



January 30, 2025

Melissa Kingston, Chair
and Members of the Thoroughfare Committee

AGENDA

Thoroughfare Committee Meeting

The CPC Thoroughfare Committee will meet

February 6, 2025 at 8:00a.m.

VIDEOCONFERENCE/ CITY HALL (COUNCIL CHAMBERS, 6th Floor)

The following videoconference link is available to join the meeting virtually on WebEx:

<https://bit.ly/CPCTC020625>

Meeting Number: 2492 711 7681 Meeting Password: Dallas

The City of Dallas will make Reasonable Accommodations/Modifications to programs and/or other related activities to ensure any and all residents have access to services and resources to ensure an equitable and inclusive meeting. Anyone requiring auxiliary aid, service, and/or translation to fully participate in the meeting should notify the Transportation and Public Works Department by calling (214) 670-6904, three (3) business days prior to the scheduled meeting. A video stream of the meeting will be available after adjournment by visiting

<https://dallascityhall.com/departments/transportation/Pages/cpc-thoroughfare-committee.aspx>.

Individuals who wish to speak on an agenda item must register by 12:00 p.m. (noon) **Tuesday, February 4th** by visiting

<https://forms.office.com/g/EhRL8sEzhr>.

La Ciudad de Dallas llevará a cabo Adecuaciones/Modificaciones Razonables a los programas y/u otras actividades relacionadas para asegurar que todos y cada uno de los residentes tengan acceso a los servicios y recursos para asegurar una reunión equitativa e inclusiva. Cualquier persona que requiera asistencia adicional, servicio y/o interpretación para poder participar de forma íntegra en la reunión debe notificar a Departamento de Transporte y Obras Publicas llamando al (214) 670-6904 tres (3) días laborales antes de la reunión programada. Una transmisión en video de la reunión estará disponible dos días hábiles luego de la finalización de la reunión en <https://dallascityhall.com/departments/transportation/Pages/cpc-thoroughfare-committee.aspx>.

Las personas y las partes interesadas que deseen hablar deben registrarse en línea en <https://forms.office.com/g/EhRL8sEzhr> antes de las 12:00 p.m. (mediodía) del **Martes 4 de febrero**.

CPC Thoroughfare Committee Meeting Agenda

1. Approve prior Meeting Minutes, November 7, 2024
2. Grady Niblo Thoroughfare Plan Amendment
Amendment to the City of Dallas Thoroughfare Plan to change; (1) the designation of Grady Niblo Road between Mountain Creek Parkway and Merrifield Road from a standard six-lane divided principal arterial roadway in 107

feet of right-of-way (S-6-D) to a minimum four-lane divided minor arterial roadway in 80 feet of right-of-way (M-4-D(A)); and (2) the designated alignment of the unbuilt portion of the roadway.

3. Other Matters

4. Adjournment

If you have any questions, please contact me at 214.670.3288 or Kierra.Williams@dallas.gov.

Kierra Williams

Kierra Williams

Transportation Planner – Department of Transportation and Public Works, Transportation Planning

**SUPPLEMENTAL NOTICE
FOR
AGENDA POSTING**

**Handgun Prohibition Notice for Meetings
of Governmental Entities**

"Pursuant to Section 30.06, Penal Code (trespass by license holder with a concealed handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law), may not enter this property with a concealed handgun."

"De acuerdo con la sección 30.06 del código penal (ingreso sin autorización de un titular de una licencia con una pistola oculta), una persona con licencia según el subcapítulo h, capítulo 411, código del gobierno (ley sobre licencias para portar pistolas), no puede ingresar a esta propiedad con una pistola oculta."

"Pursuant to Section 30.07, Penal Code (trespass by license holder with an openly carried handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law), may not enter this property with a handgun that is carried openly."

"De acuerdo con la sección 30.07 del código penal (ingreso sin autorización de un titular de una licencia con una pistola a la vista), una persona con licencia según el subcapítulo h, capítulo 411, código del gobierno (ley sobre licencias para portar pistolas), no puede ingresar a esta propiedad con una pistola a la vista."

LOCATION: Grady Niblo Road between Mountain Creek Parkway and Merrifield Road.

COUNCIL DISTRICT: 3

PLANNER: Kierra Williams

APPLICANT: Potters House of Dallas, Inc
REPRESENTATIVE: Claudio Sergovia, PE

REQUEST

Amendments to the City of Dallas Thoroughfare Plan to change; (1) the designation of Grady Niblo Road between Mountain Creek Parkway and Merrifield Road from a standard six-lane divided principal arterial roadway in 107 feet of right-of-way (S-6-D) to a minimum four-lane divided minor arterial roadway in 80 feet of right-of-way (M-4-D(A)); and (2) the designated alignment of the unbuilt portion of the roadway.

BACKGROUND

The City of Dallas Department of Transportation and Public Works has received a request from The Potters House of Dallas, Inc. to amend the City of Dallas Thoroughfare Plan to: (1) change the designation of Grady Niblo Road between Mountain Creek Parkway and Merrifield Road from a standard six-lane divided principal arterial roadway with a 107-foot right-of-way (S-6-D) to a minimum four-lane divided minor arterial roadway with an 80-foot right-of-way (M-4-D(A)); and (2) adjust the designated alignment of the unbuilt portion of the roadway.

Only a portion of the roadway within the limits of the requested amendment has been constructed, and currently exists as a four-lane divided roadway that terminates in a dead end. It is accessible from the intersection with Mountain Creek Parkway and provides access to warehouses on the north side. The requested changes to the roadway designation and alignment are driven by the planned expansion of the Capella Park residential development to the north, which will add an anticipated 325 new residential lots. The requested changes to the thoroughfare plan aim to address community concerns about the potential for high vehicle speeds and truck traffic on Grady Niblo Road once the unbuilt section is connected in the future.

The applicant is requesting that the remaining unbuilt portion of Grady Niblo Road be built as a four-lane divided roadway in 80-foot right-of-way (M-4-D(A)). Furthermore, the applicant is requesting to shift the Thoroughfare Plan alignment southward to create a buffer between the Capella Park neighborhood and the roadway, allowing additional space for contiguous residential development to the north of the future thoroughfare. The extended roadway is proposed to be constructed with the buildout of the future phases of Capella Park, which will be directly accessible from the future extension. It is also anticipated that roundabouts would be incorporated into the design of the roadway to

promote traffic calming and discourage use of the roadway by large interstate trucks. The roadway classification in the thoroughfare plan is proposed to change from principal arterial to a minor arterial to reflect the reduced number of lanes and desire to discourage interstate truck traffic along the roadway.

A traffic impact assessment was submitted by the applicant that indicates that future development can be accommodated with four-lanes divided.

STAFF RECOMMENDATION

Staff recommends approval to amend the City of Dallas Thoroughfare Plan to change; (1) the designation of Grady Niblo Road between Mountain Creek Parkway and Merrifield Road from a standard six-lane divided principal arterial roadway in 107 feet of right-of-way (S-6-D) to a minimum four-lane divided minor arterial roadway in 80 feet of right-of-way (M-4-D(A)); and (2) the designated alignment of the unbuilt portion of the roadway.

CONTACT PERSON:

Kierra Williams, Transportation Planner, Kierra.Williams@dallas.gov
Kathryn Rush, Chief Planner, Kathryn.Rush@dallas.gov

ATTACHMENTS

Map
Traffic Impact Assessment

FACT SHEET

PROPOSED CPC AGENDA: March 20, 2025

PROPOSED COUNCIL AGENDA: April 23, 2025

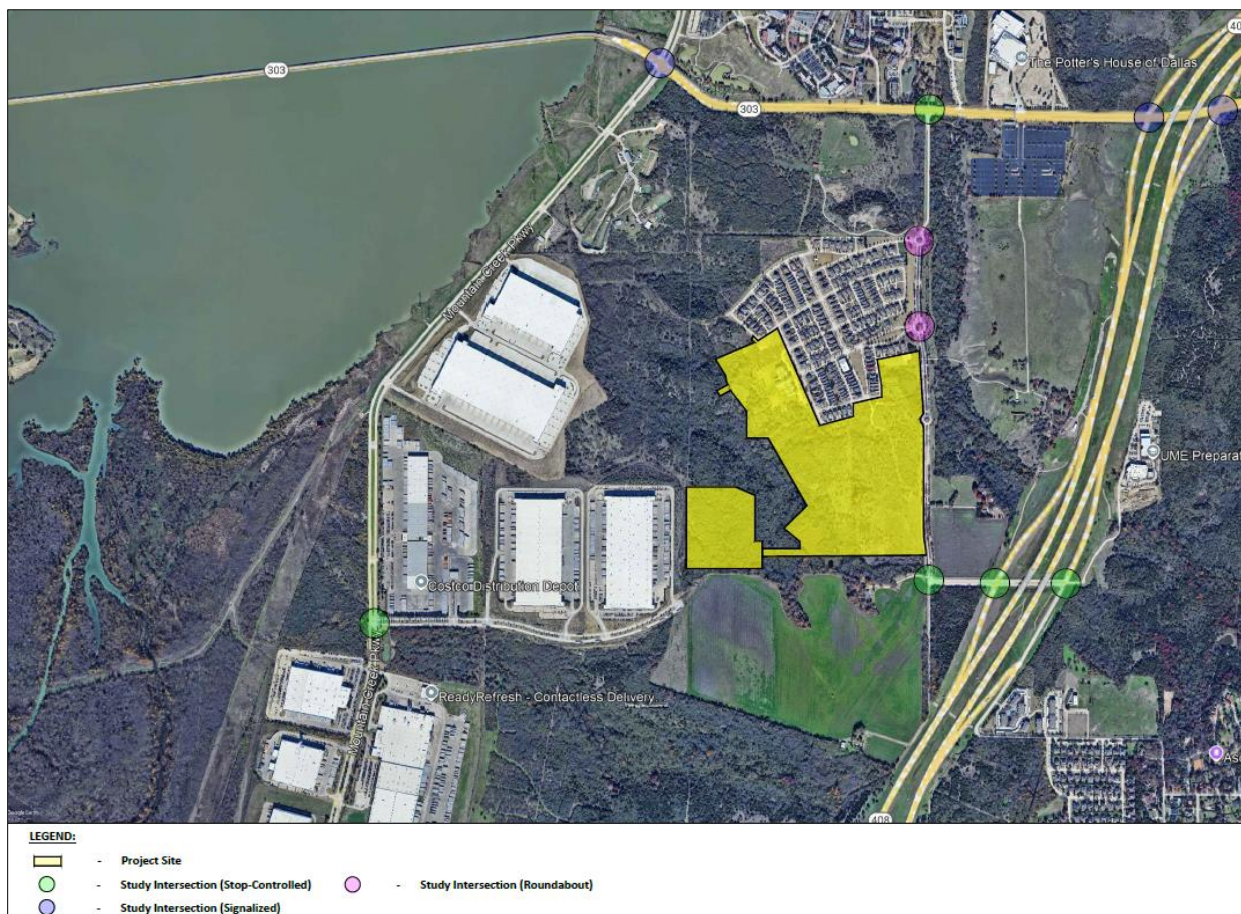
APPLICANT: Potters House of Dallas, Inc

REPRESENTATIVE: Claudio Sergovia, PE

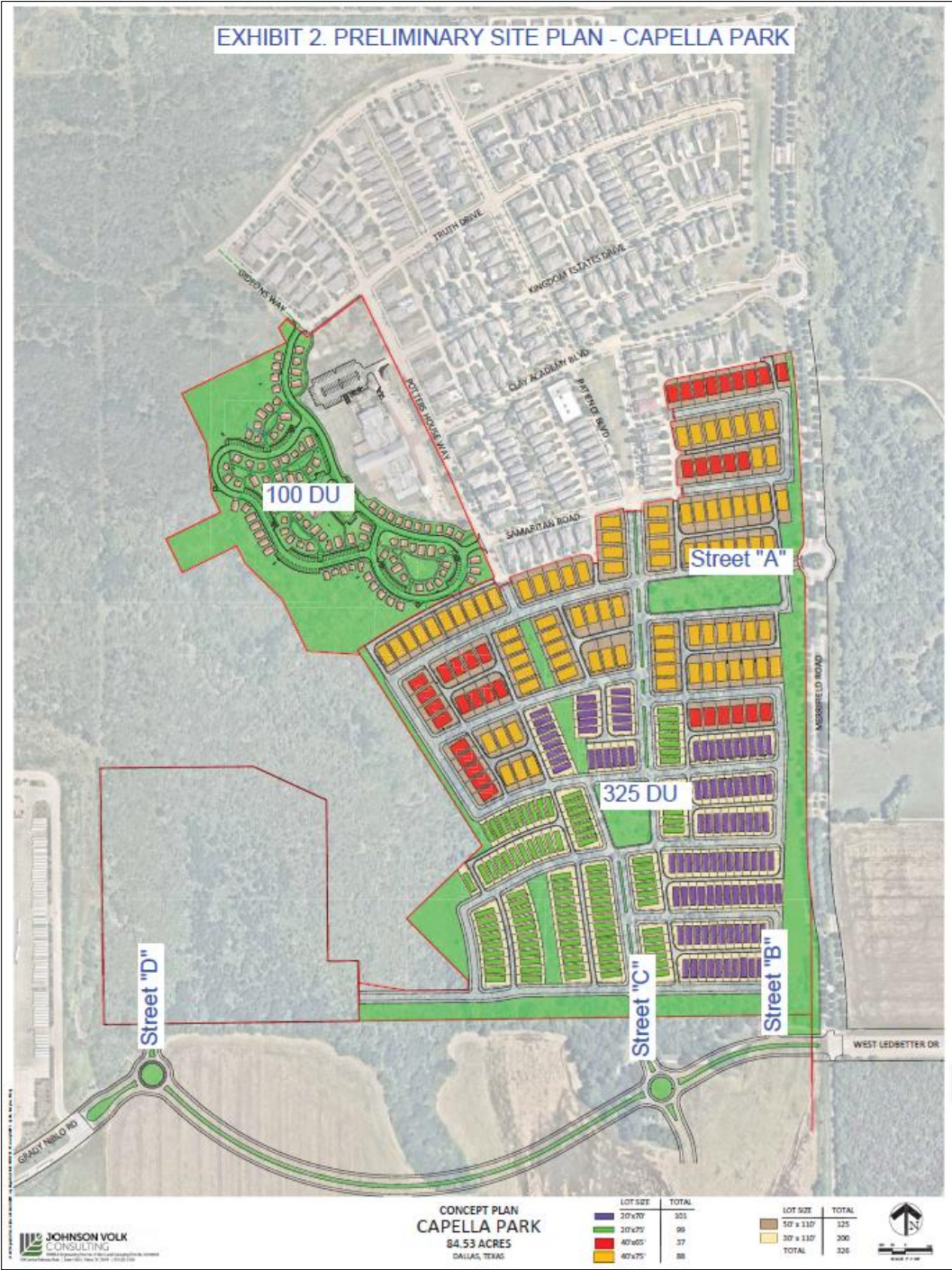
REQUEST: Amendments to the City of Dallas Thoroughfare Plan to change; (1) the designation of Grady Niblo Road between Mountain Creek Parkway and Merrifield Road from a standard six-lane divided principal arterial roadway in 107 feet of right-of-way (S-6-D) to a minimum four-lane divided minor arterial roadway in 80 feet of right-of-way (M-4-D(A)); and (2) the designated alignment of the unbuilt portion of the roadway.

BACKGROUND:

- Only a portion of the roadway within the limits of the requested amendment has been constructed and currently exists as a four-lane divided roadway that terminates in a dead end.



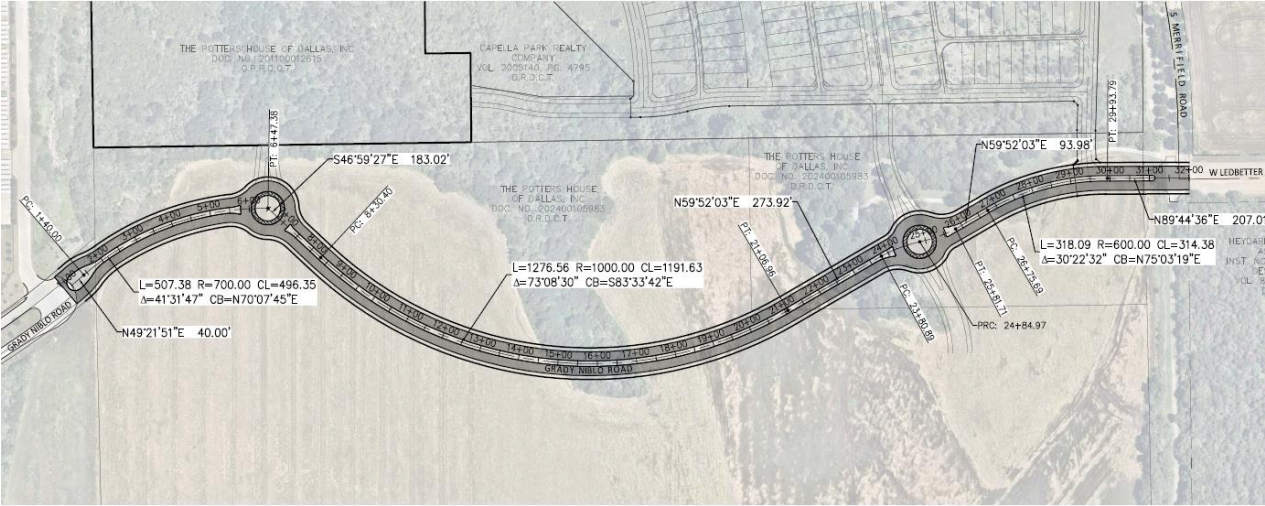
- The requested changes to the roadway designation and alignment are driven by the planned expansion of Capella Park to the north, which will add 325 new residential lots. These changes aim to address community concerns about the potential for high vehicle speeds and truck traffic on Grady Niblo Road once the unbuilt section is connected in the future.



- The requested shift of the Thoroughfare Plan alignment southward will create a buffer between the Capella Park neighborhood and the roadway, allowing additional space for contiguous residential development to the north of the future thoroughfare.



- It is also anticipated that roundabouts would be incorporated into the design of the roadway to promote traffic calming and discourage use of the roadway by large interstate trucks



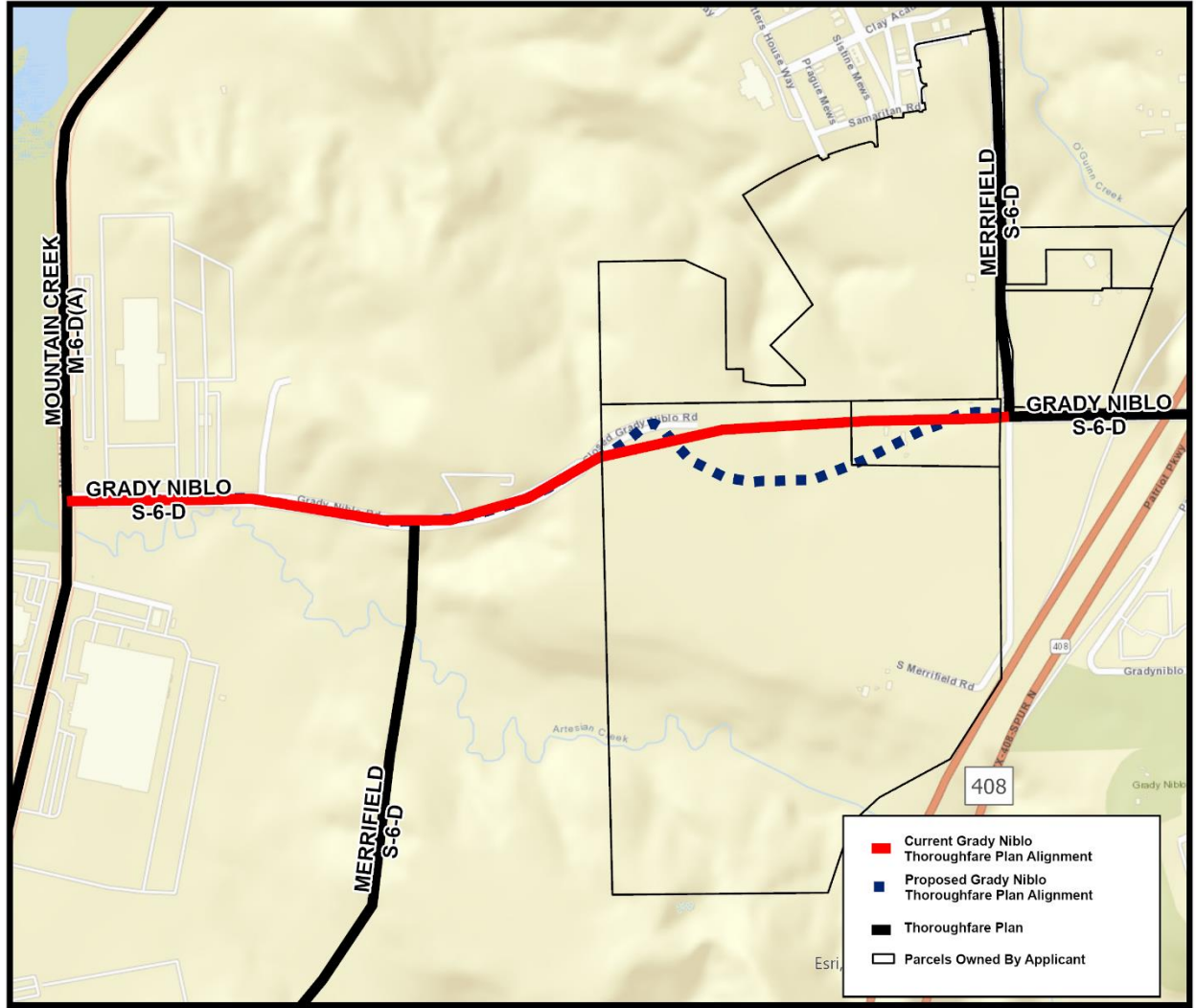
- Grady Niblo Road, between Mountain Creek Parkway and Merrifield Road, is designated as a Mixed-Use Street by the City of Dallas Complete Streets Design Manual.
- Grady Niblo Road, between Mountain Creek Parkway and Merrifield Road, is on the 2011 City of Dallas Bike Plan. No segment of Grady Niblo Road, between Mountain Creek Parkway and Merrifield Road, is on the proposed 2025 Bike Plan.

Grady Niblo Road

Mountain Creek Parkway
to Merrifield Road

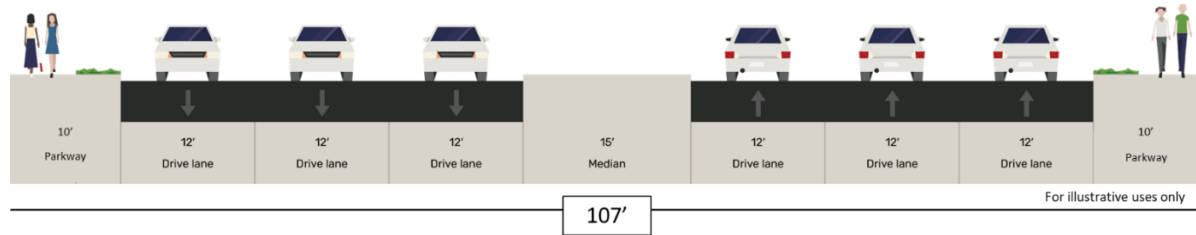
Council District: 3

Thoroughfare Plan Amendment Map

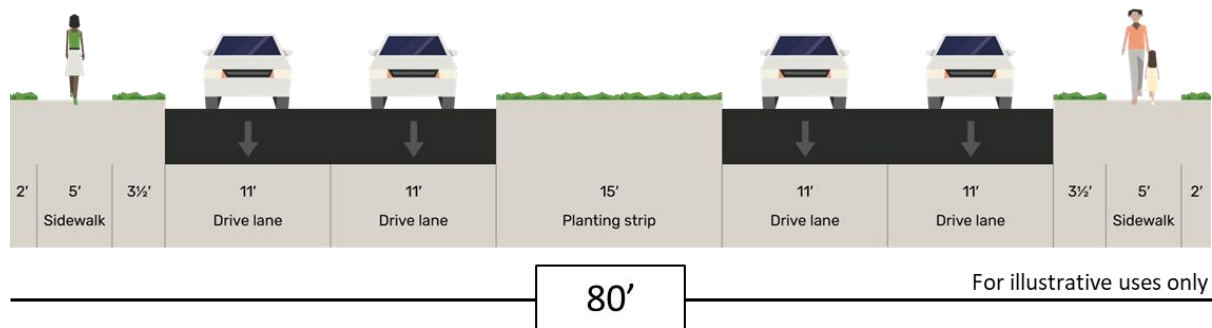


Grady Niblo Cross-Sections

Current Thoroughfare Plan Proposed Designation – Standard six-lane divided principal arterial roadway in 107 feet of right-of-way (S-6-D)



Proposed Thoroughfare Plan Proposed Designation – Minimum four-lane divided minor arterial roadway in 80 feet of right-of-way (M-4-D(A))



Traffic Impact Analysis for Capella Park in Dallas, Texas

FRIDAY, DECEMBER 13, 2024

Prepared By



12/13/2024

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I. INTRODUCTION

This report documents the methodology and results of a traffic impact analysis (TIA) study conducted by Promet Engineers, LLC (Promet) in connection with the proposed development, Capella Park (referred to from hereon as the Project), at 6900 Clay Academy Blvd, Dallas, Texas - 75236. The proposed project is an extension of the existing Capella Park community. The proposed site is approximately 84 acres. **Exhibit 2**, Preliminary Site Plan, shows that the proposed project will directly access the future Grady Niblo Road constructed with this project. The current thoroughfare designation of Grady Niblo Road as per the City of Dallas Thoroughfare Plan is S-6-D. The project is pursuing a thoroughfare amendment for this roadway to remain a four-lane median-divided roadway.

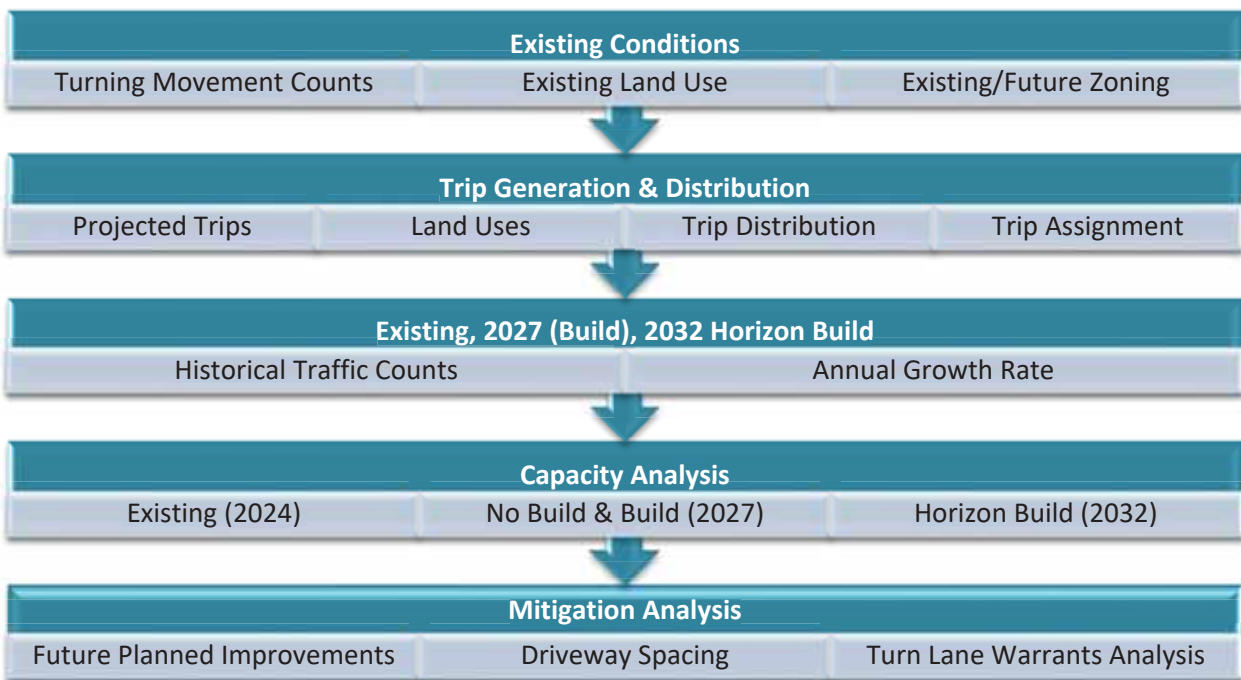
A. PURPOSE

This study aims to determine the project's traffic impacts on the adjacent roadway system and the study intersections near the project site, including site driveways. The City of Dallas requires a TIA for the thoroughfare amendment process. The study includes the intersection and roadway capacity evaluation to ensure the requested roadway configuration of Grady Niblo Road is sufficient to accommodate the projected traffic at the site buildout (2027) and 5 years after the site buildout.

B. METHODOLOGY

The traffic impact analysis evaluates existing and projected traffic operations within the study area for weekday morning and afternoon peak hour traffic conditions when the combination of the adjacent street volumes and projected project trips is expected to be most significant. The TIA study follows the five broad steps shown in **Figure 1**.

Figure 1. TIA Methodology



Analysis Periods

Based on the proposed land uses and the city's approved scope of work, two peak periods—each two hours in duration—were analyzed for the study. The turning movement counts were collected during these periods on a typical weekday; individual peak hours with the highest volumes for each intersection were determined and used as input for the intersection capacity analysis for a conservative analysis. The TIA scoping document is provided in **Appendix G**.

Peak Hours	Time Period Collected & Analyzed
AM Peak	7:00 AM – 9:00 AM
PM Peak	4:00 PM – 6:00 PM

Analysis Scenarios

The study analyzed the following scenarios:

- Existing Year (2024)
- No-Build Year (2027)
- Build Year (2027)
- Horizon Build (2032)

II. EXISTING AND PROPOSED LAND USE

This report section provides current and proposed land uses at the project site.

A. SITE LOCATION AND STUDY AREA

The proposed site is at 6900 Clay Academy Blvd, Dallas, Texas. The site location map is shown in **Exhibit 1** following the report.

The following are the existing and proposed intersections analyzed in the study:

Signalized:

1. TX- 408 Spur SB Frontage Road at TX-303 Spur/Kiest Boulevard
2. TX- 408 Spur NB Frontage Road at TX-303 Spur/Kiest Boulevard
3. Mountain Creek Parkway at TX-303 Spur/Kiest Boulevard
4. Mountain Creek Parkway at I-20 WB Off-Ramp
5. Mountain Creek Parkway at I-20 EB Off-Ramp

Unsignalized:

6. S Merrifield Road at TX-303 Spur/Kiest Boulevard
7. TX- 408 Spur SB Frontage Road at Grady Niblo Road/Ledbetter Ext
8. TX- 408 Spur NB Frontage Road at Grady Niblo Road/Ledbetter Ext
9. S Merrifield Road at Grady Niblo Road
10. S Merrifield Road at Capella Park Avenue
11. S Merrifield Road at Clay Academy Boulevard
12. Mountain Creek Parkway at Grady Niblo Road
13. Mountain Creek Parkway at Merrifield Road

14. Merrifield Road at Street A
15. Grady Niblo Road at Street B
16. Grady Niblo Road at Street C
17. Grady Niblo Road at Street D

B. EXISTING ZONING

The existing zoning within the study area is PD-655. The developer is not requesting a zoning change as the proposed development is residential.

C. EXISTING AND PROPOSED DEVELOPMENT

The site is currently undeveloped. The land uses in the proposed development will include single-family residential and multi-family residential. The single-family development comprises 325 dwelling units, and the multi-family residential (low-rise) development connected to Gideons Way and Potters House Way consists of 100 dwelling units.

III. EXISTING AND PROPOSED TRANSPORTATION SYSTEM

This section of the report provides information about the existing and proposed thoroughfare system and existing and projected traffic volumes.

A. THOROUGHFARE SYSTEM

1. TX-303 Spur/Kiest Boulevard [Between Mountain Creek Parkway and TX-408 Spur SB Off-Ramp]
 - Existing operation and cross-section: six lanes, two-way, median-divided
 - Proposed operation and cross-section: six lanes, two-way, median-divided
 - Speed Limit: 45 mph (posted)
 - City of Dallas Functional Classification: Principal Arterial
2. Mountain Creek Parkway [Between TX-303 Spur/Kiest Boulevard and Grady Niblo Road]
 - Existing operation and cross-section: four lanes, two-way, median-divided
 - Proposed operation and cross-section: four lanes, two-way, median-divided
 - Speed Limit: 40 mph (posted) [South of Grady Niblo Road]
 - Speed Limit: 45 mph (posted) [North of Grady Niblo Road]
 - City of Dallas Functional Classification: Principal Arterial
3. Grady Niblo Road [Between Mountain Creek Parkway and S Merrifield Road]
 - Existing operation and cross-section: four lanes, two-way, median-divided
 - Proposed operation and cross-section: four lanes, two-way, median-divided
 - Speed Limit: 30 mph (not posted - assumed)
 - City of Dallas Functional Classification: Principal Arterial

Grady Niblo Road is currently discontinuous, as shown in **Exhibit 5**. The proposal is to construct an extension of Grady Niblo Road to S Merrifield Road, as shown in the preliminary site plan. The developer

is applying for a thoroughfare amendment to align this section of the roadway and keep it a four-lane roadway.

The existing and proposed roadway lane geometry and traffic control are shown in **Exhibits 3** and **4**.

B. EXISTING TRAFFIC VOLUMES

Existing traffic volumes were collected in the field to establish the existing traffic conditions. The following sections describe the deriving of the peak hour turning movements for the two time periods analyzed.

Traffic counts were collected on Thursday, November 21, 2024. The study peak hour volumes are shown in **Appendix A**, and the 15-minute count during the peak hours collected is shown in tabular form in **Appendix B**.

C. FUTURE PROJECTS IN THE VICINITY

Based on the information provided by the city, there are two proposed projects near the subject site. The two projects are:

- 1.) D223-001 (Capella Park No. 2) has 60 dwelling units with two driveways on Capella Park Avenue
- 2.) D223-002 (Capella Park No. 1) has 47 dwelling units with two driveways on Gideons Way.
- 3.) Canvas at Dallas (Potter’s House West Tract) multifamily development with 168 proposed dwelling units and one direct access connection (Street “D”) to future Grady Niblo Road.

Exhibit 6 shows the three project locations. The traffic expected to be generated by the site was added to the 2027 No-Build volumes as a background project. The global trip distribution assumed for the site was the same as that applied to the subject site.

D. PROJECTED TRAFFIC VOLUMES

The projected turning movement volumes were developed for the residential development buildout year, full-buildout year (2027), and 2032 horizon build year. Based on the historical traffic counts, the traffic on adjacent roadways did not consistently increase or decrease, as shown in **Table 1**. Based on the historical traffic counts, the traffic on Mountain Creek Parkway (North of Kiest Blvd) increased at an average annual rate of 9% from 2015 to 2019. The traffic on Mountain Creek Parkway (South of Kiest Blvd) increased at an average annual rate of 5% from 2015 to 2019. However, the growth rates on other study roadways showed a lower average annual increase. A 2.0% growth rate was applied to all critical movements from existing to buildout and five-year horizon conditions.

Table 1. Historical Traffic Data

ROADWAY SEGMENT	HISTORICAL DAILY VOLUME (DATE)	ANNUAL GROWTH RATE
1. Mountain Creek Parkway (North of Kiest Blvd)	9,439 (2019) ^A	9%
	7,887 (2018) ^A	
	8,224 (2017) ^A	
	7,582 (2016) ^A	

	6,778 (2015) ^A	
2. Mountain Creek Parkway (South of Kiest Blvd)	9,674 (2019) ^A 7,748 (2014) ^A	5.0%
3. Kiest Boulevard (West of E Patriot Boulevard)	9,044 (2019) ^A 8,050 (2014) ^A	2.0%
4. Kiest Boulevard (Between Merrifield Rd and TX-408 SB Frontage Road)	8,758 (2023) ^A 12,231 (2022) ^A 12,194 (2021) ^A 9,991 (2020) ^A 11,115 (2018) ^A	-3.0%
5. TX-408 SB Frontage Road/On-Ramp	3,373 (2023) ^A 4,460 (2022) ^{A3} 3,457 (2021) ^A 3,617 (2015) ^A 4,200 (2014) ^A	2.0%
6. TX-408 SB Frontage Road/Off-Ramp	3,058 (2023) ^A 3,562 (2022) ^{A3} 3,468 (2015) ^A 4,011 (2014) ^A	-1.0%
	Average:	1.0%

^A – Source: TxDOT

The future background volumes calculated for the no-build and build conditions are based on the assumed growth rate for the study intersections. The volumes are shown in **Appendix A**.

IV. SITE TRAFFIC CHARACTERISTICS

This section of the report provides information regarding the projected number of trips generated by the proposed project. It also discusses traffic distribution and assignment.

A. PROPOSED SITE TRIP GENERATION

The Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) determined the number of projected trips entering and exiting the site. The land use codes considered for the proposed land uses are 210 (Single-Family Detached Housing) and 220 (Multi-Family Housing (Low-Rise)). **Table 2** shows the projected trip generation for the proposed project. Table 3 shows the projected trip generation for the future projects in the vicinity of the project that were considered as background projects for the analysis.

Table 2. Projected Trip Generation – Proposed Project

LAND USE	INDEPENDENT VARIABLE	DAILY TRIP ENDS (WEEKDAY)	AM PEAK-HOUR TRIP ENDS (ADJACENT STREET PEAK)	PM PEAK-HOUR TRIP ENDS (ADJACENT STREET PEAK)
			Total (In/Out)	Total (In/Out)
Single-Family Detached Housing (ITE#210)	325 DU	3,065	227 (57/170)	306 (192/114)
Multi-Family Housing (Low-Rise) (ITE#220) *	100 DU	674	54 (13/41)	64 (40/24)
TOTAL		3,739	281 (70/211)	370 (232/138)

*Single-Family Attached Housing is the most suitable land use for this part of the project. However, based on a trip generation comparison, Multi-Family (Low-Rise) showed higher trips. Therefore, ITE#220 was used for a conservative estimate of site traffic.

Table 3. Projected Trip Generation – Future Background Projects

PROJECT AND LAND USE	INDEPENDENT VARIABLE	DAILY TRIP ENDS (WEEKDAY)	AM PEAK-HOUR TRIP ENDS (ADJACENT STREET PEAK)	PM PEAK-HOUR TRIP ENDS (ADJACENT STREET PEAK)
			Total (In/Out)	Total (In/Out)
D223-001 & 002 (Capella Park No. 2 & 1)	107 DU	761	56 (13/43)	67 (42/25)
Canvas at Dallas (Potter’s House West Tract)	168 DU	1,152	75 (18/57)	93 (58/35)
TOTAL		1,913	131 (31/100)	160 (100/60)

Due to the nature of the proposed land uses, no internal or pass-by trip reduction was applied. Additionally, no pedestrian or transit reduction was applied for a conservative analysis of the projected conditions.

B. TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

The general trip distribution for the proposed site was considered to be as follows:

- 20% from west on TX-303 Spur/Kiest Blvd
- 30% from north on TX-408 Spur
- 30% from south on TX-408 Spur
- 20% from west on I-20

The trip distribution was based on the project's location, general traffic flow, office locations, residential communities, and professional judgment.

The traffic assignments for the land uses in the proposed Capella Park project are separated for single-family residential and multi-family (low-rise)/single-family attached housing. The single-family community will have direct access to Merrifield Road and two direct access to the future Grady Niblo Road. Additionally, the site traffic will be able to utilize Clay Academy Blvd to connect Merrifield Road. The single-family attached/multifamily (low-rise) residential units will have two access connections: Gideons Way and Potters House Way.

Appendix C provides the traffic distribution and assignments, and **Appendix A** provides the site trip-assigned traffic volumes.

V. TRAFFIC ANALYSIS

This section describes the overall quality of the traffic flow at the study area intersections during the AM and PM peak hours and notes the necessary assumptions made in the study.

The following technical assumptions were made in the study to perform the analysis:

1. The ITE land use considered for single-family attached housing (100 DU) is multi-family low-rise land use #220 for a conservative estimate of the projected traffic.
2. The westbound movement at the intersection of Mountain Creek Parkway at Grady Niblo Road currently consists of three approach lanes with a stop control. However, the Synchro software cannot analyze a stop-controlled intersection with three minor street approach lanes. Therefore, for the analysis, the westbound movement was changed to approach lanes with a dedicated left-turn and dedicated right-turn lane.
3. The westbound movement at the intersection of TX-408 Spur NB Service Road at Spur 408 N Private Road is currently stop-controlled. Similarly, the NB movement is also stop-controlled at the intersection. The Synchro software cannot analyze a four-legged intersection with stop-control as placed at this intersection. Therefore, for the analysis, the westbound movement was considered free with no stop-control.
4. The lane configuration for Streets A, B, and C connecting to the roundabout was assumed to be a two-lane roadway with one lane in each direction. The roadway configuration used in the analysis is appropriate, as the streets serve only residential traffic.
5. No speed limits were observed on Grady Niblo Road, so the speed limit was assumed to be 30 mph for the analysis.
6. The future connection of Grady Niblo Road proposed with the site's construction is expected to carry traffic to the existing warehouses near the project to the west. Currently, all the existing warehouse traffic uses Mountain Creek Parkway. However, alternative northbound and southbound traffic routes will be available with the construction of future connections. Therefore, for the analysis, 80 vehicles per hour in both directions on Grady Niblo Road were added additionally for the buildout and horizon build analysis.
7. It was assumed that a consistent 2% background traffic growth from 2024 to 2032 is a reasonable assumption to capture the future projected traffic unrelated to the site, considering the project surroundings and the City of Dallas land use map. The three projects added as background for this analysis were D233-001 (Capella Park No. 2), D233-002 (Capella Park No. 1) & Canvas at Dallas. The city provided the density of the land uses for these two projects.
8. Per the City of Dallas Thoroughfare Plan, S Merrifield Road will eventually connect to Grady Niblo Road. However, for the analysis, it was assumed that the connection would not be constructed by the proposed project buildout year. Also, the proposed site traffic that will use S Merrifield Road in the future is minimal. Therefore, the connection of S Merrifield Road, as shown in the Thoroughfare Plan, is insignificant for this analysis.

A. LEVEL OF SERVICE EVALUATION

The analysis is based on Synchro capacity analysis methodologies and procedures in the Highway Capacity Manual, 6th Edition (HCM). This section presents the evaluation criteria and summarizes the results of the

capacity analyses.

A.1. Level of Service

The intersection level of service (LOS) analyses were performed following the procedures recommended by the Highway Capacity Manual, 6th Edition (HCM) Level of Service methodologies to evaluate signalized and unsignalized intersections. Traffic analysis software Synchro Version 11 was used to evaluate the operations of the study intersections—the LOS criteria for signalized and unsignalized intersections below in **Table 4**. LOS 'A' is considered a free-flow condition, and LOS 'F' is a failing condition. The City of Dallas considers LOS 'D' acceptable during peak hours.

Table 4 Level of Service (LOS) Criteria for Intersections

LOS	Signalized Intersection	Unsignalized Intersections
	Delay (sec/veh)	Delay (sec/veh)
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

Source: Highway Capacity Manual 6th Edition, Transportation Research Board

A.2. Results

Tables 5, 6, and 7 summarize the capacity analysis for AM and PM peak hours. The performance measure is based on the average delay in seconds per vehicle by intersection for signalized intersections, unsignalized intersections, and roundabouts. The traffic signal timings for the signalized intersections for the analysis were based on the traffic signal timing plans provided by the city through an open records request; Detailed Synchro reports can be found in **Appendix D**.

For the study intersections, the results in **Tables 5, 6 and 7** indicate that:

- All the signalized intersections are expected to operate at acceptable conditions at 2027 Build and 2032 Horizon conditions.
- All the unsignalized intersections are expected to operate acceptably except:
 - TX-408 Spur SB Frontage Road/Off-Ramp at Grady Niblo Road/Ledbetter Ext: The southbound movement at the intersection is currently operating at LOS F and will continue to operate at LOS in the future. A significant amount of left-turn volume exists presently during the AM peak hour.
 - TX-408 Spur NB Frontage Road/Off-Ramp at Grady Niblo Road/Ledbetter Ext: The northbound movement at the intersection is currently operating at LOS E and is expected to fail in the future. However, it must be noted that the traffic control had to be changed to obtain the delay result for the northbound movement.
- All the existing and proposed roundabout intersections in the project scope are expected to operate acceptably.

Table 5 Level of Service – Signalized Intersections

			Existing		2027 No-Build		2027 Build		2032 Horizon Build	
			AM	PM	AM	PM	AM	PM	AM	PM
Mountain Creek Parkway at TX-303/Kiest Boulevard	Overall	C (30.7)	C (28.5)	C (31.6)	C (29.6)	C (33.6)	C (31.1)	C (34.1)	C (33.0)	
	EB	D (45.3)	D (45.3)	D (45.4)	D (45.4)	D (45.3)	D (44.3)	D (45.4)	D (44.3)	
	WB	D (42.6)	D (47.7)	D (44.5)	D (50.6)	D (45.5)	D (50.7)	D (47.0)	E (57.2)	
	NB	B (10.9)	B (11.1)	B (11.1)	B (11.1)	B (16.5)	B (14.0)	B (16.4)	B (14.1)	
	SB	A (7.5)	B (10.4)	A (7.6)	B (10.8)	A (9.4)	B (12.4)	A (9.7)	B (12.9)	
TX- 408 Spur SB Frontage Road at TX-303/Kiest Boulevard	Overall	B (13.8)	B (19.5)	B (14.1)	B (19.8)	B (15.1)	B (20.0)	B (15.2)	C (20.5)	
	EB	C (32.6)	C (31.7)	C (32.8)	C (32.3)	C (33.6)	C (33.2)	C (34.1)	C (34.0)	
	WB	A (1.1)	A (3.2)	A (1.2)	A (3.5)	A (1.2)	A (3.7)	A (1.5)	A (4.9)	
	NB	--	--	--	--	--	--	--	--	
	SB	B (18.5)	C (26.0)	B (18.4)	C (25.3)	B (17.6)	C (23.4)	B (17.6)	C (22.9)	
TX- 408 Spur NB Frontage Road at TX-303/Kiest Boulevard	Overall	C (20.8)	B (17.2)	C (20.7)	B (17.1)	C (20.2)	B (16.9)	B (19.9)	B (16.6)	
	EB	A (1.1)	A (2.3)	A (1.3)	A (2.3)	A (1.9)	A (2.6)	A (2.0)	A (2.7)	
	WB	D (40.7)	D (39.0)	D (40.6)	D (38.7)	D (40.6)	D (38.7)	D (39.2)	D (37.4)	
	NB	A (8.6)	A (7.1)	A (8.9)	A (7.7)	A (8.9)	A (7.7)	A (9.5)	A (8.0)	
	SB	--	--	--	--	--	--	--	--	
Mountain Creek Parkway at S Merrifield Road	Overall	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	EB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	WB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	NB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	SB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
Mountain Creek Parkway at I-20 WB Off-Ramp	Overall	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	EB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	WB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	NB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	SB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
Mountain Creek Parkway at I-20 EB Off-Ramp	Overall	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	EB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	WB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	NB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	
	SB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	

Table 6 Level of Service – Unsignalized Intersections

	Traffic Movement	Existing		2027 No-Build		2027 Build		2032 Horizon Build	
		AM	PM	AM	PM	AM	PM	AM	PM
S Merrifield Road at TX-303 Spur/Kiest Boulevard	NB	B (11.2)	B (13.6)	B (12.3)	C (15.6)	C (15.4)	C (23.4)	C (16.6)	D (28.5)
	WBL	A (9.3)	B (11.2)	A (9.5)	B (11.9)	A (9.7)	B (13.2)	A (9.9)	B (14.1)
TX- 408 Spur SB Frontage Road at Grady Niblo Road/Ledbetter Ext	WBL	A (8.1)	A (7.4)	A (8.3)	A (7.4)	A (9.4)	A (7.8)	A (9.8)	A (7.9)
	SB	F >100	B (12.6)	F >100	B (13.3)	F >100	C (19.9)	F >100	C (24.9)
TX- 408 Spur NB Frontage Road at Grady Niblo Road/Ledbetter Ext	NB	E (45.9)	A (9.8)	F (70.7)	A (10.0)	F >100	B (13.6)	F >100	B (14.5)
	EBL	A (8.5)	A (7.2)	A (8.6)	A (7.2)	A (9.0)	A (7.3)	A (9.2)	A (7.4)
	WBL	A (7.8)	A (0.0)	A (7.9)	A (0.0)	A (7.9)	A (0.0)	A (7.9)	A (0.0)
S Merrifield Road at Grady Niblo Road	EBL	--	--	--	--	A (7.8)	A (8.1)	A (7.9)	A (8.1)
	SBL	--	--	--	--	C (16.6)	B (14.9)	C (17.7)	C (15.5)
	SBR	--	--	--	--	A (9.3)	A (9.5)	A (9.4)	A (9.6)
Mountain Creek Parkway at Grady Niblo Road	WBL	B (14.9)	B (15.0)	C (15.8)	C (16.1)	C (19.2)	C (21.2)	C (22.1)	C (24.8)
	WBR	A (9.5)	A (9.3)	A (9.6)	A (9.4)	A (9.8)	A (9.8)	A (10.0)	A (9.9)
	SBL	A (8.3)	A (7.9)	A (8.4)	A (8.0)	A (8.5)	A (8.2)	A (8.7)	A (8.3)
Grady Niblo Road at Street B	SB	--	--	--	--	A (8.8)	A (8.9)	A (8.8)	A (9.0)

Table 7 Level of Service – Roundabouts

	Traffic Movement	Existing		2027 No-Build		2027 Build		2032 Horizon Build	
		AM	PM	AM	PM	AM	PM	AM	PM
S Merrifield Road at Capella Park Avenue	EB	A (3.0)	A (2.8)	A (3.3)	A (3.0)	A (3.6)	A (3.4)	A (3.7)	A (3.4)
	NB	A (3.1)	A (2.9)	A (3.3)	A (3.0)	A (4.0)	A (3.4)	A (4.1)	A (3.5)
	SB	A (2.8)	A (3.1)	A (2.9)	A (3.4)	A (3.3)	A (4.1)	A (3.3)	A (4.2)
S Merrifield Road at Clay Academy Boulevard	EB	A (3.3)	A (2.9)	A (3.4)	A (3.0)	A (3.9)	A (3.4)	A (4.0)	A (3.4)
	NB	A (3.1)	A (2.9)	A (3.1)	A (2.9)	A (3.8)	A (3.4)	A (3.9)	A (3.4)
	SB	A (2.8)	A (2.9)	A (2.9)	A (3.0)	A (3.3)	A (3.6)	A (3.3)	A (3.6)
S Merrifield Road at Street A	EB	--	--	--	--	A (3.5)	A (3.3)	A (3.6)	A (3.4)
	NB	--	--	--	--	A (3.3)	A (3.7)	A (3.4)	A (3.8)
	SB	--	--	--	--	A (3.4)	A (3.7)	A (3.5)	A (3.8)
Grady Niblo Road at Street C	EB	--	--	--	--	A (3.7)	A (3.8)	A (3.7)	A (3.9)
	WB	--	--	--	--	A (3.4)	A (3.5)	A (3.5)	A (3.6)
	SB	--	--	--	--	A (3.7)	A (3.0)	A (3.7)	A (3.6)
Grady Niblo Road at Street D	EB	--	--	--	--	A (3.4)	A (3.7)	A (3.4)	A (3.8)
	WB	--	--	--	--	A (3.4)	A (3.3)	A (3.5)	A (3.3)
	SB	--	--	--	--	A (3.6)	A (3.2)	A (3.6)	A (3.3)

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

AM = AM Peak Hour of Adjacent Street

PM = PM Peak Hour of Adjacent Street

VI. ROADWAY LINK ANALYSIS

A. ROADWAY LINK ANALYSIS – METHODOLOGY

The North Central Texas Council of Governments (NCTCOG), the metropolitan planning agency for the DFW region, has derived internal “hourly service volume” guidelines used for transportation modeling purposes. The NCTCOG values were based upon the principles presented in the Highway Capacity Manual with “regional calibration” factors applied. Though these per-lane capacities, or “Service Volumes” (summarized in the table below), are intended for modeling purposes, they provide a reasonable theoretical capacity gauge.

Area Type	Hourly Service Volumes by Roadway Function					
	Principal Arterial		Minor Arterial & Frontage Road		Collector & Local Street	
	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way
CBD	725	650	725	650	475	425
Urban/Commercial	850	775	825	750	525	475
Suburban Residential	925	875	900	825	575	525
Rural	1,025	925	975	875	600	550

To determine a roadway's utilization, the volume-to-capacity ratio is calculated—a v/c ratio of less than 1.0 indicates that the roadway is operating under capacity. NCTCOG’s level of service denominations are as follows.

- Volume: Capacity Ratio < 45% is LOS A/B
- Volume: Capacity Ratio > 45% and < 65% is LOS C
- Volume: Capacity Ratio > 65% and < 80% is LOS D
- Volume: Capacity Ratio > 80% and < 100% is LOS E
- Volume: Capacity Ratio > 100% is LOS F

B. GRADY NIBLO ROADWAY LINK ANALYSIS – RESULTS

The roadway link analysis was performed for Grady Niblo Road to evaluate the impact of the proposed development and the future background traffic growth on the existing and proposed roadway capacity. **Table 8** provides the roadway link capacity analysis results for Grady Niblo Road. The roadway is expected to operate at LOS B or better. Therefore, the City of Dallas's ultimate six-lane lane configuration is not required. A four-lane median-divided roadway is sufficient to accommodate the future projected traffic.

Table 8 Roadway Link Capacity Analysis Results Summary

Roadway		Classification for Analysis	*Hourly Volume	# LANES	MEDIAN DIVIDED?	CAPACITY		V/C	LOS
Per Lane	Roadway								
2024 Existing									
Grady Niblo Road (Between Mountain Creek Parkway & S Merrifield Road)	EB	Principal Arterial	217	2	Y	925	1,850	0.12	A/B
	WB		71	2		925	1,850	0.04	A/B
2027 No-Build									
Grady Niblo Road (Between Mountain Creek Parkway & S Merrifield Road)	EB	Principal Arterial	230	2	Y	925	1,850	0.12	A/B
	WB		75	2		925	1,850	0.04	A/B
2027 Build									
Grady Niblo Road (Between Mountain Creek Parkway & S Merrifield Road)	EB	Principal Arterial	256	2	Y	925	1,850	0.14	A/B
	WB		153	2		925	1,850	0.08	A/B
2032 Horizon Build									
Grady Niblo Road (Between Mountain Creek Parkway & S Merrifield Road)	EB	Principal Arterial	280	2	Y	925	1,850	0.15	A/B
	WB		161	2		925	1,850	0.09	A/B

VII. GRADY NIBLO ROAD – THOROUGHFARE AMENDMENT

As mentioned in the above sections, the project proposes to build the Grady Niblo Road connection between S Merrifield and the existing warehouse driveway, as shown in the preliminary site plan. The project proposes to build this connection with the existing lane capacity of four lanes with a raised median. The roadway link analysis of the future conditions shows that a four-lane median-divided roadway is sufficient to accommodate the projected traffic. The access site access connections to Grady Niblo Road are expected to operate acceptably with the proposed roadway geometry and traffic control. Therefore, Promet recommends approval of the Thoroughfare Amendment to a four-lane median divided roadway and roadway alignment as shown in the site plan.

VIII. SITE ACCESS

Driveway/Street spacing was reviewed in the study.

A. DRIVEWAY/STREET SPACING

The proposed development will have new access connections to S Merrifield Road and future Grady Niblo Road. Street A offers direct access to S Merrifield Road for single-family residential units. Street B connects to the future Grady Niblo Road as a right-in/right-out street for the single-family residential units. Street C is the full-access street for single-family residential units on Grady Niblo Road. The 100 single-family attached/multi-family low-rise residential community will have two access connections: Gideons Way and Potters House Way.

All the street access connections to the public streets are located appropriately and have adequate spacing from the nearest intersections. Promet has reviewed the access street connections and recommends approval of the proposed locations.

IX. CONCLUSIONS AND RECOMMENDATIONS

The analysis of the traffic conditions, both existing and future, considering an annual growth with the proposed site's traffic and other background future projects, indicates a minor impact on the local roadway system.

- Based on the analysis results, all the signalized intersections are expected to operate acceptably at 2027 Build and 2032 Horizon Build conditions.
- Based on the analysis results, all the unsignalized intersections are expected to operate acceptably except:
 - TX-408 Spur SB Frontage Road/Off-Ramp at Grady Niblo Road/Ledbetter Ext: The southbound movement at the intersection is currently operating at LOS F and will continue to operate at LOS in the future. A significant amount of left-turn volume exists presently during the AM peak hour.
 - TX-408 Spur NB Frontage Road/Off-Ramp at Grady Niblo Road/Ledbetter Ext: The northbound movement at the intersection is currently operating at LOS E and is expected to fail in the future. However, it must be noted that the traffic control had to be changed to obtain the delay result for the northbound movement.

Recommendation: The city should review the two intersections during peak morning hours when traffic is highest. The SB left-turn movement is the critical movement for failure at the intersection. Most of this left-turn traffic goes to the UME Preparatory Academy - Dallas. Additional capacity is required to accommodate the peak hour traffic to avoid excessive delays for the stop-controlled SB movement. Similarly, the NB movement will require additional capacity to accommodate the NB right-turn traffic entering the UME Preparatory Academy – Dallas during the morning peak hour.

- Based on the analysis results, all the existing and proposed roundabout intersections are expected to operate acceptably. No additional geometric changes are recommended at these intersections.
- Based on the intersection and roadway link capacity analysis for Grady Niblo Road, the roadway is expected to operate acceptably with the proposed four-lane median divided roadway configuration. Therefore, Promet recommends approval of the Thoroughfare Amendment to a four-lane median divided roadway and roadway alignment as shown in the site plan.

Promet recommends approving the current site plan for future land uses/density and the proposed thoroughfare amendment for Grady Niblo Road.



LEGEND:

- Project Site

PROMET ENGINEERS

TRANSPORTATION ENGINEERING & PLANNING

TBPE Firm Registration No.: F-25044
 Phone 469-640-7708 Web www.prometengineers.com
 9550 Forest Lane, Suite 342, Dallas, Texas 75243

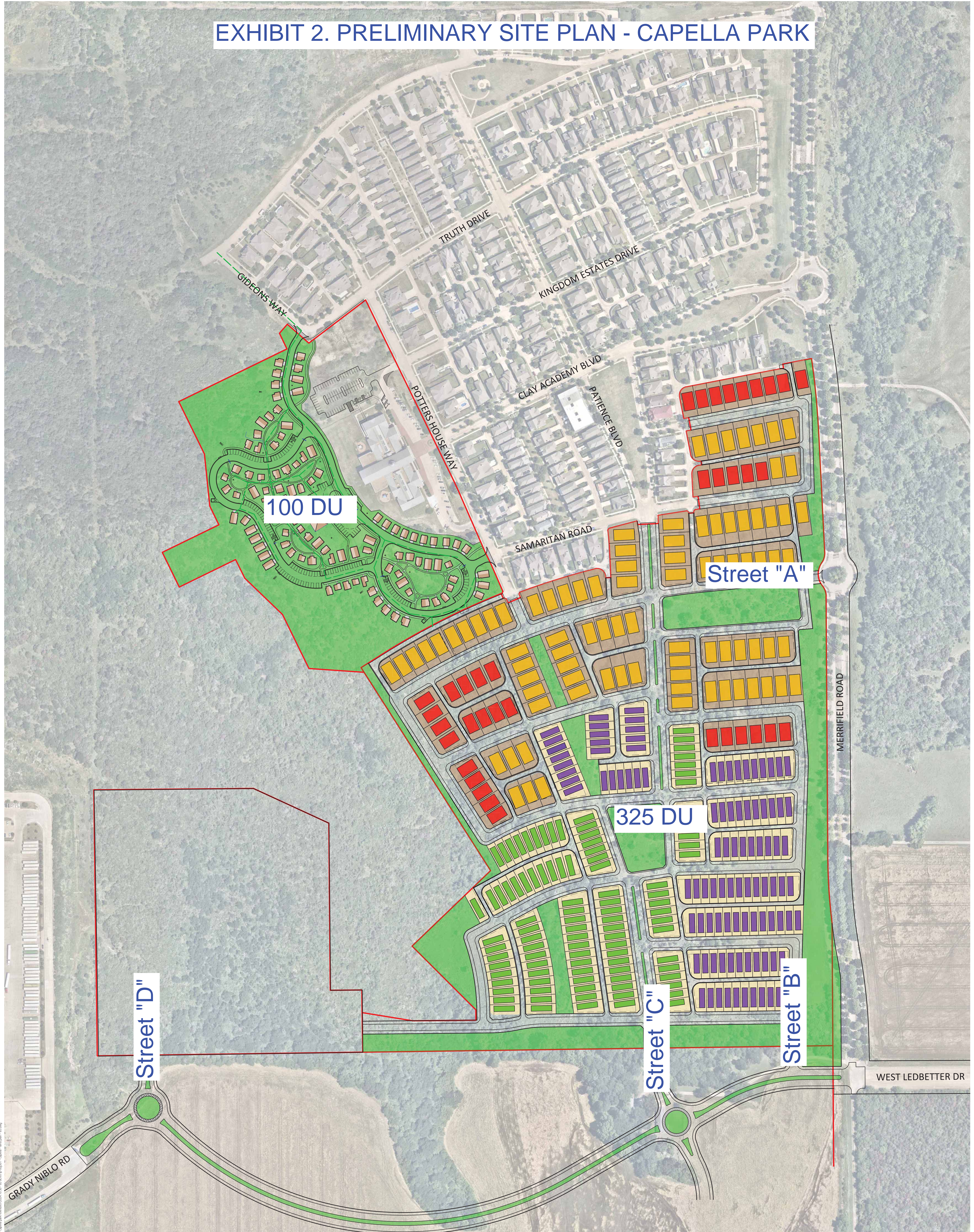
EXHIBIT: 1

TITLE: Site Location Map

DATE: November 12, 2024

TRAFFIC IMPACT ANALYSIS FOR CAPELLA PARK IN DALLAS, TEXAS

EXHIBIT 2. PRELIMINARY SITE PLAN - CAPELLA PARK



100 DU

Street "A"

325 DU

Street "D"

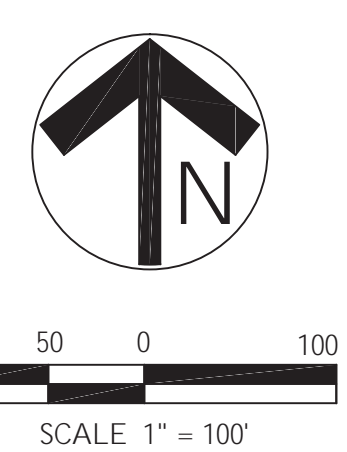
Street "C"

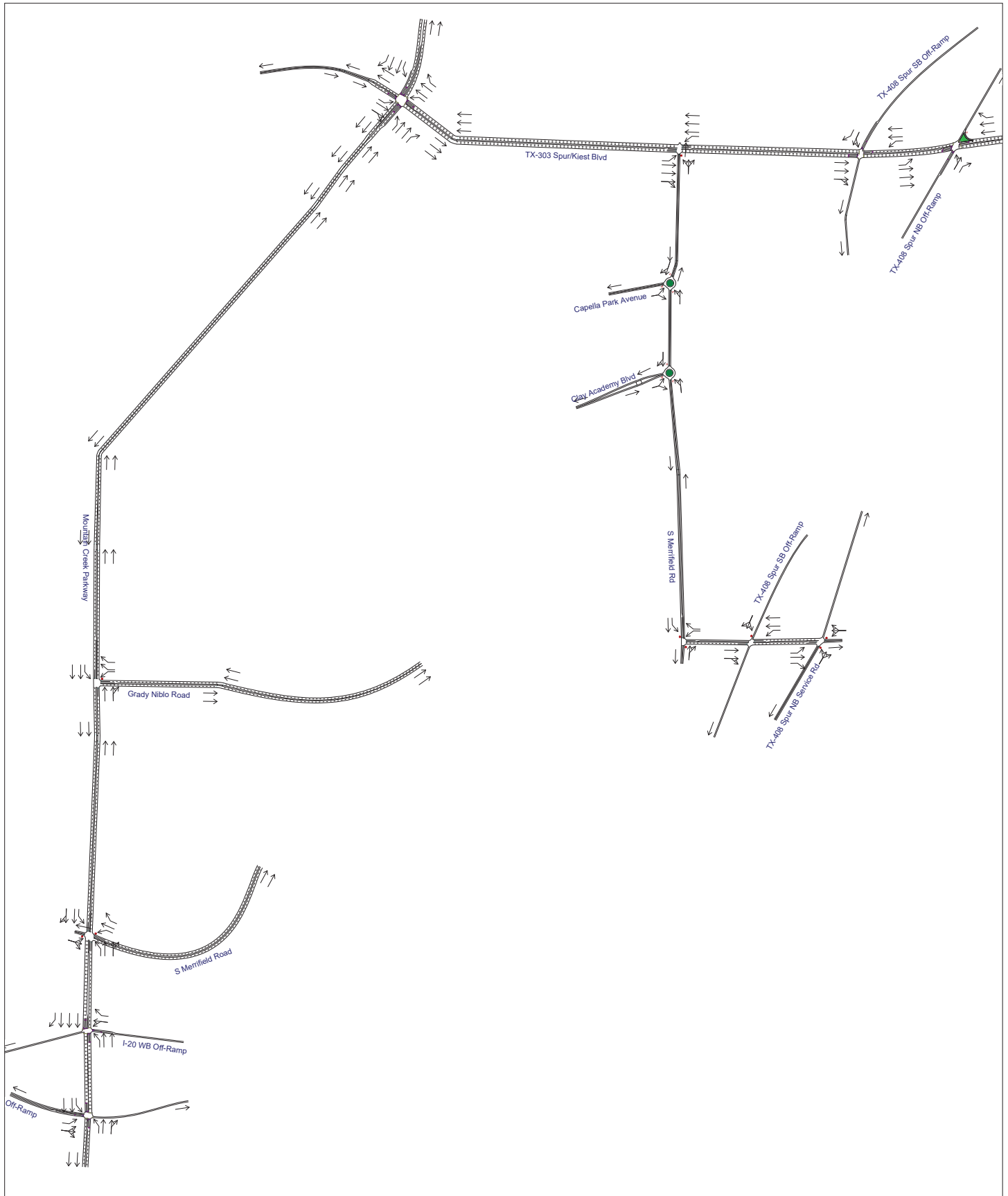
Street "B"

CONCEPT PLAN
CAPELLA PARK
 84.53 ACRES
 DALLAS, TEXAS

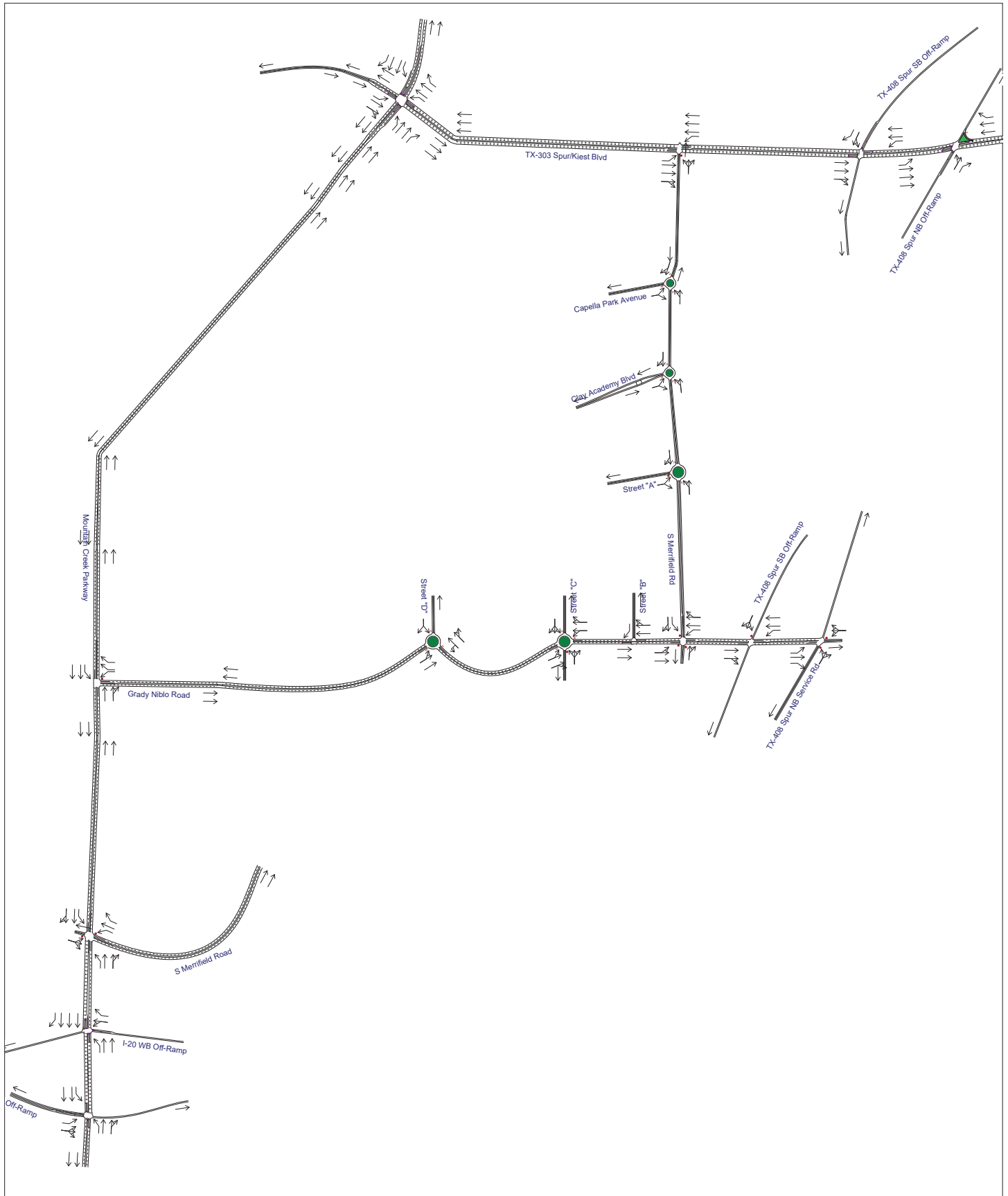
LOT SIZE	TOTAL
20'x70'	101
20'x75'	99
40'x65'	37
40'x75'	88

LOT SIZE	TOTAL
50' x 110'	125
30' x 110'	200
TOTAL	326





TIA for Capella Park, Dallas, Texas



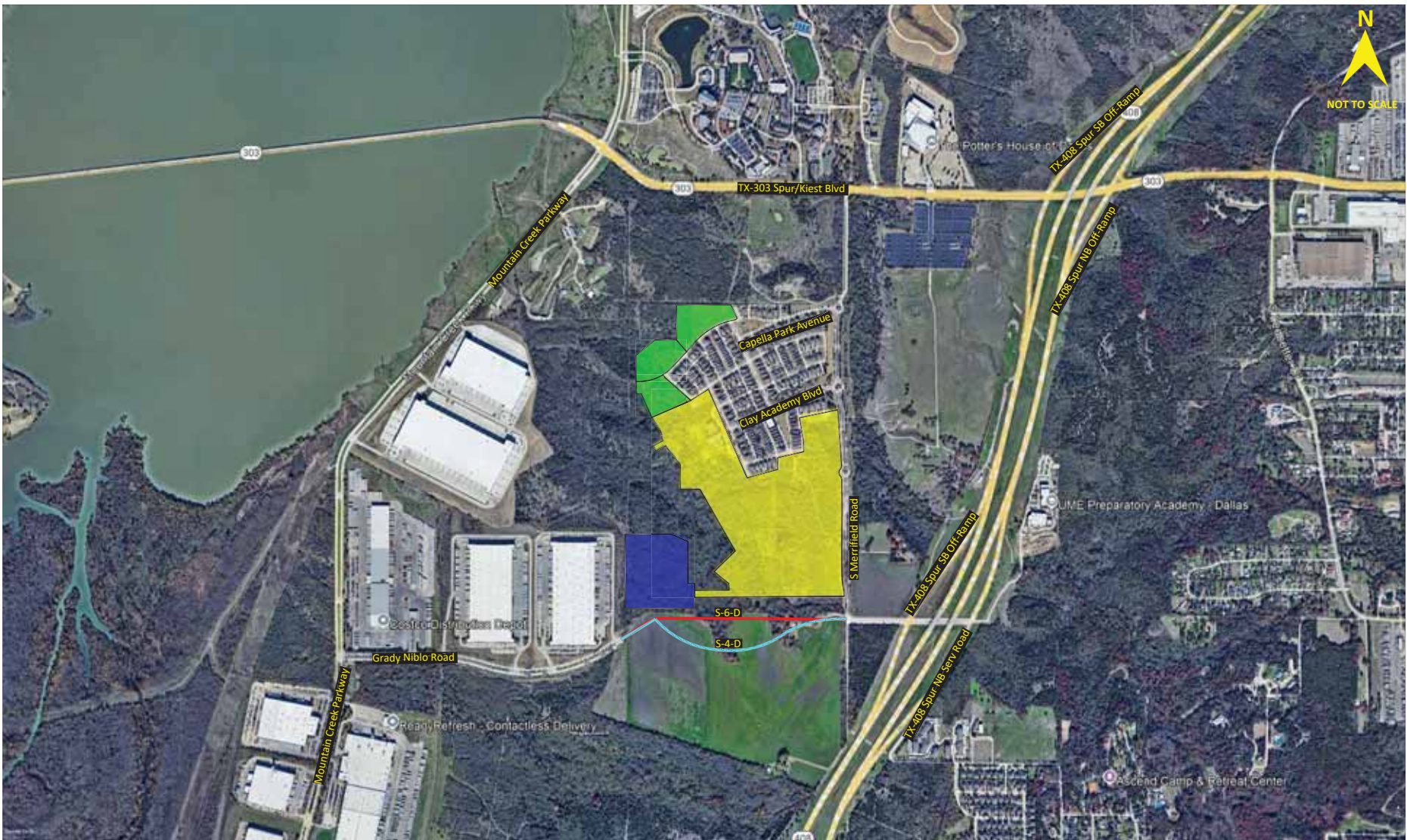
TIA for Capella Park, Dallas, Texas



LEGEND:

- Project Site
- City of Dallas Thoroughfare Plan - Grady Niblo Road Alignment and Designation (S-6-D)
- Proposed Thoroughfare Amendment - Grady Niblo Road Alignment and Designation (S-4-D)

<p>PROMET ENGINEERS</p> <p>TRANSPORTATION ENGINEERING & PLANNING</p> <p>TBPE Firm Registration No.: F-25044</p> <p>Phone 469-640-7708 Web www.prometengineers.com</p> <p>9550 Forest Lane, Suite 342, Dallas, Texas 75243</p>	EXHIBIT: 5
	TITLE: Grady Niblo Road Thoroughfare Amendment
	DATE: December 13, 2024
	TRAFFIC IMPACT ANALYSIS FOR CAPELLA PARK IN DALLAS, TEXAS



LEGEND:

- Project Site
- D223-001 & 002 (Capella Park No. 1 & 2) Sites
- Canvas at Dallas

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EXHIBIT: 6

TITLE: Capella Park Background Project Locations

DATE: December 13, 2024

TRAFFIC IMPACT ANALYSIS FOR CAPELLA PARK IN DALLAS, TEXAS