Lathrup Village, Michigan
Application for Zoning Appeal
Article 7.0, Section 7.7(14) Deviations and Standards

- **The digital sign will also integrate superior structural technology with a 20-foot V-shape orientation making only one side visible to proceeding traffic and angled toward commuters.**
- **The sign will be powered by underground wiring from the electrical source to the sign.**
- **We will maintain unobstructed access to our digital sign structure. Disturbance to vegetation will be minimal, if any.**
- **No part of the sign will have moving parts. It will be the latest in advanced digital technology and in sign manufacturing, all steel with remote communication access and the best-in-class LED self-enclosed lighting available.**
- **There are many challenges for business on Southfield Rd and Eleven Mile in Lathrup Village. Travelers on I-696 have desirable demographics to complement those businesses. A digital billboard with the ability to provide local advertising and community messaging would be a huge plus to the area.**

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f) The benefit to the applicant will be real and substantial and any detriment to the neighboring property owners and occupants or the community at large is not substantial or is illusory. Benefits and detriments shall be determined in relation to the factors which impair the value and use of properties as related in (d) and (e), above.

This statement is true.

- **MDOT approved the location, height and setbacks for an off-premises digital advertising sign. (See page 16)**
- **The many overpasses, where the sign is planned, are a minimum of 40+ feet requiring any proposed off-premises digital advertising sign to be at a height of 70' (an industry standard height along freeways) in order to be visible. (see pages 34 – 38)**
- **This area of I-696 is 125 feet wide with the median and roughly 40 feet deep with a speed limit of 70 miles per hour (mph). According to MDOT, a billboard is permitted a 5-second viewing cone at 70 mph that equates to 513 feet. At any height less than 70' the many overpasses would block the view in either direction for the entire 5 second viewing period. At an approximate 500 feet from any residence, directed at I-696, these signs will not project any light into residential areas. (see pages 55 - 62).**
- **The MDOT right-of-way and W. Eleven Mile Rd setback combined place the sign approximately 105 feet. Having the sign at 70 feet will put the sign in the natural line of sight of the motorist and prevent drivers from taking their eyes off what is in front of them.**

A coping cover surrounding the base pipe will provide for a more aesthetically pleasing appearance.

giffels webster

Memorandum

To:	International Outdoor, Inc. Patrick Depa	Date:	9.15.15
From:	Jim Renshaw, PE, PTOE	Project:	Crash Analysis (I-75 between Mile Marker 63 – 76.8) in Troy, Madison Heights and Auburn Hills)
RE:	Billboard Traffic Safety Evaluation	Project Number:	18827.00

Introduction and Objective

Hundreds of research projects have been conducted by the Federal Highway Administration and/or the National Cooperative Highway Research Program relating to digital billboards (DBBs). Several conclusions can be drawn from these studies; however, no significant policy changes have been made to aid State agencies in regulating DBBs. There are a host of human factors, billboard operating characteristics, roadway conditions, and roadside conditions to take into account when conducting these nationwide research projects.

The purpose of this safety evaluation is quite simple. This project reviews the historical crash patterns, frequencies, and crash rates both before and after DBB installations on I-75 in southeast Michigan. This project represents the review of at least a thousand (1000) crash reports (aka UD-10 reports) along I-75 in order to determine if existing DBBs have exhibited adverse safety impacts or are safety neutral. Giffels Webster has been retained by International Outdoor Inc. to conduct this evaluation in preparation for proposed for two (2) DBB installations in the City of Troy, Michigan (identified below). In addition, this report presents the results of a "rolling" review of I-75 crashes that had been conducted by others along the same segments of I-75.

Background

International Outdoor proposes two (2) new DBB installations in Troy, Michigan. They are:

- The 1705 "Austin" DBB – located on the east side of I 75 approximately 500 feet north of Maple Road
- The 1125 "Naughton" DBB – located on the south side of I 75 approximately 1200 feet east of Rochester Road

Four (4) comparable sites (called "Comps") have been selected for safety evaluation. They are:

- The ""Comp #1" DBB – located on the east side of I 75 approximately 1300 feet north of 13 Mile Road. This DBB was installed and was operational. Installed July 2012.
- The "Comp #2" DBB – located on the west side of I-75 at the junction of the southbound 14 Mile Road entrance ramp with I-75 southbound mainlines. Installed June 2012.
- The "Comp #3" DBB – located on the west side of I-75 approximately 700 feet south of Auburn Road. Installed in 2010.
- The "Comp #4" DBB – located on the west side of I-75 near the junction of the southbound 12 Mile Road entrance ramp with I-75 southbound mainlines. Installed in 2012.

Crash history of "before" installation and "after" installation have been conducted for each of the four comparable locations within a view shed of five-hundred feet (500) in each direction of these double sided billboard signs. In like fashion, the most recent three (3) year crash history is reported for each proposed DBB location along the 500 ft. view shed/impact area. ***Appendix A** illustrates graphically the location of each DBB and the view shed/impact area for both proposed locations and each comparables.

International Outdoor has indicated that the operating characteristics of each of the four (4) comparable DBB locations are similar to the operating characteristics of the proposed DBB locations. In addition, the roadway environment (speed limit, # of lanes, traffic counts) are similar to the four (4) comparable DBBs locations.

Methodology and Results

Crash data and reports were collected, reviewed, and aggregated from the Southeast Michigan Council of Governments (SEMCOG) web-site and confirmed through the Michigan Highway Safety Bureau web-site. The analysis of crash statistics were conducted in conformance to recommended procedures from the Institute of Transportation Engineers (ITE) and the Highway Safety Manual (HSM). Severity, frequency and rate analysis were conducted on crashes that occurred within an approximate area of 500 feet on both sides of the double sided DBBs. This distance is the assumed view shed of the DBBs.

Crash rates, in accordance with ITE and HSM, were calculated based upon the following:

$$R = \frac{1{,}000{,}000 \times C}{365 \times N \times V}$$

Where: C = Number of crashes
N = number of years of data
V = Average Daily Traffic (vehicles per day)

A summary of the crash analyses is shown in **Table 1**. ***Appendix B** provides more detail on each crash summarized in **Table 1**.

Table 1 – Summary of Crash Analyses

Name	Location	No. Years	Avg. AADT[4]	PDO[3] Crashes	Injury Crashes/Type	Freq.	Rate[1]
Comp #1 **(Before)**	North of 13 Mile Rd	2.5	147,500	5	2-Possible Injuries	7	0.05
Comp #1 **(After)**	North of 13 Mile Rd	2.5	154,630	16	1 – Minor Injury	17	0.12
Comp #2 **(Before)**	South of 14 Mile Rd	2.5	147,500	31	10–Possible Injs 1 – Minor Injury	42	0.31
Comp#2 **(After)**	South of 14 Mile Rd	2.5	154,630	24	9–Possible Injuries 2 – Minor Injuries	35	0.25
Comp #2 Ramp **(Before)**	14 Mile Road Southbound Entrance Ramp	2.5	22,000[2]	5	None	5	0.25
Comp #2 Ramp **(After)**	14 Mile Road Southbound Entrance Ramp	2.5	22,000[2]	10	2–Possible Injuries	12	0.60
Comp #3 **(Before)**	South of Auburn Rd	3	116,150	14	2–Possible Injuries 1 – Minor Injury	17	0.13
Comp #3 **(After)**	South of Auburn Rd	3	131,150	24	2 – Minor Injuries	26	0.18
Comp #4 **(Before)**	South of 12 Mile Rd	2	161,550	37	6-Possible Injuries	43	0.36
Comp #4 **(After)**	South of 12 Mile Rd	2	161,400	22	5–Possible Injuries 1 – Minor Injury	28	0.24
Proposed Austin	North of Maple Road	3	128,400	1	None	1	N/A
Proposed Naughton	East of Rochester Road	3	128,400	9	None	9	0.06

Notes:

1. Crashes per million vehicles miles
2. 2013 Ramp Volumes
3. Property Damage Only
4. Average Annual Daily Traffic (vehicles per day)

Conclusions

An accident rate between 2 to 3 accidents per million vehicle mile (MVM) is considered worthy of safety countermeasures. The rates, frequency and severity of all comparables (whether "before" or "after") are modest along all spots/segments of the study area along I-75. As a result, there is no evidence that existing DBBs have any significant adverse safety consequences based upon this historical analysis. Consequently, no rational evidence exists to suggest adverse safety impacts for the proposed DBB locations.

* **Appendix C** provides a data summary of a similar evaluation along I 75 where segments of the freeway in advance, within, and after the view shed of existing DBB were performed. In like manner, this analysis (which was conducted by an independent certified traffic engineer) suggests that DBBs along I-75 are safety neutral.

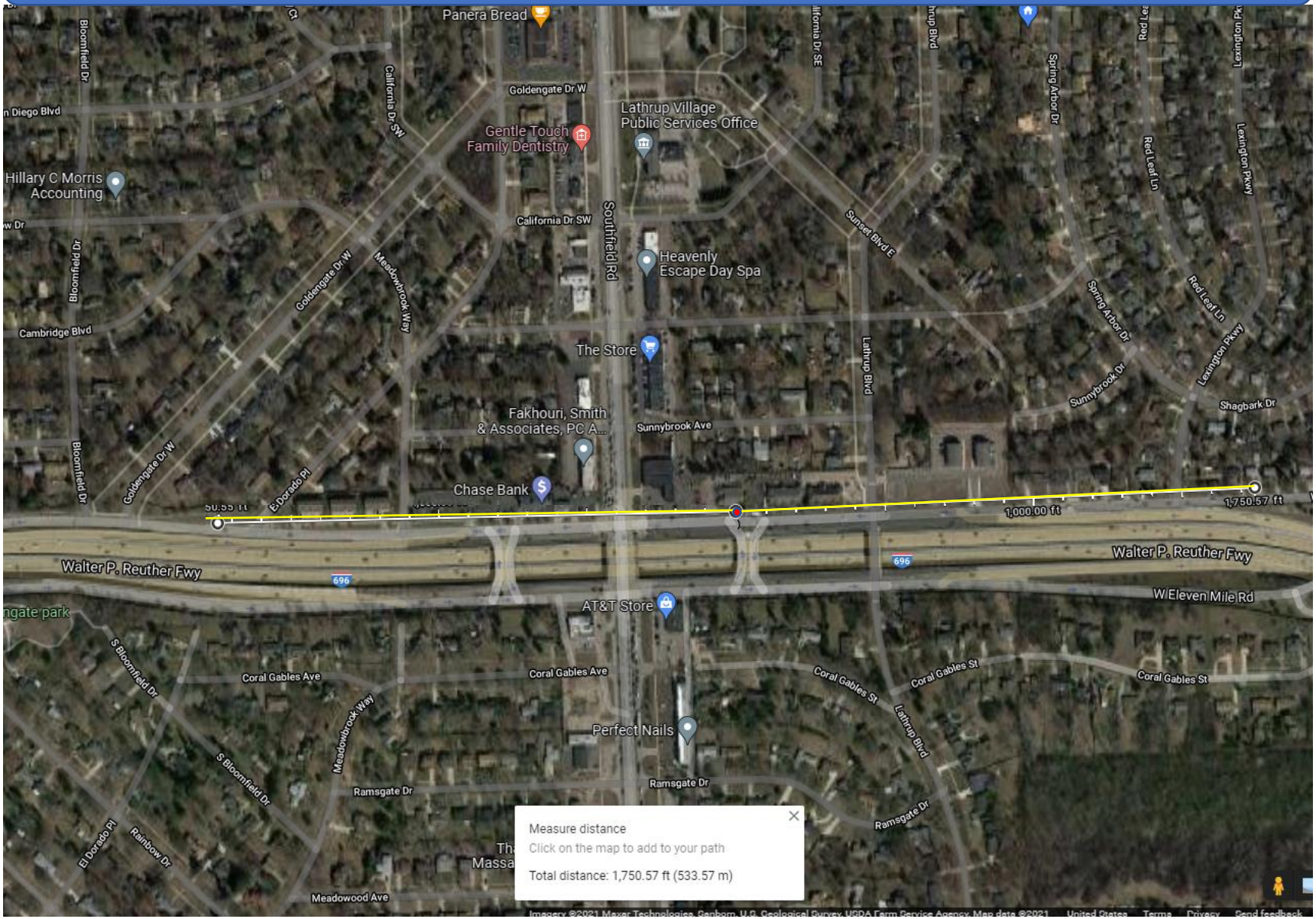
***This data is in an excel format and included on the provided CD.**

APPENDIX

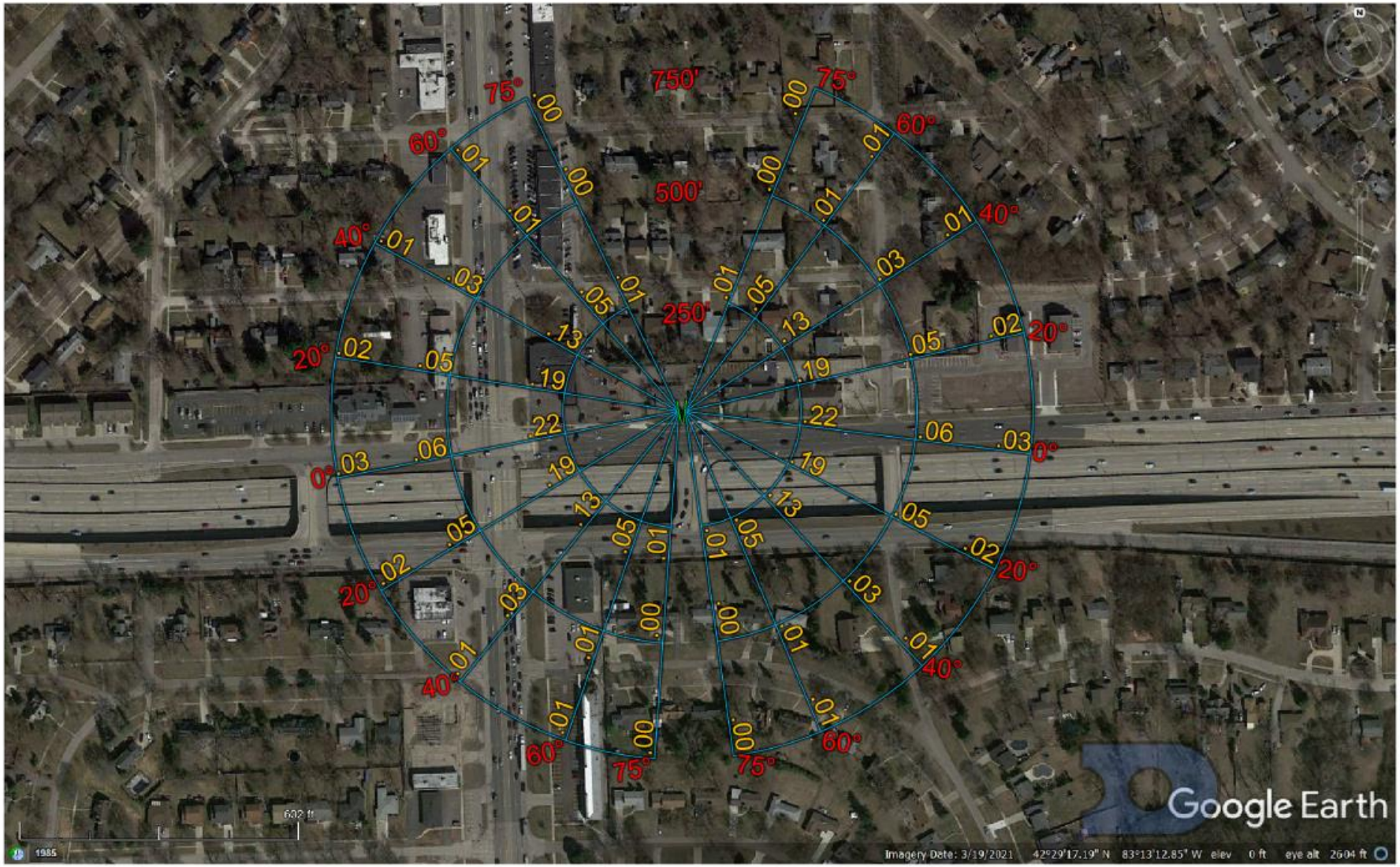
***Data described in appendix A, B & C are in excel format and are included on the provided CD.**

Additional national and local studies are also included on the provided CD. A list of the traffic Studies and Reports is provided on the following page.

With this MDOT permit there can not be another digital billboard within 1,750 feet on I-696, the only remaining location in Lathrup Village on I-696 is Michigan First Credit Union's property

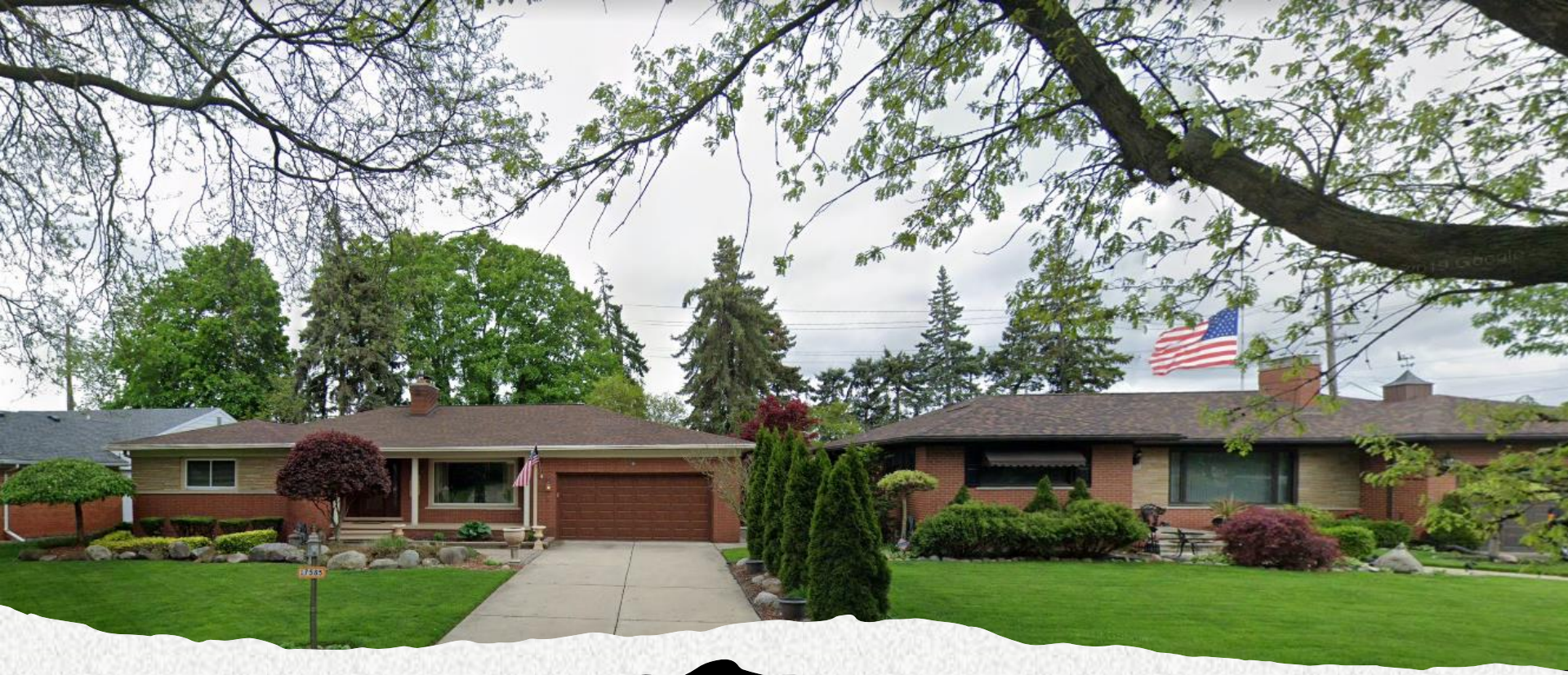


DAKTRONICS	Light Analysis for Digital Billboard 14x48 International Outdoor 17600 W Eleven Mile Rd, Lathrup Village, MI **Values expressed are specific to Daktronics product only**	Date: 08/26/2021 Prepared by: Eric Johnson



-Display at Maximum Brightness of 255 Nits - Nighttime Value
-Calculations take into account a 55' HAGL
-Any rise or fall in elevation or physical blockage is not shown in calculations

*Calculations are based on Red, Green, and Blue LEDs (White Content) powered to their maximum potential for nighttime viewing. Values are shown in Footcandles. The average value under normal usage is 25 - 35% of maximum values shown



- The residences on Sunnybrook Avenue will not be impacted by light from the sign. The dover panel will cover up the interior of the structure.