

BILL NO. 15-35

ORDINANCE NO. 4.326

AN ORDINANCE APPROVING A SITE PLAN REVISION FOR PROPERTY AT 2590 AND 2412 NORTHEAST 72ND STREET, COMMONLY KNOWN AS QUIK TRIP.

WHEREAS, pursuant to Section 32-37 of Ordinance No. 2.292 being the Gladstone Zoning Ordinance, public notice was made of a request for site plan approval at 2590 and 2412 Northeast 72nd Street; and

WHEREAS, public hearings have been held after the publishing of the required notices; and

WHEREAS, the City Council finds that the planned development does not materially injure the property and the uses of the properties immediately adjacent to the proposed development; and

WHEREAS, the City Council finds that the site plan presents a unified and organized arrangement of buildings and facilities which have a functional relationship to the property comprising the development; and

WHEREAS, the City Council finds it is in the best interest of the citizens of the City of Gladstone that the site plan submitted by the applicant be approved subject to the terms and conditions set forth herein.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF GLADSTONE, MISSOURI, AS FOLLOWS:

SECTION 1. SITE PLAN APPROVAL.

The Site Plan for 2590 and 2412 Northeast 72nd Street is hereby approved subject to the terms and conditions set forth herein;

- 1) All exterior lighting shall be LED and designed to reduce adverse impact on adjoining residential properties.
- 2) A 28" landscaping wall or hedge shall be installed on private property and along NE 72nd Street and N. Prospect.
- 3) All disturbed areas shall be sodded.
- 4) All landscaped areas shall be irrigated and maintain in perpetuity.
- 5) All mechanical equipment shall be screened from public view.
- 6) Applicant shall obtain all necessary MoDot and MoDNR permits prior to commencing construction.
- 7) A compliant monument signs shall be used to serve the development.
- 8) Dumpster shall be enclosed with materials consistent with the primary building. Trash service shall be scheduled between 7:00 am-7:00 pm.
- 9) Tractor trailers (excluding delivery trucks) shall not park or be stored overnight.
- 10) Fire hydrants shall be installed in accordance with fire code requirements.

- 11) Closed driveways shall be removed and replaced with curb, gutter, sidewalk and landscaping. All new drives shall meet APWA and City specifications. All water, sewer, storm and streets shall be designed to comply with APWA and City specifications.
- 12) Any abandoned utility services shall be terminated at the source.
- 13) Applicant shall submit all necessary construction documents for permitting purposes.
- 14) The new drive onto North Prospect shall be right in/right out only.
- 15) Reduce the number of parking stalls from 89 to 72 primarily by eliminating the easternmost row of parking at the back of store.


SECTION 2. SEVERABILITY CLAUSE. The provisions of this ordinance are severable and if any provision hereof is declared invalid, unconstitutional or unenforceable, such determination shall not affect the validity of the remainder of this ordinance.

PASSED, SIGNED, AND MADE EFFECTIVE BY THE COUNCIL OF THE CITY OF GLADSTONE, MISSOURI, THIS 9th DAY OF NOVEMBER, 2015.



Mayor Bill Garnos

ATTEST:



Ruth E. Bocchino, City Clerk

First Reading: November 9, 2015 Second Reading: November 9, 2015

File #1416

**Community Development Department
Staff Report**



Date: October 20, 2015

File #: 1416

Requested Action: Site Plan Revision

Date of PC Consideration: Oct. 19

The PC recommended approval (8-yes, 0-no)

Date of Council Consideration: Nov. 9

Address of property: 2590 & 2412 NE 72nd Street

General location of property: Northwest corner of NE 72nd St & M-1 Highway

Physical Characteristics:

Applicant: QuikTrip Corporation
Daniel Chambers
5825 Foxridge Drive
Mission, KS 66202
816-615-7147

Owner: ES Investors, LLC
PO Box 3475
Tulsa, OK 74101-3475

Architect: Holman Engineering
Darla Holman, PE
6734 Red Oak Drive
Shawnee, KS 66217
913-248-9385

Planning Information

Current Zoning: CP-2 (Planned General Business) since 2005

Planned Land Use: The property is within an area that requires additional study. The area is characterized by high intensity retail.

Additional Information

Public Utility Availability: Existing

Ingress/Egress: Existing on NE 72nd Street. New drive on N. Prospect.

Traffic Division Comments: Drive on N. Prospect to be right in and right out only.

Parking Required: 30
Parking Provided: 89
Proposed On-Site Improvements: Construction of convenience store and fuel pumps
Proposed Off-Site Improvements: Construction of southbound right turn lane.

Recommended Conditions

- 1) All exterior lighting shall be LED and designed to reduce adverse impact on adjoining residential properties.
- 2) A 28” landscaping wall or hedge shall be installed on private property and along NE 72nd Street and N. Prospect.
- 3) All disturbed areas shall be sodded.
- 4) All landscaped areas shall be irrigated and maintain in perpetuity.
- 5) All mechanical equipment shall be screened from public view.
- 6) Applicant shall obtain all necessary MoDot and MoDNR permits prior to commencing construction.
- 7) A compliant monument signs shall be used to serve the development.
- 8) Dumpster shall be enclosed with materials consistent with the primary building. Trash service shall be scheduled between 7:00 am-7:00 pm.
- 9) Tractor trailers (excluding delivery trucks) shall not park or be stored overnight.
- 10) Fire hydrants shall be installed in accordance with fire code requirements.
- 11) Closed driveways shall be removed and replaced with curb, gutter, sidewalk and landscaping. All new drives shall meet APWA and City specifications. All water, sewer, storm and streets shall be designed to comply with APWA and City specifications.
- 12) Any abandoned utility services shall be terminated at the source.
- 13) Applicant shall submit all necessary construction documents for permitting purposes.
- 14) The new drive onto North Prospect shall be right in/right out only.
- 15) Reduce the number of parking stalls from 89 to 72 primarily by eliminating the easternmost row of parking at the back of store.

Analysis

The applicant requests site plan approval to allow construction of a convenience store and associated fuel islands. The property is located at the northwest corner of N. Prospect and NE 72nd Street. The property is currently zoned CP-2 which allows for the proposed use. The existing use is a Quiktrip convenience store with fuel service.

- Key aspects of the plan include:
- The addition of a right turn lane into the facility from N. Prospect.
 - The permanent closure of the easternmost drive onto NE 72nd Street. In combination, these actions will greatly enhance the safety and efficiency of the Prospect/72nd Street intersection.

- The newest prototype store is energy efficient and will be constructed with the existing store open as long as possible.

The Comprehensive Plan suggests that the Antioch Corridor receive additional analysis. That said, the Plan acknowledges that this area is characterized by high intensity retail uses. The key concepts include use of quality materials and mimicking an urban setting through creative screening of parking and drive aisles.

The applicant and staff have worked to reduce the parking count from 89 to 72. The removal of spaces on the east portion of the property should reduce the impact on area properties.

Recommendation

The Staff recommends that the request be *approved* contingent upon compliance with the above recommended conditions.

QUIKTRIP STORE #181R
MISSOURI ROUTE 1/PROSPECT AVENUE & 72ND STREET
GLADSTONE, MISSOURI

TRAFFIC IMPACT STUDY



MAY 2015

Olsson Associates Project No. 2014-2168

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1.0 INTRODUCTION & OBJECTIVE

This report studies traffic impacts regarding the proposed demolition and reconstruction of QuikTrip Store #181R located in the northwest quadrant of the intersection of Prospect Avenue (Route 1) and 72nd Street in Gladstone, Missouri. The approximate location of the development is shown on the vicinity map, **Figure 1**.

The objective of this study is to evaluate the existing traffic and roadway conditions and the traffic impacts expected from the proposed development. The appropriate intersection geometrics and traffic control improvements necessary to accommodate the increased traffic on the study area roadways were identified. For the purpose of this study the Existing and Existing plus Development scenarios were evaluated for the AM and PM peak hour periods. The City of Gladstone and MoDOT staff were contacted regarding the scope of the project.

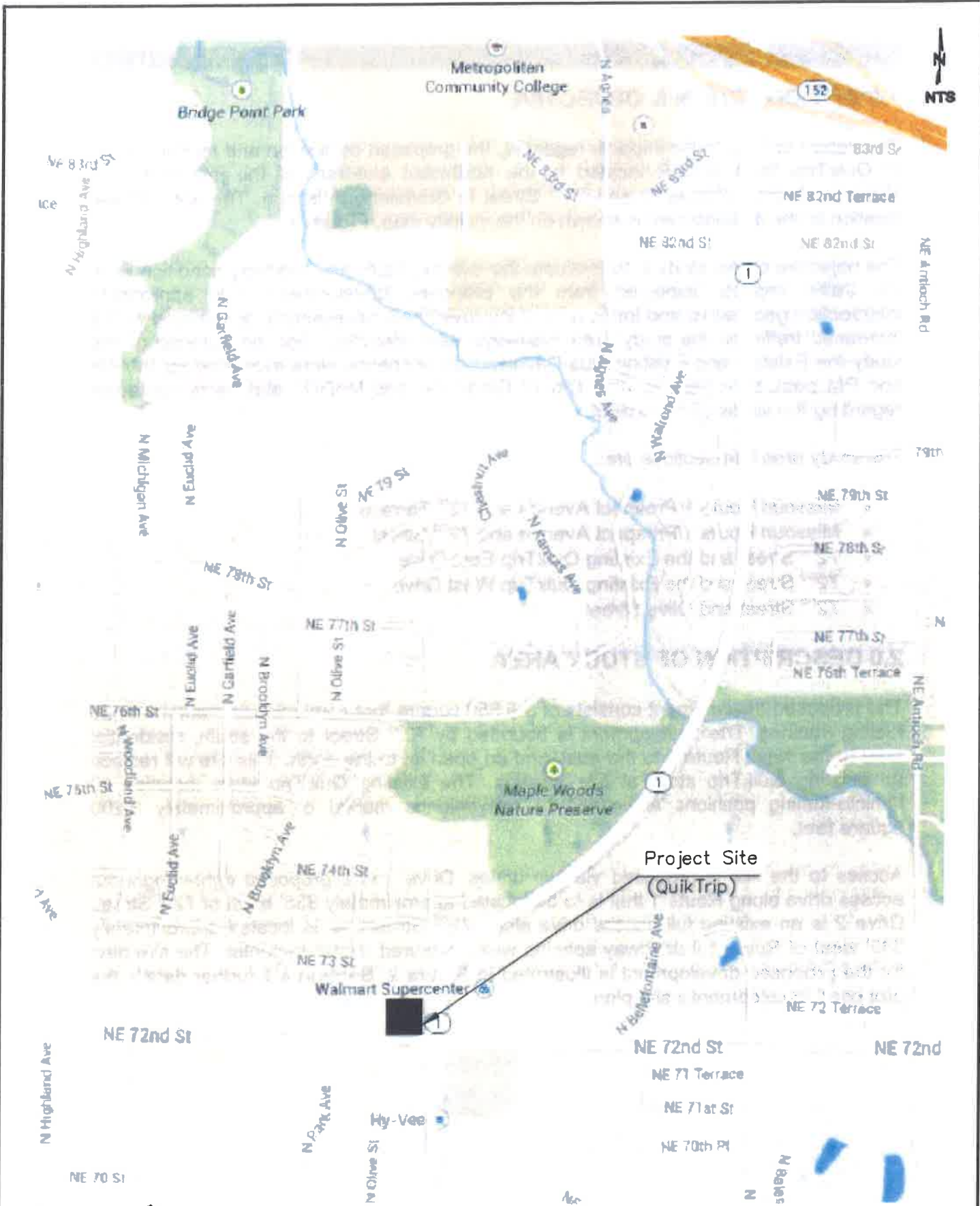
The study area intersections are:

- Missouri Route 1/Prospect Avenue and 73rd Terrace
- Missouri Route 1/Prospect Avenue and 72nd Street
- 72nd Street and the Existing QuikTrip East Drive
- 72nd Street and the Existing QuikTrip West Drive
- 72nd Street and Olive Street

2.0 DESCRIPTION OF STUDY AREA

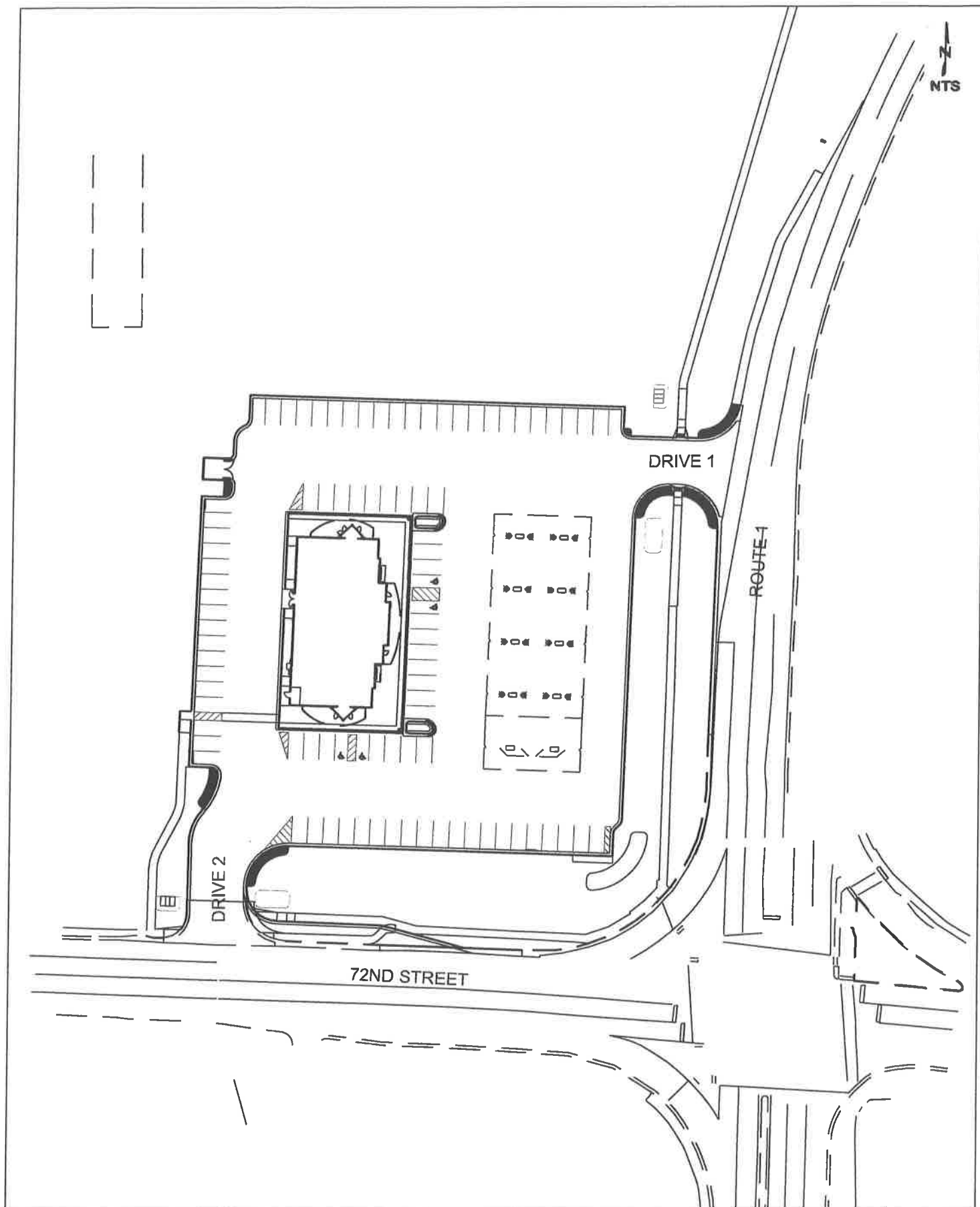
The proposed development consists of a 5,858 square foot convenience market with 20 fueling stations. The development is bounded by 72nd Street to the south, residential area to the west, Route 1 to the east, and an open lot to the north. This site will replace an existing QuikTrip store at this location. The existing QuikTrip store includes 10 vehicle-fueling positions along with a convenience market of approximately 3,200 square feet.

Access to the site is proposed via two drives. Drive 1 is a proposed right-in/right-out access drive along Route 1 that is to be located approximately 335' north of 72nd Street. Drive 2 is an existing full access drive along 72nd Street that is located approximately 345' west of Route 1. All driveway spacing was measured center-to-center. The site plan for the proposed development is illustrated in **Figure 2**. **Section 4.1** further details the proposed development's site plan.



Source: Google Maps

PROJECT NO: 014-2168	VICINITY MAP	 7301 West 133rd Street Suite 200 Overland Park, KS 66213-4750 TEL 913.381.1170 FAX 913.381.1174	FIGURE 1
DRAWN BY: JMS			
DATE: 02/27/2015			



PROJECT NO: 014-2168	SITE PLAN	 7301 West 133rd Street Suite 200 Overland Park, KS 66213-4750 TEL 913.381.1170 FAX 913.381.1174	FIGURE
DRAWN BY: JMS			2
DATE: 02/27/2015			

3.0 EXISTING ROADWAY AND TRAFFIC CONDITIONS

Completing an analysis of the existing traffic and roadway conditions in the vicinity of the development site allows for a comparison to aid in determining the impact of the proposed development to the surrounding roadway network.

3.1 Roadway and Intersection Characteristics

Route 1 is a MoDOT controlled route and classified as a principal arterial roadway. Route 1 is a four-lane median-divided roadway with a posted speed limit of 40 miles per hour. Route 1 provides access to Missouri Route 152 approximately 1.7 miles north of the site and Highway 69 approximately 2.6 miles south of the site.

72nd Street is a City roadway and classified by MoDOT as a minor arterial roadway. 72nd Street is a four-lane undivided road with a posted speed limit of 35 mph.

At the signalized intersection of Route 1 and 72nd Street there are dedicated left-turn lanes for all approaches. The north, east, and west approaches to the intersection also have a dedicated right-turn lane. A 10' sidewalk trail runs north/south along the east side of Route 1. At the intersection, there are marked crosswalks for all approaches. The east/west left-turn lanes are protected/permissive phasing while the north/south left-turns are protected only phasing.

The existing QuikTrip site has two entrances, which are discussed in this study as the East and West QuikTrip Drives. The East QuikTrip Drive consists of a right-in/right-out (RI/RO) access onto 72nd Street. The West QuikTrip Drive is a full access drive with dedicated right and left-turn lanes for exiting vehicles and a single lane for entering vehicles. QuikTrip plans on removing the East Drive and leaving the West Drive in place when the property is reconstructed. Removing the East Drive will consolidate the access points along 72nd Street and enhance driveway spacing from the signalized intersection.

Olive Street is a local City street with a speed limit of 25 mph located approximately 475' west of Route 1 along 72nd Street. Residential houses line Olive Street directly south of 72nd Street for approximately 660' before opening up to an apartment complex development with a connection to Route 1 to the east via 70th Street.

73rd Terrace is a City local street with no posted speed limit that provides access to residential houses west of Route 1 and access to the Walmart Supercenter east of Route 1. The intersection of 73rd Terrace and Route 1 is located approximately 875' north of the 72nd Street and Route 1 intersection. At the signalized intersection of Route 1 and 73rd Terrace there are dedicated right-turn lanes for all approaches and dedicated left-turn lanes for the northbound and southbound approaches. Crosswalks are provided on each leg of the intersection although the east leg's crosswalk is located further back.

The proposed QuikTrip site is depicted with one full access drive and one right-in/right-out access drive. Locations for the proposed QuikTrip site are discussed in **Section 2.0**.

3.2 Data Collection

Previous AM and PM peak hour traffic counts from August 12th and 14th, 2014 were utilized at the intersections of 72nd Street with Route 1, the west and east QuikTrip entrances, and Olive Street. Traffic count data was collected from 7:00-9:00 AM and 4:00-6:00 PM. Based on the traffic count data, the AM peak hour period is from 7:30-8:30 AM and the PM hour period is from 4:45-5:45 PM.

Olsson Associates collected AM and PM peak hour traffic counts at the intersection of Route 1 and 73rd Terrace on January 28, 2015. Counts were collected from 7:30-8:30 AM and 4:45-5:45 PM based on the previous peak hour periods that were found for the other study intersections. Due to collection dates of the traffic count data, volumes were balanced along the corridor to account for the variation in time-of-year of the counts. Volume balancing resulted in conservative values, with thru volumes increasing slightly due to the balancing of trips between intersections. The balanced existing volumes are illustrated in **Figure 3**. Traffic count data collection sheets are provided in the **Appendix**.

A review of the site was completed to determine the existing conditions of the corridor, including posted speed limits, intersection traffic control, and land configurations. Sight distance was reviewed for the existing West QuikTrip Drive and found to be adequate. Existing intersection geometrics and traffic control are illustrated in **Figure 4**.

3.3 Capacity Analysis

Signalized intersection capacity analysis were performed using SYNCHRO, version 8.0, based on the Highway Capacity Manual (HCM) delay methodology. Unsignalized capacity analysis were performed in accordance with Chapter 17 of the HCM using Synchro. For simplicity, the amount of delay is equated to a grade or Level of Service (LOS) based on thresholds of driver acceptance. A letter grade between A and F is assigned, where LOS A represents the best operation. **Table 1** represents the LOS associated with intersection control delay, in seconds per vehicle (sec/veh), for signalized and unsignalized intersections.

Table 1: Intersection Level of Service Summary

Level-of-Service Criteria		
Level of Service (LOS)	<u>Stop Control</u> Approach Delay sec/veh	<u>Signal Control</u> Control Delay sec/veh
A	≤ 10	≤ 10
B	>10 and ≤ 15	>10 and ≤ 20
C	>15 and ≤ 25	>20 and ≤ 35
D	>25 and ≤ 35	>35 and ≤ 55
E	>35 and ≤ 50	>55 and ≤ 80
F	>50	>80

Capacity analysis was completed as discussed above for the signalized study intersections of Route 1 with 72nd Street and 73rd Terrace. Signal timing data was provided by MoDOT, for the intersection of Route 1 and 72nd Street, and was unaltered for analysis purposes. For the signalized intersection of Route 1 and 73rd Terrace, a reasonable cycle length of 100 seconds during the AM peak hour and 120 seconds during the PM peak hour. **Table 2** details level of service for the signalized study intersection.

Table 2: Existing Signalized Intersection Analysis

Intersection	AM Peak Hour*	PM Peak Hour*
Route 1 and 72 nd Street	C (32.5)	D (47.7)
Route 1 and 73 rd Terrace	A (8.8)	B (12.5)

*LOS (Delay in Seconds)

During the AM and PM peak hour periods the overall operations at the signalized intersections are acceptable with a LOS D or better. All individual movements operate at LOS D or better during the peak hour periods with the following exceptions:

Route 1 & 72nd Street

- During the PM peak hour period the eastbound thru movement and the eastbound and southbound left-turn movements operate at a LOS E.
 - The eastbound thru and left-turn movements have 95th-percentile queue lengths of 373' and 404', respectively, which extend past the existing QuikTrip West Drive nearly to Olive Street.
 - The existing timings show that minimal signal green time is given to service the southbound left-turn movement due to its low turning volume and to service other higher volume movements.
- During the PM peak hour period the westbound thru movement operates at a LOS F.
 - The westbound thru movements' 95th-percentile queue length extends past the Walmart entrance along 72nd Street.
- Although the northbound left-turn movement has an acceptable level of service during the PM peak hour period it should be noted that the 95th-percentile queue length exceeds the available storage length, but is contained within the turn lane taper length.

Route 1 & 73rd Terrace

- During the PM peak hour period the westbound thru/left-turn movement operates at a LOS E.
 - The 95th-percentile queue length does not queue back to the existing crosswalk.

The 95th-percentile queue represents the queue length that has a 5 percent probability of being exceeded during the peak hour period.

Unsignalized capacity analysis was conducted for the remaining study intersections. Based on capacity analysis, all individual movements were operating acceptably during the peak hour periods with the following exceptions:

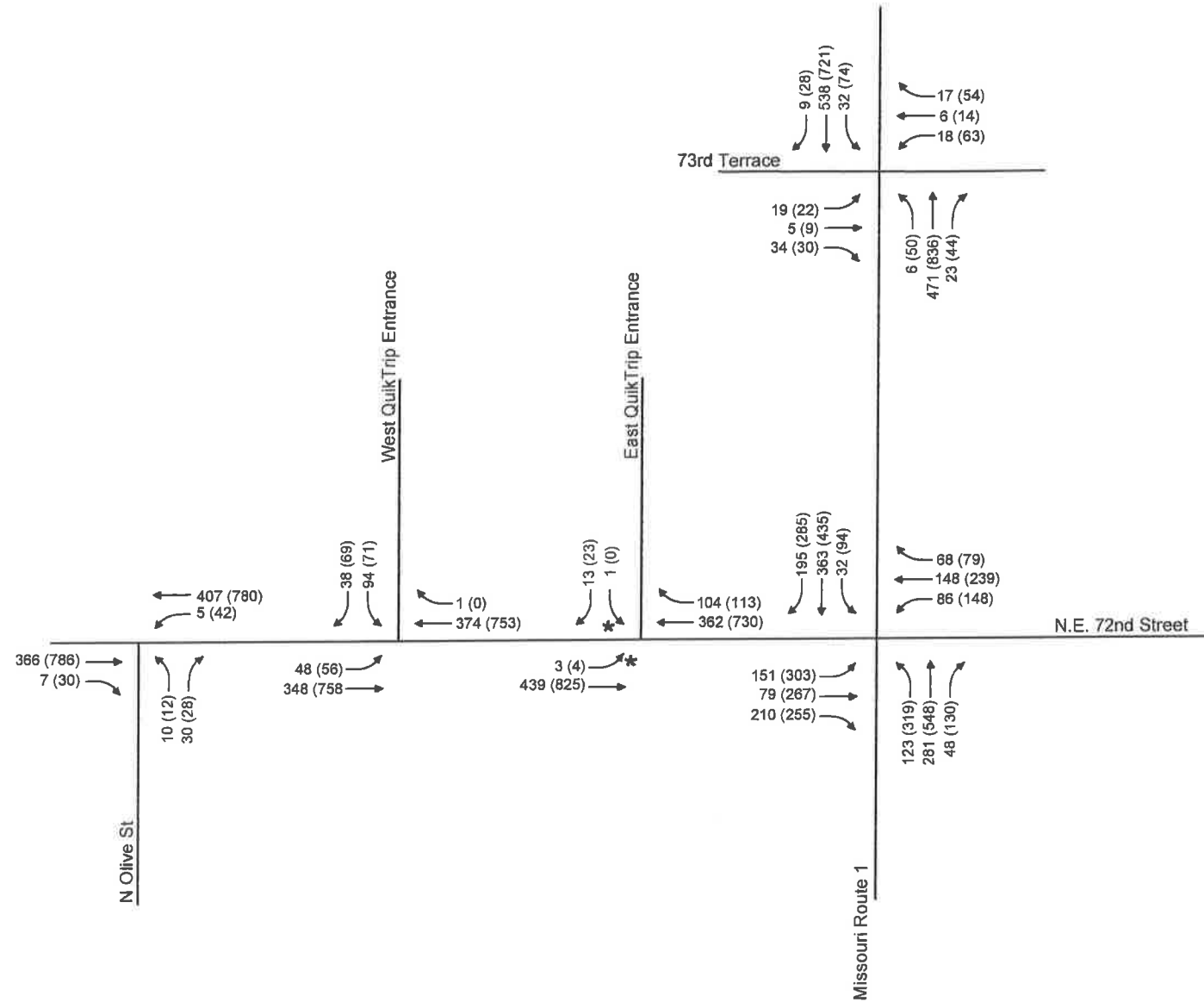
72nd Street & QuikTrip West Drive

- During the PM peak hour period the southbound left-turn movement is operating at a LOS F with a 95th-percentile queue length of 98'
 - As noted above, the eastbound thru and left-turn movements along 72nd Street queue past the West QuikTrip Drive making it difficult for vehicles to make southbound left-turns out of the development.

Figure 5 illustrates the existing level of service and 95th-percentile queuing for at study intersections. Capacity analysis sheets are included in the **Appendix**.

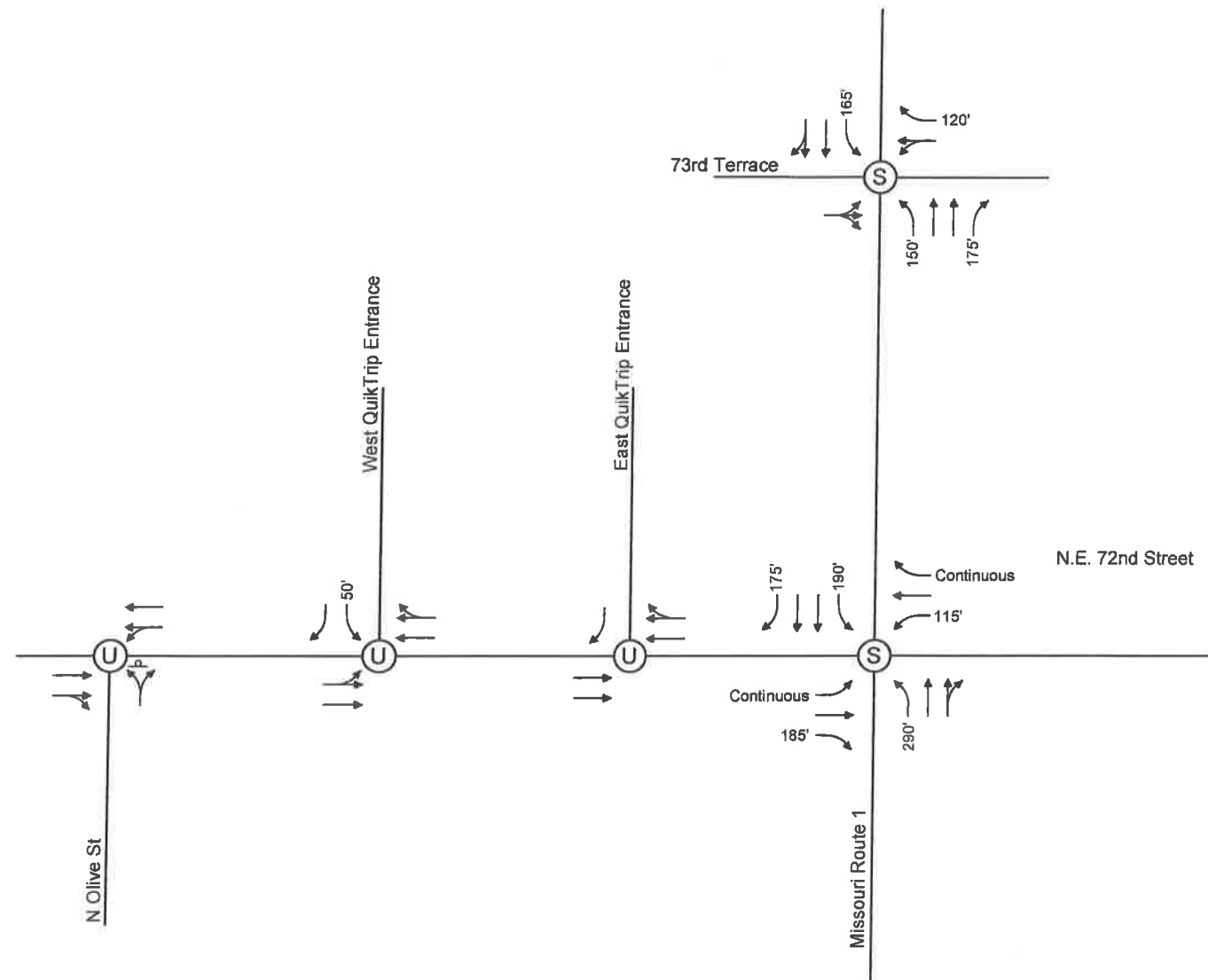
3.4 Existing Recommendations

In general, study intersections are currently operating at acceptable levels of service with exception of various movements at the intersection of Route 1 and 72nd Street, including the eastbound movements during the PM peak hour period. Conditions at signalized and unsignalized intersections that are currently operating at poor LOS will be monitored under the existing plus development scenario to determine whether intersection improvements are necessary. No improvements are recommended under existing conditions.



LEGEND
XX (XX) - AM (PM) Peak Hour Volumes
* - Illegal Left-Turns

PROJECT NO: 014-2168	EXISTING PEAK HOUR VOLUMES	 MOLSSON ASSOCIATES	7301 West 133rd Street Suite 200 Overland Park, KS 66213-4750 TEL 913.381.1170 FAX 913.381.1174	FIGURE
DRAWN BY: JMS				3
DATE: 02/27/2015				



LEGEND

- Ⓢ Unsignalized Intersection
- Ⓢ Signalized Intersection
- Ⓢ Stop Sign
- ↩ XX' Turn Bay Storage Length

PROJECT NO: 014-2168

DRAWN BY: JMS

DATE: 02/27/2015

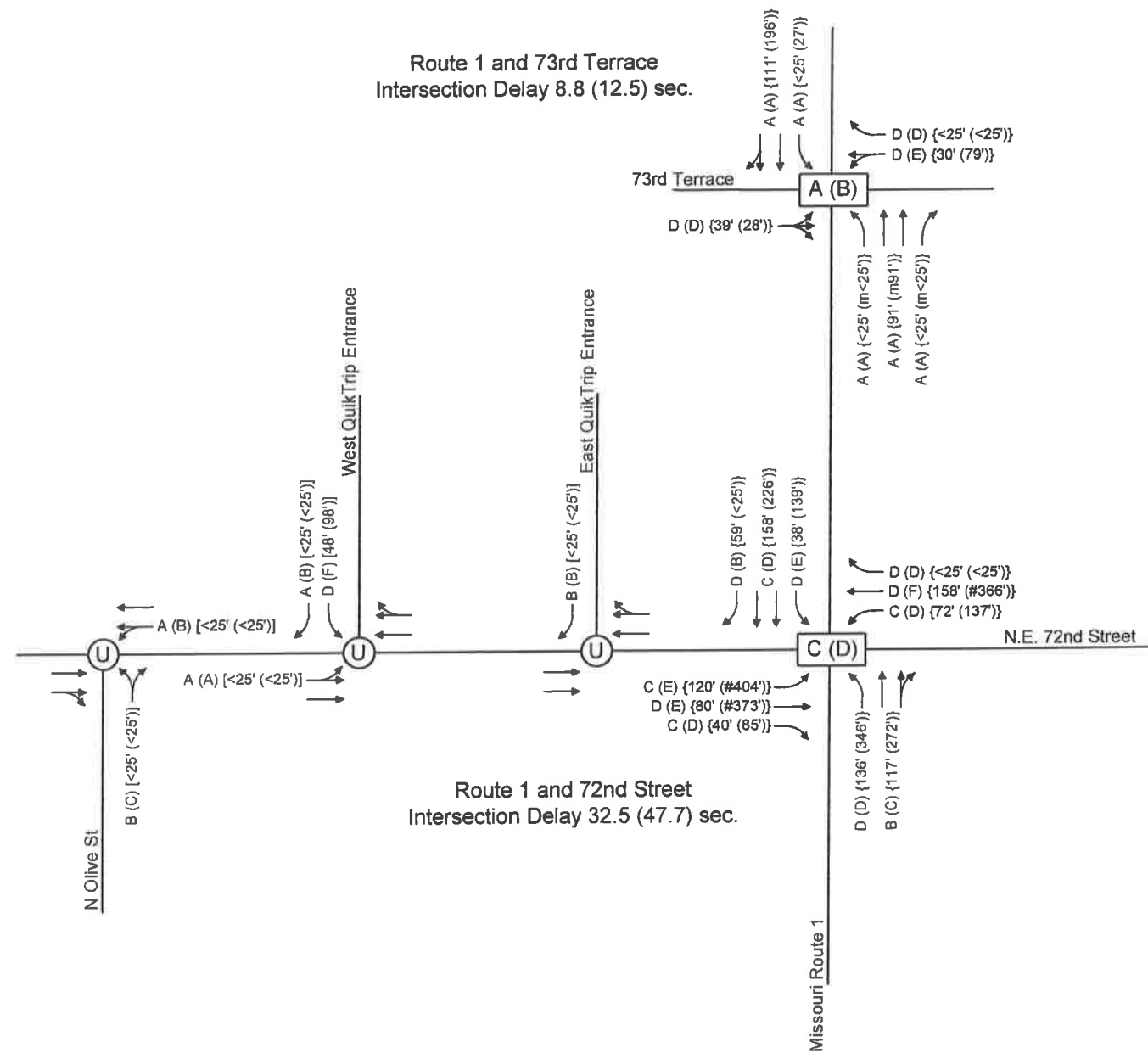
EXISTING LANE CONFIGURATION
& TRAFFIC CONTROL

MOLSSON
ASSOCIATES

7301 West 133rd Street
Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174

FIGURE

4



LEGEND

- ⊙ Unsignalized Intersection
- X (X) AM (PM) Level of Service
- XX (XX) {XX (XX)} AM (PM) Level of Service
{AM (PM)} 95th Percentile Queue Length
- # 95th percentile volume exceeds capacity, queue may be longer
- m Queue is metered by upstream signal

PROJECT NO: 014-2168
DRAWN BY: JMS
DATE: 02/27/2015

EXISTING LEVEL OF SERVICE

MOLSSON
ASSOCIATES

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Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174

FIGURE

5

4.0 EXISTING PLUS DEVELOPMENT CONDITIONS

The proposed development site consists of a 5,858 square foot convenience market with 20 fueling positions replacing an existing 3,200 square foot convenience market with 10 fueling positions. The existing plus development scenario reviews expected operations of the roadway network based on the addition of proposed development traffic to existing traffic volumes, which consider the existing QuikTrip store. Access drives are described in **Section 2.0**.

4.1 Proposed Development

MoDOT *Access Management Guidelines*, located in the MoDOT *Engineering Policy Guide* (EPG) section 940, Access Management, was used to determine whether the proposed driveway meets MoDOT requirements for upstream and downstream functional area and corner clearance. All driveway dimensions stated below were measured center-to-center.

The proposed right-in/right-out access drive, Drive 1, is to be located approximately 335' north of Route 1 and 72nd Street. MoDOT defines the upstream intersection functional area as a combination of three items: perception-reaction distance, maneuver distance, and queue-storage distance. The queue length currently reaches 223' and the maneuver distance is 690' for an urban road with a design speed of 40 mph. Although Drive 1 does not meet MoDOT's functional area guidelines the EPG also mentions in Section 940.15 that *urban routes with non-traversable medians can allow for shorter driveway spacing and corner clearance upstream from an intersection for right-in/right-out driveways*. The corner clearance recommended between right-in/right-out driveways is 220'-330', which Drive 1 meets.

Drive 2 represents a consolidation of two existing drives along 72nd Street into the existing QuikTrip development. This drive currently exists and therefore was not evaluated for functional area or corner clearance since no improvements are planned for the drive. Drive 2 is located as far as possible from the signalized intersection of 72nd Street and Route 1 and with the removal of the existing right-in/right-out drive along 72nd Street, Drive 2 equates to an improvement in overall access management.

4.2 Trip Generation and Distribution

For the purpose of this study, data was collected on existing trips to the current QuikTrip located in the northwest corner of Route 1 and 72nd Street. Trips to the proposed development can be expected to increase over the existing development due to the greater capacity of the proposed development. **Table 3** details the existing entering and exiting trips to the current QuikTrip.

Table 3: Existing Development Trips

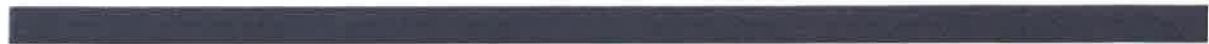
AM Trips (7:30-8:30 AM Adjacent Street)									
Land Use	Size		Trip Gen Avg. Rate/Eq	AM Peak Hour Trips	East QT Drive Enter	Exit	West QT Drive Enter	Exit	Total - Both Drives Enter Exit
QuikTrip - NW Corner of 72nd St & Route 1*	10	Positions	Actual Rates*	303	107	13	49	134	156 147
				303	107	13	49	134	156 147
PM Trips (4:45-5:45 PM Adjacent Street)									
Land Use	Size		Trip Gen Avg. Rate/Eq	PM Peak Hour Trips	East QT Drive Enter	Exit	West QT Drive Enter	Exit	Total - Both Drives Enter Exit
QuikTrip - NW Corner of 72nd St & Route 1*	10	Positions	Actual Rates*	336	117	23	56	140	173 163
				336	117	23	56	140	173 163

*Data collected at both Drives during the AM & PM peak hour periods on August 12, 2014

Trip generation was completed to estimate the expected additional trips to the development. An additional 10 vehicle-fueling positions are proposed, as a result, the existing trips are expected to increase by the ITE trip generation rates for 10 additional fueling positions. For trip generation determination the site was classified as a Convenience Market with Gasoline Pumps as described in the trip generation manual. Trip generation characteristics expected for the site are shown in **Table 4**. These characteristics are based on trip generation data included in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition). The proposed development is expected to generate an additional 166 trips and 191 trips during the AM and PM peak hours of the site, respectively in addition to the existing development trips.

Table 4: Proposed Development Trip Generation

Daily Trip Generation									
ITE Code/Page	Land Use	Size		Trip Gen. Avg. Rate/Eq	Daily Trips	Trip Distribution		Daily Trips	
						Enter	Exit	Enter	Exit
853/1670	Convenience Market w/Gasoline Pumps	10	Positions	Average	5,426	50%	50%	2,713	2,713
Total					5,426			2,713	2,713
AM Peak Hour Trip Generation (Peak Hour of Adjacent Street)									
ITE Code/Page	Land Use	Size		Trip Gen. Avg. Rate/Eq	AM Peak Hour Trips	Trip Distribution		AM Peak Hour Trips	
						Enter	Exit	Enter	Exit
853/1671	Convenience Market w/Gasoline Pumps	10	Positions	Average	166	50%	50%	83	83
Total					166			83	83
PM Peak Hour Trip Generation (Peak Hour of Adjacent Street)									
ITE Code/Page	Land Use	Size		Trip Gen. Avg. Rate/Eq	PM Peak Hour Trips	Trip Distribution		PM Peak Hour Trips	
						Enter	Exit	Enter	Exit
853/1672	Convenience Market w/Gasoline Pumps	10	Positions	Average	191	50%	50%	96	95
Total					191			96	95



After determination of trip generation for the existing site and subsequently the proposed site, pass-by trips (re-assignment) were determined for the peak hour periods. Trips to a site can be classified as primary or pass-by. The trip generation manual provides information regarding pass-by trips for different classifications of development. Pass-by trips are made by traffic that is already on the roadway and passing the site, versus making a specific trip to the development. According to the ITE Trip Generation Handbook, the pass-by trips during the AM and PM peak hour periods for a convenience market with gasoline pumps vary from 48% to 87%. To be conservative 40% pass-by trips during the AM and PM peak hour were used for this study. Considering pass-by, the relocated proposed development site is expected to generate an additional 100 primary and 66 pass-by trips during the AM peak hour and 115 primary and 76 pass-by trips during the PM peak hour over the existing site. The increase in trips from the existing development to the proposed development during the AM and PM peak hour periods are depicted in **Table 5**. Complete trip generation tables for the proposed development can be found in the **Appendix** along with pages from the latest ITE *Trip Generation Manual* (9th Edition).

Table 5: Trip Generation Comparison

AM Peak Hour			PM Peak Hour		
Existing QuikTrip Trips			Existing QuikTrip Trips		
Primary			Primary		
Enter	Exit	Total	Enter	Exit	Total
94	88	182	104	98	202
Pass-by			Pass-by		
62	59	121	69	65	134
Proposed QuikTrip (Additional Trips)			Proposed QuikTrip (Additional Trips)		
Primary			Primary		
Enter	Exit	Total	Enter	Exit	Total
+50	+50	+100	+58	+57	+115
Pass-by			Pass-by		
+33	+33	+66	+38	+38	+76
Proposed QuikTrip Trips			Proposed QuikTrip Trips		
Primary			Primary		
Enter	Exit	Total	Enter	Exit	Total
143	138	281	161	155	316
Pass-by			Pass-by		
96	92	188	108	103	211

Prior to distribution of the additional development trips, the existing QuikTrip development trips were reassigned to accommodate the removal of the QuikTrip East Drive and the addition of Drive 1. To reassign the trips, the existing QuikTrip site trips were removed from the study area network and reassigned along with the additional trips to the roadway network using the distribution shown in **Table 6**. Removal of the existing QuikTrip site trips was completed using a gravity distribution based on the arrival and departure direction of existing trips. The Trip Distribution for the reassignment of existing trips along with the additional trips was completed based on the existing traffic patterns. Trip reassignment is detailed in the **Appendix, Figure A-1**.

Table 6: Trip Distribution

Direction	AM Peak Hour			PM Peak Hour		
	Primary Trips	Pass-by Trips		Primary Trips	Pass-by Trips	
	To/From	To	From	To/From	To	From
North (Route 1)	25%	30%	20%	20%	25%	25%
South (Route 1)	23%	20%	30%	20%	25%	25%
East (72nd Street)	17%	25%	25%	15%	30%	20%
West (72nd Street)	35%	25%	25%	45%	20%	30%
	100%	100%	100%	100%	100%	100%

The reassigned trips including trips associated with the additional pumps (seen in **Table 4**) were added to existing traffic count data (following removal of the existing QuikTrip site trips) for analysis of the Existing plus Development scenario. The reassigned AM and PM peak hour trips for the proposed development, following distribution and assignment to the roadway network, are illustrated in **Figure 6**. The resulting Existing plus Development peak hour traffic volumes including the relocated and additional QuikTrip volumes and the Specialty Retail Center are illustrated in **Figure 7**.

4.3 Turn Lane Warrant Analysis

MoDOT *Access Management Guidelines*, located in the MoDOT *Engineering Policy Guide* (EPG) section 940.9.8, were used to determine whether auxiliary turn lanes are warranted at the proposed development drives along Route 1 and 72nd Street. In addition to the turn lane warrant, vehicular queuing, movement and intersection level of service, as well as volume of turning vehicles was used when considering the need for a turn lane. The guidelines state that dedicated left and right-turn lanes should be provided in situations where traffic volumes and speeds are relatively high and conflicts are likely to develop at public road intersections and driveways between thru and turning traffic.

Right-Turn

Using existing plus development volumes at the study intersections, EPG sections 940.9.8 and 940.9.9 were utilized to determine if existing plus development conditions warrant the need for right-turn lanes.

Following the procedure outline in the EPG, it was determined that existing plus development volumes warrant a right-turn lane at Drive 2. Drive 1 does not warrant a right-turn lane, but the drive is already proposed to include a 125' auxiliary turn lane. Since the QuikTrip East Drive along 72nd Street is being removed from the site there should be sufficient space to add a westbound right-turn lane at Drive 2. It is recommended to add a right-turn lane along 72nd Street at Drive 2 with a minimum of 50' of storage length. Right-turn lane warrant analysis sheets can be found in the **Appendix**.

Left-Turn

EPG section 940.9.1 was used to determine if an auxiliary eastbound left-turn lane is warranted along 72nd Street at Drive 2. Based on the proposed volumes along 72nd



Street a left-turn lane is warranted under existing plus development conditions. It should be noted that under existing conditions a left-turn lane is warranted. It appears there may not be appropriate right-of-way to provide an eastbound left-turn lane along 72nd Street. Capacity analysis will be reviewed for the existing plus development conditions to conclude if an eastbound left-turn lane at this intersection is needed.

4.4 Capacity Analysis

Capacity analysis was performed using the methodologies described in **Section 4.2**. **Table 7** details LOS and delay associated with the signalized study intersections. To complete signalized capacity analysis, signal timings were reviewed and intersection offsets were updated as necessary to account for changes in traffic volumes at study intersections for the existing plus development scenario.

Table 7: Existing plus Development Signalized Intersection Analysis

Intersection	AM Peak Hour*	PM Peak Hour*
Route 1 and 72 nd Street	C (32.2)	D (46.9)
Route 1 and 73 rd Terrace	A (9.6)	B (11.9)

*LOS (Delay in Seconds)

The overall LOS for the signalized study intersections is expected to be a D or better in both the AM and PM peak hour periods. Improvements to signal timings are expected to offer the same or slightly improved LOS results at most of the signalized study intersections. All individual movements were minimally effected by the addition of the development trips; operations are expected to be a LOS D or better during the peak hour periods or were unchanged from existing conditions with the following exceptions:

Route 1 & 72nd Street

- The northbound left-turn movement is expected to operate at a LOS E during the PM peak hour period.
 - The 95th-percentile queue length is expected to slightly increase from the existing conditions scenario.
- As with the existing conditions, the eastbound left-turn and thru movements are expected to continue to queue past the west drive (Drive 2) along 72nd Street.
 - Vehicles are expected to utilize Drive 1 if the eastbound queue at the Route 1 and 72nd Street intersection makes it difficult for vehicles to exit the drive.

Unsignalized capacity analysis was conducted for the remaining study intersections. Based on capacity analysis, all individual movements are expected to operate at similar LOS as the existing conditions with the following exceptions:

72nd Street & Drive 2

- During the AM peak hour period the southbound left-turn movement is expected to operate at a LOS E and during the PM peak hour period the movement is

expected to continue operating at a LOS F. The 95th-percentile queue lengths are contained within the available on-site throat distance and should be affect traffic on 72nd Street.

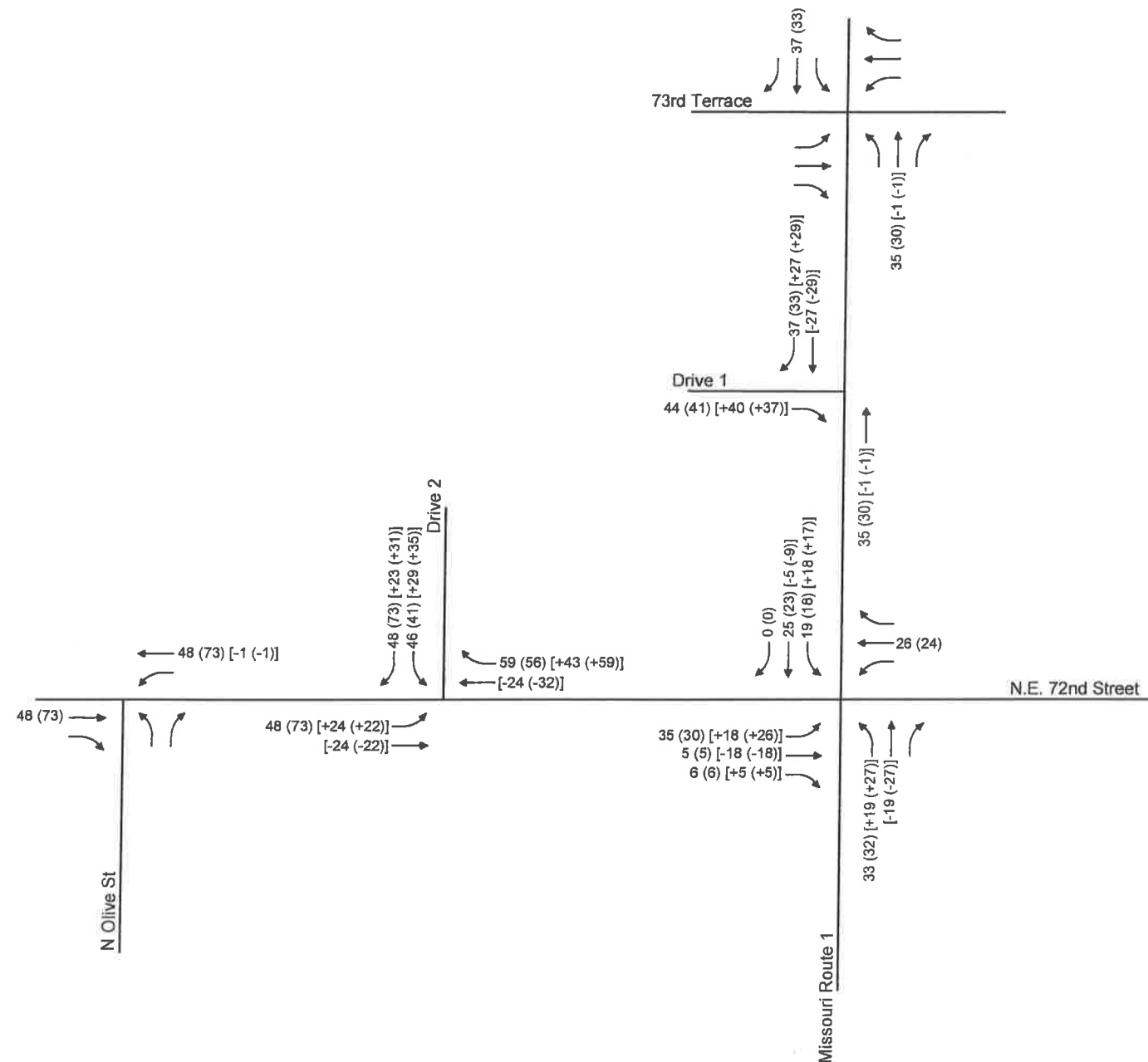
- Additionally, if vehicles experience extended delay at Drive 2 it is anticipated that a portion of the traffic will shift to Drive 1 where there is available capacity.
- The eastbound left-turn movement is expected to operate at a LOS B or better during both peak hours; therefore, based on the available right-of-way and capacity analysis it is not recommended to add an eastbound left-turn lane along 72nd Street.

Figure 8 illustrates the existing plus development lane configurations and traffic control and **Figure 9** illustrates the existing plus development level of service and 95th-percentile queuing at study intersections. Capacity analysis sheets are included in the **Appendix**.

4.6 Existing plus Development Recommendations

Operations at the signalized intersection of Route 1 and 72nd Street are minimally effected by the reconstructed QuikTrip site. The addition of Drive 1 along the west side of Route 1 is expected to help right-turn operations at the intersection of Route 1 and 72nd Street. Drive 1 is also expected to help reduce the number of vehicles entering QuikTrip along 72nd Street and gives an alternative exit for vehicles.

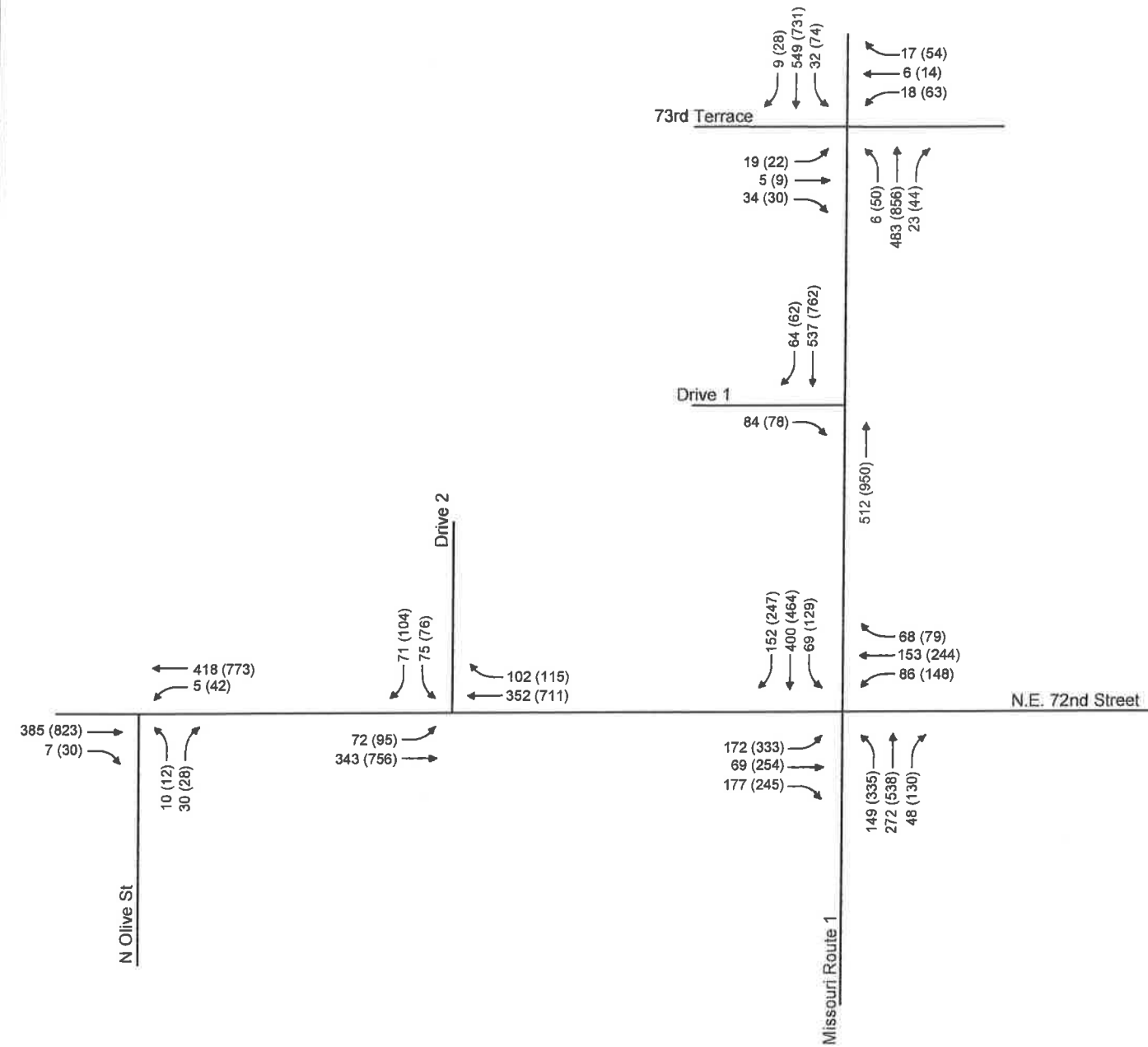
- Drive 1 spacing meets MoDOT EPG Guidelines for right-in/right-out driveways and is recommended to be installed approximately 335' north of 72nd Street along Route 1 (center-to-center).
- Add an auxiliary right-turn lane with a minimum of 50' of storage length at Drive 2.
- It is planned with the reconstruction to the QuikTrip site to remove the existing right-in/right-out East Drive along 72nd Street consolidating drives and improving overall Access Management.
- Split times and offsets at the intersection of Route 1 and 72nd Street should be optimized to improve the level of service and delay at the intersection.



LEGEND

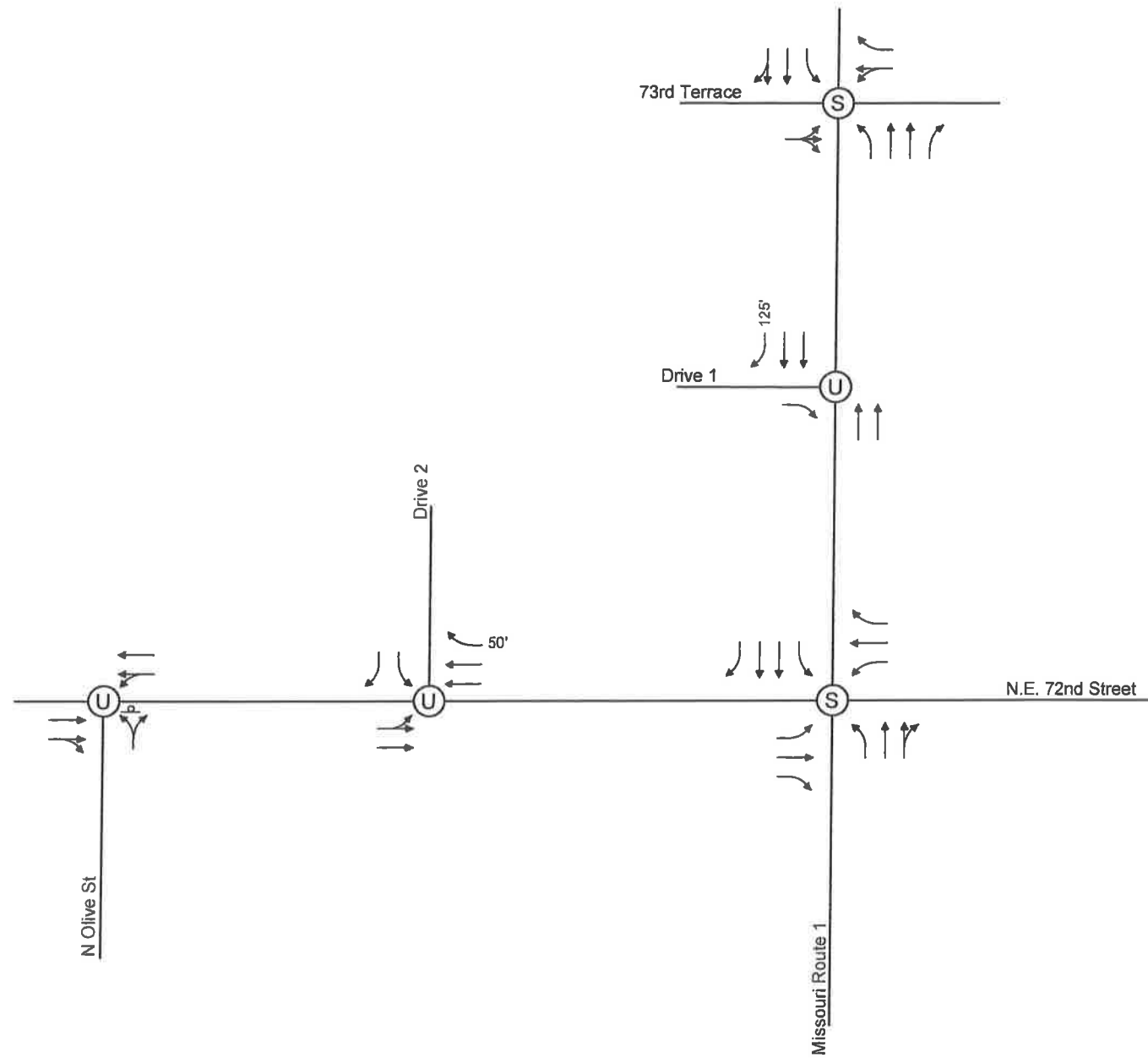
← XX (XX) [XX (XX)] - AM (PM) Peak Hour Trips [AM (PM) Pass-by Trips]

PROJECT NO: 014-2168	PROPOSED DEVELOPMENT TRIP DISTRIBUTION	 7301 West 133rd Street Suite 200 Overland Park, KS 66213-4750 TEL 913.381.1170 FAX 913.381.1174	FIGURE
DRAWN BY: JMS			6
DATE: 02/27/2015			



LEGEND
XX (XX) - AM (PM) Peak Hour Volumes

PROJECT NO: 014-2168	EXISTING + DEVELOPMENT PEAK HOUR VOLUMES		7301 West 133rd Street Suite 200 Overland Park, KS 66213-4750 TEL 913.381.1170 FAX 913.381.1174	FIGURE 7
DRAWN BY: JMS				
DATE: 02/27/2015				



LEGEND

- (U) Unsignalized Intersection
- (S) Signalized Intersection
- ◫ Stop Sign
- ↩ XX' Turn Bay Storage Length

PROJECT NO: 014-2168

DRAWN BY: JMS

DATE: 02/27/2015

EXISTING+DEVELOPMENT LANE
CONFIGURATION & TRAFFIC CONTROL

MOLSSON
ASSOCIATES

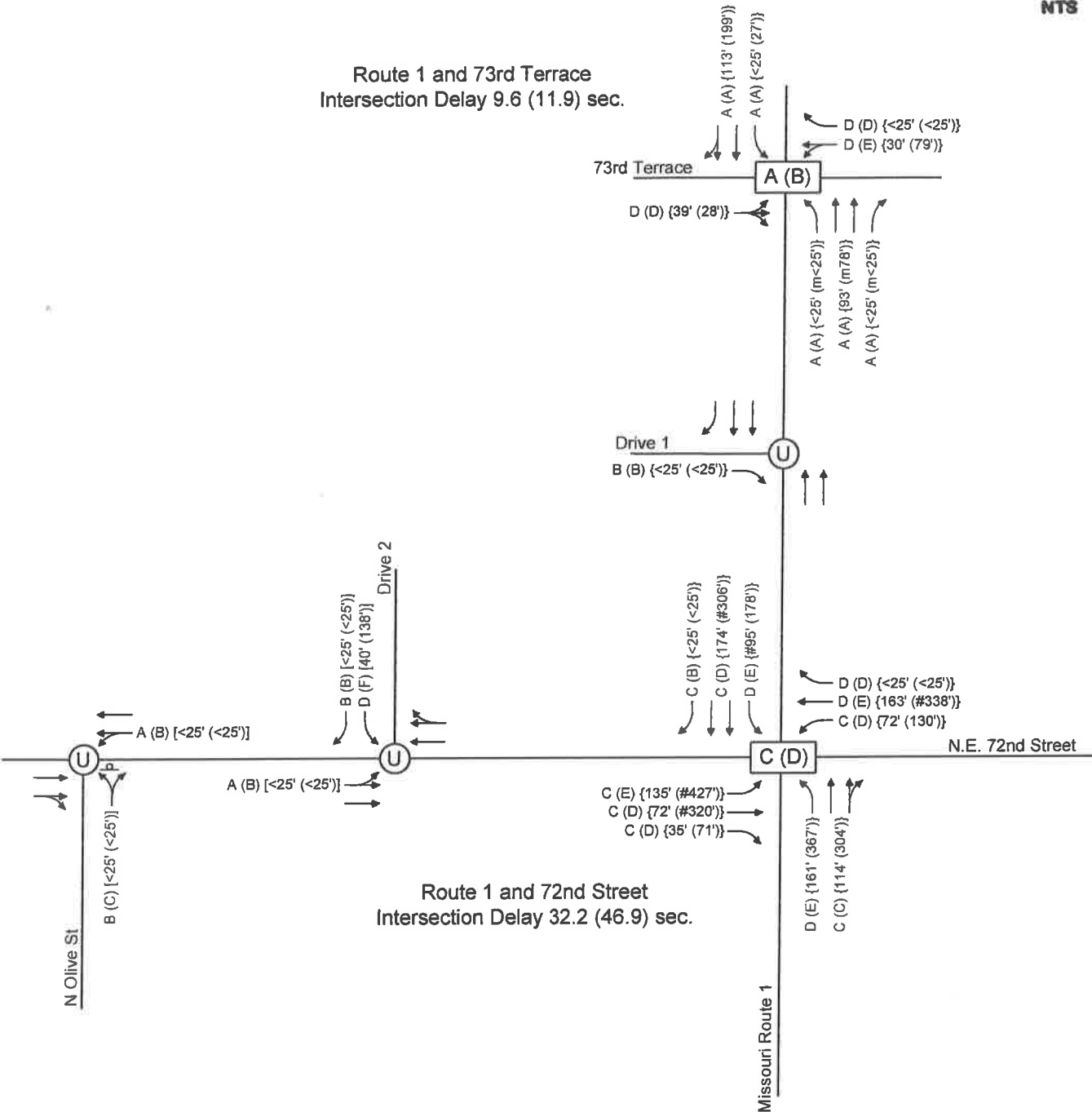
7301 West 133rd Street
Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174

FIGURE

8



Route 1 and 73rd Terrace
Intersection Delay 9.6 (11.9) sec.



LEGEND

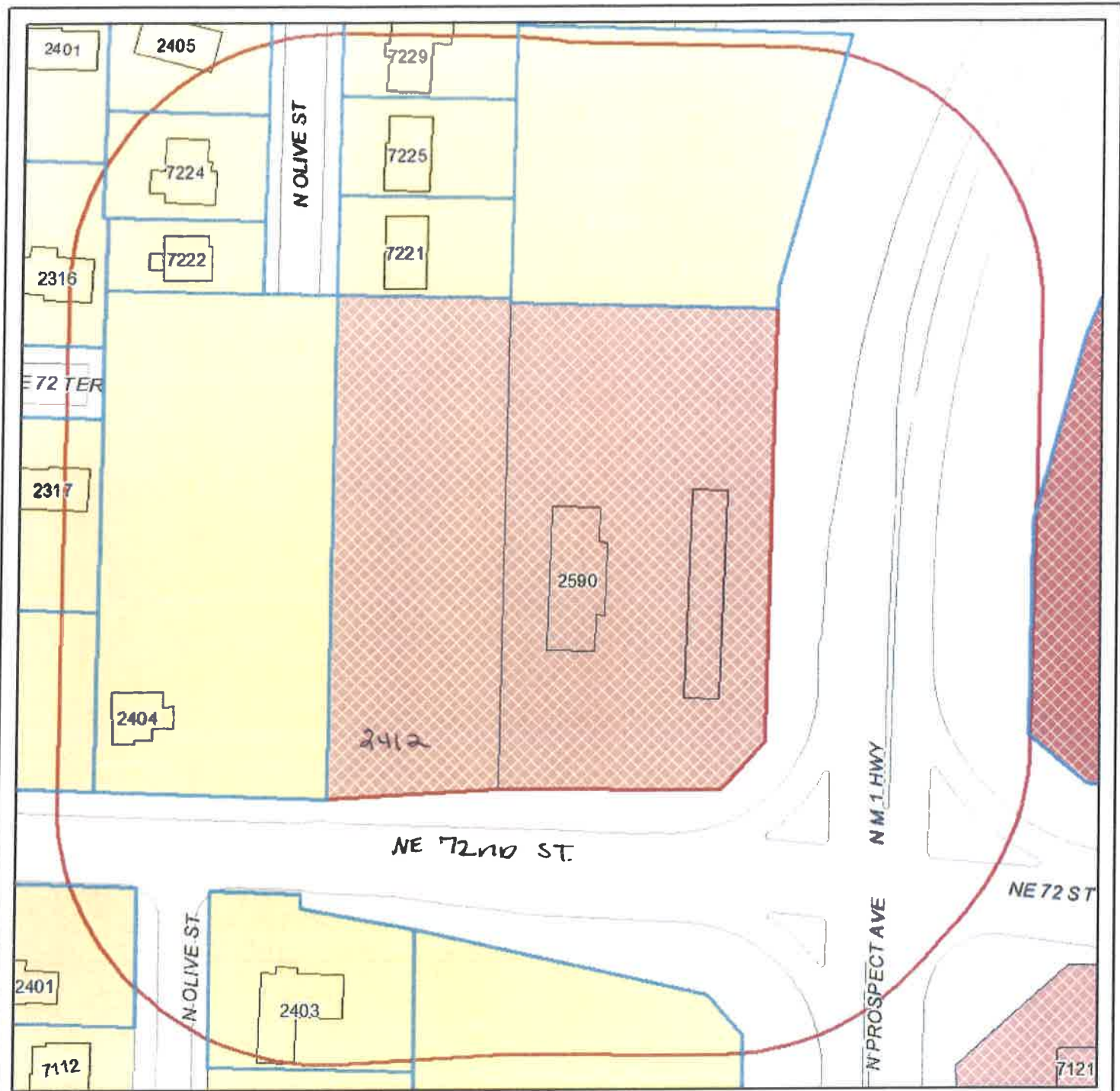
- Ⓢ Unsignalized Intersection
- X (X) AM (PM) Level of Service
- XX (XX) {XX (XX)} AM (PM) Level of Service
{AM (PM)} 95th Percentile Queue Length
- # 95th percentile volume exceeds capacity, queue may be longer
- m Queue is metered by upstream signal

PROJECT NO: 014-2168
DRAWN BY: JMS
DATE: 02/27/2015

EXISTING + DEVELOPMENT
LEVEL OF SERVICE

MOLSSON
ASSOCIATES
7301 West 133rd Street
Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174

FIGURE
9



October 19, 2015

QuikTrip

Site Plan Revision

CITY OF GLADSTONE

COMMUNITY DEVELOPMENT DEPT.
7010 N. Holmes, Gladstone, MO 64118
Telephone: (816) 436-2200

Chapter Three: Future Land Use
Areas of Special Interest



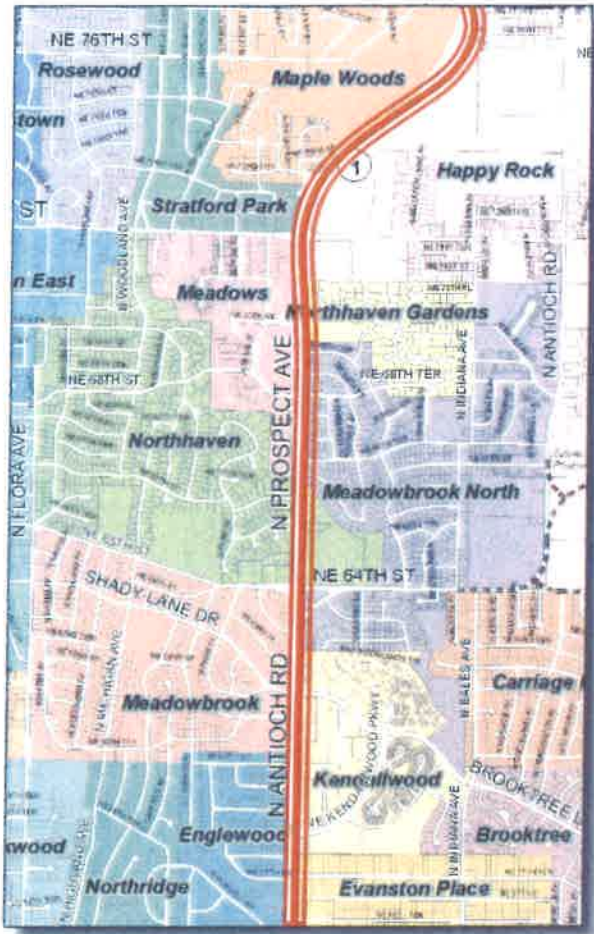
Antioch Rd / M-1 Hwy Corridor

Antioch Road / M-1 Hwy Corridor

The Antioch Rd / M-1 Hwy Corridor serves as a primary north-south travel route from I-35 to M-152 Hwy. For Gladstone to continue to be a thriving community in 2030 it is important to focus on strategic revitalization and redevelopment opportunities in the corridor that will maintain the health of existing neighborhoods and provide necessary services and retail needs of residents. Healthy neighborhoods, services, and retail centers in the corridor are key to maintaining the tax base necessary to support Gladstone's quality of life.

A central component of community sustainability, and the basis for encouraging revitalization and growth in the corridor, includes enhancing established neighborhoods and retrofitting existing low intensity and underperforming commercial areas. This will support a strong economy in the future by increasing the property and sales tax base, providing areas for new employment opportunities, accommodating additional population growth, and providing additional housing options for all generations within the community.

Public infrastructure improvements provide the opportunity to implement "green" design including low-impact street designs with natural infiltration of storm water. In addition, public improvements can help promote the integration of complete streets, context sensitive solutions, and other relevant initiatives into roadway planning, design, implementation, and maintenance policies so that the roadways in the corridor safely accommodate all users including pedestrians, bicyclists, transit riders, children, older individuals, disabled individuals, and motorists.

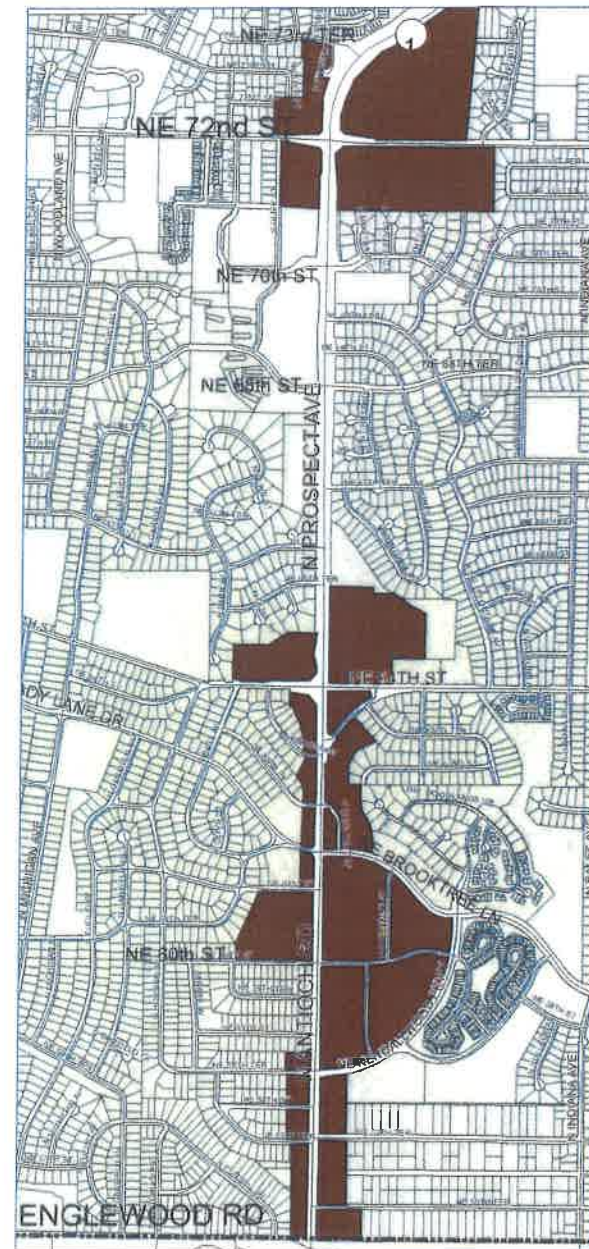


The Corridor has a diverse range of neighborhoods within 1/2 mile of both sides of Antioch Rd / M-1 Hwy.



Antioch Corridor Revitalization Subareas Map

Future master planning for these areas should identify targeted areas for a change in land use or redevelopment into a neighborhood 'village center' pattern with neighborhood serving businesses integrated with new higher-density housing types for residents of all ages and incomes. Transition standards should also be prepared for the renovation or redevelopment of commercial properties located in close proximity with established neighborhoods.



Chapter Three: Future Land Use Areas of Special Interest



Antioch Rd / M-1 Hwy Corridor

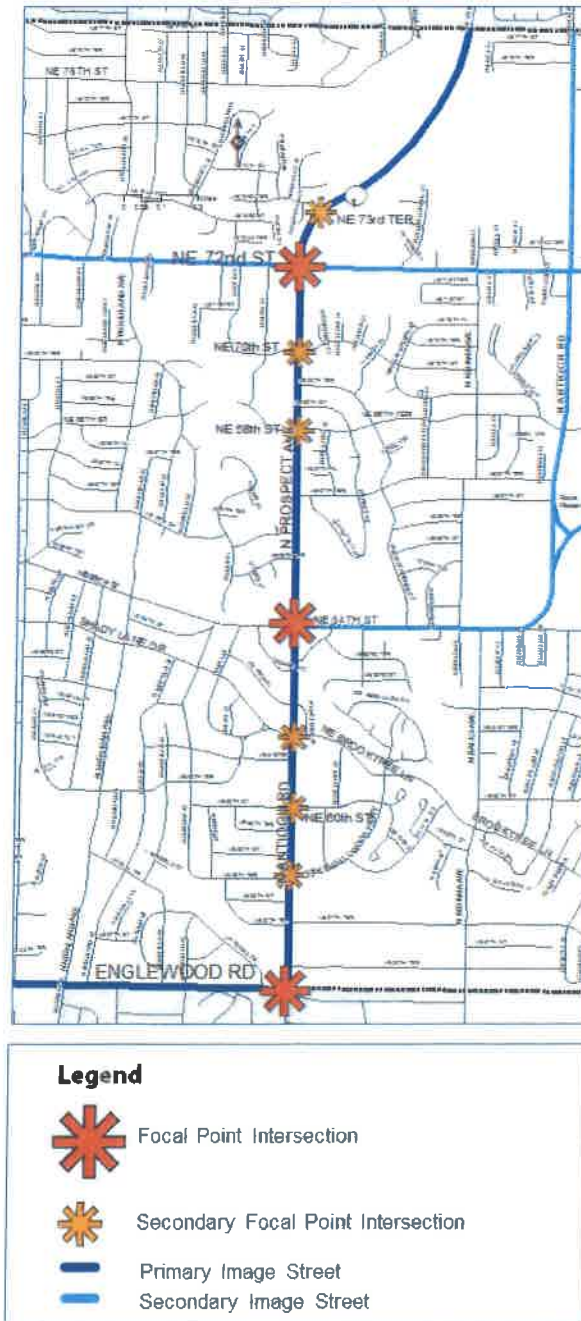
Intersection Enhancements

Enhancements at major intersections in the corridor should improve safety and provide a sense of "arrival" unique to Gladstone. Each of these intersections should provide safe pedestrian and bicycle crossings, including improved connectivity between the east and west sides of N. Antioch Rd / M-1 Hwy. Improvements at these intersections should address streetscape aesthetics, traffic calming measures, pedestrian and bicycle facilities, and transit stops.



Distinctive streetscape enhancements should be targeted to focal point intersections and should be visually unique to Gladstone.

Antioch Rd / M-1 Hwy Focal Point Intersections Map



Chapter Three: Future Land Use Areas of Special Interest



Antioch Rd / M-1 Hwy Corridor

Focal Point Intersections

Focal point intersections set the tone for the entire corridor and provide the most distinctive visual elements. A complex set of vehicular, pedestrian and bicycle, and transit activities occur at these locations; thus improvements should increase the safety and level of comfort for all users. Recommended streetscape enhancements include:

- Distinctive ornamental streetlighting;
- Intersections fully paved and crosswalks with distinctive concrete and/or paver materials. Raised or "table top" intersections should be considered as part of a full intersection improvement to provide both visual impact and traffic calming;
- Landscaped median including pavers (with landscaping where practical);
- Street trees and distinctive landscape features;
- Wider sidewalks;
- Public art;
- Distinctive bus shelters with transit stop amenities; and
- Streetscape features extended along intersecting streets.



Distinctive intersection streetscape improvements will provide a sense of place and "arrival" unique to Gladstone.



Streetscape improvements will improve aesthetics and the safety of pedestrians and bicyclists crossing the street.



Improved medians may include decorative street lighting, landscaping, and public art, such as this median on 47th St. at the Country Club Plaza.

Secondary Focal Point Intersections

Secondary focal point intersections are critical locations to improve safe pedestrian and bicycle crossings and enhance connectivity for both sides of Antioch Rd / M-1 Hwy. These intersections should maintain the visual aesthetics and tone established at focal point intersections, but may have less elaborate streetscape design. The improvements should integrate similar distinctive visual and traffic calming measures.

Chapter Three: Future Land Use
Areas of Special Interest



Antioch Rd / M-1 Hwy Corridor

Pedestrian, Bicycle, and Transit Network

Access to transit services and the careful design and maintenance of pedestrian and bicycle facilities is important for the long-term enhancement of the Antioch Rd / M-1 Hwy Corridor. Key goals for the corridor include improving accessibility to transit services, and designing and maintaining the most positive walking and biking experiences for residents of all ages and abilities. Related improvements in the corridor should include the following:

- New or improved sidewalks along neighborhood streets to access destinations along Antioch Rd / M-1 Hwy;
- Completion of off-street multi-use trail facilities south of NE 67th Ter.;
- Installation of on-street bike facilities (designated on-street lanes, share the road, and bicycle routes) on roadways throughout the corridor, including appropriate facilities on or along Antioch Rd. / M-1 Hwy;
- Intersection crossing enhancements; and
- Bus transit stop enhancements and related amenities.



Completion of the off-street multi-use trail south of NE 67th St. will provide improved connectivity throughout the corridor.



Improved on-street bike facilities are needed for streets throughout the corridor.



Paving treatments for major street crossings can help improve safety, calm traffic and enhance the visual image.

Chapter Three: Future Land Use Areas of Special Interest



Antioch Rd / M-1 Hwy Corridor

Focal Bus Stops

The **Corridor Transit Map** identifies key locations where enhanced "focal" bus stops are recommended. These locations are near major destinations in the corridor and provide convenient access from neighborhoods on both sides of Antioch Rd / M-1 Hwy. Recommended enhancements at these bus stops include the following which should be coordinated with intersection improvements and adjoining private development:

- Shelters and public art with a distinctive design;
- New or improved sidewalks on local neighborhood streets connecting to the stop location; and
- Pedestrian lighting.

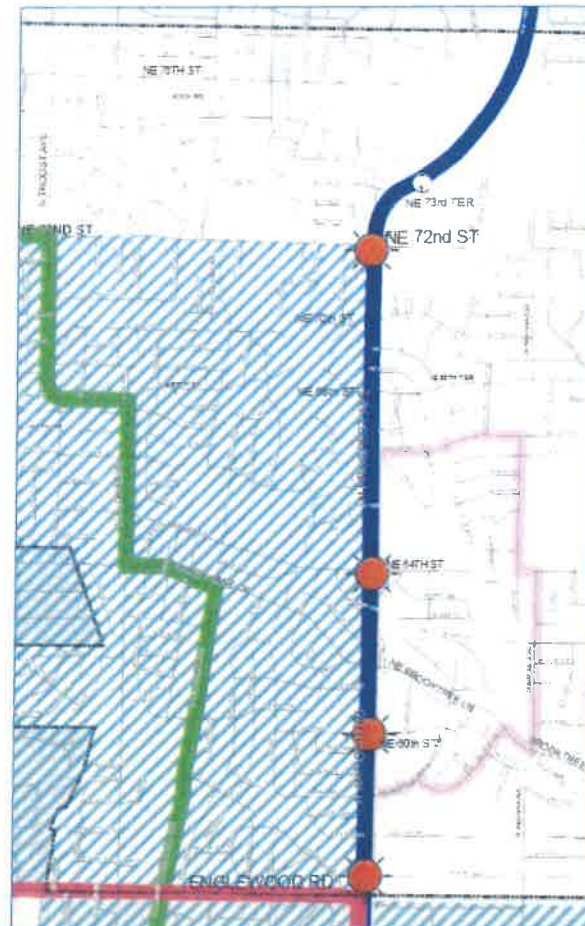


Shelters with distinctive design unique to Gladstone can be associated with public art improvements at focal point intersections.



Focal bus stop facilities and amenities should be coordinated with major intersection streetscape improvements and adjacent private development site improvements.






Antioch Rd / M-1 Hwy Corridor Transit Map

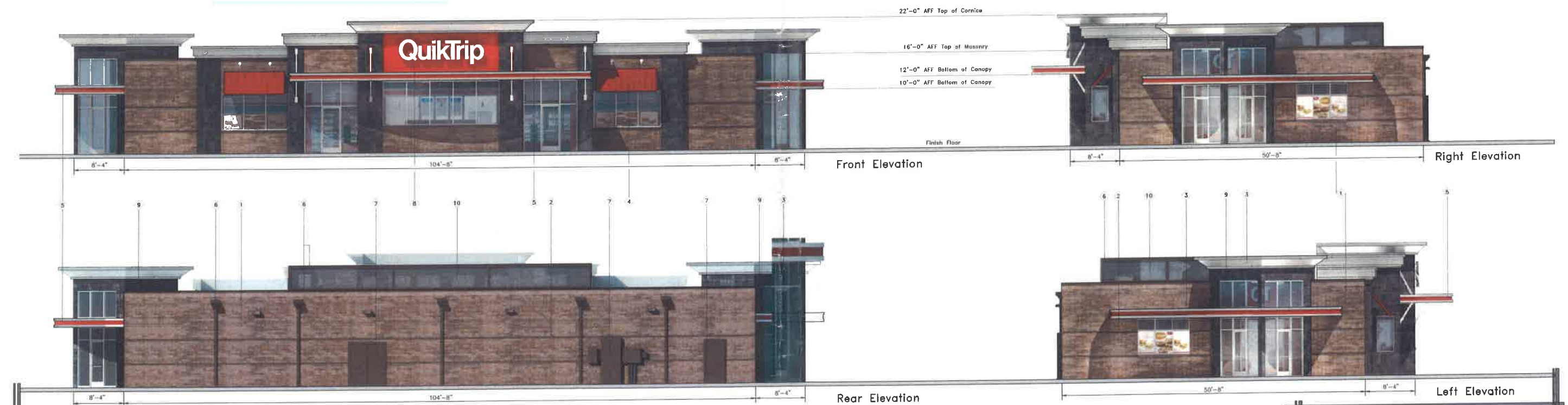


Legend

 Focal Bus Stops

Bus Routes

-  Boardwalk / Antioch Connector
-  Gladstone
-  Meadowbrook Extension
-  Metro / N Antioch Connector
-  Gladstone / Antioch Metroflex



QuikTrip.

4705 South 129th East Ave.
Tulsa, OK 74134-7008
P.O. Box 3475
Tulsa, OK 74101-3475
(918) 615-7700

Store # 0181 Angled Entry Building Elevations

Serial # 02-0181-BSTI

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

Issue Date: 07/06/15

Address: 2590 NE 72nd Street

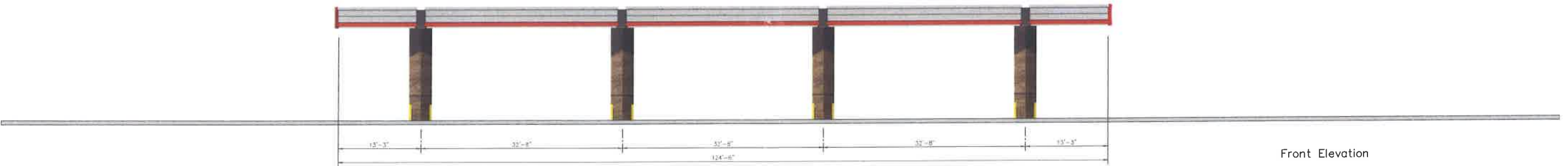
Drawn By: TR

Rev/Notes:

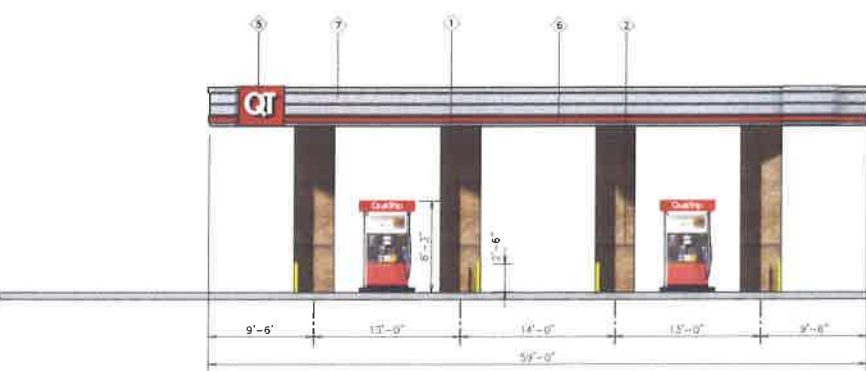
City, State: Gladstone, MO

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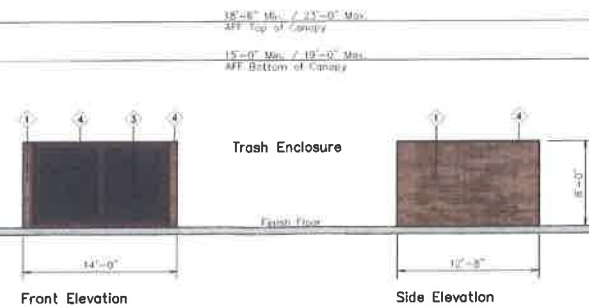
#	FINISH	MANUFACTURER	SPECIFICATION
1	BROWN STONE	INTERSTATE BRICK	ATLAS STRUCTURAL BRICK
2	INTERSTATE	INTERSTATE BRICK	ATLAS STRUCTURAL BRICK
3	ALUMINUM	ALUMINUM	ALUMINUM
4	QUICK	QUICK	QUICK
5	QUICK	QUICK	QUICK
6	QUICK	QUICK	QUICK
7	QUICK	QUICK	QUICK
8	QUICK	QUICK	QUICK
9	QUICK	QUICK	QUICK
10	QUICK	QUICK	QUICK
11	QUICK	QUICK	QUICK



Front Elevation

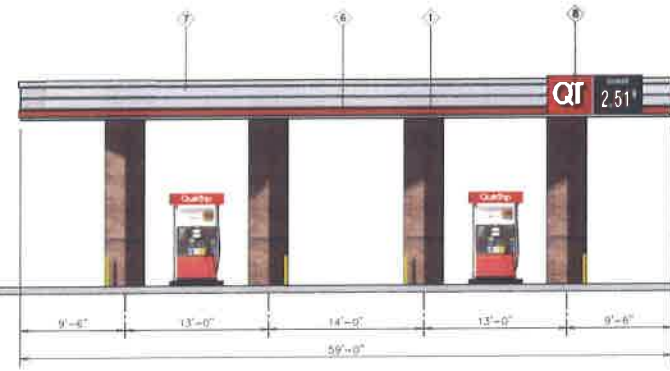


North Elevation



Front Elevation

Side Elevation



South Elevation

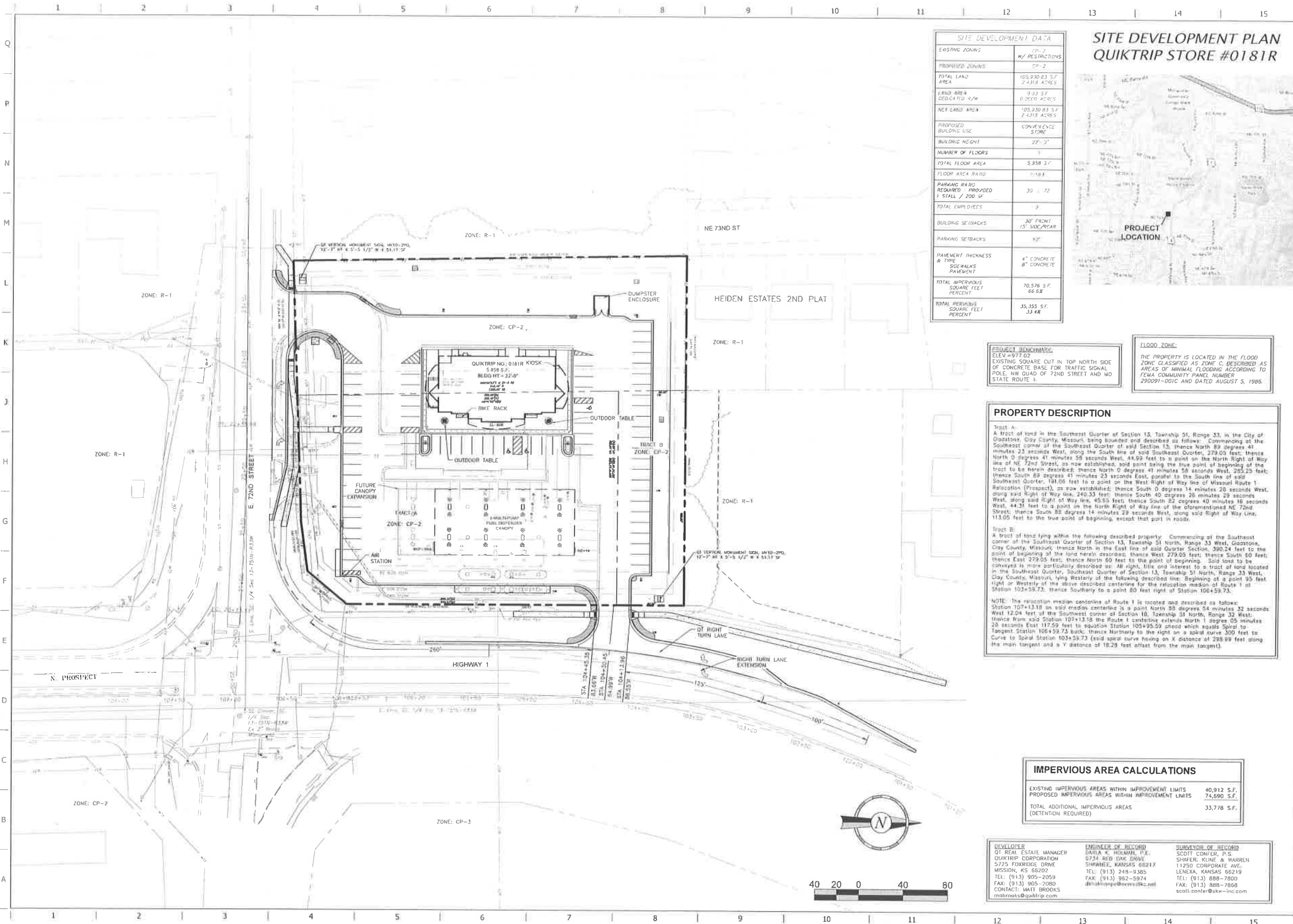
QuikTrip.

4705 South 129th East Ave.
Tulsa, OK 74134-7008
P.O. Box 3475
Tulsa, OK 74101-3475
(918) 615-7700

Store # 0181		Double Stack 8 Gas Canopy		Address: 2590 NE 72nd Street		City, State: Gladstone, MO	
Serial # 02-0181 -GD08		Scale: 1/8"=1'-0"		Issue Date: 07/06/15		Drawn By: JK	
				Rev/Notes:		COPYRIGHT (C) 2011 QUIKTRIP CORPORATION DESIGN PATENTS QUIKTRIP PLANS ARE THE EXCLUSIVE PROPERTY OF QUIKTRIP CORPORATION, TULSA, OKLAHOMA. THESE PLANS ARE PROTECTED BY THEIR ENTIRETY BY DOMESTIC AND INTERNATIONAL COPYRIGHT AND PATENT STATUTES. ANY UNAUTHORIZED USE, REPRODUCTION, PUBLICATION, DISTRIBUTION OR SALE IN WHOLE OR IN PART, IS STRICTLY FORBIDDEN.	

①	FINISH	MANUFACTURER	SPECIFICATION
1	BROWN STONE	INTERSTATE BRICK	ATLAS STRUCTURAL BRICK
2	MOONLIGHT BLACK	INTERSTATE BRICK	ATLAS STRUCTURAL BRICK
3	BLACK	ALL COURT FABRICS	POLYPRO 35 WEFT
4	DARK BRONZE	ALLEN INDUSTRIES	METAL PANEL
5	BR-14	ALLEN INDUSTRIES	ILLUMINATED SIGNAGE
6	RED POLYCARBONATE	ALLEN INDUSTRIES	ILLUMINATED SIGNAGE
7	HP-7 ALUMINUM	ALPOL	CANOPY
8	BR-14	ALLEN INDUSTRIES	ILLUMINATED SIGNAGE

FILE LOCATION: C:\3D Projects\UT181R\02-0181 Civil.dwg TAB NAME: POP Site USER: roover SAVED: 10/12/2015 5:57 PM PLOTTED: 10/13/2015 2:25 PM



SITE DEVELOPMENT DATA	
EXISTING ZONING	CP-2
PROPOSED ZONING	CP-2
TOTAL LAND AREA	105,930.83 S.F. 2.4118 ACRES
LAND AREA DEDICATED 4/4	933 S.F. 0.0000 ACRES
NET LAND AREA	105,930.83 S.F. 2.4118 ACRES
PROPOSED BUILDING USE	CONVENIENCE STORE
BUILDING HEIGHT	27'-0"
NUMBER OF FLOORS	1
TOTAL FLOOR AREA	5,358 S.F.
FLOOR AREA RATIO	5.1%
PARKING REQUIRED	30
PROVIDED	72
TOTAL EMPLOYEES	3
BUILDING SETBACKS	30' FRONT 15' SIDE/REAR
PARKING SETBACKS	10'
PAVEMENT THICKNESS & TYPE	4" CONCRETE
SIDEWALKS	8" CONCRETE
TOTAL IMPERVIOUS SQUARE FEET	70,576 S.F.
PERCENT	66.6%
TOTAL PERVIOUS SQUARE FEET	35,355 S.F.
PERCENT	33.4%

SITE DEVELOPMENT PLAN QUIKTRIP STORE #0181R



PROJECT BENCHMARK
ELEV = 977.02
EXISTING SQUARE CUT IN TOP NORTH SIDE OF CONCRETE BASE FOR TRAFFIC SIGNAL AT POLE, NW QUAD OF 72ND STREET AND MO STATE ROUTE 1

FLOOD ZONE:
THE PROPERTY IS LOCATED IN THE FLOOD ZONE CLASSIFIED AS ZONE C, DESCRIBED AS AREAS OF MINIMAL FLOODING ACCORDING TO FEMA COMMUNITY PANEL NUMBER 290091-001C AND DATED AUGUST 5, 1986.

PROPERTY DESCRIPTION

Tract A:
A tract of land in the Southeast Quarter of Section 13, Township 51 North, Range 33 West, Clay County, Missouri, being bounded and described as follows: Commencing at the Southeast corner of the Southeast Quarter of said Section 13, thence North 89 degrees 41 minutes 23 seconds West, along the South line of said Southeast Quarter, 279.05 feet; thence North 0 degrees 41 minutes 58 seconds West, 44.89 feet to a point on the North Right of Way line of NE 72nd Street, as now established, said point being the true point of beginning of the tract to be herein described; thence North 0 degrees 41 minutes 58 seconds West, 255.25 feet; thence South 89 degrees 41 minutes 23 seconds East, parallel to the South line of said Southeast Quarter, 191.05 feet to a point on the West Right of Way line of Missouri Route 1 (Highway 1), as now established; thence South 0 degrees 14 minutes 20 seconds West, along said Right of Way line, 340.33 feet; thence South 40 degrees 20 minutes 29 seconds West, along said Right of Way line, 45.55 feet; thence South 82 degrees 40 minutes 16 seconds West, 44.31 feet to a point on the North Right of Way line of the aforementioned NE 72nd Street; thence South 88 degrees 14 minutes 28 seconds West, along said Right of Way line, 113.05 feet to the true point of beginning, except that part in roads.

Tract B:
A tract of land lying within the following described property: Commencing at the Southeast corner of the Southeast Quarter of Section 13, Township 51 North, Range 33 West, Clay County, Missouri, thence North in the East line of said Quarter Section, 390.24 feet to the point of beginning of the land herein described; thence West 279.05 feet; thence South 50 feet; thence East 279.05 feet; thence North 50 feet to the point of beginning. Said land to be conveyed is more particularly described as: All right, title and interest in a tract of land located in the Southeast Quarter, Southeast Quarter of Section 13, Township 51 North, Range 33 West, Clay County, Missouri, lying Westerly of the following described line: Beginning at a point 95 feet East or Westerly of the above described centerline of the relocation median of Route 1 at Station 103+58.73, thence Southerly to a point 80 feet right of Station 106+59.73.

NOTE: The relocation median centerline of Route 1 is located and described as follows: Station 107+13.18 on said median centerline is a point North 88 degrees 54 minutes 32 seconds West 12.04 feet of the Southwest corner of Section 10, Township 51 North, Range 33 West, thence from said Station 107+13.18 the Route 1 centerline extends North 1 degree 05 minutes 28 seconds East 117.59 feet to station Station 105+25.59 which equals Spiral to Tangent Station 106+59.73 back; thence Northerly to the right on a spiral curve 300 feet to Curve to Spiral Station 105+59.73 (acid spiral curve having an X distance of 298.89 feet along the main tangent and a Y distance of 18.28 feet offset from the main tangent).

IMPERVIOUS AREA CALCULATIONS

EXISTING IMPERVIOUS AREAS WITHIN IMPROVEMENT LIMITS	40,912 S.F.
PROPOSED IMPERVIOUS AREAS WITHIN IMPROVEMENT LIMITS	74,690 S.F.
TOTAL ADDITIONAL IMPERVIOUS AREAS (DETENTION REQUIRED)	33,778 S.F.

DEVELOPER QT REAL ESTATE MANAGER QUIKTRIP CORPORATION 5725 FOXRIDGE DRIVE MISSION, KS 66202 TEL: (913) 905-2059 FAX: (913) 905-2080 CONTACT: MATT BROOKS mbrooks@quiktrip.com	ENGINEER OF RECORD DARLA K. HOLMAN, P.E. 6734 RED OAK DRIVE SHAWNEE, KANSAS 66217 TEL: (913) 248-9385 FAX: (913) 962-5974 dholmanpe@everestinc.net	SUPERVISOR OF RECORD SCOTT CONFER, P.S. SHAWNEE, KANSAS 66219 11250 CORPORATE AVE. LENEXA, KANSAS 66219 TEL: (913) 888-7800 FAX: (913) 888-7868 scott.confer@skw-inc.com
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PROJECT NO.:

DARLA K HOLMAN, PE

HOLMAN ENGINEERING
6734 RED OAK DR.
SHAWNEE, KS 66216
P 913.248.9385
F 913.962.5974
dholmanpe@everestinc.net
engineering

QuikTrip No. 0181

2590 Northeast 72nd Street
GADSTONE, MO



PROTOTYPE: P-84 (08/01/15)
DIVISION: 02
VERSION: 001
DESIGNED BY:
DRAWN BY: KSR
REVIEWED BY:

REV	DATE	DESCRIPTION

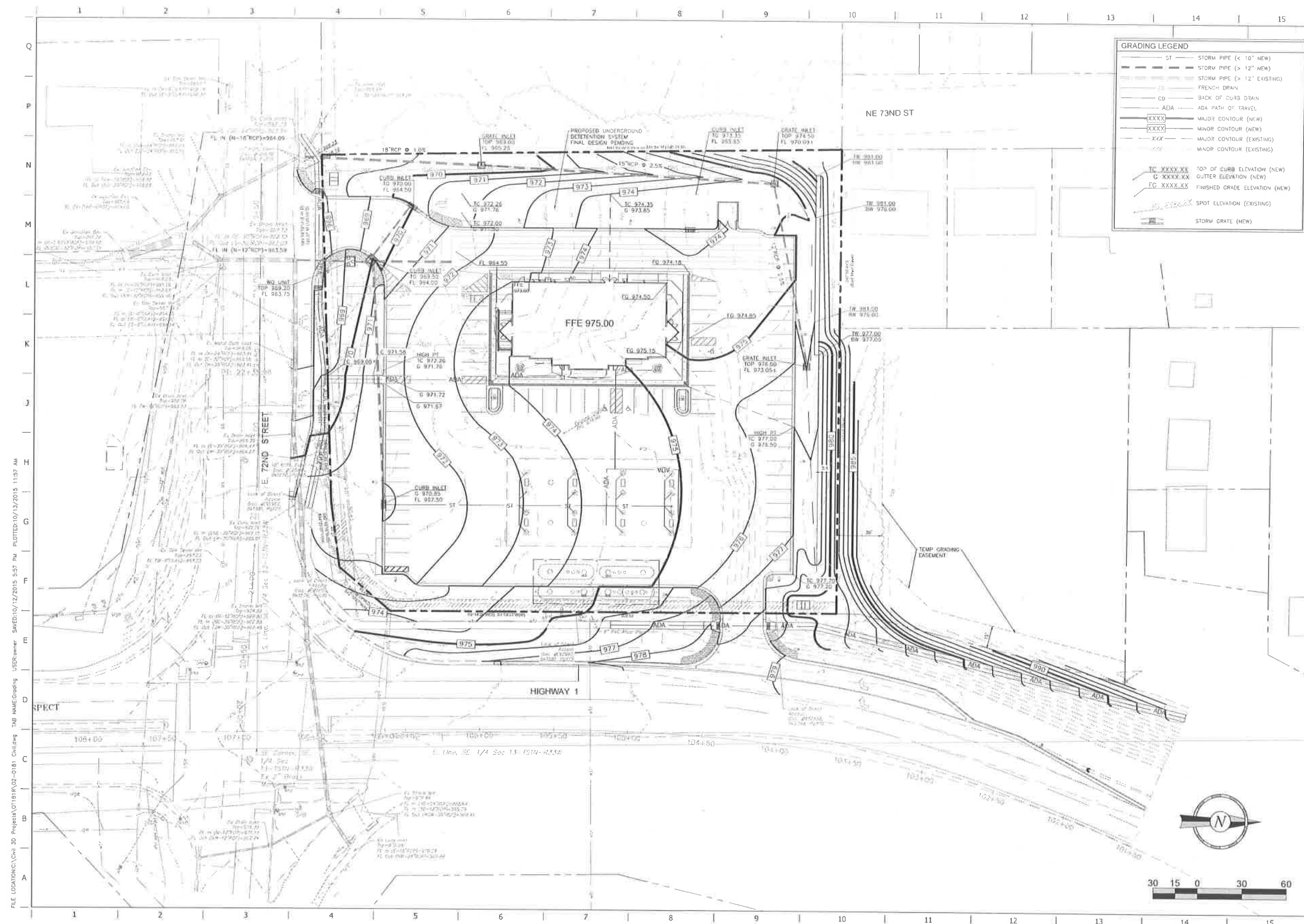
SHEET TITLE:
SITE DEVELOPMENT PLAN
SITE PLAN

SHEET NUMBER:

C100

ORIGINAL ISSUE DATE: 08/12/2015





GRADING LEGEND

→ ST	STORM PIPE (< 10" NEW)
→ ST	STORM PIPE (> 12" NEW)
→ ST	STORM PIPE (> 12" EXISTING)
FD	FRENCH DRAIN
CD	BACK OF CURB DRAIN
ADA	ADA PATH OF TRAVEL
XXXX	MAJOR CONTOUR (NEW)
XXXX	MINOR CONTOUR (NEW)
XXX	MAJOR CONTOUR (EXISTING)
XXX	MINOR CONTOUR (EXISTING)
TC XXXX.XX	TOP OF CURB ELEVATION (NEW)
Q XXXX.XX	OUTLET ELEVATION (NEW)
FD XXXX.XX	FINISHED GRADE ELEVATION (NEW)
Spot Elevation	SPOT ELEVATION (EXISTING)
GR	STORM GRATE (NEW)



PROJECT NO.: _____

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