides a summary of the calculated trip ends used in this analysis.

Table 2. Projected (Vehicular) Site Trip Generation Summary At Full Capacity Event

Land Use	Quantity	One-Hour Period	Peak Hour Trip Ends		
			Total	In	Out
Live Music Venue	2,700 Attendees	Weekday, 5:00-6:00 PM	0	0	0
		One-Hour Preceding Event	355	338	17
		One-Hour After Event	355	17	338

Trip Distribution and Assignment

Site traffic assignment is the exercise of estimating the orientation of site-generated trips proportionally by various travel routes. Traffic assignment is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic; trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.

Traffic for the proposed redevelopment was distributed and assigned to the study area roadway network based upon consideration of the factors listed above. Generally, for this analysis it was assumed that site traffic will approach the primary site's primary parking facility (at 2700 Commerce Street) until the lot is full; then, once the lot is fully occupied, the site-generated traffic will continue approaching the site in the same manner, but then continue onward to a remote parking facility of their choosing. Detailed trip distribution and traffic assignment calculations and results are summarized in **Appendix B**.

Site-Generated Traffic Volumes

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 2**) by the corresponding traffic assignments (from **Appendix B**). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are summarized in **Exhibit 5**.

Traffic Operational Analysis —Roadway Intersections

Analysis Methodology

The standard methodology for measuring the operational conditions of STOP-controlled ("unsignalized") intersection capacity was developed by the **Transportation Research Board** and presented in the *Highway Capacity Manual*. These operational conditions are also qualitatively defined in terms of LOS ranging from "A" to "F" and are quantitatively measured in terms of average delay per vehicle in a one-hour period — but, as a function of acceptable gaps in the opposing traffic stream(s). LOS for unsignalized locations are not measured for the entire intersection; rather, LOS is only calculated for individual traffic movements that must stop or yield right-of-way (traffic movements that do not stop or yield have no effective delay). A detailed description of LOS for unsignalized intersections is also provided in **Appendix C**.

NOTE: The *HCM* methodology for unsignalized intersections was originally designed to analyze low- to moderate-volume locations where the traffic is, generally, evenly distributed throughout the intersection (e.g., an intersection of two local streets). However, for unsignalized intersections located on major thoroughfares (where traffic volume or roadway capacity is very high and/or vastly disproportionate), the methodology is deficient. Although *LOS D* or better is desirable, *LOS F* (calculated) commonly results and cannot be operationally mitigated unless a traffic signal is installed (subject to the findings of a Traffic Signal Warrant Analysis and subsequent approved of traffic signal installation by the responsible transportation agency). External factors such as gaps in the traffic stream created by nearby traffic signals are not sufficiently accounted for in the methodology but may, in fact, provide better-than-calculated conditions. Since no alternative analysis methodology exists, the results directly obtained from the calculated values are presented herein. It is recommended that analysis results for such locations be taken in the context of day-to-day experience rather than as an absolute determination of inadequacy.

Analysis Traffic Volumes

Determination of the traffic impact associated with the Project is measured by comparing the incremental change in operational conditions with and without site-related traffic. **Exhibit 6** summarizes the background-plus-site peak period traffic volumes at the Project buildout year.

Summary of Results

Intersection capacity analyses presented in this study were performed using the **Synchro 7** software package. **Table 3** provides a summary of the intersection operational conditions during the peak periods under the analysis conditions presented previously. Detailed software output is provided in **Appendix D**.

Table 3. Peak Hour Intersection Capacity Analysis Results
(Unsignalized Intersections)

Unsignalized Intersections	Traffic Movement	Conditions: Existing 5.00-6.00 PM	Existing 7.30 - 8.30 PM	Existing 10.30-11.30 PM	Background 5.00-6.00 PM	Background 7.30 - 8.30 PM	Background 10.30-11.30 PM	Background plus Site 5.00-6.00 PM	Background plus Site 7.30 - 8.30 PM	Background plus Site 10.30-11.30 PM
Commerce Street at										
Henry Street	NBR	B *(10.0)*	A *(9.3)*	A *(9.1)*	B *(10.1)*	A *(9.4)*	A *(9.1)*	B *(10.1)*	A *(9.8)*	A *(9.1)*
Commerce Street at										
S Crowdus Street	NBTR	C *(17.7)*	B *(11.3)*	B *(12.0)*	C *(18.1)*	B *(11.4)*	B *(12.1)*	C *(18.1)*	D *(26.7)*	B *(13.9)*
	SBLT	C *(19.7)*	B *(11.9)*	B *(11.7)*	C *(20.1)*	B *(11.9)*	B *(11.8)*	C *(20.1)*	D *(27.2)*	C *(17.3)*
Canton Street at										
Henry Street	EBL	A *(8.8)*	A *(7.7)*	A *(7.6)*	A *(8.8)*	A *(7.8)*	A *(7.6)*	A *(8.8)*	A *(7.9)*	A *(7.6)*
	WBL	A *(0.0)*	A *(0.0)*	A *(0.0)*	A *(0.0)*	A *(0.0)*	A *(0.0)*	A *(0.0)*	A *(0.0)*	A *(0.0)*
	NBLTR	C *(16.6)*	A *(9.6)*	A *(9.6)*	C *(16.9)*	A *(9.7)*	A *(9.6)*	C *(16.9)*	B *(10.3)*	B *(10.4)*
	SBLTR	B *(12.6)*	A *(9.7)*	A *(9.2)*	B *(12.8)*	A *(9.7)*	A *(9.2)*	B *(12.8)*	B *(10.1)*	A *(9.3)*
Canton Street at										
S Crowdus Street	EBL	A *(0.2)*	A *(0.1)*	A *(0.0)*	A *(0.2)*	A *(0.1)*	A *(0.0)*	A *(0.2)*	A *(0.4)*	A *(0.2)*
	WBL	B *(11.4)*	A *(7.7)*	A *(7.4)*	B *(11.5)*	A *(7.7)*	A *(7.4)*	B *(11.5)*	A *(7.7)*	A *(7.4)*
	NBLTR	C *(23.8)*	B *(10.4)*	A *(9.9)*	C *(24.4)*	B *(10.5)*	A *(9.9)*	C *(24.4)*	B *(12.0)*	B *(10.1)*
	SBLTR	C *(19.8)*	B *(10.3)*	A *(9.8)*	C *(20.3)*	B *(10.4)*	A *(9.8)*	C *(20.3)*	B *(11.1)*	B *(10.6)*
Commerce Street at										
Driveway 1	NBR	-	-	-	-	-	-	A *(0.0)*	A *(9.3)*	A *(9.1)*
Henry Street at										
Clover Street/Driveway 2	WBLR	-	-	-	-	-	-	A *(0.0)*	A *(9.0)*	A *(8.8)*
	NBTR	-	-	-	-	-	-	A *(0.0)*	A *(0.0)*	A *(0.0)*
	SBLT	-	-	-	-	-	-	A *(0.0)*	A *(0.0)*	A *(0.0)*
S Crowdus Street at										
Clover Street/Driveway 3	EBLR	-	-	-	-	-	-	A *(0.0)*	A *(9.0)*	A *(8.8)*
	NBLT	-	-	-	-	-	-	A *(0.0)*	A *(0.1)*	A *(0.3)*
	SBTR	-	-	-	-	-	-	A *(0.0)*	A *(0.0)*	A *(0.0)*

KEY:

A, B, C, D, E, F = Level-of-Service for each intersection approach
NB, SB, EB, WB = North-, South-, East-, Westbound approach
L, T, R = Left, Through, Right Approach turning movement
5-6 PM = PM Peak Hour of Adjacent Street
7.30 - 8.30 PM = PM Peak Hour one hour before show start
10.30-11.30 PM = Late Peak Hour after the end of Show

As noted in the results, the capacity analysis indicates that existing operational conditions at unsignalized controlled intersections generally operate efficiently and at acceptable Levels of Service. Acceptable conditions are expected to be maintained through the addition of the site generated traffic. Once the traffic generated by full site buildout plus the anticipated background traffic growth is added to the roadway system, capacity at unsignalized intersections approaches the maximum desirable Level-of-Service — specifically at the intersection of Commerce Street and the Crowdus Street during the 7:30-8:30 PM peak hour due to the two-way stop control on S Crowdus Street and not on Commerce Street. All other unsignalized driveway and local street intersections on Commerce Street, Henry Street, Canton Street and the adjacent roads are expected to operate at acceptable levels of service.

No specific intersection mitigation measures are considered to be needed and warranted as a direct result of the proposed development.

See specific recommendations in the *Recommendations* section of this report.

Traffic Operational Analysis — Roadway Links

Roadway link analysis is an evaluation technique used to validate the regional roadway network. In comparison to intersection capacity analysis, roadway link analysis is less definitive since the analytical parameters are more theoretical and are calibrated to a much lesser degree. [NOTE: A standardized technique for analyzing roadway link capacity does not exist. For this study, DeShazo has applied planning parameters developed by the North Central Texas Council of Governments (NCTCOG) and used average daily traffic volumes, or ADTs.]

Generally, roadway link capacity is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. Ideally, the comprehensive thoroughfare system is designed to provide adequate local and regional mobility while maintaining sufficient opportunities for property access and without requiring excessive right-of-way. In many cases around any metropolitan area, major roadways and thoroughfares already carry a higher traffic volume than the optimum desirable capacity. Hence, interpretation of link analysis results should not be considered a definitive measurement of "acceptable" versus "unacceptable" conditions, but rather link analysis may be used to identify potential deficiencies in the thoroughfare system. If needed, "mitigation" of inadequate conditions would require constructing new roadways or adding roadway capacity and upgrading the functional classification of roadways in the area, which may or may not be feasible.

In this analysis, as required by City of Dallas TIA guidelines, roadway link capacity was evaluated using current roadway link volumes and forecasted roadway link volumes on the thoroughfares in the vicinity of the site at the site buildout conditions.

Analysis Traffic Volumes

Based upon DeShazo's assumed one percent annual rate of growth, future background traffic volumes were projected for study area roadway links.

Roadway Capacity

For planning purposes, NCTCOG has developed Roadway "Service Volumes" that generally represent the theoretical optimum (not maximum) capacity of a roadway given the environment (or, "area type") and the roadway's functional classification. Based upon the ratio of the traffic volume to the service volume, LOS criteria have also been established. Summaries of these parameters are provided in **Appendix D.**

Summary of Results

For major roadways in the vicinity, the volume/capacity ratio was determined for historical, existing, and site buildout conditions. A summary of the link capacity analysis is provided in **Table 4.**

Table 4. Roadway Link Volumes and Capacity Analysis

Roadway Segment	Condition	Daily Volume	Theoretical Daily Capacity	V/C Ratio (Level-of-Service)
Commerce between Henry Street and S Crowdus Street	Existing (2013)	7,550	25,000	0.30 (LOS *C* or better)
	Site Buildout (2014)	8,006	25,000	0.32 (LOS *C* or better)
Canton Street between Henry Street and S Crowdus Street	Existing (2013)	10,604	36,250	0.29 (LOS *C* or better)
	Site Buildout (2014)	10,918	36,250	0.30 (LOS *C* or better)

Generally, the roadway links in the vicinity of the site are expected to continue to operate at the current Levels-of-Service after the addition of site-related traffic and anticipated background growth. On some roadways, the current traffic volume is lower than historical volumes (e.g., Commerce Street), so the future traffic volume growth does not result in an unprecedented condition.

RECOMMENDATIONS

NOTE: Recommendations for public improvements within the study area presented in this report reflect the opinion of DeShazo based solely upon technical analysis and professional judgment and are not intended to define, imply, or allocate funding sources nor required improvements. Applicable legal precedent indicates that the Owner of a Project should only be required to **proportionately** fund **necessary** infrastructure improvements that are directly attributable to implementation of the Project. Such requirements will depend upon the individual circumstances of each project that may be viewed differently by each particular agency/municipality.

The following recommendations are based upon full buildout of the subject property in accordance with the hypothetical development scenario outlined in **Exhibit 2.** It should be noted that the merit of any recommended mitigation measures may warrant re-evaluation should the site develop to a lower intensity. A summary of the existing intersection roadway geometry are shown in **Exhibit 7.**

1. *No intersection improvements or mitigation measures required.*

2. *During major events, implement traffic management strategies to promote pedestrian and transit safety and to reduce localized operational impacts. (See separate **Traffic Management Plan.**)*

CONCLUSIONS

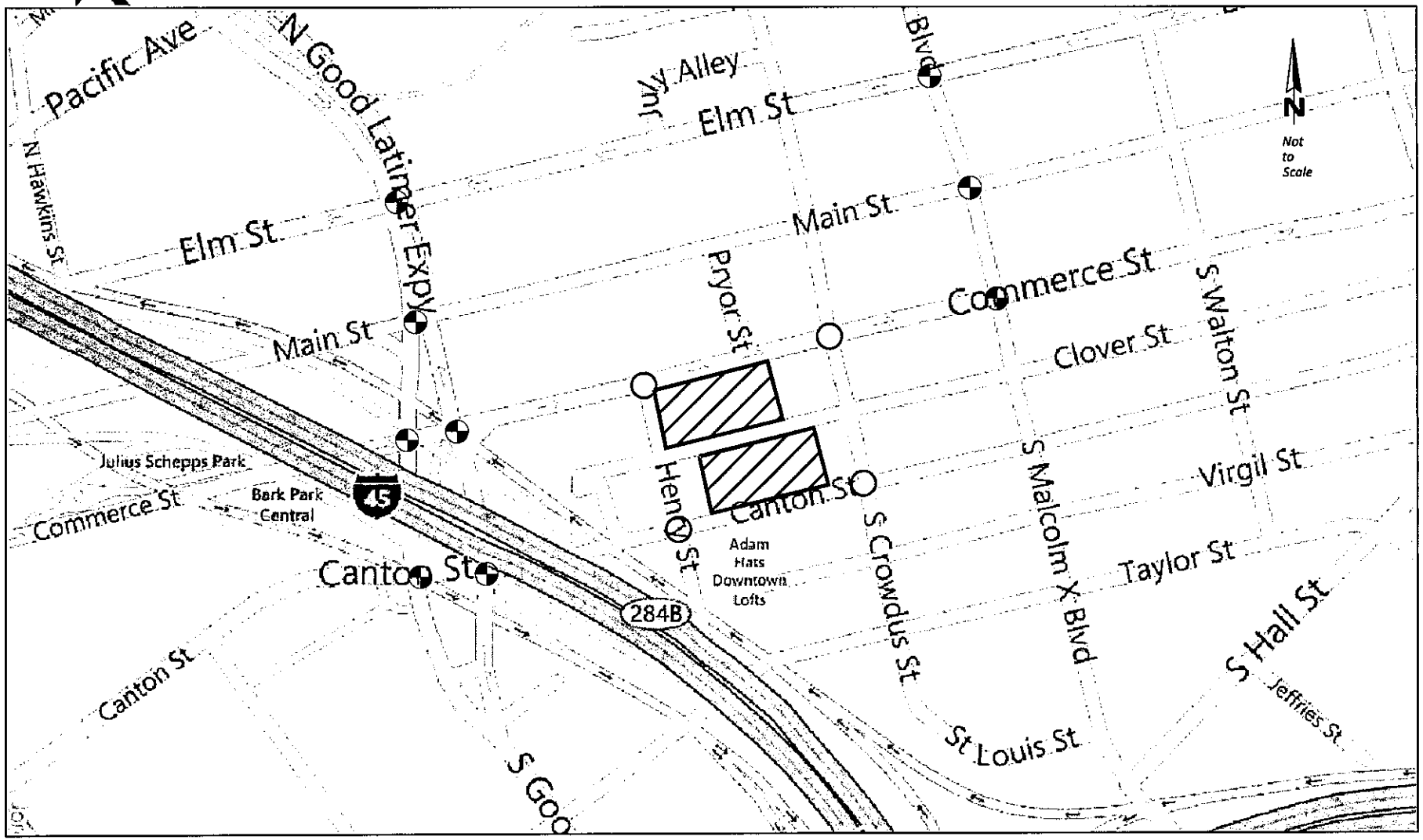
Redevelopment of the subject property to live music venue is proposed. The immediate surrounding area consists of various entertainment and other compatible land uses. Parking on-street and in commercial parking lots is common. The area is also accustomed to heavy pedestrian traffic during the evening hours.

Under normal conditions, the proposed development will only host an average of one concert event per week. On the remaining days, the site is not expected to generate any significant amount of traffic. Most all site-related trip generation is expected to occur during the evening hours only -- the site should have no effect on weekday peak hour traffic operations.

Though no intersection improvements or mitigation measures are required, it is recommended that traffic management strategies be implemented where practical to reduce overall traffic impacts.

END OF MEMO

DeShazo Group



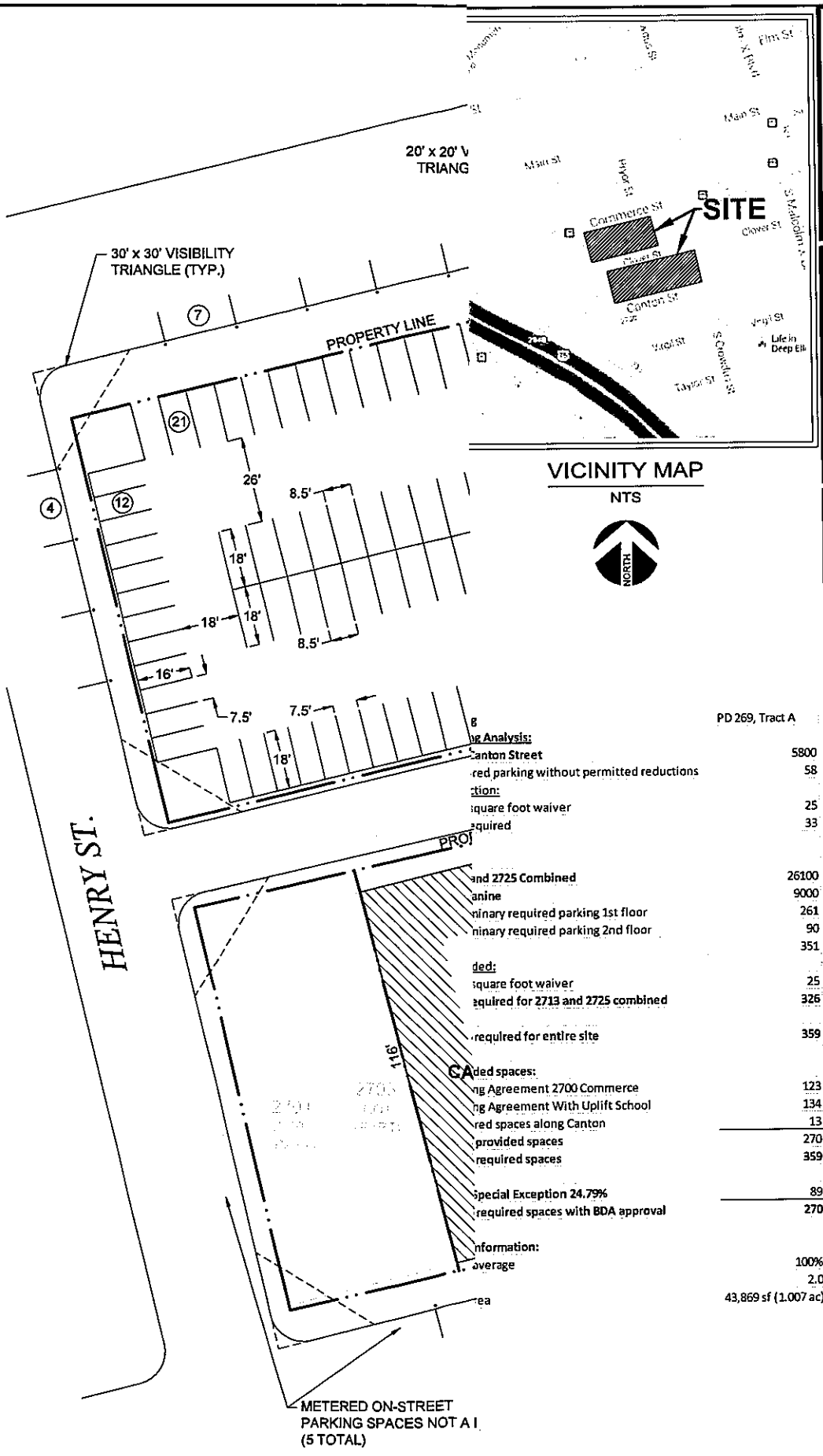
LEGEND:

★ - Study Site ◔ - Existing Traffic Signal ○ - Study Intersections

Site Location Map and Study Area Map

The Bomb Factory Traffic Impact Analysis in Dallas, Texas.

EXHIBIT 1



VICINITY MAP

NTS

g	PD 269, Tract A
g Analysis:	
anton Street	5800
red parking without permitted reductions	58
tion:	
quare foot waiver	25
equired	33
and 2725 Combined	26100
anine	9000
inary required parking 1st floor	261
inary required parking 2nd floor	90
	351
ded:	
quare foot waiver	25
equired for 2713 and 2725 combined	326
required for entire site	359
CA ded spaces:	
ng Agreement 2700 Commerce	123
ng Agreement With Uplift School	134
red spaces along Canton	13
provided spaces	270
required spaces	359
Special Exception 24.79%	89
required spaces with BDA approval	270
nformation:	
verage	100%
	2.0
ea	43,869 sf (1.007 ac)

SITE PLAN

SCALE: 1" = 20'-0"

10/24/13

PROJECT NUMBER

CASE NUMBER

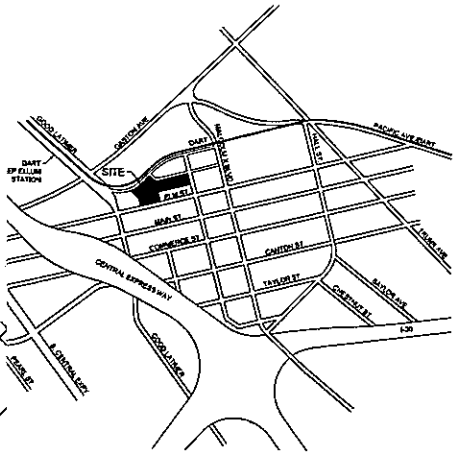
PERMITTED DEVELOPMENT
416 S. Ervay Street
Dallas, Texas 75201
214.686.3635
www.permitteddevelopmentdfw.com

PD

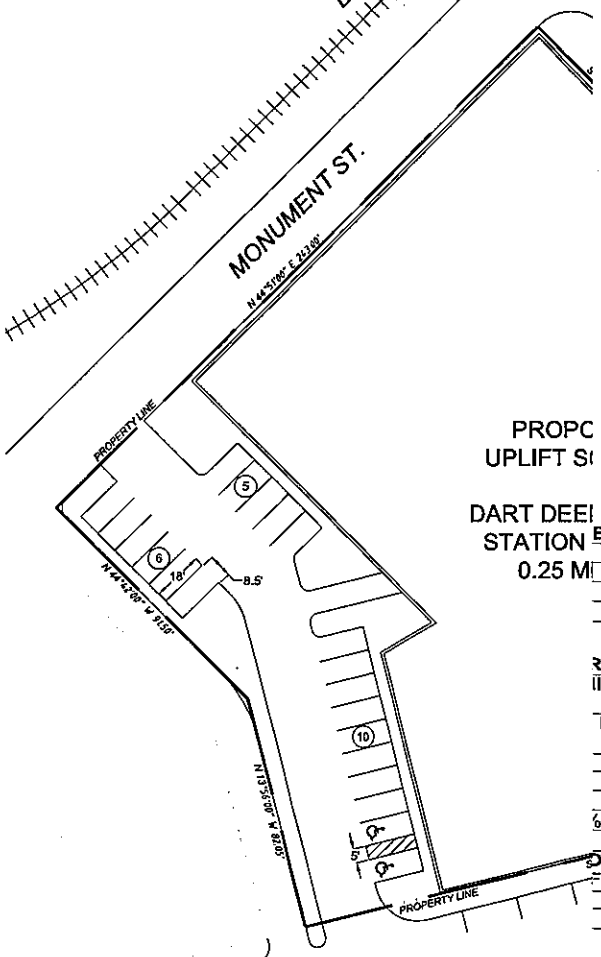
PERMITTED DEVELOPMENT

2705 and 2713 CANTON ST.

CITY OF DALLAS, TEXAS



VICINITY MAP
NTS



PROPC
UPLIFT S

DART DEE
STATION
0.25 M

E INFORMATION

LAND AREA	2.2456 AC
BUILDING AREA	85,386 SF
HEIGHT	2 STORIES
LOT COVERAGE	43.6 %

RKING ANALYSIS

IIDDLE SCHOOL: 18 ROOMS @ 3.5 SPACES/ROOM	63 SPACES
HIGH SCHOOL: 20 ROOMS @ 9.5 SPACES/ROOM	190 SPACES
PRELIMINARY TOTAL	253
DART 10% REDUCTION	25 SPACES
PRELIMINARY TOTAL	228
% BDA SPECIAL EXCEPTION	54 SPACES
OTAL REQUESTED SPACES TER SPECIAL EXCEPTION)	174 SPACES
PROVIDED SPACES	174 SPACES

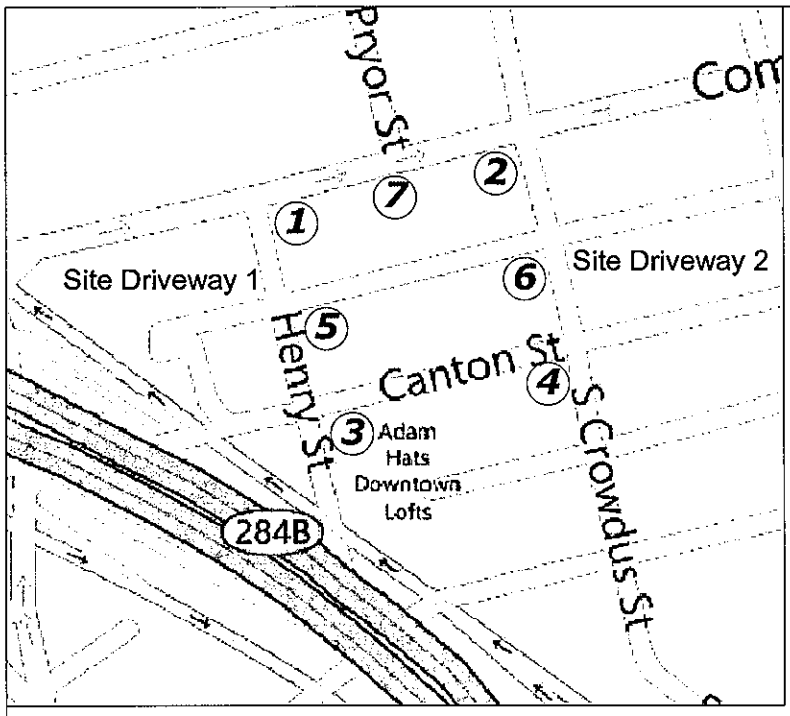
1 SITE PLAN
SCALE: 1" = 30'-0"

02/14/12
PROJECT NUMBER
CASE NUMBER

BALDWIN ASSOCIATES
3904 Elm Street, Suite B
Dallas, Texas 75226
MOBILE: 214.729.7949
OFFICE: 214.824.7949
rob@baldwinplanning.com

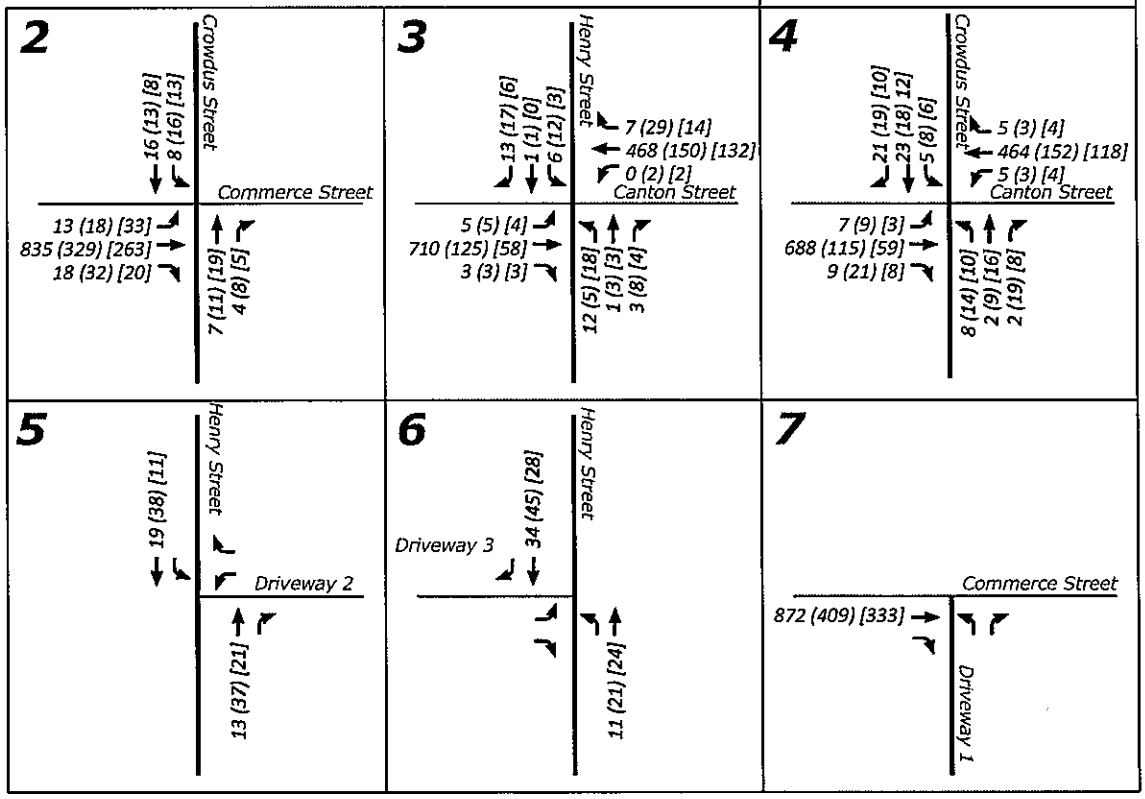
Baldwin Associates

UPLIFT SCHOOL
CITY OF DALLAS, TEXAS



N
NOT TO SCALE

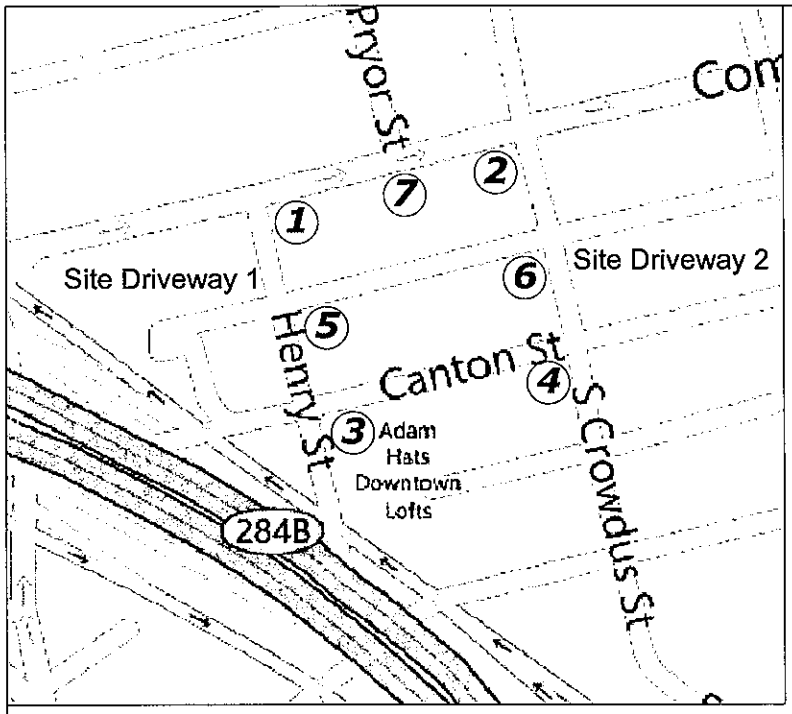
Legend:
XXX - AM Peak Hour Traffic Volumes
YYY - PM Peak Hour Traffic Volumes



Existing Traffic Volumes

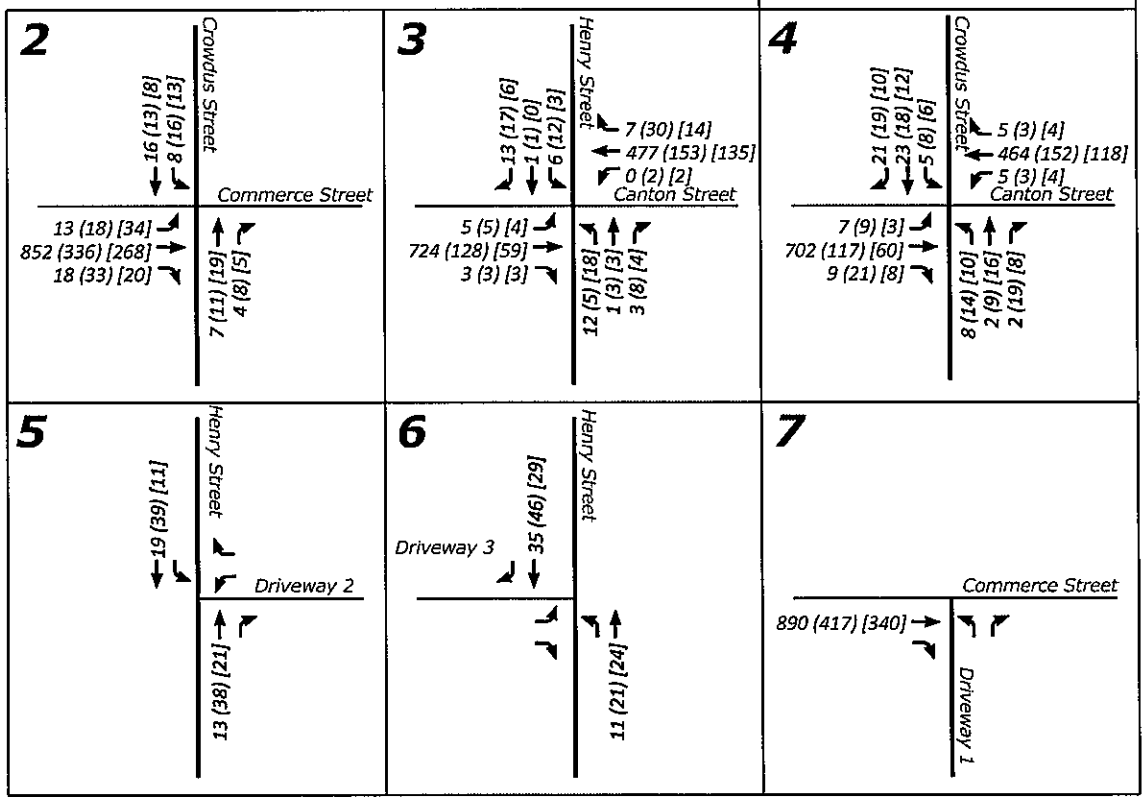
The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT 3



N
NOT TO SCALE

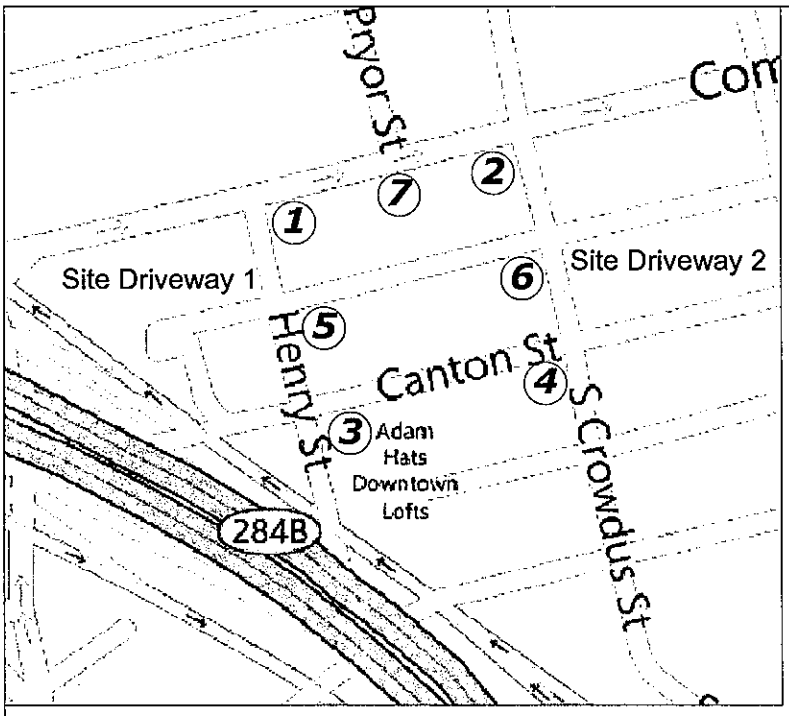
Legend:
XXX - AM Peak Hour Traffic Volumes
YYY - PM Peak Hour Traffic Volumes



Background Traffic Volumes

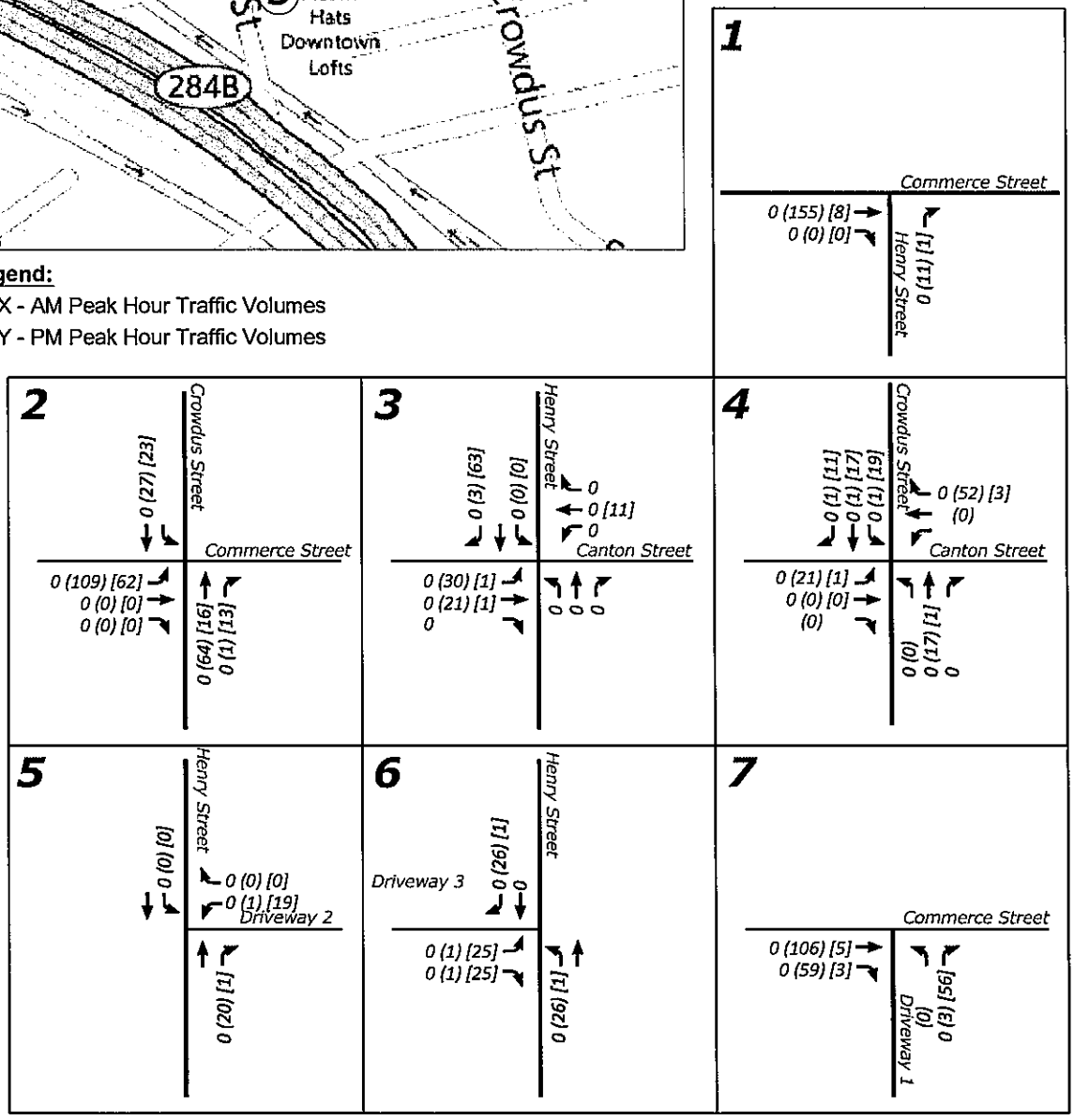
The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT 4



N
NOT TO SCALE

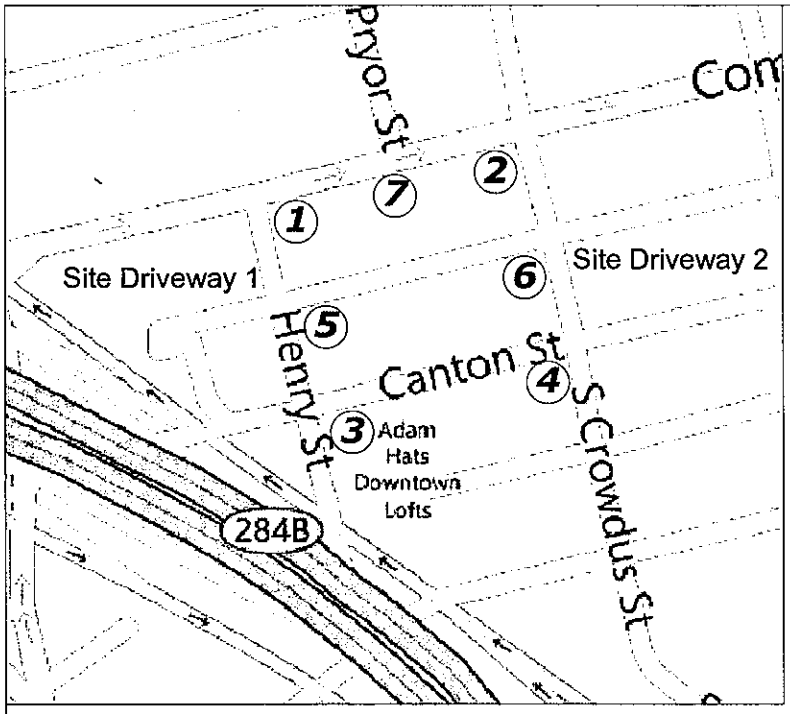
Legend:
XXX - AM Peak Hour Traffic Volumes
YYY - PM Peak Hour Traffic Volumes



Site Generated Traffic Volumes

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT 5



N

NOT TO SCALE

Legend:

XXX - AM Peak Hour Traffic Volumes

YYY - PM Peak Hour Traffic Volumes

1

Commerce Street

875 (534) [321] →

19 (39) [11] ←

Henry Street

↓ 14 (48) [27]

2

Crowdus Street

16 (41) [31] ↓

8 (16) [13] ↓

Commerce Street

13 (127) [95] ←

852 (336) [268] →

18 (33) [20] ←

7 (76) [35] ↑

4 (9) [18] ↑

3

Henry Street

13 (20) [69] ↓

1 (1) [0] ↓

6 (12) [3] ↓

7 (30) [14] ←

477 (153) [145] ←

0 (2) [2] ←

Canton Street

5 (35) [6] ←

724 (149) [60] →

3 (3) [3] ←

12 (5) [18] ↑

1 (3) [3] ↑

3 (8) [4] ↑

4

Crowdus Street

21 (20) [21] ↓

23 (19) [29] ↓

5 (9) [25] ↓

5 (55) [7] ←

473 (155) [120] ←

5 (3) [4] ←

Canton Street

7 (30) [4] ←

702 (117) [60] →

9 (21) [8] ←

8 (14) [10] ↑

2 (26) [17] ↑

2 (19) [8] ↑

5

Henry Street

19 (39) [11] ↓

0 (0) [0] ↓

0 (0) [0] ←

0 (1) [19] ←

Driveway 2

13 (38) [21] ↑

0 (1) [0] ↑

6

Henry Street

Driveway 3

0 (26) [1] ↓

35 (46) [29] ↓

0 (1) [25] ←

0 (1) [25] ←

0 (26) [1] ↑

11 (21) [24] ↑

7

Commerce Street

890 (523) [345] →

0 (59) [3] ←

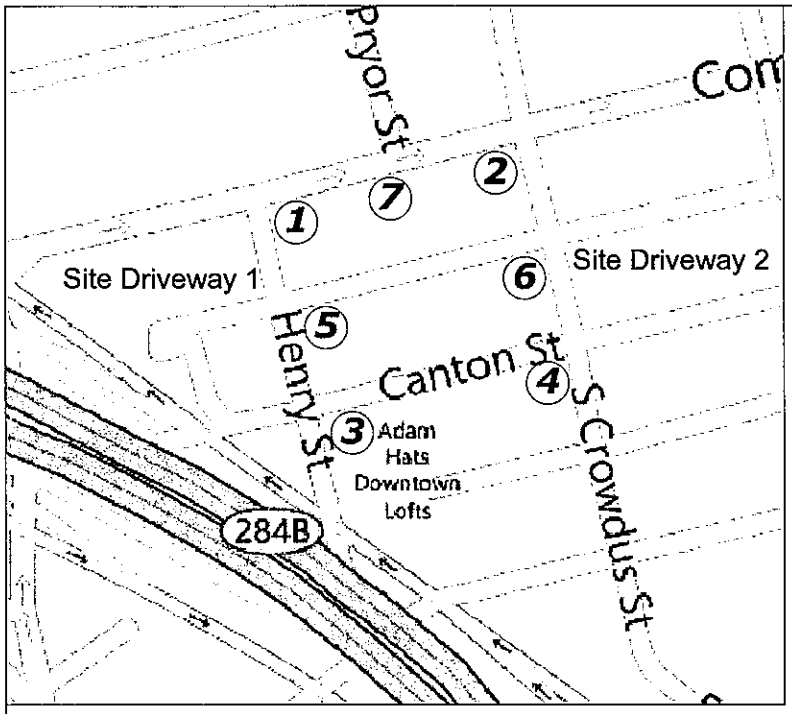
Driveway 1

↓ 0 [5] (3)

Background plus Site Generated Traffic Volumes

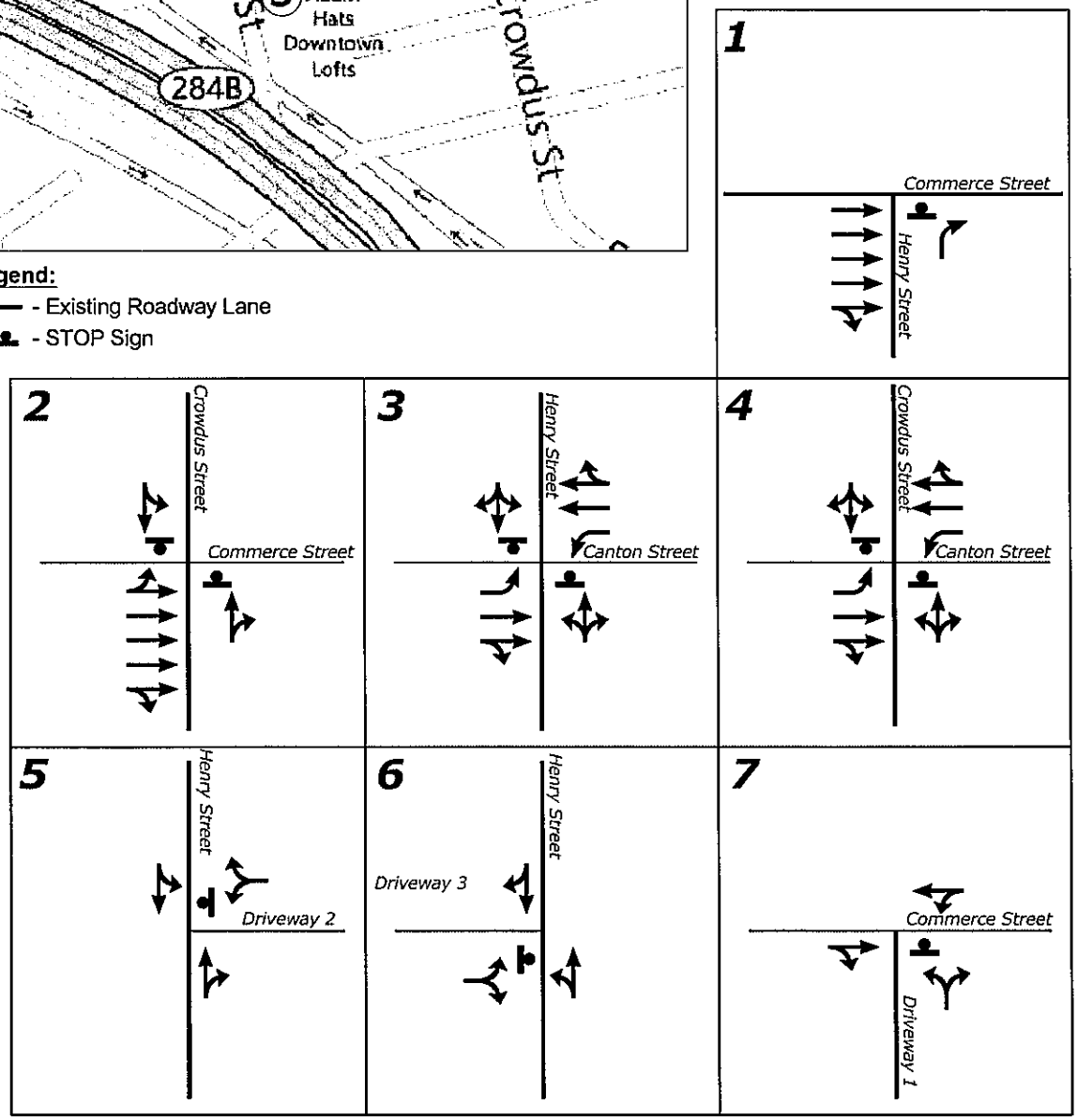
The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT 6



N
NOT TO SCALE

Legend:
- ← - Existing Roadway Lane
- ⊥ - STOP Sign



Intersection Roadway Geometry

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT 7

Appendix A. Detailed Existing Traffic Volume Summaries

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Commerce Street at Henry Street**
City/State: **Dallas, Texas**
Day/Date: **Friday, August 23, 2013**
Project-ID #: **13142-01**
Data Source: **CJ Hensch**
Data Collector(s): **Camera**
Weather Conditions: **Mild/Normal Conditions**
Traffic Control: **Unsignalized**
Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on Henry Street				Southbound on Henry Street				Eastbound on Commerce Street				Westbound on Commerce Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	1			2					1		213	5	0			
5:15 PM	5:30 PM	2			3					0		249	5	0			
5:30 PM	5:45 PM	9			4					0		198	7	0			
5:45 PM	6:00 PM	10			5					1		198	2	0			
6:00 PM	6:15 PM	5			6					0		157	6	0			
6:15 PM	6:30 PM	2			9					0		114	13	0			
6:30 PM	6:45 PM	18			8					2		128	7	0			
6:45 PM	7:00 PM	11			10					1		115	5	1			
7:00 PM	7:15 PM	19			9					2		103	7	5			
7:15 PM	7:30 PM	14			10					0		76	7	0			
7:30 PM	7:45 PM	17			7					0		117	10	2			
7:45 PM	8:00 PM	17			8					1		90	10	3			
8:00 PM	8:15 PM	25			14					2		90	8	0			
8:15 PM	8:30 PM	33			8					0		75	10	1			
8:30 PM	8:45 PM	26			13					1		85	8	0			
8:45 PM	9:00 PM	32			7					3		63	9	3			
9:00 PM	9:15 PM	29			11					1		77	1	6			
9:15 PM	9:30 PM	30			10					0		58	14	2			
9:30 PM	9:45 PM	27			4					2		66	5	4			
9:45 PM	10:00 PM	19			9					1		78	10	0			
10:00 PM	10:15 PM	33			7					0		94	7	1			
10:15 PM	10:30 PM	21			7					2		71	2	8			
10:30 PM	10:45 PM	24			10					2		83	4	1			
10:45 PM	11:00 PM	19			7					0		98	2	0			
11:00 PM	11:15 PM	35			6					1		59	2	0			
11:15 PM	11:30 PM	7			3					0		67	3	4			
11:30 PM	11:45 PM	18			4					0		69	2	1			
11:45 PM	12:00 AM	19			5					0		47	3	6			
Intersection PHV:			*0*	*0*	*14*		*0*	*0*	*0*		*0*	*858*	*19*		*0*	*0*	*0*
PHF:			*0.00*	*0.00*	*0.70*		*0.00*	*0.00*	*0.00*		*0.00*	*0.86*	*0.68*		*0.00*	*0.00*	*0.00*
Intersection Peak Hour: 5:00 PM - 6:00 PM																	*Intersection PHF: 0.87*
Study Area PHV:			**0**	**0**	**14**		**0**	**0**	**0**		**0**	**858**	**19**		**0**	**0**	**0**
PHF:			**0.00**	**0.00**	**0.70**		**0.00**	**0.00**	**0.00**		**0.00**	**0.86**	**0.68**		**0.00**	**0.00**	**0.00**
Study Peak Hour: 5:00 PM - 6:00 PM																	**Study Area PHF: 0.87**

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Commerce Street at S. Crowdus Street**
City/State: **Dallas, Texas**
Day/Date: **Friday, August 23, 2013**
Project-ID #: **13142-02**
Data Source: **CJ Hensch**
Data Collector(s): **Camera**
Weather Conditions: **Mild/Normal Conditions**
Traffic Control: **Unsignalized**
Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on S. Crowdus Street				Southbound on S. Crowdus Street				Eastbound on Commerce Street				Westbound on Commerce Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	0		0	3	0	0	2		0	2	206	5	0			
5:15 PM	5:30 PM	0		2	1	0	6	7		0	3	246	6	2			
5:30 PM	5:45 PM	1		1	0	0	1	4		0	3	187	5	4			
5:45 PM	6:00 PM	1		4	0	10	1	3		0	5	196	2	3			
6:00 PM	6:15 PM	6		2	1	1	1	3		3	0	144	10	2			
6:15 PM	6:30 PM	1		3	1	0	1	2		0	1	116	6	1			
6:30 PM	6:45 PM	3		3	1	3	1	5		1	6	107	7	1			
6:45 PM	7:00 PM	5		6	4	10	3	1		11	7	103	12	1			
7:00 PM	7:15 PM	5		4	1	13	1	3		8	1	90	13	0			
7:15 PM	7:30 PM	2		4	1	6	3	2		5	6	71	8	1			
7:30 PM	7:45 PM	1		1	5	7	2	2		2	6	101	7	0			
7:45 PM	8:00 PM	11		1	1	11	8	3		11	6	78	7	6			
8:00 PM	8:15 PM	18		5	2	2	1	7		5	3	81	10	5			
8:15 PM	8:30 PM	10		4	0	6	5	1		3	3	69	8	4			
8:30 PM	8:45 PM	9		6	0	9	2	4		15	3	71	9	2			
8:45 PM	9:00 PM	6		4	3	10	2	5		10	1	58	11	0			
9:00 PM	9:15 PM	4		1	3	11	6	3		9	5	70	7	8			
9:15 PM	9:30 PM	8		3	2	14	2	1		5	3	50	8	4			
9:30 PM	9:45 PM	5		2	3	26	3	5		21	3	52	5	4			
9:45 PM	10:00 PM	7		5	1	14	0	3		9	4	64	9	3			
10:00 PM	10:15 PM	3		2	2	18	3	4		11	12	80	4	5			
10:15 PM	10:30 PM	9		4	1	10	2	5		6	9	63	4	1			
10:30 PM	10:45 PM	3		3	1	12	5	3		7	9	63	7	11			
10:45 PM	11:00 PM	2		4	2	8	1	4		8	9	90	5	3			
11:00 PM	11:15 PM	16		6	0	3	3	0		11	11	56	4	4			
11:15 PM	11:30 PM	1		6	2	10	4	1		19	4	54	4	6			
11:30 PM	11:45 PM	3		10	0	2	4	0		5	5	70	1	13			
11:45 PM	12:00 AM	2		2	1	3	2	2		9	4	46	2	8			
Intersection PHV:			*0*	*7*	*4*		*8*	*16*	*0*		*13*	*835*	*18*		*0*	*0*	*0*
PHF:			*0.00*	*0.44*	*0.33*		*0.33*	*0.57*	*0.00*		*0.65*	*0.85*	*0.75*		*0.00*	*0.00*	*0.00*
Intersection Peak Hour: 5:00 PM - 6:00 PM																	*Intersection PHF: 0.83*
Study Area PHV:			**0**	**7**	**4**		**8**	**16**	**0**		**13**	**835**	**18**		**0**	**0**	**0**
PHF:			**0.00**	**0.44**	**0.33**		**0.33**	**0.57**	**0.00**		**0.65**	**0.85**	**0.75**		**0.00**	**0.00**	**0.00**
Study Peak Hour: 5:00 PM - 6:00 PM																	**Study Area PHF: 0.83**

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: *Canton Street at Henry Street*
City/State: *Dallas, Texas*
Day/Date: *Friday, August 23, 2013*
Project-ID #: *13142-03*
Data Source: *CJ Hensch*
Data Collector(s): *Camera*
Weather Conditions: *Mild/Normal Conditions*
Traffic Control: *Unsignalized*
Description: *Minor-Street STOP Controlled*

Time of Count		Northbound on *Henry Street*				Southbound on *Henry Street*				Eastbound on *Canton Street*				Westbound on *Canton Street*			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	*5:15 PM*	*2*	*4*	*0*	*0*	*1*	*1*	*1*	*2*	*0*	*1*	*204*	*2*	*3*	*0*	*151*	*0*
5:15 PM	*5:30 PM*	*2*	*2*	*0*	*1*	*0*	*0*	*0*	*4*	*0*	*1*	*191*	*0*	*1*	*0*	*143*	*2*
5:30 PM	*5:45 PM*	*4*	*3*	*1*	*1*	*0*	*3*	*0*	*5*	*0*	*1*	*162*	*0*	*2*	*0*	*96*	*2*
5:45 PM	*6:00 PM*	*3*	*3*	*0*	*1*	*0*	*2*	*0*	*2*	*1*	*2*	*153*	*1*	*0*	*0*	*78*	*3*
6:00 PM	6:15 PM	1	3	0	0	1	3	0	5	0	2	107	2	2	0	56	2
6:15 PM	6:30 PM	0	2	1	0	0	2	0	6	1	5	86	0	2	0	54	6
6:30 PM	6:45 PM	0	4	0	0	0	2	1	9	3	3	71	1	0	0	49	6
6:45 PM	7:00 PM	1	2	0	0	0	1	1	3	0	2	51	0	1	0	54	12
7:00 PM	7:15 PM	3	1	0	0	5	1	1	4	0	3	45	1	3	1	51	11
7:15 PM	7:30 PM	2	1	1	0	1	2	0	7	1	0	34	2	0	1	52	7
7:30 PM	7:45 PM	1	1	0	2	0	4	0	7	0	1	45	1	0	0	36	3
7:45 PM	8:00 PM	4	2	1	0	2	2	1	6	0	3	22	2	6	2	46	6
8:00 PM	8:15 PM	2	1	1	2	2	4	0	2	0	0	34	0	7	0	37	14
8:15 PM	8:30 PM	5	1	1	4	1	2	0	2	1	1	24	0	3	0	31	6
8:30 PM	8:45 PM	5	6	2	4	0	3	0	7	1	0	33	0	4	0	23	9
8:45 PM	9:00 PM	0	1	5	12	0	0	1	7	0	1	29	0	2	0	31	1
9:00 PM	9:15 PM	3	2	4	4	0	1	1	0	2	0	26	0	6	0	28	5
9:15 PM	9:30 PM	7	4	2	3	0	1	0	4	0	0	20	0	4	1	33	4
9:30 PM	9:45 PM	1	2	0	6	0	0	0	0	1	1	19	3	1	1	28	2
9:45 PM	10:00 PM	2	3	1	3	3	1	0	5	1	1	33	1	3	1	32	5
10:00 PM	10:15 PM	0	5	2	1	0	1	0	3	0	2	21	3	2	0	31	2
10:15 PM	10:30 PM	0	0	2	0	1	0	1	5	0	0	20	1	6	0	31	2
10:30 PM	10:45 PM	5	2	1	1	0	0	0	1	0	3	13	0	3	1	24	3
10:45 PM	11:00 PM	0	1	0	2	0	3	0	2	0	0	12	3	1	1	29	4
11:00 PM	11:15 PM	2	6	0	0	0	0	0	1	0	1	15	0	1	0	39	4
11:15 PM	11:30 PM	0	9	2	1	4	0	0	2	0	0	18	0	5	0	40	3
11:30 PM	11:45 PM	2	8	0	2	0	0	1	1	0	0	17	0	0	1	32	4
11:45 PM	12:00 AM	1	5	1	1	0	1	1	5	0	2	12	0	2	1	33	1
Intersection PHV:			*12*	*1*	*3*		*6*	*1*	*13*		*5*	*710*	*3*		*0*	*468*	*7*
PHF:			*0.75*	*0.25*	*0.75*		*0.50*	*0.25*	*0.65*		*0.63*	*0.87*	*0.38*		*0.00*	*0.77*	*0.58*
Intersection Peak Hour: 5:00 PM - 6:00 PM																*Intersection PHF: 0.84*	
Study Area PHV:			**12**	**1**	**3**		**6**	**1**	**13**		**5**	**710**	**3**		**0**	**468**	**7**
PHF:			**0.75**	**0.25**	**0.75**		**0.50**	**0.25**	**0.65**		**0.63**	**0.87**	**0.38**		**0.00**	**0.77**	**0.58**
Study Peak Hour: 5:00 PM - 6:00 PM																**Study Area PHF: 0.84**	

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: *Canton Street at S. Crowdus Street*
City/State: *Dallas, Texas*
Day/Date: *Friday, August 23, 2013*
Project-ID #: *13142-04*
Data Source: *CJ Hensch*
Data Collector(s): *Camera*
Weather Conditions: *Mild/Normal Conditions*
Traffic Control: *Unsignalized*
Description: *Minor-Street STOP Controlled*

Time of Count		Northbound on S. Crowdus Street				Southbound on S. Crowdus Street				Eastbound on Canton Street				Westbound on Canton Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	*5:15 PM*	*1*	*3*	*1*	*0*	*0*	*1*	*10*	*3*	*1*	*4*	*194*	*1*	*0*	*0*	*146*	*1*
5:15 PM	*5:30 PM*	*0*	*0*	*0*	*0*	*2*	*0*	*6*	*4*	*0*	*0*	*183*	*2*	*4*	*1*	*153*	*2*
5:30 PM	*5:45 PM*	*0*	*2*	*1*	*1*	*0*	*2*	*7*	*9*	*0*	*0*	*157*	*3*	*3*	*0*	*94*	*0*
5:45 PM	*6:00 PM*	*1*	*3*	*0*	*1*	*0*	*2*	*0*	*5*	*0*	*3*	*154*	*3*	*1*	*4*	*71*	*2*
6:00 PM	6:15 PM	1	0	0	0	0	2	3	5	1	2	104	1	0	0	50	0
6:15 PM	6:30 PM	0	0	3	2	0	1	2	7	1	4	86	2	0	0	52	2
6:30 PM	6:45 PM	0	2	1	2	0	0	2	8	0	5	59	0	0	0	51	2
6:45 PM	7:00 PM	1	1	4	2	0	0	5	11	1	4	49	4	1	3	54	5
7:00 PM	7:15 PM	1	4	2	3	1	1	6	13	2	4	40	4	2	0	48	3
7:15 PM	7:30 PM	2	1	1	0	0	0	4	8	2	6	26	5	4	0	55	3
7:30 PM	7:45 PM	0	1	2	3	0	2	7	7	4	5	41	4	1	0	30	1
7:45 PM	8:00 PM	0	3	0	7	1	3	4	4	4	2	20	3	1	0	46	1
8:00 PM	8:15 PM	10	2	3	4	1	1	3	8	8	1	33	3	7	1	46	1
8:15 PM	8:30 PM	6	8	4	5	0	2	4	0	0	1	21	11	0	2	30	0
8:30 PM	8:45 PM	14	4	5	12	0	0	9	6	8	3	32	4	9	2	29	0
8:45 PM	9:00 PM	6	0	6	3	5	5	11	5	1	0	24	8	5	2	25	1
9:00 PM	9:15 PM	0	4	2	4	0	3	4	5	1	1	21	4	2	2	27	0
9:15 PM	9:30 PM	2	4	2	10	0	2	3	4	4	2	26	3	0	1	31	1
9:30 PM	9:45 PM	4	3	2	5	4	1	3	5	6	1	22	4	6	8	25	2
9:45 PM	10:00 PM	5	3	2	7	1	0	5	6	8	1	27	7	4	1	27	2
10:00 PM	10:15 PM	5	5	2	2	1	2	4	4	4	2	22	1	3	2	28	5
10:15 PM	10:30 PM	3	1	3	0	0	2	1	8	8	0	19	4	1	1	33	3
10:30 PM	10:45 PM	2	0	4	0	1	4	5	3	3	1	11	2	9	0	22	1
10:45 PM	11:00 PM	2	0	3	3	0	1	3	6	2	0	13	1	4	2	26	2
11:00 PM	11:15 PM	2	4	5	1	3	1	2	1	4	1	11	2	4	1	38	0
11:15 PM	11:30 PM	5	6	4	4	1	0	2	0	4	1	24	3	3	1	32	1
11:30 PM	11:45 PM	1	6	10	3	0	1	2	2	4	0	19	0	8	0	29	0
11:45 PM	12:00 AM	0	8	2	2	0	0	2	1	2	0	14	0	2	0	22	1
Intersection PHV:			*8*	*2*	*2*		*5*	*23*	*21*		*7*	*688*	*9*		*5*	*464*	*5*
PHF:			*0.67*	*0.50*	*0.50*		*0.63*	*0.58*	*0.58*		*0.44*	*0.89*	*0.75*		*0.31*	*0.76*	*0.63*

Intersection Peak Hour: 5:00 PM - 6:00 PM — *Intersection PHF: 0.85*

Study Area PHV:		**8**	**2**	**2**		**5**	**23**	**21**		**7**	**688**	**9**		**5**	**464**	**5**
PHF:		**0.67**	**0.50**	**0.50**		**0.63**	**0.58**	**0.58**		**0.44**	**0.89**	**0.75**		**0.31**	**0.76**	**0.63**

Study Peak Hour: 5:00 PM - 6:00 PM — **Study Area PHF: 0.85**

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Commerce Street at Henry Street**
City/State: **Dallas, Texas**
Day/Date: **Friday, August 23, 2013**
Project-ID #: **13142-01**
Data Source: **CJ Hensch**
Data Collector(s): **Camera**
Weather Conditions: **Mild/Normal Conditions**
Traffic Control: **Unsignalized**
Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on Henry Street				Southbound on Henry Street				Eastbound on Commerce Street				Westbound on Commerce Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	1			2					1		213	5	0			
5:15 PM	5:30 PM	2			3					0		249	5	0			
5:30 PM	5:45 PM	9			4					0		198	7	0			
5:45 PM	6:00 PM	10			5					1		198	2	0			
6:00 PM	6:15 PM	5			6					0		157	6	0			
6:15 PM	6:30 PM	2			9					0		114	13	0			
6:30 PM	6:45 PM	18			8					2		128	7	0			
6:45 PM	7:00 PM	11			10					1		115	5	1			
7:00 PM	7:15 PM	19			9					2		103	7	5			
7:15 PM	7:30 PM	14			10					0		76	7	0			
7:30 PM	**7:45 PM**	**17**			**7**					**0**		**117**	**10**	**2**			
7:45 PM	**8:00 PM**	**17**			**8**					**1**		**90**	**10**	**3**			
8:00 PM	**8:15 PM**	**25**			**14**					**2**		**90**	**8**	**0**			
8:15 PM	**8:30 PM**	**33**			**8**					**0**		**75**	**10**	**1**			
8:30 PM	8:45 PM	26			13					1		85	8	0			
8:45 PM	9:00 PM	32			7					3		63	9	3			
9:00 PM	9:15 PM	29			11					1		77	1	6			
9:15 PM	9:30 PM	30			10					0		58	14	2			
9:30 PM	9:45 PM	27			4					2		66	5	4			
9:45 PM	10:00 PM	19			9					1		78	10	0			
10:00 PM	10:15 PM	33			7					0		94	7	1			
10:15 PM	10:30 PM	21			7					2		71	2	8			
10:30 PM	10:45 PM	24			10					2		83	4	1			
10:45 PM	11:00 PM	19			7					0		98	2	0			
11:00 PM	11:15 PM	35			6					1		59	2	0			
11:15 PM	11:30 PM	7			3					0		67	3	4			
11:30 PM	11:45 PM	18			4					0		69	2	1			
11:45 PM	12:00 AM	19			5					0		47	3	6			
Intersection PHV:			*0*	*0*	*14*		*0*	*0*	*0*		*0*	*858*	*19*		*0*	*0*	*0*
PHF:			*0.00*	*0.00*	*0.70*		*0.00*	*0.00*	*0.00*		*0.00*	*0.86*	*0.68*		*0.00*	*0.00*	*0.00*
Intersection Peak Hour: 5:00 PM - 6:00 PM																	*Intersection PHF: 0.87*
Study Area PHV:			**0**	**0**	**37**		**0**	**0**	**0**		**0**	**372**	**38**		**0**	**0**	**0**
PHF:			**0.00**	**0.00**	**0.66**		**0.00**	**0.00**	**0.00**		**0.00**	**0.79**	**0.95**		**0.00**	**0.00**	**0.00**
Study Peak Hour: 7:30 PM - 8:30 PM																	**Study Area PHF: 0.83**

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: ***Commerce Street at S. Crowdus Street***
City/State: ***Dallas, Texas***
Day/Date: ***Friday, August 23, 2013***
Project-ID #: ***13142-02***
Data Source: ***CJ Hensch***
Data Collector(s): ***Camera***
Weather Conditions: ***Mild/Normal Conditions***
Traffic Control: ***Unsignalized***
Description: ***Minor-Street STOP Controlled***

Time of Count		Northbound on S. Crowdus Street				Southbound on S. Crowdus Street				Eastbound on Commerce Street				Westbound on Commerce Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	0		0	3	0	0	2		0	2	206	5	0			
5:15 PM	5:30 PM	0		2	1	0	6	7		0	3	246	6	2			
5:30 PM	5:45 PM	1		1	0	0	1	4		0	3	187	5	4			
5:45 PM	6:00 PM	1		4	0	10	1	3		0	5	196	2	3			
6:00 PM	6:15 PM	6		2	1	1	1	3		3	0	144	10	2			
6:15 PM	6:30 PM	1		3	1	0	1	2		0	1	116	6	1			
6:30 PM	6:45 PM	3		3	1	3	1	5		1	6	107	7	1			
6:45 PM	7:00 PM	5		6	4	10	3	1		11	7	103	12	1			
7:00 PM	7:15 PM	5		4	1	13	1	3		8	1	90	13	0			
7:15 PM	7:30 PM	2		4	1	6	3	2		5	6	71	8	1			
7:30 PM	**7:45 PM**	**1**		**1**	**5**	**7**	**2**	**2**		**2**	**6**	**101**	**7**	**0**			
7:45 PM	**8:00 PM**	**11**		**1**	**1**	**11**	**8**	**3**		**11**	**6**	**78**	**7**	**6**			
8:00 PM	**8:15 PM**	**18**		**5**	**2**	**2**	**1**	**7**		**5**	**3**	**81**	**10**	**5**			
8:15 PM	**8:30 PM**	**10**		**4**	**0**	**6**	**5**	**1**		**3**	**3**	**69**	**8**	**4**			
8:30 PM	8:45 PM	9		6	0	9	2	4		15	3	71	9	2			
8:45 PM	9:00 PM	6		4	3	10	2	5		10	1	58	11	0			
9:00 PM	9:15 PM	4		1	3	11	6	3		9	5	70	7	8			
9:15 PM	9:30 PM	8		3	2	14	2	1		5	3	50	8	4			
9:30 PM	9:45 PM	5		2	3	26	3	5		21	3	52	5	4			
9:45 PM	10:00 PM	7		5	1	14	0	3		9	4	64	9	3			
10:00 PM	10:15 PM	3		2	2	18	3	4		11	12	80	4	5			
10:15 PM	10:30 PM	9		4	1	10	2	5		6	9	63	4	1			
10:30 PM	10:45 PM	3		3	1	12	5	3		7	9	63	7	11			
10:45 PM	11:00 PM	2		4	2	8	1	4		8	9	90	5	3			
11:00 PM	11:15 PM	16		6	0	3	3	0		11	11	56	4	4			
11:15 PM	11:30 PM	1		6	2	10	4	1		19	4	54	4	6			
11:30 PM	11:45 PM	3		10	0	2	4	0		5	5	70	1	13			
11:45 PM	12:00 AM	2		2	1	3	2	2		9	4	46	2	8			
Intersection PHV:			*0*	*7*	*4*		*8*	*16*	*0*		*13*	*835*	*18*		*0*	*0*	*0*
PHF:			*0.00*	*0.44*	*0.33*		*0.33*	*0.57*	*0.00*		*0.65*	*0.85*	*0.75*		*0.00*	*0.00*	*0.00*
Intersection Peak Hour: 5:00 PM - 6:00 PM																	*Intersection PHF: 0.83*
Study Area PHV:			**0**	**11**	**8**		**16**	**13**	**0**		**18**	**329**	**32**		**0**	**0**	**0**
PHF:			**0.00**	**0.55**	**0.40**		**0.50**	**0.46**	**0.00**		**0.75**	**0.81**	**0.80**		**0.00**	**0.00**	**0.00**
Study Peak Hour: 7:30 PM - 8:30 PM																	**Study Area PHF: 0.86**

File: C1X5HR5 - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Canton Street at Henry Street**
City/State: **Dallas, Texas**
Day/Date: **Friday, August 23, 2013**
Project-ID #: **13142-03**
Data Source: **CJ Hensch**
Data Collector(s): **Camera**
Weather Conditions: **Mild/Normal Conditions**
Traffic Control: **Unsignalized**
Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on Henry Street				Southbound on Henry Street				Eastbound on Canton Street				Westbound on Canton Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	2	4	0	0	1	1	1	2	0	1	204	2	3	0	151	0
5:15 PM	5:30 PM	2	2	0	1	0	0	0	4	0	1	191	0	1	0	143	2
5:30 PM	5:45 PM	4	3	1	1	0	3	0	5	0	1	162	0	2	0	96	2
5:45 PM	6:00 PM	3	3	0	1	0	2	0	2	1	2	153	1	0	0	78	3
6:00 PM	6:15 PM	1	3	0	0	1	3	0	5	0	2	107	2	2	0	56	2
6:15 PM	6:30 PM	0	2	1	0	0	2	0	6	1	5	86	0	2	0	54	6
6:30 PM	6:45 PM	0	4	0	0	0	2	1	9	3	3	71	1	0	0	49	6
6:45 PM	7:00 PM	1	2	0	0	0	1	1	3	0	2	51	0	1	0	54	12
7:00 PM	7:15 PM	3	1	0	0	5	1	1	4	0	3	45	1	3	1	51	11
7:15 PM	7:30 PM	2	1	1	0	1	2	0	7	1	0	34	2	0	1	52	7
7:30 PM	7:45 PM	1	1	0	2	0	4	0	7	0	1	45	1	0	0	36	3
7:45 PM	8:00 PM	4	2	1	0	2	2	1	6	0	3	22	2	6	2	46	6
8:00 PM	8:15 PM	2	1	1	2	2	4	0	2	0	0	34	0	7	0	37	14
8:15 PM	8:30 PM	5	1	1	4	1	2	0	2	1	1	24	0	3	0	31	6
8:30 PM	8:45 PM	5	6	2	4	0	3	0	7	1	0	33	0	4	0	23	9
8:45 PM	9:00 PM	0	1	5	12	0	0	1	7	0	1	29	0	2	0	31	1
9:00 PM	9:15 PM	3	2	4	4	0	1	1	0	2	0	26	0	6	0	28	5
9:15 PM	9:30 PM	7	4	2	3	0	1	0	4	0	0	20	0	4	1	33	4
9:30 PM	9:45 PM	1	2	0	6	0	0	0	0	1	1	19	3	1	1	28	2
9:45 PM	10:00 PM	2	3	1	3	3	1	0	5	1	1	33	1	3	1	32	5
10:00 PM	10:15 PM	0	5	2	1	0	1	0	3	0	2	21	3	2	0	31	2
10:15 PM	10:30 PM	0	0	2	0	1	0	1	5	0	0	20	1	6	0	31	2
10:30 PM	10:45 PM	5	2	1	1	0	0	0	1	0	3	13	0	3	1	24	3
10:45 PM	11:00 PM	0	1	0	2	0	3	0	2	0	0	12	3	1	1	29	4
11:00 PM	11:15 PM	2	6	0	0	0	0	0	1	0	1	15	0	1	0	39	4
11:15 PM	11:30 PM	0	9	2	1	4	0	0	2	0	0	18	0	5	0	40	3
11:30 PM	11:45 PM	2	8	0	2	0	0	1	1	0	0	17	0	0	1	32	4
11:45 PM	12:00 AM	1	5	1	1	0	1	1	5	0	2	12	0	2	1	33	1
Intersection PHV:			*12*	*1*	*3*		*6*	*1*	*13*		*5*	*710*	*3*		*0*	*468*	*7*
PHF:			*0.75*	*0.25*	*0.75*		*0.50*	*0.25*	*0.65*		*0.63*	*0.87*	*0.38*		*0.00*	*0.77*	*0.58*
Intersection Peak Hour: 5:00 PM - 6:00 PM																	*Intersection PHF: 0.84*
Study Area PHV:			**5**	**3**	**8**		**12**	**1**	**17**		**5**	**125**	**3**		**2**	**150**	**29**
PHF:			**0.63**	**0.75**	**0.50**		**0.75**	**0.25**	**0.61**		**0.42**	**0.69**	**0.38**		**0.25**	**0.82**	**0.52**
Study Peak Hour: 7:30 PM - 8:30 PM																	**Study Area PHF: 0.90**

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: *Canton Street at S. Crowdus Street*
City/State: *Dallas, Texas*
Day/Date: *Friday, August 23, 2013*
Project-ID #: *13142-04*
Data Source: *CJ Hensch*
Data Collector(s): *Camera*
Weather Conditions: *Mild/Normal Conditions*
Traffic Control: *Unsignalized*
Description: *Minor-Street STOP Controlled*

Time of Count		Northbound on S. Crowdus Street				Southbound on S. Crowdus Street				Eastbound on Canton Street				Westbound on Canton Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	1	3	1	0	0	1	10	3	1	4	194	1	0	0	146	1
5:15 PM	5:30 PM	0	0	0	0	2	0	6	4	0	0	183	2	4	1	153	2
5:30 PM	5:45 PM	0	2	1	1	0	2	7	9	0	0	157	3	3	0	94	0
5:45 PM	6:00 PM	1	3	0	1	0	2	0	5	0	3	154	3	1	4	71	2
6:00 PM	6:15 PM	1	0	0	0	0	2	3	5	1	2	104	1	0	0	50	0
6:15 PM	6:30 PM	0	0	3	2	0	1	2	7	1	4	86	2	0	0	52	2
6:30 PM	6:45 PM	0	2	1	2	0	0	2	8	0	5	59	0	0	0	51	2
6:45 PM	7:00 PM	1	1	4	2	0	0	5	11	1	4	49	4	1	3	54	5
7:00 PM	7:15 PM	1	4	2	3	1	1	6	13	2	4	40	4	2	0	48	3
7:15 PM	7:30 PM	2	1	1	0	0	0	4	8	2	6	26	5	4	0	55	3
7:30 PM	7:45 PM	0	1	2	3	0	2	7	7	4	5	41	4	1	0	30	1
7:45 PM	8:00 PM	0	3	0	7	1	3	4	4	4	2	20	3	1	0	46	1
8:00 PM	8:15 PM	10	2	3	4	1	1	3	8	8	1	33	3	7	1	46	1
8:15 PM	8:30 PM	6	8	4	5	0	2	4	0	0	1	21	11	0	2	30	0
8:30 PM	8:45 PM	14	4	5	12	0	0	9	6	8	3	32	4	9	2	29	0
8:45 PM	9:00 PM	6	0	6	3	5	5	11	5	1	0	24	8	5	2	25	1
9:00 PM	9:15 PM	0	4	2	4	0	3	4	5	1	1	21	4	2	2	27	0
9:15 PM	9:30 PM	2	4	2	10	0	2	3	4	4	2	26	3	0	1	31	1
9:30 PM	9:45 PM	4	3	2	5	4	1	3	5	6	1	22	4	6	8	25	2
9:45 PM	10:00 PM	5	3	2	7	1	0	5	6	8	1	27	7	4	1	27	2
10:00 PM	10:15 PM	5	5	2	2	1	2	4	4	4	2	22	1	3	2	28	5
10:15 PM	10:30 PM	3	1	3	0	0	2	1	8	8	0	19	4	1	1	33	3
10:30 PM	10:45 PM	2	0	4	0	1	4	5	3	3	1	11	2	9	0	22	1
10:45 PM	11:00 PM	2	0	3	3	0	1	3	6	2	0	13	1	4	2	26	2
11:00 PM	11:15 PM	2	4	5	1	3	1	2	1	4	1	11	2	4	1	38	0
11:15 PM	11:30 PM	5	6	4	4	1	0	2	0	4	1	24	3	3	1	32	1
11:30 PM	11:45 PM	1	6	10	3	0	1	2	2	4	0	19	0	8	0	29	0
11:45 PM	12:00 AM	0	8	2	2	0	0	2	1	2	0	14	0	2	0	22	1
Intersection PHV:			*8*	*2*	*2*		*5*	*23*	*21*		*7*	*688*	*9*		*5*	*464*	*5*
PHF:			*0.67*	*0.50*	*0.50*		*0.63*	*0.58*	*0.58*		*0.44*	*0.89*	*0.75*		*0.31*	*0.76*	*0.63*
Intersection Peak Hour: 5:00 PM - 6:00 PM																	*Intersection PHF: 0.85*
Study Area PHV:			**14**	**9**	**19**		**8**	**18**	**19**		**9**	**115**	**21**		**3**	**152**	**3**
PHF:			**0.44**	**0.56**	**0.68**		**0.67**	**0.64**	**0.59**		**0.45**	**0.70**	**0.48**		**0.38**	**0.83**	**0.75**
Study Peak Hour: 7:30 PM - 8:30 PM																	**Study Area PHF: 0.92**

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Commerce Street at Henry Street**
City/State: **Dallas, Texas**
Day/Date: **Friday, August 23, 2013**
Project-ID #: **13142-01**
Data Source: **CJ Hensch**
Data Collector(s): **Camera**
Weather Conditions: **Mild/Normal Conditions**
Traffic Control: **Unsignalized**
Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on Henry Street				Southbound on Henry Street				Eastbound on Commerce Street				Westbound on Commerce Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	1			2					1		213	5	0			
5:15 PM	5:30 PM	2			3					0		249	5	0			
5:30 PM	5:45 PM	9			4					0		198	7	0			
5:45 PM	6:00 PM	10			5					1		198	2	0			
6:00 PM	6:15 PM	5			6					0		157	6	0			
6:15 PM	6:30 PM	2			9					0		114	13	0			
6:30 PM	6:45 PM	18			8					2		128	7	0			
6:45 PM	7:00 PM	11			10					1		115	5	1			
7:00 PM	7:15 PM	19			9					2		103	7	5			
7:15 PM	7:30 PM	14			10					0		76	7	0			
7:30 PM	7:45 PM	17			7					0		117	10	2			
7:45 PM	8:00 PM	17			8					1		90	10	3			
8:00 PM	8:15 PM	25			14					2		90	8	0			
8:15 PM	8:30 PM	33			8					0		75	10	1			
8:30 PM	8:45 PM	26			13					1		85	8	0			
8:45 PM	9:00 PM	32			7					3		63	9	3			
9:00 PM	9:15 PM	29			11					1		77	1	6			
9:15 PM	9:30 PM	30			10					0		58	14	2			
9:30 PM	9:45 PM	27			4					2		66	5	4			
9:45 PM	10:00 PM	19			9					1		78	10	0			
10:00 PM	10:15 PM	33			7					0		94	7	1			
10:15 PM	10:30 PM	21			7					2		71	2	8			
10:30 PM	**10:45 PM**	24			10					2		83	4	1			
10:45 PM	**11:00 PM**	19			7					0		98	2	0			
11:00 PM	**11:15 PM**	35			6					1		59	2	0			
11:15 PM	**11:30 PM**	7			3					0		67	3	4			
11:30 PM	11:45 PM	18			4					0		69	2	1			
11:45 PM	12:00 AM	19			5					0		47	3	6			
Intersection PHV:			*0*	*0*	*14*		*0*	*0*	*0*		*0*	*858*	*19*		*0*	*0*	*0*
PHF:			*0.00*	*0.00*	*0.70*		*0.00*	*0.00*	*0.00*		*0.00*	*0.86*	*0.68*		*0.00*	*0.00*	*0.00*
Intersection Peak Hour: 5:00 PM - 6:00 PM																	*Intersection PHF: 0.87*
Study Area PHV:			**0**	**0**	**26**		**0**	**0**	**0**		**0**	**307**	**11**		**0**	**0**	**0**
PHF:			**0.00**	**0.00**	**0.65**		**0.00**	**0.00**	**0.00**		**0.00**	**0.78**	**0.69**		**0.00**	**0.00**	**0.00**
Study Peak Hour: 10:30 PM - 11:30 PM																	**Study Area PHF: 0.80**

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Commerce Street at S. Crowdus Street**
City/State: **Dallas, Texas**
Day/Date: **Friday, August 23, 2013**
Project-ID #: **13142-02**
Data Source: **CJ Hensch**
Data Collector(s): **Camera**
Weather Conditions: **Mild/Normal Conditions**
Traffic Control: **Unsignalized**
Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on S. Crowdus Street				Southbound on S. Crowdus Street				Eastbound on Commerce Street				Westbound on Commerce Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	0		0	3	0	0	2		0	2	206	5	0			
5:15 PM	5:30 PM	0		2	1	0	6	7		0	3	246	6	2			
5:30 PM	5:45 PM	1		1	0	0	1	4		0	3	187	5	4			
5:45 PM	6:00 PM	1		4	0	10	1	3		0	5	196	2	3			
6:00 PM	6:15 PM	6		2	1	1	1	3		3	0	144	10	2			
6:15 PM	6:30 PM	1		3	1	0	1	2		0	1	116	6	1			
6:30 PM	6:45 PM	3		3	1	3	1	5		1	6	107	7	1			
6:45 PM	7:00 PM	5		6	4	10	3	1		11	7	103	12	1			
7:00 PM	7:15 PM	5		4	1	13	1	3		8	1	90	13	0			
7:15 PM	7:30 PM	2		4	1	6	3	2		5	6	71	8	1			
7:30 PM	7:45 PM	1		1	5	7	2	2		2	6	101	7	0			
7:45 PM	8:00 PM	11		1	1	11	8	3		11	6	78	7	6			
8:00 PM	8:15 PM	18		5	2	2	1	7		5	3	81	10	5			
8:15 PM	8:30 PM	10		4	0	6	5	1		3	3	69	8	4			
8:30 PM	8:45 PM	9		6	0	9	2	4		15	3	71	9	2			
8:45 PM	9:00 PM	6		4	3	10	2	5		10	1	58	11	0			
9:00 PM	9:15 PM	4		1	3	11	6	3		9	5	70	7	8			
9:15 PM	9:30 PM	8		3	2	14	2	1		5	3	50	8	4			
9:30 PM	9:45 PM	5		2	3	26	3	5		21	3	52	5	4			
9:45 PM	10:00 PM	7		5	1	14	0	3		9	4	64	9	3			
10:00 PM	10:15 PM	3		2	2	18	3	4		11	12	80	4	5			
10:15 PM	10:30 PM	9		4	1	10	2	5		6	9	63	4	1			
10:30 PM	**10:45 PM**	3		3	1	12	5	3		7	9	63	7	11			
10:45 PM	**11:00 PM**	2		4	2	8	1	4		8	9	90	5	3			
11:00 PM	**11:15 PM**	16		6	0	3	3	0		11	11	56	4	4			
11:15 PM	**11:30 PM**	1		6	2	10	4	1		19	4	54	4	6			
11:30 PM	11:45 PM	3		10	0	2	4	0		5	5	70	1	13			
11:45 PM	12:00 AM	2		2	1	3	2	2		9	4	46	2	8			
Intersection PHV:			*0*	*7*	*4*		*8*	*16*	*0*		*13*	*835*	*18*		*0*	*0*	*0*
PHF:			*0.00*	*0.44*	*0.33*		*0.33*	*0.57*	*0.00*		*0.65*	*0.85*	*0.75*		*0.00*	*0.00*	*0.00*
Intersection Peak Hour: 5:00 PM - 6:00 PM																	*Intersection PHF: 0.83*
Study Area PHV:			**0**	**19**	**5**		**13**	**8**	**0**		**33**	**263**	**20**		**0**	**0**	**0**
PHF:			**0.00**	**0.79**	**0.63**		**0.65**	**0.50**	**0.00**		**0.75**	**0.73**	**0.71**		**0.00**	**0.00**	**0.00**
Study Peak Hour: 10:30 PM - 11:30 PM																	**Study Area PHF: 0.78**

File: C1X5HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Canton Street at Henry Street**
City/State: **Dallas, Texas**
Day/Date: **Friday, August 23, 2013**
Project-ID #: **13142-03**
Data Source: **CJ Hensch**

Data Collector(s): **Camera**
Weather Conditions: **Mild/Normal Conditions**
Traffic Control: **Unsignalized**
Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on Henry Street				Southbound on Henry Street				Eastbound on Canton Street				Westbound on Canton Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	2	4	0	0	1	1	1	2	0	1	204	2	3	0	151	0
5:15 PM	5:30 PM	2	2	0	1	0	0	0	4	0	1	191	0	1	0	143	2
5:30 PM	5:45 PM	4	3	1	1	0	3	0	5	0	1	162	0	2	0	96	2
5:45 PM	6:00 PM	3	3	0	1	0	2	0	2	1	2	153	1	0	0	78	3
6:00 PM	6:15 PM	1	3	0	0	1	3	0	5	0	2	107	2	2	0	56	2
6:15 PM	6:30 PM	0	2	1	0	0	2	0	6	1	5	86	0	2	0	54	6
6:30 PM	6:45 PM	0	4	0	0	0	2	1	9	3	3	71	1	0	0	49	6
6:45 PM	7:00 PM	1	2	0	0	0	1	1	3	0	2	51	0	1	0	54	12
7:00 PM	7:15 PM	3	1	0	0	5	1	1	4	0	3	45	1	3	1	51	11
7:15 PM	7:30 PM	2	1	1	0	1	2	0	7	1	0	34	2	0	1	52	7
7:30 PM	7:45 PM	1	1	0	2	0	4	0	7	0	1	45	1	0	0	36	3
7:45 PM	8:00 PM	4	2	1	0	2	2	1	6	0	3	22	2	6	2	46	6
8:00 PM	8:15 PM	2	1	1	2	2	4	0	2	0	0	34	0	7	0	37	14
8:15 PM	8:30 PM	5	1	1	4	1	2	0	2	1	1	24	0	3	0	31	6
8:30 PM	8:45 PM	5	6	2	4	0	3	0	7	1	0	33	0	4	0	23	9
8:45 PM	9:00 PM	0	1	5	12	0	0	1	7	0	1	29	0	2	0	31	1
9:00 PM	9:15 PM	3	2	4	4	0	1	1	0	2	0	26	0	6	0	28	5
9:15 PM	9:30 PM	7	4	2	3	0	1	0	4	0	0	20	0	4	1	33	4
9:30 PM	9:45 PM	1	2	0	6	0	0	0	0	1	1	19	3	1	1	28	2
9:45 PM	10:00 PM	2	3	1	3	3	1	0	5	1	1	33	1	3	1	32	5
10:00 PM	10:15 PM	0	5	2	1	0	1	0	3	0	2	21	3	2	0	31	2
10:15 PM	10:30 PM	0	0	2	0	1	0	1	5	0	0	20	1	6	0	31	2
10:30 PM	**10:45 PM**	5	**2**	**1**	**1**	0	**0**	**0**	**1**	0	**3**	**13**	**0**	3	**1**	**24**	**3**
10:45 PM	**11:00 PM**	0	**1**	**0**	**2**	0	**3**	**0**	**2**	0	**0**	**12**	**3**	1	**1**	**29**	**4**
11:00 PM	**11:15 PM**	2	**6**	**0**	**0**	0	**0**	**0**	**1**	0	**1**	**15**	**0**	1	**0**	**39**	**4**
11:15 PM	**11:30 PM**	0	**9**	**2**	**1**	4	**0**	**0**	**2**	0	**0**	**18**	**0**	5	**0**	**40**	**3**
11:30 PM	11:45 PM	2	8	0	2	0	0	1	1	0	0	17	0	0	1	32	4
11:45 PM	12:00 AM	1	5	1	1	0	1	1	5	0	2	12	0	2	1	33	1
Intersection PHV:			*12*	*1*	*3*		*6*	*1*	*13*		*5*	*710*	*3*		*0*	*468*	*7*
PHF:			*0.75*	*0.25*	*0.75*		*0.50*	*0.25*	*0.65*		*0.63*	*0.87*	*0.38*		*0.00*	*0.77*	*0.58*

Intersection Peak Hour: 5:00 PM - 6:00 PM — *Intersection PHF: 0.84*

Study Area PHV:		**18**	**3**	**4**		**3**	**0**	**6**		**4**	**58**	**3**		**2**	**132**	**14**
PHF:		**0.50**	**0.38**	**0.50**		**0.25**	**0.00**	**0.75**		**0.33**	**0.81**	**0.25**		**0.50**	**0.83**	**0.88**

Study Peak Hour: 10:30 PM - 11:30 PM — **Study Area PHF: 0.82**

File: C1X5HRS - 4L&12My_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

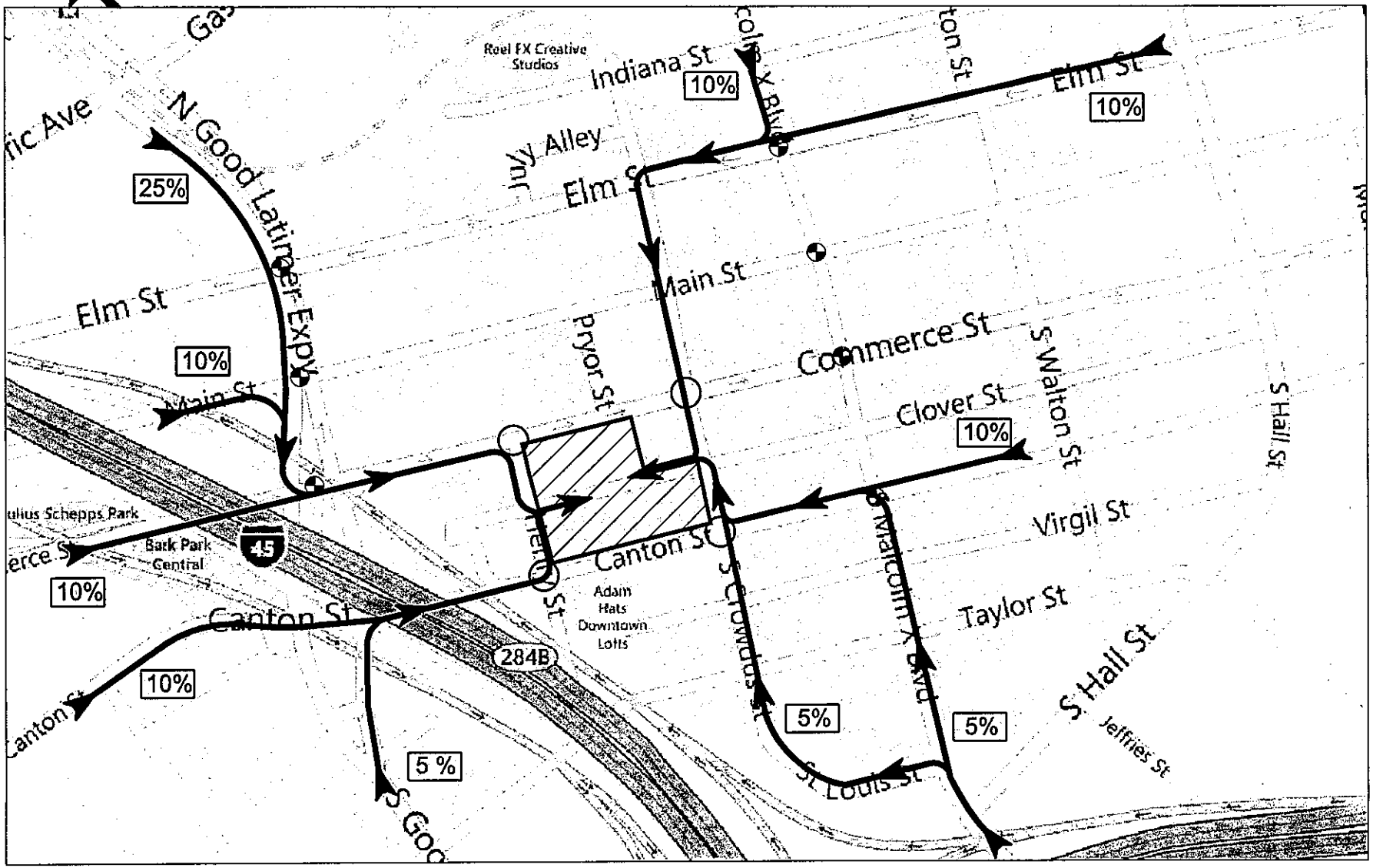
Location: **Canton Street at S. Crowdus Street**
City/State: **Dallas, Texas**
Day/Date: **Friday, August 23, 2013**
Project-ID #: **13142-04**
Data Source: **CJ Hensch**
Data Collector(s): **Camera**
Weather Conditions: **Mild/Normal Conditions**
Traffic Control: **Unsignalized**
Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on S. Crowdus Street				Southbound on S. Crowdus Street				Eastbound on Canton Street				Westbound on Canton Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
5:00 PM	5:15 PM	1	3	1	0	0	1	10	3	1	4	194	1	0	0	146	1
5:15 PM	5:30 PM	0	0	0	0	2	0	6	4	0	0	183	2	4	1	153	2
5:30 PM	5:45 PM	0	2	1	1	0	2	7	9	0	0	157	3	3	0	94	0
5:45 PM	6:00 PM	1	3	0	1	0	2	0	5	0	3	154	3	1	4	71	2
6:00 PM	6:15 PM	1	0	0	0	0	2	3	5	1	2	104	1	0	0	50	0
6:15 PM	6:30 PM	0	0	3	2	0	1	2	7	1	4	86	2	0	0	52	2
6:30 PM	6:45 PM	0	2	1	2	0	0	2	8	0	5	59	0	0	0	51	2
6:45 PM	7:00 PM	1	1	4	2	0	0	5	11	1	4	49	4	1	3	54	5
7:00 PM	7:15 PM	1	4	2	3	1	1	6	13	2	4	40	4	2	0	48	3
7:15 PM	7:30 PM	2	1	1	0	0	0	4	8	2	6	26	5	4	0	55	3
7:30 PM	7:45 PM	0	1	2	3	0	2	7	7	4	5	41	4	1	0	30	1
7:45 PM	8:00 PM	0	3	0	7	1	3	4	4	4	2	20	3	1	0	46	1
8:00 PM	8:15 PM	10	2	3	4	1	1	3	8	8	1	33	3	7	1	46	1
8:15 PM	8:30 PM	6	8	4	5	0	2	4	0	0	1	21	11	0	2	30	0
8:30 PM	8:45 PM	14	4	5	12	0	0	9	6	8	3	32	4	9	2	29	0
8:45 PM	9:00 PM	6	0	6	3	5	5	11	5	1	0	24	8	5	2	25	1
9:00 PM	9:15 PM	0	4	2	4	0	3	4	5	1	1	21	4	2	2	27	0
9:15 PM	9:30 PM	2	4	2	10	0	2	3	4	4	2	26	3	0	1	31	1
9:30 PM	9:45 PM	4	3	2	5	4	1	3	5	6	1	22	4	6	8	25	2
9:45 PM	10:00 PM	5	3	2	7	1	0	5	6	8	1	27	7	4	1	27	2
10:00 PM	10:15 PM	5	5	2	2	1	2	4	4	4	2	22	1	3	2	28	5
10:15 PM	10:30 PM	3	1	3	0	0	2	1	8	8	0	19	4	1	1	33	3
10:30 PM	10:45 PM	2	0	4	0	1	4	5	3	3	1	11	2	9	0	22	1
10:45 PM	11:00 PM	2	0	3	3	0	1	3	6	2	0	13	1	4	2	26	2
11:00 PM	11:15 PM	2	4	5	1	3	1	2	1	4	1	11	2	4	1	38	0
11:15 PM	11:30 PM	5	6	4	4	1	0	2	0	4	1	24	3	3	1	32	1
11:30 PM	11:45 PM	1	6	10	3	0	1	2	2	4	0	19	0	8	0	29	0
11:45 PM	12:00 AM	0	8	2	2	0	0	2	1	2	0	14	0	2	0	22	1
Intersection PHV:			*8*	*2*	*2*		*5*	*23*	*21*		*7*	*688*	*9*		*5*	*464*	*5*
PHF:			*0.67*	*0.50*	*0.50*		*0.63*	*0.58*	*0.58*		*0.44*	*0.89*	*0.75*		*0.31*	*0.76*	*0.63*
Intersection Peak Hour: 5:00 PM - 6:00 PM																*Intersection PHF: 0.85*	
Study Area PHV:			**10**	**16**	**8**		**6**	**12**	**10**		**3**	**59**	**8**		**4**	**118**	**4**
PHF:			**0.42**	**0.80**	**0.50**		**0.38**	**0.60**	**0.42**		**0.75**	**0.61**	**0.67**		**0.50**	**0.78**	**0.50**
Study Peak Hour: 10:30 PM - 11:30 PM																**Study Area PHF: 0.83**	

File: C1X5HRS - 4L&12Mv_Peds.XLS

Appendix B. Trip Distribution and Traffic Assignment Supplement

DeShazo Group



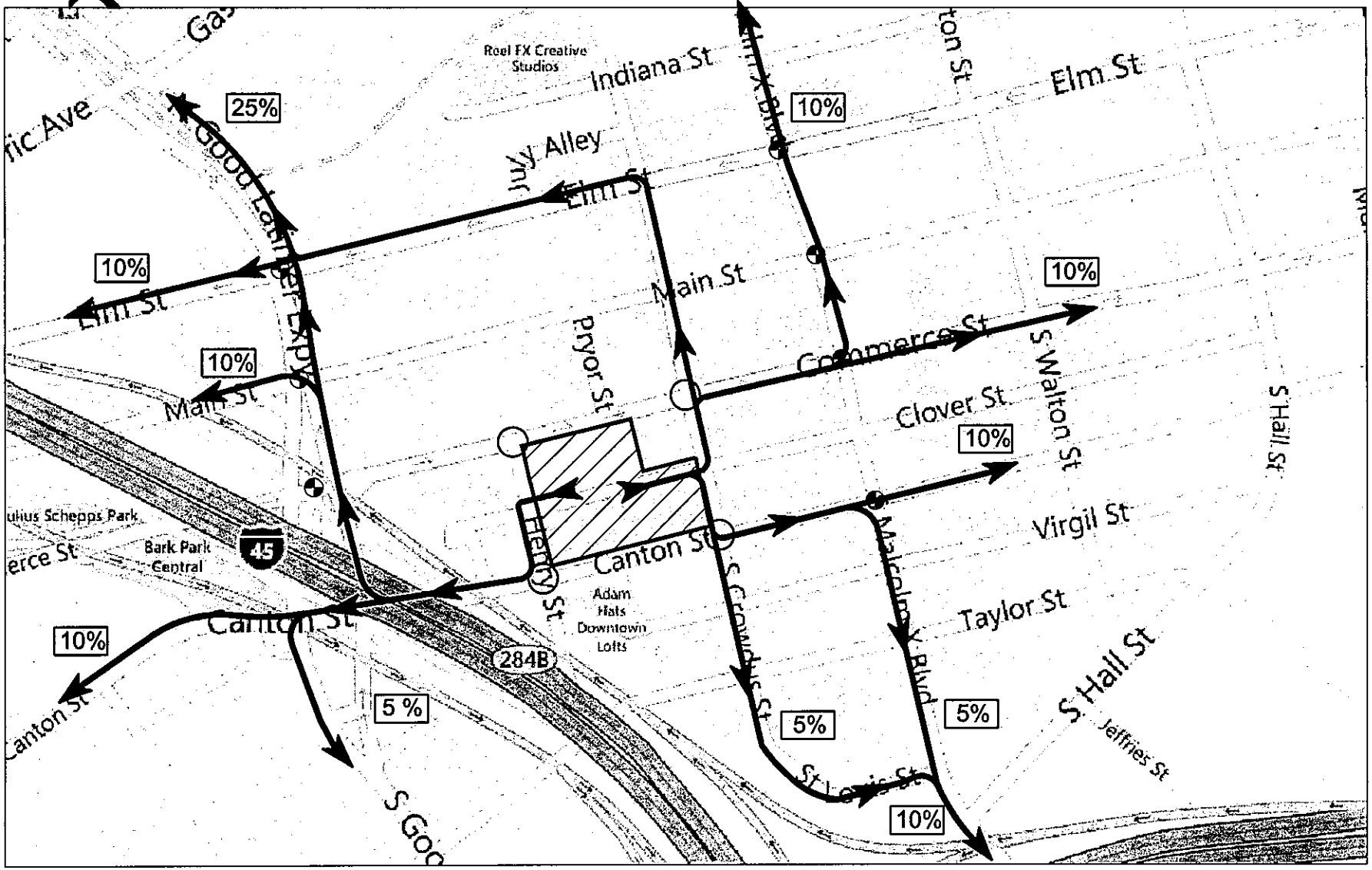
XX% - Inbound Trip Distribution

Site Generated Traffic Assignment - Main Lot Inbound

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT **B1**

DeShazo Group



Not to Scale

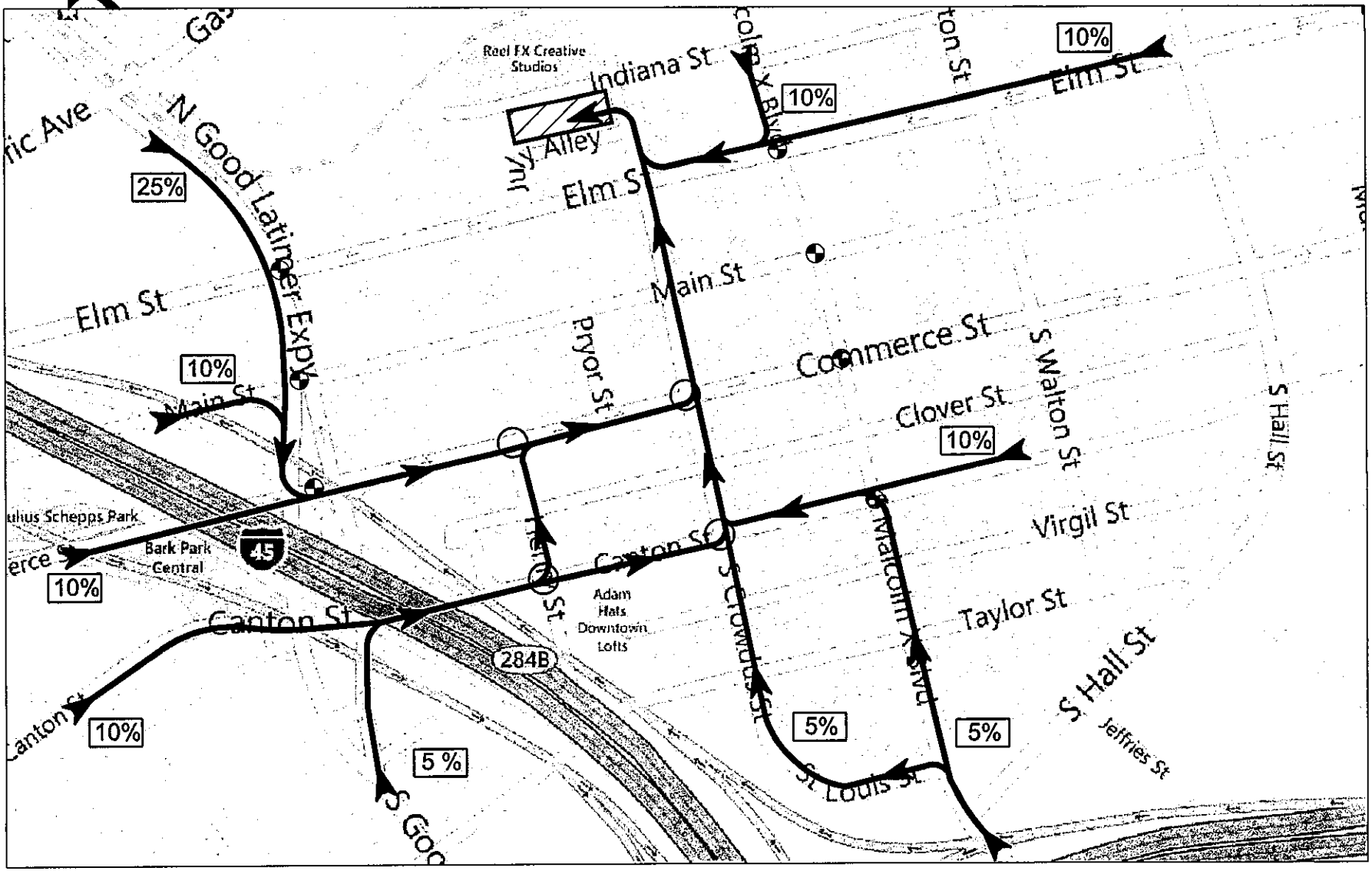
XX% - Outbound Trip Distribution

Site Generated Traffic Assignment - Main Lot Outbound

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT **B2**

DeShazo Group



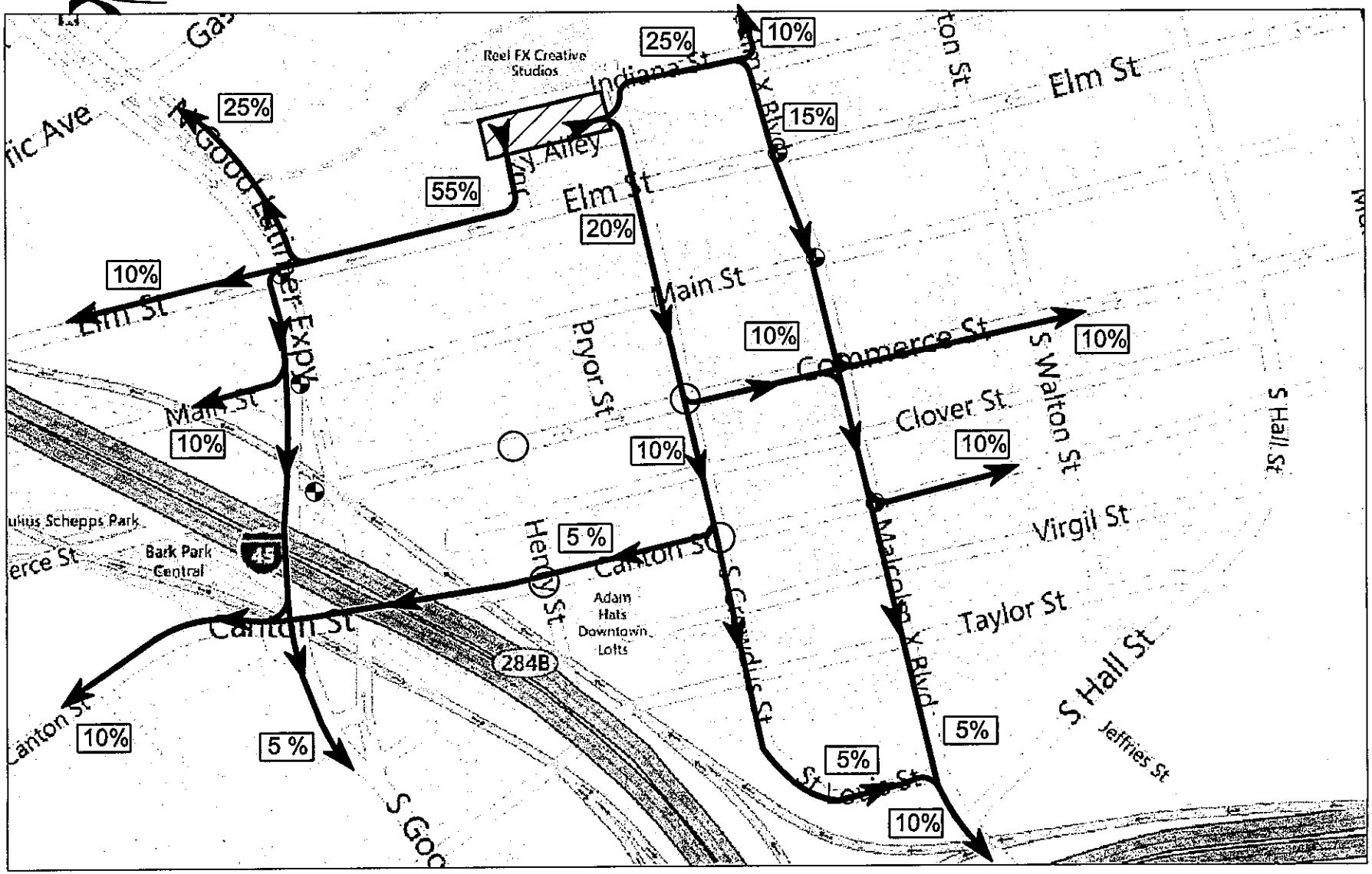
XX% - Inbound Trip Distribution

Site Generated Traffic Assignment - Remote Lot Inbound

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT **B3**

DeShazo Group



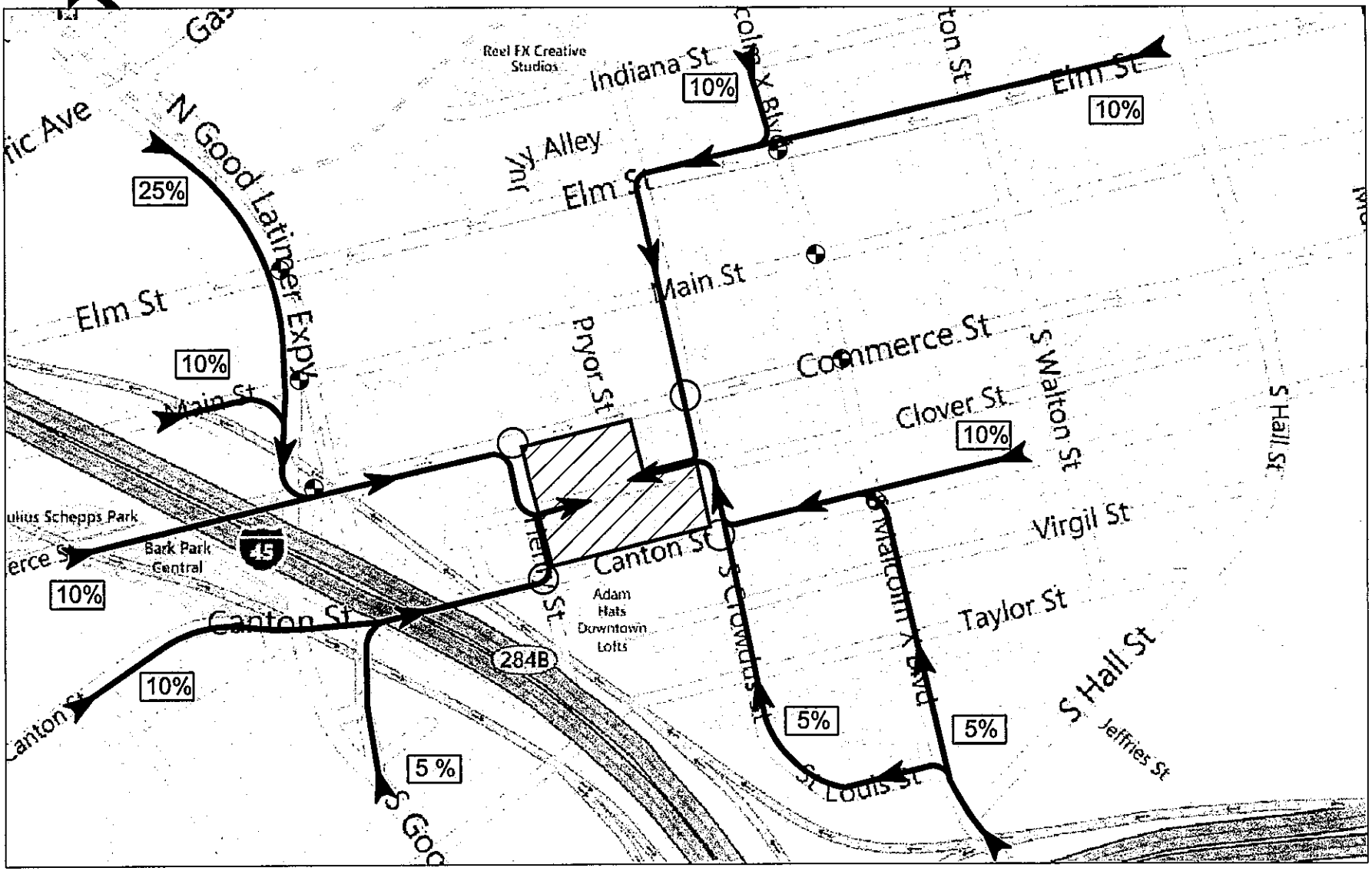
XX% - Outbound Distribution

Site Generated Traffic Assignment - Remote Lot Outbound

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT **B4**

DeShazo Group



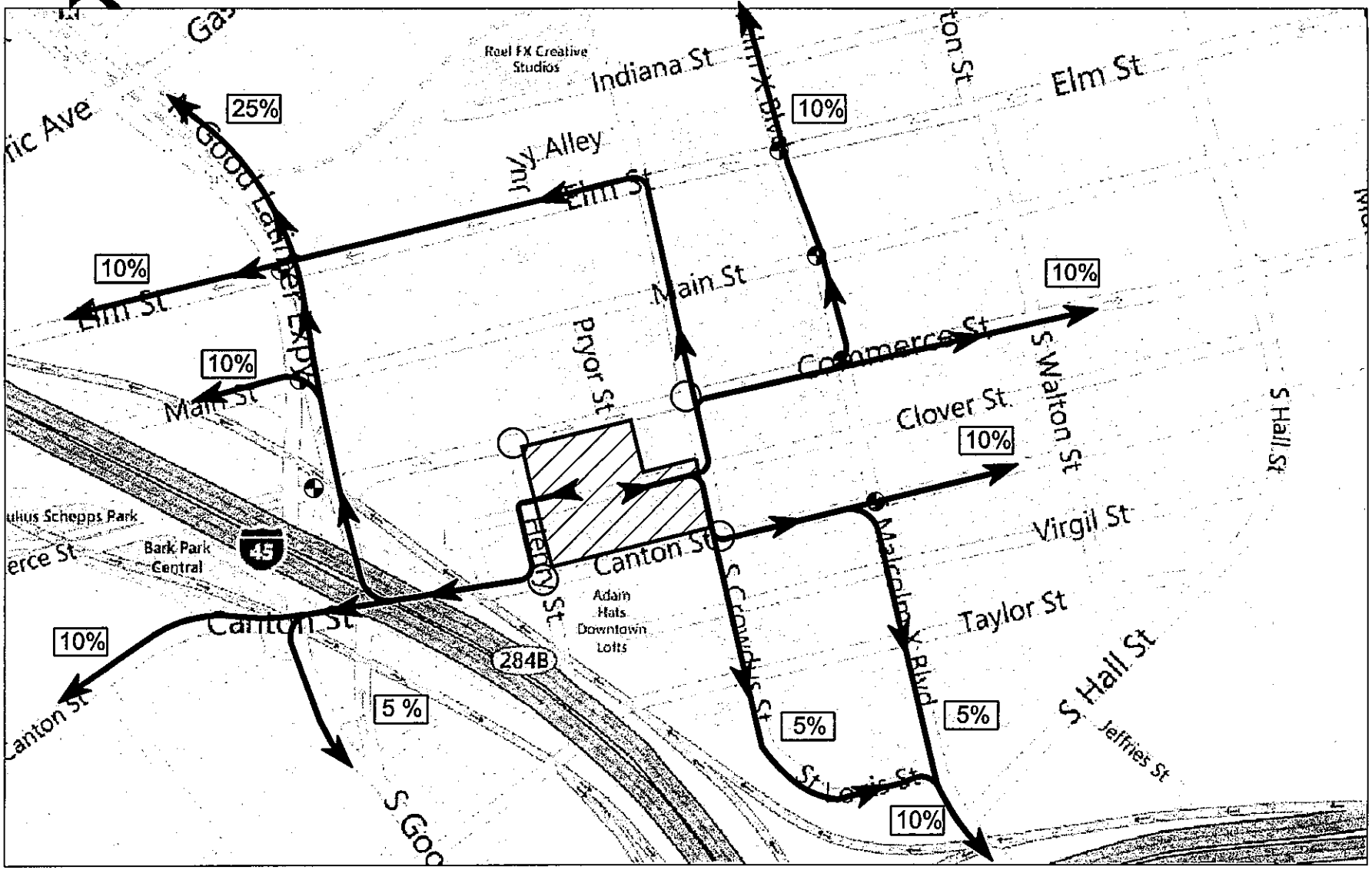
XX% - Inbound Trip Distribution

Site Generated Traffic Assignment - Main Lot Inbound

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT **B1**

DeShazo Group



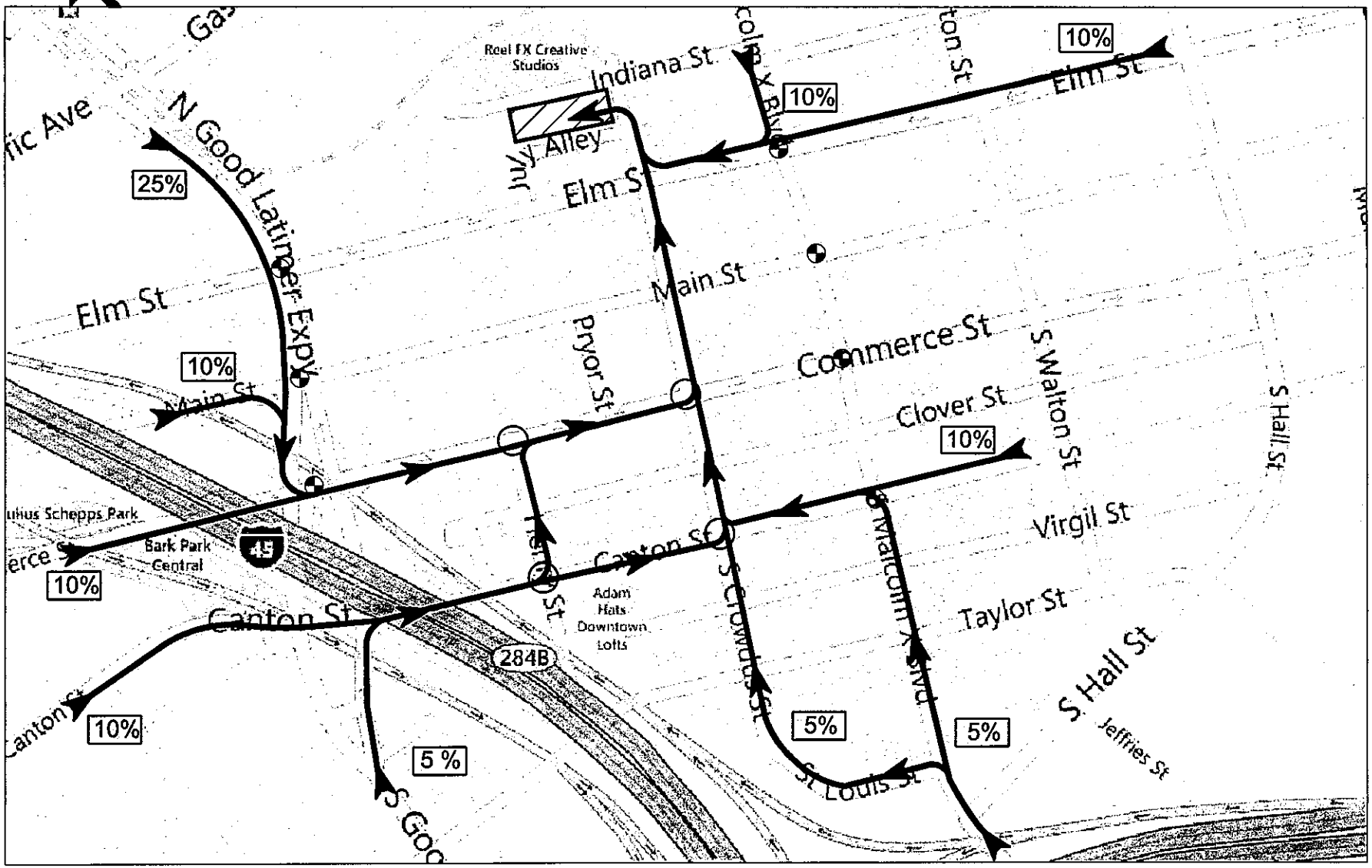
XX% - Outbound Trip Distribution

Site Generated Traffic Assignment - Main Lot Outbound

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT **B2**

DeShazo Group



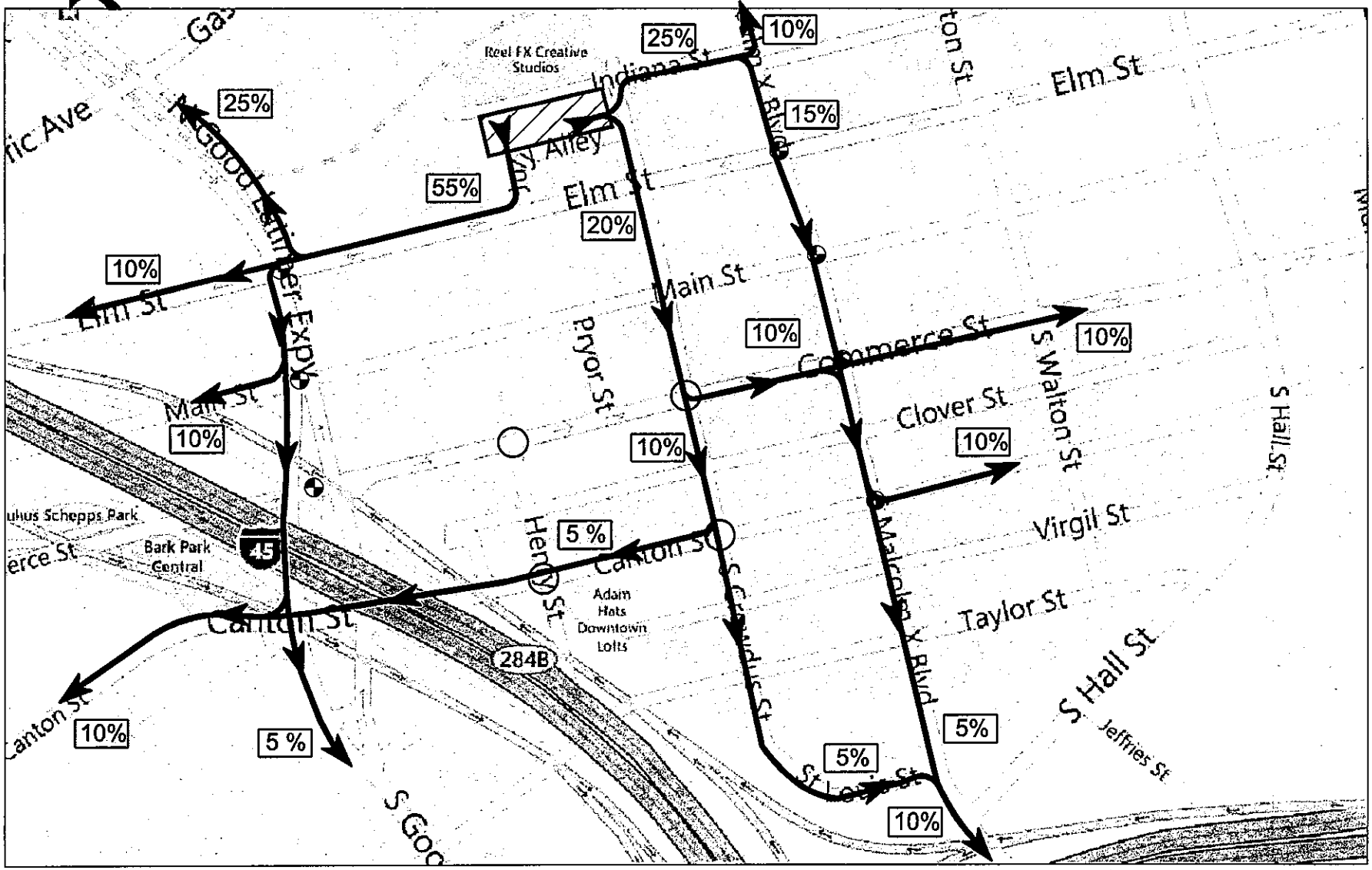
XX% - Inbound Trip Distribution

Site Generated Traffic Assignment - Remote Lot Inbound

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT **B3**

DeShazo Group



XX% - Outbound Distribution

Site Generated Traffic Assignment - Remote Lot Outbound

The Bomb Factory Traffic Impact Analysis in Dallas, Texas

EXHIBIT **B4**

Appendix C. Level-of-Service Definitions

ROADWAY INTERSECTIONS

[Excerpts from the *Highway Capacity Manual* (HCM) Transportation Research Board]

CHAPTER 2 – CAPACITY AND LEVEL OF SERVICE CONCEPTS

LEVEL OF SERVICE

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service (LOS) is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six LOS are defined for each type of facility that has analysis procedures available. Letters designate each level, from *A* to *F*, with *LOS A* representing the best operating conditions and *LOS F* the worst. Each level of service represents a range of operating conditions and the driver's perception of those conditions. Safety is not included in the measures that establish service levels.

SERVICE FLOW RATES

The analytical methods in this manual attempt to establish or predict the maximum flow rate for various facilities at each level of service—except *LOS F*, for which the flows are unstable or the vehicle delay is high. Thus, each facility has five service flow rates, one for each level of service (*A* through *E*). For *LOS F*, it is difficult to predict flow due to stop-and-start conditions.

The *service flow rate* is the maximum hourly rate at which persons or vehicles reasonably can be expected to traverse a point or uniform segment of a lane or roadway during a given period under prevailing roadway, traffic, and control conditions while maintaining a designated level of service. The service flow rates are generally based upon a 15-minute period. Typically, the hourly flow rate is defined as four times the peak 15-minute volume.

Note that service flow rates are discrete values, whereas levels of service represent a range of conditions. Because the service flow rates are defined as maximums for each level of service, they effectively define flow boundaries between levels of service.

Most design or planning efforts typically use service flow rates at *LOS C* or *D*, to ensure an acceptable operating service for facility users.

SERVICE MEASURES

For each type of facility type, one or more or the stated performance measures serves as the primary determinant of levels of service. This LOS-determining parameter is called the service measure or sometimes the measure of effectiveness (MOE) for each facility type.

CHAPTER 16 – SIGNALIZED INTERSECTIONS

SCOPE OF THE METHODOLOGY

This chapter contains a methodology for analyzing the capacity and level of service (LOS) of signalized intersections. The analysis must consider a wide variety of prevailing conditions, including the amount and distribution of traffic movements, traffic composition, geometric characteristics, and details of intersection signalization. The methodology focuses on the determination of LOS for known or projected conditions.

The methodology addresses the capacity, LOS, and other performance measures for lane groups and intersection approaches and the LOS for the intersection as a whole. Capacity is evaluated in terms of the ratio of demand flow rate to capacity (v/c ratio), whereas LOS is evaluated on the basis of control delay per vehicle (in seconds per vehicle). Control delay is the portion of the total delay attributed to traffic signal operation for signalized intersections. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

METHODOLOGY

The primary output of the method is level of service (LOS). This methodology covers a wide range of operational configurations, including combinations of phase plans, lane utilization, and left-turn treatment alternatives. It is important to note that some of these configurations may be considered unacceptable by some operating agencies from a safety point of view. The safety aspect of signalized intersections cannot be ignored, and the provision in this chapter of a capacity and LOS analysis methodology for a specific operational configuration does not imply an endorsement of the suitability for application of such a configuration.

LEVEL-OF-SERVICE

The average control delay per vehicle is estimated for each lane group and aggregated for each approach and for the intersection as a whole. LOS is directly related to the control delay value. The criteria are listed in Exhibit 16-2.

Exhibit 16-2. LOS CRITERIA FOR SIGNALIZED INTERSECTIONS

LOS	CONTROL DELAY PER VEHICLE (s/veh)
A	10
B	> 10-20
C	> 20-35
D	> 35-55
E	> 55-80
F	> 80

INPUT PARAMETERS

This information forms the basis for selecting computational values and procedures in the modules that follow. The data needed are detailed and varied and fall into three main categories: geometric, traffic, and signalization.

INTERPRETATION OF RESULTS

The computations discussed in the previous section result in an estimation of the average delay per vehicle in each lane group for each approach and for the intersection as a whole. LOS is directly related to delay values and is assigned on that basis. LOS is a measure of the acceptability of delay levels to motorists at a given intersection. When delays are unacceptable, the causes of delay should be carefully examined. Although discussion below is clearly not exhaustive, some of the more common situations are as follows.

1. LOS is an indication of the general acceptability of delay to drivers. It should be noted that this is somewhat subjective: what might be acceptable in a large city is not necessarily acceptable in a smaller city or rural area.
2. When delay levels are acceptable for the intersection as a whole but are unacceptable for certain lane groups, the phase plan, allocation of green time, or both might be examined to provide for more efficient handling of the disadvantaged movement or movements.
3. When delay levels are unacceptable but v/c ratios are relatively low, the cycle length may be too long for prevailing conditions, the phase plan may be inefficient, or both. It should be noted, however, that when signals are part of a coordinated system, the cycle length at individual intersections is determined by system considerations, and alterations at isolated locations may not be practical.
4. When both delay levels and v/c ratios are unacceptable, the situation is critical. Delay is already high, and demand is near or over capacity. In such situations, the delay may increase rapidly with small changes in demand. The full range of potential geometric and signal design improvements should be considered in the search for improvements.

The following point must be emphasized: unacceptable delay can exist where capacity is a problem as well as in cases in which it is adequate. Further, acceptable delay levels do not automatically ensure that capacity is sufficient. Delay and LOS, like capacity, are complex variables influenced by a wide range of traffic, roadway, and signalization conditions. The operational analysis techniques presented here are useful in estimating the performance characteristics of the intersection and in providing basic insights into probably causal factors.

The determination of LOS is based on average control delay. It is possible, however, for average delay to decrease with increasing volumes if the volume increased occur in movements with less than the average delay. Even with increases in more than one movement on an approach, the net effect can still be a decrease in average delay if the movements with less than average delay increase sufficiently.

One way to avoid this anomaly is to consider the change in mean delay on a lane-group-by-lane-group basis rather than by averaging delay over the entire intersections. Adding traffic to a particular lane group will always increase the delay for that lane group (as long as all other factors remain unchanged).

These procedures do not, however, account for all possible conditions. The influences of such characteristics as specific curb-corner radii, intersection angle, combinations of grades on various approaches, odd geometric features (offset intersections, narrowing on the departure lanes, etc.), and other unusual site-specific conditions are not addressed in the methodology.

The capacity of an intersection is complex variable depending on a large number of prevailing traffic, roadway, and signalization conditions. Suggestions on interpretation are not meant to be exhaustive or complete but merely to point out some of the more common problems that can be identified from the Capacity and LOS Worksheet results.

CHAPTER 17 – UNSIGNALIZED INTERSECTIONS

OVERVIEW

The procedures in this chapter can be used to analyze the capacity and level of service, lane requirements, and effects of traffic and design features of two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. In addition, a procedure for estimating capacity of roundabouts is presented.

LIMITATIONS OF THE METHODOLOGY

This chapter does not include a detailed method for estimating delay for yield sign-controlled intersections. However, with appropriate changes in the values of key parameters, the analyst could apply the TWSC method to yield-controlled intersections.

All of the methods are for steady-state conditions (i.e., the demand and capacity conditions are constant during the analysis period); the methods are not designed to evaluate how fast or how often the facility transitions from one demand/capacity state to another. Analysts interested in that kind of information should consider applying simulation models.

PART A. TWO-WAY STOP-CONTROLLED INTERSECTIONS

II. METHODOLOGY – PART A

Capacity analysis at TWSC intersections depends on a clear description and understanding of the interaction of drivers on the minor or stop-controlled approach with drivers on the major street. Both gap acceptance and empirical models have been developed to describe

this interaction. Procedures described in this chapter rely on a gap acceptance model developed and refined in Germany.

LEVEL-OF-SERVICE CRITERIA

Level of service (LOS) for a TWSC intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS is not defined for the intersection as a whole. LOS criteria are given in Exhibit 17-2.

TABLE 17-2. LOS CRITERIA FOR TWSC INTERSECTIONS

Level of Service	Average Control Delay (s/veh)
A	0-10
B	> 10-15
C	> 15-25
D	> 25-35
E	> 35-50
F	> 50

The LOS criteria for TWSC intersections are somewhat different from the criteria used in Chapter 16 for signalized intersections primarily because different transportation facilities create different driver perceptions. The expectation is that a signalized intersection is designed to carry higher traffic volumes and experience greater delay than an unsignalized intersection.

INPUT DATA REQUIREMENTS

Data requirements for the TWSC intersection methodology are similar to those for other capacity analysis techniques. Detailed descriptions of the geometrics, control, and volumes at the intersection are needed.

Key geometric factors include number and use of lanes, channelization, two-way left-turn lane (TWLTL) or raised or striped median storage (or both), approach grade, and existence of flared approaches on the minor street.

The number and use of lanes are critical factors. Vehicles in adjacent lanes can use the same gap in the traffic street simultaneously (unless impeded by a conflicting user of the gap). When movements share lanes, only one vehicle from those movements can use each gap. A TWLTL or a raised or striped median (or both) allows a minor-stream vehicle to cross one major traffic stream at a time. The grade of the approach has a direct and measurable effect on the capacity of each minor movement. Compared with a level approach, downgrades increase capacity and upgrades decrease capacity. A flared approach on the minor street increases the capacity by allowing more vehicles to be served simultaneously.

Volumes must be specified by movement. For the analysis to reflect conditions during the peak 15 min., the analyst must divide the full hour volumes by the peak-hour factor (PHF) before beginning computations. If the analyst has peak 15-min flow rates, they can be entered directly with the PHF set to 1.0.

The presence of traffic signals upstream from the intersection on the major street will produce nonrandom flows and affect the capacity of the minor-street approaches if the signal is within 0.25 mile of the intersection. The basic capacity model assumes that the headways on the major street are exponentially distributed. To assess the effect on capacity, a separate analysis is provided that requires the signalized intersection data (cycle length, green time), the saturation flow rate, and information on platooned flow.

INTERPRETING RESULTS

Shared Lanes

A movement, most often a left-turn movement, can sometimes have a poorer level of service if it is given a separate lane than if it shares a lane with another movement (usually a through movement). This is not inconsistent in terms of the stated criteria. Left-turn movements will generally experience longer control delays than other movements because of the nature and priority of the movement. If left turns are placed in a shared lane, the control delay for vehicles in that lane may indeed be less than the control delay for left turns in a separate lane. However, if delay for all vehicles is considered, providing separate lanes will result in lower total delay.

Performance Measures

LOS F occurs when there are not enough gaps of suitable size to allow a minor-street demand to safely cross through traffic on the major street. This is typically evident from extremely long control delays experienced by minor-street traffic and by queuing on the minor approaches. The method, however, is based on a constant critical gap size.

LOS F may also appear in the form of drivers on the minor street selecting smaller than usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. Note that *LOS F* may not always result in long queues but in adjustments to normal gap acceptance behavior.
At TWSC intersections the critical movement, often the minor-street left turn, may control the overall performance of the intersection. The lower threshold for *LOS F* is set at 50 s of delay per vehicle. In some cases, the delay equations will predict delays greater than 50 s for minor-street movements under very low-volume conditions on the minor street (less than 25 veh/h). Note that the *LOS F* threshold is reached with a movement capacity of approximately 85 veh/h or less.

This analysis procedure assumes random arrivals on the major street. For a typical four-lane major street with average daily traffic volumes in the range of 15,000 to20,000 vehicles per day (peak hour with 1,500 to 2,000 veh/h), the delay equation will predict greater than

50 s of delay (*LOS F*) for many urban TWSC intersections that allow minor-street left-turn movements. *LOS F* will be predicted regardless of the volume of minor-street left-turning traffic. Even with an *LOS F* estimate, most low-volume minor-street approaches would not meet any of the *MUTCD* volume or delay warrants for signalization. As a result, analysts who use the *HCM* LOS thresholds to determine the design adequacy of TWSC intersections should do so with caution.

In evaluating the overall performance of TWSC intersections, it is important to consider measures of effectiveness in addition to delay, such as v/c ratios for individual movements, average queue lengths, and 95th-percentile queue lengths. By focusing on a single measure of effectiveness for the worst movement only, such as delay for the minor-street left turn, users may make less effective traffic control decisions.

PART B. ALL-WAY STOP-CONTROLLED INTERSECTIONS

II. METHODOLOGY – PART B

LEVEL-OF-SERVICE CRITERIA

The level-of-service criteria are given in Exhibit 17-22. The criteria for AWSC intersections have different threshold values than do those for signalized intersections primarily because drivers expect different levels of performance from distinct types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an AWSC intersection. Thus a higher level of control delay is acceptable at a signalized intersection for the same LOS.

TABLE 17-22. LEVEL-OF-SERVICE FOR AWSC INTERSECTIONS

Level of Service	Control Delay (s/veh)
A	0-10
B	> 10-15
C	> 15-25
D	> 25-35
E	> 35-50
F	> 50

OVERVIEW OF METHODOLOGY

The methodology analyzes each intersection approach independently. The approach under study is called the subject approach. The opposing approach and the conflicting approaches create conflicts with vehicles on the subject approach.

AWSC intersections require drivers on all approaches to stop before proceeding into the intersection. While giving priority to the driver on the right is a recognized rule in some areas, it is not a good descriptor of actual intersection operations. What in fact happens is the development of a consensus of right-of-way that alternates between the intersection geometry and the arrival patterns at the stop line.

In summary:

1. AWSC intersections operate in either two-phase or four-phase patterns, based primarily on the complexity of the intersection geometry. Flows are determined by a consensus of right-of-way that alternates between the north/south and east/west streams (for a single-lane approach) or proceeds in turn to each intersection approach (for a multilane approach).
2. The headways between consecutively departing subject approach vehicles depend on the degree of conflict between these vehicles and the vehicles on the other intersection approaches. The degree of conflict is a function of the number of vehicles faced by the subject approach vehicle and of the number of lanes on the intersection approaches.
3. The headway of a subject approach vehicle also depends on its vehicle type and its turning maneuver.

CONTROL DELAY

The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, in the absence of incident, control, traffic, or geometric delay.

PLANNING AND DESIGN APPLICATIONS

The operational analysis method described earlier in this chapter provides a detailed procedure for evaluating the performance of an AWSC intersection. To estimate LOS for a future time horizon, a planning analysis based on the operational method is used. The planning method uses all the geometric and traffic flow data required for an operational analysis, and the computations are identical. However, many input variables are estimated (or defaults used) when planning applications are performed.

The operational analysis described earlier in this chapter is not normally used for design purposes. However, through iteration the analyst can use a given set of traffic flow data and determine the number of lanes that would be required to produce a given level of service.

Appendix D. Detailed Intersection Capacity Analysis Results

1: Commerce Street & Henry Street
Bomb Factory TIA

Existing
Timing Plan: 5-6 PM

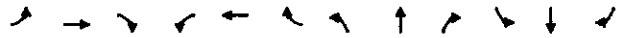
Lane Configurations						
Volume (veh/h)	858	19	0	0	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.68	0.92	0.92	0.92	0.70
Hourly flow rate (vph)	998	28	0	0	0	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1026		1012	263
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1026		1012	263
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			673		236	735

Volume Total	285	285	285	170	20	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	28	20	
cSH	1700	1700	1700	1700	735	
Volume to Capacity	0.17	0.17	0.17	0.10	0.03	
Queue Length 95th (ft)	0	0	0	0	2	
Control Delay (s)	0.0	0.0	0.0	0.0	10.0	
Lane LOS					B	
Approach Delay (s)	0.0				10.0	
Approach LOS					B	

Average Delay	0.2		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		

3: Commerce Street & Crowdus Street
Bomb Factory TIA

Existing
Timing Plan: 5-6 PM



Lane Configurations												
Volume (veh/h)	13	835	18	0	0	0	0	7	4	8	16	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.85	0.75	0.92	0.92	0.92	0.92	0.50	0.50	0.50	0.57	0.92
Hourly flow rate (vph)	20	982	24	0	0	0	0	14	8	16	28	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			1006			1048	1034	258	301	1046	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1006			1048	1034	258	301	1046	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	94	99	97	87	100
cM capacity (veh/h)	1622			684			163	228	741	587	224	1084

Volume Total	184	327	327	188	22	44						
Volume Left	20	0	0	0	0	16						
Volume Right	0	0	0	24	8	0						
cSH	1622	1700	1700	1700	305	289						
Volume to Capacity	0.01	0.19	0.19	0.11	0.07	0.15						
Queue Length 95th (ft)	1	0	0	0	6	13						
Control Delay (s)	0.9	0.0	0.0	0.0	17.7	19.7						
Lane LOS	A				C	C						
Approach Delay (s)	0.2				17.7	19.7						
Approach LOS					C	C						

Average Delay	1.3		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

6: Canton Street & Henry Street
Bomb Factory TIA

Existing
Timing Plan: 5-6 PM

Lane Configurations		↑↑↱			↑↑↱			✣			✣	
Volume (veh/h)	5	710	3	0	468	7	12	1	3	6	1	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.63	0.87	0.50	0.92	0.77	0.58	0.75	0.50	0.75	0.50	0.50	0.65
Hourly flow rate (vph)	8	816	6	0	608	12	16	2	4	12	2	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	620			822			1160	1455	411	1043	1452	310
vC1, stage 1 conf vol							835	835		614	614	
vC2, stage 2 conf vol							325	620		429	838	
vCu, unblocked vol	620			822			1160	1455	411	1043	1452	310
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	99	99	97	99	97
cM capacity (veh/h)	957			803			302	311	590	378	313	686

Volume Total	8	544	278	405	215	22	34					
Volume Left	8	0	0	0	0	16	12					
Volume Right	0	0	6	0	12	4	20					
cSH	957	1700	1700	1700	1700	332	505					
Volume to Capacity	0.01	0.32	0.16	0.24	0.13	0.07	0.07					
Queue Length 95th (ft)	1	0	0	0	0	5	5					
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	16.6	12.6					
Lane LOS	A					C	B					
Approach Delay (s)	0.1			0.0		16.6	12.6					
Approach LOS						C	B					

Average Delay	0.6			
Intersection Capacity Utilization	29.7%	ICU Level of Service	A	
Analysis Period (min)	15			

8: Canton Street & Crowdus Street
Bomb Factory TIA

Existing
Timing Plan: 5-6 PM

Lane Configurations		↑↑↱			↑↑↱			✣			✣	
Volume (veh/h)	7	688	9	5	464	5	8	2	2	5	23	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.58	0.58	0.50	0.89	0.75	0.67	0.50	0.50	0.63	0.58	0.58
Hourly flow rate (vph)	14	1186	16	10	521	7	12	4	4	8	40	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	528			1202			1559	1770	601	1172	1774	264
vC1, stage 1 conf vol							1222	1222		545	545	
vC2, stage 2 conf vol							337	548		627	1230	
vCu, unblocked vol	528			1202			1559	1770	601	1172	1774	264
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			93	98	99	98	82	95
cM capacity (veh/h)	1035			576			177	224	444	333	216	734

Volume Total	607	609	10	348	180	20	84					
Volume Left	14	0	10	0	0	12	8					
Volume Right	0	16	0	0	7	4	36					
cSH	1035	1700	576	1700	1700	211	326					
Volume to Capacity	0.01	0.36	0.02	0.20	0.11	0.09	0.26					
Queue Length 95th (ft)	1	0	1	0	0	8	25					
Control Delay (s)	0.4	0.0	11.4	0.0	0.0	23.8	19.8					
Lane LOS	A		B			C	C					
Approach Delay (s)	0.2		0.2			23.8	19.8					
Approach LOS						C	C					

Average Delay	1.3			
Intersection Capacity Utilization	34.2%	ICU Level of Service	A	
Analysis Period (min)	15			

1: Commerce Street & Henry Street
Bomb Factory TIA

Bomb Factory TIA
Timing Plan: 7.30-8.30 PM

Lane Configurations						
Volume (veh/h)	372	38	0	0	0	37
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.95	0.92	0.92	0.92	0.66
Hourly flow rate (vph)	471	40	0	0	0	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			511		491	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			511		491	138
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	94
cM capacity (veh/h)			1051		507	885

Volume Total	135	135	135	107	56	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	40	56	
cSH	1700	1700	1700	1700	885	
Volume to Capacity	0.08	0.08	0.08	0.06	0.06	
Queue Length 95th (ft)	0	0	0	0	5	
Control Delay (s)	0.0	0.0	0.0	0.0	9.3	
Lane LOS					A	
Approach Delay (s)	0.0				9.3	
Approach LOS					A	

Average Delay	0.9		
Intersection Capacity Utilization	16.0%	ICU Level of Service	A
Analysis Period (min)	15		

3: Commerce Street & Crowdus Street
Bomb Factory TIA

Bomb Factory TIA
Timing Plan: 7.30-8.30 PM

Lane Configurations												
Volume (veh/h)	16	329	32	0	0	0	0	11	8	16	13	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.81	0.80	0.92	0.92	0.92	0.92	0.55	0.50	0.50	0.50	0.92
Hourly flow rate (vph)	24	406	40	0	0	0	0	20	16	32	26	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			446			487	474	122	176	494	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			446			487	474	122	176	494	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	96	98	96	94	100
cM capacity (veh/h)	1622			1110			439	480	907	725	468	1084

Volume Total	92	135	135	108	36	58
Volume Left	24	0	0	0	0	32
Volume Right	0	0	0	40	16	0
cSH	1622	1700	1700	1700	607	582
Volume to Capacity	0.01	0.08	0.08	0.06	0.06	0.10
Queue Length 95th (ft)	1	0	0	0	5	8
Control Delay (s)	2.0	0.0	0.0	0.0	11.3	11.9
Lane LOS	A				B	B
Approach Delay (s)	0.4				11.3	11.9
Approach LOS					B	B

Average Delay	2.3		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		

6: Canton Street & Henry Street
Bomb Factory TIA

Bomb Factory TIA
Timing Plan: 7.30-8.30 PM

Lane Configurations												
Volume (veh/h)	5	125	3	2	150	29	5	3	8	12	1	17
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.69	0.50	0.50	0.82	0.52	0.63	0.75	0.50	0.75	0.50	0.61
Hourly flow rate (vph)	10	181	6	4	183	56	8	4	16	16	2	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	239			187			332	451	94	347	426	119
vC1, stage 1 conf vol							204	204		219	219	
vC2, stage 2 conf vol							128	247		129	207	
vCu, unblocked vol	239			187			332	451	94	347	426	119
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	99	98	98	100	97
cM capacity (veh/h)	1325			1385			703	621	945	698	635	910

Volume Total	10	121	66	95	147	28	46					
Volume Left	10	0	0	4	0	8	16					
Volume Right	0	0	6	0	56	16	28					
cSH	1325	1700	1700	1385	1700	806	809					
Volume to Capacity	0.01	0.07	0.04	0.00	0.09	0.03	0.06					
Queue Length 95th (ft)	1	0	0	0	0	3	5					
Control Delay (s)	7.7	0.0	0.0	0.3	0.0	9.6	9.7					
Lane LOS	A			A		A	A					
Approach Delay (s)	0.4			0.1		9.6	9.7					
Approach LOS						A	A					

Average Delay	1.6				
Intersection Capacity Utilization	16.5%	ICU Level of Service		A	
Analysis Period (min)	15				

8: Canton Street & Crowdus Street
Bomb Factory TIA

Bomb Factory TIA
Timing Plan: 7.30-8.30 PM

Lane Configurations												
Volume (veh/h)	9	115	21	3	152	3	14	9	19	8	18	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.70	0.50	0.50	0.83	0.75	0.50	0.56	0.68	0.67	0.64	0.59
Hourly flow rate (vph)	18	164	42	6	183	4	28	16	28	12	28	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	187			206			371	420	103	351	439	94
vC1, stage 1 conf vol							221	221		197	197	
vC2, stage 2 conf vol							150	199		154	242	
vCu, unblocked vol	187			206			371	420	103	351	439	94
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			96	97	97	98	95	97
cM capacity (veh/h)	1385			1362			658	630	932	683	624	945

Volume Total	100	124	6	122	65	72	72					
Volume Left	18	0	6	0	0	28	12					
Volume Right	0	42	0	0	4	28	32					
cSH	1385	1700	1362	1700	1700	735	748					
Volume to Capacity	0.01	0.07	0.00	0.07	0.04	0.10	0.10					
Queue Length 95th (ft)	1	0	0	0	0	8	8					
Control Delay (s)	1.5	0.0	7.7	0.0	0.0	10.4	10.3					
Lane LOS	A		A			B	B					
Approach Delay (s)	0.7		0.2			10.4	10.3					
Approach LOS						B	B					

Average Delay	3.0				
Intersection Capacity Utilization	21.7%	ICU Level of Service		A	
Analysis Period (min)	15				

1: Commerce Street & Henry Street

Bomb Factory TIA

Existing
Timing Plan: 10.30-11.30 PM

Lane Configurations						
Volume (veh/h)	307	11	0	0	0	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.69	0.92	0.92	0.92	0.65
Hourly flow rate (vph)	394	16	0	0	0	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			410		402	106
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			410		402	106
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			1146		577	927

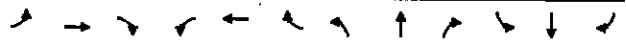
Volume Total	112	112	112	72	40	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	16	40	
cSH	1700	1700	1700	1700	927	
Volume to Capacity	0.07	0.07	0.07	0.04	0.04	
Queue Length 95th (ft)	0	0	0	0	3	
Control Delay (s)	0.0	0.0	0.0	0.0	9.1	
Lane LOS					A	
Approach Delay (s)	0.0				9.1	
Approach LOS					A	

Average Delay	0.8		
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		

3: Commerce Street & Crowdus Street

Bomb Factory TIA

Existing
Timing Plan: 10.30-11.30 PM



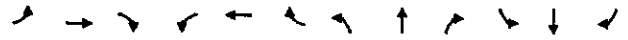
Lane Configurations												
Volume (veh/h)	33	263	20	0	0	0	0	19	5	13	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.73	0.71	0.92	0.92	0.92	0.92	0.79	0.63	0.65	0.50	0.92
Hourly flow rate (vph)	44	360	28	0	0	0	0	24	8	20	16	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			388			470	462	104	198	476	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			388			470	462	104	198	476	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	95	99	97	97	100
cM capacity (veh/h)	1622			1167			455	482	930	694	473	1084

Volume Total	104	120	120	88	32	36
Volume Left	44	0	0	0	0	20
Volume Right	0	0	0	28	8	0
cSH	1622	1700	1700	1700	547	575
Volume to Capacity	0.03	0.07	0.07	0.05	0.06	0.06
Queue Length 95th (ft)	2	0	0	0	5	5
Control Delay (s)	3.2	0.0	0.0	0.0	12.0	11.7
Lane LOS	A				B	B
Approach Delay (s)	0.8				12.0	11.7
Approach LOS					B	B

Average Delay	2.3		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		

6: Canton Street & Henry Street
Bomb Factory TIA

Existing
Timing Plan: 10.30-11.30 PM



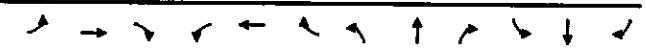
Lane Configurations												
Volume (veh/h)	4	58	3	2	132	14	18	3	4	3	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.81	0.50	0.50	0.83	0.88	0.50	0.50	0.50	0.50	0.92	0.75
Hourly flow rate (vph)	8	72	6	4	159	16	36	6	8	6	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	175			78			186	274	39	238	269	87
vC1, stage 1 conf vol							91	91		175	175	
vC2, stage 2 conf vol							96	183		63	94	
vCu, unblocked vol	175			78			186	274	39	238	269	87
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			96	99	99	99	100	99
cM capacity (veh/h)	1399			1519			823	700	1024	769	708	954

Volume Total	8	48	30	84	95	50	14
Volume Left	8	0	0	4	0	36	6
Volume Right	0	0	6	0	16	8	8
cSH	1399	1700	1700	1519	1700	832	865
Volume to Capacity	0.01	0.03	0.02	0.00	0.06	0.06	0.02
Queue Length 95th (ft)	0	0	0	0	0	5	1
Control Delay (s)	7.6	0.0	0.0	0.4	0.0	9.6	9.2
Lane LOS	A			A		A	A
Approach Delay (s)	0.7			0.2		9.6	9.2
Approach LOS						A	A

Average Delay	2.1			
Intersection Capacity Utilization	15.5%	ICU Level of Service	A	
Analysis Period (min)	15			

8: Canton Street & Crowdus Street
Bomb Factory TIA

Existing
Timing Plan: 10.30-11.30 PM



Lane Configurations												
Volume (veh/h)	3	59	8	4	116	4	10	16	8	6	12	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.61	0.67	0.50	0.78	0.50	0.50	0.80	0.50	0.50	0.60	0.50
Hourly flow rate (vph)	4	97	12	8	151	8	20	20	16	12	20	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	159			109			232	286	54	254	288	80
vC1, stage 1 conf vol							111	111		171	171	
vC2, stage 2 conf vol							122	175		82	117	
vCu, unblocked vol	159			109			232	286	54	254	288	80
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	97	98	98	97	98
cM capacity (veh/h)	1418			1480			767	699	1001	753	700	965

Volume Total	52	60	8	101	58	56	52
Volume Left	4	0	8	0	0	20	12
Volume Right	0	12	0	0	8	16	20
cSH	1418	1700	1480	1700	1700	793	797
Volume to Capacity	0.00	0.04	0.01	0.06	0.03	0.07	0.07
Queue Length 95th (ft)	0	0	0	0	0	6	5
Control Delay (s)	0.6	0.0	7.4	0.0	0.0	9.9	9.8
Lane LOS	A		A			A	A
Approach Delay (s)	0.3		0.4			9.9	9.8
Approach LOS						A	A

Average Delay	3.0			
Intersection Capacity Utilization	14.1%	ICU Level of Service	A	
Analysis Period (min)	15			

1: Commerce Street & Henry Street
Bomb Factory TIA

Background
Timing Plan: 5-6 PM

Lane Configurations						
Volume (veh/h)	875	19	0	0	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.68	0.92	0.92	0.92	0.70
Hourly flow rate (vph)	1017	28	0	0	0	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1045		1031	268
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1045		1031	268
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			661		229	730

Volume Total	291	291	291	173	20
Volume Left	0	0	0	0	0
Volume Right	0	0	0	28	20
cSH	1700	1700	1700	1700	730
Volume to Capacity	0.17	0.17	0.17	0.10	0.03
Queue Length 95th (ft)	0	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	0.0	10.1
Lane LOS					B
Approach Delay (s)	0.0				10.1
Approach LOS					B

Average Delay	0.2		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

3: Commerce Street & Crowdus Street
Bomb Factory TIA

Background
Timing Plan: 5-6 PM

Lane Configurations												
Volume (veh/h)	13	852	18	0	0	0	0	7	4	8	16	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.85	0.75	0.92	0.92	0.92	0.92	0.50	0.50	0.50	0.57	0.92
Hourly flow rate (vph)	20	1002	24	0	0	0	0	14	8	16	28	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			1026			1068	1054	263	306	1066	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1026			1068	1054	263	306	1066	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	94	99	97	87	100
cM capacity (veh/h)	1622			672			157	222	736	682	218	1084

Volume Total	187	334	334	191	22	44
Volume Left	20	0	0	0	0	16
Volume Right	0	0	0	24	8	0
cSH	1622	1700	1700	1700	297	282
Volume to Capacity	0.01	0.20	0.20	0.11	0.07	0.16
Queue Length 95th (ft)	1	0	0	0	6	14
Control Delay (s)	0.9	0.0	0.0	0.0	18.1	20.1
Lane LOS	A				C	C
Approach Delay (s)	0.2				18.1	20.1
Approach LOS					C	C

Average Delay	1.3		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

6: Canton Street & Henry Street
Bomb Factory TIA

Background
Timing Plan: 5-6 PM

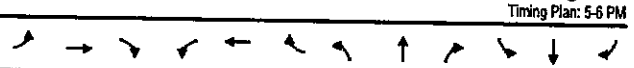
Lane Configurations												
Volume (veh/h)	5	724	3	0	477	7	12	1	3	6	1	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.63	0.87	0.50	0.92	0.77	0.58	0.75	0.50	0.75	0.50	0.50	0.65
Hourly flow rate (vph)	8	832	6	0	619	12	16	2	4	12	2	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	632			838			1182	1483	419	1062	1480	316
vC1, stage 1 conf vol							851	851		626	626	
vC2, stage 2 conf vol							331	632		437	854	
vCu, unblocked vol	632			838			1182	1483	419	1062	1480	316
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	99	99	97	99	97
cM capacity (veh/h)	947			792			295	306	583	371	307	680

Volume Total	8	555	283	413	219	22	34
Volume Left	8	0	0	0	0	16	12
Volume Right	0	0	6	0	12	4	20
cSH	947	1700	1700	1700	1700	325	498
Volume to Capacity	0.01	0.33	0.17	0.24	0.13	0.07	0.07
Queue Length 95th (ft)	1	0	0	0	0	5	5
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	16.9	12.8
Lane LOS	A					C	B
Approach Delay (s)	0.1			0.0		16.9	12.8
Approach LOS						C	B

Average Delay	0.6			
Intersection Capacity Utilization	30.1%	ICU Level of Service	A	
Analysis Period (min)	15			

8: Canton Street & Crowdus Street
Bomb Factory TIA

Background
Timing Plan: 5-6 PM



Lane Configurations												
Volume (veh/h)	7	702	9	5	473	5	8	2	2	5	23	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.58	0.58	0.50	0.89	0.75	0.67	0.50	0.50	0.63	0.58	0.58
Hourly flow rate (vph)	14	1210	16	10	531	7	12	4	4	8	40	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	538			1226			1588	1804	613	1194	1809	269
vC1, stage 1 conf vol							1246	1246		555	555	
vC2, stage 2 conf vol							342	558		639	1254	
vCu, unblocked vol	538			1226			1588	1804	613	1194	1809	269
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			93	98	99	98	81	95
cM capacity (veh/h)	1026			564			171	218	435	327	210	729

Volume Total	619	621	10	354	184	20	84
Volume Left	14	0	10	0	0	12	8
Volume Right	0	16	0	0	7	4	36
cSH	1026	1700	564	1700	1700	205	319
Volume to Capacity	0.01	0.37	0.02	0.21	0.11	0.10	0.26
Queue Length 95th (ft)	1	0	1	0	0	8	26
Control Delay (s)	0.4	0.0	11.5	0.0	0.0	24.4	20.3
Lane LOS	A		B			C	C
Approach Delay (s)	0.2		0.2			24.4	20.3
Approach LOS						C	C

Average Delay	1.3			
Intersection Capacity Utilization	34.6%	ICU Level of Service	A	
Analysis Period (min)	15			

1: Commerce Street & Henry Street
Bomb Factory TIA

Background
Timing Plan: 7.30-8.30 PM

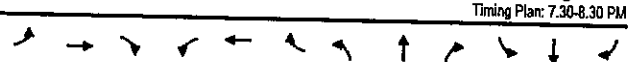
Lane Configurations						
Volume (veh/h)	379	39	0	0	0	38
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.95	0.92	0.92	0.92	0.66
Hourly flow rate (vph)	480	41	0	0	0	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			521		500	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			521		500	140
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			1042		500	882

Volume Total	137	137	137	110	58
Volume Left	0	0	0	0	0
Volume Right	0	0	0	41	58
cSH	1700	1700	1700	1700	882
Volume to Capacity	0.08	0.08	0.08	0.06	0.07
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	9.4
Lane LOS					A
Approach Delay (s)	0.0				9.4
Approach LOS					A

Average Delay	0.9		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

3: Commerce Street & Crowdus Street
Bomb Factory TIA

Background
Timing Plan: 7.30-8.30 PM



Lane Configurations												
Volume (veh/h)	18	336	33	0	0	0	0	11	8	16	13	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.81	0.80	0.92	0.92	0.92	0.92	0.55	0.50	0.50	0.50	0.92
Hourly flow rate (vph)	24	415	41	0	0	0	0	20	16	32	26	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			456			496	483	124	178	504	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			456			496	483	124	178	504	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	96	98	96	94	100
cM capacity (veh/h)	1622			1101			432	474	903	722	482	1084

Volume Total	93	138	138	110	36	58
Volume Left	24	0	0	0	0	32
Volume Right	0	0	0	41	16	0
cSH	1622	1700	1700	1700	601	576
Volume to Capacity	0.01	0.08	0.08	0.06	0.06	0.10
Queue Length 95th (ft)	1	0	0	0	5	8
Control Delay (s)	2.0	0.0	0.0	0.0	11.4	11.9
Lane LOS	A				B	B
Approach Delay (s)	0.4				11.4	11.9
Approach LOS					B	B

Average Delay	2.2		
Intersection Capacity Utilization	20.6%	ICU Level of Service	A
Analysis Period (min)	15		

6: Canton Street & Henry Street
Bomb Factory TIA

Background
Timing Plan: 7.30-8.30 PM

Lane Configurations												
Volume (veh/h)	5	128	3	2	153	30	5	3	8	12	1	17
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.69	0.50	0.50	0.82	0.52	0.63	0.75	0.50	0.75	0.50	0.61
Hourly flow rate (vph)	10	186	6	4	187	58	8	4	16	16	2	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	244			192			339	461	96	354	435	122
vC1, stage 1 conf vol							209	209		223	223	
vC2, stage 2 conf vol							130	252		131	212	
vCu, unblocked vol	244			192			339	461	96	354	435	122
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	99	98	98	100	97
cM capacity (veh/h)	1319			1379			698	616	942	693	631	906

Volume Total	10	124	68	97	151	28	46
Volume Left	10	0	0	4	0	8	16
Volume Right	0	0	6	0	58	16	28
cSH	1319	1700	1700	1379	1700	802	805
Volume to Capacity	0.01	0.07	0.04	0.00	0.09	0.03	0.06
Queue Length 95th (ft)	1	0	0	0	0	3	5
Control Delay (s)	7.8	0.0	0.0	0.3	0.0	9.7	9.7
Lane LOS	A			A		A	A
Approach Delay (s)	0.4			0.1		9.7	9.7
Approach LOS						A	A

Average Delay	1.6				
Intersection Capacity Utilization	16.6%	ICU Level of Service		A	
Analysis Period (min)	15				

8: Canton Street & Crowdus Street
Bomb Factory TIA

Background
Timing Plan: 7.30-8.30 PM

Lane Configurations												
Volume (veh/h)	9	117	21	3	155	3	14	9	19	6	18	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.70	0.50	0.50	0.83	0.75	0.50	0.56	0.68	0.67	0.64	0.59
Hourly flow rate (vph)	18	167	42	6	187	4	28	16	28	12	28	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	191			209			376	427	105	356	446	95
vC1, stage 1 conf vol							224	224		201	201	
vC2, stage 2 conf vol							152	203		156	245	
vCu, unblocked vol	191			209			376	427	105	356	446	95
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			96	97	97	98	95	97
cM capacity (veh/h)	1380			1359			655	627	930	680	621	942

Volume Total	102	126	6	124	66	72	72
Volume Left	18	0	6	0	0	28	12
Volume Right	0	42	0	0	4	28	32
cSH	1380	1700	1359	1700	1700	732	745
Volume to Capacity	0.01	0.07	0.00	0.07	0.04	0.10	0.10
Queue Length 95th (ft)	1	0	0	0	0	8	8
Control Delay (s)	1.4	0.0	7.7	0.0	0.0	10.5	10.4
Lane LOS	A		A			B	B
Approach Delay (s)	0.6		0.2			10.5	10.4
Approach LOS						B	B

Average Delay	3.0				
Intersection Capacity Utilization	21.7%	ICU Level of Service		A	
Analysis Period (min)	15				

1: Commerce Street & Henry Street
Bomb Factory TIA

Background
Timing Plan: 10.30-11.30 PM

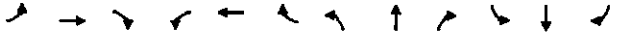
Lane Configurations						
Volume (veh/h)	313	11	0	0	0	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.69	0.92	0.92	0.92	0.65
Hourly flow rate (vph)	401	16	0	0	0	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			417		409	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			417		409	108
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			1138		570	925

Volume Total	115	115	115	73	42
Volume Left	0	0	0	0	0
Volume Right	0	0	0	16	42
cSH	1700	1700	1700	1700	925
Volume to Capacity	0.07	0.07	0.07	0.04	0.04
Queue Length 95th (ft)	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	9.1
Lane LOS					A
Approach Delay (s)	0.0				9.1
Approach LOS					A

Average Delay	0.8		
Intersection Capacity Utilization	14.7%	ICU Level of Service	A
Analysis Period (min)	15		

3: Commerce Street & Crowdus Street
Bomb Factory TIA

Background
Timing Plan: 10.30-11.30 PM



Lane Configurations												
Volume (veh/h)	34	268	20	0	0	0	0	19	5	13	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.73	0.71	0.92	0.92	0.92	0.92	0.79	0.63	0.65	0.50	0.92
Hourly flow rate (vph)	45	367	28	0	0	0	0	24	8	20	16	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			395			480	472	106	202	486	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			395			480	472	106	202	486	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	95	99	97	97	100
cM capacity (veh/h)	1622			1160			447	475	928	688	467	1084

Volume Total	107	122	122	69	32	36
Volume Left	45	0	0	0	0	20
Volume Right	0	0	0	28	8	0
cSH	1622	1700	1700	1700	541	568
Volume to Capacity	0.03	0.07	0.07	0.05	0.06	0.06
Queue Length 95th (ft)	2	0	0	0	5	5
Control Delay (s)	3.2	0.0	0.0	0.0	12.1	11.8
Lane LOS	A				B	B
Approach Delay (s)	0.8				12.1	11.8
Approach LOS					B	B

Average Delay	2.3		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		

6: Canton Street & Henry Street
Bomb Factory TIA

Background
Timing Plan: 10.30-11.30 PM

Lane Configurations												
Volume (veh/h)	4	59	3	2	135	14	18	3	4	3	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.81	0.50	0.50	0.83	0.88	0.50	0.50	0.50	0.50	0.92	0.75
Hourly flow rate (vph)	8	73	6	4	163	16	36	6	8	6	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	179			79			189	278	39	242	273	89
vC1, stage 1 conf vol							92	92		179	179	
vC2, stage 2 conf vol							97	187		63	95	
vCu, unblocked vol	179			79			189	278	39	242	273	89
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			96	99	99	99	100	99
cM capacity (veh/h)	1395			1517			820	698	1023	766	705	951

Volume Total	8	49	30	85	97	50	14
Volume Left	8	0	0	4	0	36	6
Volume Right	0	0	6	0	16	8	8
cSH	1395	1700	1700	1517	1700	829	862
Volume to Capacity	0.01	0.03	0.02	0.00	0.06	0.06	0.02
Queue Length 95th (ft)	0	0	0	0	0	5	1
Control Delay (s)	7.6	0.0	0.0	0.4	0.0	9.6	9.2
Lane LOS	A			A		A	A
Approach Delay (s)	0.7			0.2		9.6	9.2
Approach LOS						A	A

Average Delay	2.1			
Intersection Capacity Utilization	15.6%	ICU Level of Service	A	
Analysis Period (min)	15			

8: Canton Street & Crowdus Street
Bomb Factory TIA

Background
Timing Plan: 10.30-11.30 PM

Lane Configurations												
Volume (veh/h)	3	60	8	4	120	4	10	16	8	6	12	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.61	0.67	0.50	0.78	0.50	0.50	0.80	0.50	0.50	0.60	0.50
Hourly flow rate (vph)	4	98	12	8	154	8	20	20	16	12	20	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	162			110			235	290	55	257	292	81
vC1, stage 1 conf vol							112	112		174	174	
vC2, stage 2 conf vol							123	178		83	118	
vCu, unblocked vol	162			110			235	290	55	257	292	81
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	97	98	98	97	98
cM capacity (veh/h)	1415			1478			765	697	1000	751	697	963

Volume Total	53	61	8	103	59	56	52
Volume Left	4	0	8	0	0	20	12
Volume Right	0	12	0	0	8	16	20
cSH	1415	1700	1478	1700	1700	791	795
Volume to Capacity	0.00	0.04	0.01	0.06	0.03	0.07	0.07
Queue Length 95th (ft)	0	0	0	0	0	6	5
Control Delay (s)	0.6	0.0	7.4	0.0	0.0	9.9	9.8
Lane LOS	A		A			A	A
Approach Delay (s)	0.3		0.4			9.9	9.8
Approach LOS						A	A

Average Delay	3.0			
Intersection Capacity Utilization	14.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Configurations						
Volume (veh/h)	875	19	0	0	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.68	0.92	0.92	0.92	0.70
Hourly flow rate (vph)	1017	28	0	0	0	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1045		1031	268
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1045		1031	268
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			661		229	730

Volume Total	291	291	291	173	20
Volume Left	0	0	0	0	0
Volume Right	0	0	0	28	20
cSH	1700	1700	1700	1700	730
Volume to Capacity	0.17	0.17	0.17	0.10	0.03
Queue Length 95th (ft)	0	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	0.0	10.1
Lane LOS					B
Approach Delay (s)	0.0				10.1
Approach LOS					B

Average Delay	0.2		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Configurations						
Volume (veh/h)	890	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	967	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			967		967	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			967		967	242
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			708		252	759

Volume Total	276	276	276	138	0
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.16	0.16	0.16	0.08	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					A
Approach Delay (s)	0.0				0.0
Approach LOS					A

Average Delay	0.0		
Intersection Capacity Utilization	16.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Configurations												
Volume (veh/h)	13	852	18	0	0	0	0	7	4	8	16	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.85	0.75	0.92	0.92	0.92	0.92	0.50	0.50	0.50	0.57	0.92
Hourly flow rate (vph)	20	1002	24	0	0	0	0	14	8	16	28	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			1026			1068	1054	263	306	1066	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1026			1068	1054	263	306	1066	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	94	99	97	87	100
cM capacity (veh/h)	1622			672			157	222	736	582	218	1084

Volume Total	187	334	334	191	22	44
Volume Left	20	0	0	0	0	16
Volume Right	0	0	0	24	8	0
cSH	1622	1700	1700	1700	297	282
Volume to Capacity	0.01	0.20	0.20	0.11	0.07	0.16
Queue Length 95th (ft)	1	0	0	0	6	14
Control Delay (s)	0.9	0.0	0.0	0.0	18.1	20.1
Lane LOS	A				C	C
Approach Delay (s)	0.2				18.1	20.1
Approach LOS					C	C

Average Delay	1.3				
Intersection Capacity Utilization	27.4%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Configurations						
Volume (veh/h)	0	0	13	0	0	19
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	14	0	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	35	14			14	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	35	14			14	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	978	1066			1604	

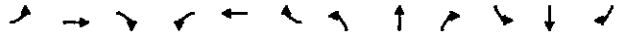
Volume Total	0	14	21		
Volume Left	0	0	0		
Volume Right	0	0	0		
cSH	1700	1700	1604		
Volume to Capacity	0.00	0.01	0.00		
Queue Length 95th (ft)	0	0	0		
Control Delay (s)	0.0	0.0	0.0		
Lane LOS	A				
Approach Delay (s)	0.0	0.0	0.0		
Approach LOS	A				

Average Delay	0.0				
Intersection Capacity Utilization	6.7%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Configurations												
Volume (veh/h)	0	0	0	11	35	0						
Sign Control	Stop			Free	Free							
Grade	0%			0%	0%							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Hourly flow rate (vph)	0	0	0	12	38	0						
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type				None	None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	50	38	38									
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	50	38	38									
tC, single (s)	6.4	6.2	4.1									
tC, 2 stage (s)												
tF (s)	3.5	3.3	2.2									
p0 queue free %	100	100	100									
cM capacity (veh/h)	959	1034	1572									

Volume Total	0	12	38									
Volume Left	0	0	0									
Volume Right	0	0	0									
cSH	1700	1700	1700									
Volume to Capacity	0.00	0.01	0.02									
Queue Length 95th (ft)	0	0	0									
Control Delay (s)	0.0	0.0	0.0									
Lane LOS	A											
Approach Delay (s)	0.0	0.0	0.0									
Approach LOS	A											

Average Delay			0.0									
Intersection Capacity Utilization			6.7%	ICU Level of Service							A	
Analysis Period (min)			15									



Lane Configurations												
Volume (veh/h)	5	724	3	0	477	7	12	1	3	6	1	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.63	0.87	0.50	0.92	0.77	0.58	0.75	0.50	0.75	0.50	0.50	0.65
Hourly flow rate (vph)	8	832	6	0	619	12	16	2	4	12	2	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	632			838			1182	1483	419	1062	1480	316
vC1, stage 1 conf vol							851	851		626	626	
vC2, stage 2 conf vol							331	632		437	854	
vCu, unblocked vol	632			838			1182	1483	419	1062	1480	316
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	99	99	97	99	97
cM capacity (veh/h)	947			792			295	306	583	371	307	680

Volume Total	8	555	283	413	219	22	34					
Volume Left	8	0	0	0	0	16	12					
Volume Right	0	0	6	0	12	4	20					
cSH	947	1700	1700	1700	1700	325	498					
Volume to Capacity	0.01	0.33	0.17	0.24	0.13	0.07	0.07					
Queue Length 95th (ft)	1	0	0	0	0	5	5					
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	16.9	12.8					
Lane LOS	A					C	B					
Approach Delay (s)	0.1			0.0		16.9	12.8					
Approach LOS						C	B					

Average Delay			0.6									
Intersection Capacity Utilization			30.1%	ICU Level of Service							A	
Analysis Period (min)			15									

Lane Configurations		↑↑			↑↑			↕			↕	
Volume (veh/h)	7	702	9	5	473	5	8	2	2	5	23	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.58	0.58	0.50	0.89	0.75	0.67	0.50	0.50	0.63	0.58	0.58
Hourly flow rate (vph)	14	1210	16	10	531	7	12	4	4	8	40	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	538			1226			1588	1804	613	1194	1809	269
vC1, stage 1 conf vol							1246	1246		555	555	
vC2, stage 2 conf vol							342	558		639	1254	
vCu, unblocked vol	538			1226			1588	1804	613	1194	1809	269
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			93	98	99	98	81	95
cM capacity (veh/h)	1026			564			171	218	435	327	210	729

Volume Total	619	621	10	354	184	20	84
Volume Left	14	0	10	0	0	12	8
Volume Right	0	16	0	0	7	4	36
cSH	1026	1700	564	1700	1700	205	319
Volume to Capacity	0.01	0.37	0.02	0.21	0.11	0.10	0.26
Queue Length 95th (ft)	1	0	1	0	0	8	26
Control Delay (s)	0.4	0.0	11.5	0.0	0.0	24.4	20.3
Lane LOS	A		B			C	C
Approach Delay (s)	0.2		0.2			24.4	20.3
Approach LOS						C	C

Average Delay		1.3			
Intersection Capacity Utilization		34.6%	ICU Level of Service		A
Analysis Period (min)		15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	534	39	0	0	0	48						
Sign Control	Free			Free	Stop							
Grade	0%			0%	0%							
Peak Hour Factor	0.79	0.95	0.92	0.92	0.92	0.66						
Hourly flow rate (vph)	676	41	0	0	0	73						
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume			717		696	190						
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol			717		696	190						
tC, single (s)			4.1		6.8	6.9						
tC, 2 stage (s)												
tF (s)			2.2		3.5	3.3						
p0 queue free %			100		100	91						
cM capacity (veh/h)			880		375	820						

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	193	193	193	138	73		
Volume Left	0	0	0	0	0		
Volume Right	0	0	0	41	73		
cSH	1700	1700	1700	1700	820		
Volume to Capacity	0.11	0.11	0.11	0.08	0.09		
Queue Length 95th (ft)	0	0	0	0	7		
Control Delay (s)	0.0	0.0	0.0	0.0	9.8		
Lane LOS					A		
Approach Delay (s)	0.0				9.8		
Approach LOS					A		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	523	59	0	0	0	3						
Sign Control	Free			Free	Stop							
Grade	0%			0%	0%							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Hourly flow rate (vph)	568	64	0	0	0	3						
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume			633		601	174						
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol			633		601	174						
tC, single (s)			4.1		6.8	6.9						
tC, 2 stage (s)												
tF (s)			2.2		3.5	3.3						
p0 queue free %			100		100	100						
cM capacity (veh/h)			946		432	839						

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	162	162	162	145	3		
Volume Left	0	0	0	0	0		
Volume Right	0	0	0	64	3		
cSH	1700	1700	1700	1700	839		
Volume to Capacity	0.10	0.10	0.10	0.09	0.00		
Queue Length 95th (ft)	0	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0	9.3		
Lane LOS					A		
Approach Delay (s)	0.0				9.3		
Approach LOS					A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Configurations												
Volume (veh/h)	127	336	33	0	0	0	0	76	9	16	41	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.81	0.80	0.92	0.92	0.92	0.92	0.55	0.50	0.50	0.50	0.92
Hourly flow rate (vph)	169	415	41	0	0	0	0	138	18	32	82	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			456			815	774	124	529	795	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			456			815	774	124	529	795	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			100			100	53	98	87	71	100
cM capacity (veh/h)	1622			1101			193	294	903	248	286	1084

Volume Total	238	138	138	110	156	114
Volume Left	169	0	0	0	0	32
Volume Right	0	0	0	41	18	0
cSH	1622	1700	1700	1700	318	274
Volume to Capacity	0.10	0.08	0.08	0.06	0.49	0.42
Queue Length 95th (ft)	9	0	0	0	64	49
Control Delay (s)	5.5	0.0	0.0	0.0	26.7	27.2
Lane LOS	A				D	D
Approach Delay (s)	2.1				26.7	27.2
Approach LOS					D	D

Average Delay	9.6			
Intersection Capacity Utilization	23.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Configurations						
Volume (veh/h)	1	0	38	20	0	39
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	41	22	0	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	95	52			63	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	95	52			63	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	905	1015			1540	

Volume Total	1	63	42	
Volume Left	1	0	0	
Volume Right	0	22	0	
cSH	905	1700	1540	
Volume to Capacity	0.00	0.04	0.00	
Queue Length 95th (ft)	0	0	0	
Control Delay (s)	9.0	0.0	0.0	
Lane LOS	A			
Approach Delay (s)	9.0	0.0	0.0	
Approach LOS	A			

Average Delay	0.1			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Configurations												
Volume (veh/h)	1	1	26	21	46	26						
Sign Control	Stop			Free	Free							
Grade	0%			0%	0%							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Hourly flow rate (vph)	1	1	28	23	50	28						
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type				None	None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	143	64	78									
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	143	64	78									
tC, single (s)	6.4	6.2	4.1									
tC, 2 stage (s)												
tF (s)	3.5	3.3	2.2									
p0 queue free %	100	100	98									
cM capacity (veh/h)	833	1000	1520									

Volume Total	2	51	78									
Volume Left	1	28	0									
Volume Right	1	0	28									
cSH	909	1520	1700									
Volume to Capacity	0.00	0.02	0.05									
Queue Length 95th (ft)	0	1	0									
Control Delay (s)	9.0	4.2	0.0									
Lane LOS	A	A										
Approach Delay (s)	9.0	4.2	0.0									
Approach LOS	A											

Average Delay			1.8									
Intersection Capacity Utilization			19.2%	ICU Level of Service			A					
Analysis Period (min)			15									

Lane Configurations												
Volume (veh/h)	35	149	3	2	153	30	5	3	8	12	1	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.69	0.50	0.50	0.82	0.52	0.63	0.75	0.50	0.75	0.50	0.61
Hourly flow rate (vph)	70	216	6	4	187	58	8	4	16	16	2	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	244			222			494	611	111	489	585	122
vC1, stage 1 conf vol							359	359		223	223	
vC2, stage 2 conf vol							135	252		266	362	
vCu, unblocked vol	244			222			494	611	111	489	585	122
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			99	99	98	97	100	96
cM capacity (veh/h)	1319			1344			557	520	921	593	539	906

Volume Total	70	144	78	97	151	28	51					
Volume Left	70	0	0	4	0	8	16					
Volume Right	0	0	6	0	58	16	33					
cSH	1319	1700	1700	1344	1700	710	760					
Volume to Capacity	0.05	0.08	0.05	0.00	0.09	0.04	0.07					
Queue Length 95th (ft)	4	0	0	0	0	3	5					
Control Delay (s)	7.9	0.0	0.0	0.3	0.0	10.3	10.1					
Lane LOS	A			A		B	B					
Approach Delay (s)	1.9			0.1		10.3	10.1					
Approach LOS						B	B					

Average Delay			2.2									
Intersection Capacity Utilization			22.8%	ICU Level of Service			A					
Analysis Period (min)			15									

Lane Configurations		↑↑↑			↑↑↑			↑			↑	
Volume (veh/h)	30	117	21	3	155	55	14	26	19	9	19	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.70	0.50	0.50	0.83	0.75	0.50	0.56	0.68	0.67	0.64	0.59
Hourly flow rate (vph)	60	167	42	6	187	73	28	46	28	13	30	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	260			209			462	580	105	490	565	130
vC1, stage 1 conf vol							308	308		235	235	
vC2, stage 2 conf vol							154	272		255	329	
vCu, unblocked vol	260			209			462	580	105	490	565	130
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			95	91	97	98	95	96
cM capacity (veh/h)	1301			1359			575	537	930	561	554	896

Volume Total	144	126	6	124	136	102	77
Volume Left	60	0	6	0	0	28	13
Volume Right	0	42	0	0	73	28	34
cSH	1301	1700	1359	1700	1700	620	667
Volume to Capacity	0.05	0.07	0.00	0.07	0.08	0.17	0.12
Queue Length 95th (ft)	4	0	0	0	0	15	10
Control Delay (s)	3.5	0.0	7.7	0.0	0.0	12.0	11.1
Lane LOS	A		A			B	B
Approach Delay (s)	1.9		0.2			12.0	11.1
Approach LOS						B	B

Average Delay	3.7			
Intersection Capacity Utilization	25.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Configurations						
Volume (veh/h)	321	11	0	0	0	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.69	0.92	0.92	0.92	0.65
Hourly flow rate (vph)	412	16	0	0	0	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			427		420	111
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			427		420	111
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			1128		562	921

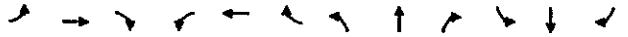
Volume Total	118	118	118	75	42
Volume Left	0	0	0	0	0
Volume Right	0	0	0	16	42
cSH	1700	1700	1700	1700	921
Volume to Capacity	0.07	0.07	0.07	0.04	0.05
Queue Length 95th (ft)	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	9.1
Lane LOS					A
Approach Delay (s)	0.0				9.1
Approach LOS					A

Average Delay	0.8		
Intersection Capacity Utilization	14.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Configurations						
Volume (veh/h)	345	3	0	0	0	56
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	375	3	0	0	0	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			378		377	95
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			378		377	95
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	94
cM capacity (veh/h)			1177		598	942

Volume Total	107	107	107	57	61
Volume Left	0	0	0	0	0
Volume Right	0	0	0	3	61
cSH	1700	1700	1700	1700	942
Volume to Capacity	0.06	0.06	0.06	0.03	0.06
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	9.1
Lane LOS					A
Approach Delay (s)	0.0				9.1
Approach LOS					A

Average Delay	1.3		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Configurations												
Volume (veh/h)	95	268	20	0	0	0	0	35	18	13	31	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.73	0.71	0.92	0.92	0.92	0.92	0.79	0.63	0.65	0.50	0.92
Hourly flow rate (vph)	127	367	28	0	0	0	0	44	29	20	62	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			395			666	635	106	396	649	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			395			666	635	106	396	649	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			100			100	88	97	96	83	100
cM capacity (veh/h)	1622			1160			282	364	926	445	357	1084

Volume Total	188	122	122	89	73	82
Volume Left	127	0	0	0	0	20
Volume Right	0	0	0	28	29	0
cSH	1622	1700	1700	1700	478	375
Volume to Capacity	0.08	0.07	0.07	0.05	0.15	0.22
Queue Length 95th (ft)	6	0	0	0	13	21
Control Delay (s)	5.2	0.0	0.0	0.0	13.9	17.3
Lane LOS	A				B	C
Approach Delay (s)	1.9				13.9	17.3
Approach LOS					B	C

Average Delay	5.0				
Intersection Capacity Utilization	21.3%	ICU Level of Service	A		
Analysis Period (min)	15				

Lane Configurations						
Volume (veh/h)	19	0	21	1	0	11
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	0	23	1	0	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	35	23			24	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	35	23			24	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	978	1053			1591	

Volume Total	21	24	12		
Volume Left	21	0	0		
Volume Right	0	1	0		
cSH	978	1700	1591		
Volume to Capacity	0.02	0.01	0.00		
Queue Length 95th (ft)	2	0	0		
Control Delay (s)	8.8	0.0	0.0		
Lane LOS	A				
Approach Delay (s)	8.8	0.0	0.0		
Approach LOS	A				

Average Delay	3.2				
Intersection Capacity Utilization	13.3%	ICU Level of Service	A		
Analysis Period (min)	15				

Lane Configurations						
Volume (veh/h)	25	25	1	24	29	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	27	1	26	32	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	60	32	33			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60	32	33			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	97	100			
cM capacity (veh/h)	946	1042	1579			

Volume Total	54	27	33
Volume Left	27	1	0
Volume Right	27	0	1
cSH	991	1579	1700
Volume to Capacity	0.05	0.00	0.02
Queue Length 95th (ft)	4	0	0
Control Delay (s)	8.8	0.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	0.3	0.0
Approach LOS	A		

Average Delay	4.3		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Configurations												
Volume (veh/h)	6	60	3	2	145	14	18	3	4	3	0	69
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.81	0.50	0.50	0.83	0.88	0.50	0.50	0.50	0.50	0.92	0.75
Hourly flow rate (vph)	12	74	6	4	175	16	36	6	8	6	0	92
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	191			80			288	300	40	263	295	95
vC1, stage 1 conf vol							101	101		191	191	
vC2, stage 2 conf vol							187	199		72	104	
vCu, unblocked vol	191			80			288	300	40	263	295	95
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	99	99	99	100	90
cM capacity (veh/h)	1380			1516			674	684	1022	750	694	943

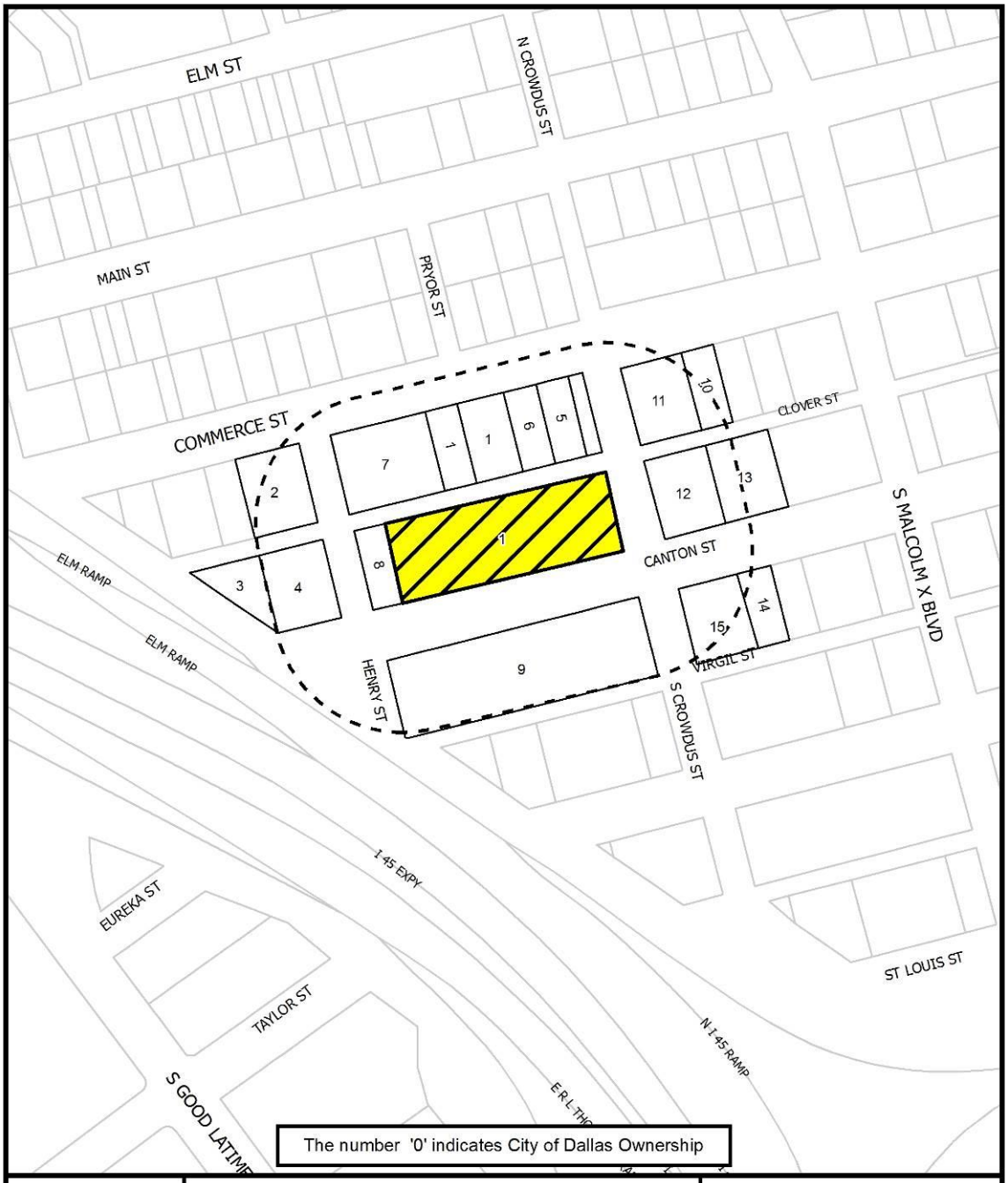
Volume Total	12	49	31	91	103	50	98
Volume Left	12	0	0	4	0	36	6
Volume Right	0	0	6	0	16	8	92
cSH	1380	1700	1700	1516	1700	714	928
Volume to Capacity	0.01	0.03	0.02	0.00	0.06	0.07	0.11
Queue Length 95th (ft)	1	0	0	0	0	6	9
Control Delay (s)	7.6	0.0	0.0	0.3	0.0	10.4	9.3
Lane LOS	A			A		B	A
Approach Delay (s)	1.0			0.2		10.4	9.3
Approach LOS						B	A

Average Delay	3.6		
Intersection Capacity Utilization	20.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Configurations		↑↑			↑↑			↕			↕	
Volume (veh/h)	4	60	8	4	120	7	10	17	8	25	29	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.61	0.67	0.50	0.78	0.50	0.50	0.80	0.50	0.50	0.60	0.50
Hourly flow rate (vph)	5	98	12	8	154	14	20	21	16	50	48	42
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	168			110			274	299	55	263	298	84
vC1, stage 1 conf vol							115	115		177	177	
vC2, stage 2 conf vol							159	184		86	121	
vCu, unblocked vol	168			110			274	299	55	263	298	84
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	97	98	93	93	96
cM capacity (veh/h)	1407			1478			694	692	1000	746	694	959

Volume Total	55	61	8	103	65	57	140
Volume Left	5	0	8	0	0	20	50
Volume Right	0	12	0	0	14	16	42
cSH	1407	1700	1478	1700	1700	758	777
Volume to Capacity	0.00	0.04	0.01	0.06	0.04	0.08	0.18
Queue Length 95th (ft)	0	0	0	0	0	6	16
Control Delay (s)	0.8	0.0	7.4	0.0	0.0	10.1	10.6
Lane LOS	A		A			B	B
Approach Delay (s)	0.4		0.3			10.1	10.6
Approach LOS						B	B

Average Delay	4.4			
Intersection Capacity Utilization	17.5%	ICU Level of Service	A	
Analysis Period (min)	15			


ELM ST
N CROWDUS ST
MAIN ST
PRYOR ST
COMMERCE ST
CLOVER ST
S MALCOLM X BLVD
CANTON ST
ELM RAMP
ELM RAMP
HENRY ST
VIRGIL ST
S CROWDUS ST
I-45 EXPY
EUREKA ST
TAYLOR ST
ST LOUIS ST
N I-45 RAMP
S GOOD LATIMER
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
The number '0' indicates City of Dallas Ownership
1:2,400
NOTIFICATION
200'
AREA OF NOTIFICATION
15
NUMBER OF PROPERTY OWNERS NOTIFIED
Case no: BDA134-006
Date: 12/23/2013

Notification List of Property Owners

BDA134-006

15 Property Owners Notified

Label #	*Address*		*Owner*
1	2718	COMMERCE ST	2713 CANTON LTD
2	2630	COMMERCE ST	WESTDALE PPTIES AMERICA I LTD
3	2622	CLOVER ST	DEEP ELLUM HOLDINGS LLC %MADISON PARTNER
4	215	HENRY ST	BARNES & ROBERTS REAL ESTATE HOLDINGS LL
5	2730	COMMERCE ST	MADISON PACIFIC DEV CO DEVELOPMENT CO #3
6	2724	COMMERCE ST	SDL PARTNERS INC % HCS PROPERTIES
7	2700	COMMERCE ST	WESTDALE PROPERTIES AMERICA I LTD
8	2701	CANTON ST	BARNES & ROBERTS REAL ESTATE HOLDINGS LL
9	2700	CANTON ST	WESTDALE ADAM HATS LTD
10	2808	COMMERCE ST	BLANTON DON
11	2800	COMMERCE ST	GILPIN J R
12	2805	CANTON ST	GEBHARDT BROADCASTING LLC
13	2809	CANTON ST	BALLAS VICTOR
14	2810	CANTON ST	WARREN PROPERTY HOLDINGS LLC
15	2801	VIRGIL ST	BLANTON DONNY G

FILE NUMBER: BDA 134-003

BUILDING OFFICIAL'S REPORT: Application of Joseph Santarelli for a variance to the side yard setback regulations at 7110 N. Janmar Drive. This property is more fully described as Lot 6, Block B/7494, and is zoned R-16(A), which requires a 10 foot side yard setback. The applicant proposes to construct and/or maintain a structure and provide a 3 foot side yard setback, which will require a 7 foot variance to the side yard setback regulations.

LOCATION: 7110 N. Janmar Drive

APPLICANT: Joseph Santarelli

REQUESTS:

The following appeals have been made on a site currently developed with a two story single family home and a detached split-level accessory garage/cabana structure:

1. a variance to the side yard setback regulations of 7' is requested to remedy/address the existing detached accessory garage/cabana structure located 3' from the site's eastern side property line or 7' into this 10' side yard setback.
2. a variance to the side yard setback regulations of 7' is requested to add/align a "workout area" room and sauna/steam room atop the existing detached split-level accessory garage/cabana structure.

STANDARD FOR A VARIANCE:

The Dallas Development Code specifies that the board has the power to grant variances from the front yard, side yard, rear yard, lot width, lot depth, coverage, floor area for structures accessory to single family uses, height, minimum sidewalks, off-street parking or off-street loading, or landscape regulations provided that the variance is:

(A) not contrary to the public interest when, owing to special conditions, a literal enforcement of this chapter would result in unnecessary hardship, and so that the spirit of the ordinance will be observed and substantial justice done;

(B) necessary to permit development of a specific parcel of land that differs from other parcels of land by being of such a restrictive area, shape, or slope, that it cannot be developed in a manner commensurate with the development upon other parcels of land with the same zoning; and

(C) not granted to relieve a self-created or personal hardship, nor for financial reasons only, nor to permit any person a privilege in developing a parcel of land not permitted by this chapter to other parcels of land with the same zoning.

STAFF RECOMMENDATION:

Denial

Rationale:

- Staff recommends denial of these requests since the applicant has not addressed how the variances are necessary to permit development of this parcel of land that differs from other parcels of land by its restrictive area, shape, or slope, that it cannot be developed in a manner commensurate with the development upon other parcels of land with the same R-16(A) zoning.
- While the subject site is moderately sloped and slightly irregular in shape, the applicant has not provided documentation to show how either or both of these features preclude him from developing it in a manner commensurate with the development of other parcels of land in the same R-16(A) zoning.

BACKGROUND INFORMATION:

Zoning:

Site:	R-16(A)(Single family district 16,000 square feet)
North:	R-16(A)(Single family district 16,000 square feet)
South:	R-16(A)(Single family district 16,000 square feet)
East:	R-16(A)(Single family district 16,000 square feet)
West:	R-16(A)(Single family district 16,000 square feet)

Land Use:

The subject site is developed with a single family home structure and a detached accessory/garage structure. The areas to the north, south, east, and west are developed with single family uses.

Zoning/BDA History:

There has not been any recent related board or zoning cases recorded either on or in the immediate vicinity of the subject site.

Timeline:

October 15, 2013: The applicant submitted an "Application/Appeal to the Board of Adjustment" and related documents which have been included as part of this case report.

December 11, 2013: The Board of Adjustment Secretary randomly assigned this case to Board of Adjustment Panel A.

December 12, 2013: The Board Administrator emailed the applicant the following information:

- an attachment that provided the public hearing date and panel that will consider the application; the December 30th deadline to submit additional evidence for staff to factor into their analysis; and the January 10th deadline to submit additional evidence to be incorporated into the Board's docket materials;
- the criteria/standard that the board will use in their decision to approve or deny the requests; and
- the Board of Adjustment Working Rules of Procedure pertaining to documentary evidence.

December 30, 2013: The applicant submitted additional documentation on this application beyond what was submitted with the original application (see Attachment A).

January 7, 2014: The Board of Adjustment staff review team meeting was held regarding this request and the others scheduled for the January public hearings. Review team members in attendance included: the Sustainable Development and Construction Department Current Planning Division Interim Assistant Director, the Sustainable Development and Construction Department Engineering Division Assistant Director and Senior Engineer, the Assistant Building Officials, the Board Administrator, the Building Inspection Senior Plans Examiner/Development Code Specialist, the City of Dallas Chief Arborist, and the Assistant City Attorney to the Board.

No review comment sheets were submitted in conjunction with this application.

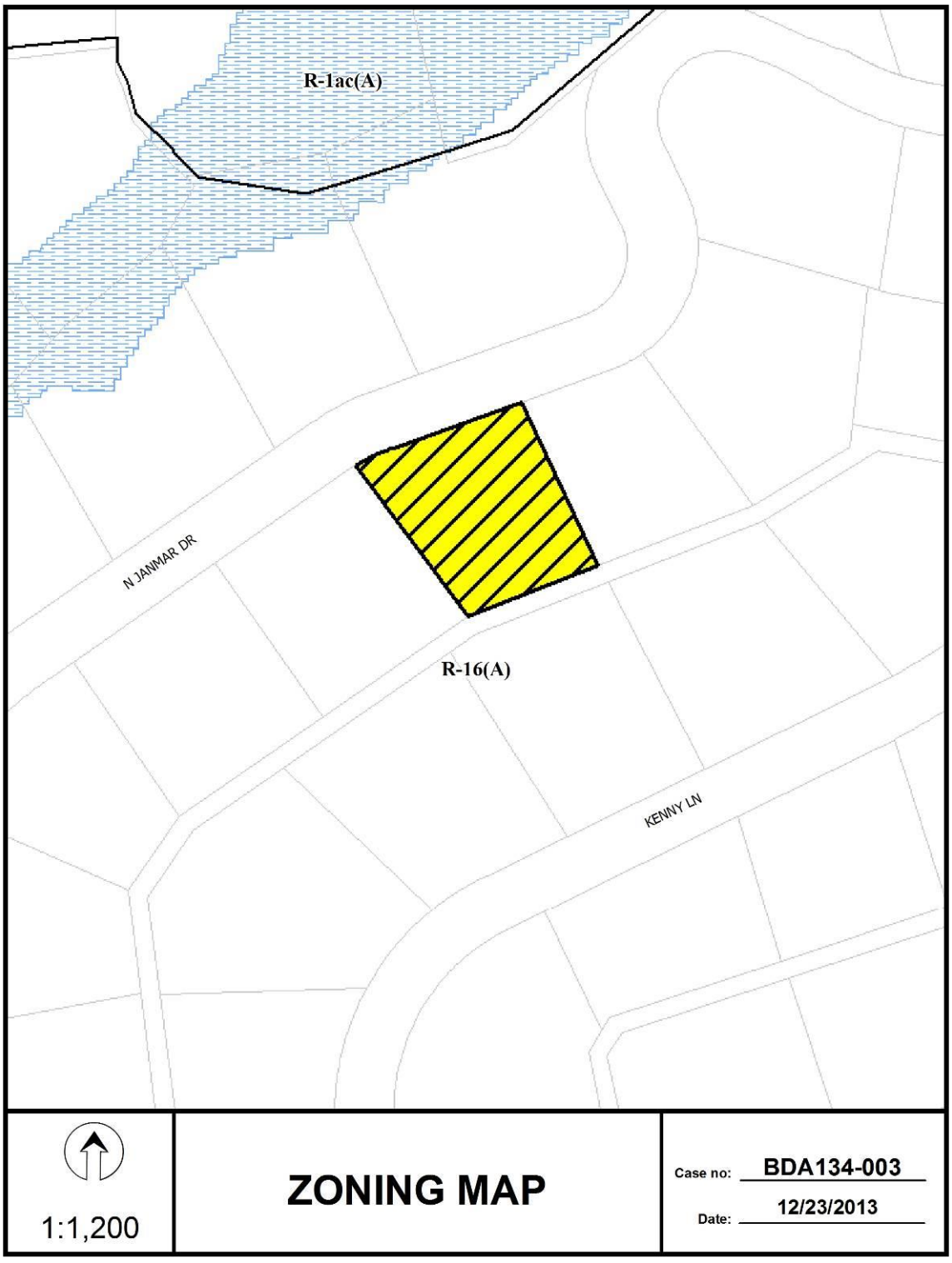
GENERAL FACTS/STAFF ANALYSIS:

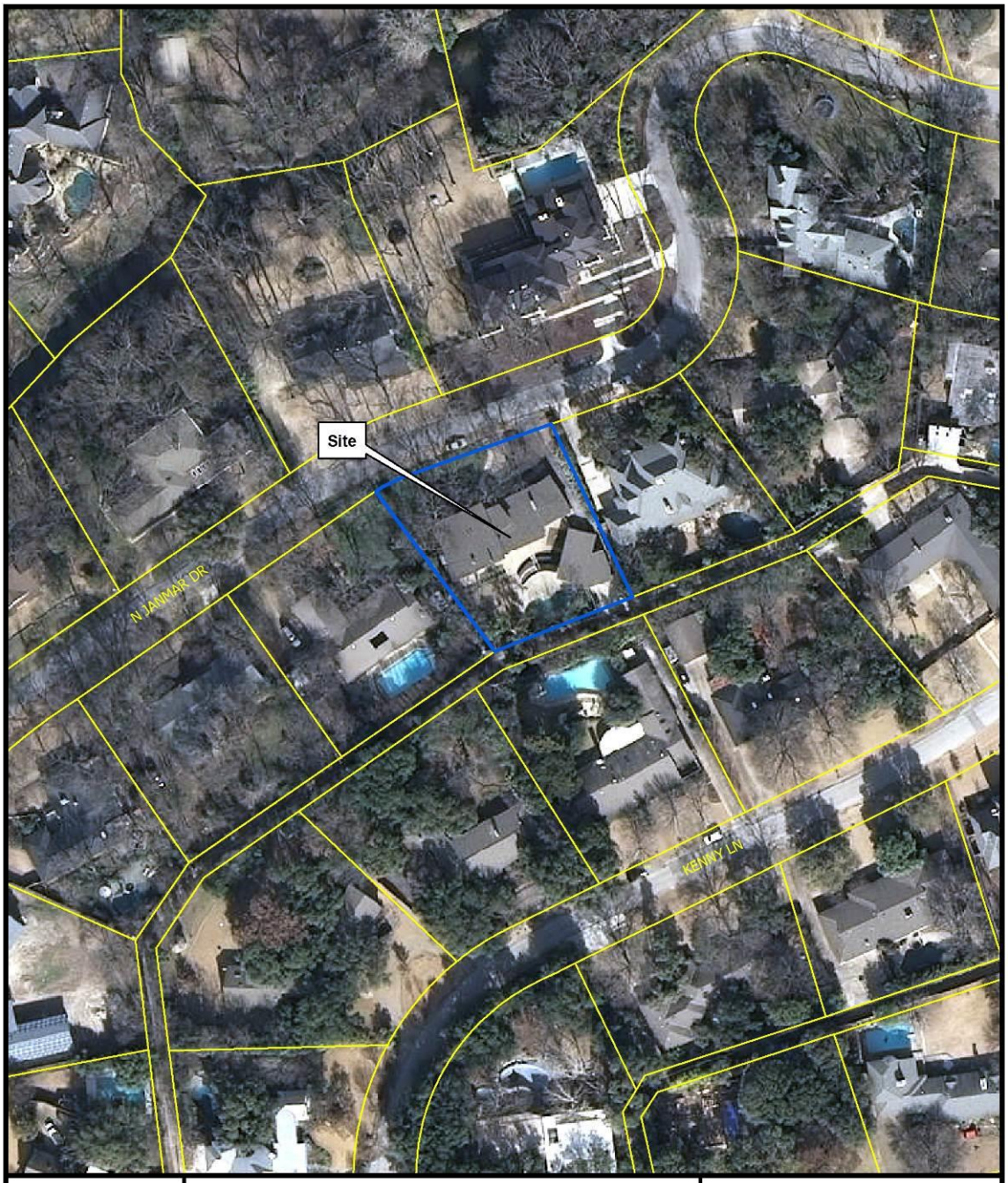
- These requests focus on remedying/addressing the existing detached split-level accessory garage/cabana structure located 3' from the site's eastern side property line or 7' into this 10' side yard setback, and adding/aligning a "workout area" room and sauna/steam room atop this existing accessory structure.
- Structures on lots zoned R-16(A) are required to provide a minimum side yard setback of 10'.
- A revised site plan has been submitted denoting a portion of the existing structure and new addition located as close as 3' away from the site's eastern side property line or as much as 7' into this 10' side yard setback.
- According to DCAD records, the "main improvement" at 7110 N. Janmar Drive is a structure built in 1956 with 5,098 square feet of living area and total area. According to DCAD records, the "additional improvements" at this address are a 216 square foot cabana, a 600 square foot detached garage, and a pool.
- It appears from calculations taken from the submitted revised site plan by the Board Administrator that approximately 175 square feet (or approximately 20 percent) of

the approximately 900 square foot accessory structure building footprint is located in the site's eastern 10' side yard setback.

- The subject site is slightly sloped, slightly irregular in shape, and approximately 16,800 square feet in area. The site is zoned R-16(A) where lots are typically 16,000 square feet in area.
- The applicant states that granting the requested variances will not change the existing building footprint.
- The applicant has the burden of proof in establishing the following:
  - That granting the variances to the side yard setback regulations will not be contrary to the public interest when, owing to special conditions, a literal enforcement of this chapter would result in unnecessary hardship, and so that the spirit of the ordinance will be observed and substantial justice done.
  - The variance are necessary to permit development of the subject site that differs from other parcels of land by being of such a restrictive area, shape, or slope, that the subject site cannot be developed in a manner commensurate with the development upon other parcels of land in districts with the same R-16(A) zoning classification.
  - The variances would not be granted to relieve a self-created or personal hardship, nor for financial reasons only, nor to permit any person a privilege in developing this parcel of land (the subject site) not permitted by this chapter to other parcels of land in districts with the same R-16(A) zoning classification.
- If the Board were to grant the variance requests and impose the submitted site plan as a condition, the structure in the side yard setback would be limited to what is shown on this document – which is a structure located as close as 3' from the eastern side property line or as much as 7' into this 10' side yard

setback.


R-1ac(A)
N JANMAR DR
R-16(A)
KENNY LN
1:1,200
ZONING MAP
Case no: BDA134-003
Date: 12/23/2013



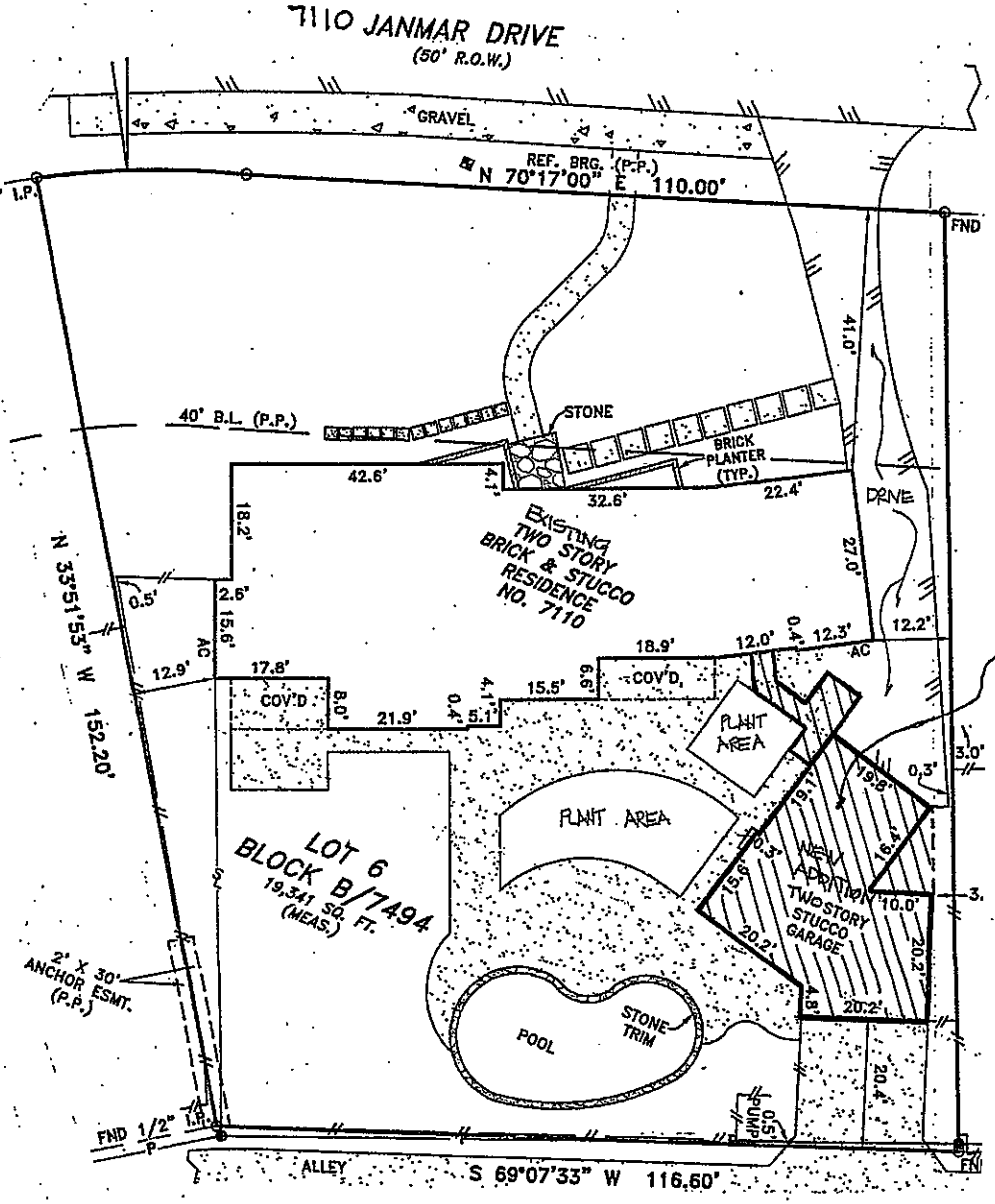
1:1,200

AERIAL MAP

Case no: BDA134-003

Date: 12/23/2013

BDA 134-003
2-7



NOTE!
EXISTING SINGLE STORY BUILDING W/ NEW SECOND LEVEL ADDITION

GARAGE ADDITION

JANMAR CIRCLE ADDITION
LOT# 6 BLOCK# B/7494
DALLAS, TEXAS

PLOT PLAN:

SCALE: 1"=20'-0"

FOOTAGE:

EXISTING 1-CAR GARAGE – 250 SQ.FT.
EXISTING 2-CAR GARAGE – 429 SQ.FT.
EXISTING CABANNA – 250 SQ.FT.
NEW UPPER LEVEL ADDITION – 1061 SQ.FT.
& BREEZE-WAY

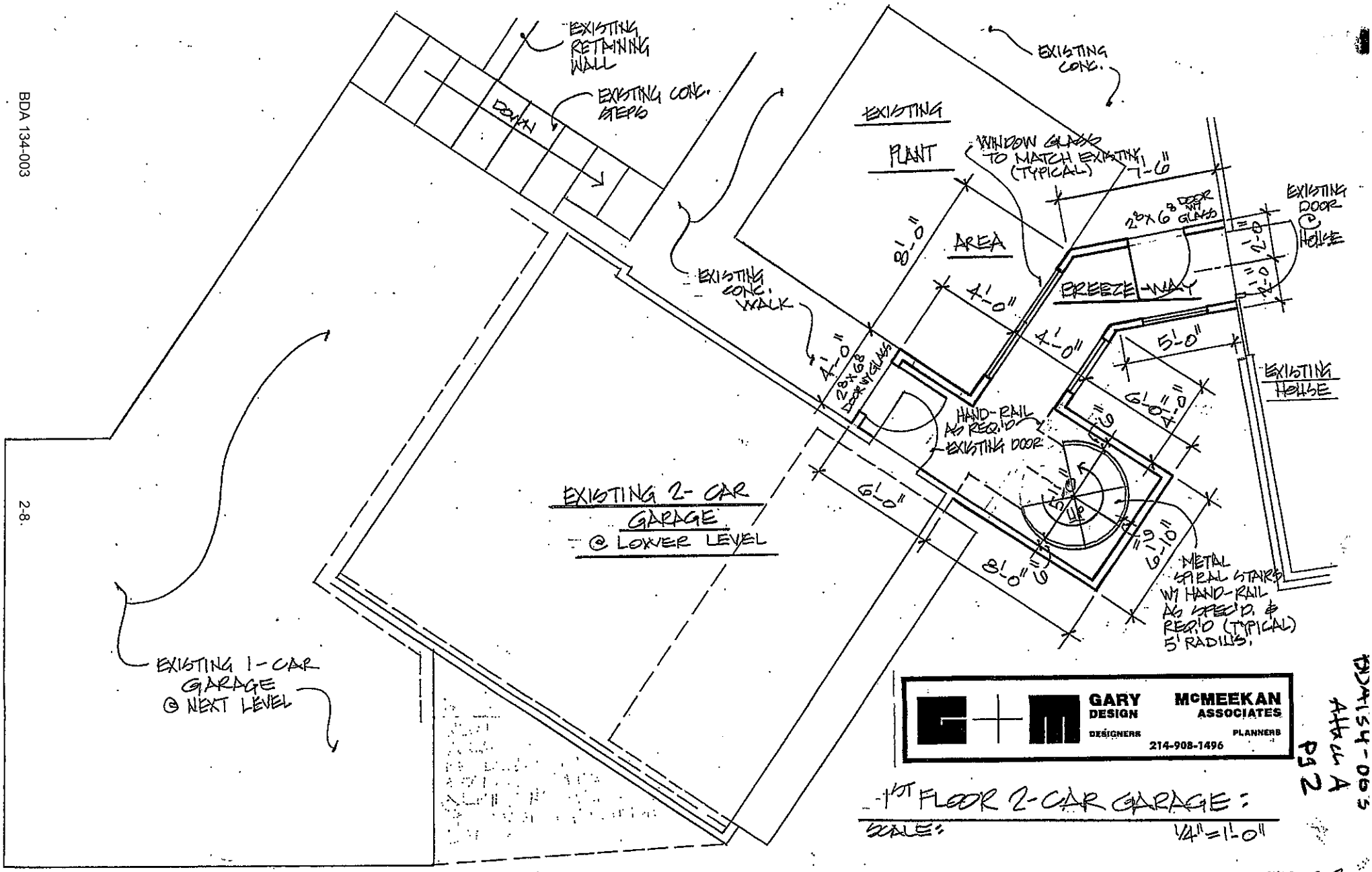
TOTAL FOOTAGE: — 1990 SQ.FT.

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

BDA 134-003
Attach A
P31

SHEET 1

12-30-12



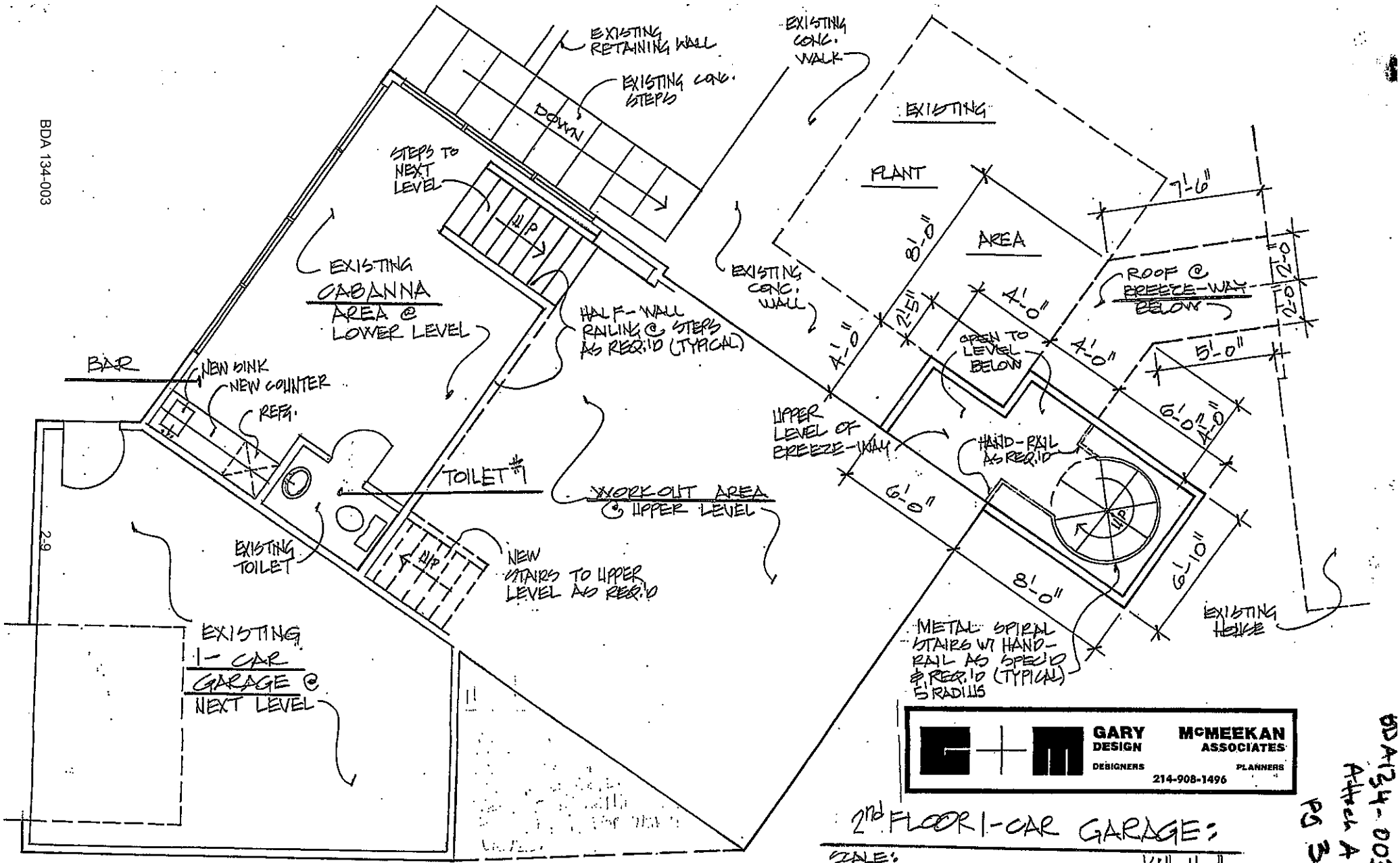
BDA 134-003

2-8.

BDA134-003 ATT'D A pg 2

SHEET 2

12-30-13



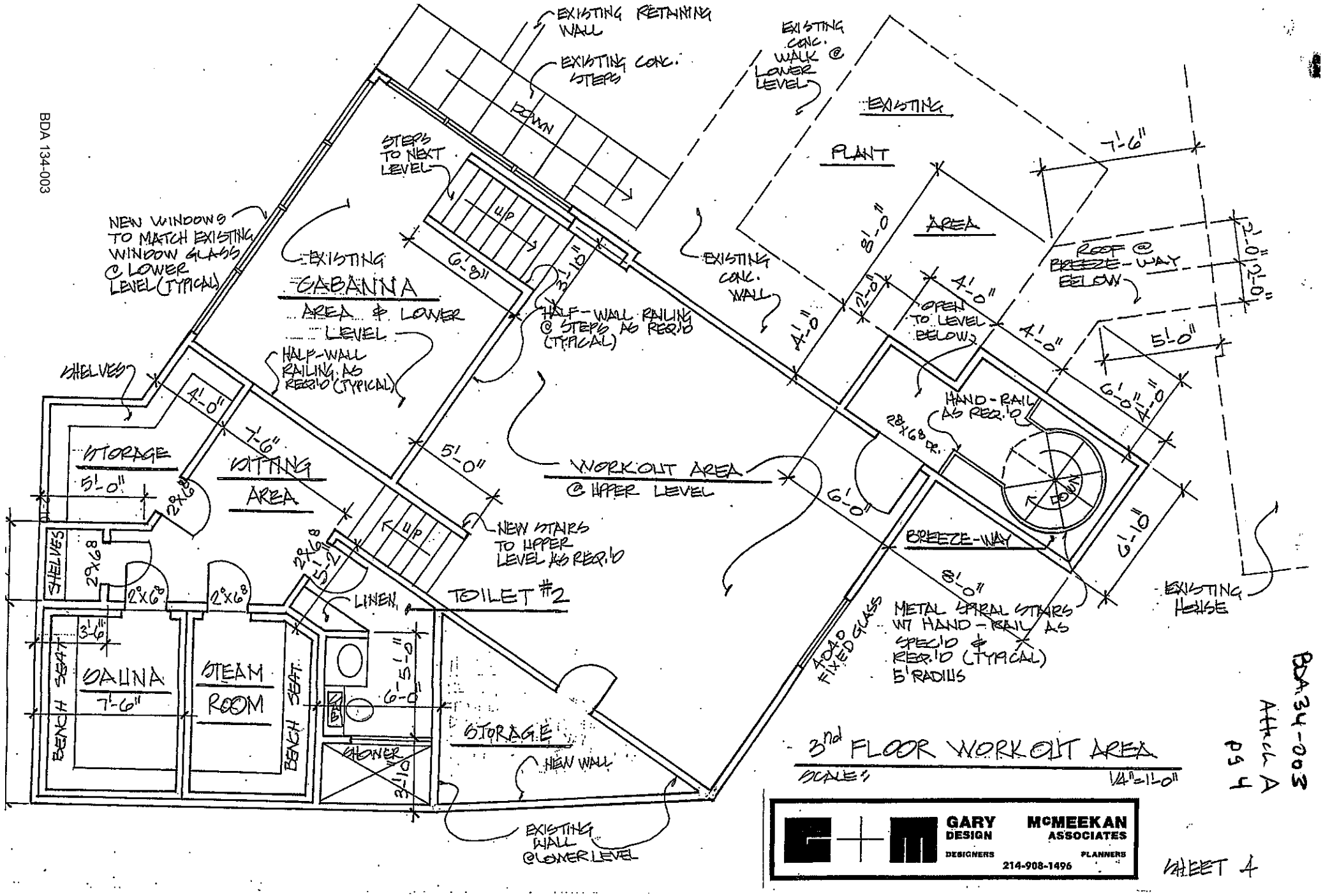
BDA 134-003

2-9

BDA 134-003
Attach A
PG 3

SHEET 3

12-30-13



3rd FLOOR WORK OUT AREA

SCALE: 1/4"=1'-0"

GARY DESIGN DESIGNERS
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214-908-1496

SHEET 4

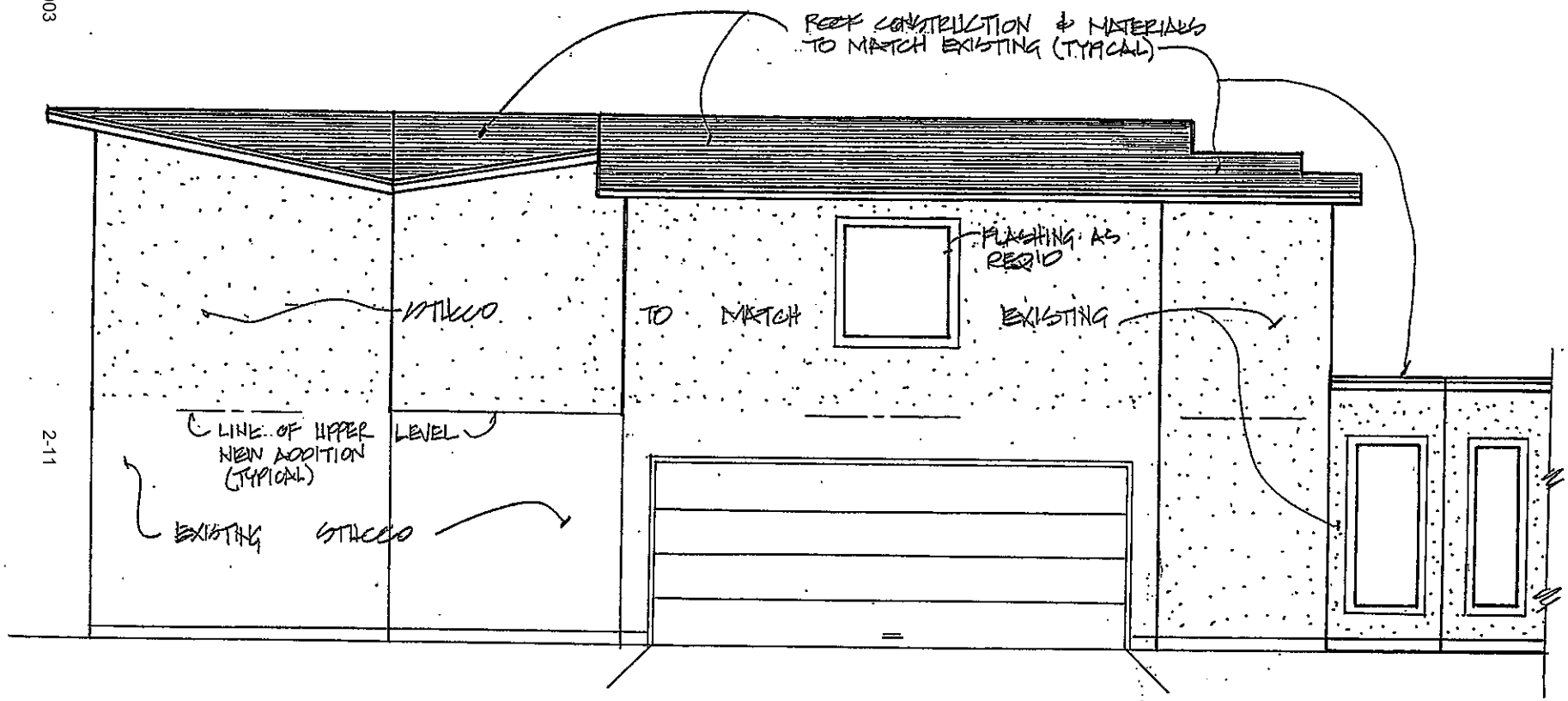
BDA 134-003

BDA 134-003 Attch A pg 4

12-30-13

BDA 134-003

2-11



FRONT ELEVATION:

SCALE: 1/4"=1'-0"

GARY DESIGN DESIGNERS
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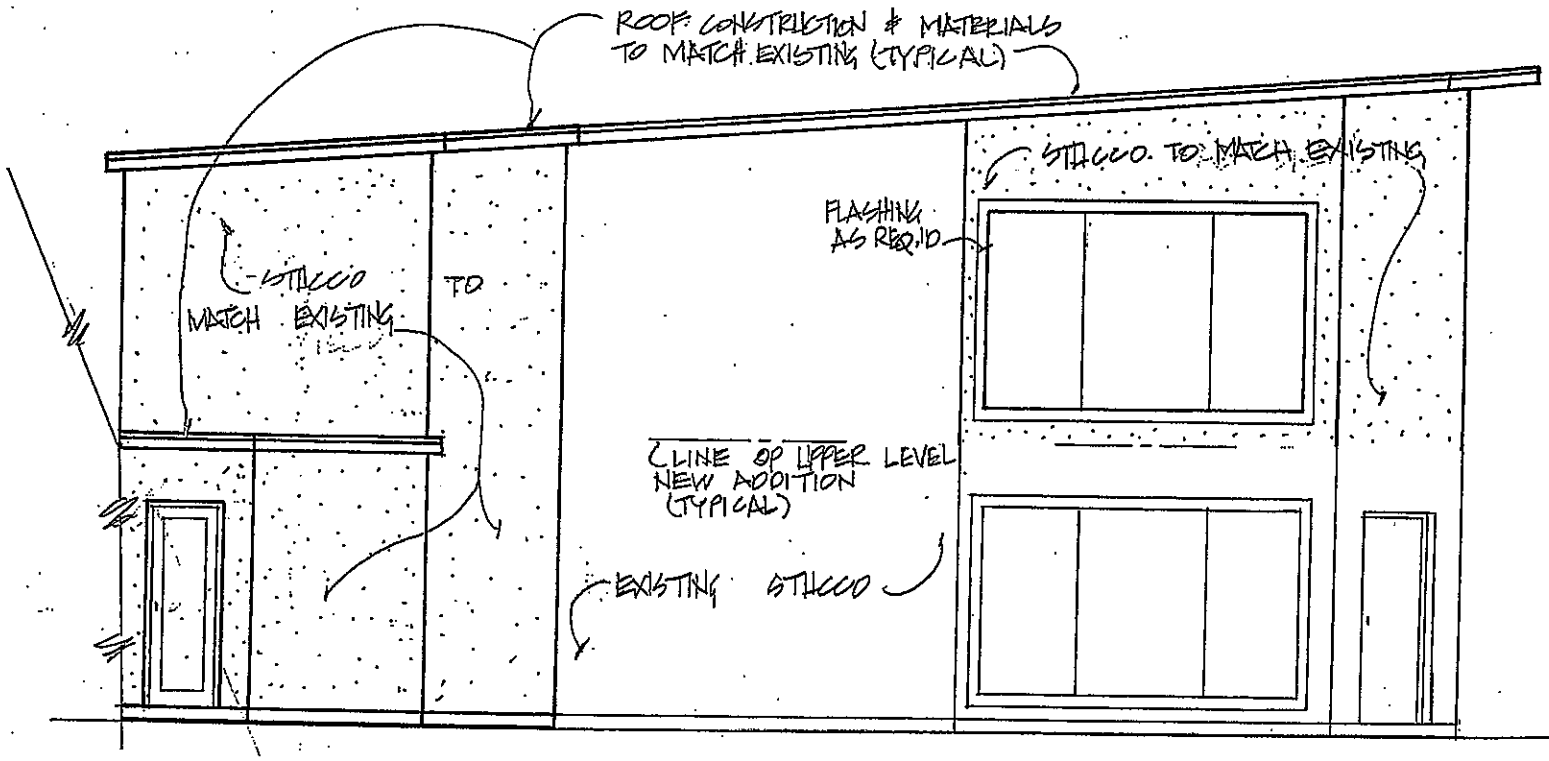
214-908-1496

SHEET 5

BDA 134-003
Attch A
Pg 5

12-30-13



RIGHT ELEVATION:

SCALE: 1/4"=1'0"

BDA 134-003
Attach A
P3 6

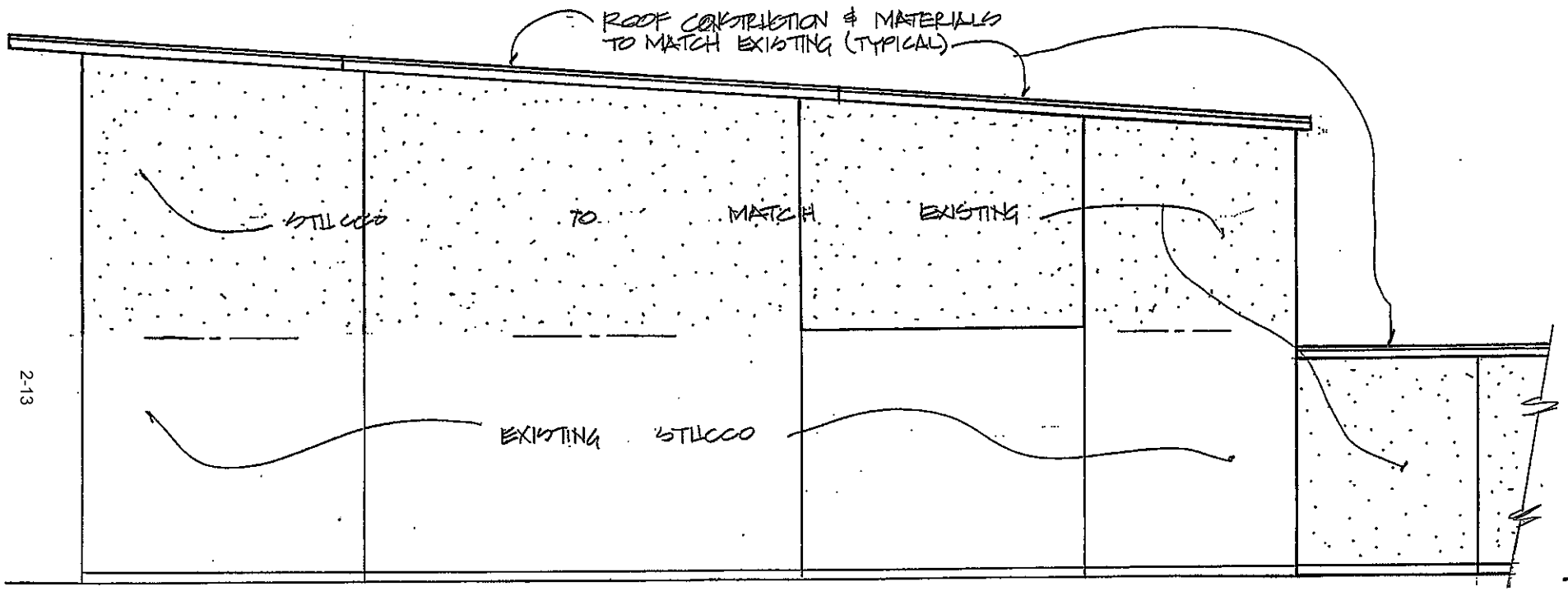
GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

SHEET 6

12-30-13

BDA 134-003

2-13



LEFT ELEVATION:

SCALE: 1/4"=1'-0"

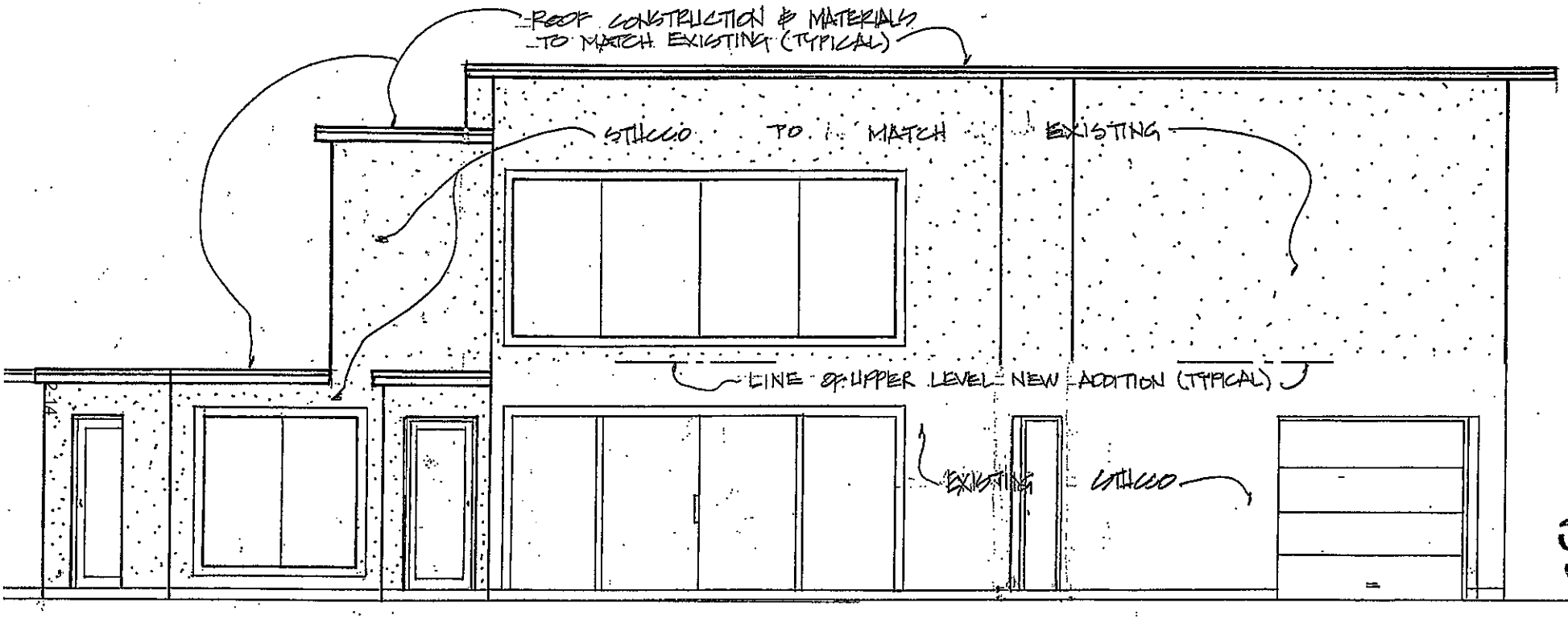
BDA134-003
Attach A
pg 7

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

SHEET 7

12-30-13

BDA 134-003



REAR ELEVATION:

SCALE: 1/4"=1'-0"

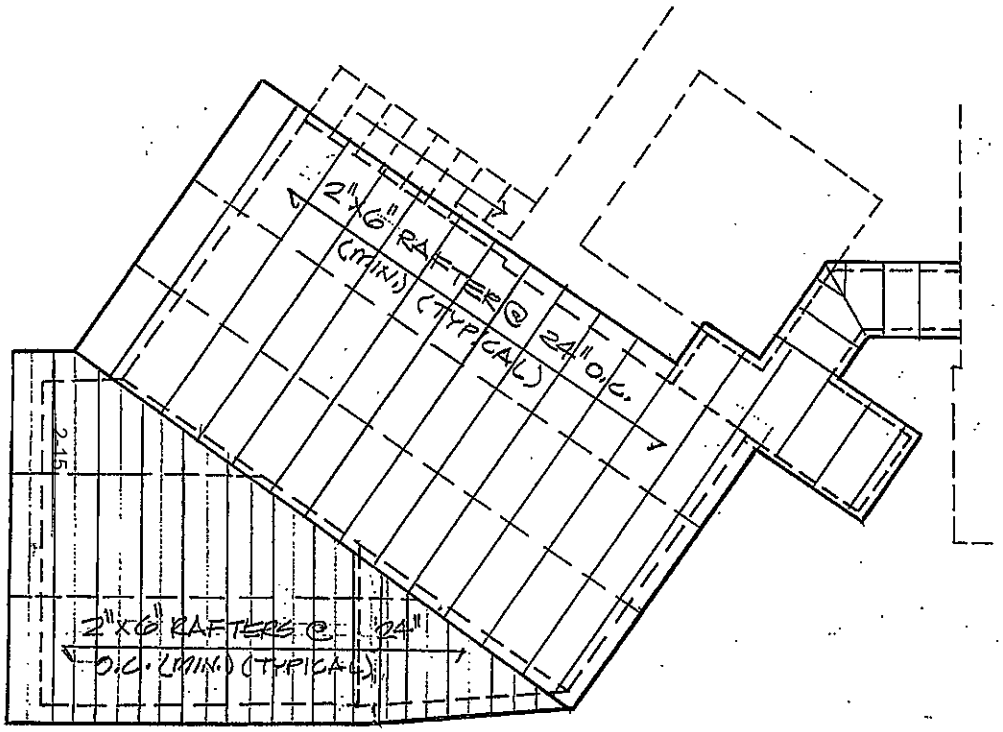
BDA 134-003
Attach A
Pg 6

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

SHEET 8

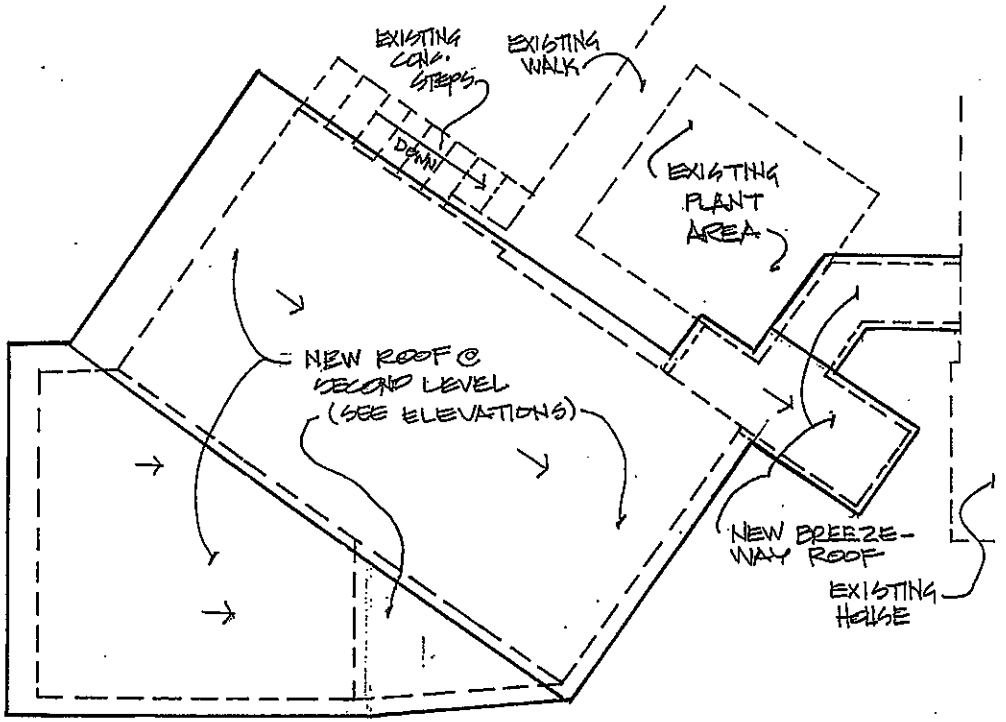
12-30-13

BDA 134-003



ROOF FRAMING PLAN:

SCALE: 1/8"=1'-0"



ROOF PLAN:

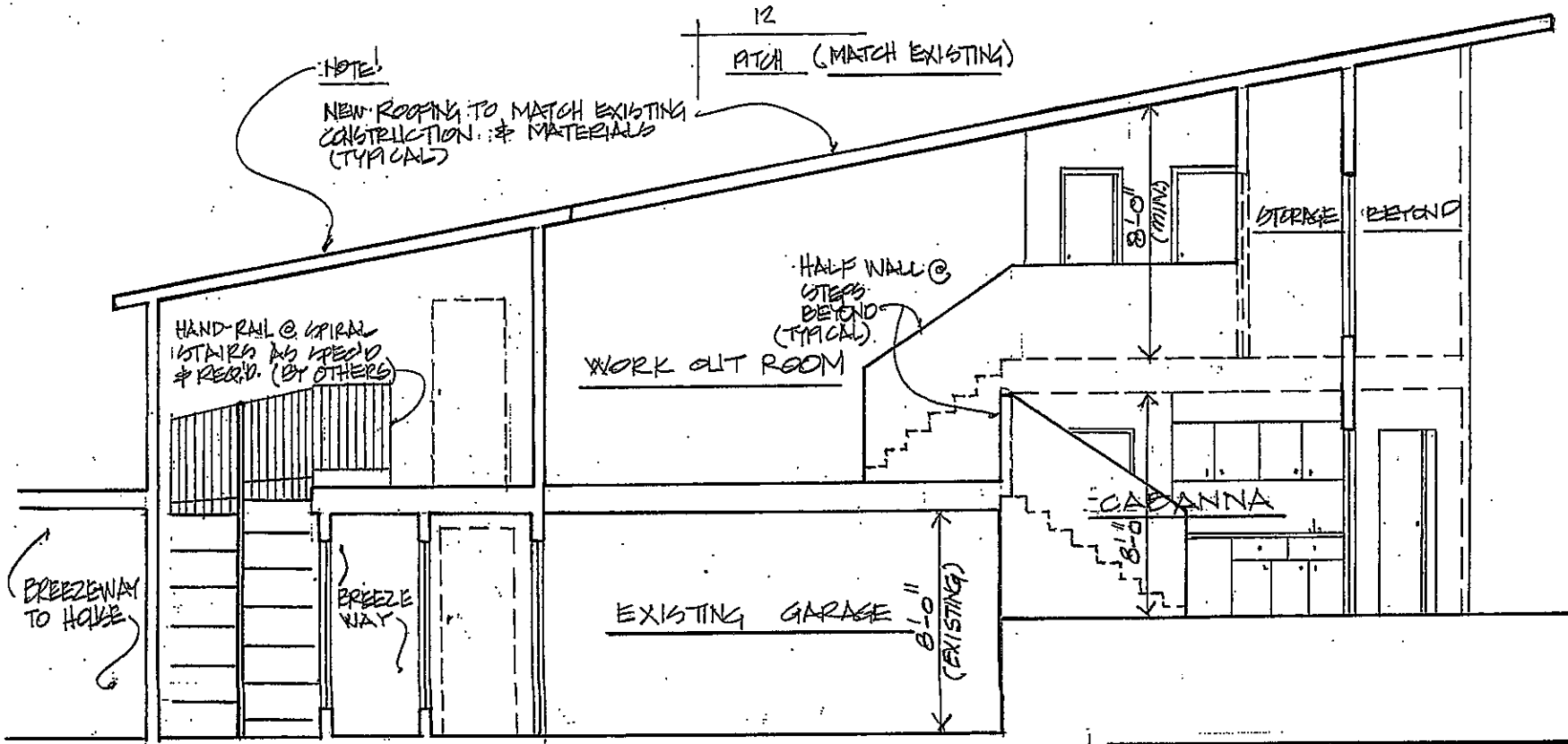
SCALE: 1/8"=1'-0"

BDA134-003
Attach A
Pg 9

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

SHEET 9

12-30-13



SECTION:

SCALE: 1/4"=1'-0"

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

BDA 134-003
Att-A
pg 10

SHEET 10

12-30-13

City of Dallas

APPLICATION/APPEAL TO THE BOARD OF ADJUSTMENT

Case No.: BDA 134-003

Date: 10/15/13

Data Relative to Subject Property:

Location address: 7110 N. Jaumar Dr Zoning District: R-16(A)

Lot No.: 6 Block No.: B7494 Acreage: _____ Census Tract: 131.00

Street Frontage (in Feet): 1) 110 2) _____ 3) _____ 4) _____ 5) _____ NEAS

To the Honorable Board of Adjustment :

Owner of Property (per Warranty Deed): Caruso Michela + Ballard David

Applicant: Joseph Santarelli Telephone: 214 636 6274

Mailing Address: 9081 6th ST Frisco TX Zip Code: 75033

E-mail Address: Joseph.Santarelli@Yahoo.com

Represented by: N/A Telephone: _____

Mailing Address: _____ Zip Code: _____

E-mail Address: _____

Affirm that an appeal has been made for a Variance X or Special Exception __, of Side Yard Set Back OF 7 Feet.

Application is made to the Board of Adjustment, in accordance with the provisions of the Dallas Development Code, to grant the described appeal for the following reason:

We Are Seeking A VARIENCE for existing structure that does not Conform to setbacks (10') We would Like to build 2nd Floor addition that will Conform.

Note to Applicant: If the appeal requested in this application is granted by the Board of Adjustment, a permit must be applied for within 180 days of the date of the final action of the Board, unless the Board specifically grants a longer period.

Affidavit

Before me the undersigned on this day personally appeared Joseph Santarelli
(Affiant/Applicant's name printed)

who on (his/her) oath certifies that the above statements are true and correct to his/her best knowledge and that he/she is the owner/or principal/or authorized representative of the subject property.

Respectfully submitted: _____
(Affiant/Applicant's signature)

Subscribed and sworn to before me this 23rd day of October 2013

_____
Notary Public in and for Dallas County, Texas

(Rev. 08-01-11)

SHAWN MICHAEL ROBBINS
My Commission Expires
March 7, 2016 2-17

MEMORANDUM OF
ACTION TAKEN BY THE
BOARD OF ADJUSTMENT

Date of Hearing _____

Appeal was--Granted OR Denied

Remarks _____

Chairman _____

Building Official's Report

I hereby certify that Joseph Santarelli

did submit a request for a variance to the side yard setback regulations

at 7110 N. Janmar Drive

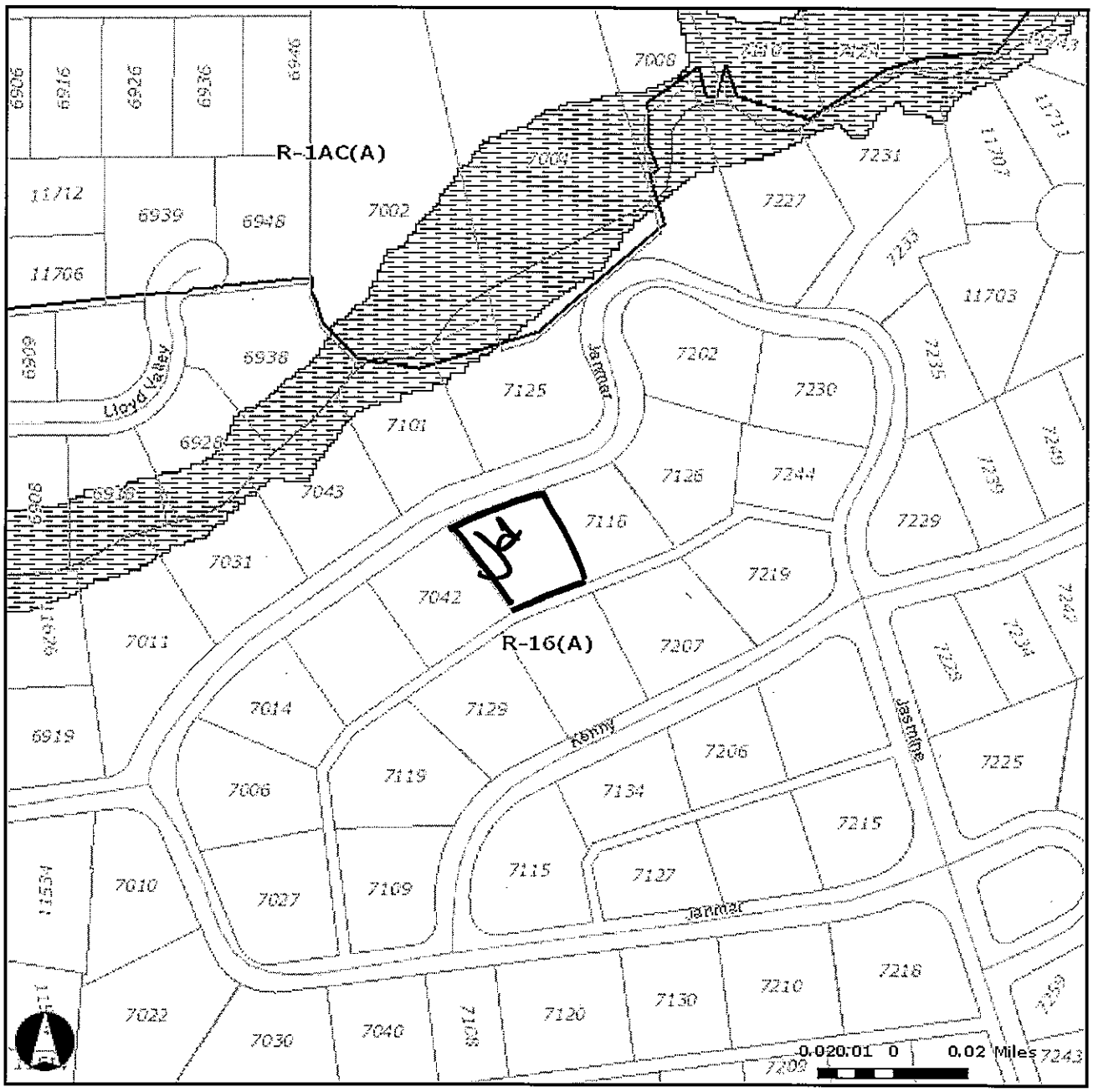
BDA134-003. Application of Joseph Santarelli for a variance to the side yard setback regulations at 7110 N. Janmar Drive. This property is more fully described as Lot 6, Block B/7494, and is zoned R-16(A), which requires a 10 foot side yard setback. The applicant proposes to construct and maintain a single family residential structure and provide a 3 foot side yard setback, which will require a 7 foot variance to the side yard setback regulation.

Sincerely,

Larry V. Holmes

Larry Holmes, Building Official

City of Dallas Zoning



Address Candidates

City Boundaries

County

Certified Parcels

DISD Sites

Council Districts

Waterways

SUP

Dry Overlay

D

D-1

Historic Overlay

Historic Subdistricts

NSO Overlay

NSO Subdistricts

PDS Subdistricts

Base Zoning

Floodplain

100 Flood Zone

Mill's Creek

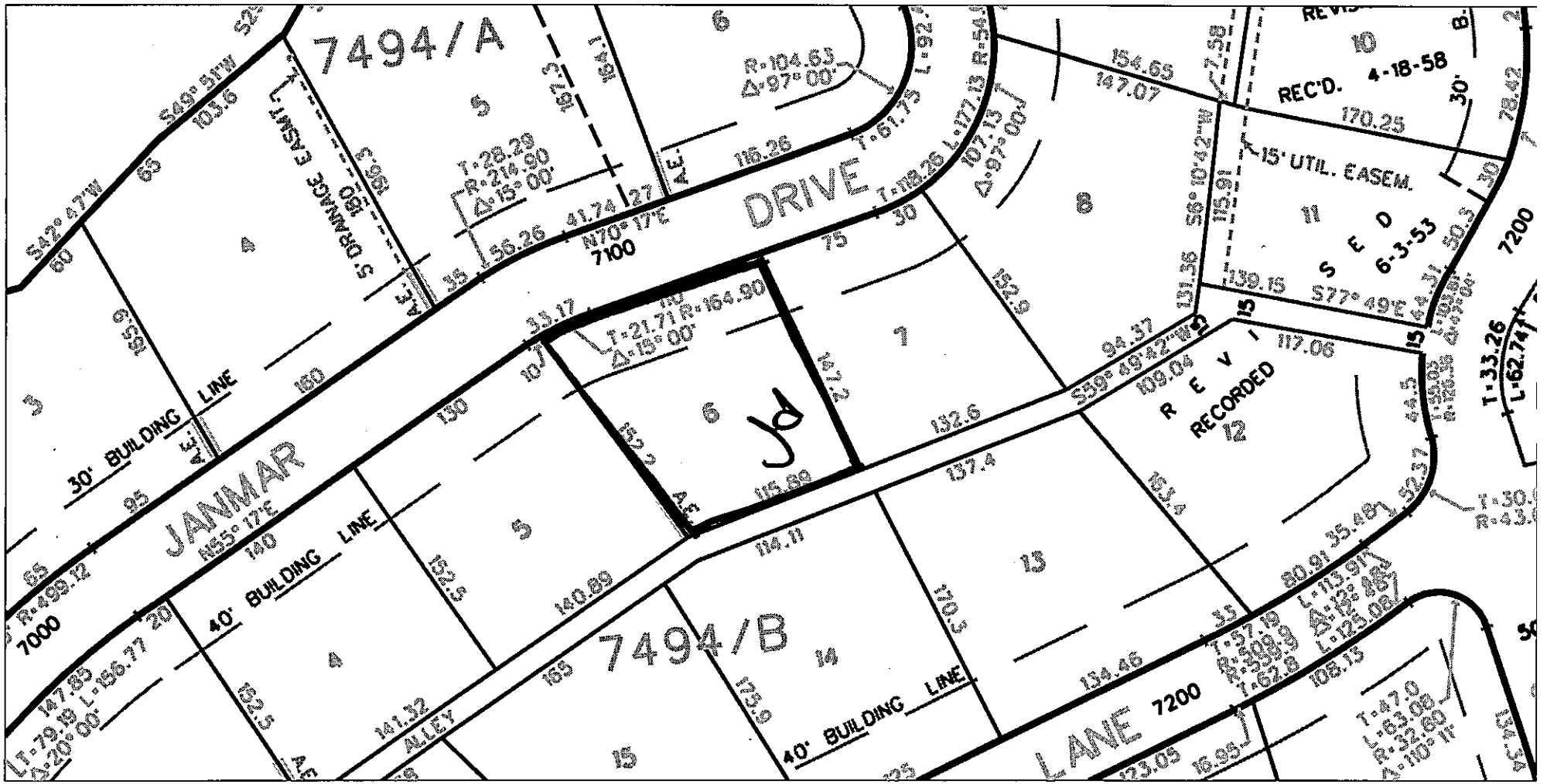
Peak's Branch

X PROTECTED BY LEVEE

Pedestrian Overlay

CP

BDA 134-003



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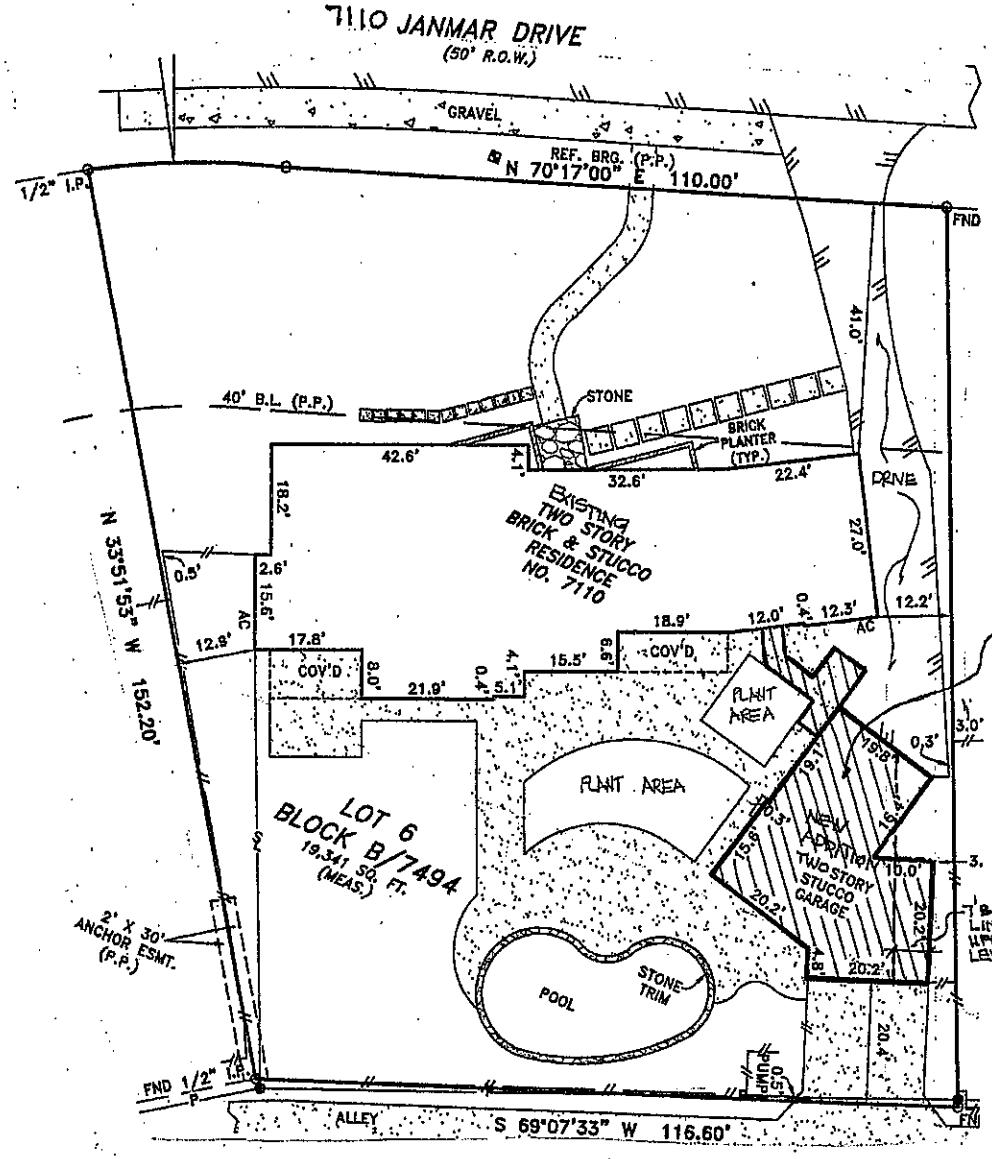
2-20

BDA 134-003

2-21



GARAGE ADDITION

JANMAR CIRCLE ADDITION
LOT# 6 BLOCK# B/7494
DALLAS, TEXAS

NOTE!
EXISTING SINGLE STORY BUILDING W/ NEW SECOND LEVEL ADDITION

PLOT PLAN:
SCALE: 1"=20'-0"

FOOTAGE:

EXISTING 1-CAR GARAGE - 250 SQ.FT.
EXISTING 2-CAR GARAGE - 429 SQ.FT.
EXISTING CABANNA - 250 SQ.FT.
NEW UPPER LEVEL ADDITION - 1061 SQ.FT.
& BREEZE-WAY

TOTAL FOOTAGE: — 1990 SQ.FT.

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

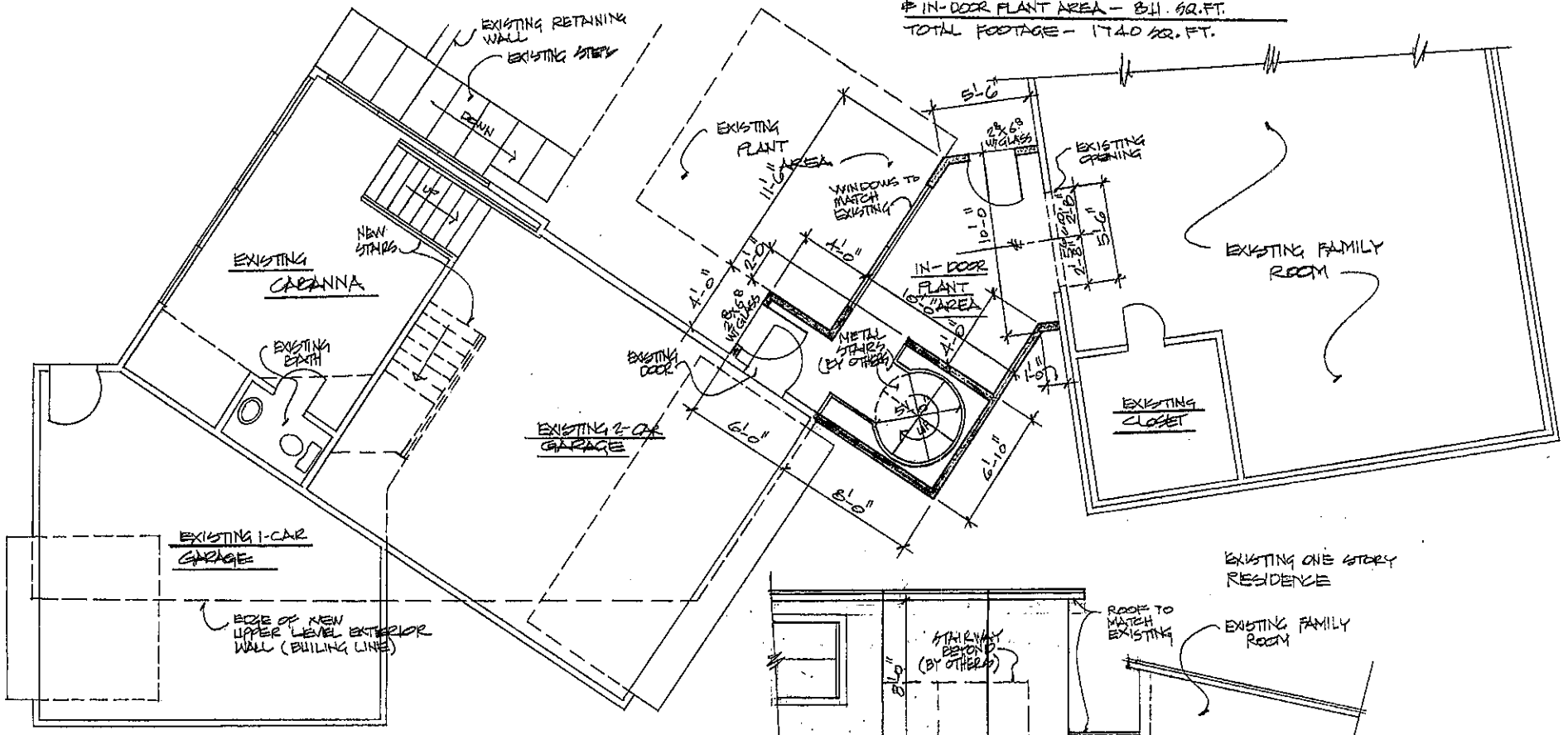
SHEET

GARAGE ADDITION:

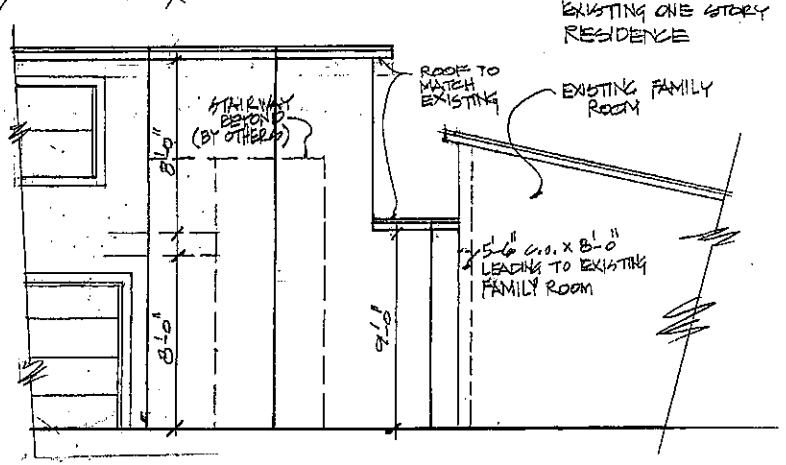
JANMAR CIRCLE ADDITION
LOT #6 BLOCK # 8/7494
DALLAS, TEXAS

FOOTAGE:

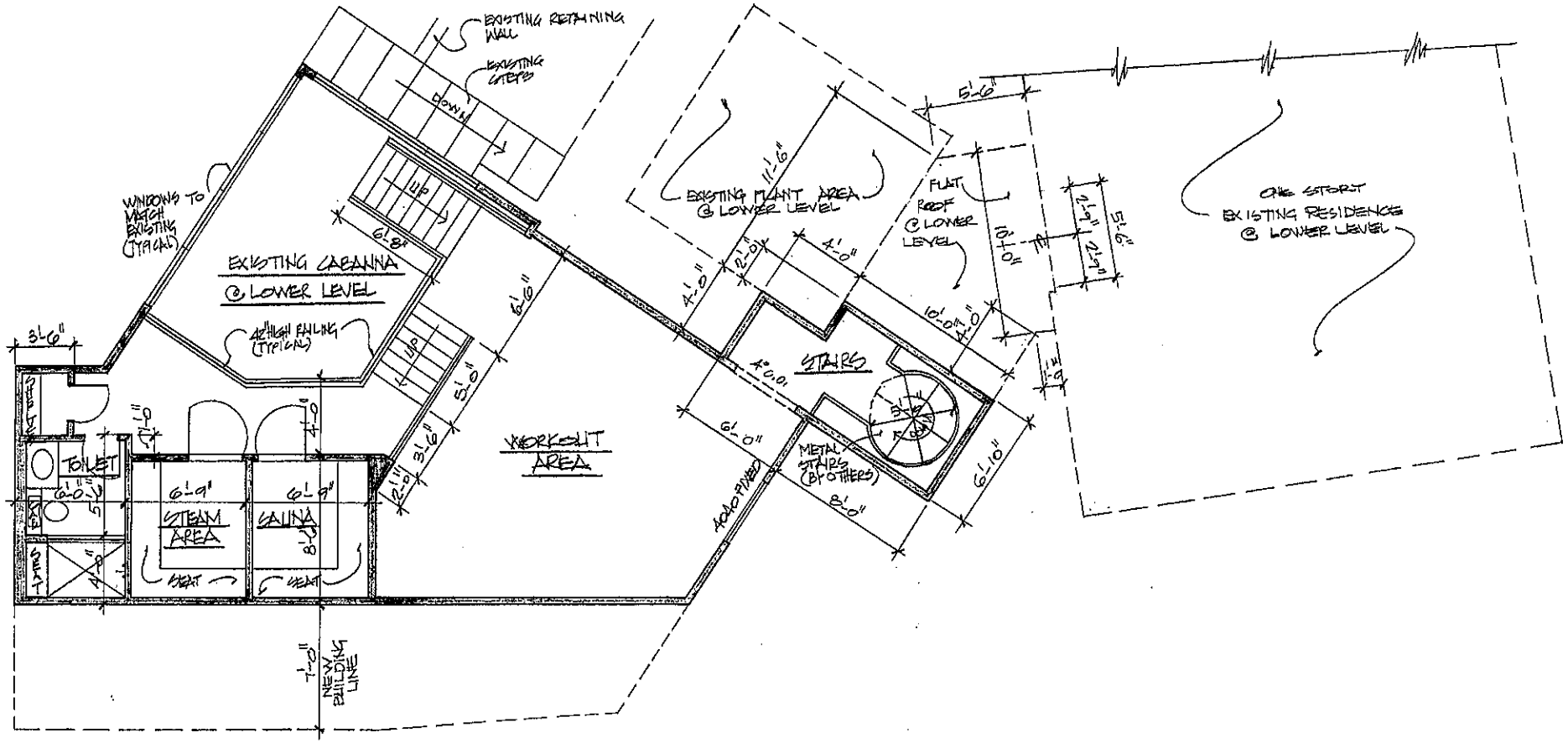
EXISTING 1-CAR GARAGE - 250 SQ.FT.
EXISTING 2-CAR GARAGE - 429 SQ.FT.
EXISTING CABANNA - 250 SQ.FT.
NEW UPPER LEVEL ADDITION
& IN-DOOR PLANT AREA - 811 SQ.FT.
TOTAL FOOTAGE - 1740 SQ.FT.



1ST LEVEL FLOOR PLAN
SCALE: 1/4"=1'-0"



ELEVATION 2-CAR GARAGE SIDE

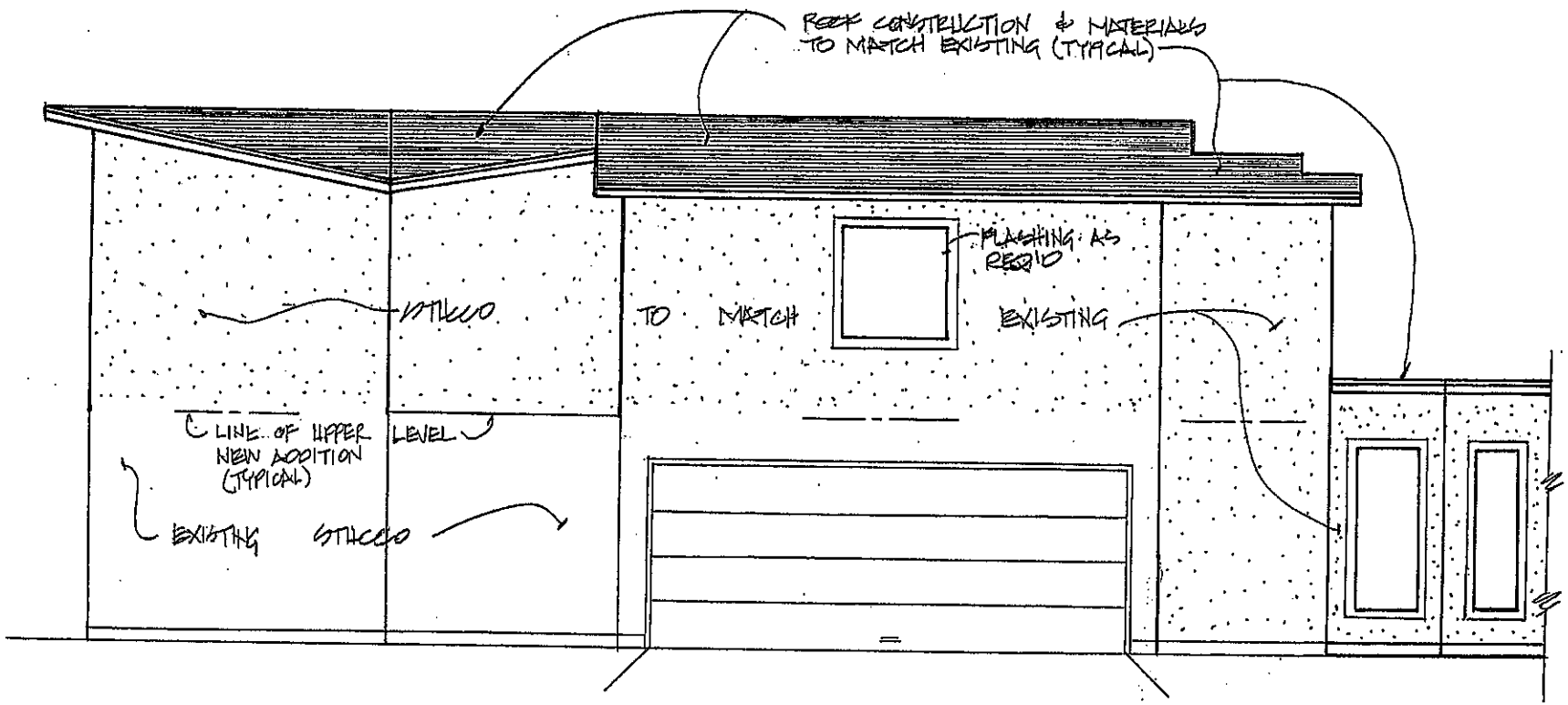


2nd LEVEL FLOOR PLAN:

SCALE: 1/4"=1'-0"

BDA 134-003

2-24



FRONT ELEVATION:

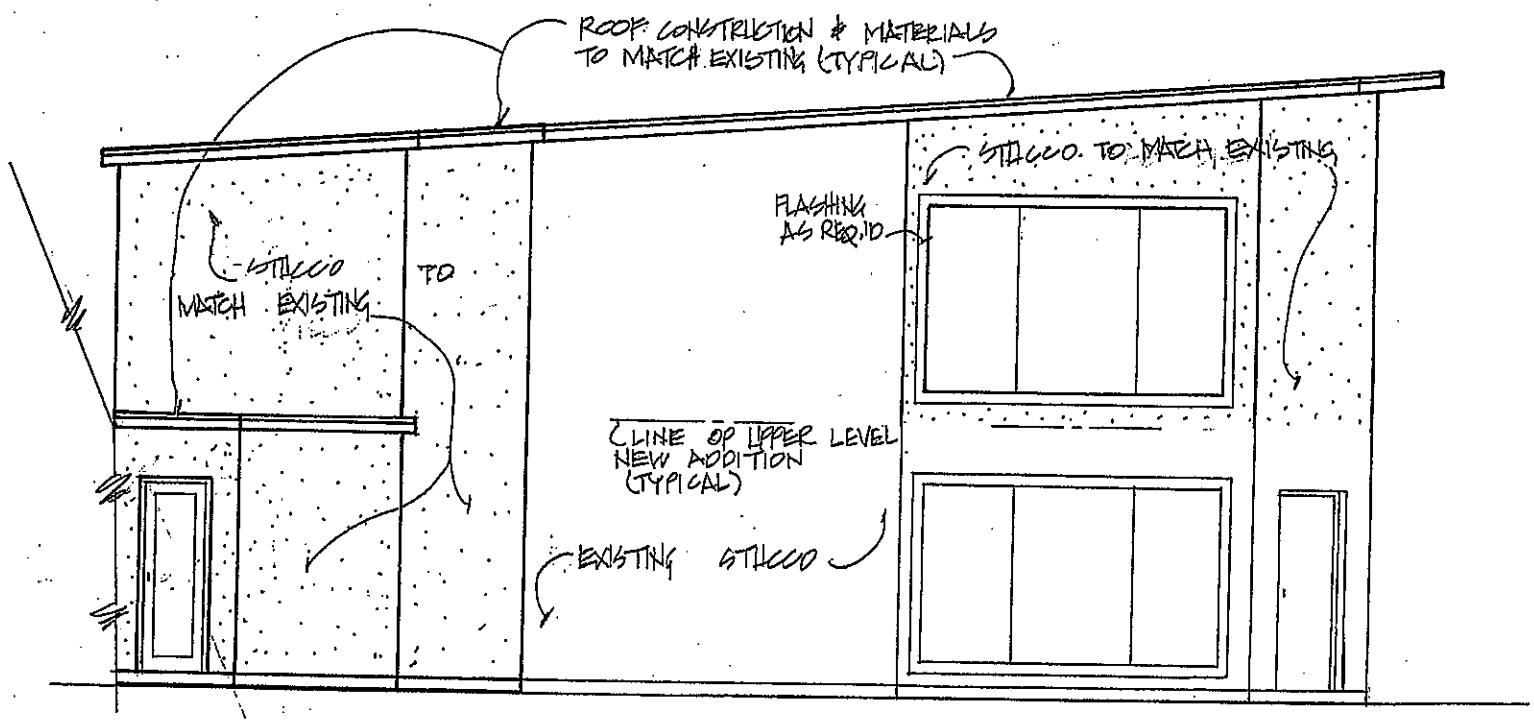
SCALE: 1/4"=1'-0"

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

SHEET 5

BDA 134-003

2-25

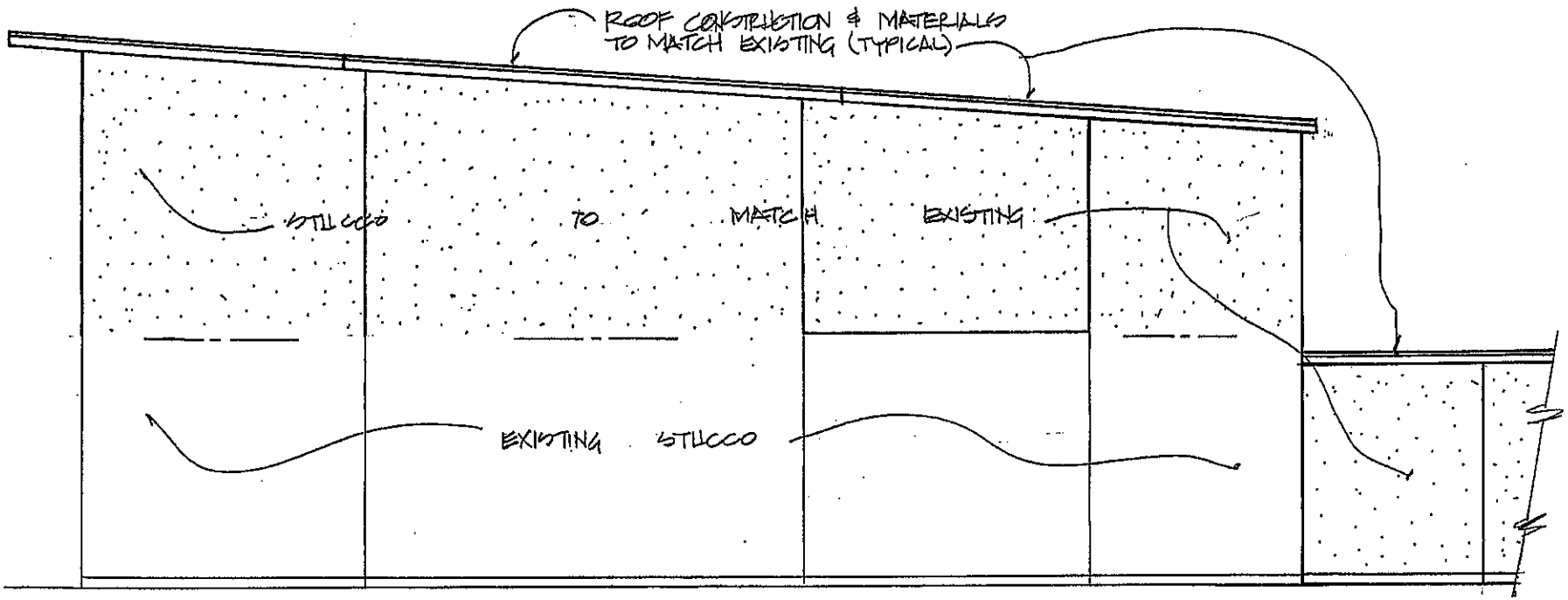


RIGHT ELEVATION:

SCALE: 1/4"=1'0"

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

SHEET 6



LEFT ELEVATION:

SCALE: 1/4"=1'-0"

GARY DESIGN DESIGNERS

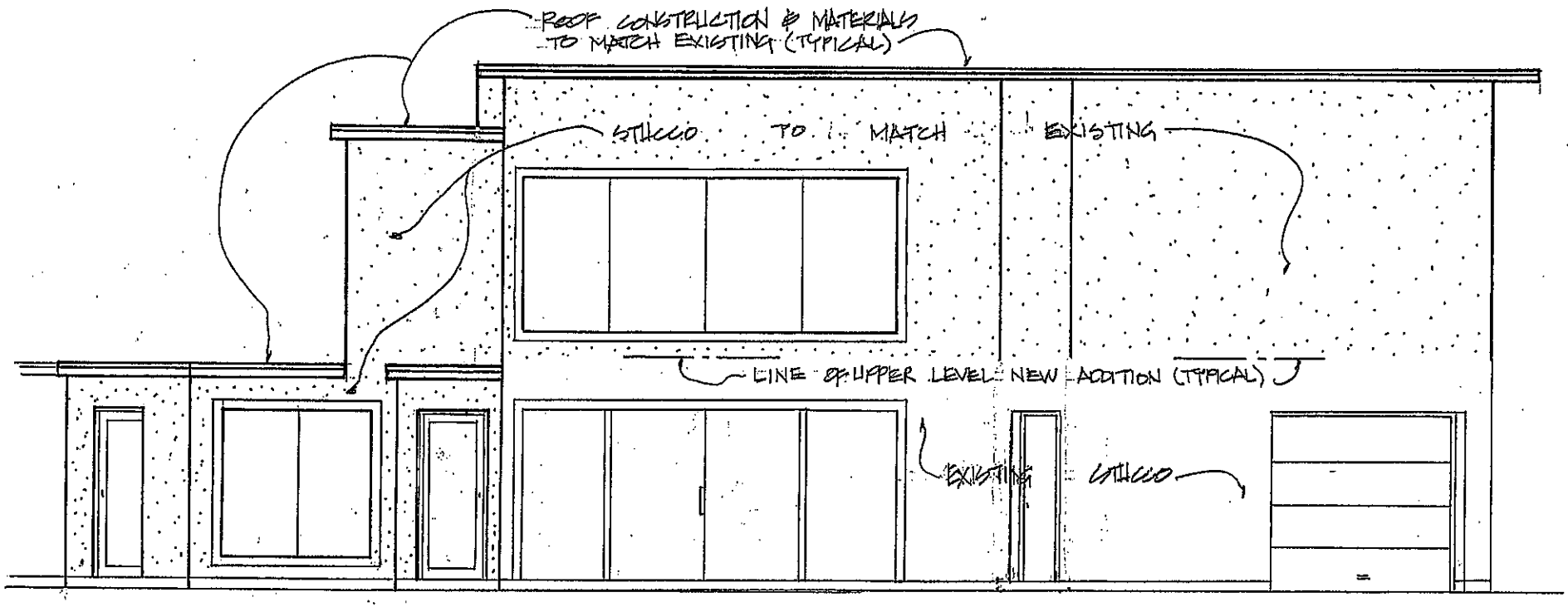
McMEEKAN ASSOCIATES PLANNERS

214-908-1496

SHEET 7

BDA 134-003

2-27



REAR ELEVATION:

SCALE: 1/4"=1'-0"

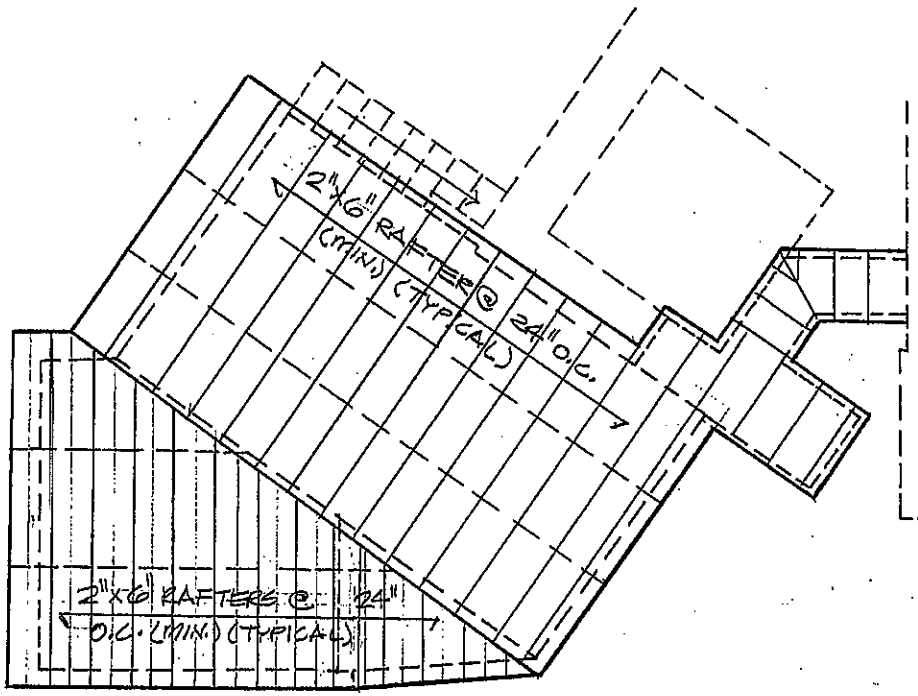
GARY DESIGN DESIGNERS + McMEEKAN ASSOCIATES PLANNERS

214-908-1496

SHEET 8

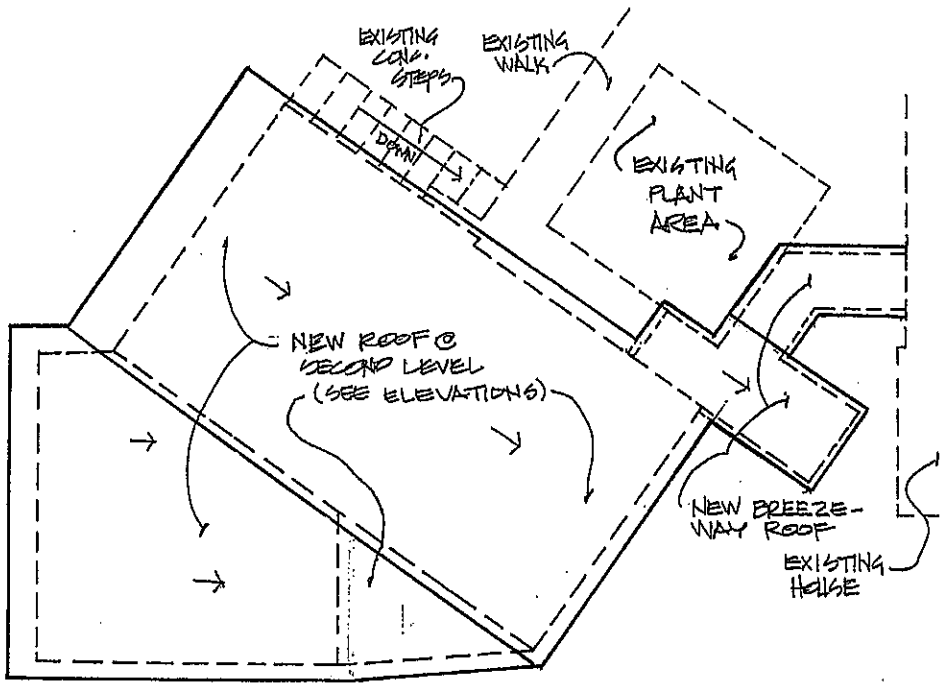
BDA 134-003

2-28



ROOF FRAMING PLAN:

SCALE: 1/8"=1'-0"

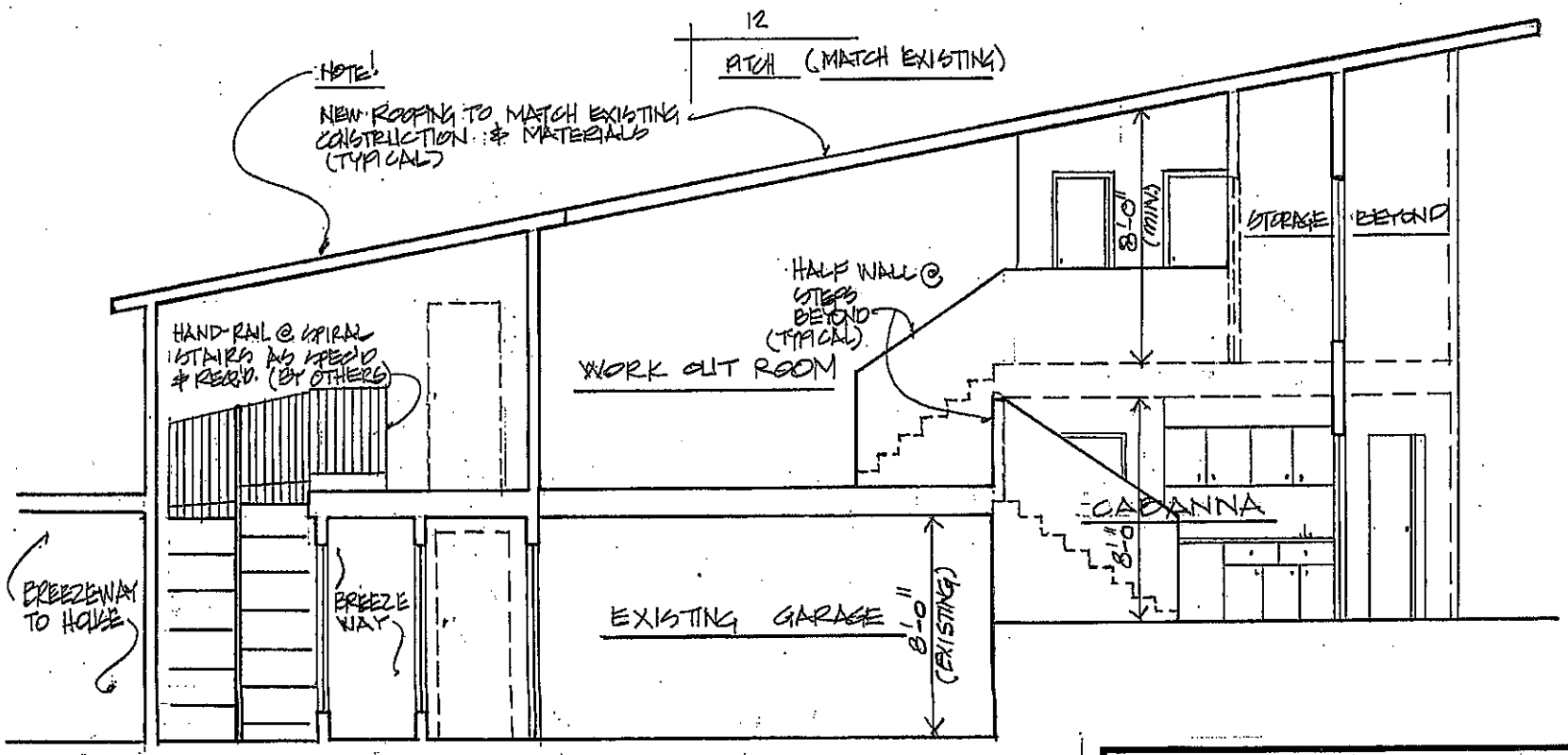


ROOF PLAN:

SCALE: 1/8"=1'-0"

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-908-1496

SHEET 9

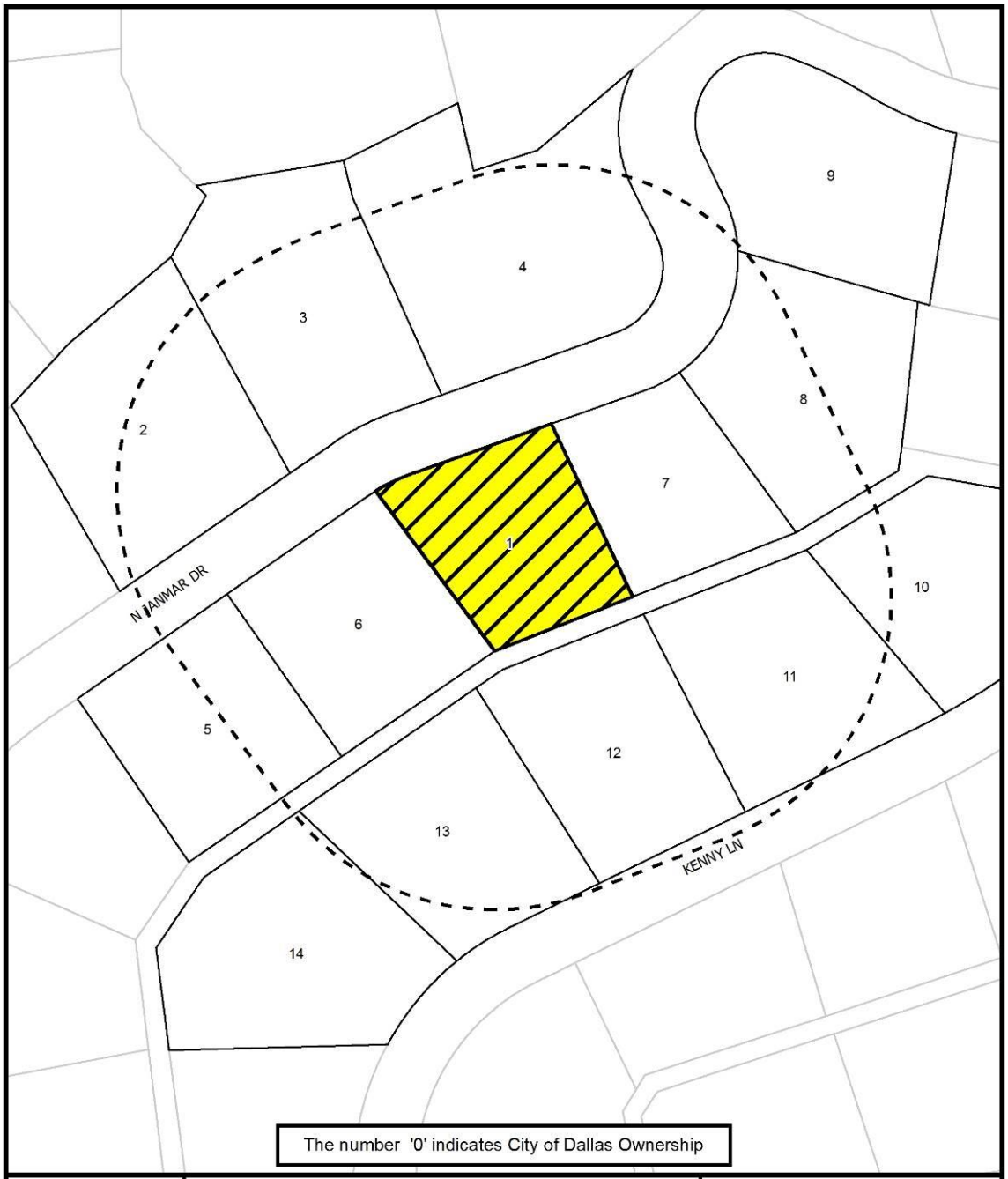


SECTION:

SCALE: 1/4"=1'-0"

GARY DESIGN DESIGNERS
McMEEKAN ASSOCIATES PLANNERS
214-905-1496

SHEET 10



1:1,200

NOTIFICATION

200' AREA OF NOTIFICATION

14 NUMBER OF PROPERTY OWNERS NOTIFIED

Case no: BDA134-003

Date: 12/23/2013

Notification List of Property Owners

BDA134-003

14 Property Owners Notified

Label #	*Address*		*Owner*
1	7110	JANMAR DR	CARUSO MICHELA &
2	7043	JANMAR DR	SISLER DOUGLAS A & KAREN
3	7101	JANMAR DR	WRIGHT KATHLEEN PATRICIA ELLIS &
4	7125	JANMAR DR	CAPLAN MICHELLE W
5	7030	JANMAR DR	PARKS DAVID R & MARTHA C
6	7042	JANMAR DR	GOLD LISA K & MADDEN GRAY M
7	7118	JANMAR DR	HALL GREGORY THOMAS & KATHLEEN M
8	7126	JANMAR DR	WEINSTEIN SETH & KRISTEN
9	7202	JANMAR DR	WELTON JAMIE RYAN & JULIE HOBERG
10	7219	KENNY LN	BLAND DIANA & JAMES
11	7207	KENNY LN	KARTSOTIS GEORGE
12	7139	KENNY LN	WILSON WILLIAM D & GINA A
13	7129	KENNY LN	SCHLUETER BRAD DANIEL & SCHLUETER LINDSA
14	7119	KENNY LN	SNYDER RICHARD SHAYLE