PLANNING AND ZONING CASE CHECKLIST

PLANNING AND ZONING DEPARTMENT
385 S. GOLIAD STREET
ROCKWALL, TX 75087

P&Z CASE # P2022-028 P&Z DATE July 12, 2022 CC DATE July 5, 2022 Approved/Denied

ARCHITECTURAL REVIEW BOARD DATE_____ HPAB DATE_____PARK BOARD DATE_____

Zoning Application
- ☐ Specific Use Permit
- ☐ Zoning Change
- ☐ PD Concept Plan
- ☐ PD Development Plan

Site Plan Application
- ☐ Site Plan
- ☐ Landscape Plan
- ☐ Treescape Plan
- ☐ Photometric Plan
- ☐ Building Elevations
- ☐ Material Samples
- ☐ Color Rendering

Platting Application
- ☐ Master Plat
- ☒ Preliminary Plat
- ☐ Final Plat
- ☐ Replat
- ☐ Administrative/Minor Plat
- ☐ Vacation Plat
- ☐ Landscape Plan
- ☐ Treescape Plan

HPAB Application
- ☐ Exhibit

Miscellaneous Application
- ☐ Variance/Exception Request
- ☐ Copy of Ordinance (ORD#_____)
- ☐ Applications
- ☐ Receipt
- ☐ Location Map
- ☐ HOA Map
- ☐ PON Map
- ☐ FLU Map
- ☐ Newspaper Public Notice
- ☐ 500-foot Buffer Public Notice
- ☐ Project Review
- ☐ Staff Report
- ☐ Correspondence
- ☐ Copy-all Plans Required
- ☐ Copy-Mark-Ups
- ☐ City Council Minutes – Laserfiche
- ☐ Minutes-Laserfiche
- ☐ Plat Filled Date_____
  - ☐ Cabinet #_____
  - ☐ Slide #_____

Notes:_____
_____
_____
_____
_____
_____
_____

Zoning Map Updated_____

DEVELOPMENT APPLICATION

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

STAFF USE ONLY

PLANNING & ZONING CASE NO.

NOTE: *THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.*

DIRECTOR OF PLANNING:

CITY ENGINEER:

PLEASE CHECK THE APPROPRIATE BOX BELOW TO INDICATE THE TYPE OF DEVELOPMENT REQUEST [SELECT ONLY ONE BOX]:

PLATTING APPLICATION FEES:
- ☐ MASTER PLAT ($100.00 + $15.00 ACRE) [1]
- ■ PRELIMINARY PLAT ($200.00 + $15.00 ACRE) [1]
- ☐ FINAL PLAT ($300.00 + $20.00 ACRE) [1]
- ☐ REPLAT ($300.00 + $20.00 ACRE) [1]
- ☐ AMENDING OR MINOR PLAT ($150.00)
- ☐ PLAT REINSTATEMENT REQUEST ($100.00)

SITE PLAN APPLICATION FEES:
- ☐ SITE PLAN ($250.00 + $20.00 ACRE) [1]
- ☐ AMENDED SITE PLAN/ELEVATIONS/LANDSCAPING PLAN ($100.00)

ZONING APPLICATION FEES:
- ☐ ZONING CHANGE ($200.00 + $15.00 ACRE) [1]
- ☐ SPECIFIC USE PERMIT ($200.00 + $15.00 ACRE) [1 & 2]
- ☐ PD DEVELOPMENT PLANS ($200.00 + $15.00 ACRE) [1]

OTHER APPLICATION FEES:
- ☐ TREE REMOVAL ($75.00)
- ☐ VARIANCE REQUEST/SPECIAL EXCEPTIONS ($100.00) [2]

NOTES:
[1]: IN DETERMINING THE FEE, PLEASE USE THE EXACT ACREAGE WHEN MULTIPLYING BY THE PER ACRE AMOUNT. FOR REQUESTS ON LESS THAN ONE ACRE, ROUND UP TO ONE (1) ACRE.
[2]: A ***$1,000.00*** FEE WILL BE ADDED TO THE APPLICATION FEE FOR ANY REQUEST THAT INVOLVES CONSTRUCTION WITHOUT OR NOT IN COMPLIANCE TO AN APPROVED BUILDING PERMIT.

PROPERTY INFORMATION [PLEASE PRINT]

ADDRESS					
SUBDIVISION	Rockwall High School 9th Grade Center	LOT	1	BLOCK	1
GENERAL LOCATION	Northwest corner of Quail Run Road and FM 1141				

ZONING, SITE PLAN AND PLATTING INFORMATION [PLEASE PRINT]

CURRENT ZONING	AG		CURRENT USE	Public School	
PROPOSED ZONING	PD for NS uses		PROPOSED USE	Public School	
ACREAGE	76.08 acres	LOTS [CURRENT]	1	LOTS [PROPOSED]	1

■ ***SITE PLANS AND PLATS:*** *BY CHECKING THIS BOX YOU ACKNOWLEDGE THAT DUE TO THE PASSAGE OF HB3167 THE CITY NO LONGER HAS FLEXIBILITY WITH REGARD TO ITS APPROVAL PROCESS, AND FAILURE TO ADDRESS ANY OF STAFF'S COMMENTS BY THE DATE PROVIDED ON THE DEVELOPMENT CALENDAR WILL RESULT IN THE DENIAL OF YOUR CASE.*

OWNER/APPLICANT/AGENT INFORMATION [PLEASE PRINT/CHECK THE PRIMARY CONTACT/ORIGINAL SIGNATURES ARE REQUIRED]

☐ OWNER	Rockwall Independent School District	☐ APPLICANT	Rockwall Independent School District
CONTACT PERSON	William Salee - Executive Director of Operations	CONTACT PERSON	Robert Howman
ADDRESS	1191 T.L. Townsend Drive	ADDRESS	4500 Fuller Drive
			Suite 220
CITY, STATE & ZIP	Rockwall, Texas 75087	CITY, STATE & ZIP	Irving, Texas 75038
PHONE	469-698-7031	PHONE	972.989.2174 (mobile)
E-MAIL	will.salee@rockwallisd.org	E-MAIL	rahowman@glennengineering.com

NOTARY VERIFICATION [REQUIRED]

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED WILL SALEE [*OWNER*] THE UNDERSIGNED, WHO STATED THE INFORMATION ON THIS APPLICATION TO BE TRUE AND CERTIFIED THE FOLLOWING:

"I HEREBY CERTIFY THAT I AM THE OWNER FOR THE PURPOSE OF THIS APPLICATION; ALL INFORMATION SUBMITTED HEREIN IS TRUE AND CORRECT; AND THE APPLICATION FEE OF $ 1,341.20 *, TO COVER THE COST OF THIS APPLICATION, HAS BEEN PAID TO THE CITY OF ROCKWALL ON THIS THE* 16th *DAY OF* JUNE *, 20* 22 *BY SIGNING THIS APPLICATION, I AGREE THAT THE CITY OF ROCKWALL (I.E. "CITY") IS AUTHORIZED AND PERMITTED TO PROVIDE INFORMATION CONTAINED WITHIN THIS APPLICATION TO THE PUBLIC. THE CITY IS ALSO AUTHORIZED AND PERMITTED TO REPRODUCE ANY COPYRIGHTED INFORMATION SUBMITTED IN CONJUNCTION WITH THIS APPLICATION, IF SUCH REPRODUCTION IS ASSOCIATED OR IN RESPONSE TO A REQUEST FOR PUBLIC INFORMATION."*

GIVEN UNDER MY HAND AND SEAL OF OFFICE ON THIS THE 16th *DAY OF* June *, 20* 22

OWNER'S SIGNATURE

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MELANIE PYLAND
My Notary ID # 126570708
Expires August 6, 2024

MY COMMISSION EXPIRES

CHECKLIST FOR PLAT SUBMITTALS

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

Case Type:

☐ Minor/Amending Plat ☐ Replat
☐ Final Plat ☒ Preliminary Plat
☐ Master Plat ☐ Vacation Plat

Case Number

Reviewed By:

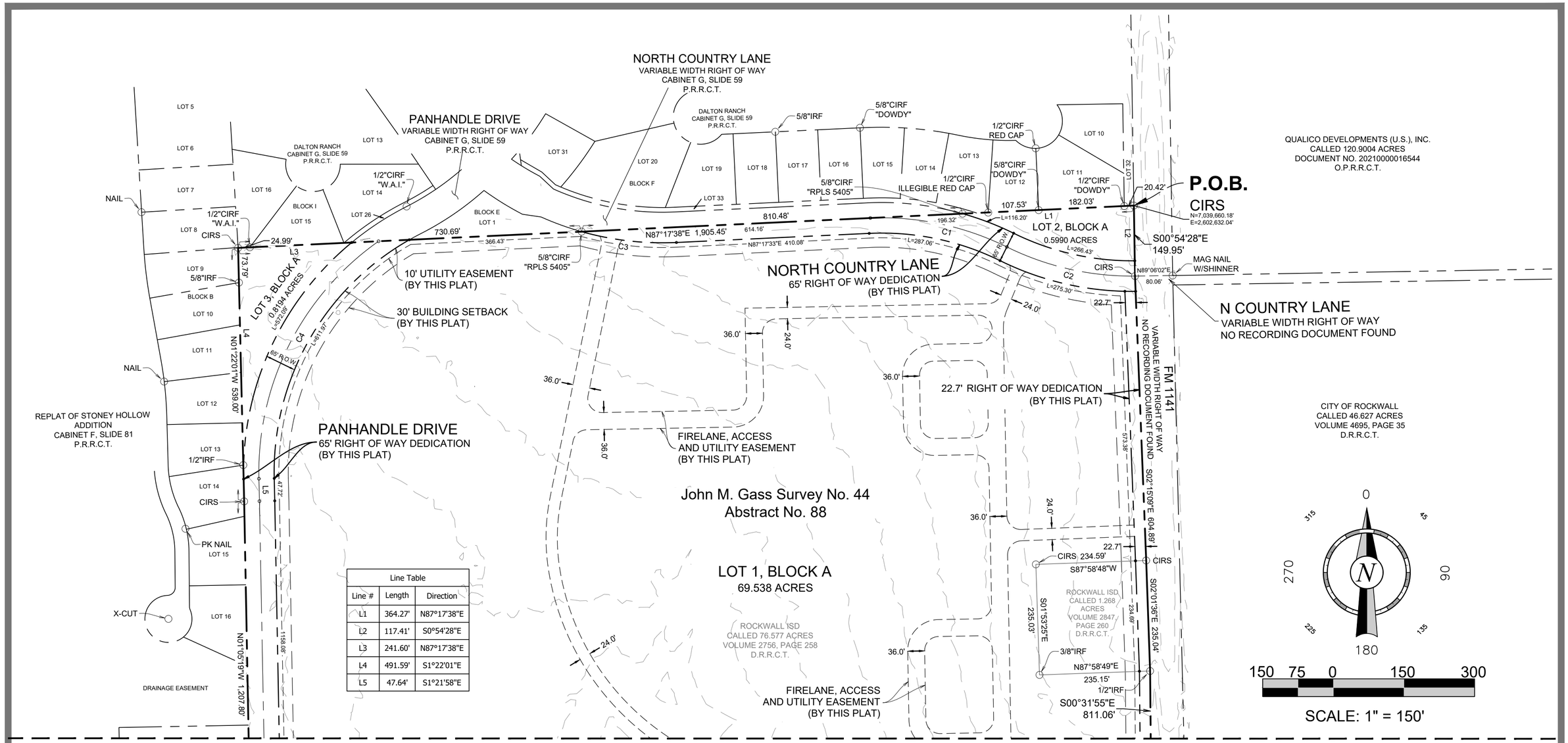
Review Date:

NOTES: The requirements listed below are based on the case type, which is indicated in the *'[ ]'* below the requirement description. On the checklist below a Replat, Minor Subdivision Plat, and Vacation Plat would be required to meet all the same requirements as a Final Plat.

Requirements	✓= OK	N/A	Comments
Case Number *[Final Plat, Preliminary Plat & Master Plat]*	☐	☒	The case number will be provided by staff and placed in the lower right-hand corner of all new submittals.
Items Necessary for Plat Review:			
✓ Plat	☒	☐	*[Final Plat, Preliminary Plat & Master Plat]*
✓ Treescape Plan	☒	☐	*If Applicable [Final Plat & Preliminary Plat]*
✓ Landscape Plan	☒	☐	*If Applicable [Final Plat & Preliminary Plat]*
✓ Plat Reinstatement Request	☒	☐	*Check w/ Planning Staff*
Submittal Requirements *[Final Plat, Preliminary Plat & Master Plat]*	☒	☐	Four (4) large (18" x 24") **folded** copies and one (1) PDF digital copy of each plat is required at the time of submittal.
Engineering Information *[Final Plat]*	☒	☐	Provide accurate plat dimensions with all engineering information necessary to reproduce the plat on the ground. **ENGINEERING SUBMITTAL AND APPROVAL REQUIRED PRIOR TO SUBMITTING AN APPLICATION FOR FINAL PLAT.**
Title Block: Type of Plat *[Master, Preliminary, Final or Replat]* Subdivision Name (Proposed or Approved) Lot / Block Designation Number of Lots (Proposed) Total Acreage City, State, County	☒	☐	Provide the title block information in the lower right-hand corner.
Owner, Developer, and/or Surveyor/Engineer (Name/Address/Phone Number/Date of Preparation) *[Final Plat & Preliminary Plat]*	☒	☐	This includes the names and addresses of the sub dividers, record owner, land planner, engineer and/or surveyor. The date of plat preparation should also be put in the lower right-hand corner.
Survey Monuments/State Plane Coordinates *[Final Plat]*	☒	☐	The location of the development is required to be tied to a Rockwall monument, or tie two (2) corners to state plan coordinates (NAD 83 State Plane Texas, North Central [7202], US Survey Feet).
Vicinity Map *[Final Plat & Preliminary Plat]*	☒	☐	A Vicinity Map should show the boundaries of the proposed subdivision relative to the rest of the city.
North Point *[Final Plat & Preliminary Plat]*	☒	☐	The north point or north arrow must be facing true north (or straight up) on all plans, unless the scale of the drawings or scope of the project requires a different position.
Numeric and Graphic Scale *[Final Plat & Preliminary Plat]*	☒	☐	Plats should be drawn to an Engineering Scale of 1"=50', 1"=100', etc...
Subdivision (Boundary, Acreage, and Square Footage) *[Final Plat, Preliminary Plat & Master Plat]*	☒	☐	Indicate the subdivision boundary lines, and acreage and square footage. For Master Plats provide a schematic layout of the entire tract to be subdivided, any remainder tracts and its relationship to adjacent property and existing adjoining developments.
Lot and Block (Designation, Width, Depth and Area) *[Final Plat & Preliminary Plat]*	☒	☐	Identification of each lot and block by number or letter. For each lot indicate the square footage and acreage or provide a calculation sheet. Also provide a lot count.
Dwelling Units/Population Density *[Master Plat]*	☐	☒	Indicate the proposed number of dwelling units and population densities.
Building Setbacks *[Final Plat & Preliminary Plat]*	☒	☐	Label the building lines where adjacent to a street.
Easements *[Final Plat & Preliminary Plat]*	☒	☐	Label all existing and proposed easements relative to the site and include the type, purpose and width.
City Limits *[Final Plat, Preliminary Plat & Master Plat]*	☒	☐	Indicate the location of the City Limits, contiguous or within the platting area.
Utilities (P)	☒	☐	Indicate the locations of all existing and proposed utilities. Include the size and type of each.

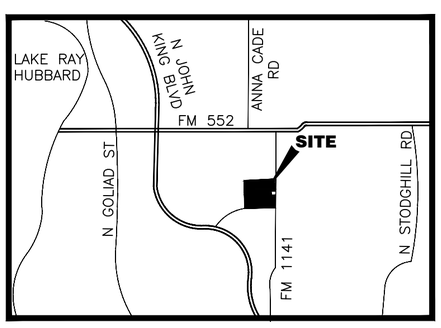
Property Lines *[Final Plat, Preliminary Plat & Master Plat]*	☒	☐	Provide all the proposed and platted property lines.
Streets *[Final Plat, Preliminary Plat & Master Plat]*	☒	☐	Label all proposed and existing streets with the proposed or approved names. For Master Plats indicate the existing arterials and collector streets to serve the land to be platted consistent with the Thoroughfare Plan or proposed amendments.
Right-Of-Way and Centerline *[Final Plat, Preliminary Plat & Master Plat]*	☒	☐	Label the right-of-way width and street centerline for each street both within and adjacent to the development.
Additional Right-Of-Way *[Final Plat & Preliminary Plat]*	☒	☐	Indicate the location and dimensions of any proposed right-of-way dedication.
Corner Clips *[Final Plat & Preliminary Plat]*	☒	☐	Indicate all existing and proposed corner clips and any subsequent dedication.
Median Openings *[Preliminary Plat]*	☒	☐	Locate and identify existing and/or proposed median openings and left turn channelization.
Topographical Contours *[Preliminary Plat & Master Plat]*	☒	☐	Topographical information and physical features to include contours at 2-foot intervals.
Flood Elevations *[Preliminary Plat & Master Plat]*	☒	☐	Show 100-Year & 50-Year floodplain and floodway boundaries (if applicable).
Drainage Areas *[Preliminary Plat & Master Plat]*	☒	☐	Show all drainage areas and all proposed storm drainages areas with sizes if applicable.
Wooded Areas *[Preliminary Plat & Master Plat]*	☒	☐	Indicate the boundaries of all adjacent wooded areas.
Zoning and Land Use Information *[Preliminary Plat & Master Plat]*	☒	☐	Indicate all proposed land uses, and existing and proposed zoning classifications. For Master Plats indicate the proposed major categories of land use.
Existing Man-Made Features *[Master Plat]*	☒	☐	Indicate all significant man-made features such as railroad, roads, buildings, utilities or other physical structures as shown on USGS topographic maps, utility company records and city records when such features affect the plans.
Parks and Open Space *[Preliminary Plat & Master Plat]*	☐	☒	Identify the dimensions, names and description of all parks and open spaces, both existing and proposed. For Master Plats also indicate schools and other public uses as consistent with those shown in the comprehensive plan.
Proposed Improvements *[Preliminary Plat]*	☒	☐	Indicate how the proposed improvements would relate to those in the surrounding area.
Water Sources *[Preliminary Plat]*	☒	☐	Indicate water sources inside the city limits or in the extraterritorial jurisdiction (ETJ).
Sewage Disposal *[Preliminary Plat]*	☒	☐	Indicate sewage disposal method inside the city limits or in the extraterritorial jurisdiction (ETJ).
Adjacent Properties *[Final Plat & Preliminary Plat]*	☒	☐	Record owners of contiguous parcels of subdivided land, names and lot patterns of contiguous subdivisions, approved Concept Plans, reference recorded subdivision plats adjoining platted land by record name and by deed record volume and page.
Phasing Plan *[Master Plat]* FULL HIGH SCHOOL (NO PHASES)	☐	☒	Designation of each phase of development within the subdivision, the order of development, and a schedule for the development of each phase of the master plan.
Dedication *[Final Plat, Preliminary Plat & Master Plat]*	☒	☐	Indicate the boundary lines, dimensions and descriptions, of spaces to be dedicated for public use of the inhabitants of the development.
Statement of Service *[Master Plat]* NARATIVE	☐	☒	Provide a detailed statement of how the proposed subdivision will be served by water, wastewater, roadway and drainage facilities that have adequate capacity to serve the development.
Standard Plat Wording *[Final Plat]*	☐	☒	Provide the appropriate plat wording provided in the application packet that details the designation of the entity responsible for the operation and maintenance of any commonly held property and a waiver releasing the city of such responsibility, a waiver releasing the City for damages in establishment or alteration of grade.
Legal Description *[Final Plat]*	☐	☒	Place the Legal Description (Metes and Bounds Description/Field Notes) where indicated in the Owner's Certificate per the application packet.
Storm Drainage Improvements Statement *[Final Plat]*	☐	☒	Provide the appropriate statement of developer responsibility for storm drainage improvements found in the application packet.
Dedication Language *[Final Plat]*	☐	☒	Provide the instrument of dedication or adoption signed by the owners, which is provided in the application packet.
Seal/Signature *[Final Plat]*	☐	☒	Required to have the seal and signature of surveyor responsible for the surveying the development and/or the preparation of the plat.
Public Improvement Statement *[Final Plat]*	☐	☒	Proved the appropriate statement indicating that no building permits will be issued until all public improvements are accepted by the City as provided in the application packet.
Plat Approval Signatures *[Final Plat]*	☐	☒	Provide a space for signatures attesting approval of the plat.

Compliance with Preliminary Plat *[Final Plat]*	☐	☒	Does the plat comply with all the special requirements developed in the preliminary plat review?
Review Plans with Franchise Utility Companies *[Final Plat, Preliminary Plat & Master Plat]*	☒	☐	Review the proposed plans and plat with electric, gas, cable and phone companies.

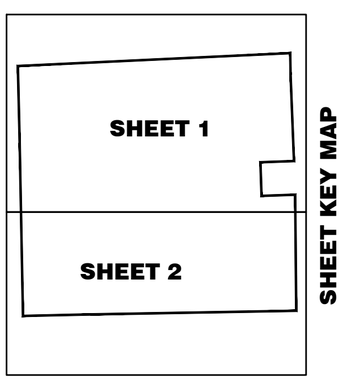


Line Table		
Line #	Length	Direction
L1	364.27'	N87°17'38"E
L2	117.41'	S0°54'28"E
L3	241.60'	N87°17'38"E
L4	491.59'	S1°22'01"E
L5	47.64'	S1°21'58"E

Match Line – See Sheet 2



LOCATION MAP
NOT TO SCALE



LEGEND

DEED RECORDS, ROCKWALL COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS

PLAT RECORDS ROCKWALL COUNTY, TEXAS

IRF	**IRON ROD FOUND**
CIRF	**CAPPED IRON ROD FOUND AS NOTED**
CIRS	**1/2" CAPPED IRON ROD STAMPED "BOWMAN PROP COR"**
MNF	**MAG NAIL FOUND**
MNS	**MAG NAIL SET**
P.O.B.	**POINT OF BEGINNING**
A.E.	**ACCESS EASEMENT**
B.L.	**BUILDING LINE**
D.E.	**DRAINAGE EASEMENT**
N.G.E.	**NATURAL GAS EASEMENT**
U.E.	**UTILITY EASEMENT**
S.S.E.	**SANITARY SEWER EASEMENT**
W.E.	**WATER LINE EASEMENT**
D.U.E.	**DRAINAGE AND UTILITY EASEMENT**
DIM	**DIMENSION**

OWNER:
Rockwall ISD
801 East Washington St.
Rockwall Texas, 75087
(469) 698-7031
Contact: William Salee

ENGINEER:
Glenn Engineering Corp.
105 Decker Court, Suite 910
Irving, Texas 75062
TBPE FIRM NO. F-303
(972) 989-2174 Cell
(972) 717-5151 Office
Contact: Robert Howman

SURVEYOR:
Bowman Consulting Group, Ltd.
1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

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1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104
TBPELS #10120600

Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 1 of 3

Match Line – See Sheet 1

Curve Table					
Curve #	Chord Bearing	Chord Distance	Arc Length	Radius	Delta
C1	S78°01'54"E	296.49'	299.59'	600.08'	28°36'17"
C2	S77°11'02"E	279.26'	281.85'	600.09'	26°54'37"
C3	S83°29'06"E	202.79'	203.67'	632.59'	18°26'48"
C4	S26°43'30"W	565.15'	588.45'	600.09'	56°11'02"

REMAINDER OF
CALLED 4.0005 ACRES
DOYL C. TULLY AND WIFE,
VONETTE S. TULLY
VOLUME 951, PAGE 61
D.R.R.C.T.

N01°05'19"W 1,207.80'

65' R.O.W.

1158.08'

John M. Gass Survey No. 44
Abstract No. 88

FIRELANE, ACCESS
AND UTILITY EASEMENT
(BY THIS PLAT)

24.0'

22.7' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

36.0'

22.7'

S00°31'55"E 811.06'

761.48'

VARIABLE WIDTH RIGHT OF WAY
NO RECORDING DOCUMENT FOUND

FM 1141

30' BUILDING SETBACK
(BY THIS PLAT)

10' UTILITY EASEMENT
(BY THIS PLAT)

CITY OF ROCKWALL
CALLED 46.627 ACRES
VOLUME 4695, PAGE 35
D.R.R.C.T.

LOT 1, BLOCK A
69.538 ACRES

PANHANDLE DRIVE
65' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

ROCKWALL ISD
CALLED 76.577 ACRES
VOLUME 2756, PAGE 258
D.R.R.C.T.

NALLEY MICHAEL R & LORI D
CALLED 2.517 ACRES
VOLUME 1024, PAGE 324
D.R.R.C.T.

EAST QUAIL RUN ROAD
VARIABLE WIDTH RIGHT OF WAY
NO RECORDING DOCUMENT FOUND

49.5' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

408.90'

1413.73'

49.5'

49.5'

22.7'

MNS

S89°52'23"E
80.48'

1/2"IRF

MAG NAIL
W/SHINNER

N=7,037,823.79'
E=2,600,764.52'

S88°42'51"W 473.96'

MAG NAIL

FOUND MAG NAIL BEARS
S72°41'19"W, 2.77'

MNS

30'

1/2"IRF

1/2"IRF

S88°58'59"W 1,435.90'

1/2"IRF

30'

RYAN S HUDDIN AND JADA HUDDIN
CALLED 2.00 ACRES
DOCUMENT NO. 20200000001690
O.P.R.R.C.T.

1/2"IRF

JEFFREY LEWIS AND BOBBIE JO LEWIS
CALLED 2.00 ACRES
DOCUMENT NO. 2016-00005283
O.P.R.R.C.T.

GERALD GLEN COX & ROSALBA CARRASCO COX
CALLED 29.97 ACRES
DOCUMENT NO. 2016-00006512
O.P.R.R.C.T.

SHEILA FLANNERY ET AL
VOLUME 1124, PAGE 65
D.R.R.C.T.

NO DEED FOUND

SADDLEBROOK ESTATES
CABINET A, SLIDE 307
P.R.R.C.T.

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

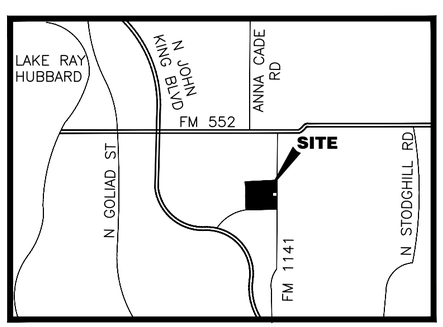
LOT 9

LOT 10

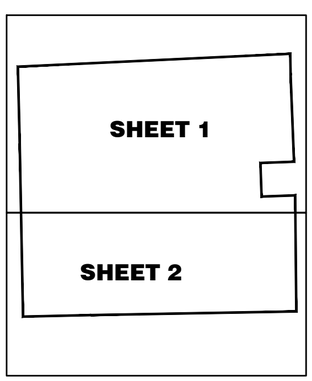
0
315
45
270
90
225
135
180
N

150 75 0 150 300

SCALE: 1" = 150'



LOCATION MAP
NOT TO SCALE



SHEET KEY MAP

LEGEND

DEED RECORDS, ROCKWALL COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS

PLAT RECORDS ROCKWALL COUNTY, TEXAS

IRF	IRON ROD FOUND
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(469) 698-7031
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ENGINEER:
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105 Decker Court, Suite 910
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TBPE FIRM NO. F-303
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SURVEYOR:
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Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

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Fort Worth, TX 76104
TBPELS #10120600
Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 2 of 3

PLAT PERIMETER LEGAL DESCRIPTION

STATE OF TEXAS §
COUNTY OF ROCKWALL §

WHEREAS, Rockwall Independent School District being the owner of a 69.538 acre tract of land situated within the John M Gass Survey No. 44, Abstract No. 88, City of Rockwall, Rockwall County, Texas, and being all of a called 76.577 acre tract of land as described in the deed to Rockwall ISD recorded in Volume 2756, Page 258 of the Deed Records of Rockwall County, Texas (hereafter referred to as the ISD Tract). Said 69.538 acre tract of land being more particularly describes by metes and bounds as follows:

BEGINNING at a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northeast corner of said ISD Tract, being on the west right of way line of FM 1141, a variable width right of way, as evidenced by the plat designated as “Dalton Ranch” recorded in Cabinet G, Slide 59 of the Plat Records of Rockwall County, Texas;

THENCE SOUTH 00 degrees 54 minutes 28 seconds EAST, 149.95 feet with the west right of way line of said FM 1141 to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set;

THENCE SOUTH 02 degrees 15 minutes 09 seconds EAST, 604.89 feet with the west right of way line of said FM 1141 to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northeast corner of a called 1.268 acre tract of land as described in the deed to Rockwall ISD recorded in Volume 2847, Page 260 of said Deed Records;

THENCE SOUTH 02 degrees 01 minute 36 seconds EAST, 235.04 feet with the with the west right of way line of said FM 1141 to a 1/2-inch iron rod found at the southeast corner of said called 1.268 acre tract of land;

THENCE SOUTH 00 degrees 31 minutes 55 seconds EAST, 811.06 feet with the west right of way line of said FM 1141 to a MAG nail with shiner set at the southeast corner of said ISD Tract, being the northeast corner of a 30-foot right of way dedication for East Quail Run Road as dedicated on the plat designated as “Saddlebrook Estates” recorded in Cabinet A, Slide 307 of said Plat Records;

THENCE SOUTH 88 degrees 58 minutes 59 seconds WEST, 1,435.90 feet with the south line of said ISD Tract, being the north line of said right of way dedication and the approximate centerline of said East Quail Run Road to a MAG nail with shiner set at the northwest corner of said right of way dedication;

THENCE SOUTH 88 degrees 42 minutes 51 seconds WEST, 473.96 feet with the south line of said ISD Tract and the approximate centerline of said East Quail Run Road to the southwest corner of said ISD Tract from which a found MAG nail bears SOUTH 72 degrees 41 minutes 19 seconds WEST, 2.77 feet;

THENCE NORTH 01 degree 05 minutes 19 seconds WEST, 1,207.80 feet with the west line of said ISD Tract and being the east line of a called 2.517 acre tract of land as described in the deed to Michael R and Lori D Nalley recorded in Volume 1024, Page 324 of said Deed Records, the east line of the remainder of a called 4.0005 acre tract of land as described in the deed to Doyl C. Tully and wife, Vonette S. Tully recorded in Volume 951, Page 61 of said Deed Records and being the east line of Block B of the plat designated as “Replat of Stoney Hollow Addition” recorded in Cabinet F, Slide 81 of said Plat Records to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set;

THENCE NORTH 01 degree 22 minutes 01 second WEST, 539.00 feet with the west line of said ISD Tract and being the east line of said Block B to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northwest corner of said ISD Tract and being the southwest corner of said Dalton Ranch;

THENCE NORTH 87 degrees 17 minutes 38 seconds EAST, 1,905.45 feet with the north line of said ISD Tract and being the south line of said Dalton Ranch to the POINT OF BEGINNING containing 69.538 acres.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

STATE OF TEXAS

COUNTY OF ROCKWALL

I *(we)* the undersigned owner(s) of the land shown on this plat, and designated herein as the ***ROCKWALL I.S.D. ADDITION a*** subdivision to the City of Rockwall, Texas, and whose name is subscribed hereto, hereby dedicate to the use of the public forever all streets, alleys, parks, water courses, drains, easements and public places thereon shown on the purpose and consideration therein expressed. I (we) further certify that all other parties who have a mortgage or lien interest in the ***ROCKWALL I.S.D. ADDITION*** subdivision have been notified and signed this plat. I *(we)* understand and do hereby reserve the easement strips shown on this plat for the purposes stated and for the mutual use and accommodation of all utilities desiring to use or using same. I (we) also understand the following;

1. No buildings shall be constructed or placed upon, over, or across the utility easements as described herein.
2. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other growths or improvements which in any way endanger or interfere with construction, maintenance or efficiency of their respective system on any of these easement strips; and any public utility shall at all times have the right of ingress or egress to, from and upon the said easement strips for purpose of construction, reconstruction, inspecting, patrolling, maintaining, and either adding to or removing all or part of their respective system without the necessity of, at any time, procuring the permission of anyone.
3. The City of Rockwall will not be responsible for any claims of any nature resulting from or occasioned by the establishment of grade of streets in the subdivision.
4. The developer and subdivision engineer shall bear total responsibility for storm drain improvements.
5. The developer shall be responsible for the necessary facilities to provide drainage patterns and drainage controls such that properties within the drainage area are not adversely affected by storm drainage from the development.
6. No house dwelling unit, or other structure shall be constructed on any lot in this addition by the owner or any other person until the developer and/or owner has complied with all requirements of the Subdivision Regulations of the City of Rockwall regarding improvements with respect to the entire block on the street or streets on which property abuts, including the actual installation of streets with the required base and paving, curb and gutter, water and sewer, drainage structures, storm structures, storm sewers, and alleys, all according to the specifications of the City of Rockwall; or

   Until an escrow deposit, sufficient to pay for the cost of such improvements, as determined by the city's engineer and/or city administrator, computed on a private commercial rate basis, has been made with the city secretary, accompanied by an agreement signed by the developer and/or owner, authorizing the city to make such improvements at prevailing private commercial rates, or have the same made by a contractor and pay for the same out of the escrow deposit, should the developer and/or owner fail or refuse to install the required improvements within the time stated in such written agreement, but in no case shall the City be obligated to make such improvements itself. Such deposit may be used by the owner and/or developer as progress payments as the work progresses in making such improvements by making certified requisitions to the city secretary, supported by evidence of work done; or

   Until the developer and/or owner files a corporate surety bond with the city secretary in a sum equal to the cost of such improvements for the designated area, guaranteeing the installation thereof within the time stated in the bond, which time shall be fixed by the city council of the City of Rockwall.
7. Property owner shall be responsible for maintaining, repairing, and replacing all systems in the detention and drainage easements.

I (we) further acknowledge that the dedications and/or exaction's made herein are proportional to the impact of the Subdivision upon the public services required in order that the development will comport with the present and future growth needs of the City; I (we), my (our) successors and assigns hereby waive any claim, damage, or cause of action that I (we) may have as a result of the dedication of exactions made herein.

Rockwall Independent School District

_____

Rockwall Independent School District - Dr. John Villarreal
Superintendent

STATE OF TEXAS COUNTY OF ROCKWALL

Before me, the undersigned authority, on this day personally appeared Dr. John Villarreal known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein stated.

Given upon my hand and seal of office this _____ day of _____, ***2022***.

_____ _____
Notary Public in and for the State of Texas ***My Commission Expires***

PLAT NOTES:

1. The Basis of Bearings for this plat is GRID NORTH as established by GPS observation utilizing the Texas Coordinate System of 1983, North Central Zone. To obtain a grid distance, multiply the ground distance by 0.999853886.
2. NOTICE: Selling a portion of this addition by metes and bounds is a violation of City ordinance and state law and is subject to fines and withholding of utilities and building permits.
3. All corners are 1/2" iron rods set with a plastic cap stamped "BOWMAN PROP COR" unless otherwise noted.
4. Lot, block and ROW corners will be set after substantial completion of the infrastructure.
5. According to Map No. 48397C0035L and 48397C0030L, both dated 09/26/2008 of the National Flood Insurance Program Map, Flood Insurance Rate Map of Rockwall County, Texas, Federal Emergency Management Agency, Federal Insurance Administration, Panel 30 and 35 of 145, this property is within Zone X unshaded, based on scaled imaging.

GENERAL NOTES:

1. It shall be the policy of the City of Rockwall to withhold issuing building permits until all streets, water, sewer and storm drainage systems have been accepted by the City. The approval of a plat by the City does not constitute any representation, assurance or guarantee that any building within such plat shall be approved, authorized or permit therefore issued, nor shall such approval constitute any representation, assurance or guarantee by the City of the adequacy and availability for water for personal use and fire protection within such plat, as required under Ordinance 83 54.

CERTIFICATE OF SURVEYOR

NOW, THEREFORE KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, A LSLS & REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND.

Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document. Released to the City for review. 2022-06

_____
ROBERT A. HANSEN
LSLS & REGISTERED PROFESSIONAL
LAND SURVEYOR, NO. 6439
RHANSEN@BOWMAN.COM
DATE:

STATE OF TEXAS
COUNTY OF
ROCKWALL

Before me, the undersigned authority, on this day personally appeared Dr. John Villarreal known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein stated.

Given upon my hand and seal of office this _____ day of _____, ***2022***.

_____ _____
Notary Public in and for the State of Texas ***My Commission Expires***

RECOMMENDED FOR FINAL APPROVAL:

_____ _____
Planning & Zoning Commission, Chairman ***Date***

APPROVED:

I hereby certify that the above and foregoing plat of an addition to the City of Rockwall, Texas, was approved by the City Council of the City of Rockwall on the _____ day of _____, ***2022***.

This approval shall be invalid unless the approved plat for such addition is recorded in the office of the County Clerk of Rockwall, County, Texas, within one hundred eighty (180) days from said date of final approval.

WITNESS OUR HANDS, this _____ day of _____, ***2022***.

_____ _____ _____
Mayor, City of Rockwall ***City Secretary*** ***City Engineer***

OWNER:
Rockwall ISD
801 East Washington St.
Rockwall Texas, 75087
(469) 698-7031
Contact: William Salee

ENGINEER:
Glenn Engineering Corp.
105 Decker Court, Suite 910
Irving, Texas 75062
TBPE FIRM NO. F-303
(972) 989-2174 Cell
(972) 717-5151 Office
Contact: Robert Howman

SURVEYOR:
Bowman Consulting Group, Ltd.
1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

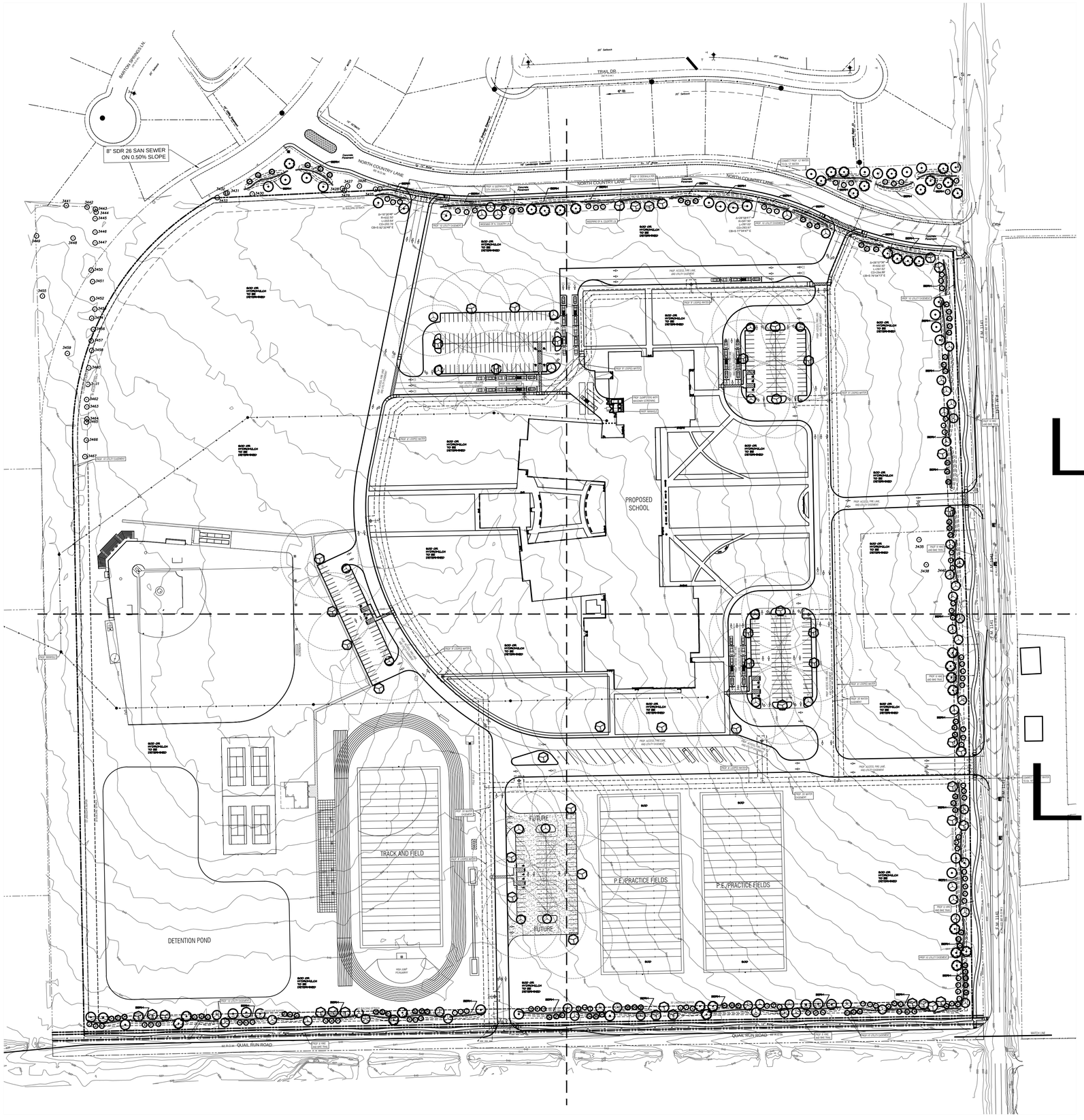
LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

© 2021 Bowman Consulting Group, Ltd.

1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104
TBPELS #10120600
Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 3 of 3



L5

L4

L2

L3

SITE DATA SUMMARY	
EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F.= 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0'x18.0'	202 SPACES
9.0'x20.0'	159 SPACES
15.0'x30.0'	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

NORTH

0 100 200

GRAPHIC SCALE
1"=100'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

ISSUES		
1	06/07/22	PERMIT REVIEW
2		
3		
4		
5		
6		

REVISIONS		

THIS DOCUMENT IS RELEASED FOR PERMIT REVIEW UNDER THE AUTHORITY OF: MICHAEL RAMSEY REGISTERED LANDSCAPE ARCHITECT #1901. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

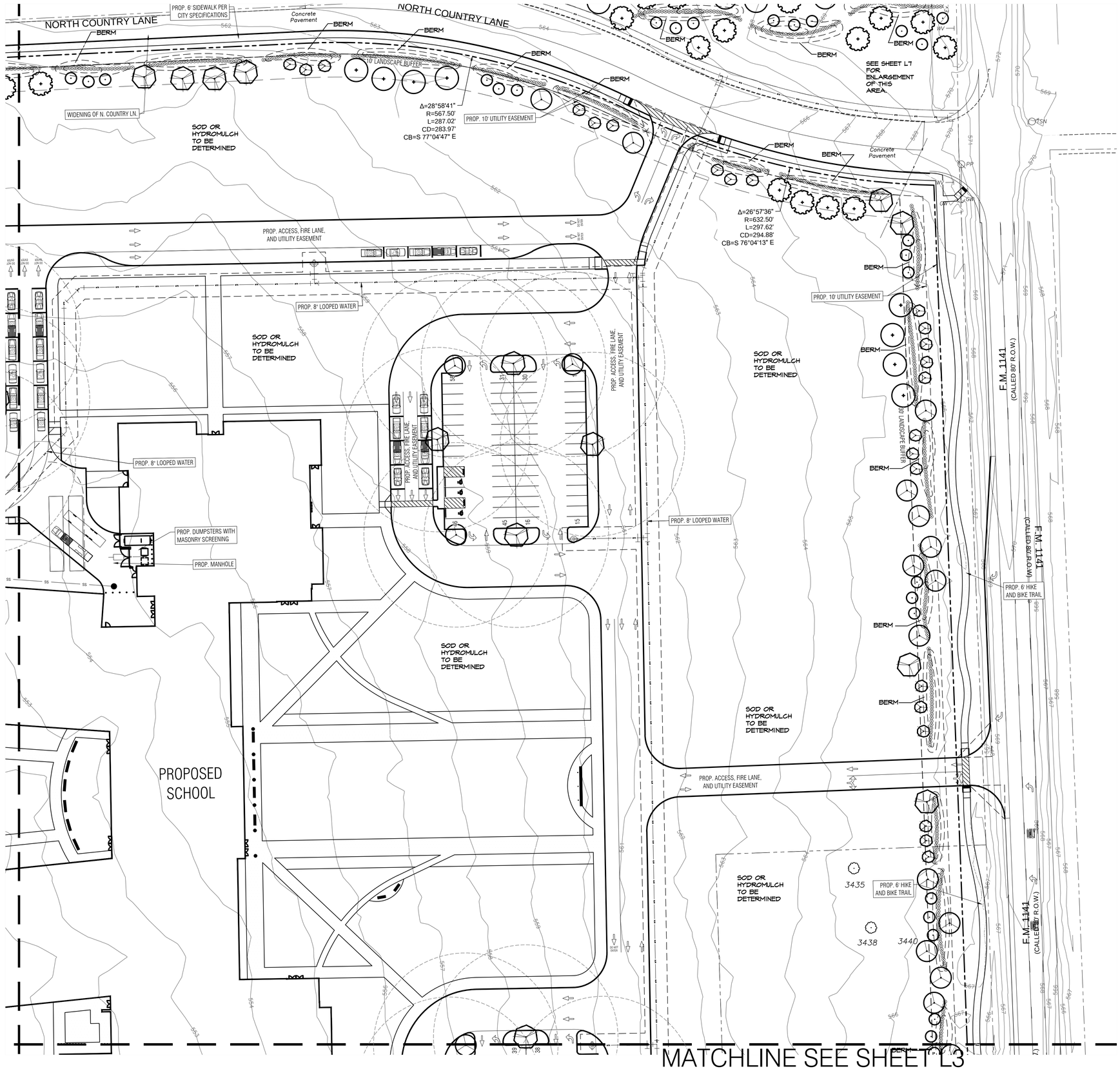
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

OVERALL
LANDSCAPE PLAN

JOB 21572.0000
DATE 06/07/22
SHEET L 1



0 40 80

GRAPHIC SCALE 1"=40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR]. WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

	ISSUES	
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RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA A

JOB 21572.0000
DATE 06/07/22
SHEET L 2

MATCHLINE SEE SHEET L2

MATCHLINE SEE SHEET L4

SOD OR HYDROMULCH TO BE DETERMINED

PROP. ACCESS, FIRE LANE, AND UTILITY EASEMENT

PROP. 8" LOOPED WATER

PROP. 20' WATER EASEMENT

PROP. 6' HIKE AND BIKE TRAIL

BERM

F.M. 1141 (CALLED 80' R.O.W.)

SOD

P.E./PRACTICE FIELDS

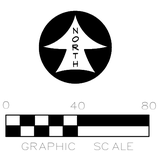
30' LANDSCAPE BUFFER

12" Water

QUAIL RUN ROAD 65' R.O.W.

PROP.10' UTILITY EASEMENT

CONN TO EX



APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

ISSUES

1	06/07/22	PERMIT REVIEW
2		
3		
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5		
6		

REVISIONS

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RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA B

JOB 21572.0000
DATE 06/07/22
SHEET L 3

MATCHLINE SEE SHEET L5

MATCHLINE SEE SHEET L3

PROP. MANHOLE

SCOREBOARD

PROP. ACCESS, FIRELANE AND UTILITY EASEMENT

PROP. 8" LOOPED WATER

SOD OR HYDROMULCH TO BE DETERMINED

SOD OR HYDROMULCH TO BE DETERMINED

10' LANDSCAPE BUFFER

30' BUILDING SETBACK

400 SEATS

400 SEATS

TRACK AND FIELD

POLE VAULT

PROP. 20' WATER EASEMENT

PROP. 8" LOOPED WATER

LONG JUMP

HIGH JUMP PIT/RUNWAY

FUTURE

FUTURE

DETENTION POND

SOD OR HYDROMULCH TO BE DETERMINED

SOD OR HYDROMULCH TO BE DETERMINED

BERM

BERM

BERM

BERM

PROP. 10' UTILITY EASEMENT

30' LANDSCAPE BUFFER

30' BUILDING SETBACK

Ex. 12" Water

PROP. 6' HIKE AND BIKE TRAIL

60' R.O.W. QUAIL RUN ROAD

NORTH

0 40 80

GRAPHIC SCALE
1" = 40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [ ] day of [ ], [ ].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

	ISSUES	
1	06/07/22	PERMIT REVIEW
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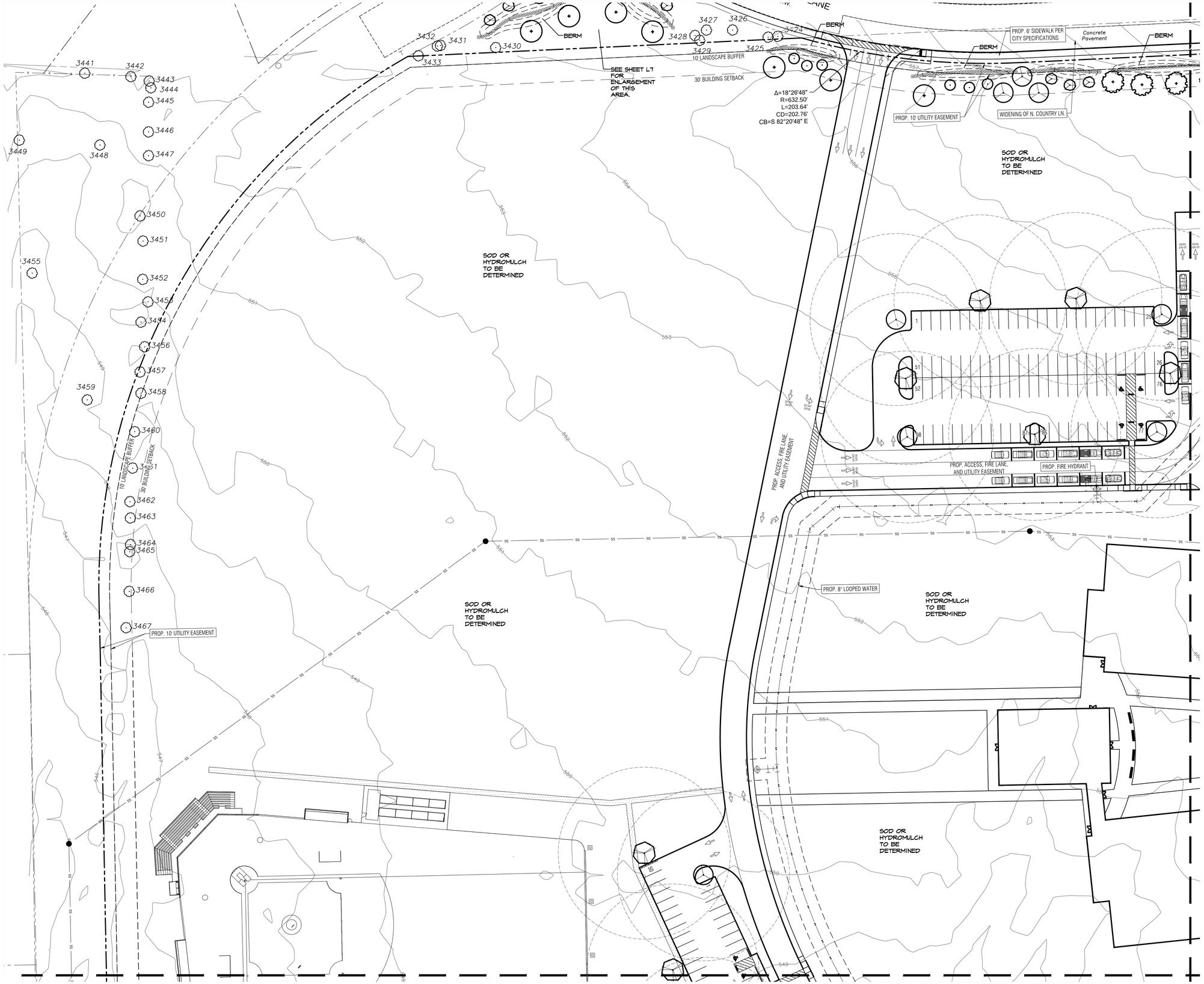
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA C

JOB 21572.0000
DATE 06/07/22
SHEET L 4



NORTH

0 40 80

GRAPHIC SCALE
1"=40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [ ] day of [ ]. [ ].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
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ISSUES		
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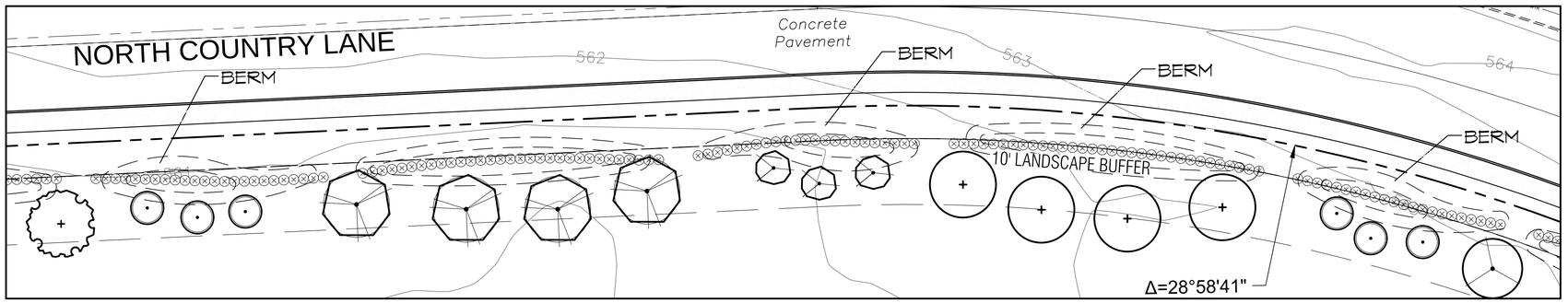
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

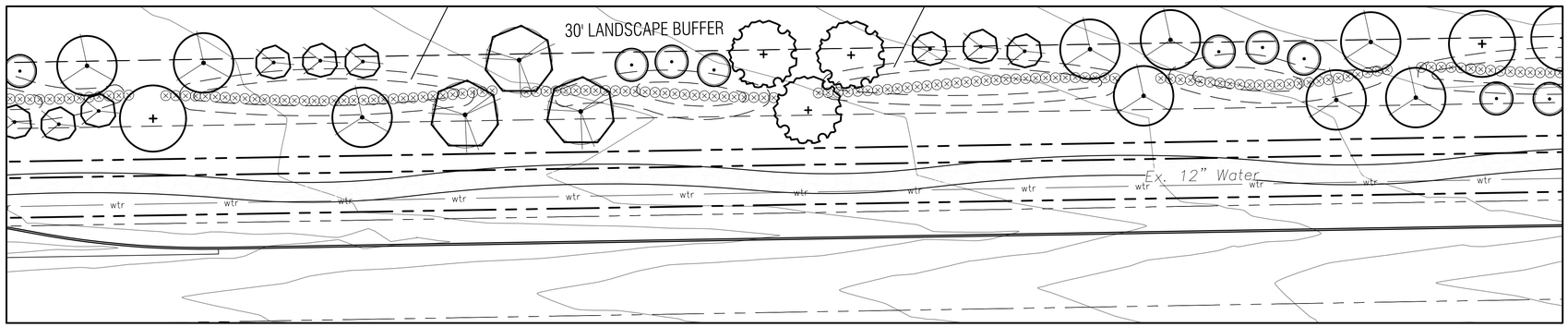
LANDSCAPE PLAN
AREA D

JOB 21572.0000
DATE 06/07/22
SHEET L 5



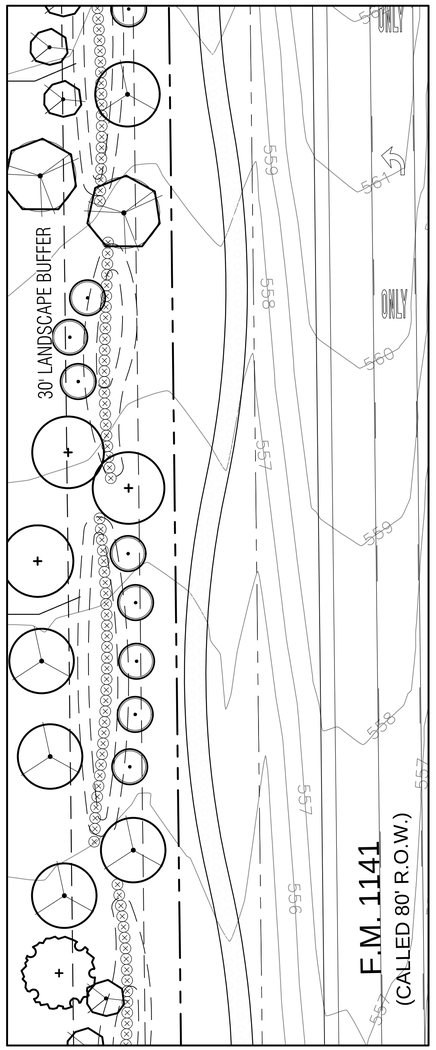
TYPICAL SEGMENT OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



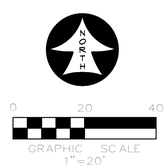
TYPICAL SEGMENT OF QUAIL RUN ROAD

SCALE: 1" = 20'-0"



TYPICAL SEGMENT OF F.M. 1141

SCALE: 1" = 20'-0"



APPROVED:
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WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

	ISSUES	
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	REVISIONS	

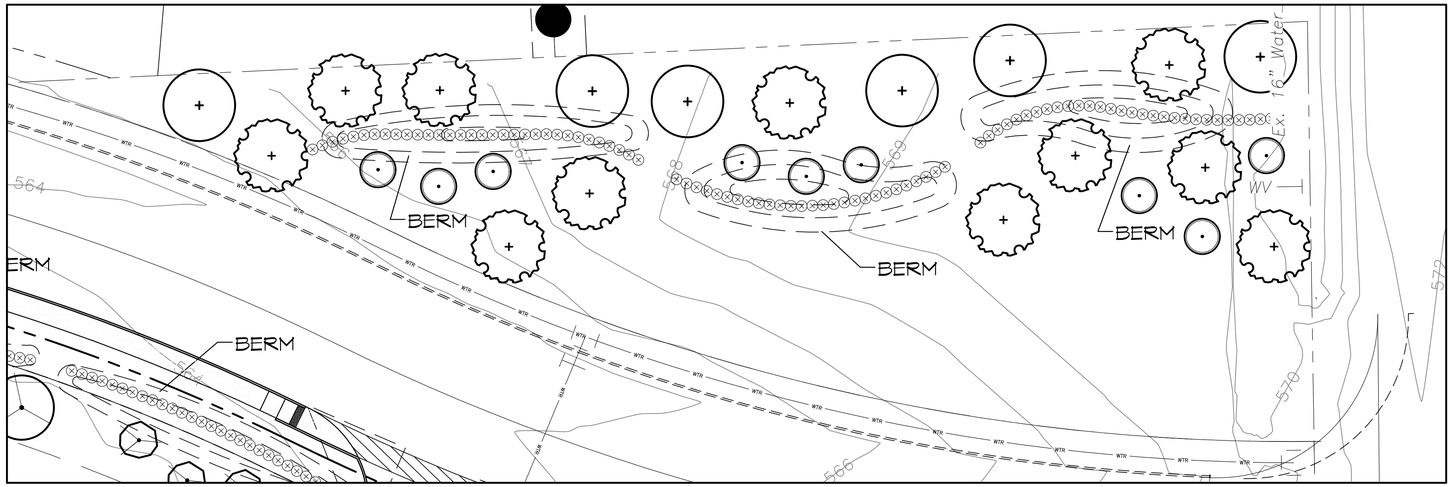
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

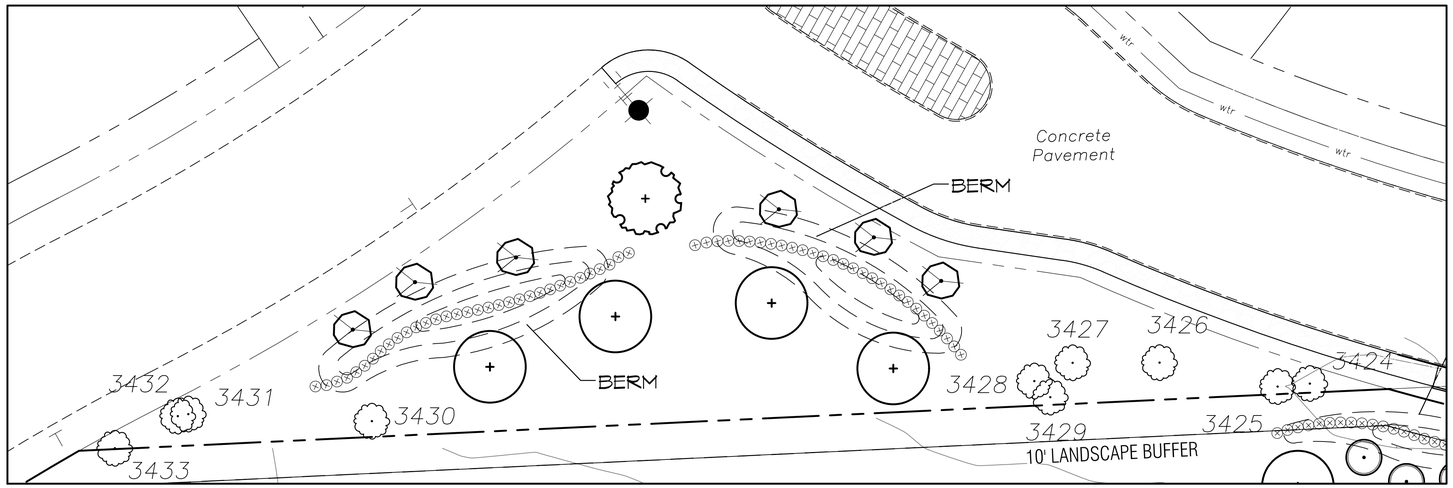
LANDSCAPE ENLARGEMENTS

JOB 21572.0000
DATE 06/07/22
SHEET L 6



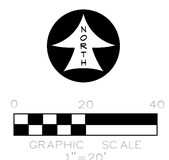
EAST REMAINDER NORTH OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



WEST REMAINDER NORTH OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



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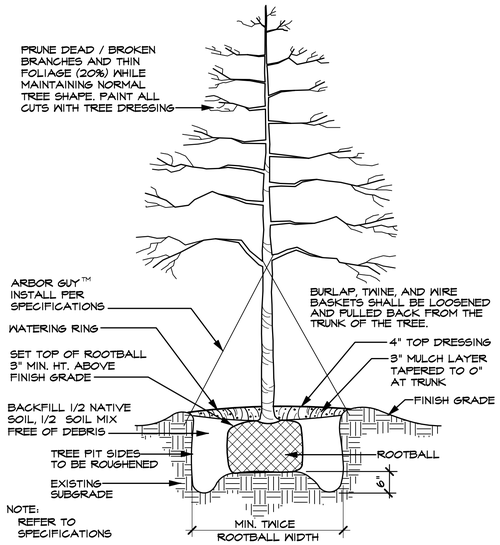
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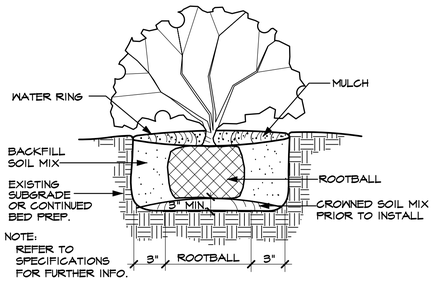
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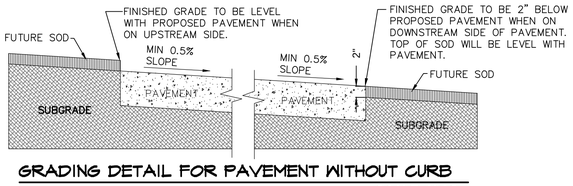
TREE PLANTING DETAIL (TYPICAL)

SCALE: N.T.S.



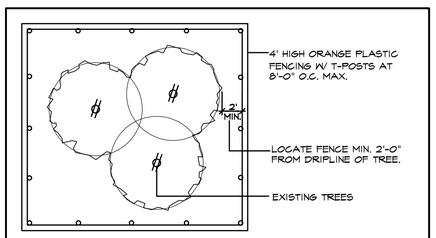
SHRUB PLANTING DETAIL (TYPICAL)

SCALE: N.T.S.



GRADING DETAIL FOR PAVEMENT WITHOUT CURB

SCALE: N.T.S.



1. EXISTING TREES WITHIN CONTRACT LIMITS ARE SHOWN ON THE DRAWINGS. EXISTING TREES DESIGNATED FOR REMOVAL SHALL BE FLAGGED AT THE PROJECT SITE WITH FLAGGING BY THE CONTRACTOR.
2. PROTECT ALL INDIVIDUAL TREES OR GROUPS OF TREES TO BE PRESERVED BY ERECTING A BARRIER AROUND EACH TREE OR GROUP OF TREES. INSTALL AND MAINTAIN BARRIER AT TREE DRIPLINE. BARRIERS SHALL REMAIN IN PLACE UNTIL REMOVAL IS NECESSARY.
3. IN THE EVENT THAT HEAVY CONSTRUCTION IS SCHEDULED TO OCCUR WITHIN THE DRIPLINE OF AN EXISTING TREE, CONTRACTOR SHALL ERECT A PROTECTION FENCE OUTSIDE THE DRIPLINE UNTIL THIS CONSTRUCTION IS SCHEDULED TO OCCUR. THE PROTECTION FENCE MAY THEN BE ADJUSTED AS REQUIRED TO COMPLETE THE PROPOSED CONSTRUCTION. AFTER CONSTRUCTION IN THIS AREA IS COMPLETED, THE PROTECTION FENCE SHALL BE ADJUSTED TO IT'S ORIGINAL LOCATION.
4. CONTRACTORS SHALL NOT PARK, CLEAN TOOLS AND EQUIPMENT OR STORE MATERIALS WITHIN THE DRIPLINE OF ANY TREE.
5. ALL ROOTS OVER 1" IN DIAMETER SHALL BE CUT CLEAN WITH A HAND SAW.

TREE PROTECTION FENCE AND NOTES

SCALE: N.T.S.

TREES

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE & CONDITION
36	+	LIVE OAK	Live Oak	Quercus virginiana	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
35	+	RED OAK	Shumard Red Oak	Quercus shumardii	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
54		LACEBARK	Lacebark Elm	Ulmus parvifolia	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
65		PISTACHIO	Chinese Pistachio	Pistacia chinensis	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
82		T. YAUPON	Yaupon Holly	Ilex vomitoria	3/4" caliper per trunk, 5 trunk min., 6' Ht./4' spread, container, female - heavy berried tree form, limbed to 3'
95		RED BUD	Oklahoma Red Bud	Cercis canadinsis 'oklahoma'	5'-6' ht, 3'-4' spread, container

SHRUBS

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE AND CONDITION
1,706	⊗	P. MUHLY	Pink Muhly Grass	Muhlenbergia capillaris	5 gallon, 18" Ht./18" full

GROUNDCOVER

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE AND CONDITION
AS SHOWN		SOD	Common Bermuda Grass	Cynodon dactylon	Sod refer to specifications
AS SHOWN		HYDRO	Common Bermuda Grass	Cynodon dactylon	Hydromulch refer to specifications

LANDSCAPE CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES

LANDSCAPE TABULATIONS

F.M. 1141 AND QUAIL RUN ROAD STREET BUFFER

30' BUFFER, BERM, SHRUBS, BERM AND SHRUBS 30" MIN. HEIGHT, 3 CANOPY/4 ACCENT TREES PER 100LF.

F.M. 1141 STREET BUFFER REQUIRED	30' BUFFER
BUFFER PROVIDED	30' BUFFER
F.M. 1141 BUFFER TREES REQUIRED (1,578 LF/100 LF =)	15.8 UNITS
BUFFER TREES REQ. (CAN. 3x15.8=47, ACC. 4x15.8=63	47 CANOPY/63 ACCENT
BUFFER TREES PROVIDED	47 CANOPY/63 ACCENT
QUAIL RUN ROAD STREET BUFFER REQUIRED	30' BUFFER
BUFFER PROVIDED	30' BUFFER
QUAIL RUN BUFFER TREES REQUIRED (1,824 LF/100 LF =)	18.2 UNITS
BUFFER TREES REQ. (CAN. 3x18.2=55, ACC. 4x18.2=73	55 CANOPY/73 ACCENT
BUFFER TREES PROVIDED	55 CANOPY/73 ACCENT

NORTH COUNTRY LANE AND PANHANDLE DRIVE STREET BUFFER

10' BUFFER, BERM, SHRUBS, BERM AND SHRUBS 30" MIN. HEIGHT, 1 CANOPY/1 ACCENT TREE PER 50LF.

NORTH COUNTRY LANE STREET BUFFER REQUIRED	10' BUFFER
BUFFER PROVIDED	10' BUFFER
NORTH COUNTRY LANE BUFFER TREES REQUIRED (1,176 LF/50 LF=)	24 UNITS
BUFFER TREES REQ. (CAN. 1x24=24, ACC. 1x24=24	24 CANOPY/24 ACCENT
BUFFER TREES PROVIDED	24 CANOPY/24 ACCENT
PANHANDLE DRIVE STREET BUFFER REQUIRED	10' BUFFER
BUFFER PROVIDED	10' BUFFER
NORTH COUNTRY LANE BUFFER TREES REQUIRED (1,792 LF/50 LF=)	36 UNITS
BUFFER TREES REQ. (CAN. 1x36=22, ACC. 1x36=36	36 CANOPY/36 ACCENT
BUFFER TREES PROVIDED (FUTURE WHEN DEVELOPED)	0 CANOPY/0 ACCENT

WEST OF PANHANDLE AND NORTH OF N. COUNTRY LANE

HEAVY LANDSCAPING, BERM, 3 TIER SCREEN, 1-SMALL/MID SHRUBS, 2-LG SHRUBS OR ACCENT TREES, 3-CANOPY MIN. 20' CENTERS.

NORTH COUNTRY LANE REMAINDER	360 LF
REMAINDER TREES REQUIRED (360 LF / 20' =)	18 TREES
REMAINDER TREES PROVIDED	18 TREES
PANHANDLE DRIVE REMAINDER	440 LF
REMAINDER TREES REQUIRED (440 LF / 20' =)	22 TREES
REMAINDER TREES PROVIDED (FUTURE WHEN DEVELOPED)	0 TREES

PARKING LOT LANDSCAPING

LOT WITH 2 ROWS HAVE GREATER OF 5% OR 200 SF LANDSCAPE, IF LOT OVER 20,000 SF 1 LG TREE PER 10 SPACES INTERIOR TO LOT, MAX 80 LF FROM TREE TO SPACE.

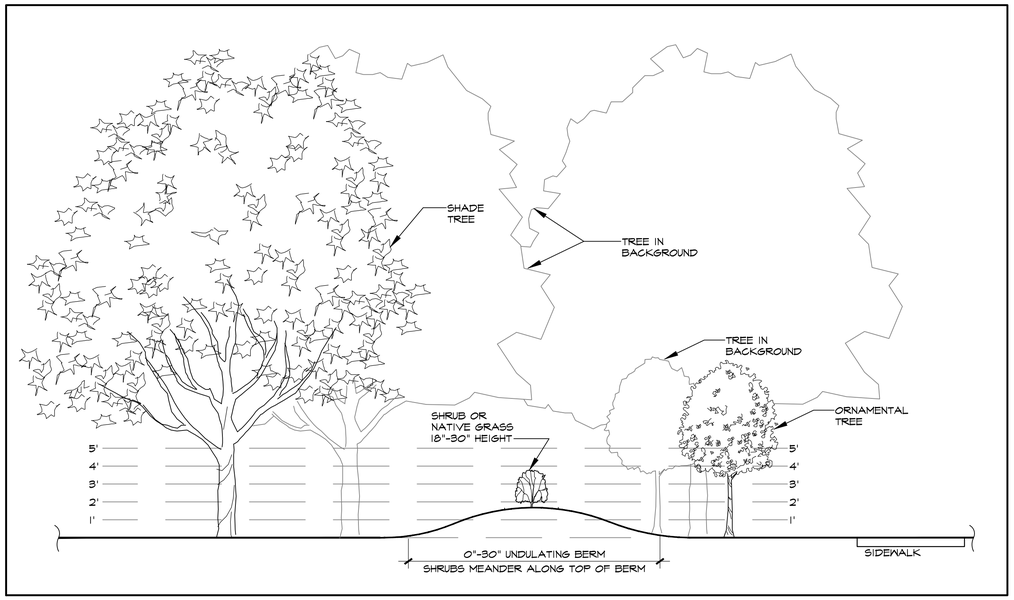
PARKING SPACES	382 SPACES
PARKING LANDSCAPE REQUIRED 102,330 SF X 5% =)	5,117 SF
PARKING LANDSCAPE PROVIDED	8,203 SF

AMOUNT OF LANDSCAPING

% LANDSCAPE BY ZONING, COMMERCIAL 15%, 50% LOCATED FRONT AND SIDE, DETENTION LANDSCAPED GRASSES, SHRUBS, TREES IN NATURAL MANNER, 1 TREE PER 750 SF OF DRY LAND AREA.

SITE AREA	3,044,080 SF
SITE LANDSCAPE REQUIRED 3,044,080 SF X 15% =)	456,612 SF
SITE LANDSCAPE PROVIDED	1,778,250 SF
% LANDSCAPE PROVIDED FRONT/SIDE	(118%) 540,843 SF
SITE IMPERVIOUS AREA	1,244,655 SF

ALL REQUIRED LANDSCAPE AREAS TO RECEIVE AUTOMATIC UNDERGROUND IRRIGATION WITH RAIN AND FREEZE PROTECTION TO MEET REQUIREMENTS OF UDC.



LANDSCAPE BUFFER SECTION

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

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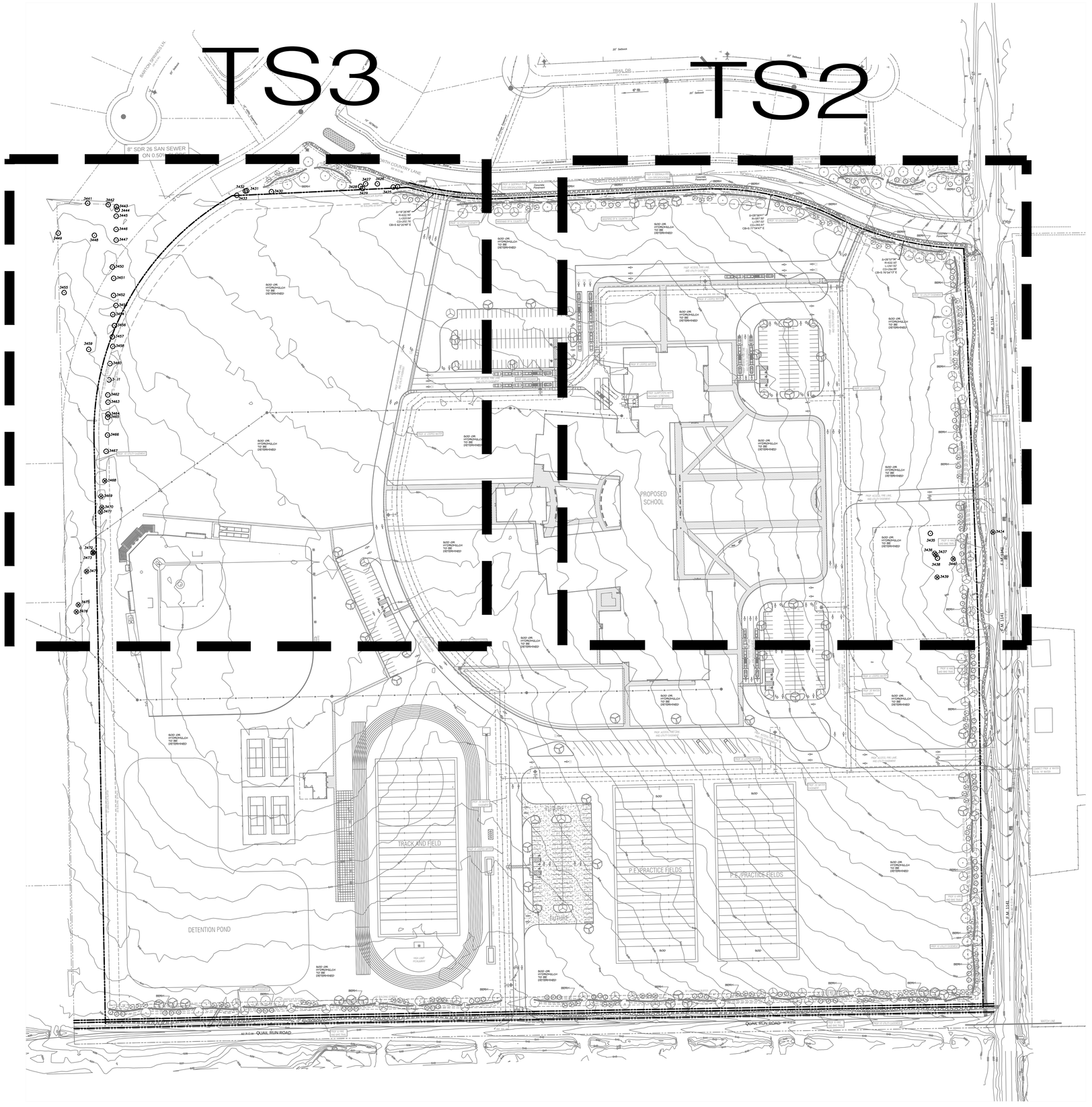
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE DETAILS

JOB 21572.0000
DATE 06/07/22
SHEET L 8



	ROCKWALL JH NORTH			
TREE #	TREE TYPE/COND.	DEMO/SAVE	MITIGATE	CREDIT
3424	TREE 16" HACKBERRY	OFF-SITE	0	
3425	TREE 14" HACKBERRY	OFF-SITE	0	
3426	TREE 13" HACKBERRY	OFF-SITE	0	
3427	TREE 16" HACKBERRY	OFF-SITE	0	
3428	TREE 13" HACKBERRY	OFF-SITE	0	
3429	TREE 13" HACKBERRY	OFF-SITE	0	
3430	TREE 15" HACKBERRY MT	OFF-SITE	0	
3431	TREE 12" HACKBERRY MT	OFF-SITE	0	
3432	TREE 16" HACKBERRY MT	OFF-SITE	0	
3433	TREE 14" HACKBERRY MT	OFF-SITE	0	
3434	TREE 30" PECAN	OFF-SITE/ROAD	0	
3435	TREE 31" PECAN	SAVE	0	31
3436	TREE 18" ELM	DEMO	18	
3437	TREE 15" ELM	DEMO	15	
3438	TREE 38" ELM	SAVE	0	38
3439	TREE 18" HACKBERRY	DEMO	9	
3440	TREE 18" PEAR	DEMO-1/2 DEAD	EXEMPT	SICK
3441	TREE 19" HACKBERRY MT	SAVE	0	
3442	TREE 11" HACKBERRY	SAVE	0	
3443	TREE 12" HACKBERRY	SAVE	0	
3444	TREE 13" HACKBERRY MT	SAVE	0	
3445	TREE 14" HACKBERRY SPLIT	SAVE	0	
3446	TREE 18" HACKBERRY	SAVE	0	
3447	TREE 12" HACKBERRY	SAVE	0	
3448	TREE 12" HACKBERRY MT	SAVE	0	
3449	TREE 12" HACKBERRY MT	SAVE	0	
3450	TREE 14" HACKBERRY	SAVE	0	
3451	TREE 16" HACKBERRY MT	SAVE	0	
3452	TREE 13" HACKBERRY	SAVE	0	
3453	TREE 14" HACKBERRY	SAVE	0	
3454	TREE 12" HACKBERRY	SAVE	0	
3455	TREE 23" HACKBERRY MT	SAVE	0	
3456	TREE 13" HACKBERRY MT	SAVE	0	
3457	TREE 11" HACKBERRY MT	SAVE	0	
3458	TREE 12" HACKBERRY MT	SAVE	0	
3459	TREE 13" HACKBERRY MT	SAVE	0	
3460	TREE 19" HACKBERRY MT	SAVE	0	
3461	TREE 15" HACKBERRY	SAVE	0	
3462	TREE 12" HACKBERRY	SAVE	0	
3463	TREE 14" HACKBERRY	SAVE	0	
3464	TREE 11" HACKBERRY	SAVE	0	
3465	TREE 13" HACKBERRY MT	SAVE	0	
3466	TREE 12" HACKBERRY	SAVE	0	
3467	TREE 14" HACKBERRY	SAVE	0	
3468	TREE 16" HACKBERRY	DEMO	8	
3469	TREE 12" HACKBERRY	DEMO	6	
3470	TREE 12" HACKBERRY	DEMO	6	
3471	TREE 12" HACKBERRY	DEMO	6	
3472	TREE 12" HACKBERRY MT	DEMO	6	
3473	TREE 12" HACKBERRY MT	DEMO	6	
3474	TREE 18" HACKBERRY	DEMO	9	
3475	TREE 12" HACKBERRY	DEMO	6	
3476	TREE 13" HACKBERRY	DEMO	6.5	
	TOTAL		101.5	69

MITIGATION 101.5 - 69 = 32.5 X $100.00 = $3,250.00

EXISTING TREE LEGEND	
3467	EXISTING TREE TO BE SAVED
3468	EXISTING TREE TO BE REMOVED

SITE DATA SUMMARY	
EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F. = 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0x18.0'	202 SPACES
9.0x20.0'	159 SPACES
15.0x30.0'	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

0 100 200
GRAPHIC SCALE 1" = 100'

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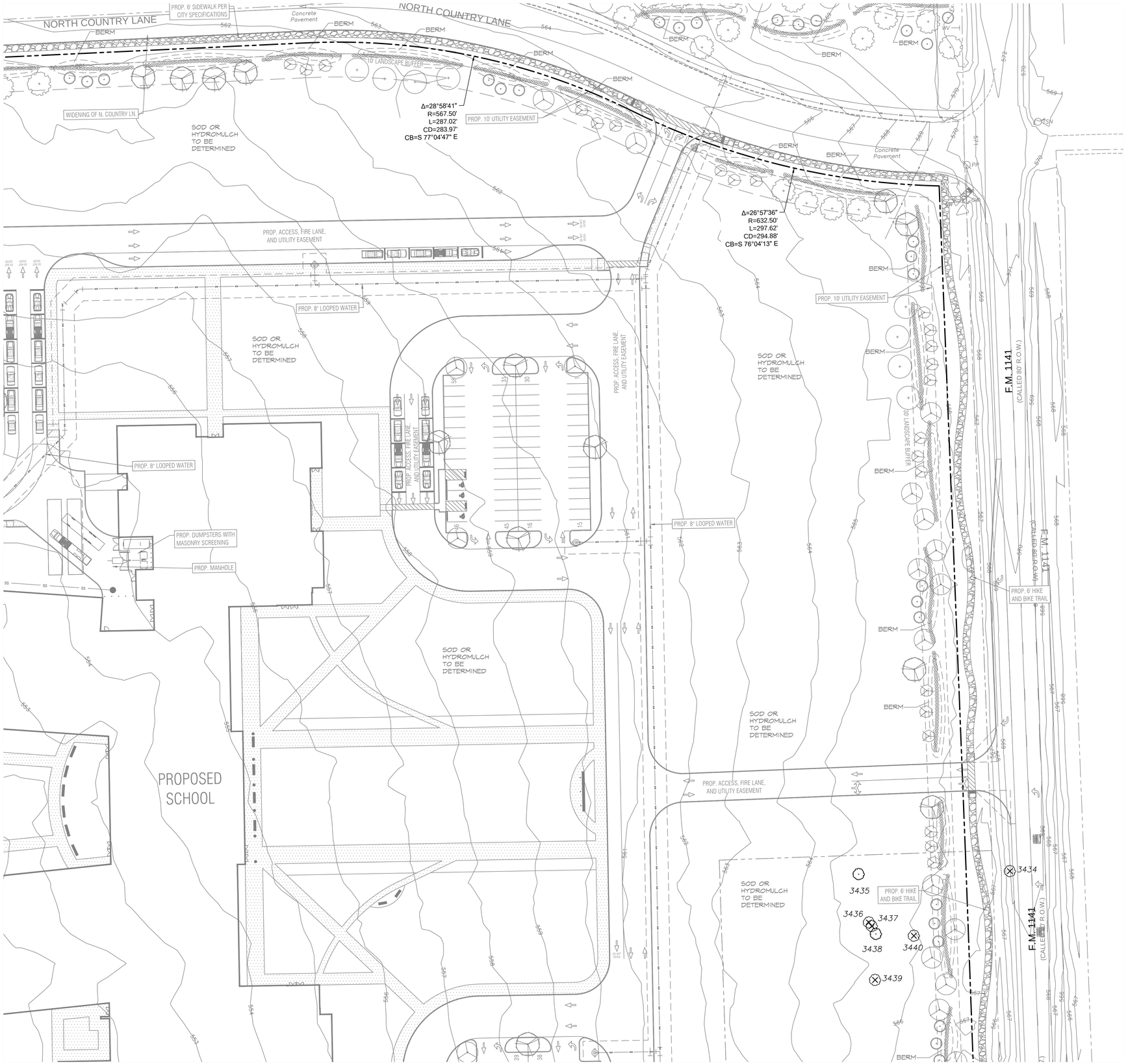
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OVERALL TREESCAPE PLAN

JOB 21572.0000
DATE 06/07/22
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3452	TREE 13" HACKBERRY	SAVE	0	
3453	TREE 14" HACKBERRY	SAVE	0	
3454	TREE 12" HACKBERRY	SAVE	0	
3455	TREE 23" HACKBERRY MT	SAVE	0	
3456	TREE 13" HACKBERRY MT	SAVE	0	
3457	TREE 11" HACKBERRY MT	SAVE	0	
3458	TREE 12" HACKBERRY MT	SAVE	0	
3459	TREE 13" HACKBERRY MT	SAVE	0	
3460	TREE 19" HACKBERRY MT	SAVE	0	
3461	TREE 15" HACKBERRY	SAVE	0	
3462	TREE 12" HACKBERRY	SAVE	0	
3463	TREE 14" HACKBERRY	SAVE	0	
3464	TREE 11" HACKBERRY	SAVE	0	
3465	TREE 13" HACKBERRY MT	SAVE	0	
3466	TREE 12" HACKBERRY	SAVE	0	
3467	TREE 14" HACKBERRY	SAVE	0	
3468	TREE 16" HACKBERRY	DEMO	8	
3469	TREE 12" HACKBERRY	DEMO	6	
3470	TREE 12" HACKBERRY	DEMO	6	
3471	TREE 12" HACKBERRY	DEMO	6	
3472	TREE 12" HACKBERRY MT	DEMO	6	
3473	TREE 12" HACKBERRY MT	DEMO	6	
3474	TREE 18" HACKBERRY	DEMO	9	
3475	TREE 12" HACKBERRY	DEMO	6	
3476	TREE 13" HACKBERRY	DEMO	6.5	
	TOTAL		101.5	69

EXISTING TREE LEGEND	
3467	EXISTING TREE TO BE SAVED
3468	EXISTING TREE TO BE REMOVED

NORTH

0 40 80

GRAPHIC SCALE
1"=40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

ISSUES		
1	06/07/22	PERMIT REVIEW
2		
3		
4		
5		
6		

REVISIONS		

THIS DOCUMENT IS RELEASED FOR PERMIT REVIEW UNDER THE AUTHORITY OF: MICHAEL RAMSEY REGISTERED LANDSCAPE ARCHITECT #1901. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

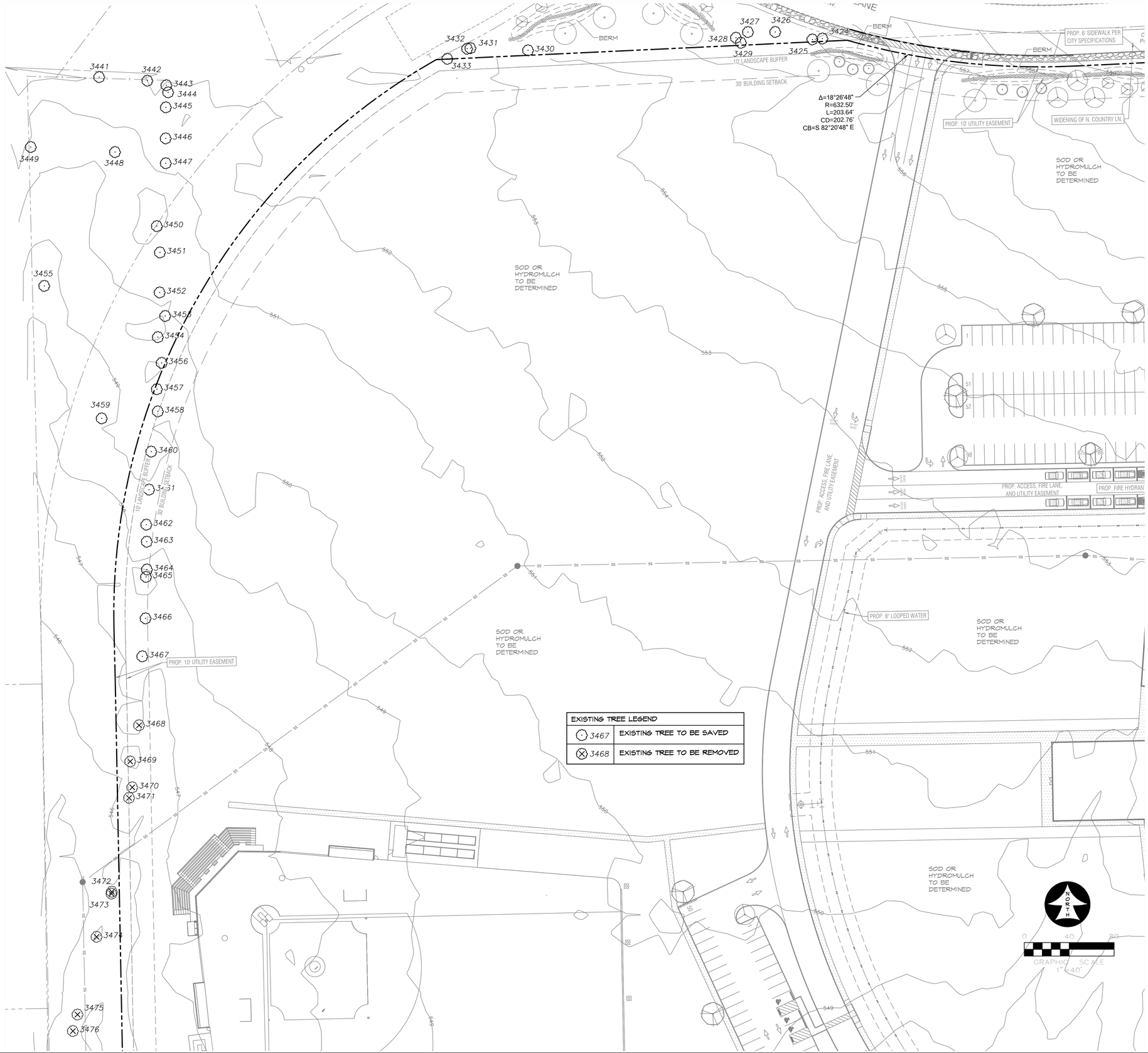
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

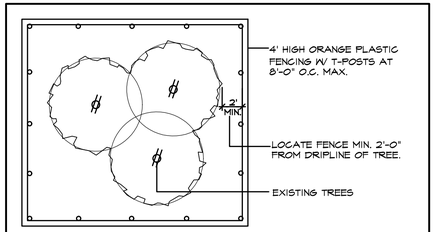
F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

TREESCAPE PLAN EAST

JOB 21572.0000
DATE 06/07/22
SHEET TS 2



	ROCKWALL JH NORTH			
TREE #	TREE TYPE/COND.	DEMO/SAVE	MITIGATE	CREDIT
3424	TREE 16" HACKBERRY	OFF-SITE	0	
3425	TREE 14" HACKBERRY	OFF-SITE	0	
3426	TREE 13" HACKBERRY	OFF-SITE	0	
3427	TREE 16" HACKBERRY	OFF-SITE	0	
3428	TREE 13" HACKBERRY	OFF-SITE	0	
3429	TREE 13" HACKBERRY	OFF-SITE	0	
3430	TREE 15" HACKBERRY MT	OFF-SITE	0	
3431	TREE 12" HACKBERRY MT	OFF-SITE	0	
3432	TREE 16" HACKBERRY MT	OFF-SITE	0	
3433	TREE 14" HACKBERRY MT	OFF-SITE	0	
3434	TREE 30" PECAN	OFF-SITE/ROAD	0	
3435	TREE 31" PECAN	SAVE	0	31
3436	TREE 18" ELM	DEMO	18	
3437	TREE 15" ELM	DEMO	15	
3438	TREE 38" ELM	SAVE	0	38
3439	TREE 18" HACKBERRY	DEMO	9	
3440	TREE 18" PEAR	DEMO-1/2 DEAD	EXEMPT	SICK
3441	TREE 19" HACKBERRY MT	SAVE	0	
3442	TREE 11" HACKBERRY	SAVE	0	
3443	TREE 12" HACKBERRY	SAVE	0	
3444	TREE 13" HACKBERRY MT	SAVE	0	
3445	TREE 14" HACKBERRY SPLIT	SAVE	0	
3446	TREE 18" HACKBERRY	SAVE	0	
3447	TREE 12" HACKBERRY	SAVE	0	
3448	TREE 12" HACKBERRY MT	SAVE	0	
3449	TREE 12" HACKBERRY MT	SAVE	0	
3450	TREE 14" HACKBERRY	SAVE	0	
3451	TREE 16" HACKBERRY MT	SAVE	0	
3452	TREE 13" HACKBERRY	SAVE	0	
3453	TREE 14" HACKBERRY	SAVE	0	
3454	TREE 12" HACKBERRY	SAVE	0	
3455	TREE 23" HACKBERRY MT	SAVE	0	
3456	TREE 13" HACKBERRY MT	SAVE	0	
3457	TREE 11" HACKBERRY MT	SAVE	0	
3458	TREE 12" HACKBERRY MT	SAVE	0	
3459	TREE 13" HACKBERRY MT	SAVE	0	
3460	TREE 19" HACKBERRY MT	SAVE	0	
3461	TREE 15" HACKBERRY	SAVE	0	
3462	TREE 12" HACKBERRY	SAVE	0	
3463	TREE 14" HACKBERRY	SAVE	0	
3464	TREE 11" HACKBERRY	SAVE	0	
3465	TREE 13" HACKBERRY MT	SAVE	0	
3466	TREE 12" HACKBERRY	SAVE	0	
3467	TREE 14" HACKBERRY	SAVE	0	
3468	TREE 16" HACKBERRY	DEMO	8	
3469	TREE 12" HACKBERRY	DEMO	6	
3470	TREE 12" HACKBERRY	DEMO	6	
3471	TREE 12" HACKBERRY	DEMO	6	
3472	TREE 12" HACKBERRY MT	DEMO	6	
3473	TREE 12" HACKBERRY MT	DEMO	6	
3474	TREE 18" HACKBERRY	DEMO	9	
3475	TREE 12" HACKBERRY	DEMO	6	
3476	TREE 13" HACKBERRY	DEMO	6.5	
	TOTAL		101.5	69



1. EXISTING TREES WITHIN CONTRACT LIMITS ARE SHOWN ON THE DRAWINGS. EXISTING TREES DESIGNATED FOR REMOVAL SHALL BE FLAGGED AT THE PROJECT SITE WITH FLAGGING BY THE CONTRACTOR.
2. PROTECT ALL INDIVIDUAL TREES OR GROUPS OF TREES TO BE PRESERVED BY ERECTING A BARRIER AROUND EACH TREE OR GROUP OF TREES. INSTALL AND MAINTAIN BARRIER AT TREE DRIPLINE. BARRIERS SHALL REMAIN IN PLACE UNTIL REMOVAL IS NECESSARY.
3. IN THE EVENT THAT HEAVY CONSTRUCTION IS SCHEDULED TO OCCUR WITHIN THE DRIPLINE OF AN EXISTING TREE, CONTRACTOR SHALL ERECT A PROTECTION FENCE OUTSIDE THE DRIPLINE UNTIL THIS CONSTRUCTION IS SCHEDULED TO OCCUR. THE PROTECTION FENCE MAY THEN BE ADJUSTED AS REQUIRED TO COMPLETE THE PROPOSED CONSTRUCTION. AFTER CONSTRUCTION IN THIS AREA IS COMPLETED, THE PROTECTION FENCE SHALL BE ADJUSTED TO ITS ORIGINAL LOCATION.
4. CONTRACTORS SHALL NOT PARK, CLEAN TOOLS AND EQUIPMENT OR STORE MATERIALS WITHIN THE DRIPLINE OF ANY TREE.
5. ALL ROOTS OVER 1" IN DIAMETER SHALL BE CUT CLEAN WITH A HAND SAW.

TREE PROTECTION FENCE AND NOTES

SCALE: N.T.S.

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN
401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

		ISSUES
1	06/07/22	PERMIT REVIEW
2		
3		
4		
5		
6		

		REVISIONS

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RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
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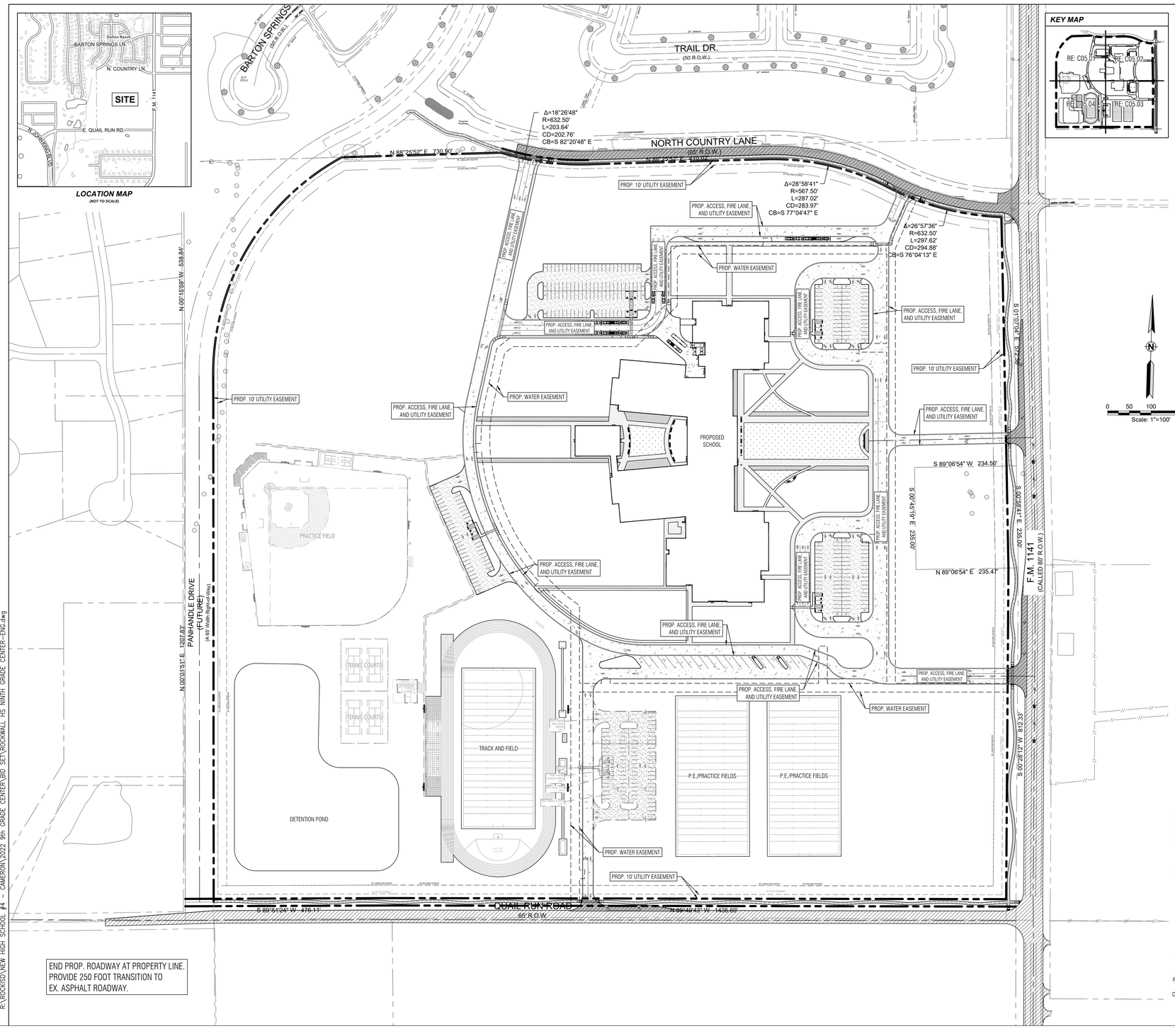
ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

TREESCAPE PLAN WEST

JOB 21572.0000
DATE 06/07/22
SHEET TS 3

LOCATION MAP
(NOT TO SCALE)



END PROP. ROADWAY AT PROPERTY LINE.
PROVIDE 250 FOOT TRANSITION TO
EX. ASPHALT ROADWAY.

KEY MAP

GENERAL SITE NOTES

1. STRIPING & SIGNAGE DIMENSIONS ARE FROM FACE OF CURB.
2. ALL FIRE LANES, PARKING STRIPING, HANDICAP PARKING STRIPING & SIGNAGE ARE TO BE IN ACCORDANCE WITH CITY OF ROCKWALL REQUIREMENTS, TYP.
3. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CITY OF ROCKWALL SPECIFICATIONS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.
5. ALL WORK SHALL CONFORM TO THE CITY OF ROCKWALL SPECIFICATIONS, STANDARDS, AND DETAILS.
6. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS, PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.
8. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATING EXISTING UTILITIES AND IMPROVEMENTS PRIOR TO CONSTRUCTION.
9. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN TO THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR REVIEW.
10. MARK FIRE LANES TO THE CITY OF ROCKWALL SPECIFICATION. "NO PARKING FIRE LANE" EVERY 25' WHITE 4" LETTERS ON A 6" RED STRIPED BACKGROUND.
11. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
12. BARRIER FREE RAMPS (BFR) IN PUBLIC R.O.W. SHALL BE PER CITY SPECIFICATIONS.
13. ALL OUTDOOR LIGHTING MUST BE ORIENTED SO THAT LIGHTING LEVELS AT ALL PROPERTY LINES ARE 1FOT-CANDLE OR LESS.

PAVING LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- PAINTED TRAFFIC DIRECTIONAL ARROW
- PROPERTY LINE
- 10' MASONRY SCREENING WALL
- (PRIVATE) 5" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 6" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 2" AC SURFACE COURSE (TYPE D) OVER 6.5" AC SURFACE COURSE (TYPE B) OVER 8" STABILIZED SUBGRADE OVER 9" RECOMPACTED SUBGRADE
- (PRIVATE) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 24" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- PLANTING AREAS. RE: LANDSCAPE

PAVING LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE

SITE DATA SUMMARY TABLE

EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	153,187 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	194,206 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	153,187 S.F.
LOT COVERAGE	153,187 S.F./3,044,079 S.F. = 5.03%
FLOOR AREA RATIO	0.06:1
TOTAL IMPERVIOUS AREA	734,662.08 S.F. OR 16.87 AC.
BUILDING HEIGHT	1ST-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0x18.0	202 SPACES
9.0x20.0	159 SPACES
15.0x30.0	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

REVISIONS		

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB # 1752575193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

PRELIMINARY--FOR REVIEW ONLY
These documents are for Design Review and not intended for Construction, Bidding, or Permit Purposes. They were prepared by, or under the supervision of Cheralyn Armijo, P.E. 84568
Date: 05/11/22

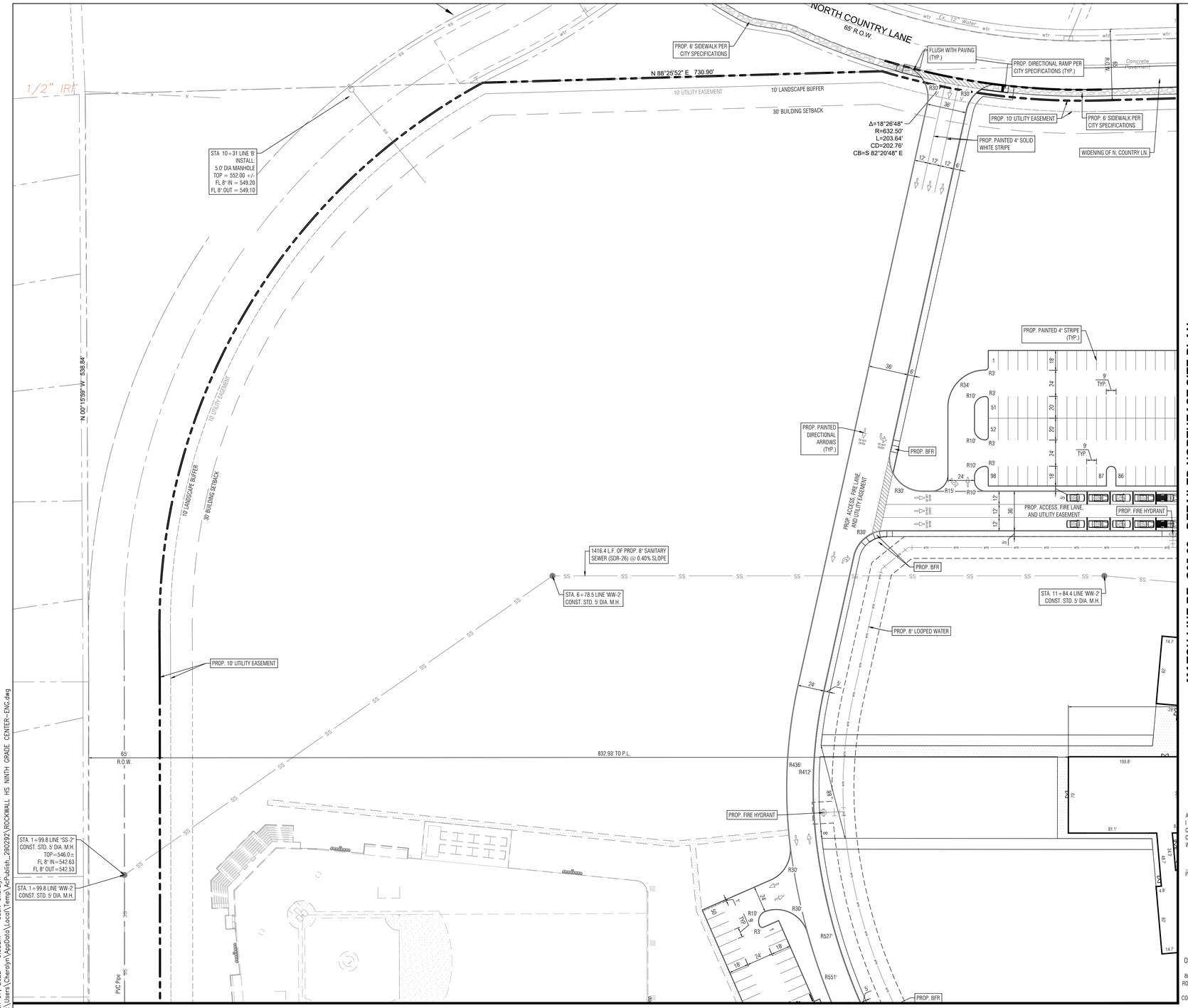
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

OVERALL SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.00

Jun 07, 2022 - 10:12am User: Cheralyn
R:\ROCKISD\NEW HIGH SCHOOL #4 - CAMERON\2022 9th GRADE CENTER\BID SET\ROCKWALL HS NINTH GRADE CENTER-ENG.dwg



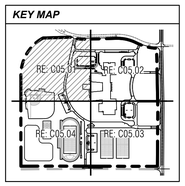
SITE LEGEND (PROPOSED)

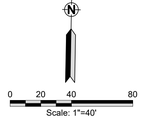
- CONCRETE CURB
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- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE
- WASTEWATER
- STORM SEWER
- WATER

KEY MAP





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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

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401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

△ REVISIONS

GLENN ENGINEERING
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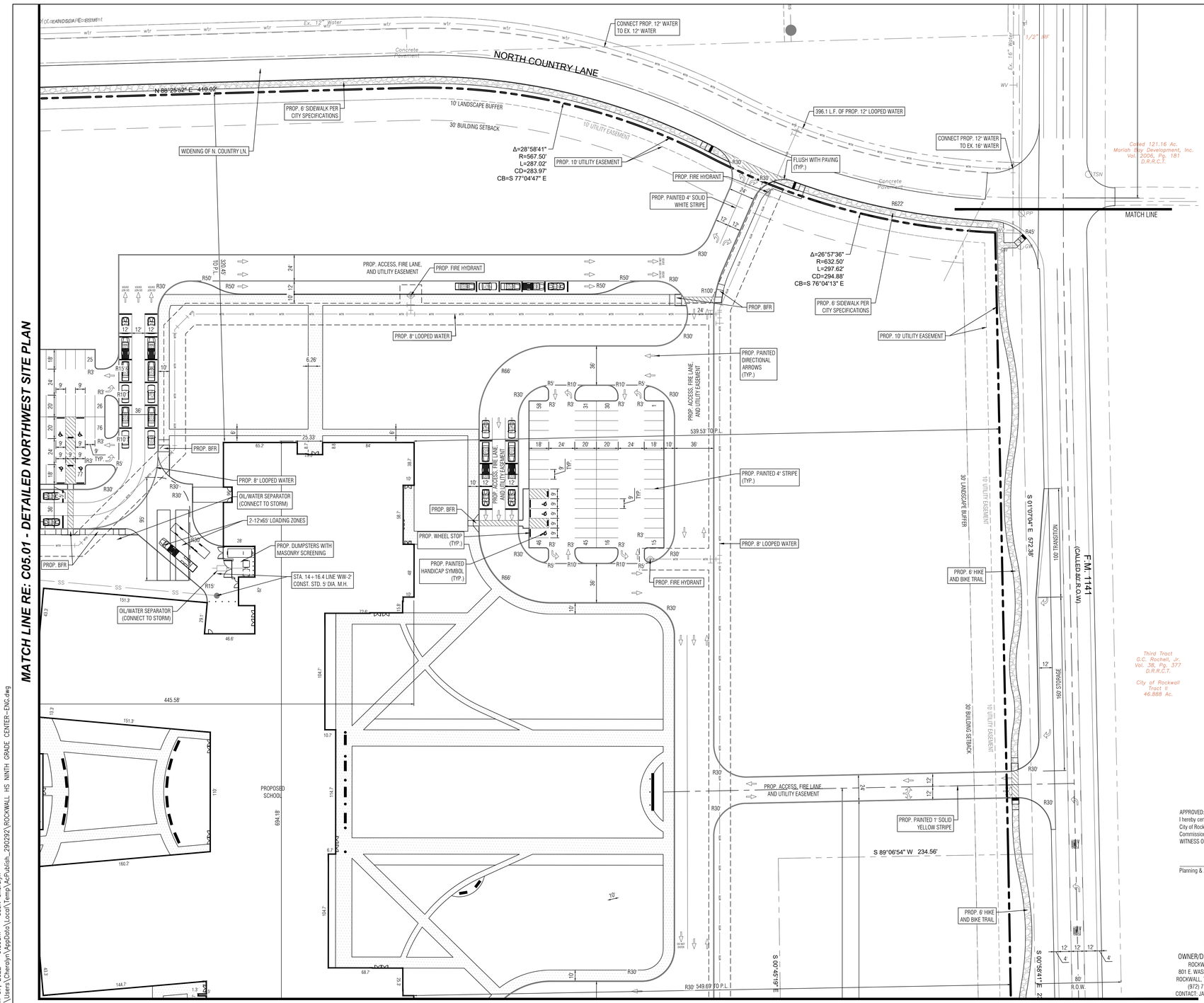
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED NORTHWEST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.01

Jun 07, 2022 – 9:38am User: Cheralyn
C:\Users\Cheralyn\AppData\Local\Temp\AcPublish_23\0292\ROCKWALL HS NINTH GRADE CENTER-ENG.dwg



MATCH LINE RE: C05.01 - DETAILED NORTHWEST SITE PLAN

MATCH LINE RE: C05.03 - DETAILED SOUTHEAST SITE PLAN

0 20 40 80
Scale: 1"=40'

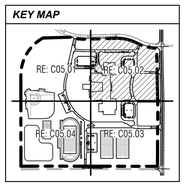
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OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD 801 E. WASHINGTON ST. ROCKWALL, TEXAS 75087 (972) 771-0605 CONTACT: JAMES WATSON	BOWMAN 1200 W. MAGNOLIA BLVD. SUITE 300 FORT WORTH, TEXAS 76104 (214) 484-8586 CONTACT: ROBERT HANSEN	GLENN ENGINEERING CORP. 4500 FULLER DR. IRVING, TEXAS 75038 (972) 717-5151 CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

PRELIMINARY--FOR REVIEW ONLY
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Date: 05/11/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED NORTHEAST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET

C05.02

Jun 07, 2022 -- 9:39am User: Cheralyn
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MATCH LINE RE: C05.04 - DETAILED SOUTHWEST SITE PLAN

MATCH LINE RE: C05.02 - DETAILED NORTHEAST SITE PLAN

PROP. FIRE HYDRANT
PROP. PAINTED 4" STRIPE (TYP.)
PROP. PAINTED HANDICAP SYMBOL (TYP.)
PROP. WHEEL STOP (TYP.)
PROP. BFR
STA. 16+34.5 LINE 'WW-1' CONST. STD. 5' DIA. M.H.
PROP. ACCESS, FIRE LANE AND UTILITY EASEMENT
PROP. 8" LOOPED WATER
PROP. 20' WATER EASEMENT
PROP. PAINTED DIRECTIONAL ARROWS (TYP.)
PROP. 6' HIKE AND BIKE TRAIL
100' TRANSITION
180' STORAGE
30' BUILDING SETBACK
10' UTILITY EASEMENT
PROP. PAINTED 1' SOLID YELLOW STRIPE
PROP. PAINTED 4' SOLID WHITE STRIPE
CONNECT PROP. 8" WATER TO EX. 16" WATER
F.M. 1141 (CALLED 80' R.O.W.)
N 89°06'54" E 235.47'
545.18' C.L. TO C.L. 15' F/F
Fourth Tract G.C. Rochell, Jr. Vol. 38, Pg. 377 D.R.R.C.T.
City of Rockwall
S 00°28'12" W 812.33'
80' ROW
30' LANDSCAPE BUFFER
P.E./PRACTICE FIELDS
670.38' TO P.I.
N 89°49'43" W 1435.69'
QUAIL RUN ROAD
65' R.O.W.
Ex. 12" Water
MATCH LINE

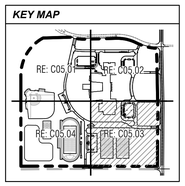
SITE LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE
- WASTEWATER
- STORM SEWER
- WATER

KEY MAP



0 20 40 80
Scale: 1"=40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS. 75038
(972) 771-0605	FORT WORTH, TEXAS. 76104	(9/72) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES

1	05/11/22	30% PROGRESS SET

REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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Date: 05/11/22

ROCKWALL NINTH GRADE CENTER

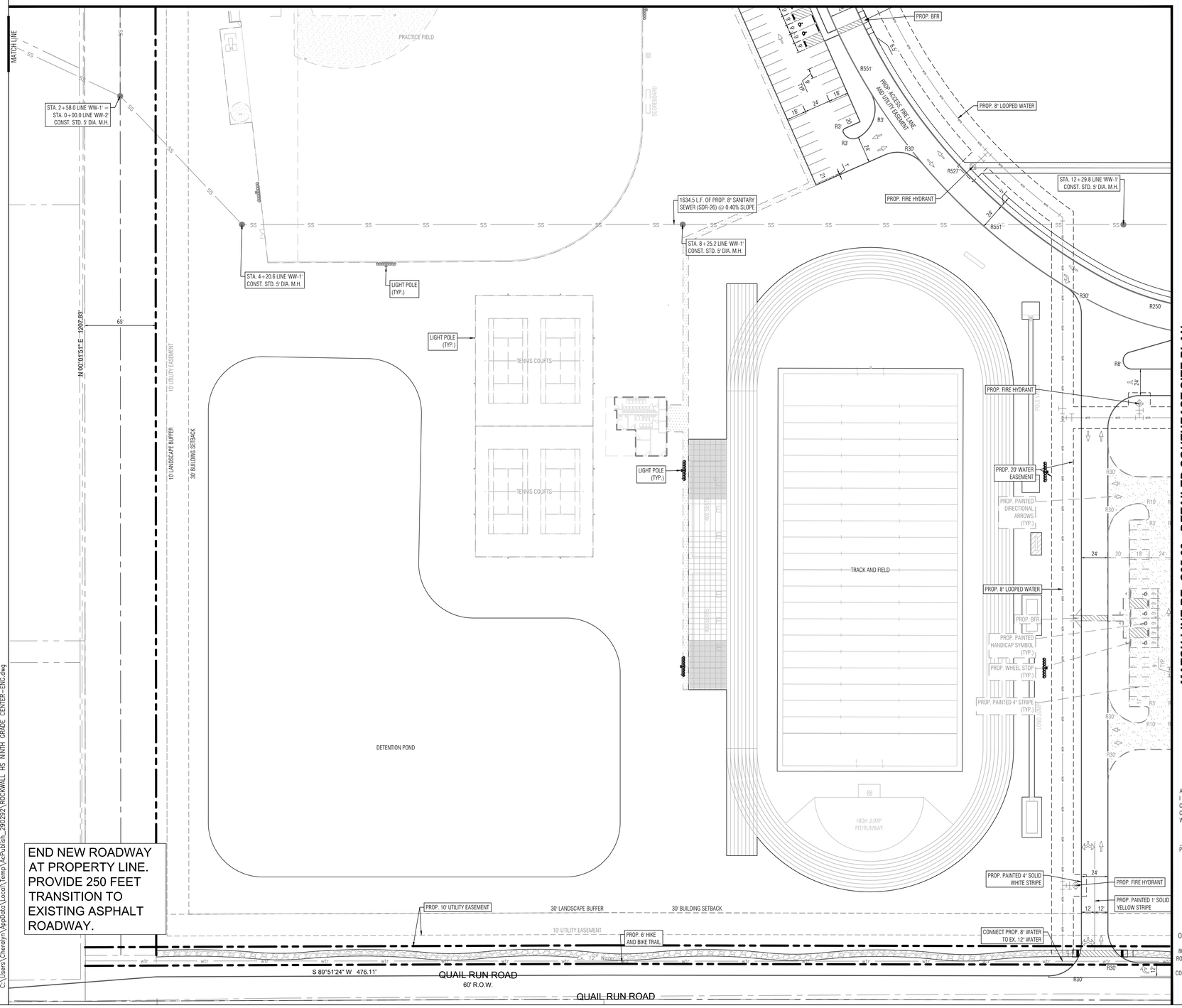
2852 F.M. 1141
Rockwall, TX 75087

DETAILED SOUTHEAST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.03

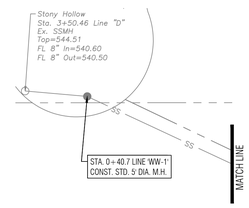
Jun 07, 2022 – 9:39am User: Cheralyn
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MATCH LINE RE: C05.01 - DETAILED NORTHWEST SITE PLAN



END NEW ROADWAY AT PROPERTY LINE. PROVIDE 250 FEET TRANSITION TO EXISTING ASPHALT ROADWAY.

MATCH LINE RE: C05.03 - DETAILED SOUTHEAST SITE PLAN



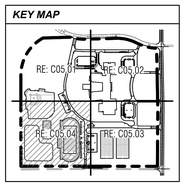
SITE LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE
- WASTEWATER
- STORM SEWER
- WATER

KEY MAP



0 20 40 80
Scale: 1"=40'

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
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SURVEYOR:
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SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

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Tel 214 748 2000
Fax 214 653 8281

ISSUES

1	05/11/22	30% PROGRESS SET

REVISIONS

GLENN ENGINEERING
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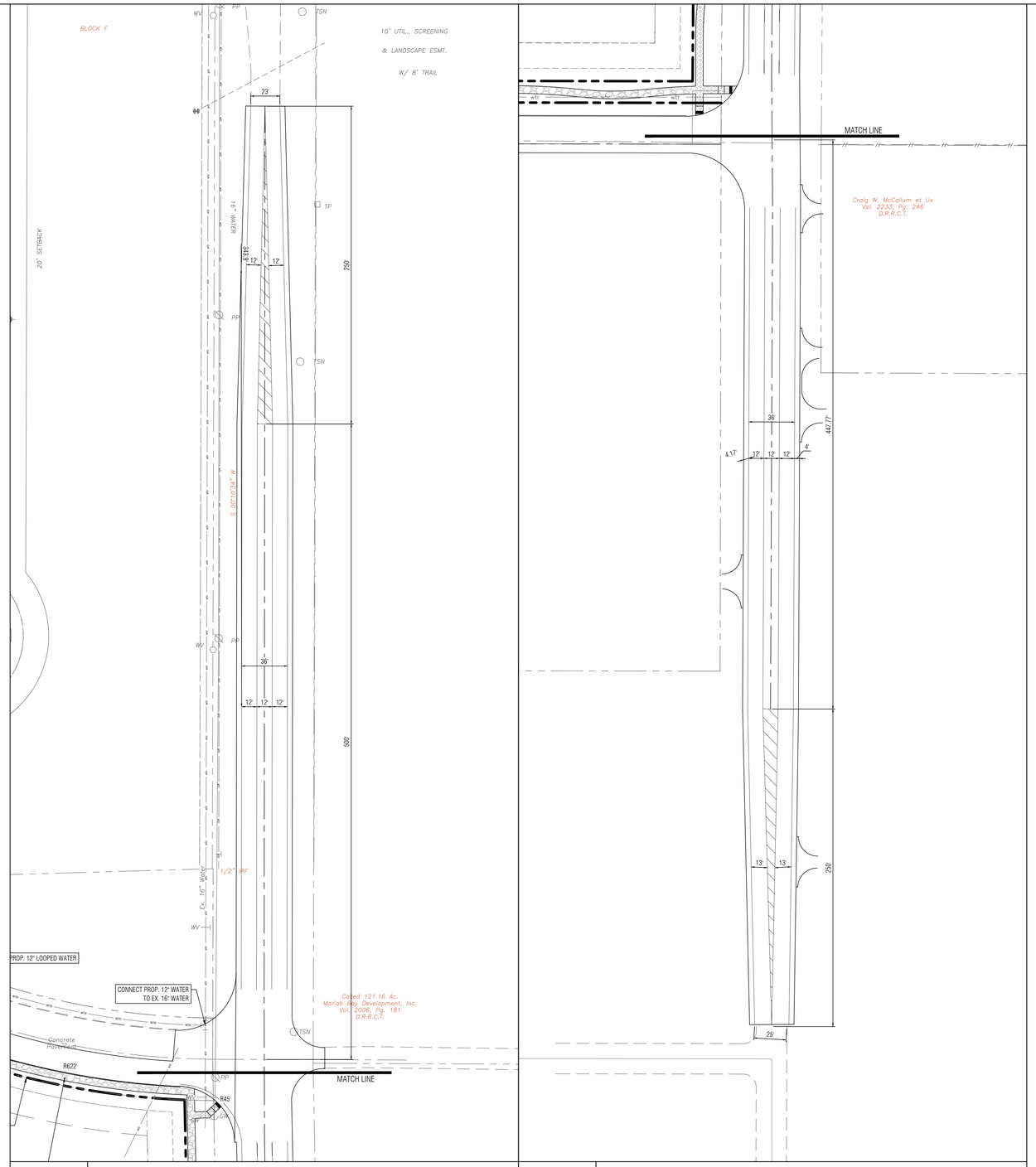
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED SOUTHWEST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.04

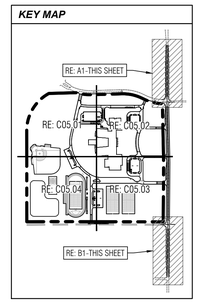
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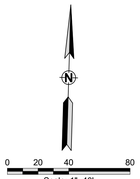


A1	NORTHEAST F.M. 1141 PAVING IMPROVEMENTS	B1	SOUTHEAST F.M. 1141 PAVING IMPROVEMENTS
1"=40'		1"=40'	

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KEY MAP





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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

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SUITE 300
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REVISIONS		

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TEXAS REGISTRATION #: F-303
PHONE (972) 717-5151
4500 FULLER DRIVE, SUITE 220
HUB #: 1752375193300
FAX (972) 717-2176
IRVING, TEXAS 75038

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ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

F.M. 1141 ROAD IMPROVEMENTS

JOB 21572.0000
DATE 05/11/22
SHEET

C05.05

EX. RUNOFF CALCULATIONS ROCKWALL NINTH GRADE CENTER

AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY "I 100" (INCHES/HR)	DESIGN FLOW "Q 100" (CFS)	REMARKS
A1	69.57	10	0.35	9.80	238.63	
	TOTAL				TOTAL	
	69.57				238.63	

PROP. RUNOFF CALCULATIONS ROCKWALL NINTH GRADE CENTER

AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY "I 100" (INCHES/HR)	DESIGN FLOW "Q 100" (CFS)	REMARKS
A1	69.57	10	0.70	9.80	477.25	
	TOTAL				TOTAL	
	69.57				477.25	

DRAINAGE AREA MAP LEGEND

DRAINAGE DIVIDE

DA# A1
69.57 Ac.
238.63 cfs
DRAINAGE AREA
NUMBER OF ACRES
DESIGN FLOW
DRAINAGE FLOW

CONCRETE CURB
CONTOUR (MAJOR) 450
CONTOUR (MAJOR) 451
EDGE OF ASPHALT
EDGE OF CONCRETE
STORM SEWER LINE
HEADWALL

BARTON SPRINGS
(50' R.O.W.)
TRAIL DR.
(50' R.O.W.)
NORTH COUNTRY LANE
(65' R.O.W.)
Δ=18°26'48"
R=632.50'
L=203.64'
CD=202.76'
CB=S 82°20'48" E
Δ=28°58'41"
R=567.50'
L=287.02'
CD=283.97'
CB=S 77°04'47" E
Δ=26°57'36"
R=632.50'
L=297.62'
CD=294.88'
CB=S 76°04'13" E
1/2" IRF
Called 38.320 Ac.
Holmc, Inc.
Vol. 1805, Pg. 296
D.R.R.C.T.
N 00°15'50" W 658.84'
DR-Horton, Texas, Ltd.
Vol. 2328, Pg. 27
D.R.R.C.T.
N 00°01'51" E 1207.83'
PANHANDLE DRIVE
(FUTURE)
(A 66' Width Ranged Area)
Doyl C. Tully et Ux
Vol. 951, Pg. 61
D.R.R.C.T.
Michael R. Nolley et Ux
Vol. 1024, Pg. 324
D.R.R.C.T.
DA# A1
69.57 Ac.
238.63 cfs
PROPOSED
DETENTION
POND
S 89°06'54" W 234.56'
S 00°45'19" E 235.00'
N 89°06'54" E 235.41'
S 00°58'41" E 235.00'
S 01°07'04" E 572.38'
S 00°28'12" W 512.33'
F.M. 1141
(CALLED 80' R.O.W.)
Third Tract
G.C. Rochell, Jr.
Vol. 38, Pg. 377
D.R.R.C.T.
City of Rockwall
Tract II
46.888 Ac.
Fourth Tract
G.C. Rochell, Jr.
Vol. 38, Pg. 377
D.R.R.C.T.
City of Rockwall
QUAIL RUN ROAD
65' R.O.W.
S 89°51'24" W 476.11'
N 89°49'43" W 1435.69'
$Q_{EX.}$ = 238.63 cfs
$Q_{PROP.}$ NOT TO EXCEED 238.63 cfs
Sheila & William J. Flannery, III
Vol. 1124, Pg. 65
D.R.R.C.T.
First Section
Saddlebrook Estates
Cab. A, Sl. 307
P.R.R.C.T.
Craig W. McCallum et Ux
Vol. 2233, Pg. 246
D.R.R.C.T.

N

0 50 100 200
Scale: 1"=100'

CORGAN

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Dallas, Texas 75202
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Fax 214 653 8281

	ISSUES	
1	05/11/22	30% PROGRESS SET
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GLENN ENGINEERING
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Date: 6/16/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

EXISTING DRAINAGE AREA MAP

JOB 21572.0000
DATE 6/16/22
SHEET

C08.00

CITY OF ROCKWALL CASE NO.

Statement of Service

Prepared for
Rockwall Independent School District
Rockwall High School Ninth Grade Center Site
On Farm to Market 1141
South of North Country Road and North of East Quail Run Road

City of Rockwall, Rockwall County, Texas

June 2022

Prepared By:

GLENN ENGINEERING

GLENN ENGINEERING CORPORATION
T.B.P.E. REGISTRATION NO. F-303
4500 Fuller Drive, Suite 220
Irving, Texas 75038
(972) 717.5151

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Storm Sewer 3
Eletric Service 3
Gas 3
Telephone 3

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Roadway Information 4

UTILITIES

Utility Information

Water

Presently there is a 16" water line on the east side of FM 1141 , a 12" water line on the north side of North Country Lane and a 12" Water Line on the north side of Quail Run Road. A looped 8" line around the Proposed Rockwall Ninth Grade Center will be constructed for fire protection. The 12" water line on the north side of North Country Lane will be extended east to the existing 16" line in FM 1141 completing the loop connection. A 4" domestic line will be provided from the proposed 12" in North Country Lane to the new Rockwall Ninth Grade Center. Based the existing water pressures and with the above improvements the City of Rockwall is capable of providing the water needs for the new Rockwall Heath Ninth Grade Center. (see Site plan sheets C5.01 – C5.04.)

Sanitary Sewer

Presently there is an 8" sanitary sewer stubbed out in Panhandle Road for future development from the south. This line has the capacity for the Rockwall Ninth Grade Center, however, based on the proposed Finish Floor elevation of the new Rockwall Ninth Grade Center a gravity line to the manhole cannot be achieved. Therefore an 8" sanitary sewer line is proposed from the new Rockwall Ninth Grade Center to the existing 8" line in the cul de sac at the end of Cobblestone Drive in the Stoney Hollow Addition. This existing 8" line has the capacity to serve the new Rockwall High School Ninth Grade Center and is the same drainage basin as the line on Panhandle. (see Site plan sheets C5.01 – C5.04.)

Storm Sewer

For the purpose of this study, it is assumed that all drainage will discharge into the existing bar ditch on the North side of Quail Run Road and flow west in the bar ditch on the North side to a triple 5'x4' box culverts flowing south under Quail Run Road. The storm sewer lines will be private and owned and operated by Rockwall ISD. A detention facility will be constructed at the southeast corner of the site and will not negatively impact the downstream neighbors. The design of the detention will be in accordance with the City of Rockwall's Standards of drainage and construction. (See Site plan sheets C5.01 – C5.04 and C8.00 Drainage area map.)

Electric

Electric service is available to the existing school site. Oncor Electric Delivery is capable of providing adequate 3-phase power to the site, but requires a site plan and load calculations to determine the size and location of lines.

Gas

If Atmos Energy is capable of providing adequate gas service to the school site, a site plan and load calculations will be required to determine the size and location of lines.

Telephone

Telephone service is available from AT&T.

ROADWAYS

Roadway Information

Farm to Market 1141 (FM 1141)

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. This roadway is capable of handling the additional traffic for the new Rockwall High School Ninth Grade Center with the improvements shown on the site plans. (See both reports for detailed information) These improvements include widening the existing roadway for the entire length of the site from and 2 lane roadway without any shoulders to a 3 lane roadway with 4 foot shoulders. This new roadway will also include deceleration lanes for all proposed driveways and both North Country Lane and Quail Run Road. The 3-lane configuration will provide a left tune line for the entire site while allowing a open travel lane in both direction so the existing traffic will not be impacted. (See Traffic Management Plan)

Panhandle Drive

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center does not show or require access to this future roadway. While we acknowledge that Panhandle Drive is shown on the City of Rockwall's Master Thoroughfare Plan the current Panhandle Drive is not required to handle the daily traffic. Panhandle will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

Quail Run Road

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center does not utilize Quail Run Road for access for Drop of and pick up. The access to Quail Run Road is a courtesy drive for afterhours access and emergency vehicles. While we acknowledge that Quail Run Road is shown on the City of Rockwall's Master Thoroughfare Plan the current asphalt road can handle the daily traffic. Quail Run Road will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

North Country Lane

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center will utilize North Country Lane for access for Drop of and pick up. The Access from North Country Lane is primarily for drop off and pick up for southbound traffic off of FM 1141 . While we acknowledge that North Country Lane Road is shown on the City of Rockwall's Master Thoroughfare Plan the current concrete half section road can handle the daily traffic. North Country Lane will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

May 24, 2022
PK# 5359-22.340

TRAFFIC IMPACT ANALYSIS

Project:
Rockwall ISD North Ninth Grade Center TIA
In Rockwall, Texas

Prepared for:
City of Rockwall

On behalf of:
Glenn Engineering Corp.

Prepared by:

Hunter W. Lemley, P.E., PTOE



Pacheco Koch
a Westwood company

7557 Rambler Road, Suite 1400
Dallas, Texas 75231-2388
(972) 235-3031 www.pkce.com
TX.REG: ENGINEERING FIRM F-469
TX. REG. SURVEYING FIRM LS-100080-00

EXECUTIVE SUMMARY

The services of **Pacheco Koch** were retained by **Glenn Engineering Corp.** to prepare a Traffic Impact Analysis (TIA) for the proposed public school known as *Rockwall ISD North Ninth Grade Center* (the "Project") located at the southwest corner of FM 1141 and N Country Lane in Rockwall, Texas. The Project will consist of a ninth-grade center with an approximate max enrollment of 1,000 students. Buildout of the Project is estimated to occur by 2024. A TIA is required by the City of Rockwall for review as part of the Owner's request for site plan approval.

The purpose of this report is to estimate the incremental impact on the background traffic operational conditions caused by the proposed development within a specific study area as determined by standardized engineering analyses. The study parameters used in this TIA are based upon the requirements of the City and are consistent with the standard industry practices used in similar studies.

Based upon the analyses performed herein, Pacheco Koch developed the following findings and recommendations.

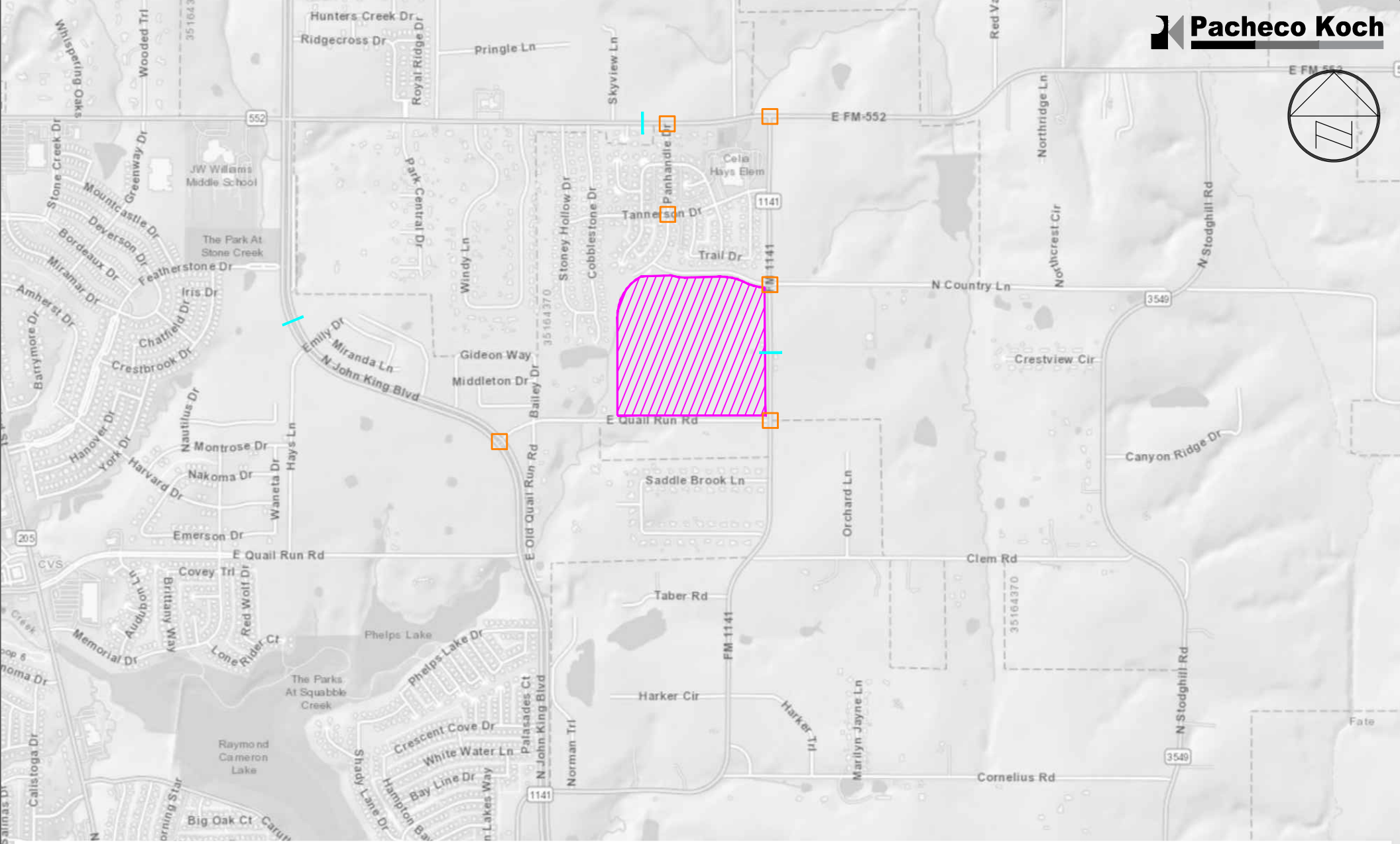
FINDING: The intersection of FM 1141 and FM 552 currently operates efficiently and at "acceptable" Levels of Service during peak traffic periods. However, with the addition of projected school traffic, the calculated average delays for the northbound left-turning maneuvers at the intersection are projected to degrade to "unacceptable" LOS. This condition is common for similar unsignalized intersections on major roadways where a traffic signal being the only mitigation measure to improve the condition. However, with the low projected traffic volumes at the driveway, a traffic signal would not be warranted.

- RECOMMENDATION: As part of the development, the following improvements will be constructed and are assumed to be implemented in the "Build" Scenario of the study:

  1. Right-turn deceleration lanes at all inbound driveways along FM 1141 and E Quail Run Road.

  2. Construction and widening of FM 1141 along the frontage of the site to a three-lane cross-section to include a center two-way left-turn lane for separation of inbound left-turns entering the campus.

END



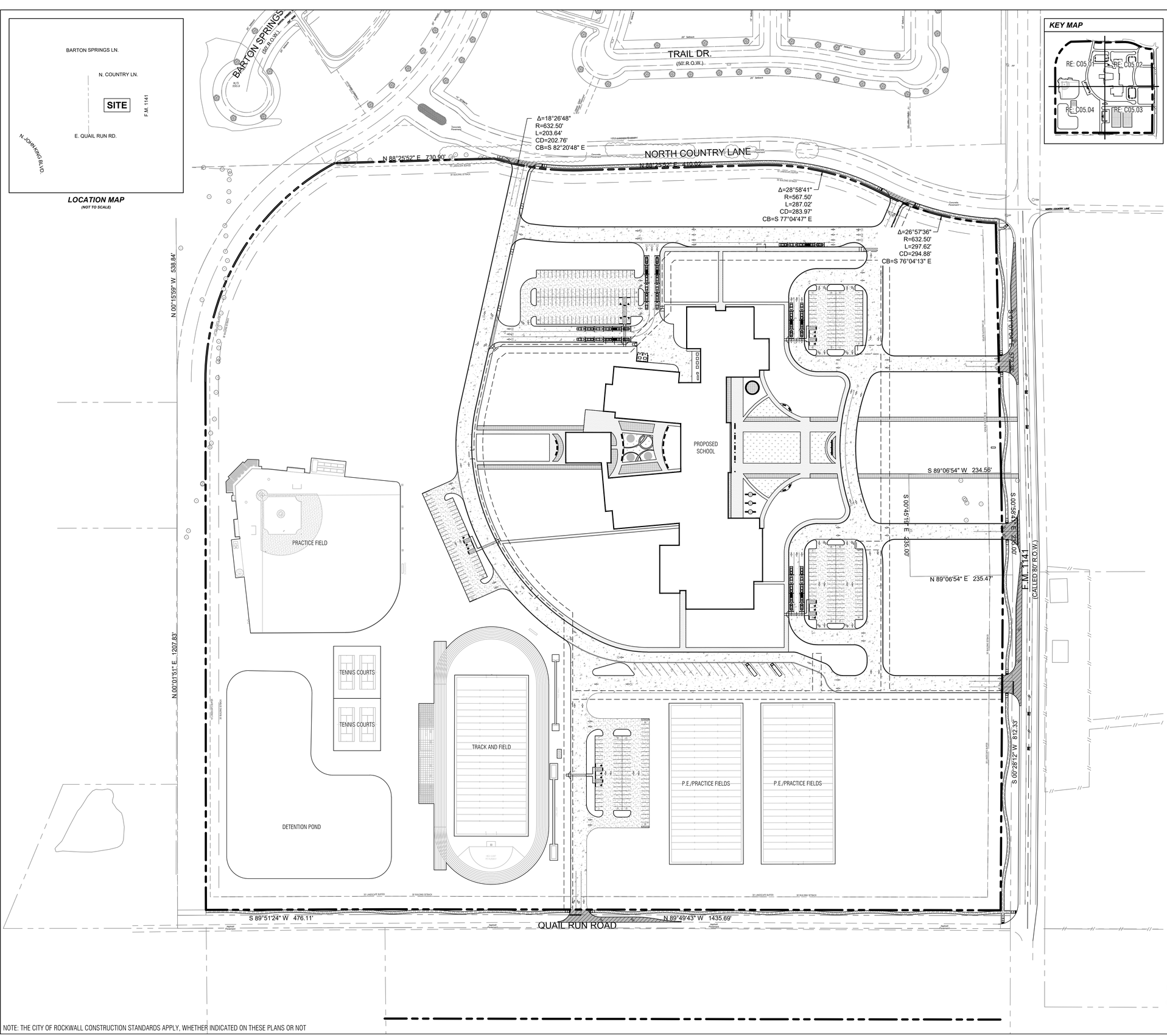
Site Location Map

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/23/22)

EXHIBIT **1**

LOCATION MAP
(NOT TO SCALE)



KEY MAP

GENERAL SITE NOTES

1. STRIPING & SIGNAGE DIMENSIONS ARE FROM FACE OF CURB.
2. ALL FIRE LANES, PARKING STRIPING, HANDICAP PARKING STRIPING & SIGNAGE ARE TO BE IN ACCORDANCE WITH CITY OF ROCKWALL REQUIREMENTS, TYP.
3. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CITY OF ROCKWALL SPECIFICATIONS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.
5. ALL WORK SHALL CONFORM TO THE CITY OF ROCKWALL SPECIFICATIONS, STANDARDS, AND DETAILS.
6. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS, PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.
8. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATING EXISTING UTILITIES AND IMPROVEMENTS PRIOR TO CONSTRUCTION.
9. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN TO THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR REVIEW.
10. MARK FIRE LANES TO THE CITY OF ROCKWALL SPECIFICATION. "NO PARKING FIRE LANE" EVERY 25' WHITE 4" LETTERS ON A 6' RED STRIPED BACKGROUND.
11. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
12. BARRIER FREE RAMPS (BFR) IN PUBLIC R.O.W. SHALL BE PER CITY SPECIFICATIONS.
13. ALL OUTDOOR LIGHTING MUST BE ORIENTED SO THAT LIGHTING LEVELS AT ALL PROPERTY LINES ARE 1FOT-CANDLE OR LESS.

PAVING LEGEND (PROPOSED)

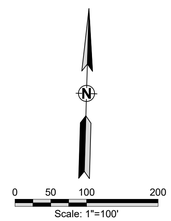
- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- PAINTED TRAFFIC DIRECTIONAL ARROW
- PROPERTY LINE
- 10' MASONRY SCREENING WALL
- (PRIVATE) 5" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 6" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 24" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- PLANTING AREAS. RE: LANDSCAPE

PAVING LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE

SITE DATA SUMMARY TABLE

EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F. = 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0'x18.0'	203 SPACES
9.0'x20.0'	159 SPACES
15.0'x30.0'	20 SPACES
TOTAL PARKING PROVIDED	382 SPACES



APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO.

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

○ ISSUES

△ REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752576193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

PRELIMINARY–FOR REVIEW ONLY
These documents are for Design Review and not intended for Construction, Bidding, or Permit Purposes. They were prepared by, or under the supervision of Cheralyn Armijo, P.E. 84568
Date: March 25, 2022

ROCKWALL NINTH GRADE CENTER

Rockwall, TX 75087

OVERALL SITE PLAN

JOB 20018.0000
DATE 5/3/21
SHEET

C05.00

NOTE: THE CITY OF ROCKWALL CONSTRUCTION STANDARDS APPLY, WHETHER INDICATED ON THESE PLANS OR NOT

R:\ROCKISD\NEW HIGH SCHOOL #4 – CAMERON\2022 9th GRADE CENTER\BID SET\ROCKWALL HS NINTH GRADE CENTER–ENG.dwg

TRAFFIC IMPACT ANALYSIS
Rockwall ISD North Ninth Grade Center
Rockwall, Texas

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Appendix D. Detailed Intersection Capacity Analysis Results

INTRODUCTION

The services of **Pacheco Koch** (PK) were retained by **Glenn Engineering Corp.** (the "Owner") to prepare a Traffic Impact Analysis for a proposed public school located at the southwest corner of FM 1141 and N Country Lane in Rockwall, Texas. The Project is referred to herein as Rockwall ISD North Ninth Grade Center. A proposed site plan for the Project, prepared by Corgan Associates, Inc., and a site location map (**Exhibit *1***) are provided following the EXECUTIVE SUMMARY section of this report.

In order to facilitate development of the Project, Glenn Engineering Corp. (the "Applicant") has made a request to the City of Rockwall (the "Approving Agency") for site plan approval. As part of application process for this request, submittal of a TIA commissioned by the Applicant must be submitted to the Approving Agency for review.

This TIA was prepared by traffic engineers at Pacheco Koch (the "Engineer") in accordance with industry and local standards. Pacheco Koch is a licensed engineering firm, based in Texas, that provides professional engineering and related services.

Purpose

A Traffic Impact Analysis (TIA) is an engineering study used to provide information on the projected off-site impacts produced by a specific Project on the traffic operations of public traffic facilities. In some instances, those Project impacts can be sufficiently accommodated by the existing roadway network; while in other cases, Project impacts may require mitigation. Determination of mitigation requirements is subject to the standards and expectations of the Approving Agency.

Commissioning a TIA may be required by an Approving Agency when an Applicant is seeking approvals or entitlements for the Project. Using standardized analysis methodologies, the findings of the TIA are used to gage the direct impacts on the transportation system that are attributable to the Project. Under certain circumstances and within legal parameters, the Approving Agency may require the Applicant to fund the improvement(s) needed to mitigate the impacts.

A TIA should be prepared by a licensed Engineer skilled in the principles of traffic and transportation engineering and planning. The general methodologies, processes, and guidelines used in a TIA are established by industry standards—which are maintained by organizations such as the Institute of Transportation Engineers (ITE) and others—although, the project-specific parameters of the study (e.g., study locations, analysis scenarios, analytical assumptions, etc.) may be established by local ordinances or technical staff of the Approving Agency.

Generally, existing and background conditions of the transportation system are assumed to be the responsibility of the respective governing agency(-ies).

Although the explicit purpose of a TIA is not to evaluate those conditions and identify deficiencies, this information may be evident from the study's findings. The Engineer may suggest or recommend modifications to the transportation system that, in the Engineer's opinion, could improve overall traffic operations, safety, site access, circulation, etc. However, such proposals may be unrelated to the traffic impacts of the Project and are not considered to be the responsibility of the Developer. Implementation of such modifications are subject to the discretion and approval of the respective agency. In general all proposals from the Engineer should not be considered mandatory and are not intended to assign or imply funding responsibility.

A TIA is not a detailed site plan review nor a substitute for local or regional transportation planning.

Project Description

The Project will consist of a ninth-grade center with a maximum enrollment of approximately 1,000 students. The Project will be built in a single phase. Buildout of the Project is estimated to occur by 2024.

Access to the school will be provided by a total of three driveways along FM 1141 and two driveways along N Country Lane. The surrounding roads of FM 1141 (M4D), North Country Lane (M4U), Panhandle Drive (M4U – Not constructed adjacent to the site), and E Quail Run Road (M4U) are designated roads according to the City of Rockwall throughfare plan.

The undeveloped, 24-acre subject site is currently zoned AG.

Study Parameters

The study parameters used in this TIA are based upon industry standard practices and requirements of the City of Rockwall. Project-specific study parameters were reviewed with the City staff at the outset of the study.

This TIA analyzed the day-to-day traffic operations on the public roadway system at time periods that have the greatest combined volume of the background traffic and site-related traffic. Due to the predominant influence of background traffic, the weekday AM and PM peak hours of adjacent street traffic are typically analyzed.

The analysis scenarios addressed in this study include the following:

- at existing conditions ("Existing" scenario)
- at site buildout year with site-generated traffic ("Build" scenario)

  NOTE: Analyses of all future conditions scenarios utilize projected traffic volumes derived by Pacheco Koch using reasonable and customary assumptions that are based upon existing conditions where possible. ITE appropriately points out that, due to natural changes in traffic patterns that occur over time, the margin of error for projected traffic volumes increases as the length of time of the projection increases; and, any projection of hourly turning movement volumes beyond five years inherently contain significant assumptions.

Study Area

The study area for a TIA is typically defined to allow an assessment of the most relevant traffic impacts to the local area. The extent of the study area is discretionary but is generally commensurate with the scale of the proposed development. Special localized factors may also be considered. The specific locations included in the study area of this TIA are listed below and depicted in **Exhibit *1***.

STOP-Sign-Controlled Intersections:

(a) N John King Boulevard and E Quail Run Road
(b) FM 552 and Panhandle Drive
(c) Panhandle Drive and Tannerson Drive
(d) FM 552 and FM 1141
(e) FM 1141 and N Country Lane
(f) FM 1141 and E Quail Run Road

Roadway Links:

(A) N John King Boulevard, between Featherstone Drive and Emily Drive/Hays Lane
- Existing operation and cross-section: *four lanes, two-way operation, median-divided*
- City of Rockwall Thoroughfare Plan Designation: *P6D*
- Current Daily Traffic Volume: *13,679 (Tuesday, May 10, 2022)*

(B) FM 552, between Panhandle Drive and Skyview Lane
- Existing operation and cross-section: *two lanes, two-way operation, no median*
- City of Rockwall Thoroughfare Plan Designation: *TxDOT 4D*
- Current Daily Traffic Volume: *6,269 (Tuesday, May 10, 2022)*

(C) FM 1141, adjacent to the site
- Existing operation and cross-section: *four lanes, two-way operation, median-divided*
- City of Rockwall Thoroughfare Plan Designation: *M4D*
- Current Daily Traffic Volume: *2,217 (Tuesday, May 10, 2022)*

TRAFFIC IMPACT ANALYSIS

The following is a description of the analyses performed as part of this Traffic Impact Analysis.

Approach

The TIA presented in this report analyzed the operational conditions of the study area intersections for the relevant peak hours using standardized analytical methodologies, where applicable. Actual traffic volumes (with adjustments described previously) represent background traffic conditions with no site-related traffic included. Then, traffic generated by the proposed development was calculated using the industry-standard four-step approach of trip generation, mode split, trip distribution, and traffic assignment. By adding the site-generated traffic to the background traffic, the resulting site-plus-background operational conditions were re-analyzed in order to measure the "impact" created by the Project. For any scenario, where appropriate, the Engineer considered and may recommend measures to mitigate undue operational conditions. Recommendations may be unrelated to impact of the Project. However, any recommendations provided by the Engineer are for the consideration of the Approving Agency who may or may not accept the recommendations. Recommendations provided by the Engineer are not intended to assign or imply a mandate nor financial responsibility as such decisions are for the Approving Agency and Applicant to resolve.

Background Traffic Volume Data

Existing Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on Tuesday, May 10th, 2022. Traffic volumes are graphically summarized in **Appendix A**; detailed data sheets are provided in **Appendix B**.

Site-Related Traffic

Trip Generation and Mode Split

Trip generation is calculated in terms of "trip ends" – a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends). Trip generation for this Project was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation* manual (11th Edition). ITE *Trip Generation* is a compilation of actual, vehicular traffic volume generation data and statistics by land use as collected over several decades by creditable sources across the country. Using the ITE equations and rates is an accepted methodology to calculate the projected site-generated traffic volumes for many land uses (though engineering judgment is strongly advised).

The base trip generation data from ITE generally reflect average conditions for a standalone use on a typical day. However, in some cases, the Engineer may judge that other factors may be of sufficient significance to warrant adjusting the base

ITE calculations in order to more accurately reflect Project-specific conditions. For this analysis, no adjustments to the base ITE data were applied.

"Mode split" refers to the consideration of all modes of transportation. Typically, the majority of trips occur by passenger vehicles such as personal autos and ridesharing services. But, some alternative modes—such as travel by public transit, bicycle, and walking—do not generate additional vehicle trips. The default trip generation data from ITE is summarized in vehicular trip ends and incorporate "typical" mode split characteristics. However, when travel by alternative mode has the potential to be greater than normal, a reduction in the number of vehicular trip volume may be warranted. For this analysis, mode spilt in terms of bus and pedestrian reductions are assumed to be already in the ITE Trip Generation calculations.

NOTE: As comparison, a trip generation study performed by Glenn Engineering Corp dated April 13th, 2022, was conducted to determine the AM inbound trip generation for the site.

The study determined the following assumptions:

1. 1,000 students x 45% = 450 students by bus (13 buses)
2. 1,000 students x 55% = 550 students by parent
3. 1,000 students x 0% = 0 pedestrian traffic

1,000 students x 0.55 non-bus mode / 1.4 students per vehicles = 393 trip ends (cars/vans)

This calculated trip generation for the inbound AM peak hour is found to resemble the calculated ITE Trip Generation trips and therefore, ITE Trip Generation calculations were determined to be sufficient for this study.

All information from the trip generation study performed by Glenn Engineering Corp. for trip generation purposes has been provided in **Appendix C** for reference.

Table 1 provides a summary of the calculated trip ends generated by the project. Supplemental information used in the trip generation calculations is provided in **Appendix C.**

Table 1. Projected Trip Generation Summary

SCENARIO	ITE TRIP GENERATION DAILY VOLUMES	AM PEAK HOUR TRIP ENDS (ADJACENT STREET PEAK)	PM PEAK HOUR TRIP ENDS (GENERATOR STREET PEAK)
		Total (In/Out)	**Total** (In/Out)
School trips (ITE LUC 525)	1,940	**520** (354/166)	**320** (102/218)

Trip Distribution and Assignment

The distribution and assignment of site-generated trip ends to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic, trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.

Traffic for the proposed redevelopment was distributed and assigned to the study area roadway network based upon consideration of the factors listed above. Separate traffic assignments were generated for parent traffic and bus traffic. Detailed trip distribution and traffic assignment calculations and results are summarized in **Appendix C**.

Site-Generated Traffic Volumes

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 1**) by the corresponding traffic assignments (from **Appendix C**). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in **Appendix A**.

Traffic Operational Analysis —Roadway Links

Description

A roadway link is a segment of roadway between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. The capacity of the roadway link is predominantly a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Generally, roadway link capacity is less critical than intersection capacity; however, it can provide a gage of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions -- in the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location.

The North Central Texas Council of Governments (NCTCOG) – the metropolitan planning agency for the Dallas-Fort Worth region – has derived internal "hourly service volume" guidelines used for transportation modelling purposes. The NCTCOG values were based upon the principals 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 modelling purposes, they do provide a reasonable gage of theoretical capacity.

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
Residential	925	875	900	825	575	525
Rural	1,025	925	975	875	600	550

To determine the utilization of a roadway, the volume:capacty ratio can be 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 ≤ 25% is LOS *A*,
Volume:Capacity Ratio > 25% and ≤ 45% is LOS *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*

Summary of Results

For roadways adjacent to or in the vicinity of the subject site, the volume/capacity ratio was calculated for existing and site buildout conditions. A summary of the link capacity analysis is provided in **Table 2**. See specific recommendations in the *Recommendations* section of this report.

Table 2. Roadway Link Capacity Analysis Results Summary

ROADWAY/ SCENARIO	DAILY VOLUME	THEORETICAL DAILY CAPACITY	V:C RATIO/ LEVEL OF SERVICE
N John King Boulevard			
Existing Conditions	13,679	37,000	0.37 – *B*
"Build" Conditions	14,063	37,000	0.38 – *B*
FM 552			
Existing Conditions	6,269	16,500	0.38 – *B*
"Build" Conditions	7,037	17,500	0.43 – *B*
FM 1141			
Existing Conditions	2,217	37,000	0.12 – *A*
"Build" Conditions	3,273	37,000	0.18 – *A*

Traffic Operational Analysis —Roadway Intersections

Description

The level of performance of civil infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic an operational analysis of roadway intersection capacity over a 60-minute period is the most detailed type of analysis. An industry-standardized methodology for this type of analysis was developed by the Transportation Research Board and is presented in the Highway Capacity Manual (HCM). HCM uses the term "Level of Service" (or, LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS can be described as follows:

LOS *A* = free, unobstructed flow
LOS *B* = reasonably free flow
LOS *C* = stable flow
LOS *D* = approaching unstable flow
LOS *E* = unstable flow, operating at design capacity
LOS *F* = operating over design capacity

Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C, or better, is desirable, although LOS D is considered to be acceptable in urban conditions; LOS E indicates a facility or maneuver is approaching capacity, while LOS F is theoretically an over-capacity condition. On highly-utilized transportation facilities, brief periods of LOS E or F conditions are not uncommon for during peak periods. In some cases measures to increase capacity, either through operational changes and/or physical improvements, can be identified to improve efficiency and sometimes raise Level of Service.

For traffic-signal-controlled ("signalized") intersections and STOP-controlled ("unsignalized") intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections the average delay per vehicle can be effectively calculated for the entire intersection; however, for unsignalized intersections the average delay per vehicle is calculated only by approach or by individual traffic maneuvers that must stop or yield right-of-way.

NOTE: The HCM unsignalized intersection analysis methodology was developed and calibrated for low-to-moderate volume intersections. When applied to intersections with one or more high-volume or high-capacity approaches, the analyses often reflect poor results (i.e., low Level of Service). However, the actual delay/operational conditions are typical of similar locations and do not necessarily represent unique conditions. Low-performing, high-volume, unsignalized intersections cannot be analytically mitigated unless a traffic signal is installed. (Traffic signal installation is subject to a detailed analysis of established criteria AND approval of the responsible agency. Neither Level of Service nor vehicle delay is a warrant for traffic signal installation.)

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

	Signalized Intersection (Average Delay per Vehicle)	**Unsignalized Intersection (Average Delay per Vehicle)**
LOS *A*	≤ 10	≤ 10
LOS *B*	> 10 - ≤ 20	> 10 - ≤ 15
LOS *C*	> 20 - ≤ 35	> 15 - ≤ 25
LOS *D*	> 35 - ≤ 55	> 25 - ≤ 35
LOS *E*	> 55 - ≤ 80	> 35 - ≤ 50
LOS *F*	> 80	> 50

Analysis Traffic Volumes

Determination of the traffic impact associated with the Project is measured by comparing the incremental change in operational conditions during peak periods with and without site-related traffic. **Appendix A** provides exhibits summarizing the following:

- Existing traffic volumes during study peak hours
- Projected Site-Generated traffic volumes during study peak hours
- Projected "Build" traffic volumes at the Site Buildout Year during study peak hours

A summary of the existing intersection/roadway geometry and traffic control devices is also graphically summarized in **Appendix A**.

Summary of Results

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

NOTE: Traffic signal operational parameters used in this analysis were based upon actual, existing traffic signal operational characteristics observed in the field at the time of traffic data collection.

See specific recommendations in the *SUMMARY OF FINDINGS AND RECOMMENDATIONS* section of this report.

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

INTERSECTION	TRAFFIC MANEUVER	EXISTING CONDITIONS		BUILD CONDITIONS	
		AM	PM	AM	PM
Panhandle Drive @ Tannerson Drive	EB	A (7.1)	A (6.8)	A (7.1)	A (6.9)
	WB	A (7.2)	A (7.0)	A (7.3)	A (7.1)
	NB	A (6.9)	A (7.3)	A (7.1)	A (7.3)
	SB	A (7.6)	A (7.1)	A (7.6)	A (7.1)
FM 1141 @ FM 552	WB	A (1.4)	A (0.7)	A (2.7)	A (1.2)
	NB	C (15.7)	B (11.9)	D (33.2)	C (16.1)
FM 1141 @ N Country Lane	EB	A (9.3)	A (9.1)	B (12.9)	B (11.1)
	WB	A (9.5)	A (9.5)	B (10.1)	A (9.8)
	NB	A (0.5)	A (0.6)	A (0.5)	A (0.6)
	SB	A (0.4)	A (1.1)	A (0.2)	A (0.5)
FM 1141 @ E Quail Run Road	EB	B (10.1)	A (9.1)	B (11.5)	A (10.0)
	NB	A (0.7)	A (0.3)	A (0.4)	A (0.3)
N John King Boulevard @ E Quail Run Road	WB	C (23.2)	C (19.5)	C (22.9)	B (14.9)
	SB	A (0.1)	A (0.2)	A (1.0)	A (0.5)
FM 552 @ Panhandle Drive	WB	A (0.2)	A (0.2)	A (0.1)	A (0.2)
	NB	C (15.4)	B (12.7)	C (21.3)	B (14.7)
N Country Lane @ Site Driveway 1 (Inbound Only)		-	-	-	-
		-	-	-	-
N Country Lane @ Site Driveway 2	NB	-	-	A (9.1)	A (9.0)
FM 1141 @ Site Driveway 3	NB	-	-	A (5.4)	A (2.5)
FM 1141 @ Site Driveway 4	EB	-	-	B (10.2)	A (9.3)
FM 1141 @ Site Driveway 5	EB	-	-	A (9.8)	A (9.3)
	NB	-	-	A (0.2)	A (0.0)

KEY:

A, B, C, D, E, F = Level-of-Service
NB-, SB-, EB-, WB- = Intersection Approach
AM = AM Peak Hour of Adjacent Street
(##.#) = Average Seconds of Delay Per Vehicle
-L, -T, -R = Left, Through, Right Turning Movement
PM = PM Peak Hour of Generator

SUMMARY OF FINDINGS AND RECOMMENDATIONS

NOTE: Recommendations presented in this report reflect the opinion of Pacheco Koch based solely upon technical analysis and professional judgment but are not intended to infer mandates or funding responsibility. Any proposed improvements in the public right-of-way are subject to approval of the responsible agency(-ies). Should the approving agency determine that any off-site improvements are required for approval of the Project, legal precedents apply with regard to jurisdiction and funding allocation.

The following findings and, if applicable, recommendations were based upon an analysis of the anticipated traffic impact generated by the proposed development scenario outlined in the Project Description section of this report.

FINDING: The intersection of FM 1141 and FM 552 currently operates efficiently and at "acceptable" Levels of Service during peak traffic periods. However, with the addition of projected school traffic, the calculated average delays for the northbound left-turning maneuvers at the intersection are projected to degrade to "unacceptable" LOS. This condition is common for similar unsignalized intersections on major roadways where a traffic signal being the only mitigation measure to improve the condition. However, with the low projected traffic volumes at the driveway, a traffic signal would not be warranted.

- RECOMMENDATION: As part of the development, the following improvements will be constructed and are assumed to be implemented in the "Build" Scenario of the study:

3. Right-turn deceleration lanes at all inbound driveways along FM 1141 and E Quail Run Road.

4. Construction and widening of FM 1141 along the frontage of the site to a three-lane cross-section to include a center two-way left-turn lane for separation of inbound left-turns entering the campus.

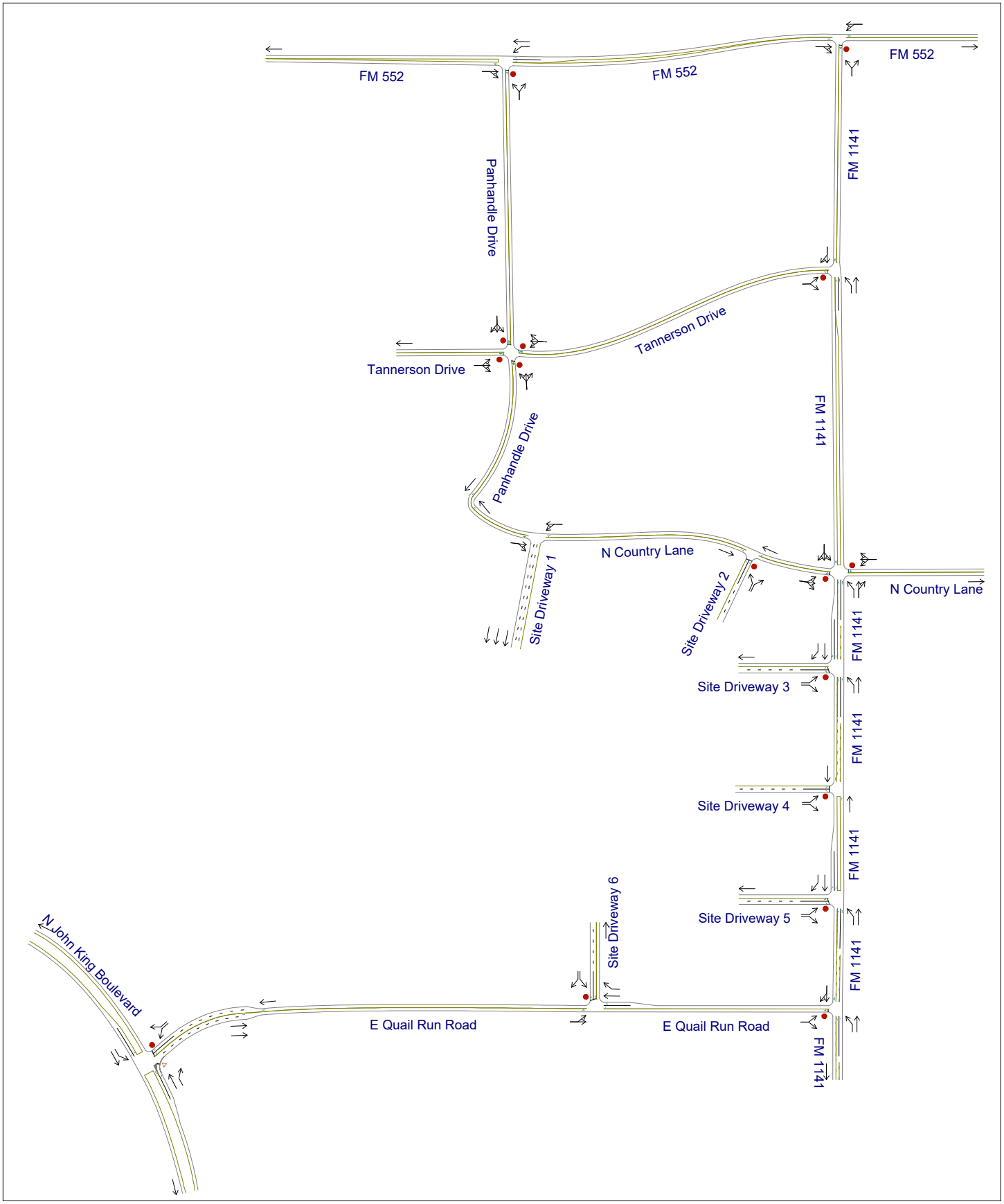
END OF MEMO

Appendix A. Traffic Volume Exhibits

Appendix A1 - Roadway Geometry

North ^

Not to Scale



5359-22.340

LHC

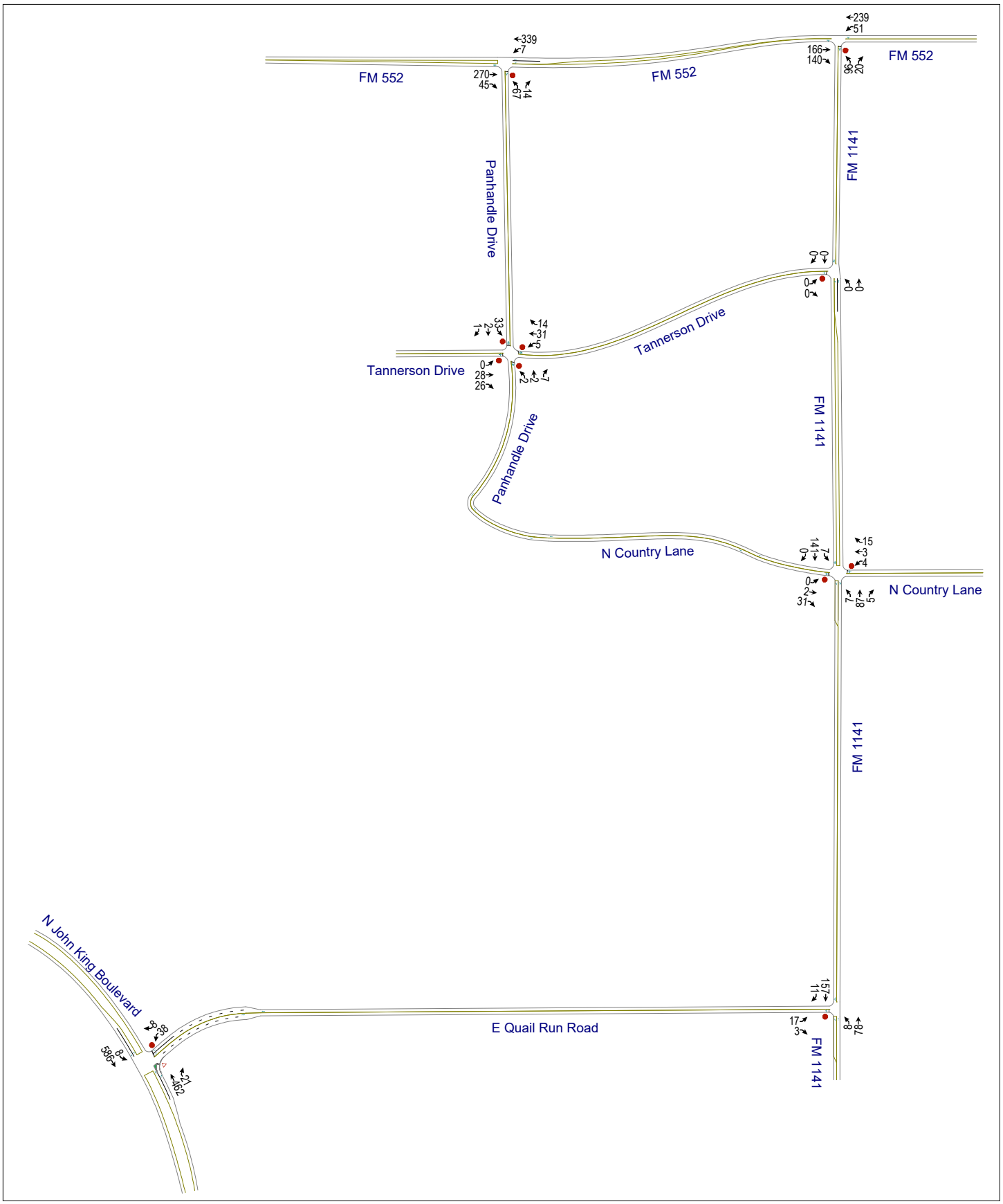
04/18/2022

Pacheco Koch

Appendix A2 - Existing AM

North ^

Not to Scale



5359-22.340

LHC

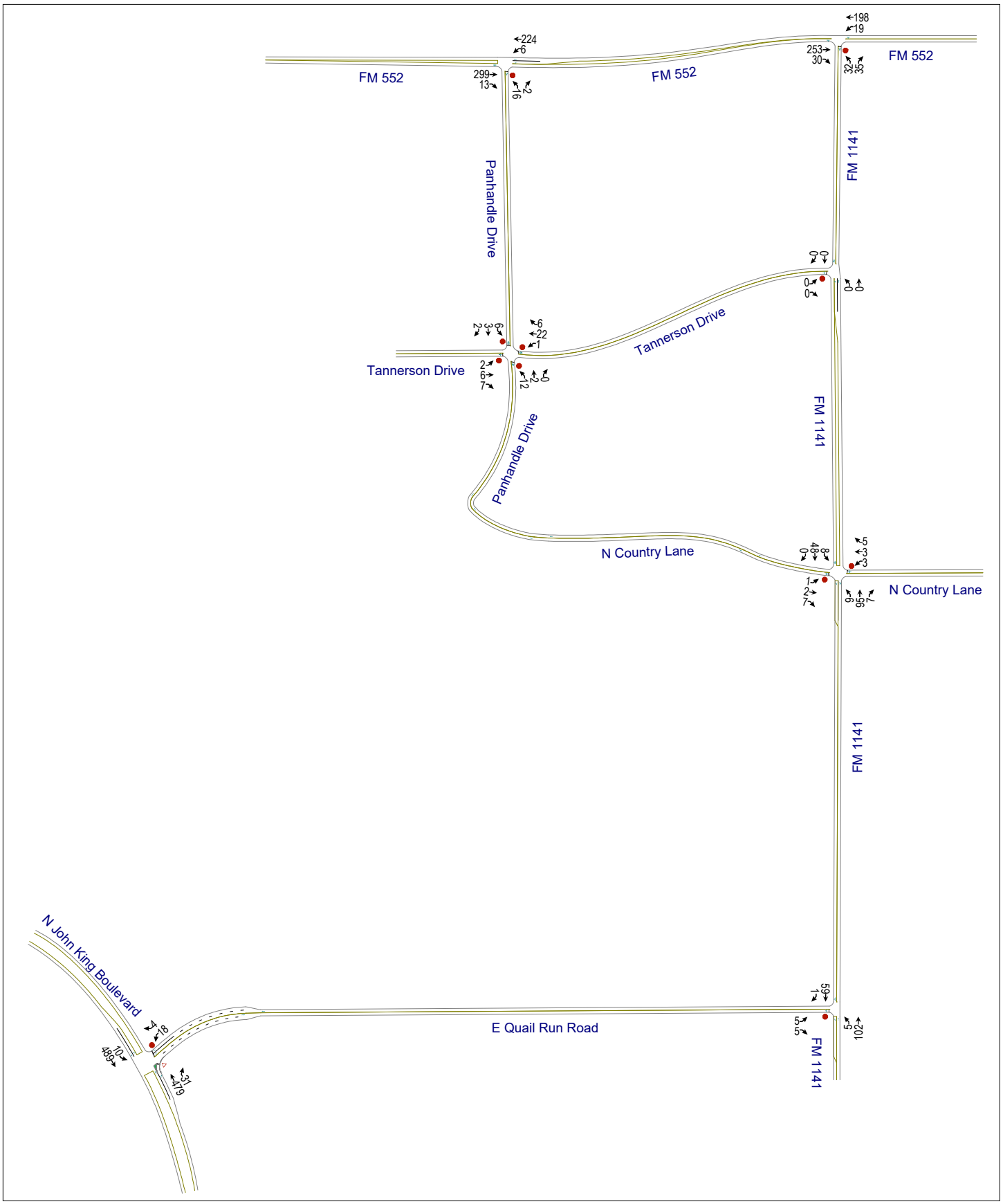
04/18/2022

Pacheco Koch

Appendix A3 - Existing PM

North ^

Not to Scale



5359-22.340

LHC

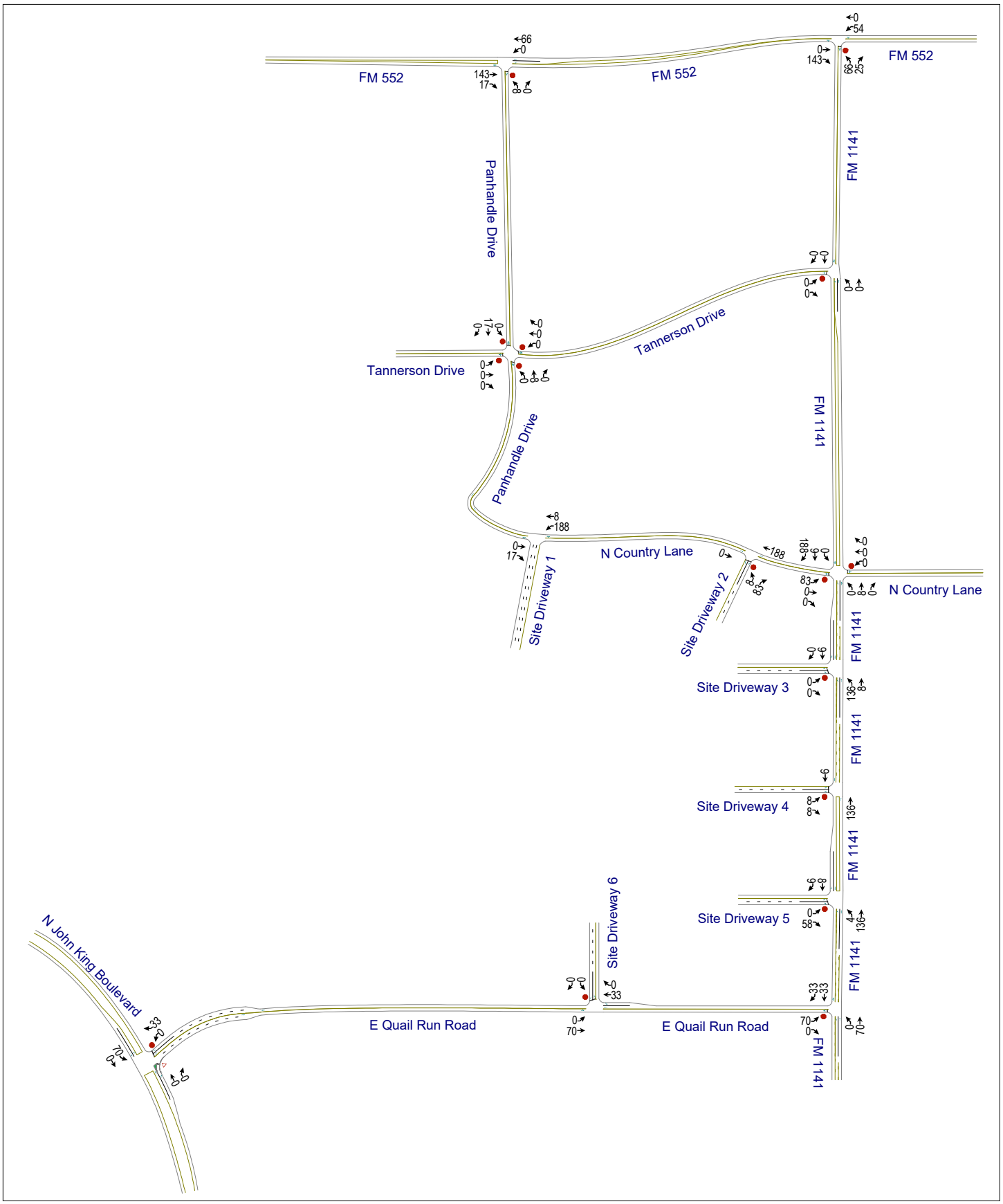
04/18/2022

Pacheco Koch

Appendix A4 - Site Generated AM

North ^

Not to Scale



5359-22.340

LHC

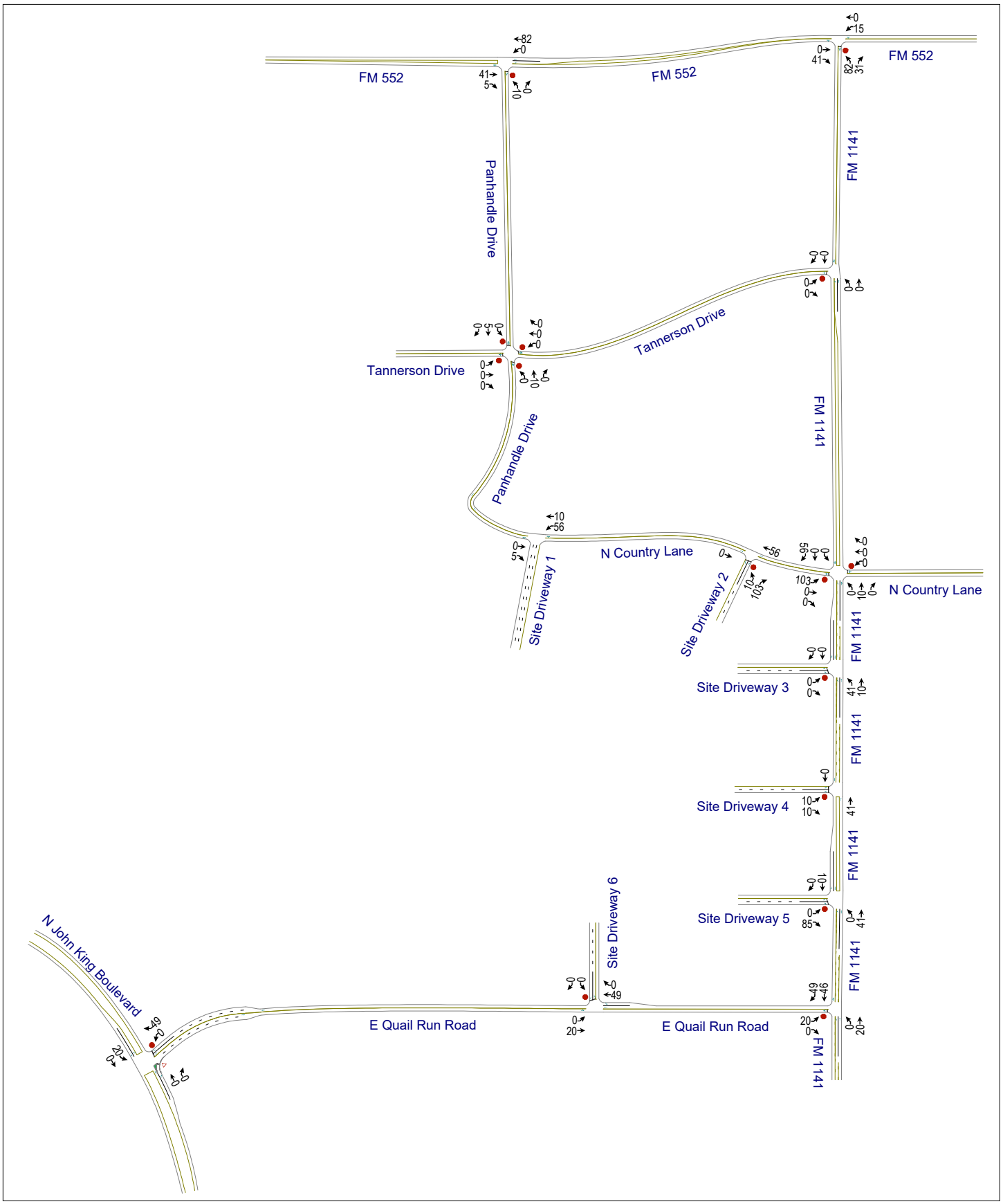
04/18/2022

Pacheco Koch

Appendix A5 - Site Generated PM

North ^

Not to Scale



5359-22.340

LHC

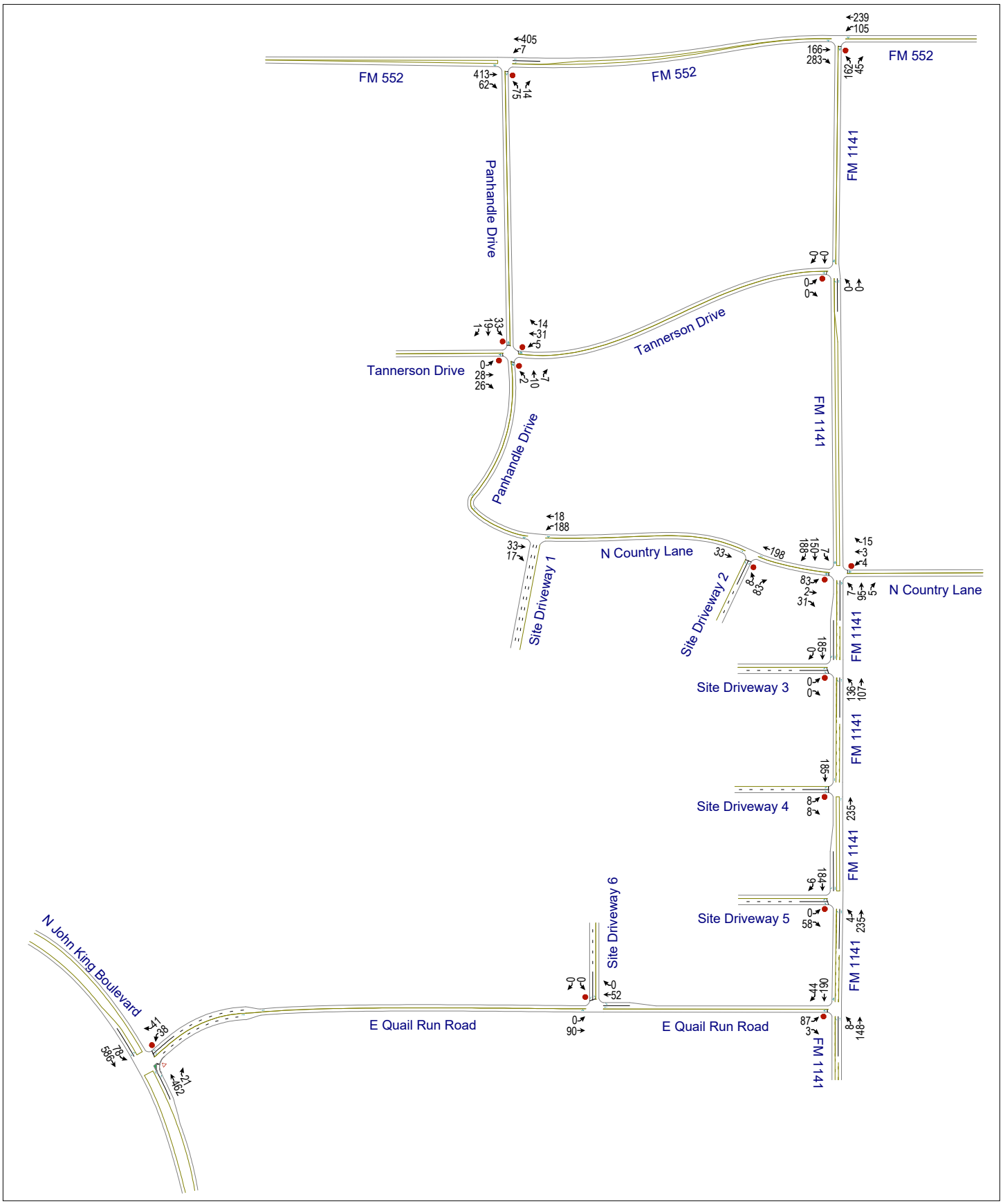
04/18/2022

Pacheco Koch

Appendix A6 - Build AM

North ^

Not to Scale



5359-22.340

LHC

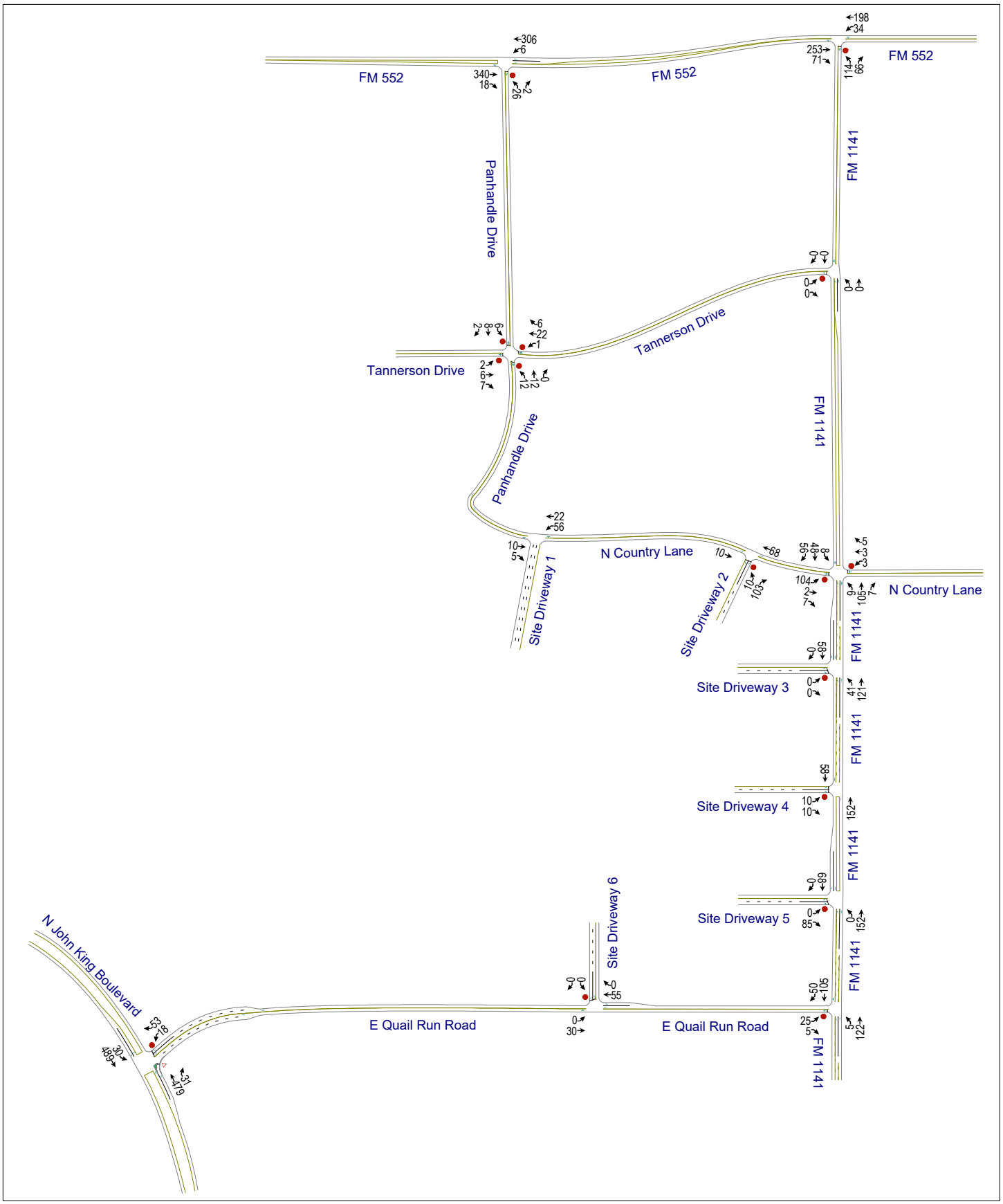
04/18/2022

Pacheco Koch

Appendix A7 - Build PM

North ^

Not to Scale



5359-22.340

LHC

04/18/2022

Pacheco Koch

Appendix B. Detailed Traffic Volume Data

Intersection Turning Movement Counts

				NORTH LEG Southbound Approach on FM 1141						EAST LEG Westbound Approach on FM 552						SOUTH LEG Northbound Approach on FM 1141						WEST LEG Eastbound Approach on FM 552					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	*Rockwall*	*7:00 AM*	*7:15 AM*		*0*	*0*	*0*				*8*	*70*	*0*				*4*	*0*	*1*				*0*	*48*	*13*		
State:	*Texas*	***7:15 AM***	***7:30 AM***		***0***	***0***	***0***				***15***	***69***	***0***				***19***	***0***	***7***				***0***	***61***	***30***		
Day:	*Tuesday*	***7:30 AM***	***7:45 AM***		***0***	***0***	***0***				***17***	***69***	***0***				***36***	***0***	***4***				***0***	***45***	***59***		
Date:	*10-May*	***7:45 AM***	***8:00 AM***		***0***	***0***	***0***				***14***	***54***	***0***				***32***	***0***	***6***				***0***	***32***	***41***		
Year:	*2022*	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***5***	***47***	***0***				***9***	***0***	***3***				***0***	***28***	***10***		
Data Collector:	*Camera*	8:15 AM	8:30 AM		0	0	0				3	69	0				6	0	2				0	38	9		
Data Source:	*CJ Hensch & Associates, Inc.*	8:30 AM	8:45 AM		0	0	0				8	37	0				2	0	5				0	32	4		
Traffic Control:	*Minor Approach Stop*	8:45 AM	9:00 AM		0	0	0				4	44	0				7	0	4				0	32	10		
Observations:																											
		3:00 PM	3:15 PM		0	0	0				9	19	0				26	0	7				0	49	8		
		3:15 PM	3:30 PM		0	0	0				5	38	0				9	0	7				0	32	1		
		3:30 PM	3:45 PM		0	0	0				6	32	0				11	0	10				0	40	5		
		3:45 PM	4:00 PM		0	0	0				6	34	0				4	0	4				0	63	7		
		4:00 PM	***4:15 PM***		***0***	***0***	***0***				***6***	***49***	***0***				***3***	***0***	***6***				***0***	***52***	***13***		
		4:15 PM	***4:30 PM***		***0***	***0***	***0***				***1***	***49***	***0***				***13***	***0***	***10***				***0***	***56***	***7***		
		4:30 PM	***4:45 PM***		***0***	***0***	***0***				***7***	***47***	***0***				***11***	***0***	***8***				***0***	***70***	***4***		
		4:45 PM	***5:00 PM***		***0***	***0***	***0***				***5***	***53***	***0***				***5***	***0***	***11***				***0***	***75***	***6***		
		5:00 PM	5:15 PM		0	0	0				5	53	0				7	0	14				0	58	6		
		5:15 PM	5:30 PM		0	0	0				9	54	0				7	0	15				0	81	8		
		5:30 PM	5:45 PM		0	0	0				7	39	0				7	0	10				0	74	7		
		5:45 PM	6:00 PM		0	0	0				4	54	0				6	0	12				0	63	6		
AM Peak Hour	*Intersection PHF:*	*0.82*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*54*	*262*	*0*			*0*	*91*	*0*	*18*			*0*	*0*	*186*	*143*		
	Peak Hour	*7:00 AM - 8:00 AM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.79*	*0.94*	*0.00*				*0.63*	*0.00*	*0.64*				*0.00*	*0.76*	*0.61*		
	Study Area PHF:	**0.77**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**51**	**239**	**0**			**0**	**96**	**0**	**20**			**0**	**0**	**166**	**140**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.75**	**0.87**	**0.00**				**0.67**	**0.00**	**0.71**				**0.00**	**0.68**	**0.59**		
PM Peak Hour	*Intersection PHF:*	*0.89*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*26*	*207*	*0*			*0*	*30*	*0*	*48*			*0*	*0*	*284*	*24*		
	Peak Hour	*4:30 PM - 5:30 PM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.72*	*0.96*	*0.00*				*0.68*	*0.00*	*0.80*				*0.00*	*0.88*	*0.75*		
	Study Area PHF:	**0.91**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**19**	**198**	**0**			**0**	**32**	**0**	**35**			**0**	**0**	**253**	**30**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.68**	**0.93**	**0.00**				**0.62**	**0.00**	**0.80**				**0.00**	**0.84**	**0.58**		

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on FM 1141						Westbound Approach on N COUNTRY LANE						Northbound Approach on FM 1141						Eastbound Approach on N COUNTRY LANE					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		2	14	0				0	0	0				0	9	1				0	0	5		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***1***	***19***	***0***				***0***	***0***	***3***				***0***	***21***	***2***				***0***	***0***	***7***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***1***	***55***	***0***				***0***	***2***	***6***				***4***	***32***	***1***				***0***	***0***	***6***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***4***	***51***	***0***				***3***	***1***	***6***				***2***	***22***	***2***				***0***	***0***	***11***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***1***	***16***	***0***				***1***	***0***	***0***				***1***	***12***	***0***				***0***	***2***	***7***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	17	0				1	1	1				1	9	0				0	0	6		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		2	19	0				1	0	0				1	14	0				1	0	3		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		1	22	1				3	0	0				0	16	0				0	0	5		
Observations:																											
		3:00 PM	3:15 PM		4	42	0				0	0	2				1	14	2				0	0	2		
		3:15 PM	3:30 PM		0	17	0				0	0	0				2	22	3				0	0	4		
		3:30 PM	3:45 PM		0	19	0				3	0	2				0	24	0				0	0	0		
		3:45 PM	4:00 PM		2	24	0				1	0	0				0	13	2				0	0	2		
		4:00 PM	***4:15 PM***		***2***	***18***	***0***				***1***	***0***	***1***				***3***	***14***	***5***				***0***	***1***	***0***		
		4:15 PM	***4:30 PM***		***4***	***8***	***0***				***2***	***1***	***1***				***3***	***30***	***0***				***1***	***0***	***2***		
		4:30 PM	***4:45 PM***		***1***	***12***	***0***				***0***	***2***	***2***				***1***	***22***	***2***				***0***	***1***	***2***		
		4:45 PM	***5:00 PM***		***1***	***10***	***0***				***0***	***0***	***1***				***2***	***29***	***0***				***0***	***0***	***3***		
		5:00 PM	5:15 PM		0	15	0				2	1	0				0	24	2				0	2	1		
		5:15 PM	5:30 PM		0	21	0				0	0	1				1	26	1				0	0	1		
		5:30 PM	5:45 PM		0	21	0				1	1	4				0	31	3				0	0	3		
		5:45 PM	6:00 PM		0	17	0				2	0	1				2	25	1				0	0	2		
AM Peak Hour	*Intersection PHF:*	*0.71*	*Intersection PHV:*	*0*	*7*	*141*	*0*			*0*	*4*	*3*	*15*			*0*	*7*	*87*	*5*			*0*	*0*	*2*	*31*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.44*	*0.64*	*0.00*				*0.33*	*0.38*	*0.63*				*0.44*	*0.68*	*0.63*				*0.00*	*0.25*	*0.70*		
	Study Area PHF:	**0.71**	**Study Area PHV:**	**0**	**7**	**141**	**0**			**0**	**4**	**3**	**15**			**0**	**7**	**87**	**5**			**0**	**0**	**2**	**31**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.44**	**0.64**	**0.00**				**0.33**	**0.38**	**0.63**				**0.44**	**0.68**	**0.63**				**0.00**	**0.25**	**0.70**		
PM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*0*	*74*	*0*			*0*	*5*	*2*	*6*			*0*	*3*	*106*	*7*			*0*	*0*	*2*	*7*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.00*	*0.88*	*0.00*				*0.63*	*0.50*	*0.38*				*0.38*	*0.85*	*0.58*				*0.00*	*0.25*	*0.58*		
	Study Area PHF:	**0.90**	**Study Area PHV:**	**0**	**8**	**48**	**0**			**0**	**3**	**3**	**5**			**0**	**9**	**95**	**7**			**0**	**1**	**2**	**7**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.67**	**0.00**				**0.38**	**0.38**	**0.63**				**0.75**	**0.79**	**0.35**				**0.25**	**0.50**	**0.58**		

Pacheco Koch

PK# 5359-22.340

FM 1141 at N COUNTRY LANE

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on FM 1141						Westbound Approach on E QUAIL RUN ROAD						Northbound Approach on FM 1141						Eastbound Approach on E QUAIL RUN ROAD					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		0	17	0				0	0	0				0	10	0				4	0	1		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***0***	***30***	***0***				***0***	***0***	***0***				***2***	***21***	***0***				***3***	***0***	***0***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***57***	***2***				***0***	***0***	***0***				***3***	***32***	***0***				***8***	***0***	***2***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***0***	***46***	***9***				***0***	***0***	***0***				***2***	***11***	***0***				***4***	***0***	***1***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***24***	***0***				***0***	***0***	***0***				***1***	***14***	***0***				***2***	***0***	***0***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	19	0				0	0	0				2	9	0				0	0	2		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	22	1				0	0	0				2	10	0				2	0	2		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		0	28	1				0	0	0				1	14	0				4	0	0		
Observations:																											
		3:00 PM	3:15 PM		0	30	4				0	0	0				2	16	0				2	0	2		
		3:15 PM	3:30 PM		0	18	0				0	0	0				0	21	0				2	0	4		
		3:30 PM	3:45 PM		0	27	1				0	0	0				0	24	0				3	0	1		
		3:45 PM	4:00 PM		0	21	1				0	0	0				3	12	0				3	0	2		
		4:00 PM	***4:15 PM***		***0***	***15***	***0***				***0***	***0***	***0***				***2***	***22***	***0***				***1***	***0***	***1***		
		4:15 PM	***4:30 PM***		***0***	***13***	***1***				***0***	***0***	***0***				***1***	***30***	***0***				***2***	***0***	***2***		
		4:30 PM	***4:45 PM***		***0***	***16***	***0***				***0***	***0***	***0***				***1***	***27***	***0***				***1***	***0***	***2***		
		4:45 PM	***5:00 PM***		***0***	***15***	***0***				***0***	***0***	***0***				***1***	***23***	***0***				***1***	***0***	***0***		
		5:00 PM	5:15 PM		0	14	0				0	0	0				4	27	0				7	0	2		
		5:15 PM	5:30 PM		0	21	2				0	0	0				2	24	0				5	0	0		
		5:30 PM	5:45 PM		0	18	1				0	0	0				0	25	0				4	0	1		
		5:45 PM	6:00 PM		0	17	0				0	0	0				1	23	0				5	0	3		
AM Peak Hour	*Intersection PHF:*	*0.66*	*Intersection PHV:*	*0*	*0*	*157*	*11*			*0*	*0*	*0*	*0*			*0*	*8*	*78*	*0*			*0*	*17*	*0*	*3*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.00*	*0.69*	*0.31*				*0.00*	*0.00*	*0.00*				*0.67*	*0.61*	*0.00*				*0.53*	*0.00*	*0.38*		
	Study Area PHF:	**0.66**	**Study Area PHV:**	**0**	**0**	**157**	**11**			**0**	**0**	**0**	**0**			**0**	**8**	**78**	**0**			**0**	**17**	**0**	**3**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.69**	**0.31**				**0.00**	**0.00**	**0.00**				**0.67**	**0.61**	**0.00**				**0.53**	**0.00**	**0.38**		
PM Peak Hour	*Intersection PHF:*	*0.95*	*Intersection PHV:*	*0*	*0*	*70*	*3*			*0*	*0*	*0*	*0*			*0*	*7*	*99*	*0*			*0*	*21*	*0*	*6*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.00*	*0.83*	*0.38*				*0.00*	*0.00*	*0.00*				*0.44*	*0.92*	*0.00*				*0.75*	*0.00*	*0.50*		
	Study Area PHF:	**0.90**	**Study Area PHV:**	**0**	**0**	**59**	**1**			**0**	**0**	**0**	**0**			**0**	**5**	**102**	**0**			**0**	**5**	**0**	**5**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.92**	**0.25**				**0.00**	**0.00**	**0.00**				**0.63**	**0.85**	**0.00**				**0.63**	**0.00**	**0.63**		

Pacheco Koch

PK# 5359-22.340

FM 1141 at E QUAIL RUN ROAD

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on N JOHN KING BOULEVARD						Westbound Approach on E QUAIL RUN ROAD (NORTH LEG)						Northbound Approach on N JOHN KING BOULEVARD						Eastbound Approach on E QUAIL RUN ROAD (NORTH LEG)					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		1	89	0				2	0	1				0	75	5				0	1	0		
State:	***Texas***	**7:15 AM**	**7:30 AM**		**2**	**100**	**0**				**10**	**0**	**2**				**0**	**98**	**2**				**0**	**0**	**0**		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***135***	***0***				***11***	***0***	***0***				***0***	***113***	***6***				***0***	***0***	***0***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***4***	***191***	***1***				***11***	***0***	***3***				***0***	***134***	***6***				***0***	***0***	***0***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***2***	***160***	***0***				***6***	***0***	***3***				***0***	***117***	***7***				***0***	***0***	***0***		
Data Collector:	***Camera***	*8:15 AM*	*8:30 AM*		*0*	*133*	*1*				*8*	*0*	*0*				*0*	*106*	*5*				*0*	*0*	*2*		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		4	130	0				5	0	1				0	92	8				0	0	0		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		2	100	0				5	0	1				0	71	5				0	0	0		
Observations:																											
		3:00 PM	3:15 PM		3	135	0				7	0	2				0	71	12				0	0	0		
		3:15 PM	3:30 PM		4	96	1				2	0	1				0	92	11				1	1	1		
		3:30 PM	3:45 PM		2	103	1				10	0	1				1	103	4				0	1	1		
		3:45 PM	4:00 PM		9	157	0				6	0	2				0	116	5				0	0	0		
		4:00 PM	***4:15 PM***		***3***	***132***	***0***				***4***	***0***	***2***				***0***	***124***	***8***				***0***	***0***	***0***		
		4:15 PM	***4:30 PM***		***5***	***135***	***0***				***5***	***0***	***2***				***0***	***113***	***12***				***0***	***0***	***0***		
		4:30 PM	***4:45 PM***		***1***	***121***	***0***				***5***	***0***	***0***				***0***	***130***	***7***				***0***	***0***	***0***		
		4:45 PM	***5:00 PM***		***1***	***101***	***0***				***4***	***0***	***0***				***0***	***112***	***4***				***0***	***0***	***0***		
		5:00 PM	5:15 PM		2	121	0				4	0	0				0	131	9				0	0	0		
		5:15 PM	5:30 PM		5	110	0				7	0	3				0	143	7				0	0	0		
		5:30 PM	5:45 PM		1	123	0				8	0	1				0	97	10				0	0	0		
		5:45 PM	6:00 PM		3	134	0				6	0	1				0	116	8				0	0	0		
AM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*6*	*619*	*2*			*0*	*36*	*0*	*6*			*0*	*0*	*470*	*24*			*0*	*0*	*0*	*2*		
	Peak Hour	*7:30 AM - 8:30 AM*	*PHF:*		*0.38*	*0.81*	*0.50*				*0.82*	*0.00*	*0.50*				*0.00*	*0.88*	*0.86*				*0.00*	*0.00*	*0.25*		
	Study Area PHF:	**0.80**	**Study Area PHV:**	**0**	**8**	**586**	**1**			**0**	**38**	**0**	**8**			**0**	**0**	**462**	**21**			**0**	**0**	**0**	**0**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.50**	**0.77**	**0.25**				**0.86**	**0.00**	**0.67**				**0.00**	**0.86**	**0.75**				**0.00**	**0.00**	**0.00**		
PM Peak Hour	*Intersection PHF:*	*0.95*	*Intersection PHV:*	*0*	*11*	*488*	*0*			*0*	*25*	*0*	*5*			*0*	*0*	*487*	*34*			*0*	*0*	*0*	*0*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.55*	*0.91*	*0.00*				*0.78*	*0.00*	*0.42*				*0.00*	*0.85*	*0.85*				*0.00*	*0.00*	*0.00*		
	Study Area PHF:	**0.94**	**Study Area PHV:**	**0**	**10**	**489**	**0**			**0**	**18**	**0**	**4**			**0**	**0**	**479**	**31**			**0**	**0**	**0**	**0**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.91**	**0.00**				**0.90**	**0.00**	**0.50**				**0.00**	**0.92**	**0.65**				**0.00**	**0.00**	**0.00**		

Pacheco Koch

PK# 5359-22.340

N JOHN KING BOULEVARD at E QUAIL RUN ROAD (NORTH LEG)

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on PANHANDLE DRIVE						Westbound Approach on FM 552						Northbound Approach on PANHANDLE DRIVE						Eastbound Approach on FM 552					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	*7:00 AM*	*7:15 AM*		*0*	*0*	*0*				*1*	*79*	*0*				*6*	*0*	*0*				*0*	*63*	*2*		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***0***	***0***	***0***				***1***	***85***	***0***				***6***	***0***	***4***				***0***	***78***	***14***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***0***	***0***				***3***	***106***	***0***				***31***	***0***	***7***				***0***	***97***	***20***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***0***	***0***	***0***				***3***	***89***	***0***				***23***	***0***	***3***				***0***	***61***	***9***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***0***	***59***	***0***				***7***	***0***	***0***				***0***	***34***	***2***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	0	0				0	73	0				3	0	1				0	45	3		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	0	0				0	42	0				3	0	1				0	39	4		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		0	0	0				0	52	0				3	0	0				0	38	3		
Observations:																											
		3:00 PM	3:15 PM		0	0	0				1	46	0				27	0	8				0	56	2		
		3:15 PM	3:30 PM		0	0	0				0	48	0				5	0	0				0	43	2		
		3:30 PM	3:45 PM		0	0	0				0	42	0				4	0	1				0	45	3		
		3:45 PM	4:00 PM		0	0	0				0	40	0				8	0	1				0	70	5		
		4:00 PM	***4:15 PM***		***0***	***0***	***0***				***2***	***51***	***0***				***1***	***0***	***1***				***0***	***61***	***1***		
		4:15 PM	***4:30 PM***		***0***	***0***	***0***				***1***	***61***	***0***				***6***	***0***	***0***				***0***	***73***	***5***		
		4:30 PM	***4:45 PM***		***0***	***0***	***0***				***1***	***52***	***0***				***5***	***0***	***0***				***0***	***78***	***4***		
		4:45 PM	***5:00 PM***		***0***	***0***	***0***				***2***	***60***	***0***				***4***	***0***	***1***				***0***	***87***	***3***		
		5:00 PM	5:15 PM		0	0	0				1	56	0				2	0	1				0	68	5		
		5:15 PM	5:30 PM		0	0	0				0	58	0				5	0	0				0	85	7		
		5:30 PM	5:45 PM		0	0	0				1	42	0				6	0	0				0	85	1		
		5:45 PM	6:00 PM		0	0	0				1	61	0				2	0	2				0	67	5		
AM Peak Hour	*Intersection PHF:*	*0.75*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*8*	*359*	*0*			*0*	*66*	*0*	*14*			*0*	*0*	*299*	*45*		
	Peak Hour	*7:00 AM - 8:00 AM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.67*	*0.85*	*0.00*				*0.53*	*0.00*	*0.50*				*0.00*	*0.77*	*0.56*		
	Study Area PHF:	**0.70**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**7**	**339**	**0**			**0**	**67**	**0**	**14**			**0**	**0**	**270**	**45**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.58**	**0.80**	**0.00**				**0.54**	**0.00**	**0.50**				**0.00**	**0.70**	**0.56**		
PM Peak Hour	*Intersection PHF:*	*0.93*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*4*	*226*	*0*			*0*	*16*	*0*	*2*			*0*	*0*	*318*	*19*		
	Peak Hour	*4:30 PM - 5:30 PM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.50*	*0.94*	*0.00*				*0.80*	*0.00*	*0.50*				*0.00*	*0.91*	*0.68*		
	Study Area PHF:	**0.89**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**6**	**224**	**0**			**0**	**16**	**0**	**2**			**0**	**0**	**299**	**13**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.75**	**0.92**	**0.00**				**0.67**	**0.00**	**0.50**				**0.00**	**0.86**	**0.65**		

Pacheco Koch

PK# 5359-22.340

PANHANDLE DRIVE at FM 552

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on PANHANDLE DRIVE						Westbound Approach on TANNERSON DRIVE						Northbound Approach on PANHANDLE DRIVE						Eastbound Approach on TANNERSON DRIVE					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		2	0	0				0	0	0				0	1	0				0	3	5		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***4***	***0***	***0***				***0***	***2***	***2***				***0***	***0***	***0***				***0***	***4***	***6***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***20***	***0***	***0***				***1***	***12***	***4***				***1***	***0***	***5***				***0***	***16***	***6***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***9***	***2***	***1***				***3***	***12***	***7***				***0***	***1***	***2***				***0***	***8***	***8***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***1***	***5***	***1***				***1***	***1***	***0***				***0***	***0***	***6***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		1	1	0				0	2	1				2	0	0				0	1	5		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	1	0				0	6	1				0	0	0				0	4	3		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		1	1	2				0	0	0				0	0	0				0	6	1		
Observations:																											
		3:00 PM	3:15 PM		1	1	3				3	11	4				1	2	1				0	2	0		
		3:15 PM	3:30 PM		0	0	0				0	1	2				3	1	0				0	1	4		
		3:30 PM	3:45 PM		1	1	0				0	7	0				0	0	0				0	3	0		
		3:45 PM	4:00 PM		1	0	1				1	4	1				0	0	1				0	2	2		
		4:00 PM	***4:15 PM***		***1***	***0***	***0***				***0***	***3***	***1***				***3***	***0***	***0***				***0***	***3***	***1***		
		4:15 PM	***4:30 PM***		***3***	***1***	***1***				***0***	***7***	***2***				***5***	***1***	***0***				***0***	***3***	***2***		
		4:30 PM	***4:45 PM***		***1***	***1***	***0***				***1***	***4***	***1***				***3***	***1***	***0***				***0***	***0***	***2***		
		4:45 PM	***5:00 PM***		***1***	***1***	***1***				***0***	***8***	***2***				***1***	***0***	***0***				***2***	***0***	***2***		
		5:00 PM	5:15 PM		2	2	3				0	2	1				1	1	0				0	1	2		
		5:15 PM	5:30 PM		4	0	0				0	2	2				1	0	0				0	3	2		
		5:30 PM	5:45 PM		0	0	1				0	5	3				1	0	0				1	2	3		
		5:45 PM	6:00 PM		1	1	0				0	5	0				2	0	0				0	1	1		
AM Peak Hour	*Intersection PHF:*	*0.58*	*Intersection PHV:*	*0*	*33*	*2*	*1*			*0*	*5*	*31*	*14*			*0*	*2*	*2*	*7*			*0*	*0*	*28*	*26*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.41*	*0.25*	*0.25*				*0.42*	*0.65*	*0.50*				*0.50*	*0.50*	*0.35*				*0.00*	*0.44*	*0.81*		
	Study Area PHF:	**0.58**	**Study Area PHV:**	**0**	**33**	**2**	**1**			**0**	**5**	**31**	**14**			**0**	**2**	**2**	**7**			**0**	**0**	**28**	**26**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.41**	**0.25**	**0.25**				**0.42**	**0.65**	**0.50**				**0.50**	**0.50**	**0.35**				**0.00**	**0.44**	**0.81**		
PM Peak Hour	*Intersection PHF:*	*0.72*	*Intersection PHV:*	*0*	*7*	*5*	*5*			*0*	*1*	*21*	*6*			*0*	*10*	*3*	*0*			*0*	*2*	*4*	*8*		
	Peak Hour	*4:15 PM - 5:15 PM*	*PHF:*		*0.58*	*0.63*	*0.42*				*0.25*	*0.66*	*0.75*				*0.50*	*0.75*	*0.00*				*0.25*	*0.33*	*1.00*		
	Study Area PHF:	**0.69**	**Study Area PHV:**	**0**	**6**	**3**	**2**			**0**	**1**	**22**	**6**			**0**	**12**	**2**	**0**			**0**	**2**	**6**	**7**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.75**	**0.50**				**0.25**	**0.69**	**0.75**				**0.60**	**0.50**	**0.00**				**0.25**	**0.50**	**0.88**		

ROADWAY: FM 1141
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

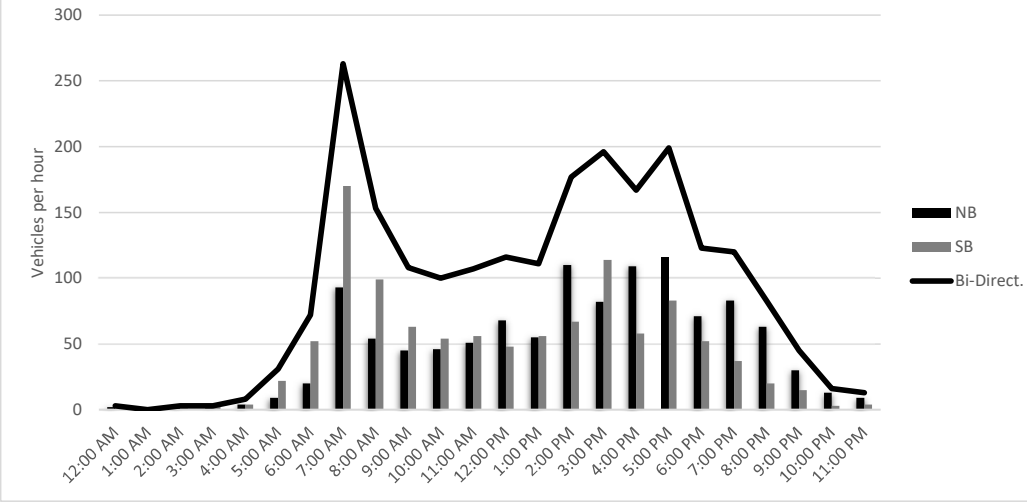
24-HOUR, BI-DIRECTIONAL VOLUME
2,217
(WEEKDAY)

FM 1141

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	1	0	0	1	1	0	0	0	2	1	3
1:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	2	0	0	1	0	0	0	2	1	3
3:00 AM	0	0	1	0	0	0	1	1	1	2	3
4:00 AM	3	0	0	1	0	2	1	1	4	4	8
5:00 AM	0	3	2	4	3	6	5	8	9	22	31
6:00 AM	2	2	5	11	8	12	13	19	20	52	72
7:00 AM	11	25	34	23	17	30	62	61	93	170	263
8:00 AM	15	9	14	16	22	26	21	30	54	99	153
9:00 AM	11	13	12	9	19	14	13	17	45	63	108
10:00 AM	14	10	13	9	13	11	19	11	46	54	100
11:00 AM	8	14	17	12	14	13	18	11	51	56	107
12:00 PM	14	21	15	18	10	20	9	9	68	48	116
1:00 PM	19	15	11	10	15	16	8	17	55	56	111
2:00 PM	25	17	25	43	18	12	17	20	110	67	177
3:00 PM	15	26	25	16	44	19	24	27	82	114	196
4:00 PM	22	31	26	30	17	12	15	14	109	58	167
5:00 PM	27	29	32	28	18	21	25	19	116	83	199
6:00 PM	30	11	14	16	13	14	14	11	71	52	123
7:00 PM	31	18	16	18	6	16	8	7	83	37	120
8:00 PM	18	15	13	17	6	9	3	2	63	20	83
9:00 PM	13	2	8	7	4	5	2	4	30	15	45
10:00 PM	3	3	4	3	2	0	1	0	13	3	16
11:00 PM	5	2	1	1	1	2	0	1	9	4	13

			NB	SB	Bi-Direct.
		24-Hour Total:	1,136	1,081	2,217
7:15 AM	8:15 AM	(Bi-Direct.) AM Peak Hour Total:	97	175	272
2:45 PM	3:45 PM	(Bi-Direct.) PM Peak Hour Total:	109	107	216
5:15 PM	6:15 PM	Highest By Direction (NB):	119		
7:15 AM	8:15 AM	Highest By Direction (SB):		175	

Graph



PK# 5359-22.340

Pacheco Koch

ROADWAY: N JOHN KING BOULEVARD
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

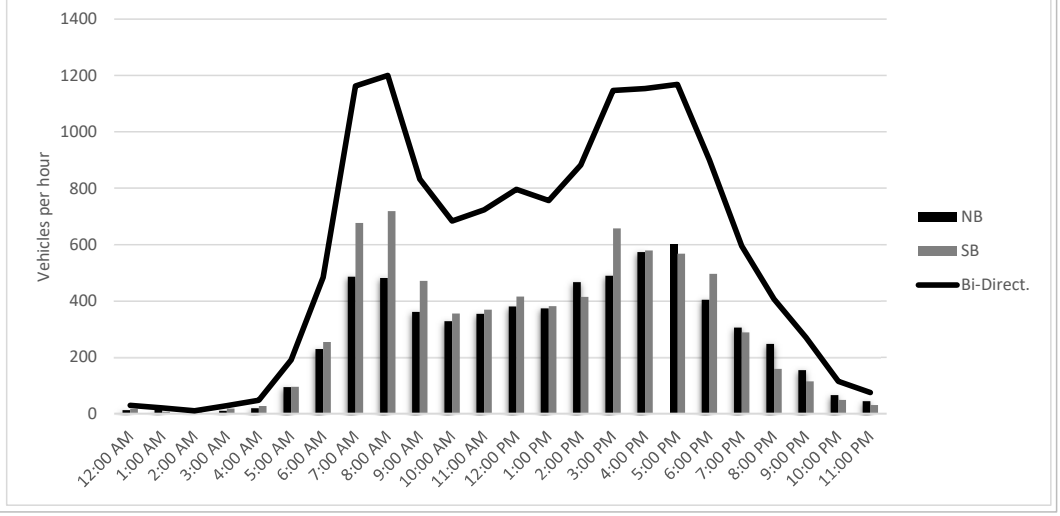
24-HOUR, BI-DIRECTIONAL VOLUME
13,679
(WEEKDAY)

N JOHN KING BOULEVARD

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	3	5	3	2	5	4	4	4	13	17	30
1:00 AM	3	5	2	4	0	2	2	3	14	7	21
2:00 AM	2	0	1	2	0	0	2	3	5	5	10
3:00 AM	1	2	4	4	7	6	3	2	11	18	29
4:00 AM	3	3	4	10	2	4	10	12	20	28	48
5:00 AM	17	20	22	36	19	24	22	31	95	96	191
6:00 AM	40	65	67	58	32	64	63	95	230	254	484
7:00 AM	88	110	134	154	109	142	184	242	486	677	1163
8:00 AM	144	137	109	91	211	196	176	136	481	719	1200
9:00 AM	85	100	86	90	107	124	132	108	361	471	832
10:00 AM	86	91	79	72	100	76	74	106	328	356	684
11:00 AM	78	74	94	108	94	94	95	86	354	369	723
12:00 PM	72	108	90	110	88	104	126	98	380	416	796
1:00 PM	92	115	89	78	101	100	95	86	374	382	756
2:00 PM	86	122	130	129	86	115	112	102	467	415	882
3:00 PM	96	117	130	146	170	128	122	238	489	658	1147
4:00 PM	144	150	148	132	152	170	136	121	574	579	1153
5:00 PM	160	176	126	138	130	144	138	156	600	568	1168
6:00 PM	122	104	94	84	133	125	128	110	404	496	900
7:00 PM	76	94	62	74	85	90	57	57	306	289	595
8:00 PM	66	60	66	56	42	48	30	39	248	159	407
9:00 PM	41	46	48	20	43	26	24	22	155	115	270
10:00 PM	17	17	17	15	13	12	16	8	66	49	115
11:00 PM	12	16	10	6	8	8	7	8	44	31	75

			NB	SB	Bi-Direct.
		24-Hour Total:	6,505	7,174	13,679
7:30 AM	8:30 AM	(Bi-Direct.) AM Peak Hour Total:	569	833	1,402
3:45 PM	4:45 PM	(Bi-Direct.) PM Peak Hour Total:	588	696	1,284
4:30 PM	5:30 PM	Highest By Direction (NB):	616		
7:30 AM	8:30 AM	Highest By Direction (SB):		833	

Graph



PK# 5359-22.340

Pacheco Koch

ROADWAY: FM 552
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

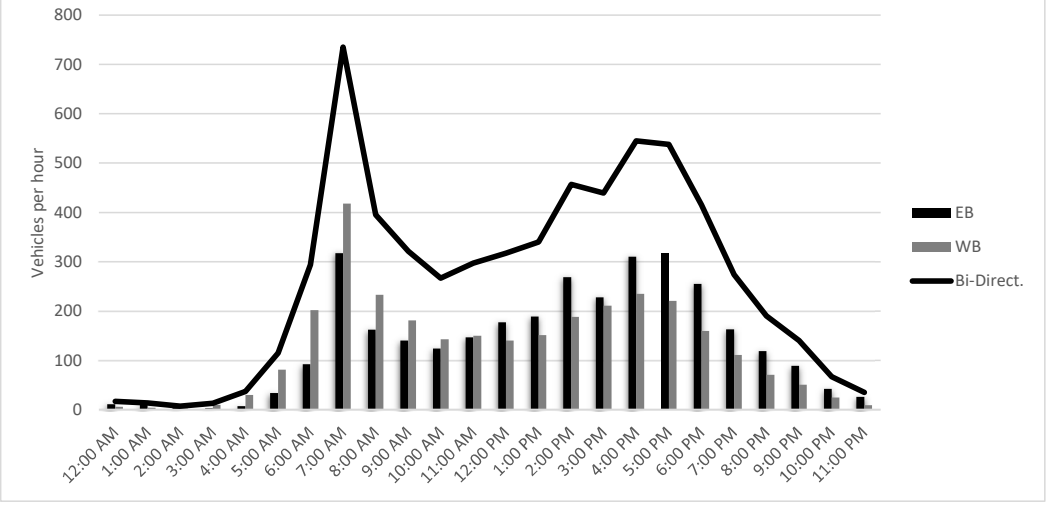
24-HOUR, BI-DIRECTIONAL VOLUME
6,269
(WEEKDAY)

FM 552

	Eastbound				Westbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	EB	WB	Bi-Direct.
12:00 AM	4	3	2	2	2	1	3	0	11	6	17
1:00 AM	5	3	1	1	0	1	2	1	10	4	14
2:00 AM	1	0	1	2	0	0	1	2	4	3	7
3:00 AM	2	0	1	0	1	1	4	4	3	10	13
4:00 AM	0	0	6	1	7	3	9	11	7	30	37
5:00 AM	8	7	9	10	8	15	26	32	34	81	115
6:00 AM	19	9	26	38	30	49	59	64	92	202	294
7:00 AM	62	87	106	62	80	96	134	108	317	418	735
8:00 AM	33	50	39	40	64	73	45	51	162	233	395
9:00 AM	33	38	40	29	47	48	43	43	140	181	321
10:00 AM	30	28	24	42	39	34	37	33	124	143	267
11:00 AM	34	32	37	44	22	43	39	46	147	150	297
12:00 PM	34	52	51	40	38	26	41	35	177	140	317
1:00 PM	34	46	58	51	46	41	30	34	189	151	340
2:00 PM	53	68	73	75	43	46	35	64	269	188	457
3:00 PM	60	43	49	76	66	50	49	46	228	211	439
4:00 PM	59	75	87	89	54	64	55	62	310	235	545
5:00 PM	73	93	81	70	56	58	47	60	317	221	538
6:00 PM	75	62	58	60	53	39	36	32	255	160	415
7:00 PM	46	47	35	35	38	32	27	14	163	111	274
8:00 PM	38	28	24	29	16	23	15	17	119	71	190
9:00 PM	24	26	25	14	21	7	9	14	89	51	140
10:00 PM	13	12	10	7	9	7	2	7	42	25	67
11:00 PM	5	9	7	5	2	0	4	3	26	9	35

			EB	WB	Bi-Direct.
		24-Hour Total:	3,235	3,034	6,269
7:00 AM	8:00 AM	(Bi-Direct.) AM Peak Hour Total:	317	418	735
4:30 PM	5:30 PM	(Bi-Direct.) PM Peak Hour Total:	342	231	573
4:30 PM	5:30 PM	Highest By Direction (EB):	342		
7:00 AM	8:00 AM	Highest By Direction (WB):		418	

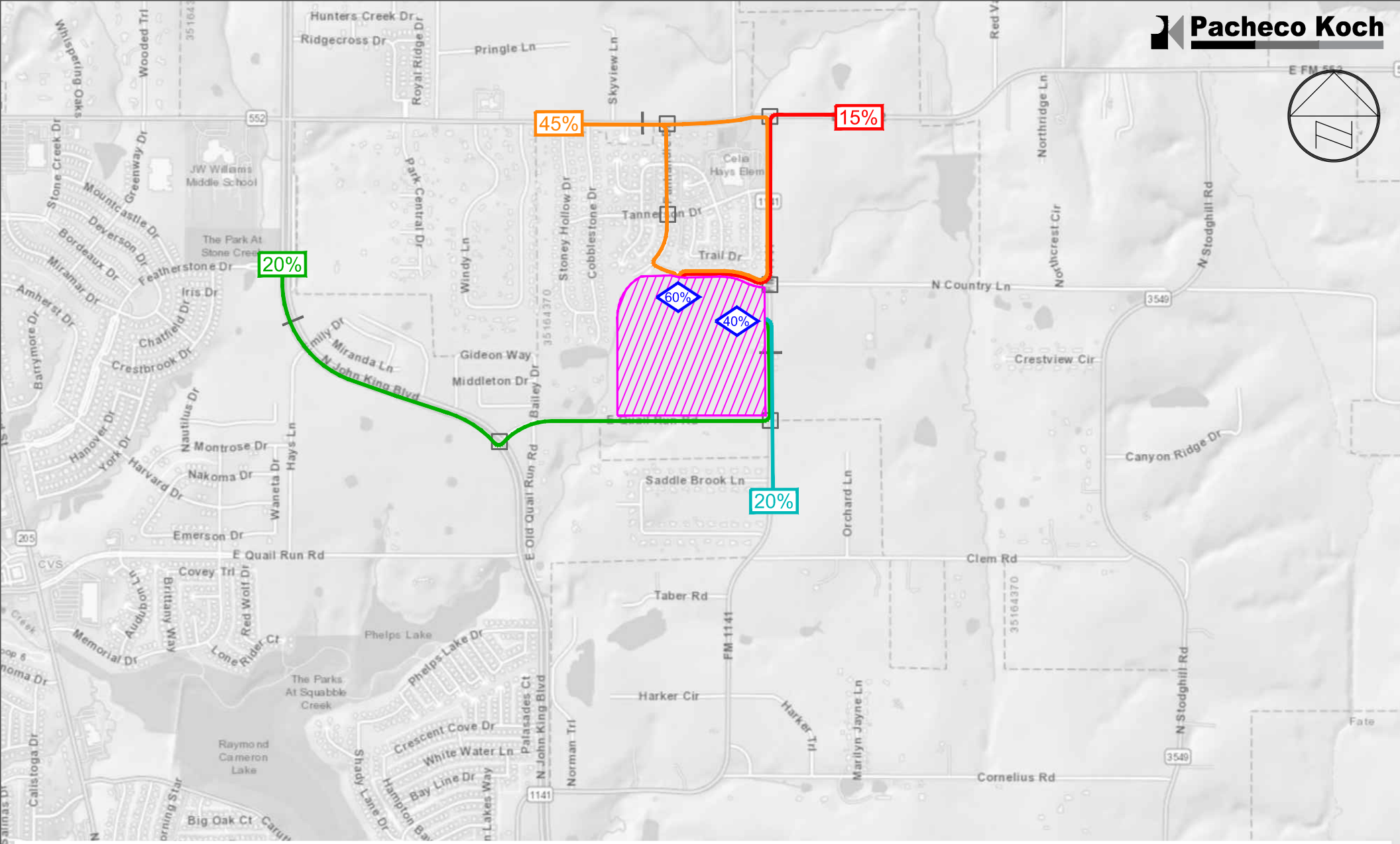
Graph



PK# 5359-22.340

Pacheco Koch

Appendix C. Site-Generated Traffic Supplement



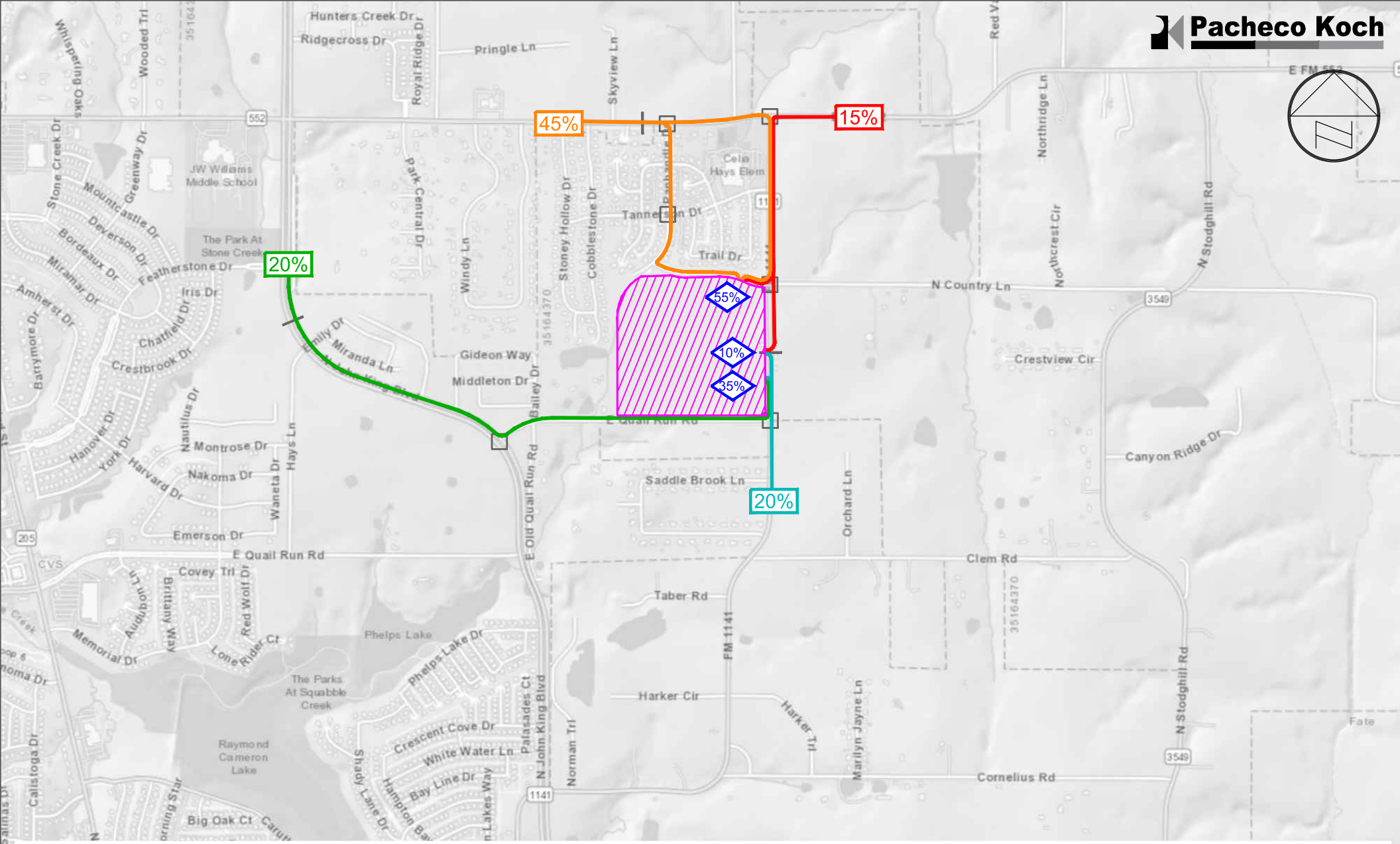
- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Parent Vehicles (Inbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C1**



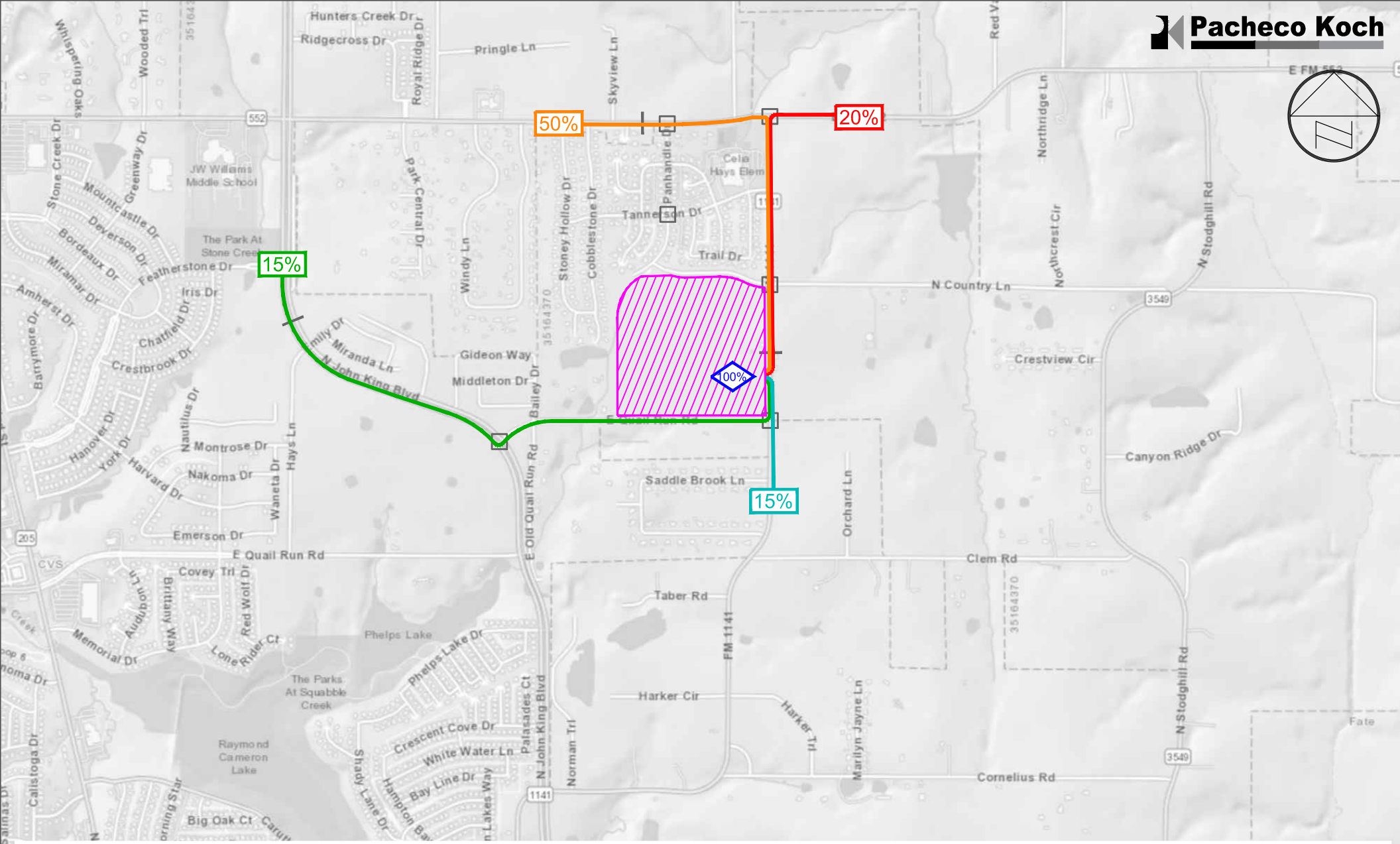
- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Parent Vehicles (Outbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C2**

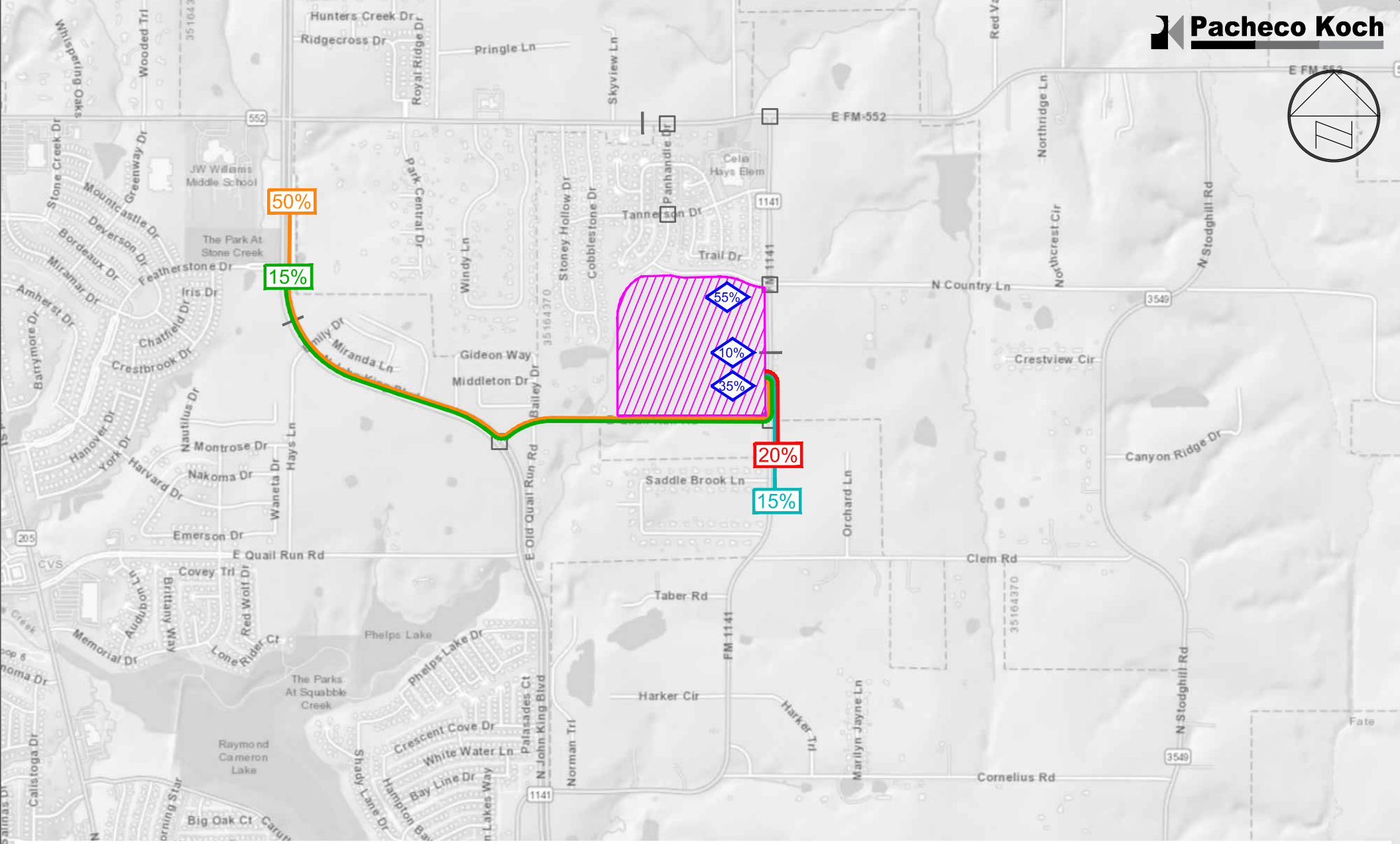


Site Generated Trip Distribution - Buses (Inbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C3**



- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Buses (Outbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C4**

Trip Generation

The two sources for the trip generation rates used to estimate the future generation potential of the proposed new Rockwall Ninth Grade Center are as follows:

Given the regional attendance zone for the proposed new Rockwall Ninth Grade Center, its location at the northern fringe of the urbanized area of the City of Rockwall, located at center of the Rockwall Independent School District, and the location of existing schools in the school district, trip generation by the Rockwall Ninth Grade Center facility does not fit the description of the ITE Code 520 – Public School land use provided by the Institute of Transportation Engineers (ITE) Trip Generation data, graphs, and formulae. Therefore, trip generation will be based on the following assumptions utilizing data from the current high school Rockwall HS and Rockwall-Heath HS (utilizing current enrollment and ridership) (1) the critical peak trip generation in terms of both capacity and efficiency of travel will occur during the A.M. peak hour, which coincide with the morning peak hour background traffic; currently the school start time is 8:40 am with dismissal at 3:50 pm (2) only students arrivals will be considered since staff trips will occur before the peak of students arrival trips; (3) the District currently runs 14 buses (last semester 17 buses served the campus) with a current ridership of approximately 442 student (last semester has a ridership of 517 student with 218 freshman) with an approximate student population of 2,872 students; of the 442 riders, 218 were Freshman students or a freshman ridership of 42.1%; Freshman students that utilize bus transportation outside the 2 mile walk zone is accepted; to be conservative, a higher value of 45% will be used for the study due to siblings not being able ride together and Freshman not being able to ride with friends; (4) the District's current number of Freshman students being drop off by parent vehicles are approximately 332, 1.4 students per vehicle 237 trips, with an approximate Freshman student population of 788 student or 42.1% of students being dropped off; without pedestrian traffic and friends and sibling being able to provide transportation for a freshman student to a higher the value of 55% will be used for the study; (5) the District's projection that only 5% of students currently are pedestrian traffic (40 students) within the 2 mile walk zone is accepted; a value of 0% is used for the study; however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic.. (6) entering and exiting trip ends will be equal since the only logical exception would be attending students who are children of school staff; (7) average occupancy will be 1.4 students per passenger car or van; average bus load will be assumed to be 35 students; (8) Buses will access site by way of Approach #2 - the south approach off of Farm to Market 1141 (FM 1141).

Morning peak traffic generation will be similar, but without the need to consider the morning peak hour background traffic or will be less due to arrival times being more staggered. Also, it is typically observed that parents and others providing non-bus transportation for the current high school students commonly arrive up to thirty to forty-five minutes in advance of school start time. These varied arrival times tend to mitigate the traffic impact of, at least, the entering trip end, while the exiting trip end more closely resembles the P.M. peak situation.

Proposed Rockwall Ninth Grade Center Transportation projections. (Full Build Out)

Inbound A.M. peak hour trip ends generated by the proposed new Rockwall Ninth Grade Center is calculated as follows for passenger cars and buses accessing the site by way of Farm to Market 1141 (FM 1141):

Proposed Rockwall Ninth Grade Center Transportation projections. (At full capacity)

1,000 students	x	45.0%	= 450 students by bus (13 Buses)
1,000 students	x	55.0%	= 550 students by parent
1,000 students	x	0%	= 0 pedestrian traffic

Inbound A.M. peak hour trip ends by school buses accessing site are calculated as:

1,000 students x 0.45 by bus mode / 35 students average per bus = 12.9 (13) trip ends (bus)

Inbound A.M. peak hour trip ends by non-bus mode Freshman students' personal vehicles accessing site are calculated as:

1,000 Freshman Students x 0.55 non-bus mode / 1.4 students per vehicle = 393 trip ends (cars/vans)

Inbound A.M. peak hour trip ends by non-bus mode parents accessing site are calculated as:

1,000 students x 0.05 non-bus mode / pedestrian traffic = 0 (walkers)

It is assumed that 0% of the students will come from within the 2-mile walking zone and however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic.

Proposed Rockwall Ninth Grade Center Transportation projections. (On opening day 2024)

(Current 8th grade Enrollment 2022 1,424 Students)

(Current 7th grade Enrollment 2022 1,371 Students)

(Current 6th grade Enrollment 2022 1,381 Students)

700 Freshman Students	x	45.0%	= 315 students by bus (9 Buses)
700 Freshman Students	x	55.0%	= 385 students by parent
700 Freshman Students	x	0%	= 0 pedestrian traffic

The assumption above is made utilizing the current enrollment data and projected growth.
Source: Rockwall Independent School District

Inbound A.M. peak hour trip ends by school buses accessing site are calculated as:

700 Freshman Students x 0.35 by bus mode / 35 students average per bus = 9 (9) trip ends (bus)

Inbound A.M. peak hour trip ends by non-bus mode students' personal vehicles accessing site are calculated as:

700 Freshman Students x 0.60 non-bus mode / 1.4 students per vehicle = 275 trip ends (cars/vans)

Inbound A.M. peak hour trip ends by non-bus mode parents accessing site are calculated as:

700 Freshman Students x 0.05 non-bus mode / pedestrian traffic = 0 (walkers)

It is assumed that 0% of the students will come from within the 2-mile walking zone and however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic. The Dalton Ranch, Stoney Hollow and Saddlebrook Subdivision have considered the pedestrian traffic to the school and provided sidewalks leading to the school site. Also, the neighborhood around Nelson Lake will need to have sidewalk access to the school in the future.

Trip Distribution

The following assumptions are made regarding trip distribution:

(1) All of the morning peak hour inbound Ninth grade, all parent vehicular access to the site will access the site in two locations. Parents north bound on Farm to Market 1141 (FM 1141) will utilize Approach #1 the most southern approach and use and continue to the student drop off lane. This student drop-off lane is intended to be a one-way single / partial double stack loop for student drop-off and pick-up. Parents will exit the student drop lane and exit via the same direction southbound from Approach #2 the southern middle approach where they can make, and right or left hand turn back onto Farm to Market 1141 (FM 1141). The same process will hold true in the afternoon departing traffic flow.

(2) Parents southbound on Farm to Market 1141 (FM 1141) will utilize Approach #3 - center approach via the new left-hand lane and turn left into the site and continue to the student drop-off lane. This student drop-off lane is intended to be a one-way double stack loop for student drop-off and pick-up in front of the new Rockwall Ninth Grade Center. Parents will exit the student drop lane and exit via Approach #4 northern middle approach where they can make a right or left hand turn back onto Farm to Market 1141 (FM 1141). The same process will hold true in the afternoon departing traffic flow.

(3) It will be further assumed that all minibuses, school buses, HC Buses and service traffic will enter the site both Northbound and southbound off Farm to Market 1141 (FM 1141) and will utilize Approach #4 the most northern middle approach and continue to the bus drop off loop around the back of the school. The buses will also exit back onto Farm to Market 1141 (FM 1141) but will be limited to only a right hand turn only. This bus loop is intended to be a one-way single stack parking lot for approximately 18 buses for student drop-off and pick-up. This bus traffic is not intended to mix with parent traffic except at the entrance and exit locations on site. This is the only location where school traffic and bus traffic occur in the same location.

(4) Given the location of this site, for this analysis, it shall be assumed that there will be 5% pedestrian traffic. As residential communities develop around the new Rockwall Ninth Grade Center facility, the pedestrian traffic is anticipated to increase from the growth in new and existing Dalton Ranch, Stoney Hollow and Saddlebrook Subdivision have considered the pedestrian traffic to the school and provided sidewalks leading to the school site. Also, the neighborhood around Nelson Lake will need to have sidewalk access to the school in the future.

(5) No internal trips are anticipated.

Distribution of these trips is as Follows:

40% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
60% of vehicular traffic (parent) will be Southbound on Farm to Market 1141 (FM 1141).

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141).
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141).

0% of pedestrian traffic (student) will be utilizing sidewalks off Farm to Market 1141 (FM 1141).

1,000 students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 157.1 (158) trip ends (cars/vans) Northbound on Farm to Market 1141 (FM 1141). (Left turn into Approach #4 - Northerly Entrance)

1,000 students x 55% x 60% Vehicular Traffic (1.4 students per vehicle) = 235.7 (236) trip ends (cars/vans) Southbound on Farm to Market 1141 (FM 1141). (Left turn into North Country Lane) enter through Approach #6 west approach on North Country Lane

13 buses x 45% x 30% Bus (35 students per Bus) = 4 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). (Right Turn Only into approach #4)

13 buses x 45% x 70% Bus (35 students per Bus) = 9 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Left Turn into Approach #4)

Afternoon peak traffic generation will be similar, but without the need to consider the P.M. peak hour background traffic or will be less if dismissal times by grade are staggered. Also, it is typically observed that parents and others providing non-bus transportation for Rockwall Ninth Grade Center students commonly arrive up to one-half hour to forty- five minutes in advance of dismissal time which tends to mitigate the traffic impact of, at least, the entering trip end, while the exiting trip end more closely resembles the A.M. peak situation. Likewise, school buses typically arrive early and over a period of time to be ready to receive the students at dismissal. Buses will be allowed to depart prior to the parents.

Route Assignment – Split by inbound Direction

Total trip generation for the afternoon peak traffic period was determined to be 232 car ends entering and 290 is study as stated above, route assignment for afternoon inbound trips only will be addressed. Using the trip distribution assumptions above, route assignment of all afternoon peak entering trips is expected to be as follows:

Ninth grade northbound would be assigned to the front pick area on the south side of the main entrance and Ninth grade southbound would be assigned to the front pick on the north side of the main entrance. This would equate to a 50/50split at the front drop off area at build out between the two drop off and pick areas enter the site, both from southbound and northbound off of Farm to Market 1141 (FM 1141), double stack thru the student drop-off and pick up lanes and exit one way from the student lane back onto north south drive (one-way student drop-off lane). It is anticipated that both exiting lanes will split 90% northbound and 90% southbound on exiting the site. The 10% is for those who are not compliant or follow the design intent.

Total Vehicles = 392
60% 235.7 (236) car trips into the north pick up area
40% 157.1 (158) car trips into the north pickup area.

All bus traffic will and enter and exit the site off Farm to Market 1141 (FM 1141). through Approach #2 and will not conflict with non-bus traffic, except onsite. Buses single stack thru the bus drop-off and pick up lane and exit one way from the bus lane back onto Farm to Market 1141 (FM 1141). This exit will be limited to a left hand turn only. (One-way bus pick-up and drop-off lane).

Inbound 9 bus trips southbound from Farm to Market 1141 (FM 1141).
Inbound 4 bus trips northbound only onto Farm to Market 1141 (FM 1141).)
Outbound 13 bus trips northbound only onto Farm to Market 1141 (FM 1141).
(All through Approach #2)

This plan is to be designed to for vehicular traffic to be split by direction of travel off of Farm to Market 1141 (FM 1141). With 40% of the northbound traffic turning into Approach #4 and exiting through Approaches #2 and #3.

With 60% of the southbound traffic turning into North Country Lane and utilizing Approaches #5 and #6 of the same traffic turning into Approach #6.

Distribution of these trips is as Follows:

40% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
60% of vehicular traffic (parent) will be Southbound on North Country Lane

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141)
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141)

0% of pedestrian traffic (student).

1,000 Freshman Students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 158 trip ends (cars/vans) Northbound on Farm to Market 1141 (FM 1141).
100% Left turn into Approach #4 = 158 trip ends
80% right turn Exit southbound Approach #2 = 126 trip ends
20% left turn Exit northbound Approach #3 = 32 trip ends

1,000 Freshman Students x 55% x 60% Vehicular Traffic (1.4 students per vehicle = 236 trip ends (cars/vans) Southbound on Farm to Market 1141 (FM 1141) to North Country Lane.
90% Left turn into west Entrance off North Country Lane Approach #5 = 212 trip ends
10% Right turn into West Entrance off North Country Lane Approach #5 = 24 trip ends
90% Right turn from East Exit onto North Country Lane Approach #6 = 212 trip ends
10% Left turn from East Exit onto North Country Lane Approach #6 = 24 trip ends

9 buses x 60% Bus (35 students per Bus) = 5 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Right Turn) Approach #2 Inbound
4 buses x 60% Bus (35 students per Bus) = 8 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141) (Left Turn) Approach #2 Inbound

13 buses x 60% Bus (35 students per Bus) =10 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). Parkway (Left Turn) Approach #2 Outbound

Opening Day Site Access Distribution of these trips is as Follows:

700 Freshman Students x 45.0% = 315 students by bus (9 Buses)
700 Freshman Students x 55.0% = 385 students by parent (275 trips)
700 Freshman Students x 0% = 0 pedestrian traffic

The assumption above is made utilizing the current enrollment data and projected growth.
Source: Rockwall Independent School District

35% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
65% of vehicular traffic (parent) will be Southbound on Farm to Market 1141 (FM 1141)

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141)
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141)

0% of pedestrian traffic (student)

700 Freshman Students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 96 trip ends
(cars/vans) Northbound on Farm to Market 1141 (FM 1141).
100% Left turn into Approach #4 = 96 trip ends
80% right turn Exit southbound Approach #2 = 20 trip ends
20% left turn Exit northbound Approach #3 = 76 trip ends

700 Freshman Students x 55% x 60% Vehicular Traffic (1.4 students per vehicle = 179 trip ends (cars/vans)
Southbound on Farm to Market 1141 (FM 1141) to North Country Lane.

90% Left turn into west Entrance off North Country Lane Approach #5 = 161 trip ends
10% Right turn into West Entrance off North Country Lane Approach #5 = 18 trip ends
90% Right turn from East Exit onto North Country Lane Approach #6 = 161 trip ends
10% Left turn from East Exit onto North Country Lane Approach #6 = 18 trip ends

7buses x 60% Bus (35 students per Bus) = 5 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Right Turn) Approach #2 Inbound
2 buses x 60% Bus (35 students per Bus) = 8 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141) (Left Turn) Approach #2 Inbound

9 buses x 60% Bus (35 students per Bus) =10 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). Parkway (Left Turn) Approach #2 Outbound

Appendix D. Detailed Intersection Capacity Analysis Results

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	26	5	31	14	2	2	7	33	2	1
Future Vol, veh/h	0	28	26	5	31	14	2	2	7	33	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	28	5	34	15	2	2	8	36	2	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.2	6.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	0%	10%	92%
Vol Thru, %	18%	52%	62%	6%
Vol Right, %	64%	48%	28%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	54	50	36
LT Vol	2	0	5	33
Through Vol	2	28	31	2
RT Vol	7	26	14	1
Lane Flow Rate	12	59	54	39
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.062	0.059	0.047
Departure Headway (Hd)	3.813	3.776	3.92	4.305
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	932	945	911	829
Service Time	1.864	1.813	1.956	2.347
HCM Lane V/C Ratio	0.013	0.062	0.059	0.047
HCM Control Delay	6.9	7.1	7.2	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.2	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	140	51	239	96	20
Future Vol, veh/h	166	140	51	239	96	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	152	55	260	104	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	332	0	626	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1227	-	448	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1227	-	425	783
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	663	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	461	-	-	1227	-
HCM Lane V/C Ratio	0.274	-	-	0.045	-
HCM Control Delay (s)	15.7	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	2	31	4	3	15	7	87	5	7	141	0
Future Vol, veh/h	0	2	31	4	3	15	7	87	5	7	141	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	34	4	3	16	8	95	5	8	153	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	292	285	153	301	283	98	153	0	0	100	0	0
Stage 1	169	169	-	114	114	-	-	-	-	-	-	-
Stage 2	123	116	-	187	169	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	660	624	893	651	626	958	1428	-	-	1493	-	-
Stage 1	833	759	-	891	801	-	-	-	-	-	-	-
Stage 2	881	800	-	815	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	640	617	893	619	618	958	1428	-	-	1493	-	-
Mov Cap-2 Maneuver	640	617	-	619	618	-	-	-	-	-	-	-
Stage 1	828	754	-	886	796	-	-	-	-	-	-	-
Stage 2	857	795	-	777	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.5	0.5	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1428	-	-	869	816	1493	-	-
HCM Lane V/C Ratio	0.005	-	-	0.041	0.029	0.005	-	-
HCM Control Delay (s)	7.5	0	-	9.3	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	3	8	78	157	11
Future Vol, veh/h	17	3	8	78	157	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	3	9	85	171	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	280	177	183	0	-	0
Stage 1	177	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	710	866	1392	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	705	866	1392	-	-	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1392	-	725	-	-
HCM Lane V/C Ratio	0.006	-	0.03	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	8	462	21	8	586
Future Vol, veh/h	38	8	462	21	8	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	9	502	23	9	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1157	502	0	0	502	0
Stage 1	502	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	217	569	-	-	1062	-
Stage 1	608	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	215	569	-	-	1062	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	215	569	1062	-
HCM Lane V/C Ratio	-	-	0.192	0.015	0.008	-
HCM Control Delay (s)	-	-	25.7	11.4	8.4	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	45	7	339	67	14
Future Vol, veh/h	270	45	7	339	67	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	293	49	8	368	73	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	342	0	702	318
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1217	-	404	723
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1217	-	401	723
Mov Cap-2 Maneuver	-	-	-	-	401	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	683	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	1217	-
HCM Lane V/C Ratio	0.203	-	-	0.006	-
HCM Control Delay (s)	15.4	-	-	8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	7	1	22	6	12	2	0	6	3	2
Future Vol, veh/h	2	6	7	1	22	6	12	2	0	6	3	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	8	1	24	7	13	2	0	7	3	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.8	7	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	13%	3%	55%
Vol Thru, %	14%	40%	76%	27%
Vol Right, %	0%	47%	21%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	15	29	11
LT Vol	12	2	1	6
Through Vol	2	6	22	3
RT Vol	0	7	6	2
Lane Flow Rate	15	16	32	12
Geometry Grp	1	1	1	1
Degree of Util (X)	0.018	0.017	0.034	0.013
Departure Headway (Hd)	4.197	3.753	3.877	4.028
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	854	955	925	889
Service Time	2.216	1.77	1.892	2.049
HCM Lane V/C Ratio	0.018	0.017	0.035	0.013
HCM Control Delay	7.3	6.8	7	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	30	19	198	32	35
Future Vol, veh/h	253	30	19	198	32	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	33	21	215	35	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	308	0	549	292
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1253	-	497	747
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1253	-	488	747
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	596	-	-	1253	-
HCM Lane V/C Ratio	0.122	-	-	0.016	-
HCM Control Delay (s)	11.9	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	7	3	3	5	9	95	7	8	48	0
Future Vol, veh/h	1	2	7	3	3	5	9	95	7	8	48	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	8	3	3	5	10	103	8	9	52	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	201	201	52	202	197	107	52	0	0	111	0	0
Stage 1	70	70	-	127	127	-	-	-	-	-	-	-
Stage 2	131	131	-	75	70	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	757	695	1016	756	699	947	1554	-	-	1479	-	-
Stage 1	940	837	-	877	791	-	-	-	-	-	-	-
Stage 2	873	788	-	934	837	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	743	686	1016	741	690	947	1554	-	-	1479	-	-
Mov Cap-2 Maneuver	743	686	-	741	690	-	-	-	-	-	-	-
Stage 1	933	832	-	871	785	-	-	-	-	-	-	-
Stage 2	858	782	-	919	832	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.5	0.6	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	897	804	1479	-	-
HCM Lane V/C Ratio	0.006	-	-	0.012	0.015	0.006	-	-
HCM Control Delay (s)	7.3	0	-	9.1	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	102	59	1
Future Vol, veh/h	5	5	5	102	59	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	5	111	64	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	186	65	65	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	803	999	1537	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	801	999	1537	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1537	-	889	-	-
HCM Lane V/C Ratio	0.004	-	0.012	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	4	479	31	10	489
Future Vol, veh/h	18	4	479	31	10	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	4	521	34	11	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1075	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	243	555	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	240	555	-	-	1045	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	240	555	1045	-
HCM Lane V/C Ratio	-	-	0.082	0.008	0.01	-
HCM Control Delay (s)	-	-	21.3	11.5	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	299	13	6	224	16	2
Future Vol, veh/h	299	13	6	224	16	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	325	14	7	243	17	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	339	0	589	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1220	-	471	710
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1220	-	468	710
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	486	-	-	1220	-
HCM Lane V/C Ratio	0.04	-	-	0.005	-
HCM Control Delay (s)	12.7	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	26	5	31	14	2	10	7	33	19	1
Future Vol, veh/h	0	28	26	5	31	14	2	10	7	33	19	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	28	5	34	15	2	11	8	36	21	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.3	7.1	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	10%	62%
Vol Thru, %	53%	52%	62%	36%
Vol Right, %	37%	48%	28%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	54	50	53
LT Vol	2	0	5	33
Through Vol	10	28	31	19
RT Vol	7	26	14	1
Lane Flow Rate	21	59	54	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.023	0.062	0.06	0.068
Departure Headway (Hd)	3.973	3.821	3.965	4.258
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	893	930	897	837
Service Time	2.031	1.874	2.017	2.305
HCM Lane V/C Ratio	0.024	0.063	0.06	0.069
HCM Control Delay	7.1	7.1	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2	0.2

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	283	105	239	162	45
Future Vol, veh/h	166	283	105	239	162	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	308	114	260	176	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	488	0	822	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1075	-	344	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1075	-	301	708
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	540	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	33.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	1075	-
HCM Lane V/C Ratio	0.654	-	-	0.106	-
HCM Control Delay (s)	33.2	-	-	8.7	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	4.4	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	2	31	4	3	15	7	95	5	7	150	188
Future Vol, veh/h	83	2	31	4	3	15	7	95	5	7	150	188
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	2	34	4	3	16	8	103	5	8	163	204

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	412	405	265	421	505	106	367	0	0	108	0	0
Stage 1	281	281	-	122	122	-	-	-	-	-	-	-
Stage 2	131	124	-	299	383	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	550	535	774	543	470	948	1192	-	-	1483	-	-
Stage 1	726	678	-	882	795	-	-	-	-	-	-	-
Stage 2	873	793	-	710	612	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	532	528	774	513	463	948	1192	-	-	1483	-	-
Mov Cap-2 Maneuver	532	528	-	513	463	-	-	-	-	-	-	-
Stage 1	721	673	-	876	789	-	-	-	-	-	-	-
Stage 2	849	787	-	672	608	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	10.1	0.5	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1192	-	-	580	731	1483	-	-
HCM Lane V/C Ratio	0.006	-	-	0.217	0.033	0.005	-	-
HCM Control Delay (s)	8	-	-	12.9	10.1	7.4	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	3	8	148	190	44
Future Vol, veh/h	87	3	8	148	190	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	3	9	161	207	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	410	231	255	0	-	0
Stage 1	231	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	598	808	1310	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	594	808	1310	-	-	-
Mov Cap-2 Maneuver	647	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1310	-	651	-	-
HCM Lane V/C Ratio	0.007	-	0.15	-	-
HCM Control Delay (s)	7.8	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	41	462	21	78	586
Future Vol, veh/h	38	41	462	21	78	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	45	502	23	85	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1309	502	0	0	502	0
Stage 1	502	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	176	569	-	-	1062	-
Stage 1	608	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	569	-	-	1062	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	404	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.9	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	162	569	1062	-
HCM Lane V/C Ratio	-	-	0.255	0.078	0.08	-
HCM Control Delay (s)	-	-	34.7	11.9	8.7	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1	0.3	0.3	-

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	413	62	7	405	75	14
Future Vol, veh/h	413	62	7	405	75	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	449	67	8	440	82	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	516	0	939	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	456	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1050	-	293	584
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1050	-	291	584
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	633	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	-	-	1050	-
HCM Lane V/C Ratio	0.306	-	-	0.007	-
HCM Control Delay (s)	21.3	-	-	8.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	0	0	198	8	83
Future Vol, veh/h	33	0	0	198	8	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	0	0	215	13	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	251	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	738	1037
Stage 1	-	0	0	-	986	-
Stage 2	-	0	0	-	821	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	738	1037
Mov Cap-2 Maneuver	-	-	-	-	738	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	738	1037	-	-
HCM Lane V/C Ratio	0.018	0.133	-	-
HCM Control Delay (s)	10	9	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	0.1	0.5	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	136	107	185	0
Future Vol, veh/h	0	0	136	107	185	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	227	116	201	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	771	201	201	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	368	840	1371	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	307	840	1371	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1371	-	-	-	-	-
HCM Lane V/C Ratio	0.165	-	-	-	-	-
HCM Control Delay (s)	8.1	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	0	235	185	0
Future Vol, veh/h	8	8	0	235	185	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	0	255	201	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	456	201	-	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	562	840	0	-	-	0
Stage 1	833	-	0	-	-	0
Stage 2	788	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	562	840	-	-	-	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	625	840	-
HCM Lane V/C Ratio	-	0.021	0.016	-
HCM Control Delay (s)	-	10.9	9.4	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	58	4	235	184	9
Future Vol, veh/h	0	58	4	235	184	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	97	7	255	200	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	469	200	215	0	-	0
Stage 1	200	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	553	841	1355	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	550	841	1355	-	-	-
Mov Cap-2 Maneuver	550	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1355	-	-	841	-	-
HCM Lane V/C Ratio	0.005	-	-	0.115	-	-
HCM Control Delay (s)	7.7	-	0	9.8	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	90	52	0	0	0
Future Vol, veh/h	0	90	52	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	92	92	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	98	57	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	57	0	-	0	155	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1547	-	-	-	836	1009
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1547	-	-	-	836	1009
Mov Cap-2 Maneuver	-	-	-	-	836	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1547	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	7	1	22	6	12	12	0	6	8	2
Future Vol, veh/h	2	6	7	1	22	6	12	12	0	6	8	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	8	1	24	7	13	13	0	7	9	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7.1	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	13%	3%	38%
Vol Thru, %	50%	40%	76%	50%
Vol Right, %	0%	47%	21%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	15	29	16
LT Vol	12	2	1	6
Through Vol	12	6	22	8
RT Vol	0	7	6	2
Lane Flow Rate	26	16	32	17
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.017	0.034	0.019
Departure Headway (Hd)	4.129	3.778	3.903	4.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	868	946	917	887
Service Time	2.15	1.805	1.927	2.059
HCM Lane V/C Ratio	0.03	0.017	0.035	0.019
HCM Control Delay	7.3	6.9	7.1	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	71	34	198	114	66
Future Vol, veh/h	253	71	34	198	114	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	77	37	215	124	72

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	352	0	603	314
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	289	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1207	-	462	726
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	760	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1207	-	446	726
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	519	-	-	1207	-
HCM Lane V/C Ratio	0.377	-	-	0.031	-
HCM Control Delay (s)	16.1	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	2	7	3	3	5	9	105	7	8	48	56
Future Vol, veh/h	104	2	7	3	3	5	9	105	7	8	48	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	2	8	3	3	5	10	114	8	9	52	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	243	243	83	244	269	118	113	0	0	122	0	0
Stage 1	101	101	-	138	138	-	-	-	-	-	-	-
Stage 2	142	142	-	106	131	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	711	659	976	710	637	934	1476	-	-	1465	-	-
Stage 1	905	811	-	865	782	-	-	-	-	-	-	-
Stage 2	861	779	-	900	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	697	650	976	695	628	934	1476	-	-	1465	-	-
Mov Cap-2 Maneuver	697	650	-	695	628	-	-	-	-	-	-	-
Stage 1	899	805	-	859	777	-	-	-	-	-	-	-
Stage 2	847	774	-	884	782	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	9.8	0.6	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1476	-	-	709	761	1465	-	-
HCM Lane V/C Ratio	0.007	-	-	0.173	0.016	0.006	-	-
HCM Control Delay (s)	7.5	-	-	11.1	9.8	7.5	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	5	5	122	105	50
Future Vol, veh/h	25	5	5	122	105	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	5	5	133	114	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	284	141	168	0	-	0
Stage 1	141	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	706	907	1410	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	703	907	1410	-	-	-
Mov Cap-2 Maneuver	724	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1410	-	749	-	-
HCM Lane V/C Ratio	0.004	-	0.044	-	-
HCM Control Delay (s)	7.6	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	53	479	31	30	489
Future Vol, veh/h	18	53	479	31	30	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	58	521	34	33	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1119	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	229	555	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	222	555	-	-	1045	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	222	555	1045	-
HCM Lane V/C Ratio	-	-	0.088	0.104	0.031	-
HCM Control Delay (s)	-	-	22.8	12.2	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	340	18	6	306	26	2
Future Vol, veh/h	340	18	6	306	26	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	370	20	7	333	28	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	390	0	727	380
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1169	-	391	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	389	667
Mov Cap-2 Maneuver	-	-	-	-	389	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	401	-	-	1169	-
HCM Lane V/C Ratio	0.076	-	-	0.006	-
HCM Control Delay (s)	14.7	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	0	0	68	10	103
Future Vol, veh/h	10	0	0	68	10	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	0	74	17	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	85	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	916	1070
Stage 1	-	0	0	-	1012	-
Stage 2	-	0	0	-	949	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	916	1070
Mov Cap-2 Maneuver	-	-	-	-	916	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	916	1070	-	-
HCM Lane V/C Ratio	0.018	0.16	-	-
HCM Control Delay (s)	9	9	-	-
HCM Lane LOS	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.6	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	41	121	58	0
Future Vol, veh/h	0	0	41	121	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	68	132	63	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	331	63	63	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	664	1002	1540	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	635	1002	1540	-	-	-
Mov Cap-2 Maneuver	666	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	2.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1540	-	-	-	-	-
HCM Lane V/C Ratio	0.044	-	-	-	-	-
HCM Control Delay (s)	7.4	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	0	152	58	0
Future Vol, veh/h	10	10	0	152	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	17	0	165	63	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	228	63	-	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	760	1002	0	-	-	0
Stage 1	960	-	0	-	-	0
Stage 2	864	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	760	1002	-	-	-	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	756	1002	-
HCM Lane V/C Ratio	-	0.022	0.017	-
HCM Control Delay (s)	-	9.9	8.7	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	85	0	152	68	0
Future Vol, veh/h	0	85	0	152	68	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	142	0	165	74	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	239	74	74	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	749	988	1526	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	749	988	1526	-	-	-
Mov Cap-2 Maneuver	749	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1526	-	-	988	-	-
HCM Lane V/C Ratio	-	-	-	0.143	-	-
HCM Control Delay (s)	0	-	0	9.3	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	55	0	0	0
Future Vol, veh/h	0	30	55	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	92	92	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	60	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	60	0	-	0	93	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1544	-	-	-	907	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1544	-	-	-	907	1005
Mov Cap-2 Maneuver	-	-	-	-	907	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1544	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

DEVELOPMENT APPLICATION

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

STAFF USE ONLY

PLANNING & ZONING CASE NO.

NOTE: *THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.*

DIRECTOR OF PLANNING:

CITY ENGINEER:

PLEASE CHECK THE APPROPRIATE BOX BELOW TO INDICATE THE TYPE OF DEVELOPMENT REQUEST [SELECT ONLY ONE BOX]:

PLATTING APPLICATION FEES:
- ☐ MASTER PLAT ($100.00 + $15.00 ACRE) [1]
- ■ PRELIMINARY PLAT ($200.00 + $15.00 ACRE) [1]
- ☐ FINAL PLAT ($300.00 + $20.00 ACRE) [1]
- ☐ REPLAT ($300.00 + $20.00 ACRE) [1]
- ☐ AMENDING OR MINOR PLAT ($150.00)
- ☐ PLAT REINSTATEMENT REQUEST ($100.00)

SITE PLAN APPLICATION FEES:
- ☐ SITE PLAN ($250.00 + $20.00 ACRE) [1]
- ☐ AMENDED SITE PLAN/ELEVATIONS/LANDSCAPING PLAN ($100.00)

ZONING APPLICATION FEES:
- ☐ ZONING CHANGE ($200.00 + $15.00 ACRE) [1]
- ☐ SPECIFIC USE PERMIT ($200.00 + $15.00 ACRE) [1 & 2]
- ☐ PD DEVELOPMENT PLANS ($200.00 + $15.00 ACRE) [1]

OTHER APPLICATION FEES:
- ☐ TREE REMOVAL ($75.00)
- ☐ VARIANCE REQUEST/SPECIAL EXCEPTIONS ($100.00) [2]

NOTES:
[1]: IN DETERMINING THE FEE, PLEASE USE THE EXACT ACREAGE WHEN MULTIPLYING BY THE PER ACRE AMOUNT. FOR REQUESTS ON LESS THAN ONE ACRE, ROUND UP TO ONE (1) ACRE.
[2]: A ***$1,000.00*** FEE WILL BE ADDED TO THE APPLICATION FEE FOR ANY REQUEST THAT INVOLVES CONSTRUCTION WITHOUT OR NOT IN COMPLIANCE TO AN APPROVED BUILDING PERMIT.

PROPERTY INFORMATION [PLEASE PRINT]

ADDRESS					
SUBDIVISION	Rockwall High School 9th Grade Center	LOT	1	BLOCK	1
GENERAL LOCATION	Northwest corner of Quail Run Road and FM 1141				

ZONING, SITE PLAN AND PLATTING INFORMATION [PLEASE PRINT]

CURRENT ZONING	AG		CURRENT USE	Public School	
PROPOSED ZONING	PD for NS uses		PROPOSED USE	Public School	
ACREAGE	76.08 acres	LOTS [CURRENT]	1	LOTS [PROPOSED]	1

■ ***SITE PLANS AND PLATS:*** *BY CHECKING THIS BOX YOU ACKNOWLEDGE THAT DUE TO THE PASSAGE OF HB3167 THE CITY NO LONGER HAS FLEXIBILITY WITH REGARD TO ITS APPROVAL PROCESS, AND FAILURE TO ADDRESS ANY OF STAFF'S COMMENTS BY THE DATE PROVIDED ON THE DEVELOPMENT CALENDAR WILL RESULT IN THE DENIAL OF YOUR CASE.*

OWNER/APPLICANT/AGENT INFORMATION [PLEASE PRINT/CHECK THE PRIMARY CONTACT/ORIGINAL SIGNATURES ARE REQUIRED]

☐ OWNER	Rockwall Independent School District	☐ APPLICANT	Rockwall Independent School District
CONTACT PERSON	William Salee - Executive Director of Operations	CONTACT PERSON	Robert Howman
ADDRESS	1191 T.L. Townsend Drive	ADDRESS	4500 Fuller Drive
			Suite 220
CITY, STATE & ZIP	Rockwall, Texas 75087	CITY, STATE & ZIP	Irving, Texas 75038
PHONE	469-698-7031	PHONE	972.989.2174 (mobile)
E-MAIL	will.salee@rockwallisd.org	E-MAIL	rahowman@glennengineering.com

NOTARY VERIFICATION [REQUIRED]

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED WILL SALEE [*OWNER*] THE UNDERSIGNED, WHO STATED THE INFORMATION ON THIS APPLICATION TO BE TRUE AND CERTIFIED THE FOLLOWING:

"I HEREBY CERTIFY THAT I AM THE OWNER FOR THE PURPOSE OF THIS APPLICATION; ALL INFORMATION SUBMITTED HEREIN IS TRUE AND CORRECT; AND THE APPLICATION FEE OF $ 1,341.20 *, TO COVER THE COST OF THIS APPLICATION, HAS BEEN PAID TO THE CITY OF ROCKWALL ON THIS THE* 16th *DAY OF* JUNE *, 20* 22 *BY SIGNING THIS APPLICATION, I AGREE THAT THE CITY OF ROCKWALL (I.E. "CITY") IS AUTHORIZED AND PERMITTED TO PROVIDE INFORMATION CONTAINED WITHIN THIS APPLICATION TO THE PUBLIC. THE CITY IS ALSO AUTHORIZED AND PERMITTED TO REPRODUCE ANY COPYRIGHTED INFORMATION SUBMITTED IN CONJUNCTION WITH THIS APPLICATION, IF SUCH REPRODUCTION IS ASSOCIATED OR IN RESPONSE TO A REQUEST FOR PUBLIC INFORMATION."*

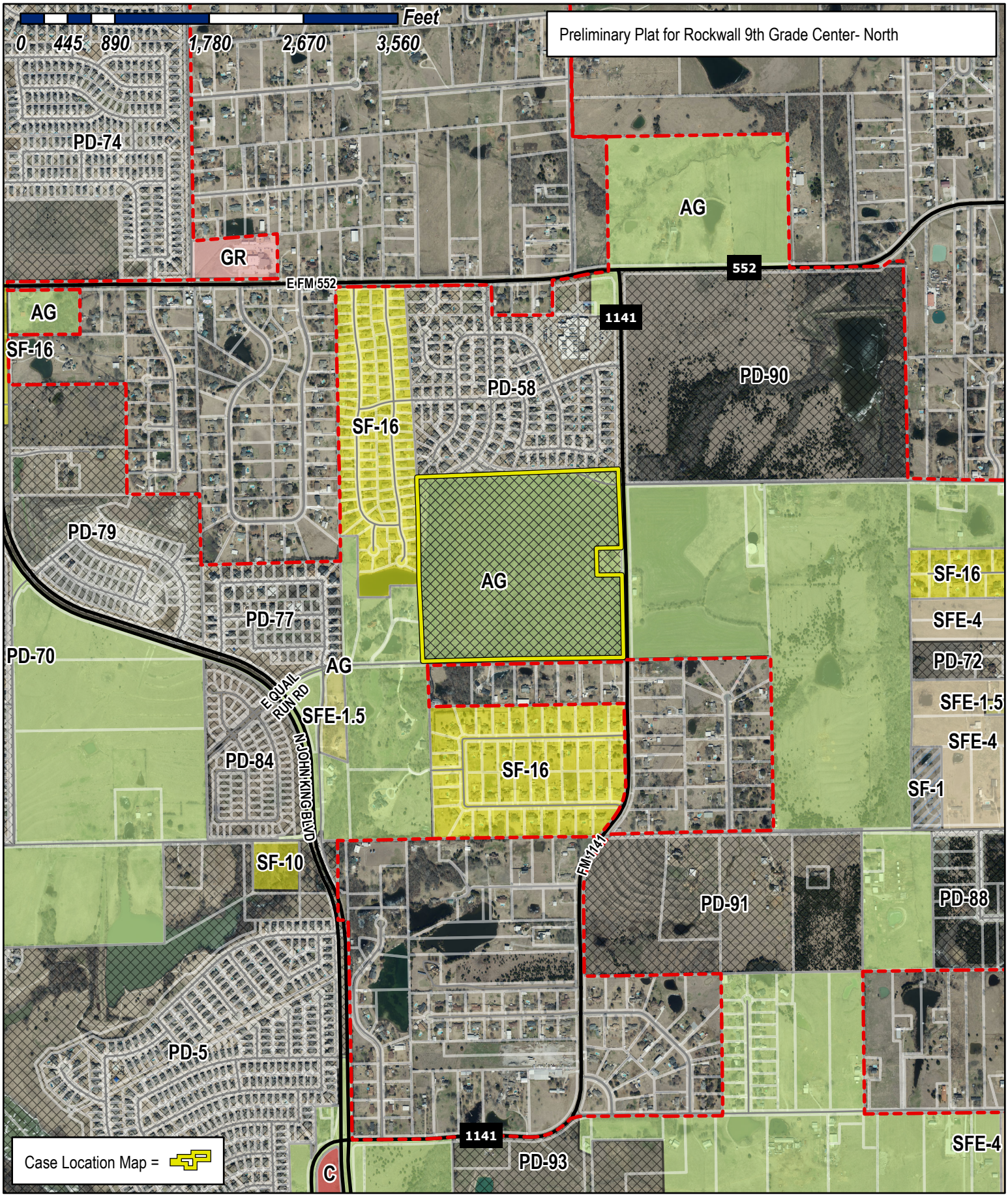
GIVEN UNDER MY HAND AND SEAL OF OFFICE ON THIS THE 16th *DAY OF* June *, 20* 22

OWNER'S SIGNATURE

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MELANIE PYLAND
My Notary ID # 126570708
Expires August 6, 2024

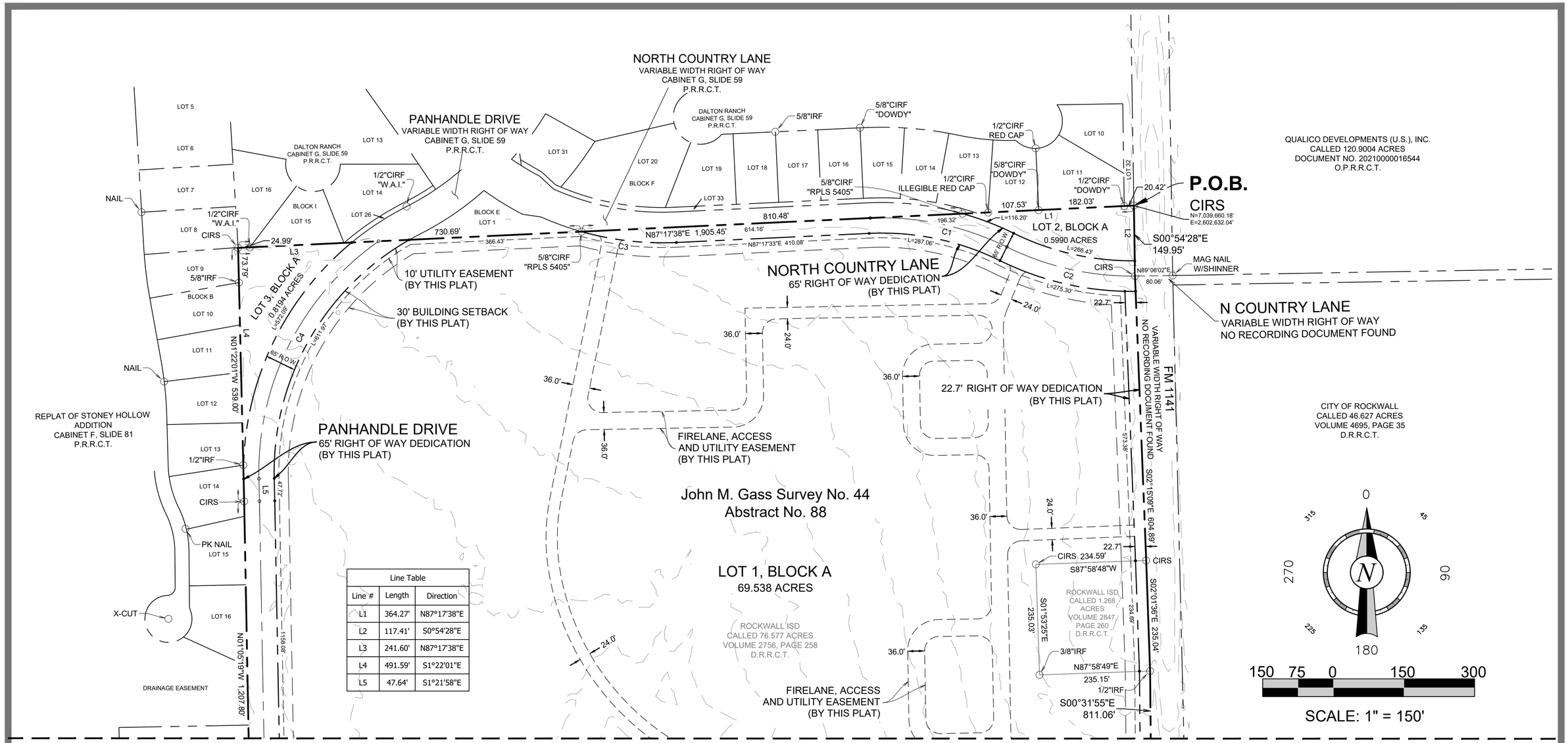
MY COMMISSION EXPIRES



City of Rockwall

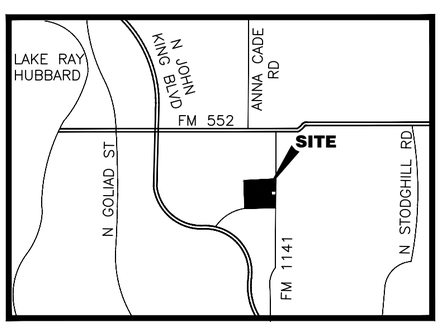
Planning & Zoning Department
385 S. Goliad Street
Rockwall, Texas 75032
(P): (972) 771-7745
(W): www.rockwall.com

The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.

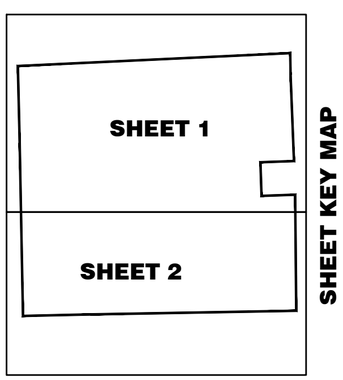


Line Table		
Line #	Length	Direction
L1	364.27'	N87°17'38"E
L2	117.41'	S0°54'28"E
L3	241.60'	N87°17'38"E
L4	491.59'	S1°22'01"E
L5	47.64'	S1°21'58"E

Match Line – See Sheet 2



LOCATION MAP
NOT TO SCALE



LEGEND

DEED RECORDS, ROCKWALL COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS

PLAT RECORDS ROCKWALL COUNTY, TEXAS

IRF	**IRON ROD FOUND**
CIRF	**CAPPED IRON ROD FOUND AS NOTED**
CIRS	**1/2" CAPPED IRON ROD STAMPED "BOWMAN PROP COR"**
MNF	**MAG NAIL FOUND**
MNS	**MAG NAIL SET**
P.O.B.	**POINT OF BEGINNING**
A.E.	**ACCESS EASEMENT**
B.L.	**BUILDING LINE**
D.E.	**DRAINAGE EASEMENT**
N.G.E.	**NATURAL GAS EASEMENT**
U.E.	**UTILITY EASEMENT**
S.S.E.	**SANITARY SEWER EASEMENT**
W.E.	**WATER LINE EASEMENT**
D.U.E.	**DRAINAGE AND UTILITY EASEMENT**
DIM	**DIMENSION**

OWNER:
Rockwall ISD
801 East Washington St.
Rockwall Texas, 75087
(469) 698-7031
Contact: William Salee

ENGINEER:
Glenn Engineering Corp.
105 Decker Court, Suite 910
Irving, Texas 75062
TBPE FIRM NO. F-303
(972) 989-2174 Cell
(972) 717-5151 Office
Contact: Robert Howman

SURVEYOR:
Bowman Consulting Group, Ltd.
1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

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1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104
TBPELS #10120600

Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 1 of 3

Match Line – See Sheet 1

Curve Table					
Curve #	Chord Bearing	Chord Distance	Arc Length	Radius	Delta
C1	S78°01'54"E	296.49'	299.59'	600.08'	28°36'17"
C2	S77°11'02"E	279.26'	281.85'	600.09'	26°54'37"
C3	S83°29'06"E	202.79'	203.67'	632.59'	18°26'48"
C4	S26°43'30"W	565.15'	588.45'	600.09'	56°11'02"

REMAINDER OF
CALLED 4.0005 ACRES
DOYL C. TULLY AND WIFE,
VONETTE S. TULLY
VOLUME 951, PAGE 61
D.R.R.C.T.

N01°05'19"W 1,207.80'

65' R.O.W.

1158.08'

John M. Gass Survey No. 44
Abstract No. 88

FIRELANE, ACCESS
AND UTILITY EASEMENT
(BY THIS PLAT)

24.0'

22.7' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

36.0'

22.7'

S00°31'55"E 811.06'

761.48'

VARIABLE WIDTH RIGHT OF WAY
NO RECORDING DOCUMENT FOUND

FM 1141

30' BUILDING SETBACK
(BY THIS PLAT)

10' UTILITY EASEMENT
(BY THIS PLAT)

CITY OF ROCKWALL
CALLED 46.627 ACRES
VOLUME 4695, PAGE 35
D.R.R.C.T.

LOT 1, BLOCK A
69.538 ACRES

PANHANDLE DRIVE
65' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

ROCKWALL ISD
CALLED 76.577 ACRES
VOLUME 2756, PAGE 258
D.R.R.C.T.

NALLEY MICHAEL R & LORI D
CALLED 2.517 ACRES
VOLUME 1024, PAGE 324
D.R.R.C.T.

EAST QUAIL RUN ROAD
VARIABLE WIDTH RIGHT OF WAY
NO RECORDING DOCUMENT FOUND

49.5' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

408.90'

1413.73'

49.5'

49.5'

22.7'

MNS

S89°52'23"E
80.48'

1/2"IRF

MAG NAIL
W/SHINNER

N=7,037,823.79'
E=2,600,764.52'

S88°42'51"W 473.96'

MAG NAIL

FOUND MAG NAIL BEARS
S72°41'19"W, 2.77'

MNS

30'

1/2"IRF

1/2"IRF

S88°58'59"W 1,435.90'

1/2"IRF

30'

RYAN S HUDDIN AND JADA HUDDIN
CALLED 2.00 ACRES
DOCUMENT NO. 20200000001690
O.P.R.R.C.T.

1/2"IRF

JEFFREY LEWIS AND BOBBIE JO LEWIS
CALLED 2.00 ACRES
DOCUMENT NO. 2016-00005283
O.P.R.R.C.T.

GERALD GLEN COX & ROSALBA CARRASCO COX
CALLED 29.97 ACRES
DOCUMENT NO. 2016-00006512
O.P.R.R.C.T.

SHEILA FLANNERY ET AL
VOLUME 1124, PAGE 65
D.R.R.C.T.

NO DEED FOUND

SADDLEBROOK ESTATES
CABINET A, SLIDE 307
P.R.R.C.T.

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

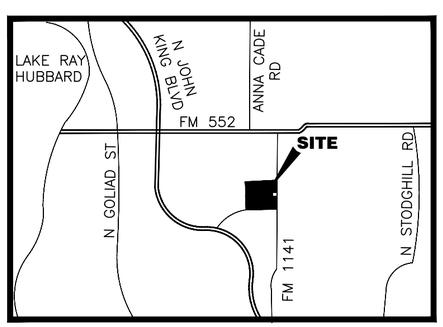
LOT 9

LOT 10

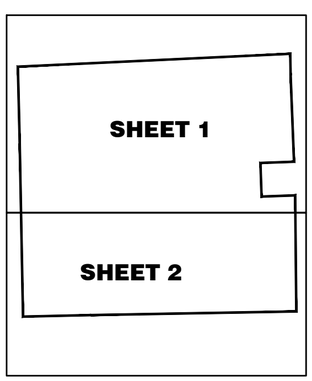
0
315
45
270
90
225
135
180
N

150 75 0 150 300

SCALE: 1" = 150'



LOCATION MAP
NOT TO SCALE



SHEET KEY MAP

LEGEND

DEED RECORDS, ROCKWALL COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS

PLAT RECORDS ROCKWALL COUNTY, TEXAS

IRF	IRON ROD FOUND
CIRF	CAPPED IRON ROD FOUND AS NOTED
CIRS	1/2" CAPPED IRON ROD STAMPED "BOWMAN PROP COR"
MNF	MAG NAIL FOUND
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PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

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Fort Worth, TX 76104
TBPELS #10120600
Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 2 of 3

PLAT PERIMETER LEGAL DESCRIPTION

STATE OF TEXAS §
COUNTY OF ROCKWALL §

WHEREAS, Rockwall Independent School District being the owner of a 69.538 acre tract of land situated within the John M Gass Survey No. 44, Abstract No. 88, City of Rockwall, Rockwall County, Texas, and being all of a called 76.577 acre tract of land as described in the deed to Rockwall ISD recorded in Volume 2756, Page 258 of the Deed Records of Rockwall County, Texas (hereafter referred to as the ISD Tract). Said 69.538 acre tract of land being more particularly describes by metes and bounds as follows:

BEGINNING at a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northeast corner of said ISD Tract, being on the west right of way line of FM 1141, a variable width right of way, as evidenced by the plat designated as “Dalton Ranch” recorded in Cabinet G, Slide 59 of the Plat Records of Rockwall County, Texas;

THENCE SOUTH 00 degrees 54 minutes 28 seconds EAST, 149.95 feet with the west right of way line of said FM 1141 to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set;

THENCE SOUTH 02 degrees 15 minutes 09 seconds EAST, 604.89 feet with the west right of way line of said FM 1141 to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northeast corner of a called 1.268 acre tract of land as described in the deed to Rockwall ISD recorded in Volume 2847, Page 260 of said Deed Records;

THENCE SOUTH 02 degrees 01 minute 36 seconds EAST, 235.04 feet with the with the west right of way line of said FM 1141 to a 1/2-inch iron rod found at the southeast corner of said called 1.268 acre tract of land;

THENCE SOUTH 00 degrees 31 minutes 55 seconds EAST, 811.06 feet with the west right of way line of said FM 1141 to a MAG nail with shiner set at the southeast corner of said ISD Tract, being the northeast corner of a 30-foot right of way dedication for East Quail Run Road as dedicated on the plat designated as “Saddlebrook Estates” recorded in Cabinet A, Slide 307 of said Plat Records;

THENCE SOUTH 88 degrees 58 minutes 59 seconds WEST, 1,435.90 feet with the south line of said ISD Tract, being the north line of said right of way dedication and the approximate centerline of said East Quail Run Road to a MAG nail with shiner set at the northwest corner of said right of way dedication;

THENCE SOUTH 88 degrees 42 minutes 51 seconds WEST, 473.96 feet with the south line of said ISD Tract and the approximate centerline of said East Quail Run Road to the southwest corner of said ISD Tract from which a found MAG nail bears SOUTH 72 degrees 41 minutes 19 seconds WEST, 2.77 feet;

THENCE NORTH 01 degree 05 minutes 19 seconds WEST, 1,207.80 feet with the west line of said ISD Tract and being the east line of a called 2.517 acre tract of land as described in the deed to Michael R and Lori D Nalley recorded in Volume 1024, Page 324 of said Deed Records, the east line of the remainder of a called 4.0005 acre tract of land as described in the deed to Doyl C. Tully and wife, Vonette S. Tully recorded in Volume 951, Page 61 of said Deed Records and being the east line of Block B of the plat designated as “Replat of Stoney Hollow Addition” recorded in Cabinet F, Slide 81 of said Plat Records to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set;

THENCE NORTH 01 degree 22 minutes 01 second WEST, 539.00 feet with the west line of said ISD Tract and being the east line of said Block B to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northwest corner of said ISD Tract and being the southwest corner of said Dalton Ranch;

THENCE NORTH 87 degrees 17 minutes 38 seconds EAST, 1,905.45 feet with the north line of said ISD Tract and being the south line of said Dalton Ranch to the POINT OF BEGINNING containing 69.538 acres.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

STATE OF TEXAS

COUNTY OF ROCKWALL

I *(we)* the undersigned owner(s) of the land shown on this plat, and designated herein as the ***ROCKWALL I.S.D. ADDITION a*** subdivision to the City of Rockwall, Texas, and whose name is subscribed hereto, hereby dedicate to the use of the public forever all streets, alleys, parks, water courses, drains, easements and public places thereon shown on the purpose and consideration therein expressed. I (we) further certify that all other parties who have a mortgage or lien interest in the ***ROCKWALL I.S.D. ADDITION*** subdivision have been notified and signed this plat. I *(we)* understand and do hereby reserve the easement strips shown on this plat for the purposes stated and for the mutual use and accommodation of all utilities desiring to use or using same. I (we) also understand the following;

1. No buildings shall be constructed or placed upon, over, or across the utility easements as described herein.
2. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other growths or improvements which in any way endanger or interfere with construction, maintenance or efficiency of their respective system on any of these easement strips; and any public utility shall at all times have the right of ingress or egress to, from and upon the said easement strips for purpose of construction, reconstruction, inspecting, patrolling, maintaining, and either adding to or removing all or part of their respective system without the necessity of, at any time, procuring the permission of anyone.
3. The City of Rockwall will not be responsible for any claims of any nature resulting from or occasioned by the establishment of grade of streets in the subdivision.
4. The developer and subdivision engineer shall bear total responsibility for storm drain improvements.
5. The developer shall be responsible for the necessary facilities to provide drainage patterns and drainage controls such that properties within the drainage area are not adversely affected by storm drainage from the development.
6. No house dwelling unit, or other structure shall be constructed on any lot in this addition by the owner or any other person until the developer and/or owner has complied with all requirements of the Subdivision Regulations of the City of Rockwall regarding improvements with respect to the entire block on the street or streets on which property abuts, including the actual installation of streets with the required base and paving, curb and gutter, water and sewer, drainage structures, storm structures, storm sewers, and alleys, all according to the specifications of the City of Rockwall; or

   Until an escrow deposit, sufficient to pay for the cost of such improvements, as determined by the city's engineer and/or city administrator, computed on a private commercial rate basis, has been made with the city secretary, accompanied by an agreement signed by the developer and/or owner, authorizing the city to make such improvements at prevailing private commercial rates, or have the same made by a contractor and pay for the same out of the escrow deposit, should the developer and/or owner fail or refuse to install the required improvements within the time stated in such written agreement, but in no case shall the City be obligated to make such improvements itself. Such deposit may be used by the owner and/or developer as progress payments as the work progresses in making such improvements by making certified requisitions to the city secretary, supported by evidence of work done; or

   Until the developer and/or owner files a corporate surety bond with the city secretary in a sum equal to the cost of such improvements for the designated area, guaranteeing the installation thereof within the time stated in the bond, which time shall be fixed by the city council of the City of Rockwall.
7. Property owner shall be responsible for maintaining, repairing, and replacing all systems in the detention and drainage easements.

I (we) further acknowledge that the dedications and/or exaction's made herein are proportional to the impact of the Subdivision upon the public services required in order that the development will comport with the present and future growth needs of the City; I (we), my (our) successors and assigns hereby waive any claim, damage, or cause of action that I (we) may have as a result of the dedication of exactions made herein.

Rockwall Independent School District

_____

Rockwall Independent School District - Dr. John Villarreal
Superintendent

STATE OF TEXAS COUNTY OF ROCKWALL

Before me, the undersigned authority, on this day personally appeared Dr. John Villarreal known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein stated.

Given upon my hand and seal of office this _____ day of _____, ***2022***.

_____ _____
Notary Public in and for the State of Texas ***My Commission Expires***

PLAT NOTES:

1. The Basis of Bearings for this plat is GRID NORTH as established by GPS observation utilizing the Texas Coordinate System of 1983, North Central Zone. To obtain a grid distance, multiply the ground distance by 0.999853886.
2. NOTICE: Selling a portion of this addition by metes and bounds is a violation of City ordinance and state law and is subject to fines and withholding of utilities and building permits.
3. All corners are 1/2" iron rods set with a plastic cap stamped "BOWMAN PROP COR" unless otherwise noted.
4. Lot, block and ROW corners will be set after substantial completion of the infrastructure.
5. According to Map No. 48397C0035L and 48397C0030L, both dated 09/26/2008 of the National Flood Insurance Program Map, Flood Insurance Rate Map of Rockwall County, Texas, Federal Emergency Management Agency, Federal Insurance Administration, Panel 30 and 35 of 145, this property is within Zone X unshaded, based on scaled imaging.

GENERAL NOTES:

1. It shall be the policy of the City of Rockwall to withhold issuing building permits until all streets, water, sewer and storm drainage systems have been accepted by the City. The approval of a plat by the City does not constitute any representation, assurance or guarantee that any building within such plat shall be approved, authorized or permit therefore issued, nor shall such approval constitute any representation, assurance or guarantee by the City of the adequacy and availability for water for personal use and fire protection within such plat, as required under Ordinance 83 54.

CERTIFICATE OF SURVEYOR

NOW, THEREFORE KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, A LSLS & REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND.

Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document. Released to the City for review. 2022-06

_____
ROBERT A. HANSEN
LSLS & REGISTERED PROFESSIONAL
LAND SURVEYOR, NO. 6439
RHANSEN@BOWMAN.COM
DATE:

STATE OF TEXAS
COUNTY OF
ROCKWALL

Before me, the undersigned authority, on this day personally appeared Dr. John Villarreal known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein stated.

Given upon my hand and seal of office this _____ day of _____, ***2022***.

_____ _____
Notary Public in and for the State of Texas ***My Commission Expires***

RECOMMENDED FOR FINAL APPROVAL:

_____ _____
Planning & Zoning Commission, Chairman ***Date***

APPROVED:

I hereby certify that the above and foregoing plat of an addition to the City of Rockwall, Texas, was approved by the City Council of the City of Rockwall on the _____ day of _____, ***2022***.

This approval shall be invalid unless the approved plat for such addition is recorded in the office of the County Clerk of Rockwall, County, Texas, within one hundred eighty (180) days from said date of final approval.

WITNESS OUR HANDS, this _____ day of _____, ***2022***.

_____ _____ _____
Mayor, City of Rockwall ***City Secretary*** ***City Engineer***

OWNER:
Rockwall ISD
801 East Washington St.
Rockwall Texas, 75087
(469) 698-7031
Contact: William Salee

ENGINEER:
Glenn Engineering Corp.
105 Decker Court, Suite 910
Irving, Texas 75062
TBPE FIRM NO. F-303
(972) 989-2174 Cell
(972) 717-5151 Office
Contact: Robert Howman

SURVEYOR:
Bowman Consulting Group, Ltd.
1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

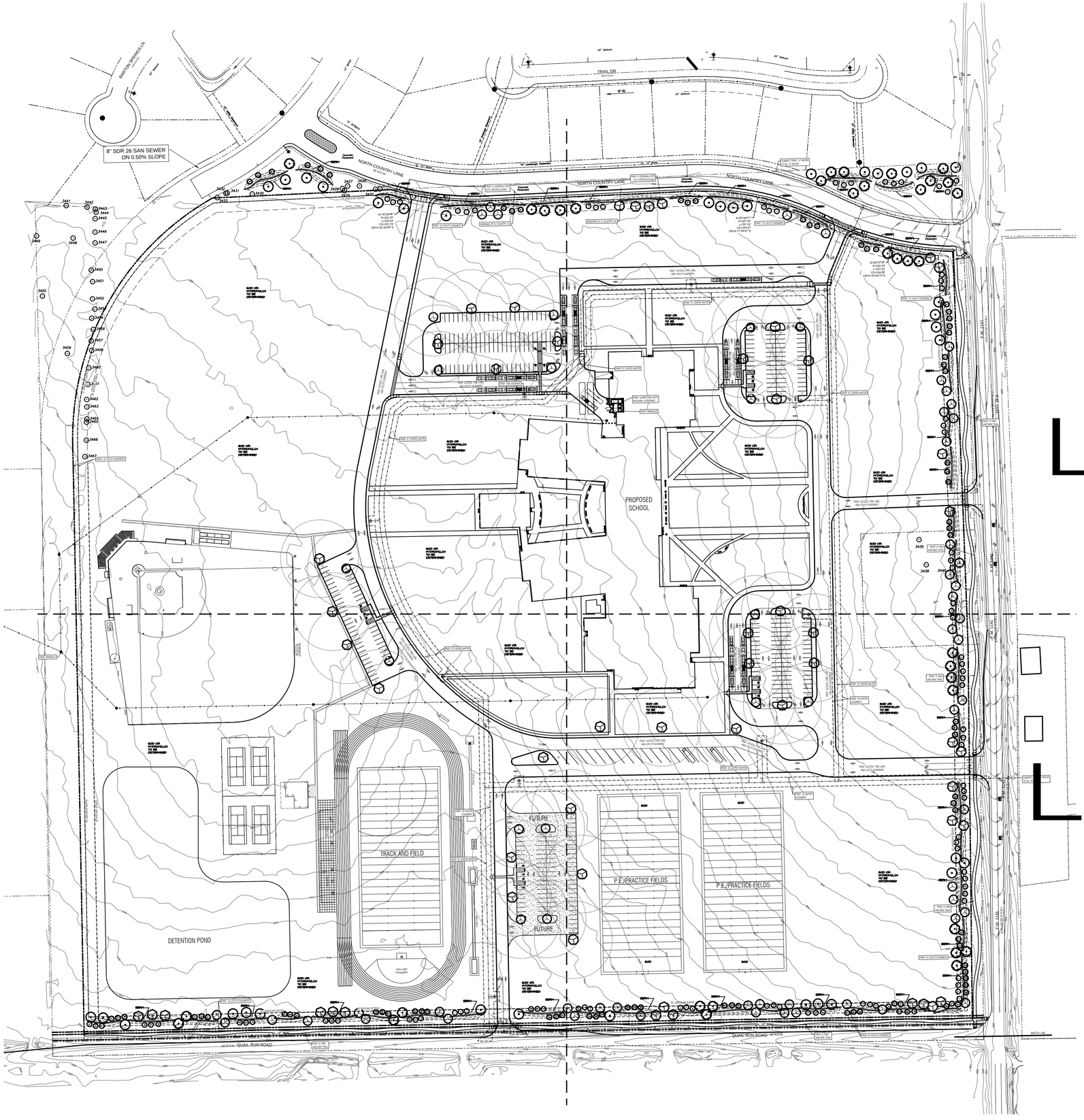
LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

© 2021 Bowman Consulting Group, Ltd.

1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104
TBPELS #10120600
Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 3 of 3



L5

L4

L2

L3

SITE DATA SUMMARY	
EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F.= 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0'x18.0'	202 SPACES
9.0'x20.0'	159 SPACES
15.0'x30.0'	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

NORTH

0 100 200

GRAPHIC SCALE
1"=100'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

ISSUES		
1	06/07/22	PERMIT REVIEW
2		
3		
4		
5		
6		

REVISIONS		

THIS DOCUMENT IS RELEASED FOR PERMIT REVIEW UNDER THE AUTHORITY OF: MICHAEL RAMSEY REGISTERED LANDSCAPE ARCHITECT #1901. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

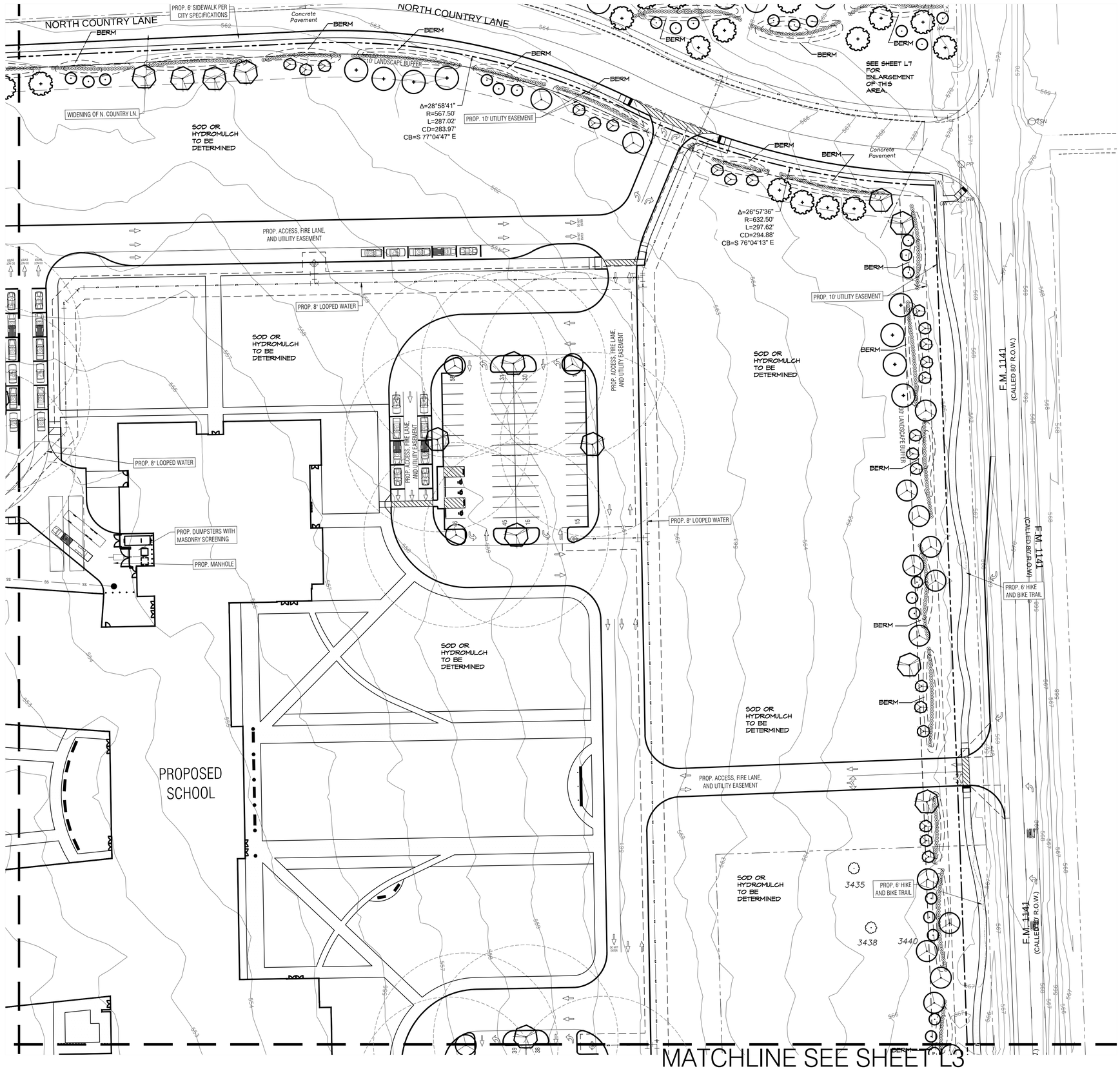
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

OVERALL
LANDSCAPE PLAN

JOB 21572.0000
DATE 06/07/22
SHEET L 1



0 40 80

GRAPHIC SCALE 1"=40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR]. WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

	ISSUES	
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RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA A

JOB 21572.0000
DATE 06/07/22
SHEET L 2

MATCHLINE SEE SHEET L2

MATCHLINE SEE SHEET L4

SOD OR HYDROMULCH TO BE DETERMINED

PROP. ACCESS, FIRE LANE, AND UTILITY EASEMENT

PROP. 8" LOOPED WATER

PROP. 20' WATER EASEMENT

PROP. 6' HIKE AND BIKE TRAIL

BERM

F.M. 1141 (CALLED 80' R.O.W.)

SOD

P.E./PRACTICE FIELDS

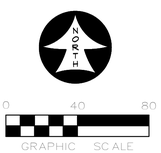
30' LANDSCAPE BUFFER

12" Water

QUAIL RUN ROAD 65' R.O.W.

PROP.10' UTILITY EASEMENT

CONN TO EX



APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
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CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

ISSUES

1	06/07/22	PERMIT REVIEW
2		
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REVISIONS

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RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA B

JOB 21572.0000
DATE 06/07/22
SHEET L 3

MATCHLINE SEE SHEET L5

MATCHLINE SEE SHEET L3

PROP. MANHOLE

SCOREBOARD

PROP. ACCESS, FIRELANE AND UTILITY EASEMENT

PROP. 8" LOOPED WATER

SOD OR HYDROMULCH TO BE DETERMINED

SOD OR HYDROMULCH TO BE DETERMINED

10' LANDSCAPE BUFFER

30' BUILDING SETBACK

400 SEATS

400 SEATS

TRACK AND FIELD

POLE VAULT

PROP. 20' WATER EASEMENT

PROP. 8" LOOPED WATER

LONG JUMP

HIGH JUMP PIT/RUNWAY

FUTURE

FUTURE

DETENTION POND

SOD OR HYDROMULCH TO BE DETERMINED

SOD OR HYDROMULCH TO BE DETERMINED

BERM

BERM

BERM

BERM

PROP. 10' UTILITY EASEMENT

30' LANDSCAPE BUFFER

30' BUILDING SETBACK

Ex. 12" Water

PROP. 6' HIKE AND BIKE TRAIL

60' R.O.W. QUAIL RUN ROAD

NORTH

0 40 80

GRAPHIC SCALE
1" = 40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [ ] day of [ ], [ ].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

	ISSUES	
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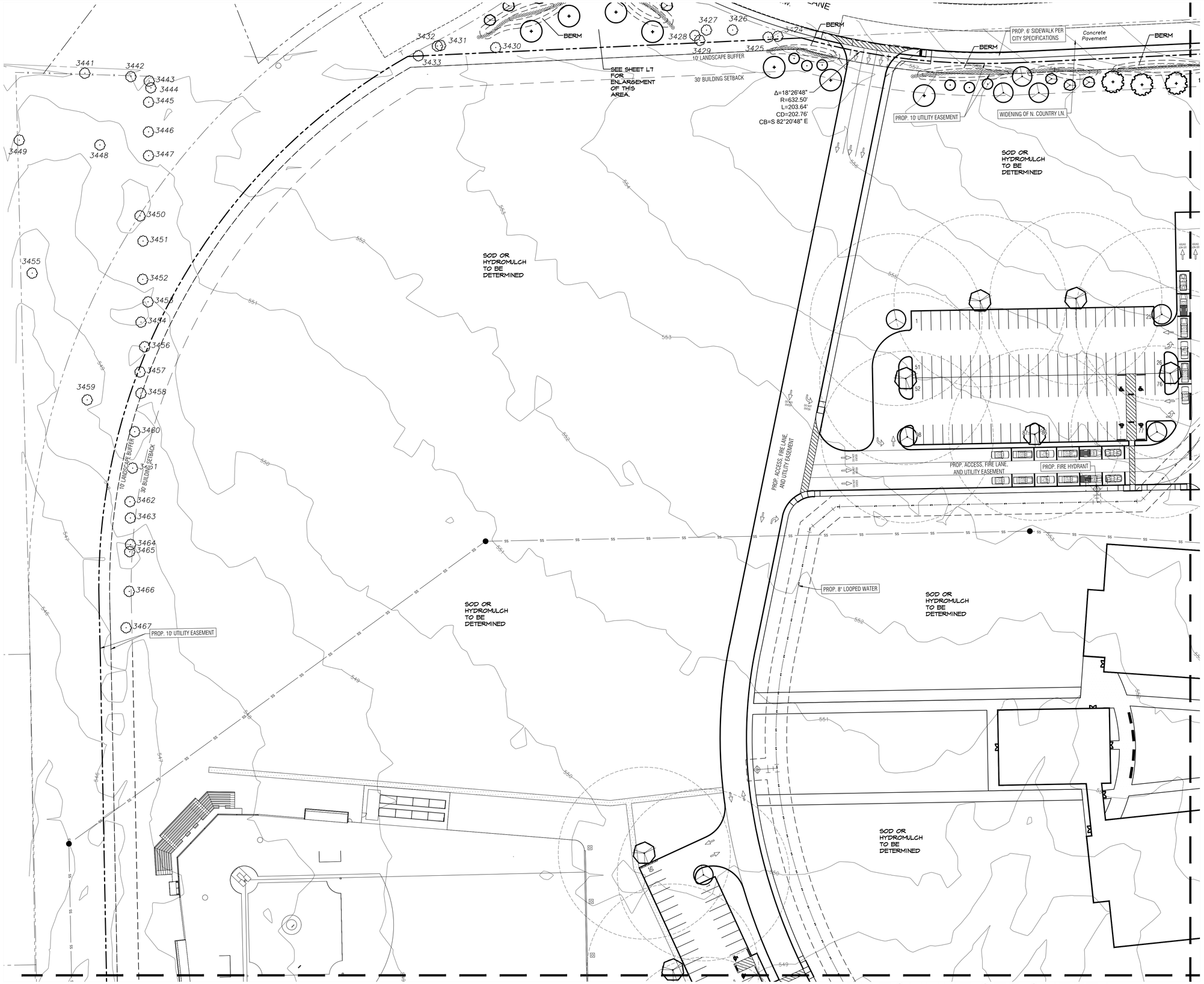
RAMSEY LANDSCAPE ARCHITECTS, LLC
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PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA C

JOB 21572.0000
DATE 06/07/22
SHEET L 4



NORTH

0 40 80

GRAPHIC SCALE
1"=40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [ ] day of [ ]. [ ].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
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ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
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CITY OF ROCKWALL CASE NO. SP2022-017

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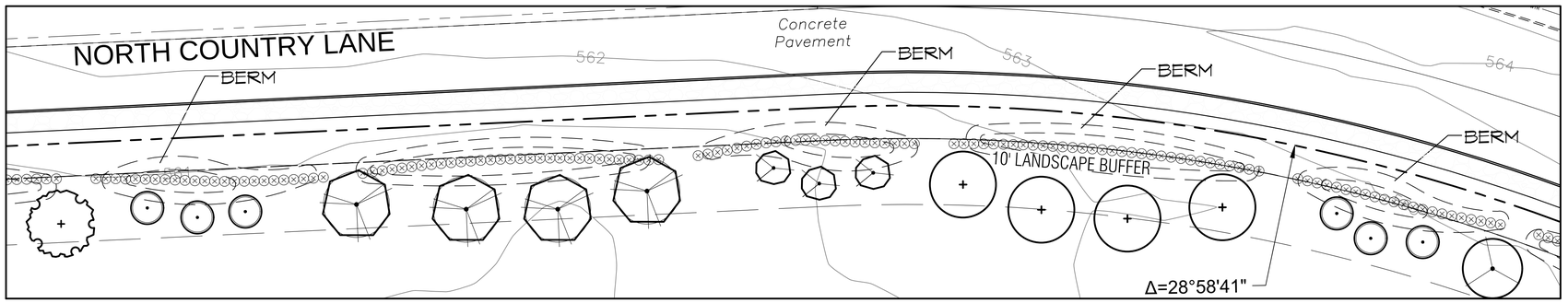
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

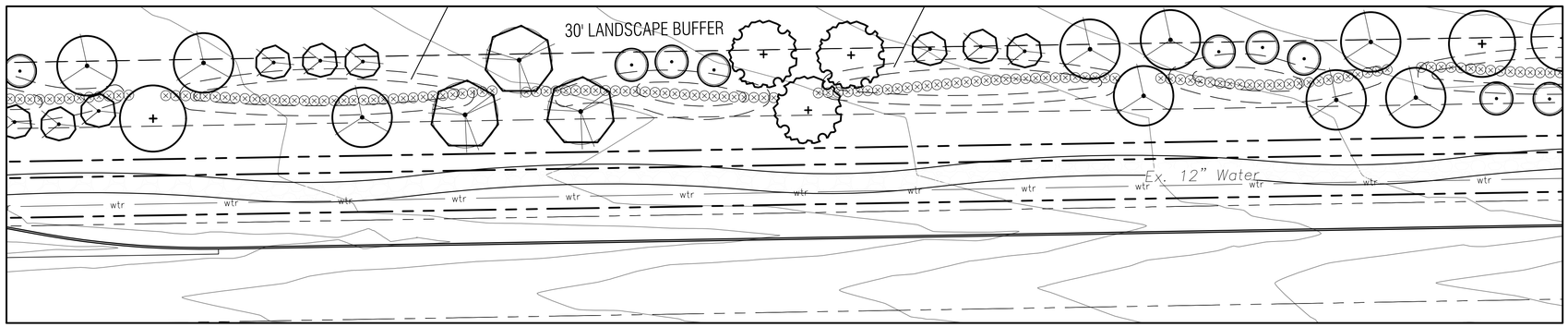
LANDSCAPE PLAN
AREA D

JOB 21572.0000
DATE 06/07/22
SHEET L 5



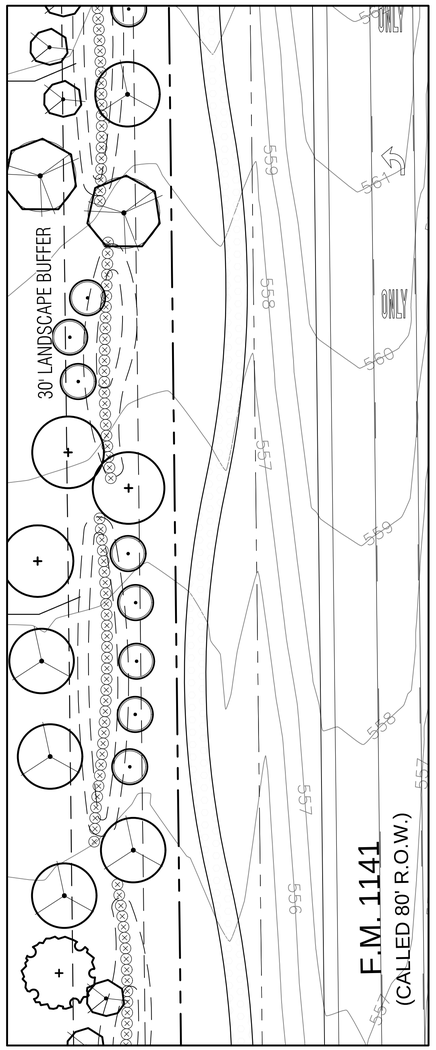
TYPICAL SEGMENT OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



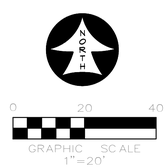
TYPICAL SEGMENT OF QUAIL RUN ROAD

SCALE: 1" = 20'-0"



TYPICAL SEGMENT OF F.M. 1141

SCALE: 1" = 20'-0"



APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
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CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

	ISSUES	
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	REVISIONS	

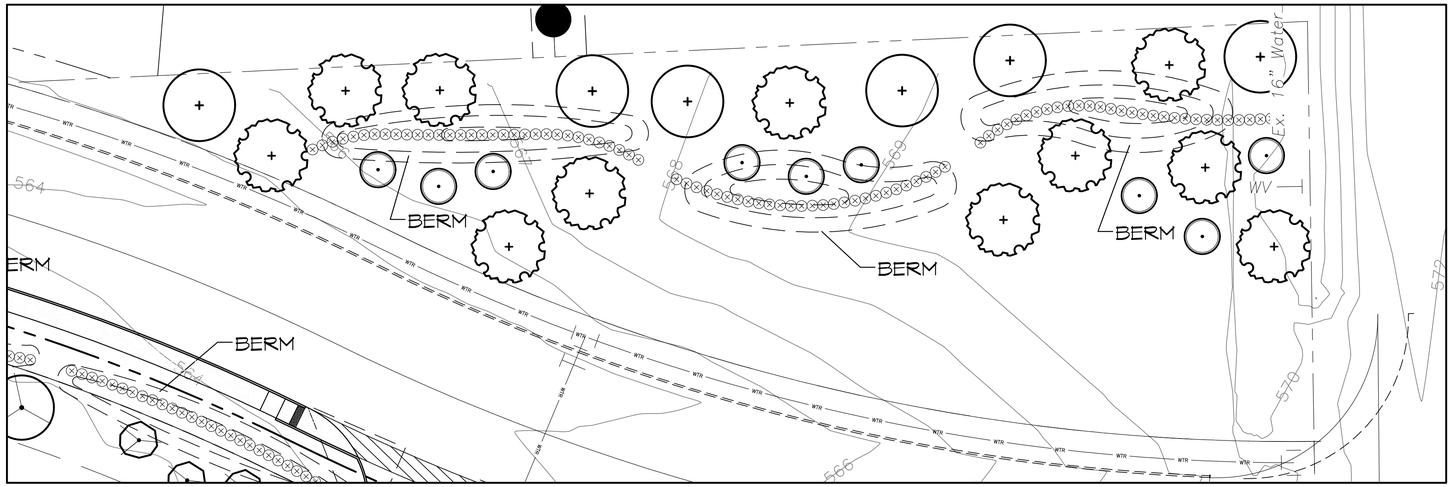
RAMSEY LANDSCAPE ARCHITECTS, LLC
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

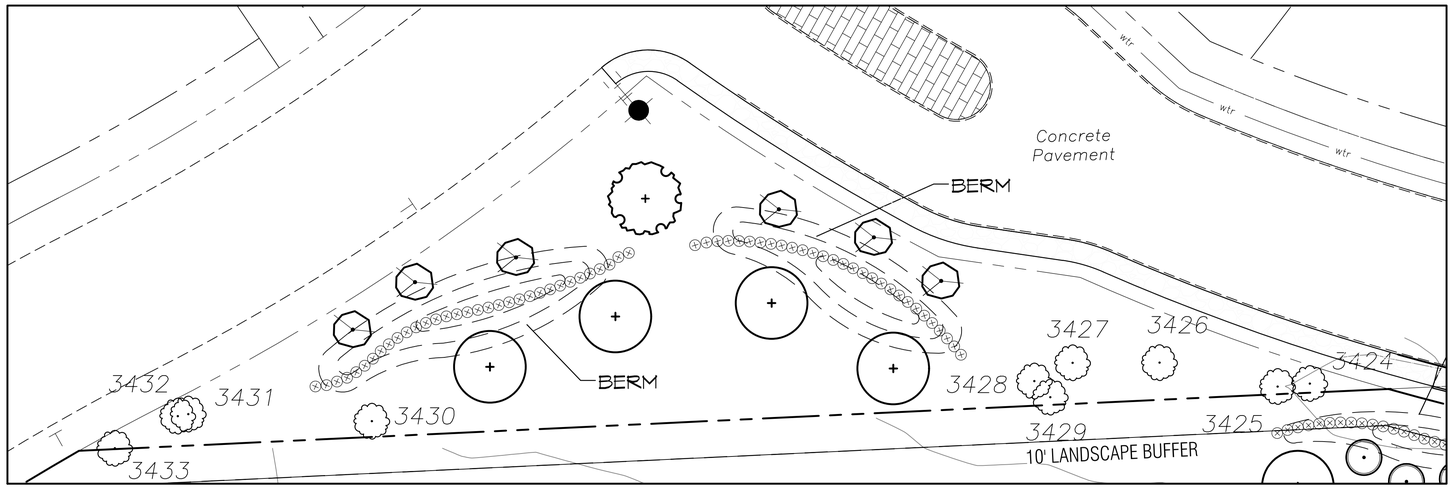
LANDSCAPE ENLARGEMENTS

JOB 21572.0000
DATE 06/07/22
SHEET L 6



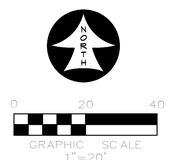
EAST REMAINDER NORTH OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



WEST REMAINDER NORTH OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
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ROCKWALL, TEXAS 75087
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CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
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IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

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T: 214-748-2000

		ISSUES
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		REVISIONS

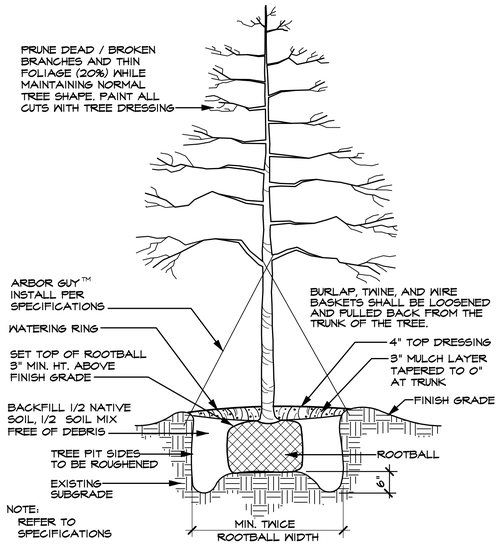
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
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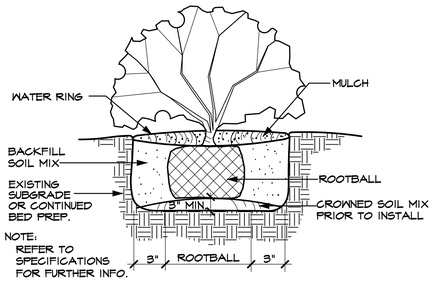
LANDSCAPE ENLARGEMENTS

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SHEET L 7



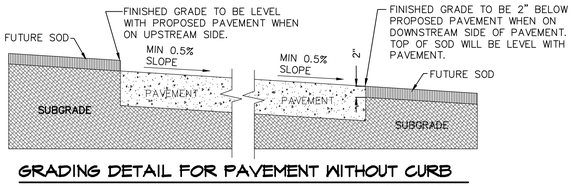
TREE PLANTING DETAIL (TYPICAL)

SCALE: N.T.S.



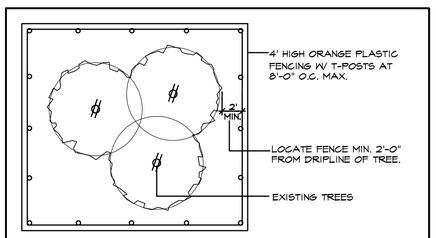
SHRUB PLANTING DETAIL (TYPICAL)

SCALE: N.T.S.



GRADING DETAIL FOR PAVEMENT WITHOUT CURB

SCALE: N.T.S.



1. EXISTING TREES WITHIN CONTRACT LIMITS ARE SHOWN ON THE DRAWINGS. EXISTING TREES DESIGNATED FOR REMOVAL SHALL BE FLAGGED AT THE PROJECT SITE WITH FLAGGING BY THE CONTRACTOR.
2. PROTECT ALL INDIVIDUAL TREES OR GROUPS OF TREES TO BE PRESERVED BY ERECTING A BARRIER AROUND EACH TREE OR GROUP OF TREES. INSTALL AND MAINTAIN BARRIER AT TREE DRIPLINE. BARRIERS SHALL REMAIN IN PLACE UNTIL REMOVAL IS NECESSARY.
3. IN THE EVENT THAT HEAVY CONSTRUCTION IS SCHEDULED TO OCCUR WITHIN THE DRIPLINE OF AN EXISTING TREE, CONTRACTOR SHALL ERECT A PROTECTION FENCE OUTSIDE THE DRIPLINE UNTIL THIS CONSTRUCTION IS SCHEDULED TO OCCUR. THE PROTECTION FENCE MAY THEN BE ADJUSTED AS REQUIRED TO COMPLETE THE PROPOSED CONSTRUCTION. AFTER CONSTRUCTION IN THIS AREA IS COMPLETED, THE PROTECTION FENCE SHALL BE ADJUSTED TO IT'S ORIGINAL LOCATION.
4. CONTRACTORS SHALL NOT PARK, CLEAN TOOLS AND EQUIPMENT OR STORE MATERIALS WITHIN THE DRIPLINE OF ANY TREE.
5. ALL ROOTS OVER 1" IN DIAMETER SHALL BE CUT CLEAN WITH A HAND SAW.

TREE PROTECTION FENCE AND NOTES

SCALE: N.T.S.

TREES

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE & CONDITION
36	+	LIVE OAK	Live Oak	Quercus virginiana	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
35	+	RED OAK	Shumard Red Oak	Quercus shumardii	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
54		LACEBARK	Lacebark Elm	Ulmus parvifolia	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
65		PISTACHIO	Chinese Pistachio	Pistacia chinensis	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
82		T. YAUPON	Yaupon Holly	Ilex vomitoria	3/4" caliper per trunk, 5 trunk min., 6' Ht./4' spread, container, female - heavy berried tree form, limbed to 3'
95		RED BUD	Oklahoma Red Bud	Cercis canadinsis 'oklahoma'	5'-6' ht, 3'-4' spread, container

SHRUBS

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE AND CONDITION
1,706	⊗	P. MUHLY	Pink Muhly Grass	Muhlenbergia capillaris	5 gallon, 18" Ht./18" full

GROUNDCOVER

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE AND CONDITION
AS SHOWN		SOD	Common Bermuda Grass	Cynodon dactylon	Sod refer to specifications
AS SHOWN		HYDRO	Common Bermuda Grass	Cynodon dactylon	Hydromulch refer to specifications

LANDSCAPE CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES

LANDSCAPE TABULATIONS

F.M. 1141 AND QUAIL RUN ROAD STREET BUFFER

30' BUFFER, BERM, SHRUBS, BERM AND SHRUBS 30" MIN. HEIGHT, 3 CANOPY/4 ACCENT TREES PER 100LF.

F.M. 1141 STREET BUFFER REQUIRED	30' BUFFER
BUFFER PROVIDED	30' BUFFER
F.M. 1141 BUFFER TREES REQUIRED (1,578 LF/100 LF =)	15.8 UNITS
BUFFER TREES REQ. (CAN. 3x15.8=47, ACC. 4x15.8=63	47 CANOPY/63 ACCENT
BUFFER TREES PROVIDED	47 CANOPY/63 ACCENT
QUAIL RUN ROAD STREET BUFFER REQUIRED	30' BUFFER
BUFFER PROVIDED	30' BUFFER
QUAIL RUN BUFFER TREES REQUIRED (1,824 LF/100 LF =)	18.2 UNITS
BUFFER TREES REQ. (CAN. 3x18.2=55, ACC. 4x18.2=73	55 CANOPY/73 ACCENT
BUFFER TREES PROVIDED	55 CANOPY/73 ACCENT

NORTH COUNTRY LANE AND PANHANDLE DRIVE STREET BUFFER

10' BUFFER, BERM, SHRUBS, BERM AND SHRUBS 30" MIN. HEIGHT, 1 CANOPY/1 ACCENT TREE PER 50LF.

NORTH COUNTRY LANE STREET BUFFER REQUIRED	10' BUFFER
BUFFER PROVIDED	10' BUFFER
NORTH COUNTRY LANE BUFFER TREES REQUIRED (1,176 LF/50 LF=)	24 UNITS
BUFFER TREES REQ. (CAN. 1x24=24, ACC. 1x24=24	24 CANOPY/24 ACCENT
BUFFER TREES PROVIDED	24 CANOPY/24 ACCENT
PANHANDLE DRIVE STREET BUFFER REQUIRED	10' BUFFER
BUFFER PROVIDED	10' BUFFER
NORTH COUNTRY LANE BUFFER TREES REQUIRED (1,792 LF/50 LF=)	36 UNITS
BUFFER TREES REQ. (CAN. 1x36=22, ACC. 1x36=36	36 CANOPY/36 ACCENT
BUFFER TREES PROVIDED (FUTURE WHEN DEVELOPED)	0 CANOPY/0 ACCENT

WEST OF PANHANDLE AND NORTH OF N. COUNTRY LANE

HEAVY LANDSCAPING, BERM, 3 TIER SCREEN, 1-SMALL/MID SHRUBS, 2-LG SHRUBS OR ACCENT TREES, 3-CANOPY MIN. 20' CENTERS.

NORTH COUNTRY LANE REMAINDER	360 LF
REMAINDER TREES REQUIRED (360 LF / 20' =)	18 TREES
REMAINDER TREES PROVIDED	18 TREES
PANHANDLE DRIVE REMAINDER	440 LF
REMAINDER TREES REQUIRED (440 LF / 20' =)	22 TREES
REMAINDER TREES PROVIDED (FUTURE WHEN DEVELOPED)	0 TREES

PARKING LOT LANDSCAPING

LOT WITH 2 ROWS HAVE GREATER OF 5% OR 200 SF LANDSCAPE, IF LOT OVER 20,000 SF 1 LG TREE PER 10 SPACES INTERIOR TO LOT, MAX 80 LF FROM TREE TO SPACE.

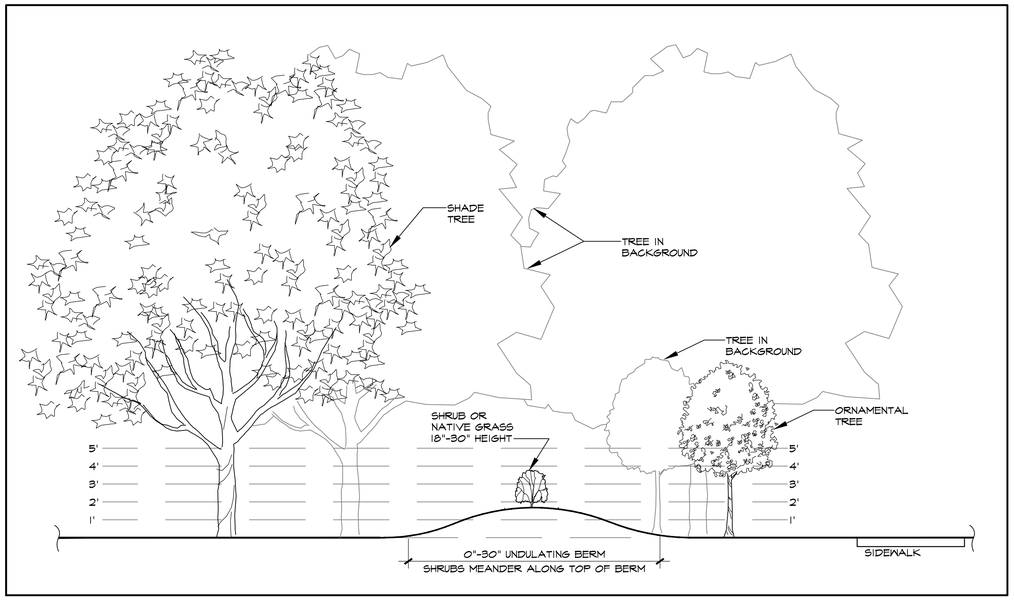
PARKING SPACES	382 SPACES
PARKING LANDSCAPE REQUIRED 102,330 SF X 5% =)	5,117 SF
PARKING LANDSCAPE PROVIDED	8,203 SF

AMOUNT OF LANDSCAPING

% LANDSCAPE BY ZONING, COMMERCIAL 15%, 50% LOCATED FRONT AND SIDE, DETENTION LANDSCAPED GRASSES, SHRUBS, TREES IN NATURAL MANNER, 1 TREE PER 750 SF OF DRY LAND AREA.

SITE AREA	3,044,080 SF
SITE LANDSCAPE REQUIRED 3,044,080 SF X 15% =)	456,612 SF
SITE LANDSCAPE PROVIDED	1,778,250 SF
% LANDSCAPE PROVIDED FRONT/SIDE	(118%) 540,843 SF
SITE IMPERVIOUS AREA	1,244,655 SF

ALL REQUIRED LANDSCAPE AREAS TO RECEIVE AUTOMATIC UNDERGROUND IRRIGATION WITH RAIN AND FREEZE PROTECTION TO MEET REQUIREMENTS OF UDC.



LANDSCAPE BUFFER SECTION

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

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Planning & Zoning Commission, Chairman

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LOT 1, BLOCK A
OUT OF THE
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CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN
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ISSUES

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REVISIONS

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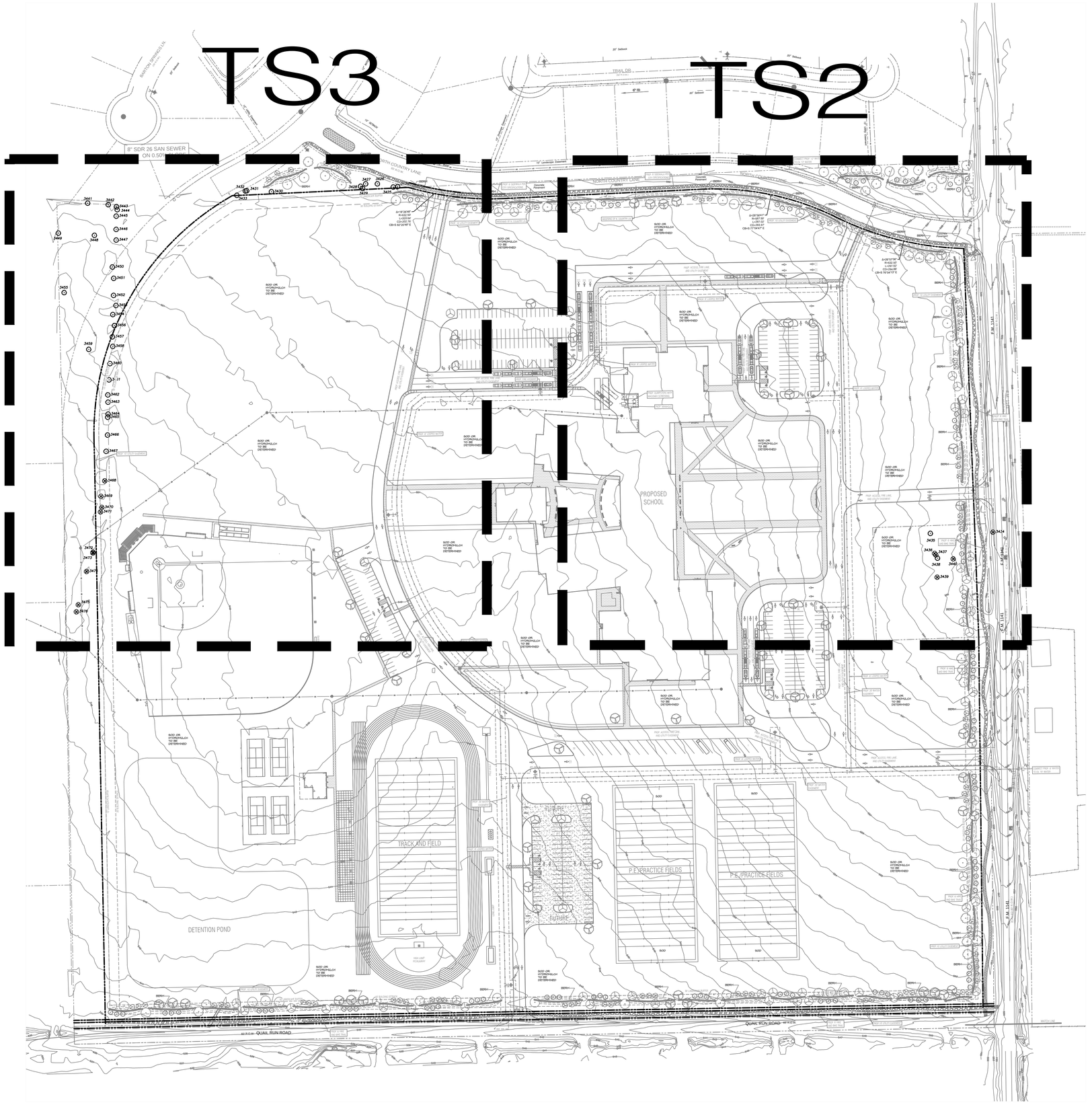
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE DETAILS

JOB 21572.0000
DATE 06/07/22
SHEET L 8



	ROCKWALL JH NORTH			
TREE #	TREE TYPE/COND.	DEMO/SAVE	MITIGATE	CREDIT
3424	TREE 16" HACKBERRY	OFF-SITE	0	
3425	TREE 14" HACKBERRY	OFF-SITE	0	
3426	TREE 13" HACKBERRY	OFF-SITE	0	
3427	TREE 16" HACKBERRY	OFF-SITE	0	
3428	TREE 13" HACKBERRY	OFF-SITE	0	
3429	TREE 13" HACKBERRY	OFF-SITE	0	
3430	TREE 15" HACKBERRY MT	OFF-SITE	0	
3431	TREE 12" HACKBERRY MT	OFF-SITE	0	
3432	TREE 16" HACKBERRY MT	OFF-SITE	0	
3433	TREE 14" HACKBERRY MT	OFF-SITE	0	
3434	TREE 30" PECAN	OFF-SITE/ROAD	0	
3435	TREE 31" PECAN	SAVE	0	31
3436	TREE 18" ELM	DEMO	18	
3437	TREE 15" ELM	DEMO	15	
3438	TREE 38" ELM	SAVE	0	38
3439	TREE 18" HACKBERRY	DEMO	9	
3440	TREE 18" PEAR	DEMO-1/2 DEAD	EXEMPT	SICK
3441	TREE 19" HACKBERRY MT	SAVE	0	
3442	TREE 11" HACKBERRY	SAVE	0	
3443	TREE 12" HACKBERRY	SAVE	0	
3444	TREE 13" HACKBERRY MT	SAVE	0	
3445	TREE 14" HACKBERRY SPLIT	SAVE	0	
3446	TREE 18" HACKBERRY	SAVE	0	
3447	TREE 12" HACKBERRY	SAVE	0	
3448	TREE 12" HACKBERRY MT	SAVE	0	
3449	TREE 12" HACKBERRY MT	SAVE	0	
3450	TREE 14" HACKBERRY	SAVE	0	
3451	TREE 16" HACKBERRY MT	SAVE	0	
3452	TREE 13" HACKBERRY	SAVE	0	
3453	TREE 14" HACKBERRY	SAVE	0	
3454	TREE 12" HACKBERRY	SAVE	0	
3455	TREE 23" HACKBERRY MT	SAVE	0	
3456	TREE 13" HACKBERRY MT	SAVE	0	
3457	TREE 11" HACKBERRY MT	SAVE	0	
3458	TREE 12" HACKBERRY MT	SAVE	0	
3459	TREE 13" HACKBERRY MT	SAVE	0	
3460	TREE 19" HACKBERRY MT	SAVE	0	
3461	TREE 15" HACKBERRY	SAVE	0	
3462	TREE 12" HACKBERRY	SAVE	0	
3463	TREE 14" HACKBERRY	SAVE	0	
3464	TREE 11" HACKBERRY	SAVE	0	
3465	TREE 13" HACKBERRY MT	SAVE	0	
3466	TREE 12" HACKBERRY	SAVE	0	
3467	TREE 14" HACKBERRY	SAVE	0	
3468	TREE 16" HACKBERRY	DEMO	8	
3469	TREE 12" HACKBERRY	DEMO	6	
3470	TREE 12" HACKBERRY	DEMO	6	
3471	TREE 12" HACKBERRY	DEMO	6	
3472	TREE 12" HACKBERRY MT	DEMO	6	
3473	TREE 12" HACKBERRY MT	DEMO	6	
3474	TREE 18" HACKBERRY	DEMO	9	
3475	TREE 12" HACKBERRY	DEMO	6	
3476	TREE 13" HACKBERRY	DEMO	6.5	
	TOTAL		101.5	69

MITIGATION 101.5 - 69 = 32.5 X $100.00 = $3,250.00

EXISTING TREE LEGEND	
3467	EXISTING TREE TO BE SAVED
3468	EXISTING TREE TO BE REMOVED

SITE DATA SUMMARY	
EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F. = 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0x18.0'	202 SPACES
9.0x20.0'	159 SPACES
15.0x30.0'	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

0 100 200
GRAPHIC SCALE 1" = 100'

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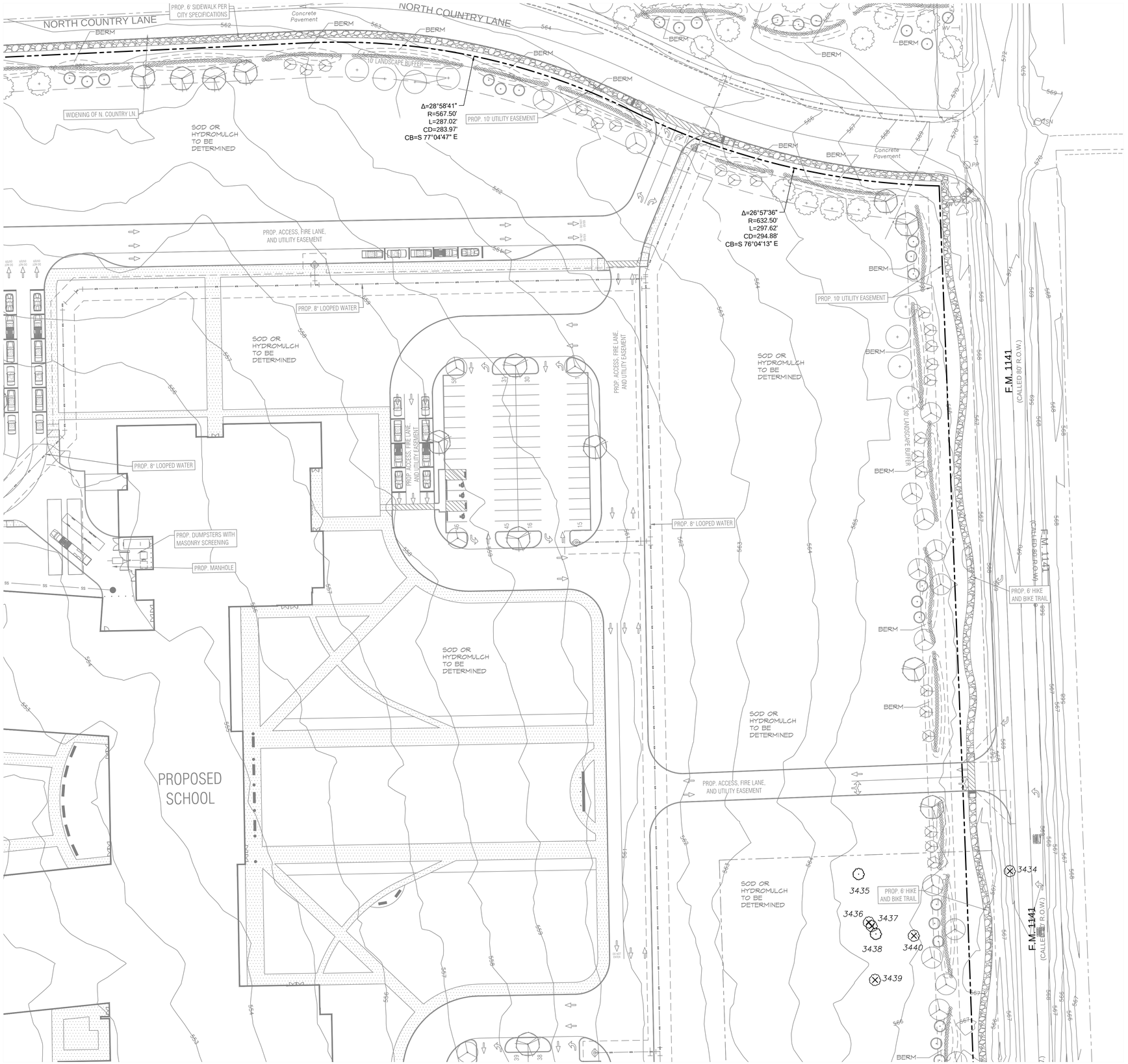
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

OVERALL TREESCAPE PLAN

JOB 21572.0000
DATE 06/07/22
SHEET TS 1



	ROCKWALL JH NORTH			
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3444	TREE 13" HACKBERRY MT	SAVE	0	
3445	TREE 14" HACKBERRY SPLIT	SAVE	0	
3446	TREE 18" HACKBERRY	SAVE	0	
3447	TREE 12" HACKBERRY	SAVE	0	
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3450	TREE 14" HACKBERRY	SAVE	0	
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	TOTAL		101.5	69

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NORTH

0 40 80

GRAPHIC SCALE
1"=40'

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ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

ISSUES		
1	06/07/22	PERMIT REVIEW
2		
3		
4		
5		
6		

REVISIONS		

THIS DOCUMENT IS RELEASED FOR PERMIT REVIEW UNDER THE AUTHORITY OF: MICHAEL RAMSEY REGISTERED LANDSCAPE ARCHITECT #1901. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

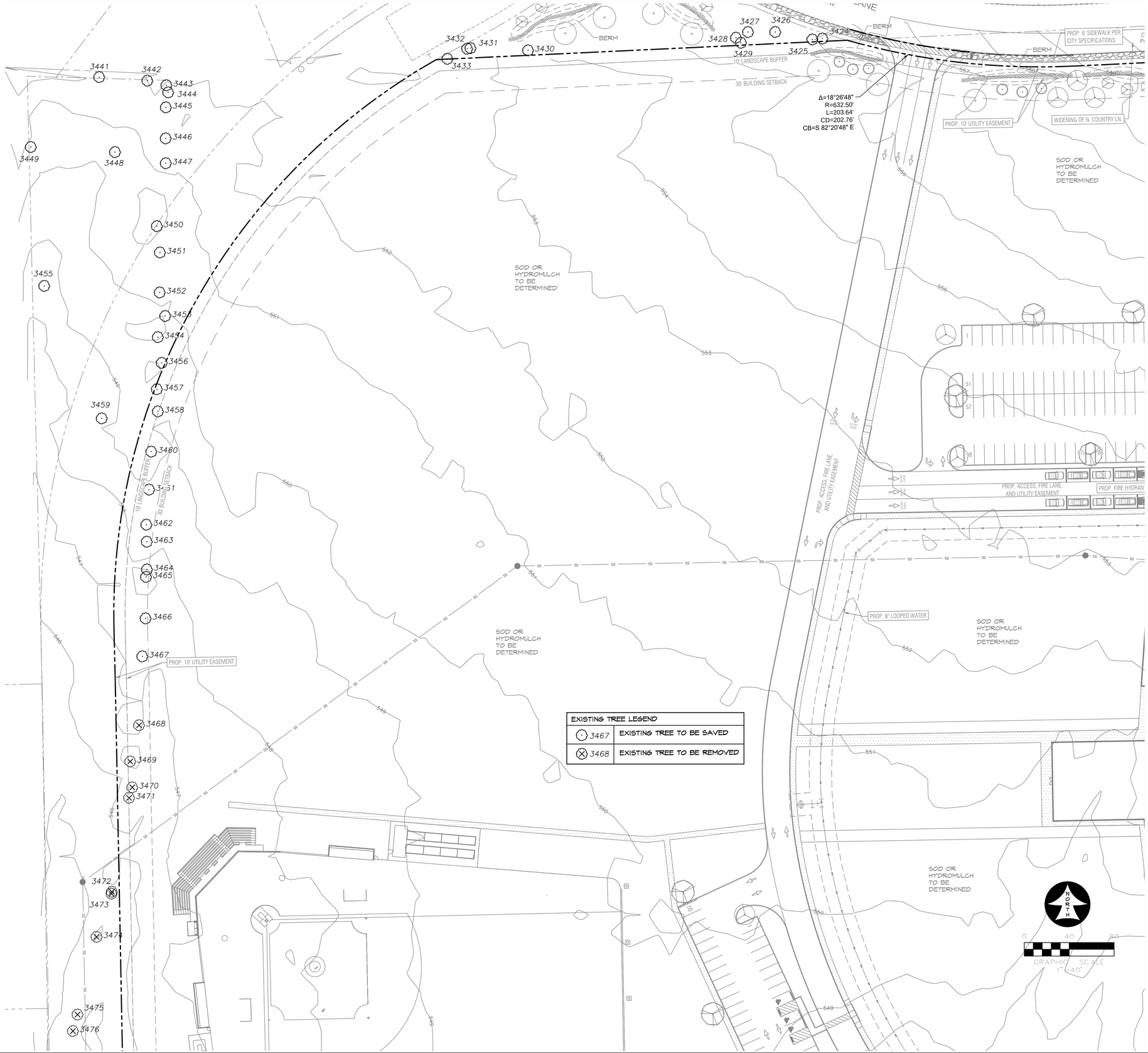
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

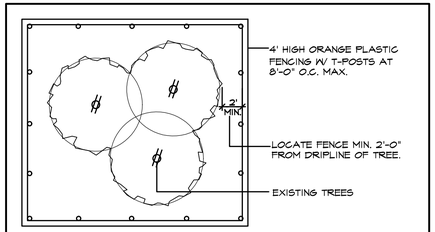
F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

TREESCAPE PLAN EAST

JOB 21572.0000
DATE 06/07/22
SHEET TS 2



	ROCKWALL JH NORTH			
TREE #	TREE TYPE/COND.	DEMO/SAVE	MITIGATE	CREDIT
3424	TREE 16" HACKBERRY	OFF-SITE	0	
3425	TREE 14" HACKBERRY	OFF-SITE	0	
3426	TREE 13" HACKBERRY	OFF-SITE	0	
3427	TREE 16" HACKBERRY	OFF-SITE	0	
3428	TREE 13" HACKBERRY	OFF-SITE	0	
3429	TREE 13" HACKBERRY	OFF-SITE	0	
3430	TREE 15" HACKBERRY MT	OFF-SITE	0	
3431	TREE 12" HACKBERRY MT	OFF-SITE	0	
3432	TREE 16" HACKBERRY MT	OFF-SITE	0	
3433	TREE 14" HACKBERRY MT	OFF-SITE	0	
3434	TREE 30" PECAN	OFF-SITE/ROAD	0	
3435	TREE 31" PECAN	SAVE	0	31
3436	TREE 18" ELM	DEMO	18	
3437	TREE 15" ELM	DEMO	15	
3438	TREE 38" ELM	SAVE	0	38
3439	TREE 18" HACKBERRY	DEMO	9	
3440	TREE 18" PEAR	DEMO-1/2 DEAD	EXEMPT	SICK
3441	TREE 19" HACKBERRY MT	SAVE	0	
3442	TREE 11" HACKBERRY	SAVE	0	
3443	TREE 12" HACKBERRY	SAVE	0	
3444	TREE 13" HACKBERRY MT	SAVE	0	
3445	TREE 14" HACKBERRY SPLIT	SAVE	0	
3446	TREE 18" HACKBERRY	SAVE	0	
3447	TREE 12" HACKBERRY	SAVE	0	
3448	TREE 12" HACKBERRY MT	SAVE	0	
3449	TREE 12" HACKBERRY MT	SAVE	0	
3450	TREE 14" HACKBERRY	SAVE	0	
3451	TREE 16" HACKBERRY MT	SAVE	0	
3452	TREE 13" HACKBERRY	SAVE	0	
3453	TREE 14" HACKBERRY	SAVE	0	
3454	TREE 12" HACKBERRY	SAVE	0	
3455	TREE 23" HACKBERRY MT	SAVE	0	
3456	TREE 13" HACKBERRY MT	SAVE	0	
3457	TREE 11" HACKBERRY MT	SAVE	0	
3458	TREE 12" HACKBERRY MT	SAVE	0	
3459	TREE 13" HACKBERRY MT	SAVE	0	
3460	TREE 19" HACKBERRY MT	SAVE	0	
3461	TREE 15" HACKBERRY	SAVE	0	
3462	TREE 12" HACKBERRY	SAVE	0	
3463	TREE 14" HACKBERRY	SAVE	0	
3464	TREE 11" HACKBERRY	SAVE	0	
3465	TREE 13" HACKBERRY MT	SAVE	0	
3466	TREE 12" HACKBERRY	SAVE	0	
3467	TREE 14" HACKBERRY	SAVE	0	
3468	TREE 16" HACKBERRY	DEMO	8	
3469	TREE 12" HACKBERRY	DEMO	6	
3470	TREE 12" HACKBERRY	DEMO	6	
3471	TREE 12" HACKBERRY	DEMO	6	
3472	TREE 12" HACKBERRY MT	DEMO	6	
3473	TREE 12" HACKBERRY MT	DEMO	6	
3474	TREE 18" HACKBERRY	DEMO	9	
3475	TREE 12" HACKBERRY	DEMO	6	
3476	TREE 13" HACKBERRY	DEMO	6.5	
	TOTAL		101.5	69



1. EXISTING TREES WITHIN CONTRACT LIMITS ARE SHOWN ON THE DRAWINGS. EXISTING TREES DESIGNATED FOR REMOVAL SHALL BE FLAGGED AT THE PROJECT SITE WITH FLAGGING BY THE CONTRACTOR.
2. PROTECT ALL INDIVIDUAL TREES OR GROUPS OF TREES TO BE PRESERVED BY ERECTING A BARRIER AROUND EACH TREE OR GROUP OF TREES. INSTALL AND MAINTAIN BARRIER AT TREE DRIPLINE. BARRIERS SHALL REMAIN IN PLACE UNTIL REMOVAL IS NECESSARY.
3. IN THE EVENT THAT HEAVY CONSTRUCTION IS SCHEDULED TO OCCUR WITHIN THE DRIPLINE OF AN EXISTING TREE, CONTRACTOR SHALL ERECT A PROTECTION FENCE OUTSIDE THE DRIPLINE UNTIL THIS CONSTRUCTION IS SCHEDULED TO OCCUR. THE PROTECTION FENCE MAY THEN BE ADJUSTED AS REQUIRED TO COMPLETE THE PROPOSED CONSTRUCTION. AFTER CONSTRUCTION IN THIS AREA IS COMPLETED, THE PROTECTION FENCE SHALL BE ADJUSTED TO ITS ORIGINAL LOCATION.
4. CONTRACTORS SHALL NOT PARK, CLEAN TOOLS AND EQUIPMENT OR STORE MATERIALS WITHIN THE DRIPLINE OF ANY TREE.
5. ALL ROOTS OVER 1" IN DIAMETER SHALL BE CUT CLEAN WITH A HAND SAW.

TREE PROTECTION FENCE AND NOTES

SCALE: N.T.S.

APPROVED:
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WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

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SURVEYOR:
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SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
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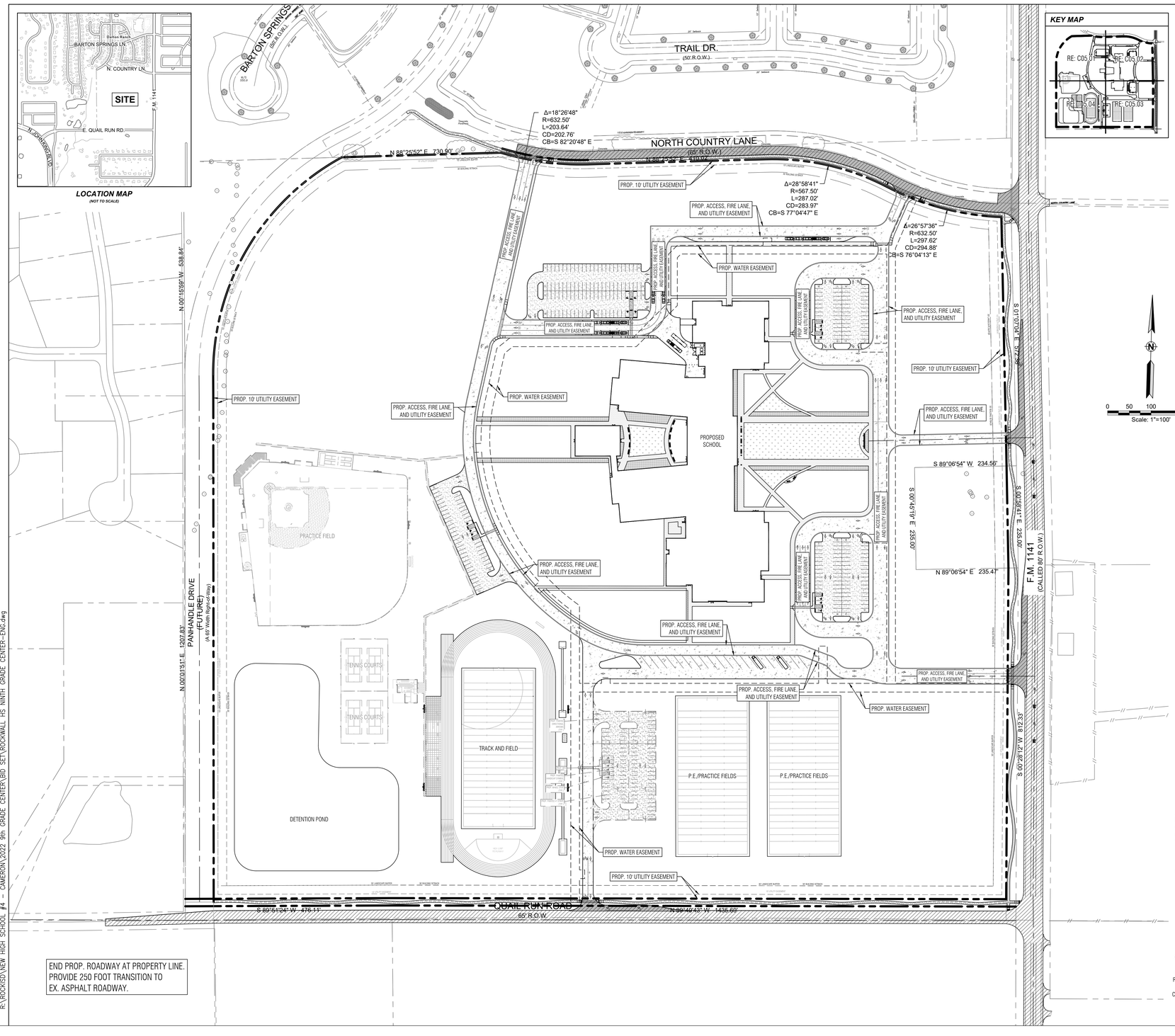
ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

TREESCAPE PLAN WEST

JOB 21572.0000
DATE 06/07/22
SHEET TS 3

LOCATION MAP
(NOT TO SCALE)



END PROP. ROADWAY AT PROPERTY LINE.
PROVIDE 250 FOOT TRANSITION TO
EX. ASPHALT ROADWAY.

KEY MAP

GENERAL SITE NOTES

1. STRIPING & SIGNAGE DIMENSIONS ARE FROM FACE OF CURB.
2. ALL FIRE LANES, PARKING STRIPING, HANDICAP PARKING STRIPING & SIGNAGE ARE TO BE IN ACCORDANCE WITH CITY OF ROCKWALL REQUIREMENTS, TYP.
3. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CITY OF ROCKWALL SPECIFICATIONS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.
5. ALL WORK SHALL CONFORM TO THE CITY OF ROCKWALL SPECIFICATIONS, STANDARDS, AND DETAILS.
6. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS, PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.
8. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATING EXISTING UTILITIES AND IMPROVEMENTS PRIOR TO CONSTRUCTION.
9. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN TO THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR REVIEW.
10. MARK FIRE LANES TO THE CITY OF ROCKWALL SPECIFICATION. "NO PARKING FIRE LANE" EVERY 25' WHITE 4" LETTERS ON A 6" RED STRIPED BACKGROUND.
11. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
12. BARRIER FREE RAMPS (BFR) IN PUBLIC R.O.W. SHALL BE PER CITY SPECIFICATIONS.
13. ALL OUTDOOR LIGHTING MUST BE ORIENTED SO THAT LIGHTING LEVELS AT ALL PROPERTY LINES ARE 1FOT-CANDLE OR LESS.

PAVING LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- PAINTED TRAFFIC DIRECTIONAL ARROW
- PROPERTY LINE
- 10' MASONRY SCREENING WALL
- (PRIVATE) 5" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 6" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 2" AC SURFACE COURSE (TYPE D) OVER 6.5" AC SURFACE COURSE (TYPE B) OVER 8" STABILIZED SUBGRADE OVER 9" RECOMPACTED SUBGRADE
- (PRIVATE) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 24" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- PLANTING AREAS. RE: LANDSCAPE

PAVING LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE

SITE DATA SUMMARY TABLE

EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	153,187 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	194,206 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	153,187 S.F.
LOT COVERAGE	153,187 S.F./3,044,079 S.F. = 5.03%
FLOOR AREA RATIO	0.06:1
TOTAL IMPERVIOUS AREA	734,662.08 S.F. OR 16.87 AC.
BUILDING HEIGHT	1ST-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0x18.0	202 SPACES
9.0x20.0	159 SPACES
15.0x30.0	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

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LOT 1, BLOCK A
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CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

REVISIONS		

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB # 1752575193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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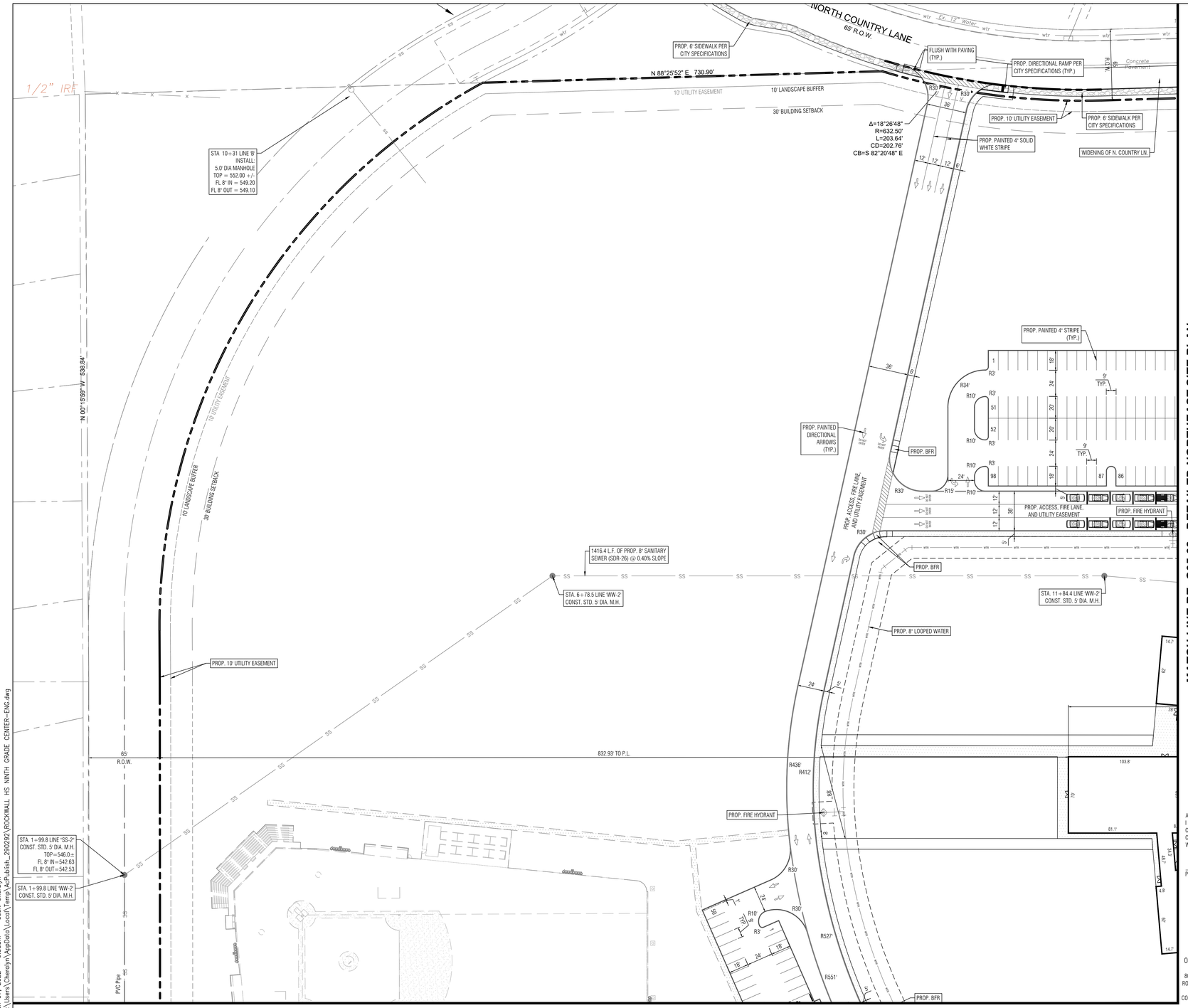
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

OVERALL SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.00

Jun 07, 2022 - 10:12am User: Cheralyn
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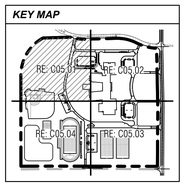
SITE LEGEND (PROPOSED)

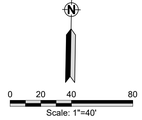
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- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE
- WASTEWATER
- STORM SEWER
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KEY MAP





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ISSUES		
1	05/11/22	30% PROGRESS SET

△ REVISIONS

GLENN ENGINEERING
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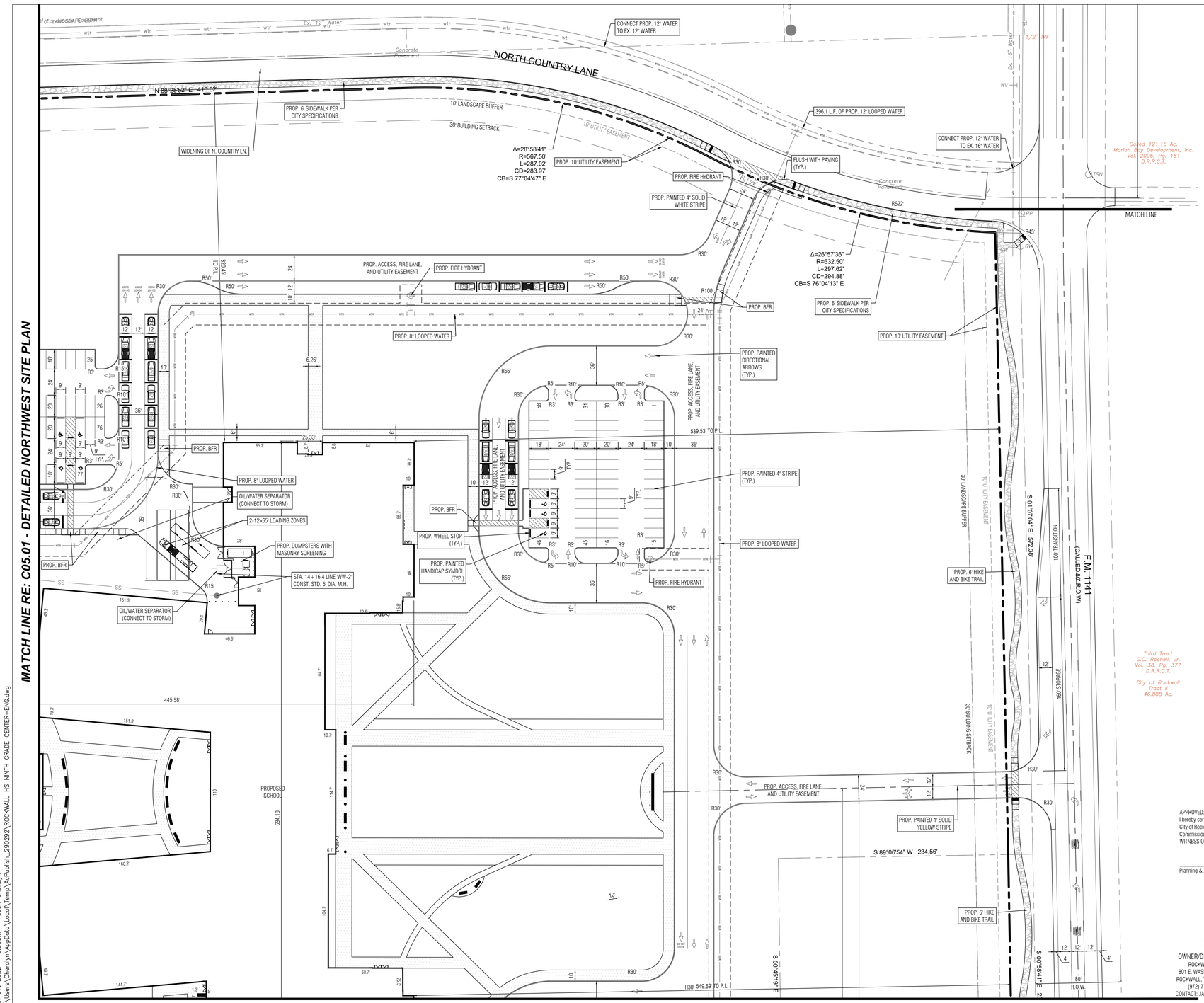
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED NORTHWEST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.01

Jun 07, 2022 – 9:38am User: Cheralyn
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MATCH LINE RE: C05.01 - DETAILED NORTHWEST SITE PLAN

MATCH LINE RE: C05.03 - DETAILED SOUTHEAST SITE PLAN

0 20 40 80
Scale: 1"=40'

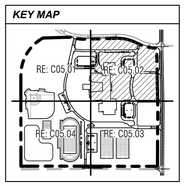
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DETAILED NORTHEAST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET

C05.02

Jun 07, 2022 -- 9:39am User: Cheralyn
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MATCH LINE RE: C05.04 - DETAILED SOUTHWEST SITE PLAN

MATCH LINE RE: C05.02 - DETAILED NORTHEAST SITE PLAN

PROP. FIRE HYDRANT
PROP. PAINTED 4" STRIPE (TYP.)
PROP. PAINTED HANDICAP SYMBOL (TYP.)
PROP. WHEEL STOP (TYP.)
PROP. BFR
STA. 16+34.5 LINE 'WW-1' CONST. STD. 5' DIA. M.H.
PROP. ACCESS, FIRE LANE AND UTILITY EASEMENT
PROP. 8" LOOPED WATER
PROP. 20' WATER EASEMENT
PROP. PAINTED DIRECTIONAL ARROWS (TYP.)
PROP. 6' HIKE AND BIKE TRAIL
100' TRANSITION
180' STORAGE
30' BUILDING SETBACK
10' UTILITY EASEMENT
PROP. PAINTED 1' SOLID YELLOW STRIPE
PROP. PAINTED 4' SOLID WHITE STRIPE
CONNECT PROP. 8" WATER TO EX. 16" WATER
F.M. 1141 (CALLED 80' R.O.W.)
N 89°06'54" E 235.47'
545.18' C.L. TO C.L. 15' F/F
Fourth Tract G.C. Rochell, Jr. Vol. 38, Pg. 377 D.R.R.C.T.
City of Rockwall
S 00°28'12" W 812.33'
80' ROW
30' LANDSCAPE BUFFER
P.E./PRACTICE FIELDS
670.38' TO P.I.
N 89°49'43" W 1435.69'
QUAIL RUN ROAD
65' R.O.W.
Ex. 12" Water
MATCH LINE

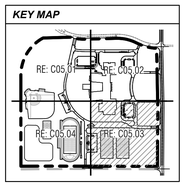
SITE LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE
- WASTEWATER
- STORM SEWER
- WATER

KEY MAP



0 20 40 80
Scale: 1"=40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS. 75038
(972) 771-0605	FORT WORTH, TEXAS. 76104	(9/72) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES

1	05/11/22	30% PROGRESS SET

REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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Date: 05/11/22

ROCKWALL NINTH GRADE CENTER

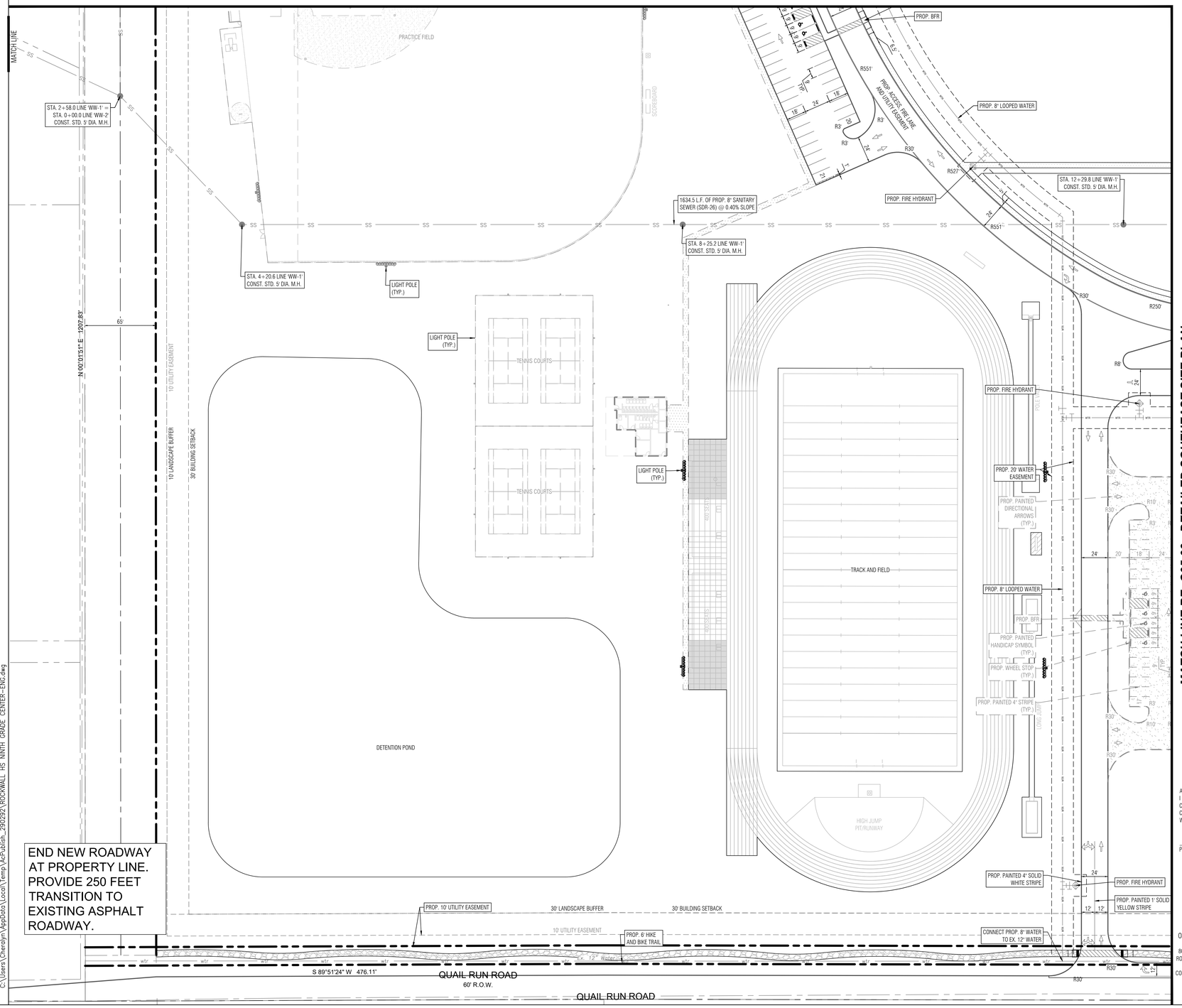
2852 F.M. 1141
Rockwall, TX 75087

DETAILED SOUTHEAST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.03

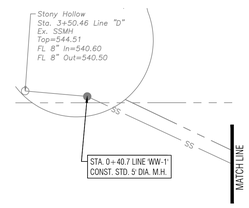
Jun 07, 2022 – 9:39am User: Cheralyn
C:\Users\Cheralyn\AppData\Local\Temp\Ac-Publish_29029\ROCKWALL HS NINTH GRADE CENTER-ENG.dwg

MATCH LINE RE: C05.01 - DETAILED NORTHWEST SITE PLAN



END NEW ROADWAY AT PROPERTY LINE. PROVIDE 250 FEET TRANSITION TO EXISTING ASPHALT ROADWAY.

MATCH LINE RE: C05.03 - DETAILED SOUTHEAST SITE PLAN



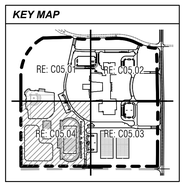
SITE LEGEND (PROPOSED)

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- EDGE OF ASPHALT
- EDGE OF CONCRETE
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- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

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- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE
- WASTEWATER
- STORM SEWER
- WATER

KEY MAP



0 20 40 80
Scale: 1"=40'

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
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1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES

1	05/11/22	30% PROGRESS SET

REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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Date: 05/11/22

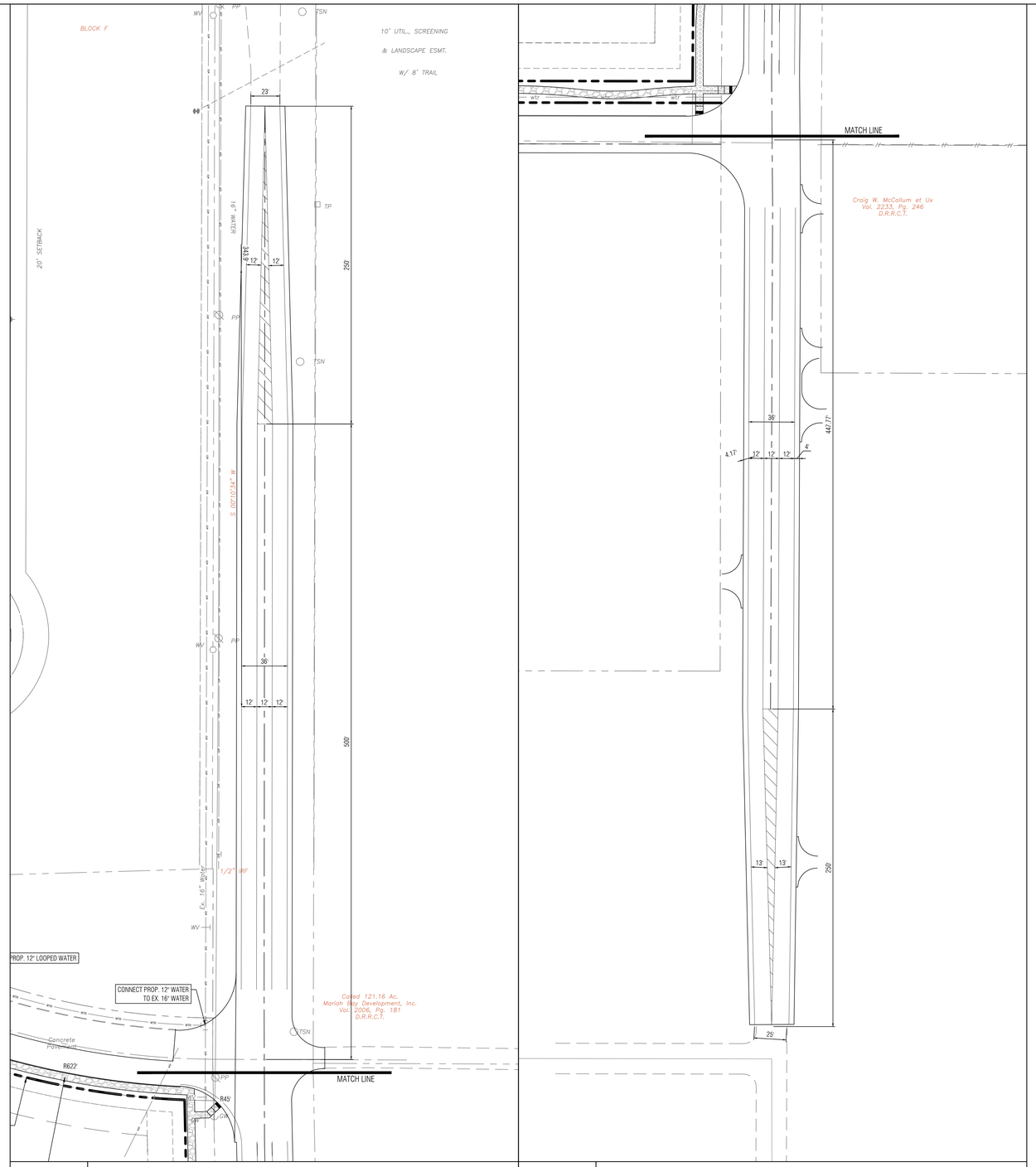
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED SOUTHWEST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.04

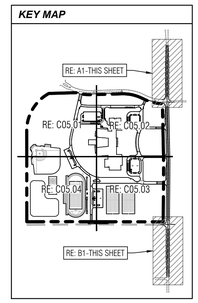
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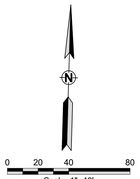


A1	NORTHEAST F.M. 1141 PAVING IMPROVEMENTS	B1	SOUTHEAST F.M. 1141 PAVING IMPROVEMENTS
1"=40'		1"=40'	

Jun 07, 2022 - 9:39am User: Cheralyn
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KEY MAP





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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
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IRVING, TEXAS 75038

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Date: 05/11/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

F.M. 1141 ROAD IMPROVEMENTS

JOB 21572.0000
DATE 05/11/22
SHEET

C05.05

EX. RUNOFF CALCULATIONS ROCKWALL NINTH GRADE CENTER

AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY "I 100" (INCHES/HR)	DESIGN FLOW "Q 100" (CFS)	REMARKS
A1	69.57	10	0.35	9.80	238.63	
	TOTAL				TOTAL	
	69.57				238.63	

PROP. RUNOFF CALCULATIONS ROCKWALL NINTH GRADE CENTER

AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY "I 100" (INCHES/HR)	DESIGN FLOW "Q 100" (CFS)	REMARKS
A1	69.57	10	0.70	9.80	477.25	
	TOTAL				TOTAL	
	69.57				477.25	

DRAINAGE AREA MAP LEGEND

DRAINAGE DIVIDE

DA# A1
69.57 Ac.
238.63 cfs
DRAINAGE AREA
NUMBER OF ACRES
DESIGN FLOW
DRAINAGE FLOW

CONCRETE CURB
CONTOUR (MAJOR) 450
CONTOUR (MAJOR) 451
EDGE OF ASPHALT
EDGE OF CONCRETE
STORM SEWER LINE
HEADWALL

BARTON SPRINGS
(50' R.O.W.)
TRAIL DR.
(50' R.O.W.)
NORTH COUNTRY LANE
(65' R.O.W.)
Δ=18°26'48"
R=632.50'
L=203.64'
CD=202.76'
CB=S 82°20'48" E
Δ=28°58'41"
R=567.50'
L=287.02'
CD=283.97'
CB=S 77°04'47" E
Δ=26°57'36"
R=632.50'
L=297.62'
CD=294.88'
CB=S 76°04'13" E
1/2" IRF
Called 38.320 Ac.
Holmc, Inc.
Vol. 1805, Pg. 296
D.R.R.C.T.
N 00°15'50" W 658.84'
DR-Horton, Texas, Ltd.
Vol. 2328, Pg. 27
D.R.R.C.T.
N 00°01'51" E 1207.83'
PANHANDLE DRIVE
(FUTURE)
(A 66' Width Ranged Area)
Doyl C. Tully et Ux
Vol. 951, Pg. 61
D.R.R.C.T.
Michael R. Nolley et Ux
Vol. 1024, Pg. 324
D.R.R.C.T.
DA# A1
69.57 Ac.
238.63 cfs
PROPOSED
DETENTION
POND
S 89°06'54" W 234.56'
S 00°45'19" E 235.00'
N 89°06'54" E 235.41'
S 00°58'41" E 235.00'
S 01°07'04" E 572.38'
S 00°28'12" W 512.33'
F.M. 1141
(CALLED 80' R.O.W.)
Third Tract
G.C. Rochell, Jr.
Vol. 38, Pg. 377
D.R.R.C.T.
City of Rockwall
Tract II
46.888 Ac.
Fourth Tract
G.C. Rochell, Jr.
Vol. 38, Pg. 377
D.R.R.C.T.
City of Rockwall
QUAIL RUN ROAD
65' R.O.W.
S 89°51'24" W 476.11'
N 89°49'43" W 1435.69'
$Q_{EX.}$ = 238.63 cfs
$Q_{PROP.}$ NOT TO EXCEED 238.63 cfs
Sheila & William J. Flannery, III
Vol. 1124, Pg. 65
D.R.R.C.T.
First Section
Saddlebrook Estates
Cab. A, Sl. 307
P.R.R.C.T.
Craig W. McCallum et Ux
Vol. 2233, Pg. 246
D.R.R.C.T.

N

0 50 100 200
Scale: 1"=100'

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

	ISSUES	
1	05/11/22	30% PROGRESS SET
	REVISIONS	

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752575193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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Date: 6/16/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

EXISTING DRAINAGE AREA MAP

JOB 21572.0000
DATE 6/16/22
SHEET

C08.00

CITY OF ROCKWALL CASE NO.

Statement of Service

Prepared for
Rockwall Independent School District
Rockwall High School Ninth Grade Center Site
On Farm to Market 1141
South of North Country Road and North of East Quail Run Road

City of Rockwall, Rockwall County, Texas

June 2022

Prepared By:

GLENN ENGINEERING

GLENN ENGINEERING CORPORATION
T.B.P.E. REGISTRATION NO. F-303
4500 Fuller Drive, Suite 220
Irving, Texas 75038
(972) 717.5151

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Utility Information 3
Water 3
Sanitary Sewer 3
Storm Sewer 3
Eletric Service 3
Gas 3
Telephone 3

ROADWAYS 4

Roadway Information 4

UTILITIES

Utility Information

Water

Presently there is a 16" water line on the east side of FM 1141 , a 12" water line on the north side of North Country Lane and a 12" Water Line on the north side of Quail Run Road. A looped 8" line around the Proposed Rockwall Ninth Grade Center will be constructed for fire protection. The 12" water line on the north side of North Country Lane will be extended east to the existing 16" line in FM 1141 completing the loop connection. A 4" domestic line will be provided from the proposed 12" in North Country Lane to the new Rockwall Ninth Grade Center. Based the existing water pressures and with the above improvements the City of Rockwall is capable of providing the water needs for the new Rockwall Heath Ninth Grade Center. (see Site plan sheets C5.01 – C5.04.)

Sanitary Sewer

Presently there is an 8" sanitary sewer stubbed out in Panhandle Road for future development from the south. This line has the capacity for the Rockwall Ninth Grade Center, however, based on the proposed Finish Floor elevation of the new Rockwall Ninth Grade Center a gravity line to the manhole cannot be achieved. Therefore an 8" sanitary sewer line is proposed from the new Rockwall Ninth Grade Center to the existing 8" line in the cul de sac at the end of Cobblestone Drive in the Stoney Hollow Addition. This existing 8" line has the capacity to serve the new Rockwall High School Ninth Grade Center and is the same drainage basin as the line on Panhandle. (see Site plan sheets C5.01 – C5.04.)

Storm Sewer

For the purpose of this study, it is assumed that all drainage will discharge into the existing bar ditch on the North side of Quail Run Road and flow west in the bar ditch on the North side to a triple 5'x4' box culverts flowing south under Quail Run Road. The storm sewer lines will be private and owned and operated by Rockwall ISD. A detention facility will be constructed at the southeast corner of the site and will not negatively impact the downstream neighbors. The design of the detention will be in accordance with the City of Rockwall's Standards of drainage and construction. (See Site plan sheets C5.01 – C5.04 and C8.00 Drainage area map.)

Electric

Electric service is available to the existing school site. Oncor Electric Delivery is capable of providing adequate 3-phase power to the site, but requires a site plan and load calculations to determine the size and location of lines.

Gas

If Atmos Energy is capable of providing adequate gas service to the school site, a site plan and load calculations will be required to determine the size and location of lines.

Telephone

Telephone service is available from AT&T.

ROADWAYS

Roadway Information

Farm to Market 1141 (FM 1141)

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. This roadway is capable of handling the additional traffic for the new Rockwall High School Ninth Grade Center with the improvements shown on the site plans. (See both reports for detailed information) These improvements include widening the existing roadway for the entire length of the site from and 2 lane roadway without any shoulders to a 3 lane roadway with 4 foot shoulders. This new roadway will also include deceleration lanes for all proposed driveways and both North Country Lane and Quail Run Road. The 3-lane configuration will provide a left tune line for the entire site while allowing a open travel lane in both direction so the existing traffic will not be impacted. (See Traffic Management Plan)

Panhandle Drive

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center does not show or require access to this future roadway. While we acknowledge that Panhandle Drive is shown on the City of Rockwall's Master Thoroughfare Plan the current Panhandle Drive is not required to handle the daily traffic. Panhandle will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

Quail Run Road

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center does not utilize Quail Run Road for access for Drop of and pick up. The access to Quail Run Road is a courtesy drive for afterhours access and emergency vehicles. While we acknowledge that Quail Run Road is shown on the City of Rockwall's Master Thoroughfare Plan the current asphalt road can handle the daily traffic. Quail Run Road will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

North Country Lane

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center will utilize North Country Lane for access for Drop of and pick up. The Access from North Country Lane is primarily for drop off and pick up for southbound traffic off of FM 1141 . While we acknowledge that North Country Lane Road is shown on the City of Rockwall's Master Thoroughfare Plan the current concrete half section road can handle the daily traffic. North Country Lane will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

May 24, 2022
PK# 5359-22.340

TRAFFIC IMPACT ANALYSIS

Project:
Rockwall ISD North Ninth Grade Center TIA
In Rockwall, Texas

Prepared for:
City of Rockwall

On behalf of:
Glenn Engineering Corp.

Prepared by:

Hunter W. Lemley, P.E., PTOE



Pacheco Koch
a Westwood company

7557 Rambler Road, Suite 1400
Dallas, Texas 75231-2388
(972) 235-3031 www.pkce.com
TX.REG: ENGINEERING FIRM F-469
TX. REG. SURVEYING FIRM LS-100080-00

EXECUTIVE SUMMARY

The services of **Pacheco Koch** were retained by **Glenn Engineering Corp.** to prepare a Traffic Impact Analysis (TIA) for the proposed public school known as *Rockwall ISD North Ninth Grade Center* (the "Project") located at the southwest corner of FM 1141 and N Country Lane in Rockwall, Texas. The Project will consist of a ninth-grade center with an approximate max enrollment of 1,000 students. Buildout of the Project is estimated to occur by 2024. A TIA is required by the City of Rockwall for review as part of the Owner's request for site plan approval.

The purpose of this report is to estimate the incremental impact on the background traffic operational conditions caused by the proposed development within a specific study area as determined by standardized engineering analyses. The study parameters used in this TIA are based upon the requirements of the City and are consistent with the standard industry practices used in similar studies.

Based upon the analyses performed herein, Pacheco Koch developed the following findings and recommendations.

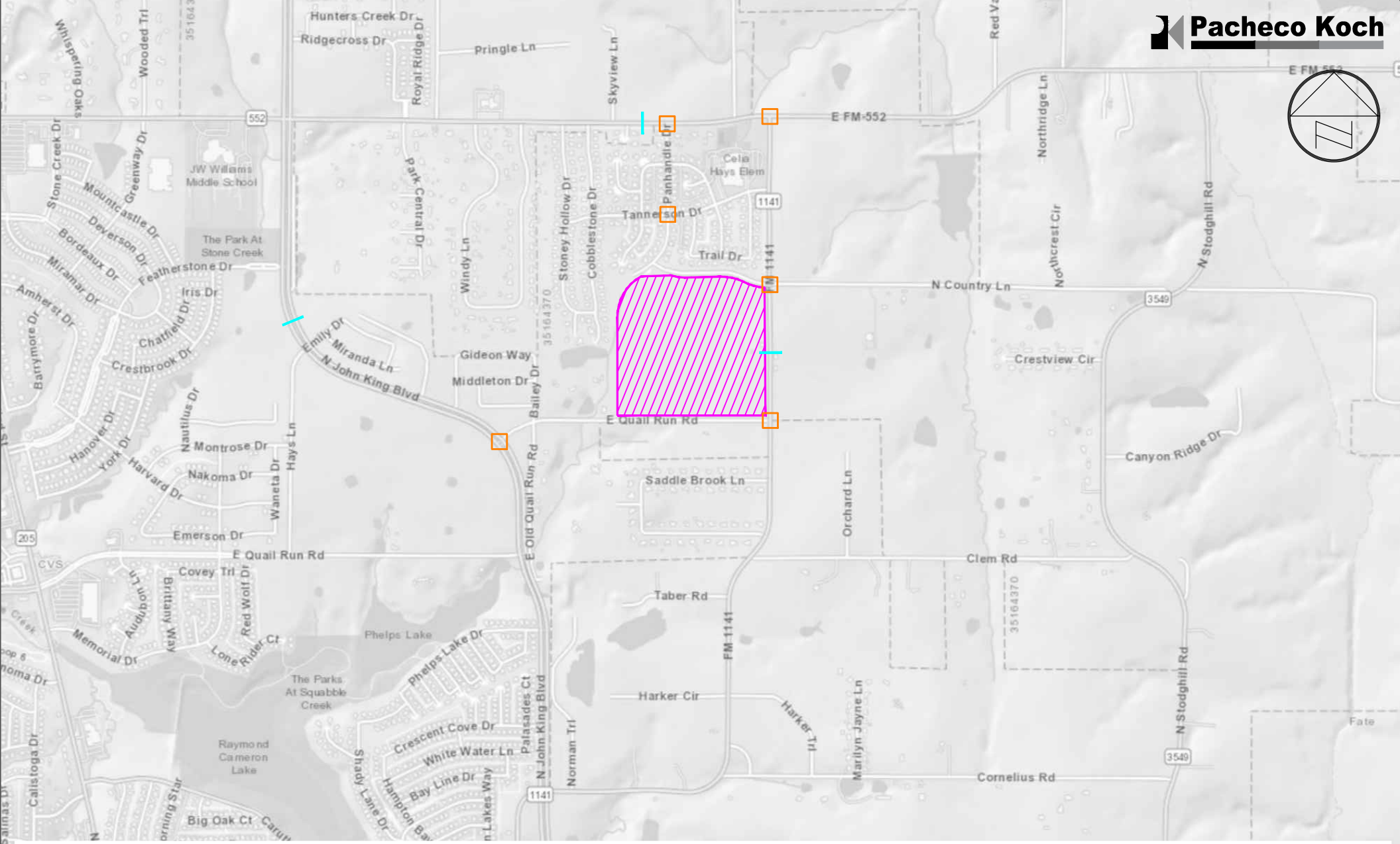
FINDING: The intersection of FM 1141 and FM 552 currently operates efficiently and at "acceptable" Levels of Service during peak traffic periods. However, with the addition of projected school traffic, the calculated average delays for the northbound left-turning maneuvers at the intersection are projected to degrade to "unacceptable" LOS. This condition is common for similar unsignalized intersections on major roadways where a traffic signal being the only mitigation measure to improve the condition. However, with the low projected traffic volumes at the driveway, a traffic signal would not be warranted.

- RECOMMENDATION: As part of the development, the following improvements will be constructed and are assumed to be implemented in the "Build" Scenario of the study:

  1. Right-turn deceleration lanes at all inbound driveways along FM 1141 and E Quail Run Road.

  2. Construction and widening of FM 1141 along the frontage of the site to a three-lane cross-section to include a center two-way left-turn lane for separation of inbound left-turns entering the campus.

END



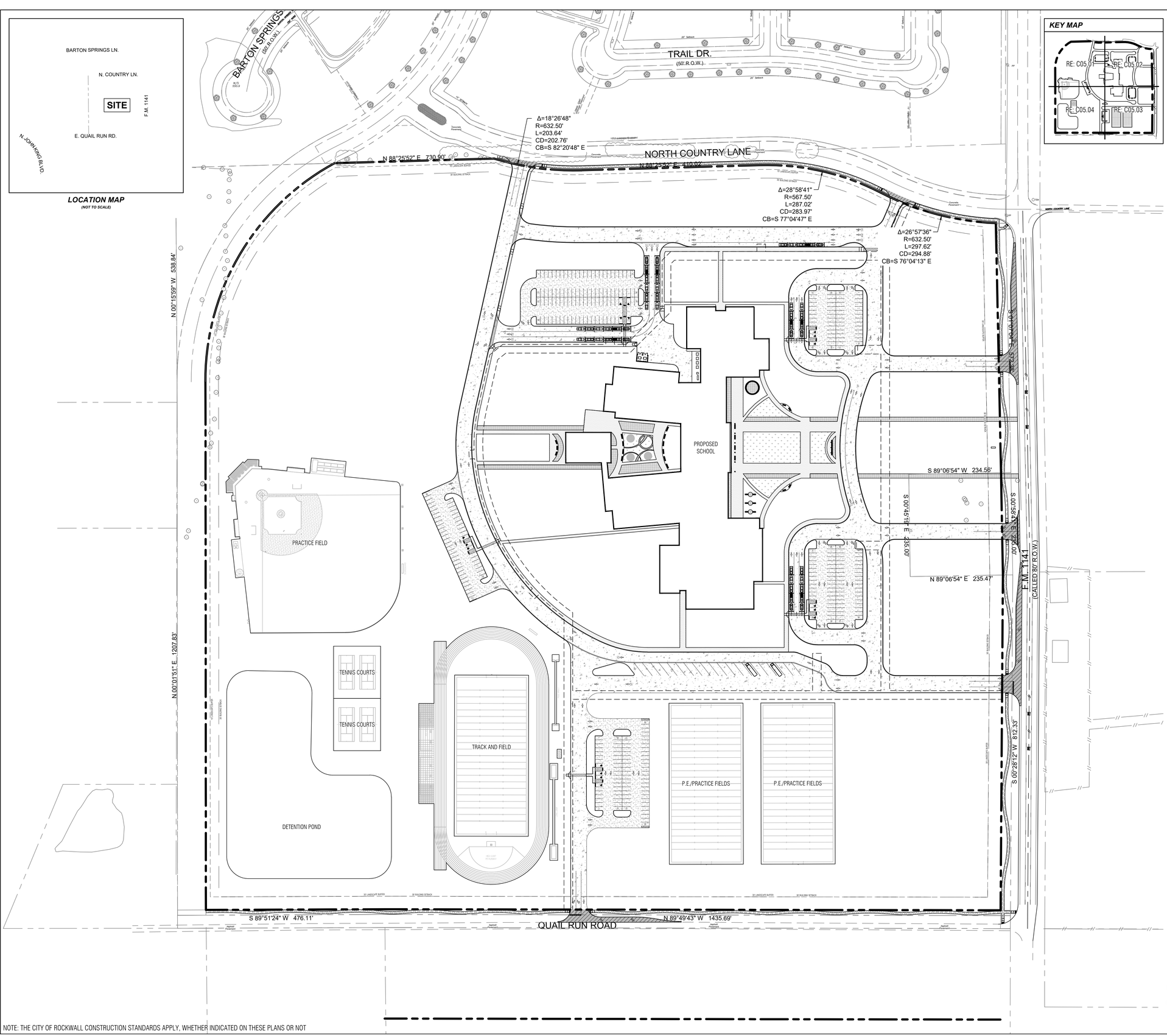
Site Location Map

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/23/22)

EXHIBIT **1**

LOCATION MAP
(NOT TO SCALE)



KEY MAP

GENERAL SITE NOTES

1. STRIPING & SIGNAGE DIMENSIONS ARE FROM FACE OF CURB.
2. ALL FIRE LANES, PARKING STRIPING, HANDICAP PARKING STRIPING & SIGNAGE ARE TO BE IN ACCORDANCE WITH CITY OF ROCKWALL REQUIREMENTS, TYP.
3. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CITY OF ROCKWALL SPECIFICATIONS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.
5. ALL WORK SHALL CONFORM TO THE CITY OF ROCKWALL SPECIFICATIONS, STANDARDS, AND DETAILS.
6. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS, PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.
8. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATING EXISTING UTILITIES AND IMPROVEMENTS PRIOR TO CONSTRUCTION.
9. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN TO THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR REVIEW.
10. MARK FIRE LANES TO THE CITY OF ROCKWALL SPECIFICATION. "NO PARKING FIRE LANE" EVERY 25' WHITE 4" LETTERS ON A 6' RED STRIPED BACKGROUND.
11. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
12. BARRIER FREE RAMPS (BFR) IN PUBLIC R.O.W. SHALL BE PER CITY SPECIFICATIONS.
13. ALL OUTDOOR LIGHTING MUST BE ORIENTED SO THAT LIGHTING LEVELS AT ALL PROPERTY LINES ARE 1FOT-CANDLE OR LESS.

PAVING LEGEND (PROPOSED)

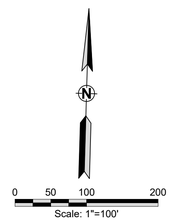
- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- PAINTED TRAFFIC DIRECTIONAL ARROW
- PROPERTY LINE
- 10' MASONRY SCREENING WALL
- (PRIVATE) 5" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 6" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 24" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- PLANTING AREAS. RE: LANDSCAPE

PAVING LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE

SITE DATA SUMMARY TABLE

EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F. = 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0'x18.0'	203 SPACES
9.0'x20.0'	159 SPACES
15.0'x30.0'	20 SPACES
TOTAL PARKING PROVIDED	382 SPACES



APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO.

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

○ ISSUES

△ REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752576193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

PRELIMINARY–FOR REVIEW ONLY
These documents are for Design Review and not intended for Construction, Bidding, or Permit Purposes. They were prepared by, or under the supervision of Cheralyn Armijo, P.E. 84568
Date: March 25, 2022

ROCKWALL NINTH GRADE CENTER

Rockwall, TX 75087

OVERALL SITE PLAN

JOB 20018.0000
DATE 5/3/21
SHEET

C05.00

NOTE: THE CITY OF ROCKWALL CONSTRUCTION STANDARDS APPLY, WHETHER INDICATED ON THESE PLANS OR NOT

R:\ROCKISD\NEW HIGH SCHOOL #4 – CAMERON\2022 9th GRADE CENTER\BID SET\ROCKWALL HS NINTH GRADE CENTER–ENG.dwg

TRAFFIC IMPACT ANALYSIS
Rockwall ISD North Ninth Grade Center
Rockwall, Texas

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INTRODUCTION

The services of **Pacheco Koch** (PK) were retained by **Glenn Engineering Corp.** (the "Owner") to prepare a Traffic Impact Analysis for a proposed public school located at the southwest corner of FM 1141 and N Country Lane in Rockwall, Texas. The Project is referred to herein as Rockwall ISD North Ninth Grade Center. A proposed site plan for the Project, prepared by Corgan Associates, Inc., and a site location map (**Exhibit *1***) are provided following the EXECUTIVE SUMMARY section of this report.

In order to facilitate development of the Project, Glenn Engineering Corp. (the "Applicant") has made a request to the City of Rockwall (the "Approving Agency") for site plan approval. As part of application process for this request, submittal of a TIA commissioned by the Applicant must be submitted to the Approving Agency for review.

This TIA was prepared by traffic engineers at Pacheco Koch (the "Engineer") in accordance with industry and local standards. Pacheco Koch is a licensed engineering firm, based in Texas, that provides professional engineering and related services.

Purpose

A Traffic Impact Analysis (TIA) is an engineering study used to provide information on the projected off-site impacts produced by a specific Project on the traffic operations of public traffic facilities. In some instances, those Project impacts can be sufficiently accommodated by the existing roadway network; while in other cases, Project impacts may require mitigation. Determination of mitigation requirements is subject to the standards and expectations of the Approving Agency.

Commissioning a TIA may be required by an Approving Agency when an Applicant is seeking approvals or entitlements for the Project. Using standardized analysis methodologies, the findings of the TIA are used to gage the direct impacts on the transportation system that are attributable to the Project. Under certain circumstances and within legal parameters, the Approving Agency may require the Applicant to fund the improvement(s) needed to mitigate the impacts.

A TIA should be prepared by a licensed Engineer skilled in the principles of traffic and transportation engineering and planning. The general methodologies, processes, and guidelines used in a TIA are established by industry standards—which are maintained by organizations such as the Institute of Transportation Engineers (ITE) and others—although, the project-specific parameters of the study (e.g., study locations, analysis scenarios, analytical assumptions, etc.) may be established by local ordinances or technical staff of the Approving Agency.

Generally, existing and background conditions of the transportation system are assumed to be the responsibility of the respective governing agency(-ies).

Although the explicit purpose of a TIA is not to evaluate those conditions and identify deficiencies, this information may be evident from the study's findings. The Engineer may suggest or recommend modifications to the transportation system that, in the Engineer's opinion, could improve overall traffic operations, safety, site access, circulation, etc. However, such proposals may be unrelated to the traffic impacts of the Project and are not considered to be the responsibility of the Developer. Implementation of such modifications are subject to the discretion and approval of the respective agency. In general all proposals from the Engineer should not be considered mandatory and are not intended to assign or imply funding responsibility.

A TIA is not a detailed site plan review nor a substitute for local or regional transportation planning.

Project Description

The Project will consist of a ninth-grade center with a maximum enrollment of approximately 1,000 students. The Project will be built in a single phase. Buildout of the Project is estimated to occur by 2024.

Access to the school will be provided by a total of three driveways along FM 1141 and two driveways along N Country Lane. The surrounding roads of FM 1141 (M4D), North Country Lane (M4U), Panhandle Drive (M4U – Not constructed adjacent to the site), and E Quail Run Road (M4U) are designated roads according to the City of Rockwall throughfare plan.

The undeveloped, 24-acre subject site is currently zoned AG.

Study Parameters

The study parameters used in this TIA are based upon industry standard practices and requirements of the City of Rockwall. Project-specific study parameters were reviewed with the City staff at the outset of the study.

This TIA analyzed the day-to-day traffic operations on the public roadway system at time periods that have the greatest combined volume of the background traffic and site-related traffic. Due to the predominant influence of background traffic, the weekday AM and PM peak hours of adjacent street traffic are typically analyzed.

The analysis scenarios addressed in this study include the following:

- at existing conditions ("Existing" scenario)
- at site buildout year with site-generated traffic ("Build" scenario)

  NOTE: Analyses of all future conditions scenarios utilize projected traffic volumes derived by Pacheco Koch using reasonable and customary assumptions that are based upon existing conditions where possible. ITE appropriately points out that, due to natural changes in traffic patterns that occur over time, the margin of error for projected traffic volumes increases as the length of time of the projection increases; and, any projection of hourly turning movement volumes beyond five years inherently contain significant assumptions.

Study Area

The study area for a TIA is typically defined to allow an assessment of the most relevant traffic impacts to the local area. The extent of the study area is discretionary but is generally commensurate with the scale of the proposed development. Special localized factors may also be considered. The specific locations included in the study area of this TIA are listed below and depicted in **Exhibit *1***.

STOP-Sign-Controlled Intersections:

(a) N John King Boulevard and E Quail Run Road
(b) FM 552 and Panhandle Drive
(c) Panhandle Drive and Tannerson Drive
(d) FM 552 and FM 1141
(e) FM 1141 and N Country Lane
(f) FM 1141 and E Quail Run Road

Roadway Links:

(A) N John King Boulevard, between Featherstone Drive and Emily Drive/Hays Lane
- Existing operation and cross-section: *four lanes, two-way operation, median-divided*
- City of Rockwall Thoroughfare Plan Designation: *P6D*
- Current Daily Traffic Volume: *13,679 (Tuesday, May 10, 2022)*

(B) FM 552, between Panhandle Drive and Skyview Lane
- Existing operation and cross-section: *two lanes, two-way operation, no median*
- City of Rockwall Thoroughfare Plan Designation: *TxDOT 4D*
- Current Daily Traffic Volume: *6,269 (Tuesday, May 10, 2022)*

(C) FM 1141, adjacent to the site
- Existing operation and cross-section: *four lanes, two-way operation, median-divided*
- City of Rockwall Thoroughfare Plan Designation: *M4D*
- Current Daily Traffic Volume: *2,217 (Tuesday, May 10, 2022)*

TRAFFIC IMPACT ANALYSIS

The following is a description of the analyses performed as part of this Traffic Impact Analysis.

Approach

The TIA presented in this report analyzed the operational conditions of the study area intersections for the relevant peak hours using standardized analytical methodologies, where applicable. Actual traffic volumes (with adjustments described previously) represent background traffic conditions with no site-related traffic included. Then, traffic generated by the proposed development was calculated using the industry-standard four-step approach of trip generation, mode split, trip distribution, and traffic assignment. By adding the site-generated traffic to the background traffic, the resulting site-plus-background operational conditions were re-analyzed in order to measure the "impact" created by the Project. For any scenario, where appropriate, the Engineer considered and may recommend measures to mitigate undue operational conditions. Recommendations may be unrelated to impact of the Project. However, any recommendations provided by the Engineer are for the consideration of the Approving Agency who may or may not accept the recommendations. Recommendations provided by the Engineer are not intended to assign or imply a mandate nor financial responsibility as such decisions are for the Approving Agency and Applicant to resolve.

Background Traffic Volume Data

Existing Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on Tuesday, May 10th, 2022. Traffic volumes are graphically summarized in **Appendix A**; detailed data sheets are provided in **Appendix B**.

Site-Related Traffic

Trip Generation and Mode Split

Trip generation is calculated in terms of "trip ends" – a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends). Trip generation for this Project was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation* manual (11th Edition). ITE *Trip Generation* is a compilation of actual, vehicular traffic volume generation data and statistics by land use as collected over several decades by creditable sources across the country. Using the ITE equations and rates is an accepted methodology to calculate the projected site-generated traffic volumes for many land uses (though engineering judgment is strongly advised).

The base trip generation data from ITE generally reflect average conditions for a standalone use on a typical day. However, in some cases, the Engineer may judge that other factors may be of sufficient significance to warrant adjusting the base

ITE calculations in order to more accurately reflect Project-specific conditions. For this analysis, no adjustments to the base ITE data were applied.

"Mode split" refers to the consideration of all modes of transportation. Typically, the majority of trips occur by passenger vehicles such as personal autos and ridesharing services. But, some alternative modes—such as travel by public transit, bicycle, and walking—do not generate additional vehicle trips. The default trip generation data from ITE is summarized in vehicular trip ends and incorporate "typical" mode split characteristics. However, when travel by alternative mode has the potential to be greater than normal, a reduction in the number of vehicular trip volume may be warranted. For this analysis, mode spilt in terms of bus and pedestrian reductions are assumed to be already in the ITE Trip Generation calculations.

NOTE: As comparison, a trip generation study performed by Glenn Engineering Corp dated April 13th, 2022, was conducted to determine the AM inbound trip generation for the site.

The study determined the following assumptions:

1. 1,000 students x 45% = 450 students by bus (13 buses)
2. 1,000 students x 55% = 550 students by parent
3. 1,000 students x 0% = 0 pedestrian traffic

1,000 students x 0.55 non-bus mode / 1.4 students per vehicles = 393 trip ends (cars/vans)

This calculated trip generation for the inbound AM peak hour is found to resemble the calculated ITE Trip Generation trips and therefore, ITE Trip Generation calculations were determined to be sufficient for this study.

All information from the trip generation study performed by Glenn Engineering Corp. for trip generation purposes has been provided in **Appendix C** for reference.

Table 1 provides a summary of the calculated trip ends generated by the project. Supplemental information used in the trip generation calculations is provided in **Appendix C.**

Table 1. Projected Trip Generation Summary

SCENARIO	ITE TRIP GENERATION DAILY VOLUMES	AM PEAK HOUR TRIP ENDS (ADJACENT STREET PEAK)	PM PEAK HOUR TRIP ENDS (GENERATOR STREET PEAK)
		Total (In/Out)	**Total** (In/Out)
School trips (ITE LUC 525)	1,940	**520** (354/166)	**320** (102/218)

Trip Distribution and Assignment

The distribution and assignment of site-generated trip ends to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic, trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.

Traffic for the proposed redevelopment was distributed and assigned to the study area roadway network based upon consideration of the factors listed above. Separate traffic assignments were generated for parent traffic and bus traffic. Detailed trip distribution and traffic assignment calculations and results are summarized in **Appendix C**.

Site-Generated Traffic Volumes

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 1**) by the corresponding traffic assignments (from **Appendix C**). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in **Appendix A**.

Traffic Operational Analysis —Roadway Links

Description

A roadway link is a segment of roadway between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. The capacity of the roadway link is predominantly a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Generally, roadway link capacity is less critical than intersection capacity; however, it can provide a gage of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions -- in the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location.

The North Central Texas Council of Governments (NCTCOG) – the metropolitan planning agency for the Dallas-Fort Worth region – has derived internal "hourly service volume" guidelines used for transportation modelling purposes. The NCTCOG values were based upon the principals 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 modelling purposes, they do provide a reasonable gage of theoretical capacity.

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
Residential	925	875	900	825	575	525
Rural	1,025	925	975	875	600	550

To determine the utilization of a roadway, the volume:capacty ratio can be 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 ≤ 25% is LOS *A*,
Volume:Capacity Ratio > 25% and ≤ 45% is LOS *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*

Summary of Results

For roadways adjacent to or in the vicinity of the subject site, the volume/capacity ratio was calculated for existing and site buildout conditions. A summary of the link capacity analysis is provided in **Table 2**. See specific recommendations in the *Recommendations* section of this report.

Table 2. Roadway Link Capacity Analysis Results Summary

ROADWAY/ SCENARIO	DAILY VOLUME	THEORETICAL DAILY CAPACITY	V:C RATIO/ LEVEL OF SERVICE
N John King Boulevard			
Existing Conditions	13,679	37,000	0.37 – *B*
"Build" Conditions	14,063	37,000	0.38 – *B*
FM 552			
Existing Conditions	6,269	16,500	0.38 – *B*
"Build" Conditions	7,037	17,500	0.43 – *B*
FM 1141			
Existing Conditions	2,217	37,000	0.12 – *A*
"Build" Conditions	3,273	37,000	0.18 – *A*

Traffic Operational Analysis —Roadway Intersections

Description

The level of performance of civil infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic an operational analysis of roadway intersection capacity over a 60-minute period is the most detailed type of analysis. An industry-standardized methodology for this type of analysis was developed by the Transportation Research Board and is presented in the Highway Capacity Manual (HCM). HCM uses the term "Level of Service" (or, LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS can be described as follows:

LOS *A* = free, unobstructed flow
LOS *B* = reasonably free flow
LOS *C* = stable flow
LOS *D* = approaching unstable flow
LOS *E* = unstable flow, operating at design capacity
LOS *F* = operating over design capacity

Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C, or better, is desirable, although LOS D is considered to be acceptable in urban conditions; LOS E indicates a facility or maneuver is approaching capacity, while LOS F is theoretically an over-capacity condition. On highly-utilized transportation facilities, brief periods of LOS E or F conditions are not uncommon for during peak periods. In some cases measures to increase capacity, either through operational changes and/or physical improvements, can be identified to improve efficiency and sometimes raise Level of Service.

For traffic-signal-controlled ("signalized") intersections and STOP-controlled ("unsignalized") intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections the average delay per vehicle can be effectively calculated for the entire intersection; however, for unsignalized intersections the average delay per vehicle is calculated only by approach or by individual traffic maneuvers that must stop or yield right-of-way.

NOTE: The HCM unsignalized intersection analysis methodology was developed and calibrated for low-to-moderate volume intersections. When applied to intersections with one or more high-volume or high-capacity approaches, the analyses often reflect poor results (i.e., low Level of Service). However, the actual delay/operational conditions are typical of similar locations and do not necessarily represent unique conditions. Low-performing, high-volume, unsignalized intersections cannot be analytically mitigated unless a traffic signal is installed. (Traffic signal installation is subject to a detailed analysis of established criteria AND approval of the responsible agency. Neither Level of Service nor vehicle delay is a warrant for traffic signal installation.)

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

	Signalized Intersection (Average Delay per Vehicle)	**Unsignalized Intersection (Average Delay per Vehicle)**
LOS *A*	≤ 10	≤ 10
LOS *B*	> 10 - ≤ 20	> 10 - ≤ 15
LOS *C*	> 20 - ≤ 35	> 15 - ≤ 25
LOS *D*	> 35 - ≤ 55	> 25 - ≤ 35
LOS *E*	> 55 - ≤ 80	> 35 - ≤ 50
LOS *F*	> 80	> 50

Analysis Traffic Volumes

Determination of the traffic impact associated with the Project is measured by comparing the incremental change in operational conditions during peak periods with and without site-related traffic. **Appendix A** provides exhibits summarizing the following:

- Existing traffic volumes during study peak hours
- Projected Site-Generated traffic volumes during study peak hours
- Projected "Build" traffic volumes at the Site Buildout Year during study peak hours

A summary of the existing intersection/roadway geometry and traffic control devices is also graphically summarized in **Appendix A**.

Summary of Results

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

NOTE: Traffic signal operational parameters used in this analysis were based upon actual, existing traffic signal operational characteristics observed in the field at the time of traffic data collection.

See specific recommendations in the *SUMMARY OF FINDINGS AND RECOMMENDATIONS* section of this report.

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

INTERSECTION	TRAFFIC MANEUVER	EXISTING CONDITIONS		BUILD CONDITIONS	
		AM	PM	AM	PM
Panhandle Drive @ Tannerson Drive	EB	A (7.1)	A (6.8)	A (7.1)	A (6.9)
	WB	A (7.2)	A (7.0)	A (7.3)	A (7.1)
	NB	A (6.9)	A (7.3)	A (7.1)	A (7.3)
	SB	A (7.6)	A (7.1)	A (7.6)	A (7.1)
FM 1141 @ FM 552	WB	A (1.4)	A (0.7)	A (2.7)	A (1.2)
	NB	C (15.7)	B (11.9)	D (33.2)	C (16.1)
FM 1141 @ N Country Lane	EB	A (9.3)	A (9.1)	B (12.9)	B (11.1)
	WB	A (9.5)	A (9.5)	B (10.1)	A (9.8)
	NB	A (0.5)	A (0.6)	A (0.5)	A (0.6)
	SB	A (0.4)	A (1.1)	A (0.2)	A (0.5)
FM 1141 @ E Quail Run Road	EB	B (10.1)	A (9.1)	B (11.5)	A (10.0)
	NB	A (0.7)	A (0.3)	A (0.4)	A (0.3)
N John King Boulevard @ E Quail Run Road	WB	C (23.2)	C (19.5)	C (22.9)	B (14.9)
	SB	A (0.1)	A (0.2)	A (1.0)	A (0.5)
FM 552 @ Panhandle Drive	WB	A (0.2)	A (0.2)	A (0.1)	A (0.2)
	NB	C (15.4)	B (12.7)	C (21.3)	B (14.7)
N Country Lane @ Site Driveway 1 (Inbound Only)		-	-	-	-
		-	-	-	-
N Country Lane @ Site Driveway 2	NB	-	-	A (9.1)	A (9.0)
FM 1141 @ Site Driveway 3	NB	-	-	A (5.4)	A (2.5)
FM 1141 @ Site Driveway 4	EB	-	-	B (10.2)	A (9.3)
FM 1141 @ Site Driveway 5	EB	-	-	A (9.8)	A (9.3)
	NB	-	-	A (0.2)	A (0.0)

KEY:

A, B, C, D, E, F = Level-of-Service
NB-, SB-, EB-, WB- = Intersection Approach
AM = AM Peak Hour of Adjacent Street
(##.#) = Average Seconds of Delay Per Vehicle
-L, -T, -R = Left, Through, Right Turning Movement
PM = PM Peak Hour of Generator

SUMMARY OF FINDINGS AND RECOMMENDATIONS

NOTE: Recommendations presented in this report reflect the opinion of Pacheco Koch based solely upon technical analysis and professional judgment but are not intended to infer mandates or funding responsibility. Any proposed improvements in the public right-of-way are subject to approval of the responsible agency(-ies). Should the approving agency determine that any off-site improvements are required for approval of the Project, legal precedents apply with regard to jurisdiction and funding allocation.

The following findings and, if applicable, recommendations were based upon an analysis of the anticipated traffic impact generated by the proposed development scenario outlined in the Project Description section of this report.

FINDING: The intersection of FM 1141 and FM 552 currently operates efficiently and at "acceptable" Levels of Service during peak traffic periods. However, with the addition of projected school traffic, the calculated average delays for the northbound left-turning maneuvers at the intersection are projected to degrade to "unacceptable" LOS. This condition is common for similar unsignalized intersections on major roadways where a traffic signal being the only mitigation measure to improve the condition. However, with the low projected traffic volumes at the driveway, a traffic signal would not be warranted.

- RECOMMENDATION: As part of the development, the following improvements will be constructed and are assumed to be implemented in the "Build" Scenario of the study:

3. Right-turn deceleration lanes at all inbound driveways along FM 1141 and E Quail Run Road.

4. Construction and widening of FM 1141 along the frontage of the site to a three-lane cross-section to include a center two-way left-turn lane for separation of inbound left-turns entering the campus.

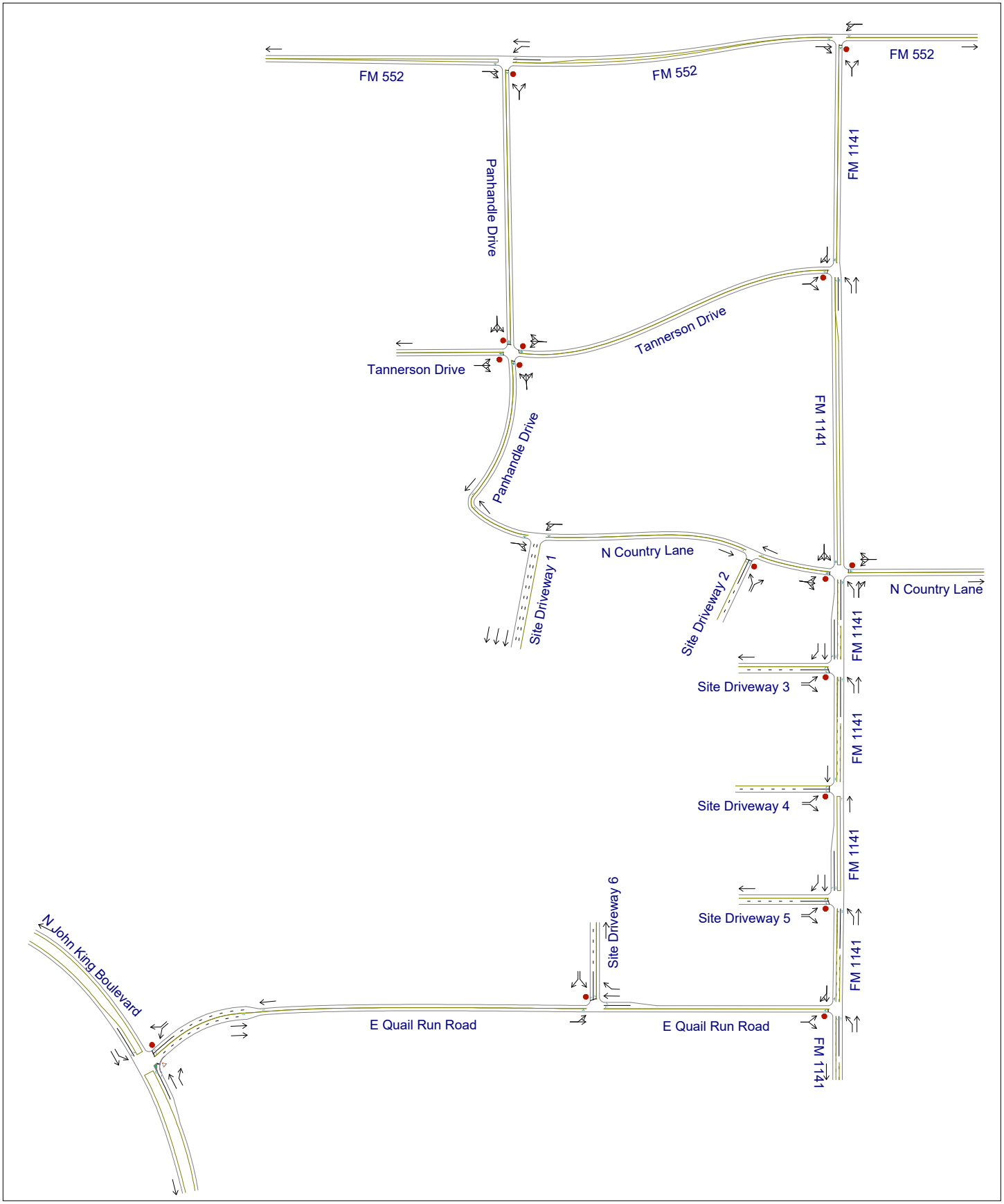
END OF MEMO

Appendix A. Traffic Volume Exhibits

Appendix A1 - Roadway Geometry

North ^

Not to Scale



5359-22.340

LHC

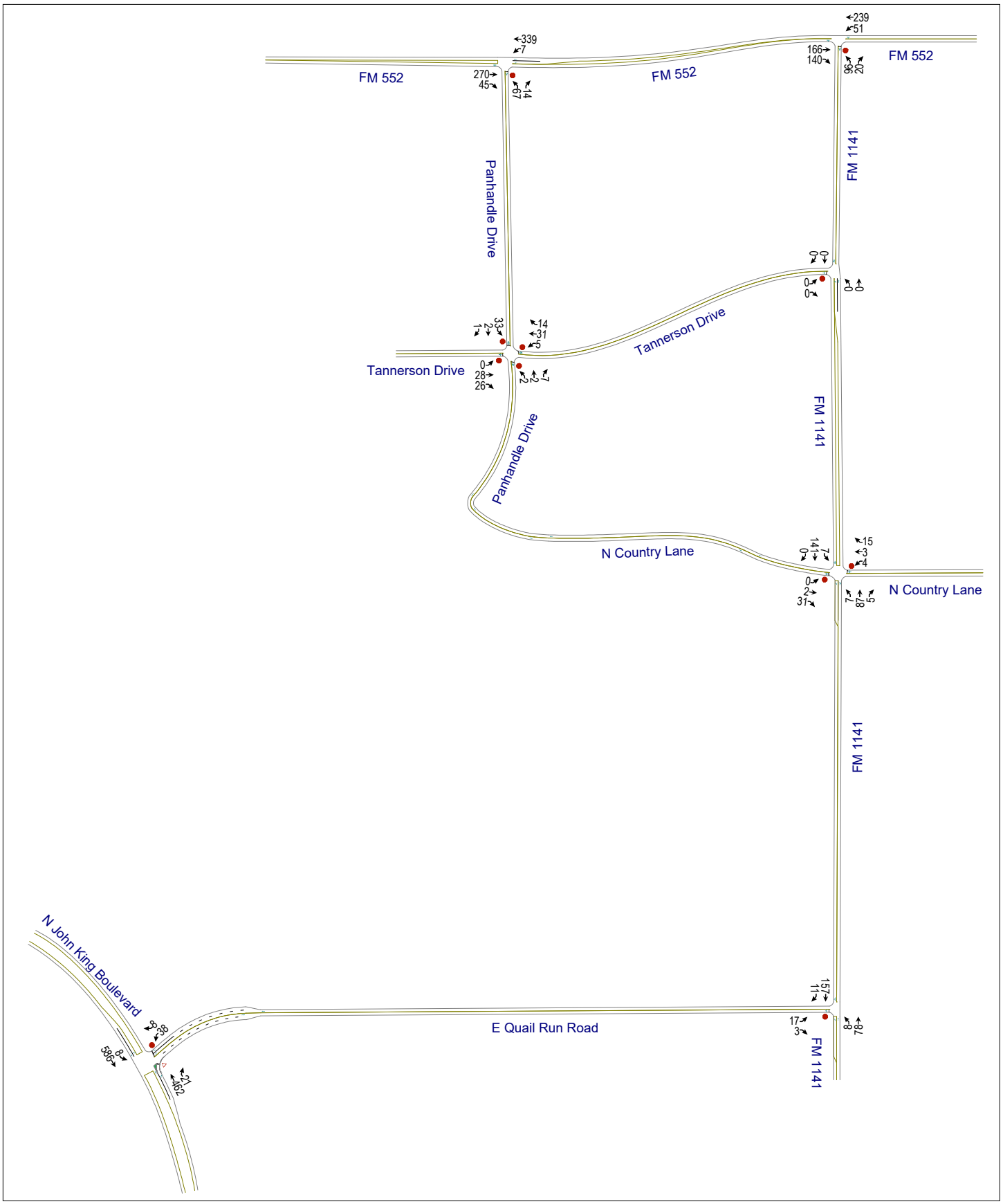
04/18/2022

Pacheco Koch

Appendix A2 - Existing AM

North ^

Not to Scale



5359-22.340

LHC

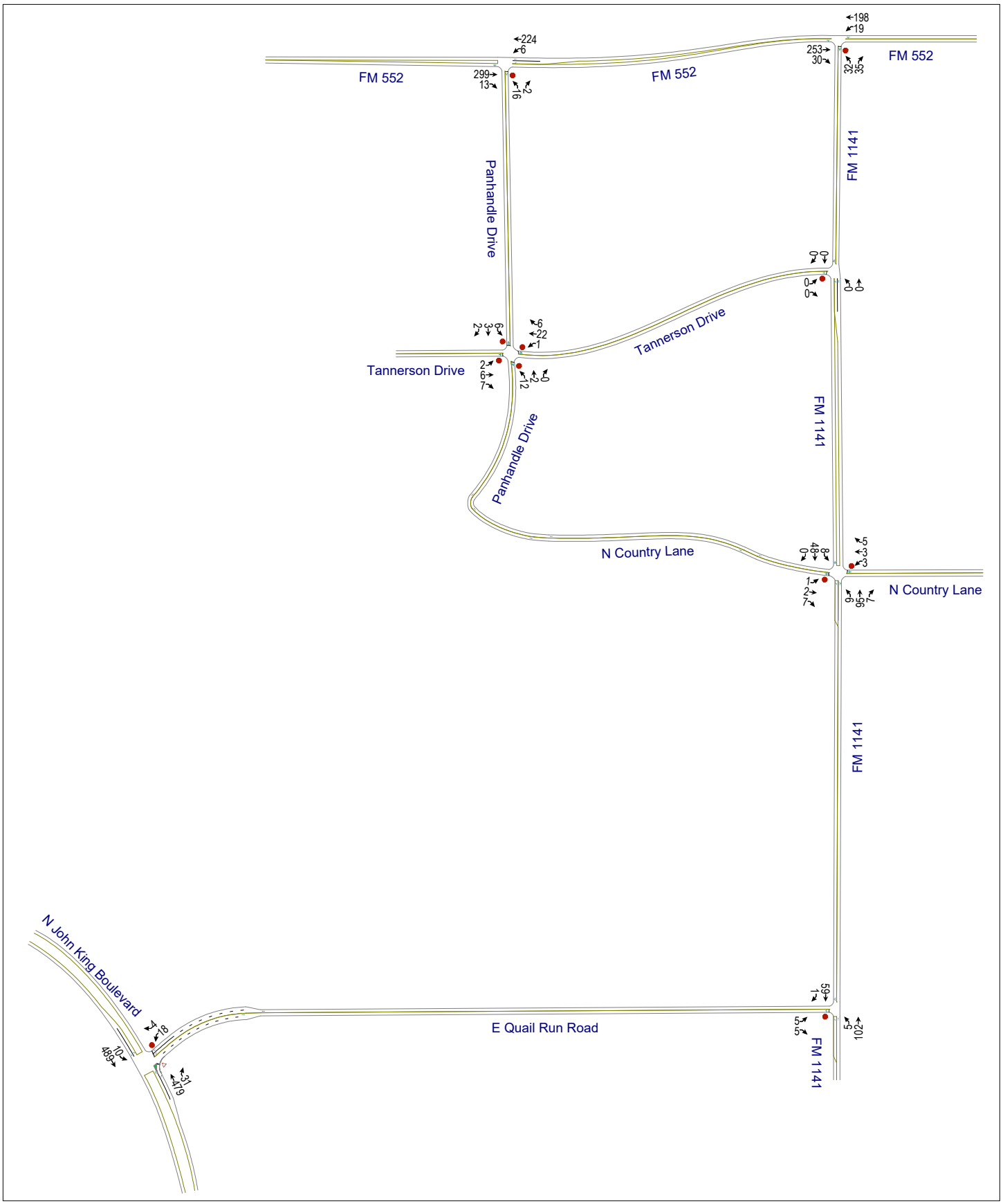
04/18/2022

Pacheco Koch

Appendix A3 - Existing PM

North ^

Not to Scale



5359-22.340

LHC

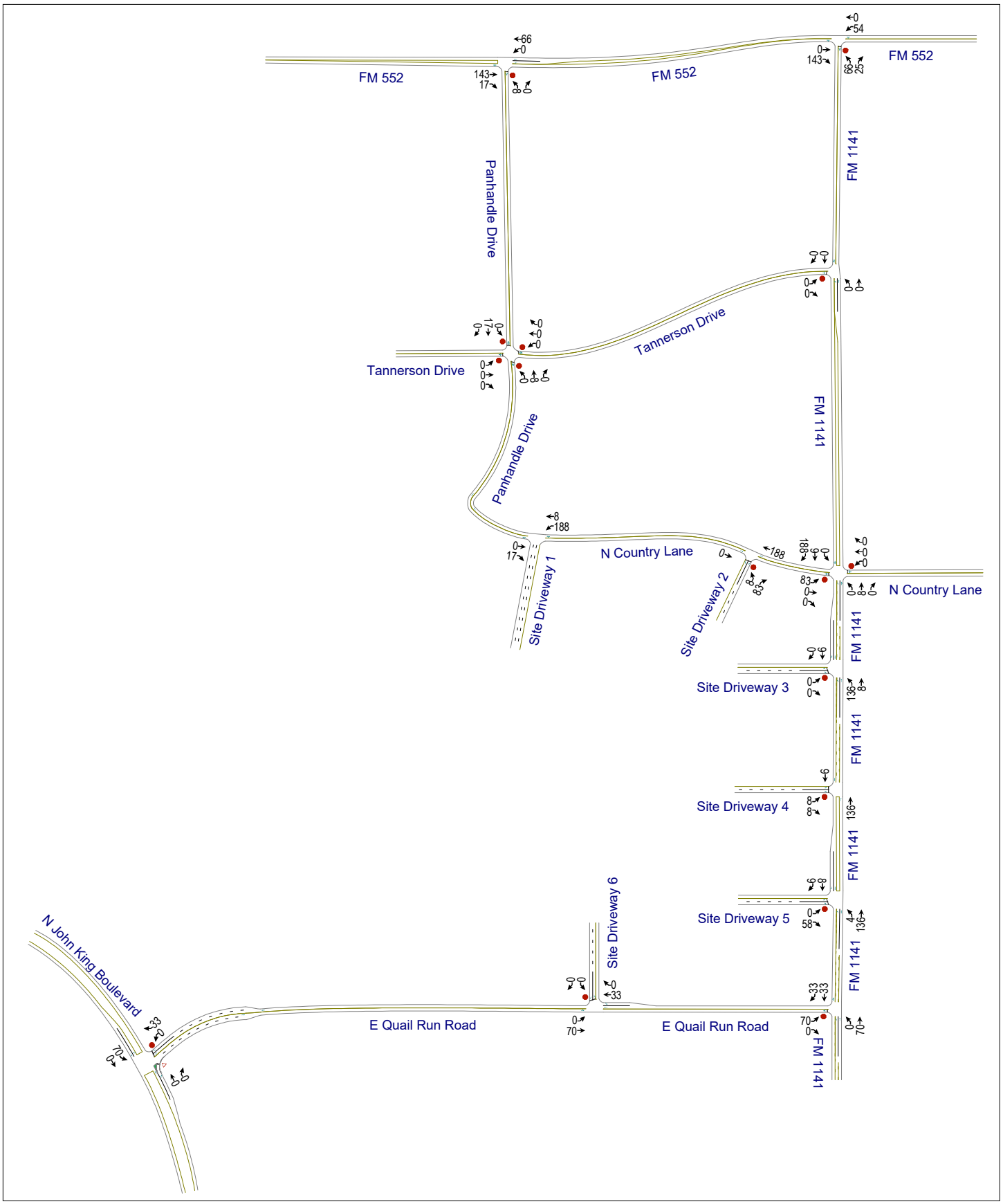
04/18/2022

Pacheco Koch

Appendix A4 - Site Generated AM

North ^

Not to Scale



5359-22.340

LHC

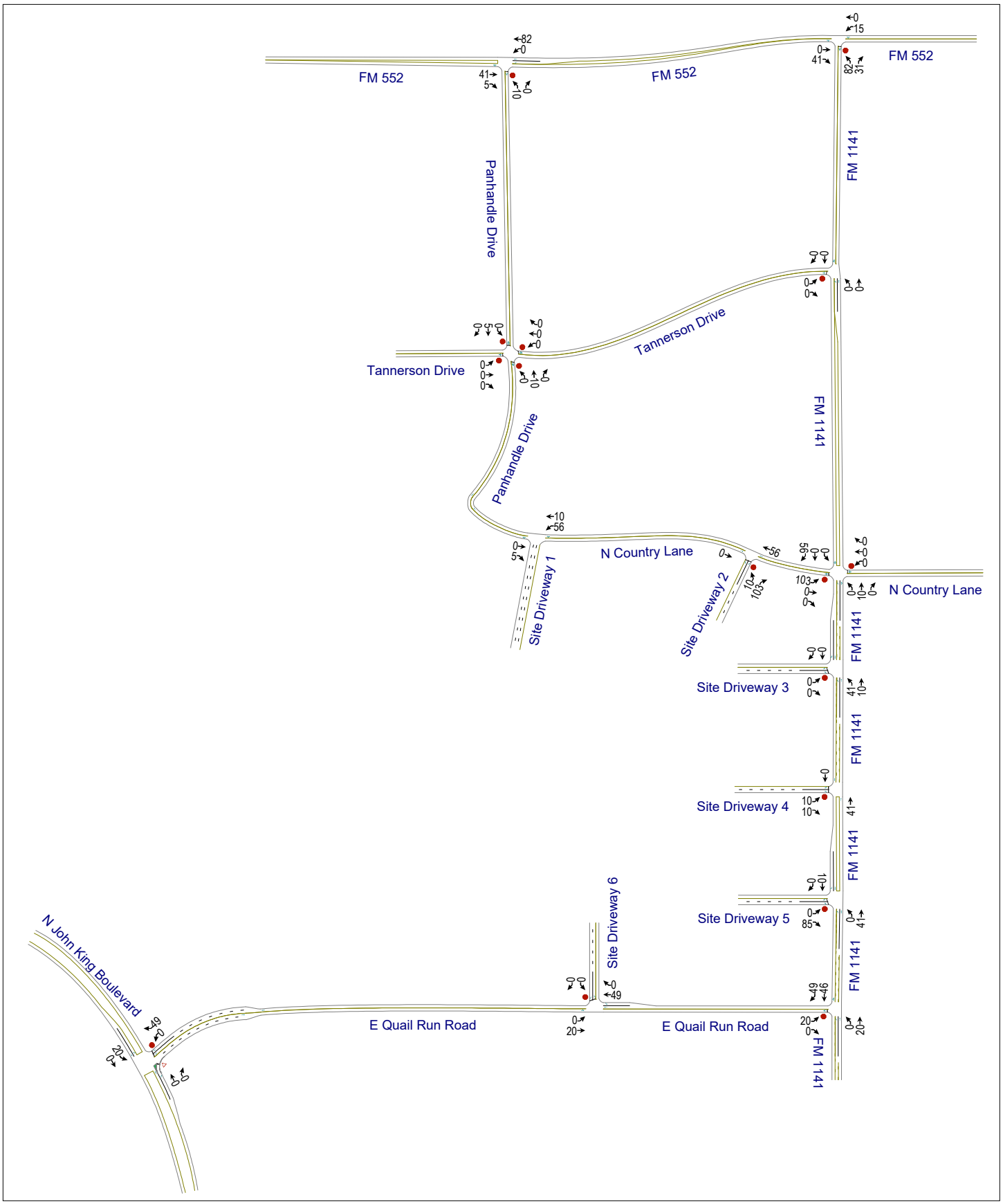
04/18/2022

Pacheco Koch

Appendix A5 - Site Generated PM

North ^

Not to Scale



5359-22.340

LHC

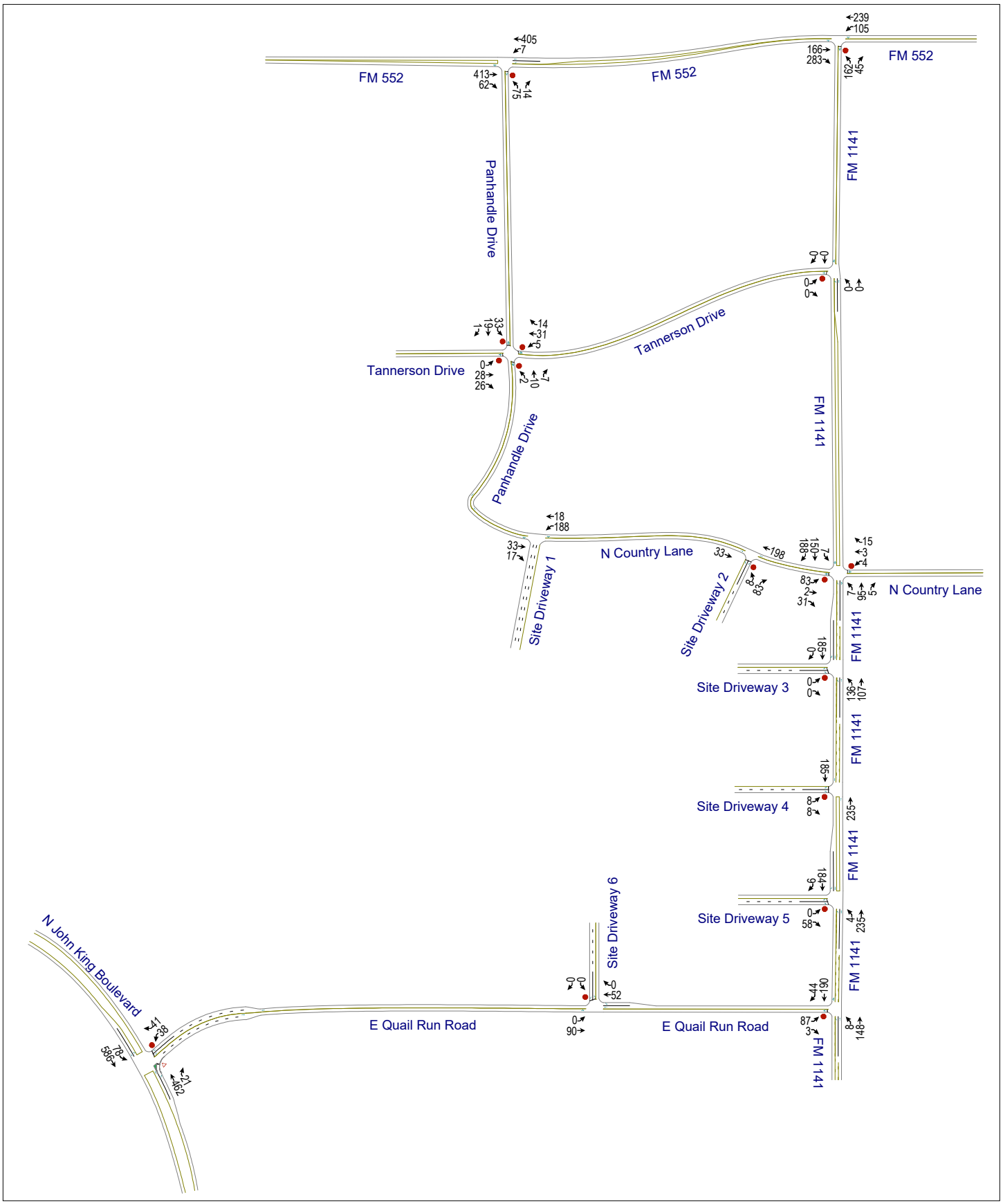
04/18/2022

Pacheco Koch

Appendix A6 - Build AM

North ^

Not to Scale



5359-22.340

LHC

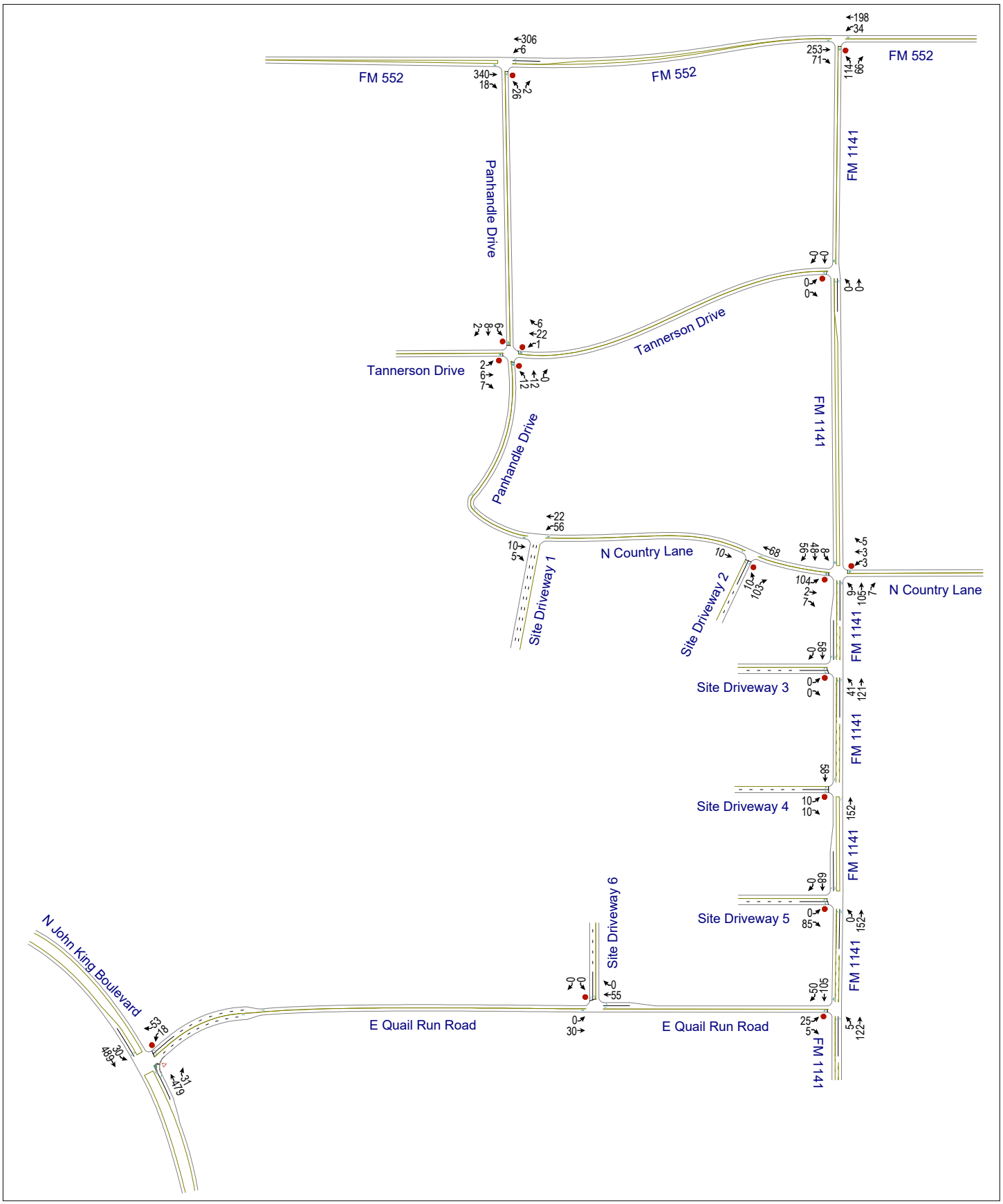
04/18/2022

Pacheco Koch

Appendix A7 - Build PM

North ^

Not to Scale



5359-22.340

LHC

04/18/2022

Pacheco Koch

Appendix B. Detailed Traffic Volume Data

Intersection Turning Movement Counts

				NORTH LEG Southbound Approach on FM 1141						EAST LEG Westbound Approach on FM 552						SOUTH LEG Northbound Approach on FM 1141						WEST LEG Eastbound Approach on FM 552					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	*Rockwall*	*7:00 AM*	*7:15 AM*		*0*	*0*	*0*				*8*	*70*	*0*				*4*	*0*	*1*				*0*	*48*	*13*		
State:	*Texas*	***7:15 AM***	***7:30 AM***		***0***	***0***	***0***				***15***	***69***	***0***				***19***	***0***	***7***				***0***	***61***	***30***		
Day:	*Tuesday*	***7:30 AM***	***7:45 AM***		***0***	***0***	***0***				***17***	***69***	***0***				***36***	***0***	***4***				***0***	***45***	***59***		
Date:	*10-May*	***7:45 AM***	***8:00 AM***		***0***	***0***	***0***				***14***	***54***	***0***				***32***	***0***	***6***				***0***	***32***	***41***		
Year:	*2022*	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***5***	***47***	***0***				***9***	***0***	***3***				***0***	***28***	***10***		
Data Collector:	*Camera*	8:15 AM	8:30 AM		0	0	0				3	69	0				6	0	2				0	38	9		
Data Source:	*CJ Hensch & Associates, Inc.*	8:30 AM	8:45 AM		0	0	0				8	37	0				2	0	5				0	32	4		
Traffic Control:	*Minor Approach Stop*	8:45 AM	9:00 AM		0	0	0				4	44	0				7	0	4				0	32	10		
Observations:																											
		3:00 PM	3:15 PM		0	0	0				9	19	0				26	0	7				0	49	8		
		3:15 PM	3:30 PM		0	0	0				5	38	0				9	0	7				0	32	1		
		3:30 PM	3:45 PM		0	0	0				6	32	0				11	0	10				0	40	5		
		3:45 PM	4:00 PM		0	0	0				6	34	0				4	0	4				0	63	7		
		4:00 PM	***4:15 PM***		***0***	***0***	***0***				***6***	***49***	***0***				***3***	***0***	***6***				***0***	***52***	***13***		
		4:15 PM	***4:30 PM***		***0***	***0***	***0***				***1***	***49***	***0***				***13***	***0***	***10***				***0***	***56***	***7***		
		4:30 PM	***4:45 PM***		***0***	***0***	***0***				***7***	***47***	***0***				***11***	***0***	***8***				***0***	***70***	***4***		
		4:45 PM	***5:00 PM***		***0***	***0***	***0***				***5***	***53***	***0***				***5***	***0***	***11***				***0***	***75***	***6***		
		5:00 PM	5:15 PM		0	0	0				5	53	0				7	0	14				0	58	6		
		5:15 PM	5:30 PM		0	0	0				9	54	0				7	0	15				0	81	8		
		5:30 PM	5:45 PM		0	0	0				7	39	0				7	0	10				0	74	7		
		5:45 PM	6:00 PM		0	0	0				4	54	0				6	0	12				0	63	6		
AM Peak Hour	*Intersection PHF:*	*0.82*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*54*	*262*	*0*			*0*	*91*	*0*	*18*			*0*	*0*	*186*	*143*		
	Peak Hour	*7:00 AM - 8:00 AM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.79*	*0.94*	*0.00*				*0.63*	*0.00*	*0.64*				*0.00*	*0.76*	*0.61*		
	Study Area PHF:	**0.77**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**51**	**239**	**0**			**0**	**96**	**0**	**20**			**0**	**0**	**166**	**140**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.75**	**0.87**	**0.00**				**0.67**	**0.00**	**0.71**				**0.00**	**0.68**	**0.59**		
PM Peak Hour	*Intersection PHF:*	*0.89*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*26*	*207*	*0*			*0*	*30*	*0*	*48*			*0*	*0*	*284*	*24*		
	Peak Hour	*4:30 PM - 5:30 PM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.72*	*0.96*	*0.00*				*0.68*	*0.00*	*0.80*				*0.00*	*0.88*	*0.75*		
	Study Area PHF:	**0.91**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**19**	**198**	**0**			**0**	**32**	**0**	**35**			**0**	**0**	**253**	**30**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.68**	**0.93**	**0.00**				**0.62**	**0.00**	**0.80**				**0.00**	**0.84**	**0.58**		

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on FM 1141						Westbound Approach on N COUNTRY LANE						Northbound Approach on FM 1141						Eastbound Approach on N COUNTRY LANE					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		2	14	0				0	0	0				0	9	1				0	0	5		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***1***	***19***	***0***				***0***	***0***	***3***				***0***	***21***	***2***				***0***	***0***	***7***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***1***	***55***	***0***				***0***	***2***	***6***				***4***	***32***	***1***				***0***	***0***	***6***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***4***	***51***	***0***				***3***	***1***	***6***				***2***	***22***	***2***				***0***	***0***	***11***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***1***	***16***	***0***				***1***	***0***	***0***				***1***	***12***	***0***				***0***	***2***	***7***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	17	0				1	1	1				1	9	0				0	0	6		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		2	19	0				1	0	0				1	14	0				1	0	3		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		1	22	1				3	0	0				0	16	0				0	0	5		
Observations:																											
		3:00 PM	3:15 PM		4	42	0				0	0	2				1	14	2				0	0	2		
		3:15 PM	3:30 PM		0	17	0				0	0	0				2	22	3				0	0	4		
		3:30 PM	3:45 PM		0	19	0				3	0	2				0	24	0				0	0	0		
		3:45 PM	4:00 PM		2	24	0				1	0	0				0	13	2				0	0	2		
		4:00 PM	***4:15 PM***		***2***	***18***	***0***				***1***	***0***	***1***				***3***	***14***	***5***				***0***	***1***	***0***		
		4:15 PM	***4:30 PM***		***4***	***8***	***0***				***2***	***1***	***1***				***3***	***30***	***0***				***1***	***0***	***2***		
		4:30 PM	***4:45 PM***		***1***	***12***	***0***				***0***	***2***	***2***				***1***	***22***	***2***				***0***	***1***	***2***		
		4:45 PM	***5:00 PM***		***1***	***10***	***0***				***0***	***0***	***1***				***2***	***29***	***0***				***0***	***0***	***3***		
		5:00 PM	5:15 PM		0	15	0				2	1	0				0	24	2				0	2	1		
		5:15 PM	5:30 PM		0	21	0				0	0	1				1	26	1				0	0	1		
		5:30 PM	5:45 PM		0	21	0				1	1	4				0	31	3				0	0	3		
		5:45 PM	6:00 PM		0	17	0				2	0	1				2	25	1				0	0	2		
AM Peak Hour	*Intersection PHF:*	*0.71*	*Intersection PHV:*	*0*	*7*	*141*	*0*			*0*	*4*	*3*	*15*			*0*	*7*	*87*	*5*			*0*	*0*	*2*	*31*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.44*	*0.64*	*0.00*				*0.33*	*0.38*	*0.63*				*0.44*	*0.68*	*0.63*				*0.00*	*0.25*	*0.70*		
	Study Area PHF:	**0.71**	**Study Area PHV:**	**0**	**7**	**141**	**0**			**0**	**4**	**3**	**15**			**0**	**7**	**87**	**5**			**0**	**0**	**2**	**31**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.44**	**0.64**	**0.00**				**0.33**	**0.38**	**0.63**				**0.44**	**0.68**	**0.63**				**0.00**	**0.25**	**0.70**		
PM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*0*	*74*	*0*			*0*	*5*	*2*	*6*			*0*	*3*	*106*	*7*			*0*	*0*	*2*	*7*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.00*	*0.88*	*0.00*				*0.63*	*0.50*	*0.38*				*0.38*	*0.85*	*0.58*				*0.00*	*0.25*	*0.58*		
	Study Area PHF:	**0.90**	**Study Area PHV:**	**0**	**8**	**48**	**0**			**0**	**3**	**3**	**5**			**0**	**9**	**95**	**7**			**0**	**1**	**2**	**7**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.67**	**0.00**				**0.38**	**0.38**	**0.63**				**0.75**	**0.79**	**0.35**				**0.25**	**0.50**	**0.58**		

Pacheco Koch

PK# 5359-22.340

FM 1141 at N COUNTRY LANE

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on FM 1141						Westbound Approach on E QUAIL RUN ROAD						Northbound Approach on FM 1141						Eastbound Approach on E QUAIL RUN ROAD					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		0	17	0				0	0	0				0	10	0				4	0	1		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***0***	***30***	***0***				***0***	***0***	***0***				***2***	***21***	***0***				***3***	***0***	***0***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***57***	***2***				***0***	***0***	***0***				***3***	***32***	***0***				***8***	***0***	***2***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***0***	***46***	***9***				***0***	***0***	***0***				***2***	***11***	***0***				***4***	***0***	***1***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***24***	***0***				***0***	***0***	***0***				***1***	***14***	***0***				***2***	***0***	***0***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	19	0				0	0	0				2	9	0				0	0	2		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	22	1				0	0	0				2	10	0				2	0	2		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		0	28	1				0	0	0				1	14	0				4	0	0		
Observations:																											
		3:00 PM	3:15 PM		0	30	4				0	0	0				2	16	0				2	0	2		
		3:15 PM	3:30 PM		0	18	0				0	0	0				0	21	0				2	0	4		
		3:30 PM	3:45 PM		0	27	1				0	0	0				0	24	0				3	0	1		
		3:45 PM	4:00 PM		0	21	1				0	0	0				3	12	0				3	0	2		
		4:00 PM	***4:15 PM***		***0***	***15***	***0***				***0***	***0***	***0***				***2***	***22***	***0***				***1***	***0***	***1***		
		4:15 PM	***4:30 PM***		***0***	***13***	***1***				***0***	***0***	***0***				***1***	***30***	***0***				***2***	***0***	***2***		
		4:30 PM	***4:45 PM***		***0***	***16***	***0***				***0***	***0***	***0***				***1***	***27***	***0***				***1***	***0***	***2***		
		4:45 PM	***5:00 PM***		***0***	***15***	***0***				***0***	***0***	***0***				***1***	***23***	***0***				***1***	***0***	***0***		
		5:00 PM	5:15 PM		0	14	0				0	0	0				4	27	0				7	0	2		
		5:15 PM	5:30 PM		0	21	2				0	0	0				2	24	0				5	0	0		
		5:30 PM	5:45 PM		0	18	1				0	0	0				0	25	0				4	0	1		
		5:45 PM	6:00 PM		0	17	0				0	0	0				1	23	0				5	0	3		
AM Peak Hour	*Intersection PHF:*	*0.66*	*Intersection PHV:*	*0*	*0*	*157*	*11*			*0*	*0*	*0*	*0*			*0*	*8*	*78*	*0*			*0*	*17*	*0*	*3*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.00*	*0.69*	*0.31*				*0.00*	*0.00*	*0.00*				*0.67*	*0.61*	*0.00*				*0.53*	*0.00*	*0.38*		
	Study Area PHF:	**0.66**	**Study Area PHV:**	**0**	**0**	**157**	**11**			**0**	**0**	**0**	**0**			**0**	**8**	**78**	**0**			**0**	**17**	**0**	**3**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.69**	**0.31**				**0.00**	**0.00**	**0.00**				**0.67**	**0.61**	**0.00**				**0.53**	**0.00**	**0.38**		
PM Peak Hour	*Intersection PHF:*	*0.95*	*Intersection PHV:*	*0*	*0*	*70*	*3*			*0*	*0*	*0*	*0*			*0*	*7*	*99*	*0*			*0*	*21*	*0*	*6*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.00*	*0.83*	*0.38*				*0.00*	*0.00*	*0.00*				*0.44*	*0.92*	*0.00*				*0.75*	*0.00*	*0.50*		
	Study Area PHF:	**0.90**	**Study Area PHV:**	**0**	**0**	**59**	**1**			**0**	**0**	**0**	**0**			**0**	**5**	**102**	**0**			**0**	**5**	**0**	**5**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.92**	**0.25**				**0.00**	**0.00**	**0.00**				**0.63**	**0.85**	**0.00**				**0.63**	**0.00**	**0.63**		

Pacheco Koch

PK# 5359-22.340

FM 1141 at E QUAIL RUN ROAD

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on N JOHN KING BOULEVARD						Westbound Approach on E QUAIL RUN ROAD (NORTH LEG)						Northbound Approach on N JOHN KING BOULEVARD						Eastbound Approach on E QUAIL RUN ROAD (NORTH LEG)					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		1	89	0				2	0	1				0	75	5				0	1	0		
State:	***Texas***	**7:15 AM**	**7:30 AM**		**2**	**100**	**0**				**10**	**0**	**2**				**0**	**98**	**2**				**0**	**0**	**0**		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***135***	***0***				***11***	***0***	***0***				***0***	***113***	***6***				***0***	***0***	***0***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***4***	***191***	***1***				***11***	***0***	***3***				***0***	***134***	***6***				***0***	***0***	***0***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***2***	***160***	***0***				***6***	***0***	***3***				***0***	***117***	***7***				***0***	***0***	***0***		
Data Collector:	***Camera***	*8:15 AM*	*8:30 AM*		*0*	*133*	*1*				*8*	*0*	*0*				*0*	*106*	*5*				*0*	*0*	*2*		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		4	130	0				5	0	1				0	92	8				0	0	0		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		2	100	0				5	0	1				0	71	5				0	0	0		
Observations:																											
		3:00 PM	3:15 PM		3	135	0				7	0	2				0	71	12				0	0	0		
		3:15 PM	3:30 PM		4	96	1				2	0	1				0	92	11				1	1	1		
		3:30 PM	3:45 PM		2	103	1				10	0	1				1	103	4				0	1	1		
		3:45 PM	4:00 PM		9	157	0				6	0	2				0	116	5				0	0	0		
		4:00 PM	***4:15 PM***		***3***	***132***	***0***				***4***	***0***	***2***				***0***	***124***	***8***				***0***	***0***	***0***		
		4:15 PM	***4:30 PM***		***5***	***135***	***0***				***5***	***0***	***2***				***0***	***113***	***12***				***0***	***0***	***0***		
		4:30 PM	***4:45 PM***		***1***	***121***	***0***				***5***	***0***	***0***				***0***	***130***	***7***				***0***	***0***	***0***		
		4:45 PM	***5:00 PM***		***1***	***101***	***0***				***4***	***0***	***0***				***0***	***112***	***4***				***0***	***0***	***0***		
		5:00 PM	5:15 PM		2	121	0				4	0	0				0	131	9				0	0	0		
		5:15 PM	5:30 PM		5	110	0				7	0	3				0	143	7				0	0	0		
		5:30 PM	5:45 PM		1	123	0				8	0	1				0	97	10				0	0	0		
		5:45 PM	6:00 PM		3	134	0				6	0	1				0	116	8				0	0	0		
AM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*6*	*619*	*2*			*0*	*36*	*0*	*6*			*0*	*0*	*470*	*24*			*0*	*0*	*0*	*2*		
	Peak Hour	*7:30 AM - 8:30 AM*	*PHF:*		*0.38*	*0.81*	*0.50*				*0.82*	*0.00*	*0.50*				*0.00*	*0.88*	*0.86*				*0.00*	*0.00*	*0.25*		
	Study Area PHF:	**0.80**	**Study Area PHV:**	**0**	**8**	**586**	**1**			**0**	**38**	**0**	**8**			**0**	**0**	**462**	**21**			**0**	**0**	**0**	**0**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.50**	**0.77**	**0.25**				**0.86**	**0.00**	**0.67**				**0.00**	**0.86**	**0.75**				**0.00**	**0.00**	**0.00**		
PM Peak Hour	*Intersection PHF:*	*0.95*	*Intersection PHV:*	*0*	*11*	*488*	*0*			*0*	*25*	*0*	*5*			*0*	*0*	*487*	*34*			*0*	*0*	*0*	*0*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.55*	*0.91*	*0.00*				*0.78*	*0.00*	*0.42*				*0.00*	*0.85*	*0.85*				*0.00*	*0.00*	*0.00*		
	Study Area PHF:	**0.94**	**Study Area PHV:**	**0**	**10**	**489**	**0**			**0**	**18**	**0**	**4**			**0**	**0**	**479**	**31**			**0**	**0**	**0**	**0**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.91**	**0.00**				**0.90**	**0.00**	**0.50**				**0.00**	**0.92**	**0.65**				**0.00**	**0.00**	**0.00**		

Pacheco Koch

PK# 5359-22.340

N JOHN KING BOULEVARD at E QUAIL RUN ROAD (NORTH LEG)

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on PANHANDLE DRIVE						Westbound Approach on FM 552						Northbound Approach on PANHANDLE DRIVE						Eastbound Approach on FM 552					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	*7:00 AM*	*7:15 AM*		*0*	*0*	*0*				*1*	*79*	*0*				*6*	*0*	*0*				*0*	*63*	*2*		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***0***	***0***	***0***				***1***	***85***	***0***				***6***	***0***	***4***				***0***	***78***	***14***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***0***	***0***				***3***	***106***	***0***				***31***	***0***	***7***				***0***	***97***	***20***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***0***	***0***	***0***				***3***	***89***	***0***				***23***	***0***	***3***				***0***	***61***	***9***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***0***	***59***	***0***				***7***	***0***	***0***				***0***	***34***	***2***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	0	0				0	73	0				3	0	1				0	45	3		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	0	0				0	42	0				3	0	1				0	39	4		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		0	0	0				0	52	0				3	0	0				0	38	3		
Observations:																											
		3:00 PM	3:15 PM		0	0	0				1	46	0				27	0	8				0	56	2		
		3:15 PM	3:30 PM		0	0	0				0	48	0				5	0	0				0	43	2		
		3:30 PM	3:45 PM		0	0	0				0	42	0				4	0	1				0	45	3		
		3:45 PM	4:00 PM		0	0	0				0	40	0				8	0	1				0	70	5		
		4:00 PM	***4:15 PM***		***0***	***0***	***0***				***2***	***51***	***0***				***1***	***0***	***1***				***0***	***61***	***1***		
		4:15 PM	***4:30 PM***		***0***	***0***	***0***				***1***	***61***	***0***				***6***	***0***	***0***				***0***	***73***	***5***		
		4:30 PM	***4:45 PM***		***0***	***0***	***0***				***1***	***52***	***0***				***5***	***0***	***0***				***0***	***78***	***4***		
		4:45 PM	***5:00 PM***		***0***	***0***	***0***				***2***	***60***	***0***				***4***	***0***	***1***				***0***	***87***	***3***		
		5:00 PM	5:15 PM		0	0	0				1	56	0				2	0	1				0	68	5		
		5:15 PM	5:30 PM		0	0	0				0	58	0				5	0	0				0	85	7		
		5:30 PM	5:45 PM		0	0	0				1	42	0				6	0	0				0	85	1		
		5:45 PM	6:00 PM		0	0	0				1	61	0				2	0	2				0	67	5		
AM Peak Hour	*Intersection PHF:*	*0.75*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*8*	*359*	*0*			*0*	*66*	*0*	*14*			*0*	*0*	*299*	*45*		
	Peak Hour	*7:00 AM - 8:00 AM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.67*	*0.85*	*0.00*				*0.53*	*0.00*	*0.50*				*0.00*	*0.77*	*0.56*		
	Study Area PHF:	**0.70**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**7**	**339**	**0**			**0**	**67**	**0**	**14**			**0**	**0**	**270**	**45**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.58**	**0.80**	**0.00**				**0.54**	**0.00**	**0.50**				**0.00**	**0.70**	**0.56**		
PM Peak Hour	*Intersection PHF:*	*0.93*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*4*	*226*	*0*			*0*	*16*	*0*	*2*			*0*	*0*	*318*	*19*		
	Peak Hour	*4:30 PM - 5:30 PM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.50*	*0.94*	*0.00*				*0.80*	*0.00*	*0.50*				*0.00*	*0.91*	*0.68*		
	Study Area PHF:	**0.89**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**6**	**224**	**0**			**0**	**16**	**0**	**2**			**0**	**0**	**299**	**13**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.75**	**0.92**	**0.00**				**0.67**	**0.00**	**0.50**				**0.00**	**0.86**	**0.65**		

Pacheco Koch

PK# 5359-22.340

PANHANDLE DRIVE at FM 552

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on PANHANDLE DRIVE						Westbound Approach on TANNERSON DRIVE						Northbound Approach on PANHANDLE DRIVE						Eastbound Approach on TANNERSON DRIVE					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		2	0	0				0	0	0				0	1	0				0	3	5		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***4***	***0***	***0***				***0***	***2***	***2***				***0***	***0***	***0***				***0***	***4***	***6***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***20***	***0***	***0***				***1***	***12***	***4***				***1***	***0***	***5***				***0***	***16***	***6***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***9***	***2***	***1***				***3***	***12***	***7***				***0***	***1***	***2***				***0***	***8***	***8***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***1***	***5***	***1***				***1***	***1***	***0***				***0***	***0***	***6***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		1	1	0				0	2	1				2	0	0				0	1	5		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	1	0				0	6	1				0	0	0				0	4	3		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		1	1	2				0	0	0				0	0	0				0	6	1		
Observations:																											
		3:00 PM	3:15 PM		1	1	3				3	11	4				1	2	1				0	2	0		
		3:15 PM	3:30 PM		0	0	0				0	1	2				3	1	0				0	1	4		
		3:30 PM	3:45 PM		1	1	0				0	7	0				0	0	0				0	3	0		
		3:45 PM	4:00 PM		1	0	1				1	4	1				0	0	1				0	2	2		
		4:00 PM	***4:15 PM***		***1***	***0***	***0***				***0***	***3***	***1***				***3***	***0***	***0***				***0***	***3***	***1***		
		4:15 PM	***4:30 PM***		***3***	***1***	***1***				***0***	***7***	***2***				***5***	***1***	***0***				***0***	***3***	***2***		
		4:30 PM	***4:45 PM***		***1***	***1***	***0***				***1***	***4***	***1***				***3***	***1***	***0***				***0***	***0***	***2***		
		4:45 PM	***5:00 PM***		***1***	***1***	***1***				***0***	***8***	***2***				***1***	***0***	***0***				***2***	***0***	***2***		
		5:00 PM	5:15 PM		2	2	3				0	2	1				1	1	0				0	1	2		
		5:15 PM	5:30 PM		4	0	0				0	2	2				1	0	0				0	3	2		
		5:30 PM	5:45 PM		0	0	1				0	5	3				1	0	0				1	2	3		
		5:45 PM	6:00 PM		1	1	0				0	5	0				2	0	0				0	1	1		
AM Peak Hour	*Intersection PHF:*	*0.58*	*Intersection PHV:*	*0*	*33*	*2*	*1*			*0*	*5*	*31*	*14*			*0*	*2*	*2*	*7*			*0*	*0*	*28*	*26*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.41*	*0.25*	*0.25*				*0.42*	*0.65*	*0.50*				*0.50*	*0.50*	*0.35*				*0.00*	*0.44*	*0.81*		
	Study Area PHF:	**0.58**	**Study Area PHV:**	**0**	**33**	**2**	**1**			**0**	**5**	**31**	**14**			**0**	**2**	**2**	**7**			**0**	**0**	**28**	**26**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.41**	**0.25**	**0.25**				**0.42**	**0.65**	**0.50**				**0.50**	**0.50**	**0.35**				**0.00**	**0.44**	**0.81**		
PM Peak Hour	*Intersection PHF:*	*0.72*	*Intersection PHV:*	*0*	*7*	*5*	*5*			*0*	*1*	*21*	*6*			*0*	*10*	*3*	*0*			*0*	*2*	*4*	*8*		
	Peak Hour	*4:15 PM - 5:15 PM*	*PHF:*		*0.58*	*0.63*	*0.42*				*0.25*	*0.66*	*0.75*				*0.50*	*0.75*	*0.00*				*0.25*	*0.33*	*1.00*		
	Study Area PHF:	**0.69**	**Study Area PHV:**	**0**	**6**	**3**	**2**			**0**	**1**	**22**	**6**			**0**	**12**	**2**	**0**			**0**	**2**	**6**	**7**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.75**	**0.50**				**0.25**	**0.69**	**0.75**				**0.60**	**0.50**	**0.00**				**0.25**	**0.50**	**0.88**		

ROADWAY: FM 1141
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

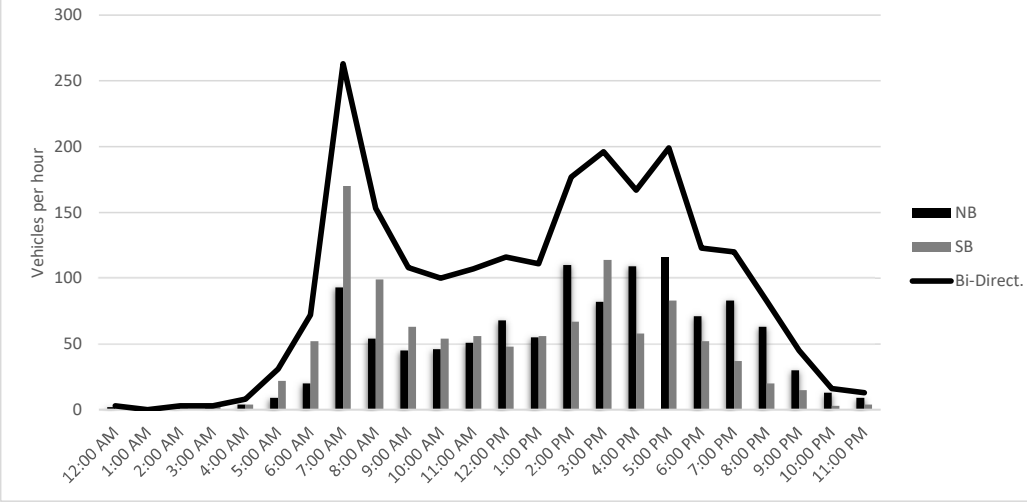
24-HOUR, BI-DIRECTIONAL VOLUME
2,217
(WEEKDAY)

FM 1141

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	1	0	0	1	1	0	0	0	2	1	3
1:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	2	0	0	1	0	0	0	2	1	3
3:00 AM	0	0	1	0	0	0	1	1	1	2	3
4:00 AM	3	0	0	1	0	2	1	1	4	4	8
5:00 AM	0	3	2	4	3	6	5	8	9	22	31
6:00 AM	2	2	5	11	8	12	13	19	20	52	72
7:00 AM	11	25	34	23	17	30	62	61	93	170	263
8:00 AM	15	9	14	16	22	26	21	30	54	99	153
9:00 AM	11	13	12	9	19	14	13	17	45	63	108
10:00 AM	14	10	13	9	13	11	19	11	46	54	100
11:00 AM	8	14	17	12	14	13	18	11	51	56	107
12:00 PM	14	21	15	18	10	20	9	9	68	48	116
1:00 PM	19	15	11	10	15	16	8	17	55	56	111
2:00 PM	25	17	25	43	18	12	17	20	110	67	177
3:00 PM	15	26	25	16	44	19	24	27	82	114	196
4:00 PM	22	31	26	30	17	12	15	14	109	58	167
5:00 PM	27	29	32	28	18	21	25	19	116	83	199
6:00 PM	30	11	14	16	13	14	14	11	71	52	123
7:00 PM	31	18	16	18	6	16	8	7	83	37	120
8:00 PM	18	15	13	17	6	9	3	2	63	20	83
9:00 PM	13	2	8	7	4	5	2	4	30	15	45
10:00 PM	3	3	4	3	2	0	1	0	13	3	16
11:00 PM	5	2	1	1	1	2	0	1	9	4	13

			NB	SB	Bi-Direct.
		24-Hour Total:	1,136	1,081	2,217
7:15 AM	8:15 AM	(Bi-Direct.) AM Peak Hour Total:	97	175	272
2:45 PM	3:45 PM	(Bi-Direct.) PM Peak Hour Total:	109	107	216
5:15 PM	6:15 PM	Highest By Direction (NB):	119		
7:15 AM	8:15 AM	Highest By Direction (SB):		175	

Graph



PK# 5359-22.340

Pacheco Koch

ROADWAY: N JOHN KING BOULEVARD
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

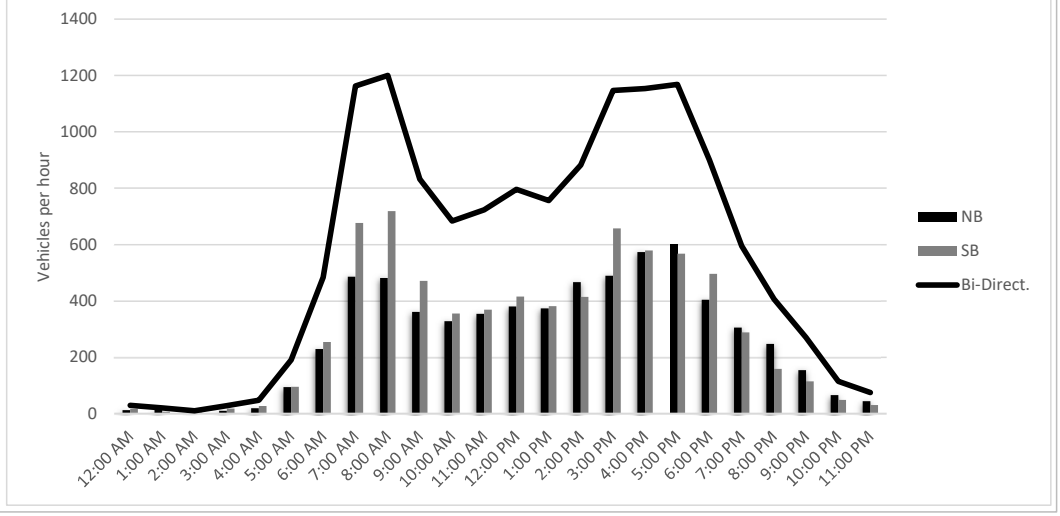
24-HOUR, BI-DIRECTIONAL VOLUME
13,679
(WEEKDAY)

N JOHN KING BOULEVARD

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	3	5	3	2	5	4	4	4	13	17	30
1:00 AM	3	5	2	4	0	2	2	3	14	7	21
2:00 AM	2	0	1	2	0	0	2	3	5	5	10
3:00 AM	1	2	4	4	7	6	3	2	11	18	29
4:00 AM	3	3	4	10	2	4	10	12	20	28	48
5:00 AM	17	20	22	36	19	24	22	31	95	96	191
6:00 AM	40	65	67	58	32	64	63	95	230	254	484
7:00 AM	88	110	134	154	109	142	184	242	486	677	1163
8:00 AM	144	137	109	91	211	196	176	136	481	719	1200
9:00 AM	85	100	86	90	107	124	132	108	361	471	832
10:00 AM	86	91	79	72	100	76	74	106	328	356	684
11:00 AM	78	74	94	108	94	94	95	86	354	369	723
12:00 PM	72	108	90	110	88	104	126	98	380	416	796
1:00 PM	92	115	89	78	101	100	95	86	374	382	756
2:00 PM	86	122	130	129	86	115	112	102	467	415	882
3:00 PM	96	117	130	146	170	128	122	238	489	658	1147
4:00 PM	144	150	148	132	152	170	136	121	574	579	1153
5:00 PM	160	176	126	138	130	144	138	156	600	568	1168
6:00 PM	122	104	94	84	133	125	128	110	404	496	900
7:00 PM	76	94	62	74	85	90	57	57	306	289	595
8:00 PM	66	60	66	56	42	48	30	39	248	159	407
9:00 PM	41	46	48	20	43	26	24	22	155	115	270
10:00 PM	17	17	17	15	13	12	16	8	66	49	115
11:00 PM	12	16	10	6	8	8	7	8	44	31	75

			NB	SB	Bi-Direct.
		24-Hour Total:	6,505	7,174	13,679
7:30 AM	8:30 AM	(Bi-Direct.) AM Peak Hour Total:	569	833	1,402
3:45 PM	4:45 PM	(Bi-Direct.) PM Peak Hour Total:	588	696	1,284
4:30 PM	5:30 PM	Highest By Direction (NB):	616		
7:30 AM	8:30 AM	Highest By Direction (SB):		833	

Graph



PK# 5359-22.340

Pacheco Koch

ROADWAY: FM 552
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

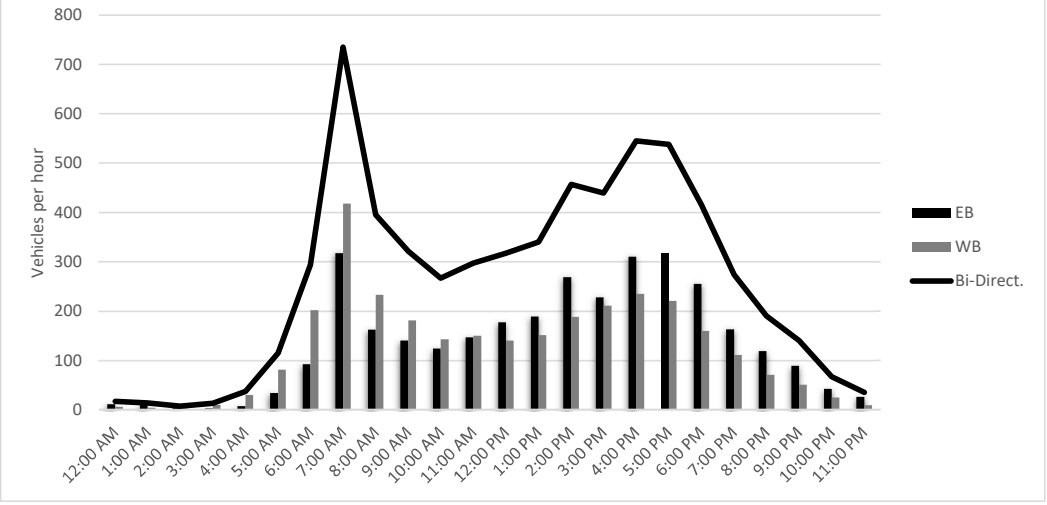
24-HOUR, BI-DIRECTIONAL VOLUME
6,269
(WEEKDAY)

FM 552

	Eastbound				Westbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	EB	WB	Bi-Direct.
12:00 AM	4	3	2	2	2	1	3	0	11	6	17
1:00 AM	5	3	1	1	0	1	2	1	10	4	14
2:00 AM	1	0	1	2	0	0	1	2	4	3	7
3:00 AM	2	0	1	0	1	1	4	4	3	10	13
4:00 AM	0	0	6	1	7	3	9	11	7	30	37
5:00 AM	8	7	9	10	8	15	26	32	34	81	115
6:00 AM	19	9	26	38	30	49	59	64	92	202	294
7:00 AM	62	87	106	62	80	96	134	108	317	418	735
8:00 AM	33	50	39	40	64	73	45	51	162	233	395
9:00 AM	33	38	40	29	47	48	43	43	140	181	321
10:00 AM	30	28	24	42	39	34	37	33	124	143	267
11:00 AM	34	32	37	44	22	43	39	46	147	150	297
12:00 PM	34	52	51	40	38	26	41	35	177	140	317
1:00 PM	34	46	58	51	46	41	30	34	189	151	340
2:00 PM	53	68	73	75	43	46	35	64	269	188	457
3:00 PM	60	43	49	76	66	50	49	46	228	211	439
4:00 PM	59	75	87	89	54	64	55	62	310	235	545
5:00 PM	73	93	81	70	56	58	47	60	317	221	538
6:00 PM	75	62	58	60	53	39	36	32	255	160	415
7:00 PM	46	47	35	35	38	32	27	14	163	111	274
8:00 PM	38	28	24	29	16	23	15	17	119	71	190
9:00 PM	24	26	25	14	21	7	9	14	89	51	140
10:00 PM	13	12	10	7	9	7	2	7	42	25	67
11:00 PM	5	9	7	5	2	0	4	3	26	9	35

			EB	WB	Bi-Direct.
		24-Hour Total:	3,235	3,034	6,269
7:00 AM	8:00 AM	(Bi-Direct.) AM Peak Hour Total:	317	418	735
4:30 PM	5:30 PM	(Bi-Direct.) PM Peak Hour Total:	342	231	573
4:30 PM	5:30 PM	Highest By Direction (EB):	342		
7:00 AM	8:00 AM	Highest By Direction (WB):		418	

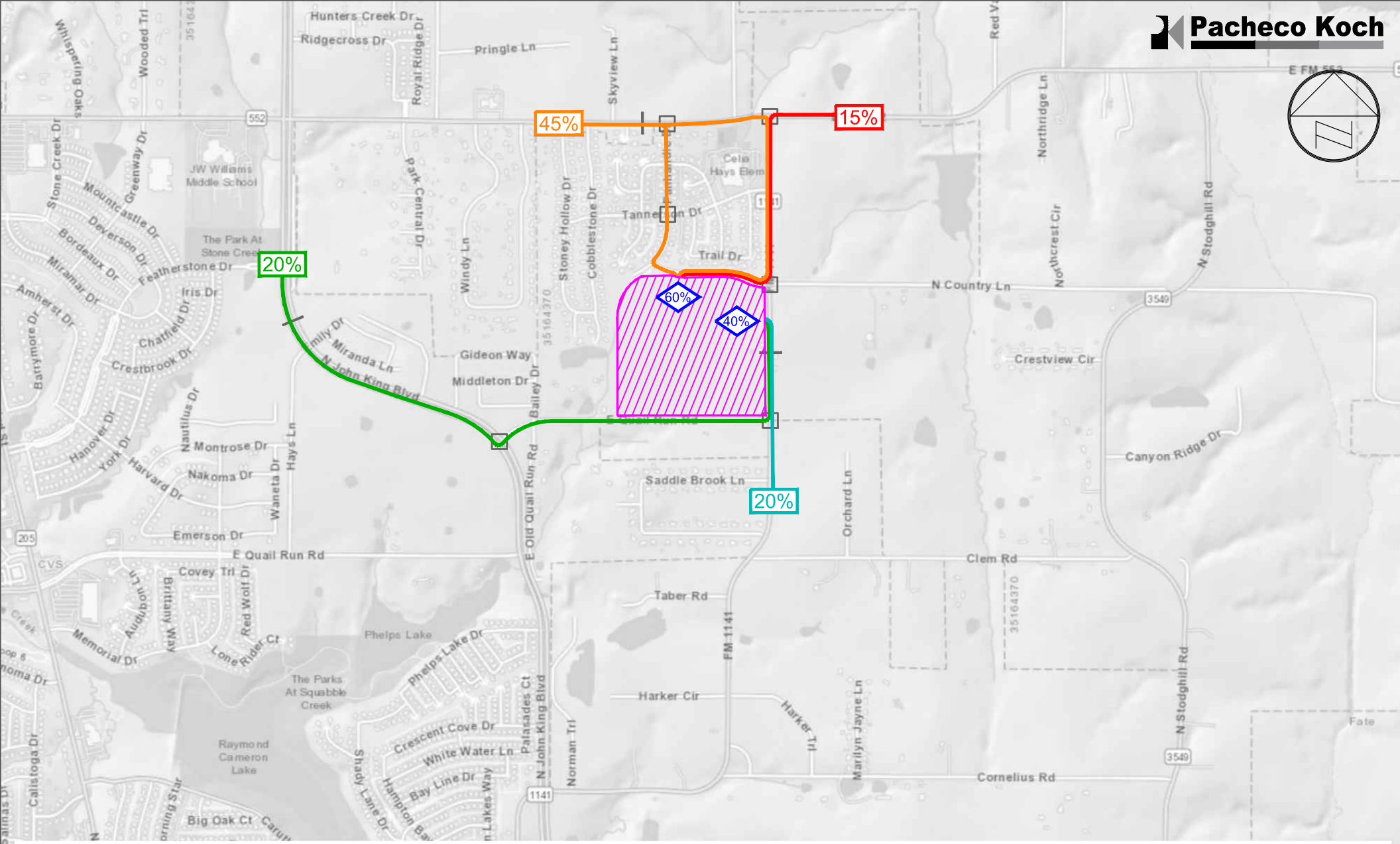
Graph



PK# 5359-22.340

Pacheco Koch

Appendix C. Site-Generated Traffic Supplement



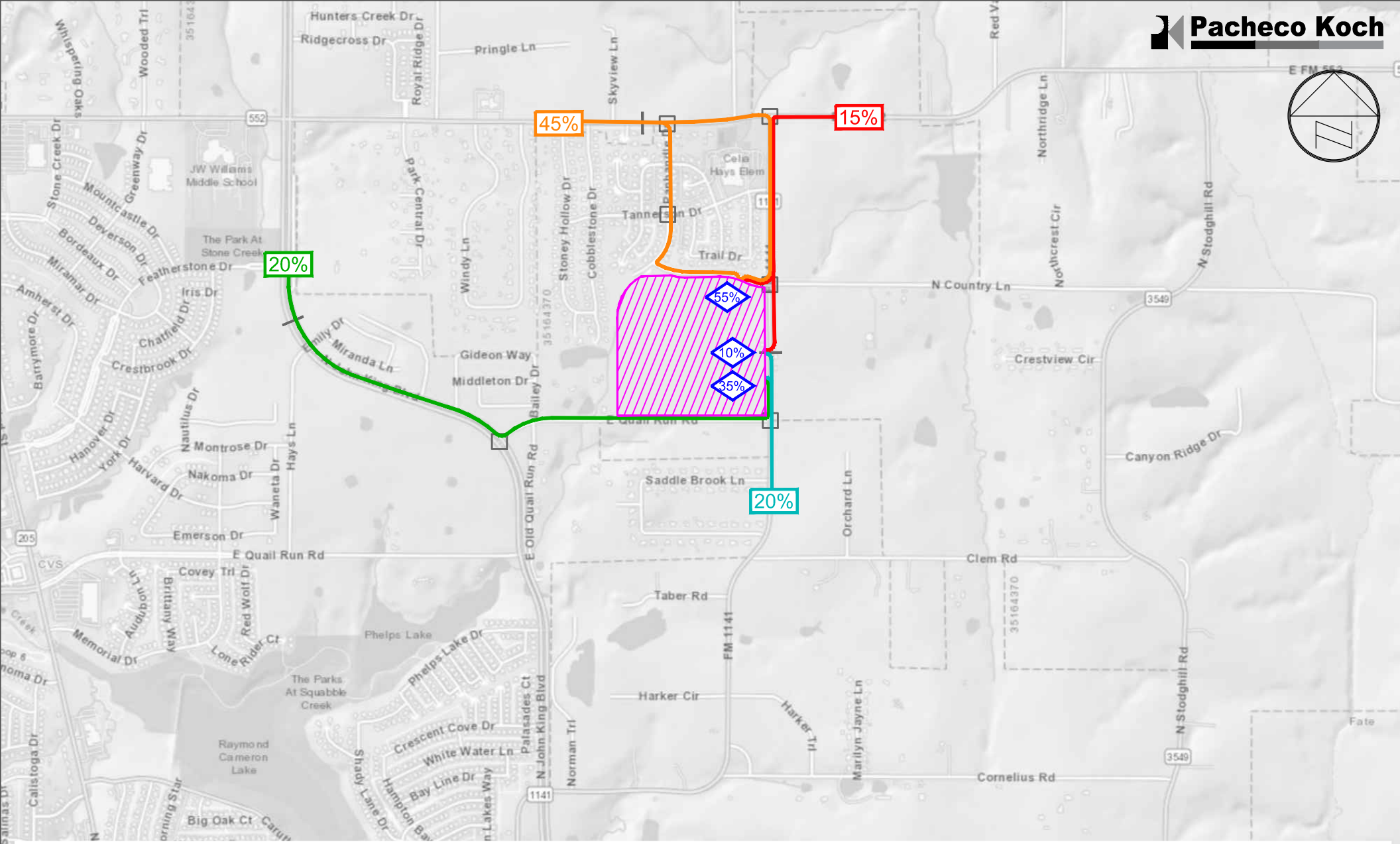
- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Parent Vehicles (Inbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C1**



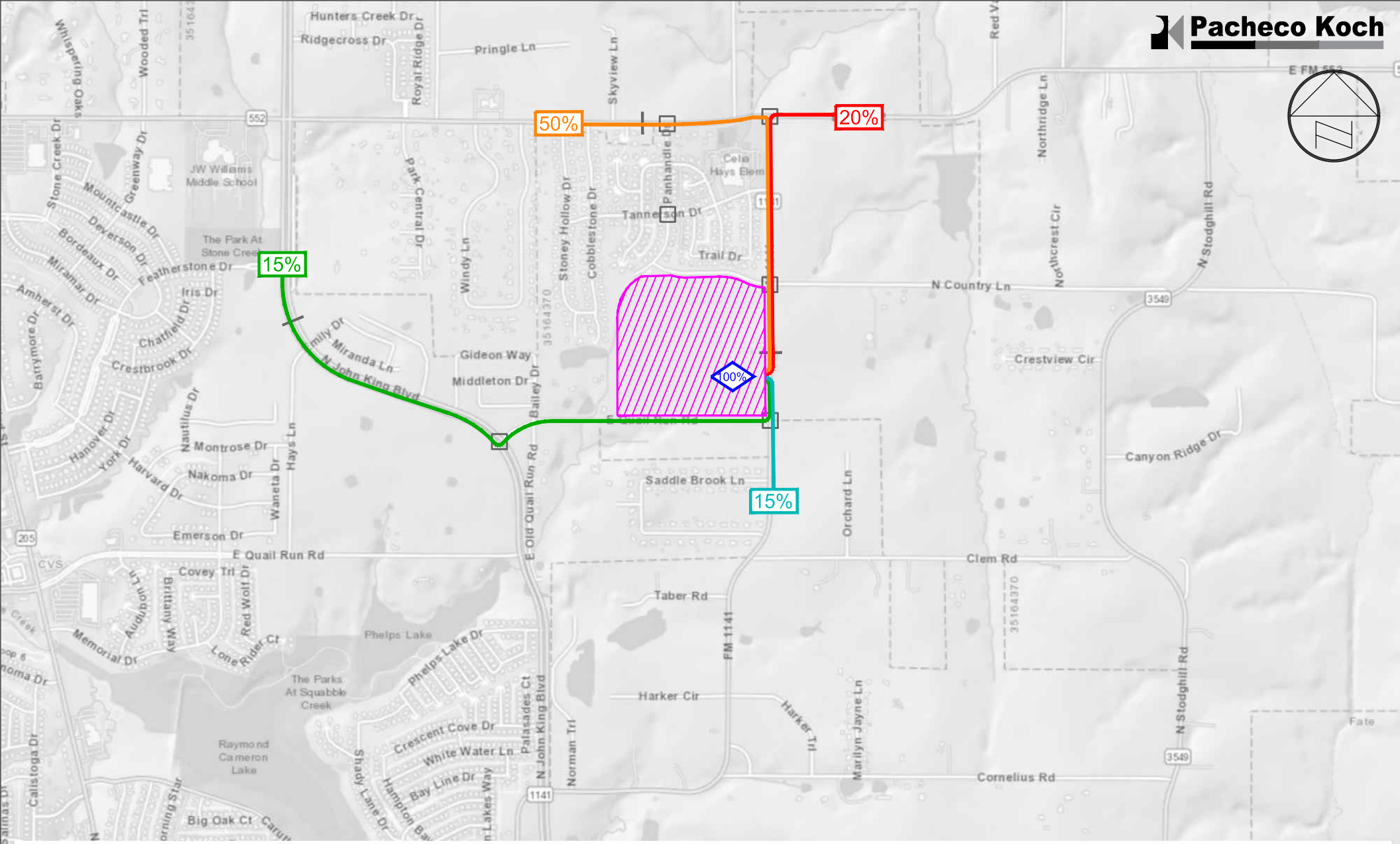
- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Parent Vehicles (Outbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C2**

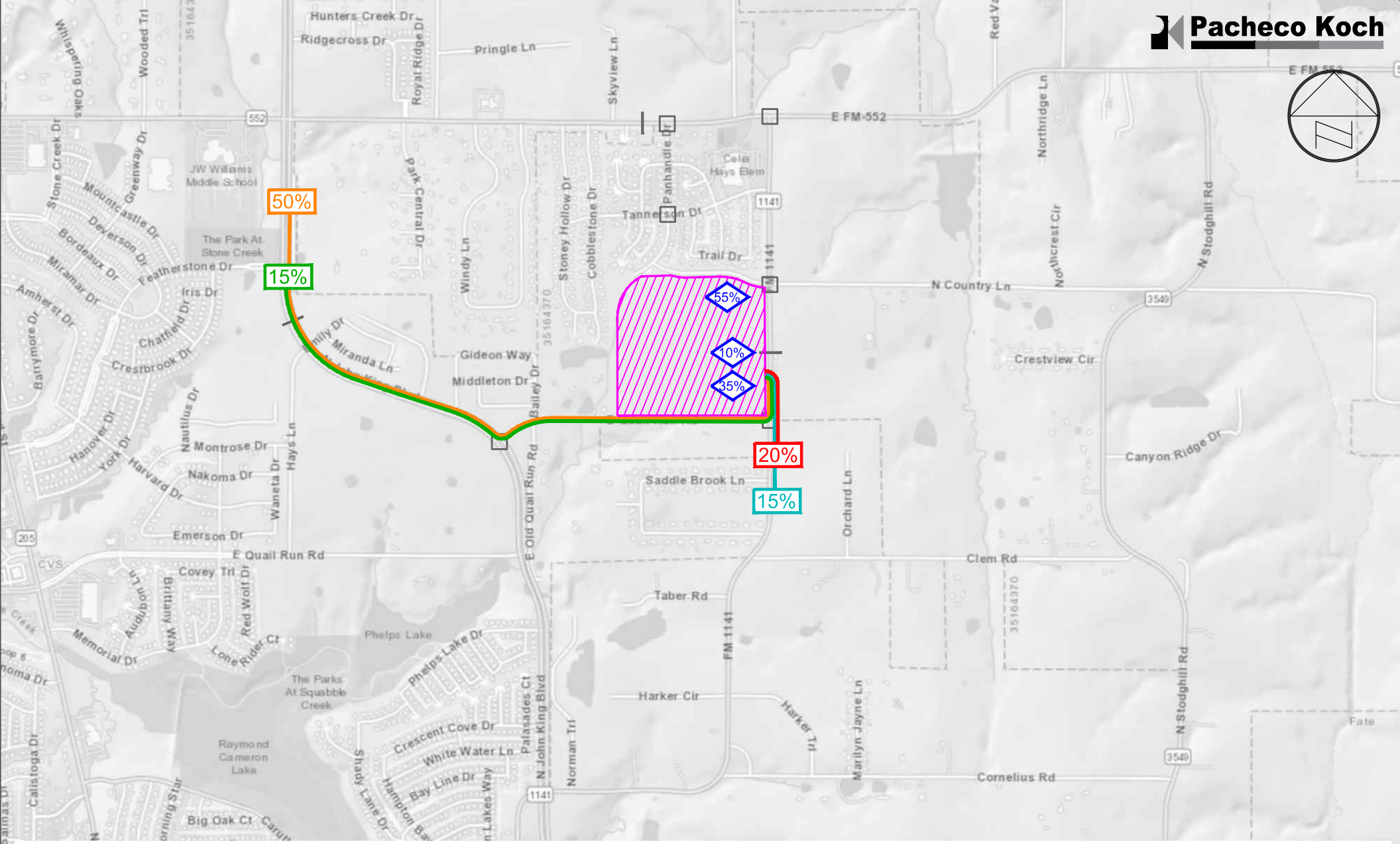


Site Generated Trip Distribution - Buses (Inbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C3**



- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Buses (Outbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C4**

Trip Generation

The two sources for the trip generation rates used to estimate the future generation potential of the proposed new Rockwall Ninth Grade Center are as follows:

Given the regional attendance zone for the proposed new Rockwall Ninth Grade Center, its location at the northern fringe of the urbanized area of the City of Rockwall, located at center of the Rockwall Independent School District, and the location of existing schools in the school district, trip generation by the Rockwall Ninth Grade Center facility does not fit the description of the ITE Code 520 – Public School land use provided by the Institute of Transportation Engineers (ITE) Trip Generation data, graphs, and formulae. Therefore, trip generation will be based on the following assumptions utilizing data from the current high school Rockwall HS and Rockwall-Heath HS (utilizing current enrollment and ridership) (1) the critical peak trip generation in terms of both capacity and efficiency of travel will occur during the A.M. peak hour, which coincide with the morning peak hour background traffic; currently the school start time is 8:40 am with dismissal at 3:50 pm (2) only students arrivals will be considered since staff trips will occur before the peak of students arrival trips; (3) the District currently runs 14 buses (last semester 17 buses served the campus) with a current ridership of approximately 442 student (last semester has a ridership of 517 student with 218 freshman) with an approximate student population of 2,872 students; of the 442 riders, 218 were Freshman students or a freshman ridership of 42.1%; Freshman students that utilize bus transportation outside the 2 mile walk zone is accepted; to be conservative, a higher value of 45% will be used for the study due to siblings not being able ride together and Freshman not being able to ride with friends; (4) the District's current number of Freshman students being drop off by parent vehicles are approximately 332, 1.4 students per vehicle 237 trips, with an approximate Freshman student population of 788 student or 42.1% of students being dropped off; without pedestrian traffic and friends and sibling being able to provide transportation for a freshman student to a higher the value of 55% will be used for the study; (5) the District's projection that only 5% of students currently are pedestrian traffic (40 students) within the 2 mile walk zone is accepted; a value of 0% is used for the study; however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic.. (6) entering and exiting trip ends will be equal since the only logical exception would be attending students who are children of school staff; (7) average occupancy will be 1.4 students per passenger car or van; average bus load will be assumed to be 35 students; (8) Buses will access site by way of Approach #2 - the south approach off of Farm to Market 1141 (FM 1141).

Morning peak traffic generation will be similar, but without the need to consider the morning peak hour background traffic or will be less due to arrival times being more staggered. Also, it is typically observed that parents and others providing non-bus transportation for the current high school students commonly arrive up to thirty to forty-five minutes in advance of school start time. These varied arrival times tend to mitigate the traffic impact of, at least, the entering trip end, while the exiting trip end more closely resembles the P.M. peak situation.

Proposed Rockwall Ninth Grade Center Transportation projections. (Full Build Out)

Inbound A.M. peak hour trip ends generated by the proposed new Rockwall Ninth Grade Center is calculated as follows for passenger cars and buses accessing the site by way of Farm to Market 1141 (FM 1141):

Proposed Rockwall Ninth Grade Center Transportation projections. (At full capacity)

1,000 students	x	45.0%	= 450 students by bus (13 Buses)
1,000 students	x	55.0%	= 550 students by parent
1,000 students	x	0%	= 0 pedestrian traffic

Inbound A.M. peak hour trip ends by school buses accessing site are calculated as:

1,000 students x 0.45 by bus mode / 35 students average per bus = 12.9 (13) trip ends (bus)

Inbound A.M. peak hour trip ends by non-bus mode Freshman students' personal vehicles accessing site are calculated as:

1,000 Freshman Students x 0.55 non-bus mode / 1.4 students per vehicle = 393 trip ends (cars/vans)

Inbound A.M. peak hour trip ends by non-bus mode parents accessing site are calculated as:

1,000 students x 0.05 non-bus mode / pedestrian traffic = 0 (walkers)

It is assumed that 0% of the students will come from within the 2-mile walking zone and however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic.

Proposed Rockwall Ninth Grade Center Transportation projections. (On opening day 2024)

(Current 8th grade Enrollment 2022 1,424 Students)

(Current 7th grade Enrollment 2022 1,371 Students)

(Current 6th grade Enrollment 2022 1,381 Students)

700 Freshman Students	x	45.0%	= 315 students by bus (9 Buses)
700 Freshman Students	x	55.0%	= 385 students by parent
700 Freshman Students	x	0%	= 0 pedestrian traffic

The assumption above is made utilizing the current enrollment data and projected growth.
Source: Rockwall Independent School District

Inbound A.M. peak hour trip ends by school buses accessing site are calculated as:

700 Freshman Students x 0.35 by bus mode / 35 students average per bus = 9 (9) trip ends (bus)

Inbound A.M. peak hour trip ends by non-bus mode students' personal vehicles accessing site are calculated as:

700 Freshman Students x 0.60 non-bus mode / 1.4 students per vehicle = 275 trip ends (cars/vans)

Inbound A.M. peak hour trip ends by non-bus mode parents accessing site are calculated as:

700 Freshman Students x 0.05 non-bus mode / pedestrian traffic = 0 (walkers)

It is assumed that 0% of the students will come from within the 2-mile walking zone and however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic. The Dalton Ranch, Stoney Hollow and Saddlebrook Subdivision have considered the pedestrian traffic to the school and provided sidewalks leading to the school site. Also, the neighborhood around Nelson Lake will need to have sidewalk access to the school in the future.

Trip Distribution

The following assumptions are made regarding trip distribution:

(1) All of the morning peak hour inbound Ninth grade, all parent vehicular access to the site will access the site in two locations. Parents north bound on Farm to Market 1141 (FM 1141) will utilize Approach #1 the most southern approach and use and continue to the student drop off lane. This student drop-off lane is intended to be a one-way single / partial double stack loop for student drop-off and pick-up. Parents will exit the student drop lane and exit via the same direction southbound from Approach #2 the southern middle approach where they can make, and right or left hand turn back onto Farm to Market 1141 (FM 1141). The same process will hold true in the afternoon departing traffic flow.

(2) Parents southbound on Farm to Market 1141 (FM 1141) will utilize Approach #3 - center approach via the new left-hand lane and turn left into the site and continue to the student drop-off lane. This student drop-off lane is intended to be a one-way double stack loop for student drop-off and pick-up in front of the new Rockwall Ninth Grade Center. Parents will exit the student drop lane and exit via Approach #4 northern middle approach where they can make a right or left hand turn back onto Farm to Market 1141 (FM 1141). The same process will hold true in the afternoon departing traffic flow.

(3) It will be further assumed that all minibuses, school buses, HC Buses and service traffic will enter the site both Northbound and southbound off Farm to Market 1141 (FM 1141) and will utilize Approach #4 the most northern middle approach and continue to the bus drop off loop around the back of the school. The buses will also exit back onto Farm to Market 1141 (FM 1141) but will be limited to only a right hand turn only. This bus loop is intended to be a one-way single stack parking lot for approximately 18 buses for student drop-off and pick-up. This bus traffic is not intended to mix with parent traffic except at the entrance and exit locations on site. This is the only location where school traffic and bus traffic occur in the same location.

(4) Given the location of this site, for this analysis, it shall be assumed that there will be 5% pedestrian traffic. As residential communities develop around the new Rockwall Ninth Grade Center facility, the pedestrian traffic is anticipated to increase from the growth in new and existing Dalton Ranch, Stoney Hollow and Saddlebrook Subdivision have considered the pedestrian traffic to the school and provided sidewalks leading to the school site. Also, the neighborhood around Nelson Lake will need to have sidewalk access to the school in the future.

(5) No internal trips are anticipated.

Distribution of these trips is as Follows:

40% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
60% of vehicular traffic (parent) will be Southbound on Farm to Market 1141 (FM 1141).

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141).
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141).

0% of pedestrian traffic (student) will be utilizing sidewalks off Farm to Market 1141 (FM 1141).

1,000 students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 157.1 (158) trip ends (cars/vans) Northbound on Farm to Market 1141 (FM 1141). (Left turn into Approach #4 - Northerly Entrance)

1,000 students x 55% x 60% Vehicular Traffic (1.4 students per vehicle) = 235.7 (236) trip ends (cars/vans) Southbound on Farm to Market 1141 (FM 1141). (Left turn into North Country Lane) enter through Approach #6 west approach on North Country Lane

13 buses x 45% x 30% Bus (35 students per Bus) = 4 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). (Right Turn Only into approach #4)

13 buses x 45% x 70% Bus (35 students per Bus) = 9 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Left Turn into Approach #4)

Afternoon peak traffic generation will be similar, but without the need to consider the P.M. peak hour background traffic or will be less if dismissal times by grade are staggered. Also, it is typically observed that parents and others providing non-bus transportation for Rockwall Ninth Grade Center students commonly arrive up to one-half hour to forty- five minutes in advance of dismissal time which tends to mitigate the traffic impact of, at least, the entering trip end, while the exiting trip end more closely resembles the A.M. peak situation. Likewise, school buses typically arrive early and over a period of time to be ready to receive the students at dismissal. Buses will be allowed to depart prior to the parents.

Route Assignment – Split by inbound Direction

Total trip generation for the afternoon peak traffic period was determined to be 232 car ends entering and 290 is study as stated above, route assignment for afternoon inbound trips only will be addressed. Using the trip distribution assumptions above, route assignment of all afternoon peak entering trips is expected to be as follows:

Ninth grade northbound would be assigned to the front pick area on the south side of the main entrance and Ninth grade southbound would be assigned to the front pick on the north side of the main entrance. This would equate to a 50/50split at the front drop off area at build out between the two drop off and pick areas enter the site, both from southbound and northbound off of Farm to Market 1141 (FM 1141), double stack thru the student drop-off and pick up lanes and exit one way from the student lane back onto north south drive (one-way student drop-off lane). It is anticipated that both exiting lanes will split 90% northbound and 90% southbound on exiting the site. The 10% is for those who are not compliant or follow the design intent.

Total Vehicles = 392
60% 235.7 (236) car trips into the north pick up area
40% 157.1 (158) car trips into the north pickup area.

All bus traffic will and enter and exit the site off Farm to Market 1141 (FM 1141). through Approach #2 and will not conflict with non-bus traffic, except onsite. Buses single stack thru the bus drop-off and pick up lane and exit one way from the bus lane back onto Farm to Market 1141 (FM 1141). This exit will be limited to a left hand turn only. (One-way bus pick-up and drop-off lane).

Inbound 9 bus trips southbound from Farm to Market 1141 (FM 1141).
Inbound 4 bus trips northbound only onto Farm to Market 1141 (FM 1141).)
Outbound 13 bus trips northbound only onto Farm to Market 1141 (FM 1141).
(All through Approach #2)

This plan is to be designed to for vehicular traffic to be split by direction of travel off of Farm to Market 1141 (FM 1141). With 40% of the northbound traffic turning into Approach #4 and exiting through Approaches #2 and #3.

With 60% of the southbound traffic turning into North Country Lane and utilizing Approaches #5 and #6 of the same traffic turning into Approach #6.

Distribution of these trips is as Follows:

40% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
60% of vehicular traffic (parent) will be Southbound on North Country Lane

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141)
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141)

0% of pedestrian traffic (student).

1,000 Freshman Students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 158 trip ends (cars/vans) Northbound on Farm to Market 1141 (FM 1141).
100% Left turn into Approach #4 = 158 trip ends
80% right turn Exit southbound Approach #2 = 126 trip ends
20% left turn Exit northbound Approach #3 = 32 trip ends

1,000 Freshman Students x 55% x 60% Vehicular Traffic (1.4 students per vehicle = 236 trip ends (cars/vans) Southbound on Farm to Market 1141 (FM 1141) to North Country Lane.
90% Left turn into west Entrance off North Country Lane Approach #5 = 212 trip ends
10% Right turn into West Entrance off North Country Lane Approach #5 = 24 trip ends
90% Right turn from East Exit onto North Country Lane Approach #6 = 212 trip ends
10% Left turn from East Exit onto North Country Lane Approach #6 = 24 trip ends

9 buses x 60% Bus (35 students per Bus) = 5 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Right Turn) Approach #2 Inbound
4 buses x 60% Bus (35 students per Bus) = 8 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141) (Left Turn) Approach #2 Inbound

13 buses x 60% Bus (35 students per Bus) =10 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). Parkway (Left Turn) Approach #2 Outbound

Opening Day Site Access Distribution of these trips is as Follows:

700 Freshman Students x 45.0% = 315 students by bus (9 Buses)
700 Freshman Students x 55.0% = 385 students by parent (275 trips)
700 Freshman Students x 0% = 0 pedestrian traffic

The assumption above is made utilizing the current enrollment data and projected growth.
Source: Rockwall Independent School District

35% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
65% of vehicular traffic (parent) will be Southbound on Farm to Market 1141 (FM 1141)

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141)
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141)

0% of pedestrian traffic (student)

700 Freshman Students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 96 trip ends
(cars/vans) Northbound on Farm to Market 1141 (FM 1141).
100% Left turn into Approach #4 = 96 trip ends
80% right turn Exit southbound Approach #2 = 20 trip ends
20% left turn Exit northbound Approach #3 = 76 trip ends

700 Freshman Students x 55% x 60% Vehicular Traffic (1.4 students per vehicle = 179 trip ends (cars/vans)
Southbound on Farm to Market 1141 (FM 1141) to North Country Lane.

90% Left turn into west Entrance off North Country Lane Approach #5 = 161 trip ends
10% Right turn into West Entrance off North Country Lane Approach #5 = 18 trip ends
90% Right turn from East Exit onto North Country Lane Approach #6 = 161 trip ends
10% Left turn from East Exit onto North Country Lane Approach #6 = 18 trip ends

7buses x 60% Bus (35 students per Bus) = 5 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Right Turn) Approach #2 Inbound
2 buses x 60% Bus (35 students per Bus) = 8 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141) (Left Turn) Approach #2 Inbound

9 buses x 60% Bus (35 students per Bus) =10 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). Parkway (Left Turn) Approach #2 Outbound

Appendix D. Detailed Intersection Capacity Analysis Results

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	26	5	31	14	2	2	7	33	2	1
Future Vol, veh/h	0	28	26	5	31	14	2	2	7	33	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	28	5	34	15	2	2	8	36	2	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.2	6.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	0%	10%	92%
Vol Thru, %	18%	52%	62%	6%
Vol Right, %	64%	48%	28%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	54	50	36
LT Vol	2	0	5	33
Through Vol	2	28	31	2
RT Vol	7	26	14	1
Lane Flow Rate	12	59	54	39
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.062	0.059	0.047
Departure Headway (Hd)	3.813	3.776	3.92	4.305
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	932	945	911	829
Service Time	1.864	1.813	1.956	2.347
HCM Lane V/C Ratio	0.013	0.062	0.059	0.047
HCM Control Delay	6.9	7.1	7.2	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.2	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	140	51	239	96	20
Future Vol, veh/h	166	140	51	239	96	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	152	55	260	104	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	332	0	626	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1227	-	448	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1227	-	425	783
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	663	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	461	-	-	1227	-
HCM Lane V/C Ratio	0.274	-	-	0.045	-
HCM Control Delay (s)	15.7	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	2	31	4	3	15	7	87	5	7	141	0
Future Vol, veh/h	0	2	31	4	3	15	7	87	5	7	141	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	34	4	3	16	8	95	5	8	153	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	292	285	153	301	283	98	153	0	0	100	0	0
Stage 1	169	169	-	114	114	-	-	-	-	-	-	-
Stage 2	123	116	-	187	169	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	660	624	893	651	626	958	1428	-	-	1493	-	-
Stage 1	833	759	-	891	801	-	-	-	-	-	-	-
Stage 2	881	800	-	815	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	640	617	893	619	618	958	1428	-	-	1493	-	-
Mov Cap-2 Maneuver	640	617	-	619	618	-	-	-	-	-	-	-
Stage 1	828	754	-	886	796	-	-	-	-	-	-	-
Stage 2	857	795	-	777	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.5	0.5	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1428	-	-	869	816	1493	-	-
HCM Lane V/C Ratio	0.005	-	-	0.041	0.029	0.005	-	-
HCM Control Delay (s)	7.5	0	-	9.3	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	3	8	78	157	11
Future Vol, veh/h	17	3	8	78	157	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	3	9	85	171	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	280	177	183	0	-	0
Stage 1	177	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	710	866	1392	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	705	866	1392	-	-	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1392	-	725	-	-
HCM Lane V/C Ratio	0.006	-	0.03	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	8	462	21	8	586
Future Vol, veh/h	38	8	462	21	8	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	9	502	23	9	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1157	502	0	0	502	0
Stage 1	502	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	217	569	-	-	1062	-
Stage 1	608	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	215	569	-	-	1062	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	215	569	1062	-
HCM Lane V/C Ratio	-	-	0.192	0.015	0.008	-
HCM Control Delay (s)	-	-	25.7	11.4	8.4	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	45	7	339	67	14
Future Vol, veh/h	270	45	7	339	67	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	293	49	8	368	73	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	342	0	702	318
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1217	-	404	723
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1217	-	401	723
Mov Cap-2 Maneuver	-	-	-	-	401	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	683	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	1217	-
HCM Lane V/C Ratio	0.203	-	-	0.006	-
HCM Control Delay (s)	15.4	-	-	8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	7	1	22	6	12	2	0	6	3	2
Future Vol, veh/h	2	6	7	1	22	6	12	2	0	6	3	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	8	1	24	7	13	2	0	7	3	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.8	7	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	13%	3%	55%
Vol Thru, %	14%	40%	76%	27%
Vol Right, %	0%	47%	21%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	15	29	11
LT Vol	12	2	1	6
Through Vol	2	6	22	3
RT Vol	0	7	6	2
Lane Flow Rate	15	16	32	12
Geometry Grp	1	1	1	1
Degree of Util (X)	0.018	0.017	0.034	0.013
Departure Headway (Hd)	4.197	3.753	3.877	4.028
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	854	955	925	889
Service Time	2.216	1.77	1.892	2.049
HCM Lane V/C Ratio	0.018	0.017	0.035	0.013
HCM Control Delay	7.3	6.8	7	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	30	19	198	32	35
Future Vol, veh/h	253	30	19	198	32	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	33	21	215	35	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	308	0	549	292
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1253	-	497	747
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1253	-	488	747
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	596	-	-	1253	-
HCM Lane V/C Ratio	0.122	-	-	0.016	-
HCM Control Delay (s)	11.9	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	7	3	3	5	9	95	7	8	48	0
Future Vol, veh/h	1	2	7	3	3	5	9	95	7	8	48	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	8	3	3	5	10	103	8	9	52	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	201	201	52	202	197	107	52	0	0	111	0	0
Stage 1	70	70	-	127	127	-	-	-	-	-	-	-
Stage 2	131	131	-	75	70	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	757	695	1016	756	699	947	1554	-	-	1479	-	-
Stage 1	940	837	-	877	791	-	-	-	-	-	-	-
Stage 2	873	788	-	934	837	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	743	686	1016	741	690	947	1554	-	-	1479	-	-
Mov Cap-2 Maneuver	743	686	-	741	690	-	-	-	-	-	-	-
Stage 1	933	832	-	871	785	-	-	-	-	-	-	-
Stage 2	858	782	-	919	832	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.5	0.6	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	897	804	1479	-	-
HCM Lane V/C Ratio	0.006	-	-	0.012	0.015	0.006	-	-
HCM Control Delay (s)	7.3	0	-	9.1	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	102	59	1
Future Vol, veh/h	5	5	5	102	59	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	5	111	64	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	186	65	65	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	803	999	1537	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	801	999	1537	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1537	-	889	-	-
HCM Lane V/C Ratio	0.004	-	0.012	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	4	479	31	10	489
Future Vol, veh/h	18	4	479	31	10	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	4	521	34	11	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1075	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	243	555	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	240	555	-	-	1045	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	240	555	1045	-
HCM Lane V/C Ratio	-	-	0.082	0.008	0.01	-
HCM Control Delay (s)	-	-	21.3	11.5	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	299	13	6	224	16	2
Future Vol, veh/h	299	13	6	224	16	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	325	14	7	243	17	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	339	0	589	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1220	-	471	710
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1220	-	468	710
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	486	-	-	1220	-
HCM Lane V/C Ratio	0.04	-	-	0.005	-
HCM Control Delay (s)	12.7	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	26	5	31	14	2	10	7	33	19	1
Future Vol, veh/h	0	28	26	5	31	14	2	10	7	33	19	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	28	5	34	15	2	11	8	36	21	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.3	7.1	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	10%	62%
Vol Thru, %	53%	52%	62%	36%
Vol Right, %	37%	48%	28%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	54	50	53
LT Vol	2	0	5	33
Through Vol	10	28	31	19
RT Vol	7	26	14	1
Lane Flow Rate	21	59	54	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.023	0.062	0.06	0.068
Departure Headway (Hd)	3.973	3.821	3.965	4.258
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	893	930	897	837
Service Time	2.031	1.874	2.017	2.305
HCM Lane V/C Ratio	0.024	0.063	0.06	0.069
HCM Control Delay	7.1	7.1	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2	0.2

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	283	105	239	162	45
Future Vol, veh/h	166	283	105	239	162	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	308	114	260	176	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	488	0	822	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1075	-	344	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1075	-	301	708
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	540	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	33.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	1075	-
HCM Lane V/C Ratio	0.654	-	-	0.106	-
HCM Control Delay (s)	33.2	-	-	8.7	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	4.4	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	2	31	4	3	15	7	95	5	7	150	188
Future Vol, veh/h	83	2	31	4	3	15	7	95	5	7	150	188
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	2	34	4	3	16	8	103	5	8	163	204

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	412	405	265	421	505	106	367	0	0	108	0	0
Stage 1	281	281	-	122	122	-	-	-	-	-	-	-
Stage 2	131	124	-	299	383	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	550	535	774	543	470	948	1192	-	-	1483	-	-
Stage 1	726	678	-	882	795	-	-	-	-	-	-	-
Stage 2	873	793	-	710	612	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	532	528	774	513	463	948	1192	-	-	1483	-	-
Mov Cap-2 Maneuver	532	528	-	513	463	-	-	-	-	-	-	-
Stage 1	721	673	-	876	789	-	-	-	-	-	-	-
Stage 2	849	787	-	672	608	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	10.1	0.5	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1192	-	-	580	731	1483	-	-
HCM Lane V/C Ratio	0.006	-	-	0.217	0.033	0.005	-	-
HCM Control Delay (s)	8	-	-	12.9	10.1	7.4	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	3	8	148	190	44
Future Vol, veh/h	87	3	8	148	190	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	3	9	161	207	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	410	231	255	0	-	0
Stage 1	231	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	598	808	1310	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	594	808	1310	-	-	-
Mov Cap-2 Maneuver	647	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1310	-	651	-	-
HCM Lane V/C Ratio	0.007	-	0.15	-	-
HCM Control Delay (s)	7.8	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	41	462	21	78	586
Future Vol, veh/h	38	41	462	21	78	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	45	502	23	85	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1309	502	0	0	502	0
Stage 1	502	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	176	569	-	-	1062	-
Stage 1	608	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	569	-	-	1062	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	404	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.9	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	162	569	1062	-
HCM Lane V/C Ratio	-	-	0.255	0.078	0.08	-
HCM Control Delay (s)	-	-	34.7	11.9	8.7	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1	0.3	0.3	-

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	413	62	7	405	75	14
Future Vol, veh/h	413	62	7	405	75	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	449	67	8	440	82	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	516	0	939	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	456	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1050	-	293	584
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1050	-	291	584
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	633	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	-	-	1050	-
HCM Lane V/C Ratio	0.306	-	-	0.007	-
HCM Control Delay (s)	21.3	-	-	8.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	0	0	198	8	83
Future Vol, veh/h	33	0	0	198	8	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	0	0	215	13	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	251	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	738	1037
Stage 1	-	0	0	-	986	-
Stage 2	-	0	0	-	821	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	738	1037
Mov Cap-2 Maneuver	-	-	-	-	738	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	738	1037	-	-
HCM Lane V/C Ratio	0.018	0.133	-	-
HCM Control Delay (s)	10	9	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	0.1	0.5	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	136	107	185	0
Future Vol, veh/h	0	0	136	107	185	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	227	116	201	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	771	201	201	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	368	840	1371	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	307	840	1371	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1371	-	-	-	-	-
HCM Lane V/C Ratio	0.165	-	-	-	-	-
HCM Control Delay (s)	8.1	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	0	235	185	0
Future Vol, veh/h	8	8	0	235	185	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	0	255	201	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	456	201	-	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	562	840	0	-	-	0
Stage 1	833	-	0	-	-	0
Stage 2	788	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	562	840	-	-	-	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	625	840	-
HCM Lane V/C Ratio	-	0.021	0.016	-
HCM Control Delay (s)	-	10.9	9.4	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	58	4	235	184	9
Future Vol, veh/h	0	58	4	235	184	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	97	7	255	200	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	469	200	215	0	-	0
Stage 1	200	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	553	841	1355	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	550	841	1355	-	-	-
Mov Cap-2 Maneuver	550	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1355	-	-	841	-	-
HCM Lane V/C Ratio	0.005	-	-	0.115	-	-
HCM Control Delay (s)	7.7	-	0	9.8	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	90	52	0	0	0
Future Vol, veh/h	0	90	52	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	92	92	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	98	57	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	57	0	-	0	155	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1547	-	-	-	836	1009
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1547	-	-	-	836	1009
Mov Cap-2 Maneuver	-	-	-	-	836	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1547	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	7	1	22	6	12	12	0	6	8	2
Future Vol, veh/h	2	6	7	1	22	6	12	12	0	6	8	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	8	1	24	7	13	13	0	7	9	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7.1	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	13%	3%	38%
Vol Thru, %	50%	40%	76%	50%
Vol Right, %	0%	47%	21%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	15	29	16
LT Vol	12	2	1	6
Through Vol	12	6	22	8
RT Vol	0	7	6	2
Lane Flow Rate	26	16	32	17
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.017	0.034	0.019
Departure Headway (Hd)	4.129	3.778	3.903	4.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	868	946	917	887
Service Time	2.15	1.805	1.927	2.059
HCM Lane V/C Ratio	0.03	0.017	0.035	0.019
HCM Control Delay	7.3	6.9	7.1	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	71	34	198	114	66
Future Vol, veh/h	253	71	34	198	114	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	77	37	215	124	72

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	352	0	603	314
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	289	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1207	-	462	726
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	760	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1207	-	446	726
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	519	-	-	1207	-
HCM Lane V/C Ratio	0.377	-	-	0.031	-
HCM Control Delay (s)	16.1	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	2	7	3	3	5	9	105	7	8	48	56
Future Vol, veh/h	104	2	7	3	3	5	9	105	7	8	48	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	2	8	3	3	5	10	114	8	9	52	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	243	243	83	244	269	118	113	0	0	122	0	0
Stage 1	101	101	-	138	138	-	-	-	-	-	-	-
Stage 2	142	142	-	106	131	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	711	659	976	710	637	934	1476	-	-	1465	-	-
Stage 1	905	811	-	865	782	-	-	-	-	-	-	-
Stage 2	861	779	-	900	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	697	650	976	695	628	934	1476	-	-	1465	-	-
Mov Cap-2 Maneuver	697	650	-	695	628	-	-	-	-	-	-	-
Stage 1	899	805	-	859	777	-	-	-	-	-	-	-
Stage 2	847	774	-	884	782	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	9.8	0.6	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1476	-	-	709	761	1465	-	-
HCM Lane V/C Ratio	0.007	-	-	0.173	0.016	0.006	-	-
HCM Control Delay (s)	7.5	-	-	11.1	9.8	7.5	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	5	5	122	105	50
Future Vol, veh/h	25	5	5	122	105	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	5	5	133	114	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	284	141	168	0	-	0
Stage 1	141	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	706	907	1410	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	703	907	1410	-	-	-
Mov Cap-2 Maneuver	724	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1410	-	749	-	-
HCM Lane V/C Ratio	0.004	-	0.044	-	-
HCM Control Delay (s)	7.6	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	53	479	31	30	489
Future Vol, veh/h	18	53	479	31	30	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	58	521	34	33	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1119	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	229	555	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	222	555	-	-	1045	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	222	555	1045	-
HCM Lane V/C Ratio	-	-	0.088	0.104	0.031	-
HCM Control Delay (s)	-	-	22.8	12.2	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	340	18	6	306	26	2
Future Vol, veh/h	340	18	6	306	26	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	370	20	7	333	28	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	390	0	727	380
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1169	-	391	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	389	667
Mov Cap-2 Maneuver	-	-	-	-	389	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	401	-	-	1169	-
HCM Lane V/C Ratio	0.076	-	-	0.006	-
HCM Control Delay (s)	14.7	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	0	0	68	10	103
Future Vol, veh/h	10	0	0	68	10	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	0	74	17	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	85	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	916	1070
Stage 1	-	0	0	-	1012	-
Stage 2	-	0	0	-	949	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	916	1070
Mov Cap-2 Maneuver	-	-	-	-	916	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	916	1070	-	-
HCM Lane V/C Ratio	0.018	0.16	-	-
HCM Control Delay (s)	9	9	-	-
HCM Lane LOS	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.6	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	41	121	58	0
Future Vol, veh/h	0	0	41	121	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	68	132	63	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	331	63	63	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	664	1002	1540	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	635	1002	1540	-	-	-
Mov Cap-2 Maneuver	666	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	2.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1540	-	-	-	-	-
HCM Lane V/C Ratio	0.044	-	-	-	-	-
HCM Control Delay (s)	7.4	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	0	152	58	0
Future Vol, veh/h	10	10	0	152	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	17	0	165	63	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	228	63	-	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	760	1002	0	-	-	0
Stage 1	960	-	0	-	-	0
Stage 2	864	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	760	1002	-	-	-	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	756	1002	-
HCM Lane V/C Ratio	-	0.022	0.017	-
HCM Control Delay (s)	-	9.9	8.7	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	85	0	152	68	0
Future Vol, veh/h	0	85	0	152	68	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	142	0	165	74	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	239	74	74	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	749	988	1526	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	749	988	1526	-	-	-
Mov Cap-2 Maneuver	749	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1526	-	-	988	-	-
HCM Lane V/C Ratio	-	-	-	0.143	-	-
HCM Control Delay (s)	0	-	0	9.3	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	55	0	0	0
Future Vol, veh/h	0	30	55	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	92	92	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	60	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	60	0	-	0	93	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1544	-	-	-	907	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1544	-	-	-	907	1005
Mov Cap-2 Maneuver	-	-	-	-	907	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1544	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

CITY OF ROCKWALL

PLANNING AND ZONING COMMISSION WORK SESSION CASE MEMO

PLANNING AND ZONING DEPARTMENT
385 S. GOLIAD STREET • ROCKWALL, TX 75087
PHONE: (972) 771-7745 • EMAIL: PLANNING@ROCKWALL.COM

TO:	Planning and Zoning Commission
DATE:	June 28, 2022
APPLICANT:	Robert Howman; *Glenn Engineering Corp.*
CASE NUMBER:	P2022-028; *Preliminary Plat for lots 1 & 2, Block A, Rockwall ISD Addition*

SUMMARY

Discuss and consider a request by Robert Howman of Glenn Engineering Corp. on behalf of William Salee of the Rockwall Independent School District (RISD) for the approval of a *Preliminary Plat* for Lots 1 & 2, Block A, Rockwall ISD Addition being a 76.068-acre tract of land identified as Tracts 14-01 & 14-11 of the J. M. Glass Survey, Abstract No. 88, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 94 (PD-94) for limited Neighborhood Services (NS) District land uses, generally located at the northwest corner of the intersection of FM-1141 and E. Quail Run Road, and take any action necessary.

PLAT INFORMATION

- ☑ The purpose of the applicant's request is to *Preliminary Plat* a 76.068-acre tract of land (*i.e. Tracts 14-01 & 14-11 of the J. M. Glass Survey, Abstract No. 88*) to establish the necessary easements (*e.g. fire lane, public access/right-of-way, utilities, and drainage*) for the future development of a school. In addition, the applicant has submitted a letter requesting waivers to the required infrastructure as stipulated in Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances.

- ☑ On August 30, 1999, the subject property was annex by the City Council through *Ordinance No. 99-33* [*Case No. A1999-001*]. At the time of annexation, the subject property was zoned Agricultural (AG) District. The subject property has been remained vacant since annexation. On May 2, 2022, City Council approved a zoning change by *Ordinance No. 22-25* [*Case No. Z2022-015*] from Agricultural (AG) District to Planned Development 95 (PD-95) District for Neighborhood Services (NS) District land uses.

- ☑ The purpose of a *Preliminary Plat* is to provide sufficient information to evaluate and review the general design of the development to ensure compliance with the OURHometown Vision 2040 Comprehensive Plan, the Unified Development Code (UDC), and the *Subdivision Ordinance* contained in the Municipal Code of Ordinances.

- ☑ The applicant has submitted a letter requesting that the City Council waive infrastructure required by Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances. In response to the applicant's request staff has prepared a memorandum addressing the infrastructure requirements for this property and the applicant's requested waivers (*see attached memorandum*).

- ☑ The surveyor has completed the majority of the technical revisions requested by staff, and this plat -- *conforming to the requirements for plats as stipulated by the Subdivision Ordinance in the Municipal Code of Ordinances* -- is recommended for conditional approval pending the completion of final technical modifications and submittal requirements.

- ☑ Conditional approval of this plat by the City Council shall constitute approval subject to the conditions stipulated in the *Conditions of Approval* section below.

- ☑ With the exception of the items listed in the *Conditions of Approval* section of this case memo, this plat is in substantial compliance with the requirements of the *Subdivision Ordinance* in the Municipal Code of Ordinances.

CONDITIONS OF APPROVAL

If the Planning and Zoning Commission chooses to recommend approval of a ***Preliminary Plat*** for *Lots 1 & 2, Block A, Rockwall ISD Addition*, staff would propose the following conditions of approval:

(1) All technical comments from City Staff (*i.e. Engineering, Planning and Fire Department*) shall be addressed prior to submittal of civil engineering plans;

(2) Any construction resulting from the approval of this ***Preliminary Plat*** shall conform to the requirements set forth by the Unified Development Code (UDC), the International Building Code (IBC), the Rockwall Municipal Code of Ordinances, city adopted engineering and fire codes and with all other applicable regulatory requirements administered and/or enforced by the state and federal government.

CITY OF ROCKWALL

PLANNING AND ZONING COMMISSION MEMORANDUM

PLANNING AND ZONING DEPARTMENT
385 S. GOLIAD STREET • ROCKWALL, TX 75087
PHONE: (972) 771-7745 • EMAIL: PLANNING@ROCKWALL.COM

TO:	Planning and Zoning Commission
FROM:	Ryan Miller, *Director of Planning and Zoning*
DATE:	June 28, 2022
SUBJECT:	Infrastructure Request Associated with *Case No. P2022-028*

As part of the preliminary plat for *Case No. P2022-028*, the applicant -- *William Salee of the Rockwall Independent School District* -- has submitted a letter requesting the City Council waive certain infrastructure requirements associated with the development of a school on the subject property. The infrastructure the applicant is requesting the waiver for is required by Subsection (4), *Property Owner's Obligation*, of Section 38-5, *Policy*, of Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances, which states:

(a) *Dedication and Construction of Improvements*. The property owner shall dedicate all rights-of-way, and easements for, and shall construct, capital improvements within the rights-of-way or easements for those water, wastewater, road or drainage improvements needed to adequately serve a proposed development consistent with the applicable master facilities plans, whether the facilities are located on, adjacent to or outside the boundaries of the property being platted.

Specifically, the applicant is requesting the following *required* infrastructure be waived:

ROADWAYS

Required Infrastructure: The following roadway infrastructure is required:

(1) *Panhandle Drive*. This roadway is identified as a M4U (*i.e. major collector, four [4] lane, undivided roadway*) on the City's Master Thoroughfare Plan contained in the OURHometown Vision 2040 Comprehensive Plan. Based on this, this roadway requires a minimum right-of-way width of 65-feet with a 45-foot *back-of-curb* to *back-of-curb* concrete roadway to be constructed within the right-of-way. Since the applicant's property is situated on both sides of this roadway, they would be required to construct the full width of this roadway from the northern property line adjacent to the Dalton Ranch Subdivision to the southern property line adjacent to Quail Run Road.

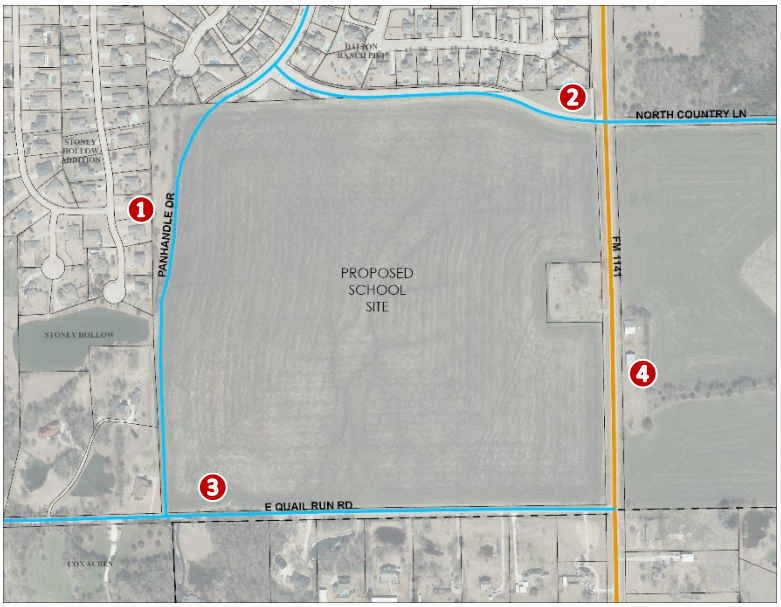


FIGURE 1: MASTER THOROUGHFARE PLAN FOR THE SUBJECT PROPERTY
1: PANHANDLE DRIVE
2: NORTH COUNTRY LANE
3: QUAIL RUN ROAD
4: FM-1141

Applicant's Response: The applicant has stated that they are willing to dedicate the right-of-way for the roadway, but are requesting that they not be required to construct the roadway.

(2) *Quail Run Road*. This roadway is an existing 17-foot wide asphalt street that is identified as a M4U (*i.e. major collector, four [4] lane, undivided roadway*) on the City's Master Thoroughfare Plan contained in the OURHometown Vision 2040 Comprehensive Plan. Based on this, the proposed project would require that the applicant verify the

width of E. Quail Run Road to ensure that there is 32.50-feet of right-of-way from the centerline of the roadway and dedicate any necessary right-of-way. In addition, a minimum 24-foot concrete road section would be required to be constructed along E. Quail Run Road from the western corner of the subject property to the eastern corner of the subject property.

Applicant's Response: The applicant has stated that they are willing to dedicate the right-of-way for the roadway, but are requesting that they not be required to construct the roadway.

(3) *North Country Lane*. This roadway is identified as a M4U (*i.e. major collector, four [4] lane, undivided roadway*) on the City's Master Thoroughfare Plan contained in the OURHometown Vision 2040 Comprehensive Plan. Based on this, this roadway requires a minimum right-of-way width of 65-feet with a 45-foot *back-of-curb* to *back-of-curb* concrete roadway to be constructed within the right-of-way. An existing 24-foot concrete road section for this roadway was constructed when the Dalton Ranch subdivision was constructed. The applicant's project would require the balance of this roadway to be constructed.

Applicant's Response: The applicant has stated that they are willing to dedicate the right-of-way for the roadway, but are requesting that they not be required to construct the remaining 20-foot wide roadway section.

Staff's Response: The applicant has cited the Traffic Impact Analysis (TIA) they submitted to the City as being the rationale for not constructing these roadways. Staff is obligated to point out that this study has *not* been approved by the City's consultants or the City, and that major discrepancies still exist. In addition, staff is also obligated to note that in the City's original conversations with the applicant, the applicant indicated a willingness to construct portions of Quail Run Road adjacent to the property line and construct their portion of North Country Lane. The site plan submitted with this case also shows North Country Lane being constructed. It wasn't until the recent letter submitted by the applicant that this roadway was requested to be waived.

Infrastructure Being Provided: The applicant is constructing improvements to FM-1141, which include widening the existing roadway from the northern property line to the southern property line to make this roadway a three (3) lane roadway with four (4) foot shoulders. In addition, the applicant is proposing to construct deceleration lanes for all of the proposed driveways and North Country Lane and Quail Run Road. This work will also include an asphalt overlay of the existing roadway from the northern property line to the southern property line of the subject property.

WATER

Required Infrastructure: According to the Water Distribution System Master Plan a 12-inch waterline is required to be constructed in the right-of-way of Panhandle Drive, extending from the existing stub in Panhandle Drive adjacent to the northern property line to the southern property line adjacent to Quail Run Road. This water line will need to be put into the 65-foot right-of-way for Panhandle Drive dedicated with this project.

Applicant's Response: The applicant has stated they are willing to dedicate the right-of-way for the waterline, but are requesting not to construct this waterline.

Staff's Response: Staff has consulted with Birkoff, Hendricks, & Carter LLP -- *the City's Water Consultant* -- concerning the applicant's request, and has determined that 12-inch line in Panhandle is not necessary to serve the current development, but may be needed for any additional development.

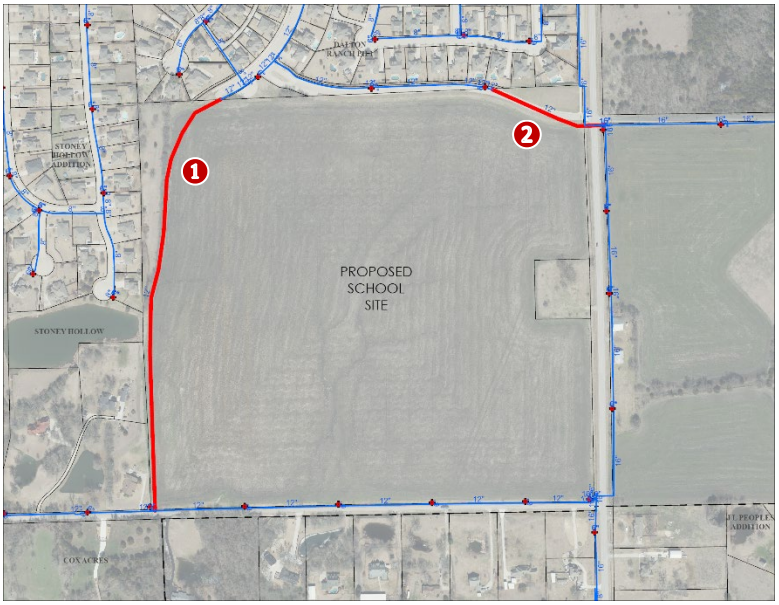


FIGURE 2: MASTER WATER DISTRIBUTION SYSTEM MASTER PLAN FOR THE SUBJECT PROEPRTY
1: 12-INCH ALONG PANHANDLE DRIVE
2: 12-INCH ALONG NORTH COUNTRY LANE

Infrastructure Being Provided: Staff should note that the applicant is proposing to extend the 12-inch line in North Country Lane from the northern property line to FM-1141 in accordance with the Water Distribution System Master Plan.

WASTEWATER

Infrastructure Being Provided: The applicant will construct an eight (8) inch wastewater line that will connect with the existing wastewater line existing along Quail Run Road.

Staff should point out that all of the above infrastructure requirements were originally outlined in the case memo for *Case No. Z2022-015*, which involved rezoning the subject property from an Agricultural (AG) District to a Planned Development District for Neighborhood Services (NS) District land uses; however, staff was not informed about the request to waive infrastructure until after the site plan was submitted. It should also be pointed out that the applicant does currently have a site plan in review (*Case No. SP2022-017*), which is pending action until after these infrastructure questions are addressed.

As part of this preliminary plat request, the City Council is being tasked with determining if the requests to waive the above-mentioned infrastructure is warranted. According to Section 38-8, *Preliminary Plat*, of Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances, the approval criteria for a preliminary plat is as follows:

(g) *Criteria for Approval*. The following criteria shall be used to determine whether the application for a preliminary plat shall be approved, approved with conditions, or denied:

(1) Where a master plat has been approved for the land subject to the proposed preliminary plat, the preliminary plat conforms to the general layout of the master plat, the conditions attached to the master plat, and the phasing plan approved therein.

(2) The preliminary plat is consistent with all zoning requirements for the property, and any approved development or annexation agreements.

(3) The proposed provision and configuration of roads, water, wastewater, drainage easements and rights-of-way and park facilities conforms to the city's master facilities plans for such facilities, including the city's adopted thoroughfare plan, and any amendments thereto.

(4) The water, wastewater, roadway and drainage systems serving the development have adequate capacity to accommodate the demands for services created by the development at the time of preliminary plat approval, or that such capacity will be available by the time of final plat approval, in accordance with section 38-15 et seq. of these subdivision regulations.

(5) The dedication of land, construction of public improvements or fees to be contributed by the subdivider are adequate to offset the impacts on public improvements created by the development.

(6) The design of the subdivision meets all other standards of this chapter.

(7) Where the proposed development is located in whole in part in the extraterritorial jurisdiction of the city and is subject to an interlocal agreement under V.T.C.A., Local Government Code Chapter 242, the proposed preliminary subdivision plat meets any county standards to be applied pursuant to the agreement.

In addition, Section 38-5, *Policy*, of Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances, states "(l)and shall not be approved for platting or development unless and until adequate public facilities necessary to serve the development exist or provision has been made for the facilities, whether the facilities are to be located within the property being developed or offsite." Should the City Council not wish to approve the waivers requested by the applicant they would effectively be denying the proposed preliminary plat. Staff should point out that if this request is denied, staff will be obligated to recommend that the Planning and Zoning Commission deny *Case No. SP2022-017* on the grounds that adequate public facilities have not been provided. Attached to this memorandum staff has included the applicant's letter, which provides more background on the request. Should the Planning and Zoning Commission have any questions concerning this request, staff will be available at the *June 28, 2022* Planning and Zoning Commission meeting.

Ryan Miller
Director of Planning, City of Rockwall
385 South Goliad
Rockwall TX 75087

June 22, 2022

Rockwall ISD – Preliminary Plat Submittal for Ninth Grade Center Projects

Mr. Miller,

Rockwall ISD is providing this letter to provide clarity to the proposed infrastructure scope for the district's planned North and South Ninth Grade Center projects. Per discussion with city staff on June 21, 2022 it was indicated by city staff to the district that clarification was needed to ensure the proposed scope was easily identifiable for consideration by P&Z and City Council.

In addition to dialogue with you and other city staff members regarding the Ninth Grade Center projects, the district, our architect (Corgan), and Civil Engineer (Glenn Engineering), have also considered the following information below in regards to the proposed the infrastructure scope:

- TIA Reports created by Glenn Engineering, dated April 13, 2022
- TIA Reports created by Pacheco Koch with updated traffic data collected on May 10, 2022 as requested by city staff, report dated May 24, 2022
- TIA Report comments from Binkley & Barfield, dated June 16, 2022
    - District's engineering firms are currently working on comment responses. Comment responses will not significantly alter traffic generated by district proposed development.
- Water and Wastewater Analysis Report by Birkhoff, Hendricks, & Carter LLP, dated May 11, 2022

With current economic conditions persisting that include supply chain disruptions and significant inflation in fuel and building materials, construction pricing continues to increase on a monthly basis. The district acknowledges our obligation to provide the required city infrastructure (Roads, Water, and Waste Water) to support these facilities for the design capacity of two 1,000-student capacity Ninth Grade Center facilities. The district must focus our efforts on providing the required infrastructure before considering any auxiliary infrastructure desires of the city or the district due to the consistently rising construction costs referenced above. The district's obligation above all else is to provide a safe and secure facility that meets the curriculum needs of the district's ninth grade programs and invests the bond funds that have been entrusted to the district in the highest and best way to serve the students of Rockwall ISD. It has been the district's intent in dialogue with the city regarding these projects to meet all of these goals.

The district will comply with all landscaping, storm drainage, and dumpster oil separator requirements noted on the city's plan review. The district has ensured franchise utilities for electric, natural gas, and telephone/fiber are available and is currently in discussions with these utility companies to bring these utilities to the project sites at no cost to the city. These projects will meet the requirements of the planned development zoning and materiality requirements as reviewed by the Architectural Review Board. This includes the John King overlay requirements. No building variances are being requested.

The required, and thus, district proposed, road, water, and wastewater, infrastructure needs for these projects are as follows:

Infrastructure Item Legend
R – Required & Proposed Infrastructure to be constructed by RISD as a part of these projects
O – City Infrastructure per City Comment, Not required at this time per TIA or Infrastructure Report

Rockwall High School Ninth Grade Center (North Site at Dalton Ranch)

Road Infrastructure - General

The school district's engineering firms have performed two traffic impact analysis (TIA) reports for this site as referenced above. The below proposed scope at each road identified is based on what is required to support existing traffic and any new traffic generated by the Ninth Grade Centers. Please note that the proposed Ninth Grade center projects will not have student drivers, as very few ninth graders will have obtained a driver's license during their time at this campus. The current site plan indicates significant stacking length for vehicle queuing that exceeds other district secondary campus locations. These extensive drop off lanes will mitigate back up on city roads.

R Farm to Market 1141 (FM 1141)

This roadway is capable of handling the additional traffic for the new Rockwall High School Ninth Grade Center with improvements. These improvements include widening the existing roadway the entire length of the site from a 2-lane roadway without any shoulders to a 3-lane roadway with 4-foot shoulders. This new roadway will also include deceleration lanes for all proposed driveways and both North Country Lane and Quail Run Road. The 3-lane configuration will provide a left turn lane for the entire site while allowing an open travel lane in both direction so the existing traffic will not be impacted. This improvement will also include a full asphalt overlay the length of the improvement

The estimated cost of the required improvements per the district's construction manager to Farm to Market Road 1141 is $3,083,234

O Panhandle Drive

The current plan for the new Rockwall High School Ninth Grade Center does not require access to this future roadway. The district acknowledges that Panhandle Drive is shown on the City of Rockwall's Master Thoroughfare Plan. However, it is not required to be constructed to handle the daily traffic per the completed TIA reports. Panhandle drive may be constructed in the future should the district need to enlarge the facility and the road is shown to be required by an updated TIA.

The district will provide the right of way as shown in the preliminary plat for this future road development whether built by the district, the city, or developer. Value of the right of way provided is $245,078.

O Quail Run Road

The current plan for the new Rockwall High School Ninth Grade Center does not utilize Quail Run Road for access for drop off and pick up. The site design is for traffic to enter the site on North Country or 1141 for drop off pickup queuing. Bus traffic will use the south portion of the site to keep this traffic separate for safety. The access to Quail Run Road is a courtesy drive for after-hours access for sports events and emergency vehicles. While we acknowledge that Quail Run Road is shown on the City of Rockwall's Master Thoroughfare plan the current road can handle the daily traffic per the completed TIA reports. Quail Run Road may be reconstructed or widened in the future should the district need to enlarge the facility and the road is shown to be required by an updated TIA.

The district will provide the right of way as shown in the preliminary plat for this future road development whether built by the district, the city, or developer. Value of the right of way provided is $73,462.

O North Country Lane

The current plan for the new Rockwall High School Ninth Grade Center will utilize North Country Lane for access for drop off and pick up. The access from North Country Lane is primarily for drop off and pick up for southbound traffic off of FM 1141. We acknowledge that North Country Lane is shown on the City of Rockwall's Master Thoroughfare Plan. The current concrete half section road can handle the daily traffic per the completed TIA reports. North Country Lane may be widened in the future should the district need to enlarge the facility and the road is shown to be required by an updated TIA.

The district will provide the right of way as shown in the preliminary plat for this future road development whether built by the district, the city, or developer. Value of the right of way provided is $60,606.

Water

R Presently there is a 16" water line on the east side of Farm to Market 1141 (FM 1141), a 12" water line on the North Side of North Country Lane and a 12" Water Line on the north side of Quail Run Road. A looped 8" line around the Proposed Rockwall Ninth Grade Center will be constructed for fire protection. The 12" water line on the north side of North Country Lane will be extended east to the existing 16" line in FM 1141 completing the loop connection. A 4" Domestic line will be provided from the Proposed 12" line in North Country Lane to the new Rockwall Ninth Grade Center. Based the existing water pressures and with the above improvements the City of Rockwall is capable of providing the water needs for the new Rockwall High School Ninth Grade Center.

O The 12" water line on the Master Infrastructure plan along Panhandle Drive is not required to provide domestic or fire protection water service to the facility at this time. This line may be built in the future should the district need to enlarge the facility and it is shown to be needed at that time. The district will provide the easement for the future water line as shown on the preliminary plat.

Sanitary Sewer

R An 8" sanitary sewer line will be provided from the new Rockwall Ninth Grade Center to the proposed sanitary sewer line being constructed by the developer on the south side of Quail Run.

Rockwall Heath High School Ninth Grade Center (South Site at GBCCA & John King Blvd)

Road Infrastructure - General

The school district's engineering firms have performed two traffic impact analysis (TIA) reports for this site as referenced above. The below proposed scope at each road identified is based on what is required to support existing traffic and any new traffic generated by the Ninth Grade Centers. Please note that the proposed ninth grade center projects will not have student drivers, as very few ninth graders will have obtained a driver's license during their time at this campus. The current site plan indicates significant stacking length for vehicle queuing that exceeds other district secondary campus locations. These extensive drop off lanes will mitigate back up on city roads. Note the drop off pick up times for the College and Career Academy and the Ninth Grade Center will be offset by one hour as the CCA does not operate the first and last period of the school day.

R South John King Boulevard

This roadway is capable of handling the additional traffic for the new Rockwall Heath High School Ninth Grade Center. All access for the new Rockwall Heath High School Ninth Grade Center will be taken from South John King Boulevard. Some of the access to the site will come from the existing drives for the

Gene Burton Academy. The original design for the Academy showed additional buildings being placed on this site and so the drive was constructed for future development.

O Stableglen Drive

The current plan for the new Rockwall Heath High School Ninth Grade Center does not require access to this future roadway. While we acknowledge that Stableglen Drive is shown on the City of Rockwall's Master Thoroughfare Plan, the current development of the Ninth Grade Center just like the Gene Burton Academy does not require the construction of Stableglen to handle the daily traffic. Stableglen may be constructed in the future should the district need to enlarge the facility and the road is shown to be required by an updated TIA.

The district will provide the right of way as shown in the preliminary plat for this future road development whether built by the district, the city, or developer. Value of the right of way provided is $289,256.

Water

R Presently there is a 16" water line ending at the southeast corner of the Gene Burton Academy. This 16" water line will be extended to the southeast corner of the proposed Rockwall Heath High School Ninth Grade Center Site. With the construction of The Gene Burton Academy an 8" water line was constructed for fire protection and an 8" stub out connection was provided for future growth at the southeast corner of the existing Academy. A looped 8" line around the proposed Rockwall Heath High School Ninth Grade Center will be constructed for fire protection. A 4" Domestic line will be provided from the Proposed 16" along John King Blvd to the new Rockwall Heath High School Ninth Grade Center. Based on the Water and Wastewater Analysis provided by the City of Rockwall prepared by Birkhoff, Hendricks and Carter L.L.P. dated May 11, 2022, with the above improvements, the City of Rockwall water system is capable of providing the needs for the new Rockwall Heath High School Ninth Grade Center.

O The 12" water line on the Master Infrastructure plan along Stableglen Drive is not required to provide domestic or fire protection water service to the facility at this time. This line may be built in the future should the district need to enlarge the facility and it is shown to be needed at that time. The district will provide the easement for the future water line as shown on the preliminary plat.

R Sanitary Sewer

Presently there is an 8" sanitary sewer serving this proposed site that is connected to the Hickory Ridge Lift Station. Based on the above referenced infrastructure report for Water and Wastewater Analysis this line has the capacity to serve the new Rockwall Heath High School Ninth Grade Center. While the line and the lift station both have adequate capacity, the analysis indicated that even though the downstream Mims Road force main currently has capacity, this capacity will be utilized by future developments and the school site was not part of the future development.

As such, the Rockwall Independent School District would have to construct approximately 3 miles of the Little Buffalo Creek Trunk Sewer Main from the existing Hickory Ridge Lift Station to the FM 3097 No. 1 Lift station as shown on the City of Rockwall's Master Sewer Plan. City staff has indicated that they may not be able to ensure construction of the CIP portion of the line from the lift station at FM 3097 to Wallace Lake in time for the district's Ninth Grade Center to open in the summer of 2024. The construction of the Little Buffalo Trunk Sewer main will result in the Hickory Creek Lift Station no longer being needed. The School District would like the flexibility in the alignment of the City's C.I.P. project to be better able to serve future development / subdivisions on the east side of Wallace Lake. While preserving the intent of the trunk main.

Rockwall
INDEPENDENT SCHOOL DISTRICT

The district's construction manager estimates the cost to build this sewer line extension to serve the facility to be approximately $2,250,000.00 not including the cost to acquire easements through the property required.

Conclusion

The district, as indicated above, will be committing to a significant investment in the required city infrastructure to support these projects. These commitments as part of the proposed development of these projects include road improvements, city sanitary sewer trunk line extensions, city water line extensions, and granting of right of ways and easements for potential future construction if and when it is needed. All proposed construction is in alignment with the city's Master Infrastructure and Thoroughfare plans to the extent that it is required to be constructed. The district is asking for consideration and approval of the proposed city infrastructure improvements as indicated in this letter. The school district, which is a similar governmental entity as the city, must always remain a good steward of taxpayer dollars while meeting its obligations to the community and city in regards to the development of these projects. Acceptance of the infrastructure as proposed will ensure the district meets these obligations.

Proposed School District Infrastructure Investments

Construction of FM 1141 road improvements	$3,083,234
12" Water line extension along North Country	$39,600
South John King Road Improvements	$18,630
16" Water line extension along John King Blvd	$125,800
Little Buffalo Creek sanitary Sewer Line Extension	$2,250,000
Total estimated cost of ROWs granted	$668,403
Total Investment in City Infrastructure by RISD	**$6,185,667**

Sincerely,

William Salee
Executive Director of Operations

DEVELOPMENT APPLICATION

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

STAFF USE ONLY

PLANNING & ZONING CASE NO.

NOTE: *THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.*

DIRECTOR OF PLANNING:

CITY ENGINEER:

PLEASE CHECK THE APPROPRIATE BOX BELOW TO INDICATE THE TYPE OF DEVELOPMENT REQUEST [SELECT ONLY ONE BOX]:

PLATTING APPLICATION FEES:
- ☐ MASTER PLAT ($100.00 + $15.00 ACRE) [1]
- ■ PRELIMINARY PLAT ($200.00 + $15.00 ACRE) [1]
- ☐ FINAL PLAT ($300.00 + $20.00 ACRE) [1]
- ☐ REPLAT ($300.00 + $20.00 ACRE) [1]
- ☐ AMENDING OR MINOR PLAT ($150.00)
- ☐ PLAT REINSTATEMENT REQUEST ($100.00)

SITE PLAN APPLICATION FEES:
- ☐ SITE PLAN ($250.00 + $20.00 ACRE) [1]
- ☐ AMENDED SITE PLAN/ELEVATIONS/LANDSCAPING PLAN ($100.00)

ZONING APPLICATION FEES:
- ☐ ZONING CHANGE ($200.00 + $15.00 ACRE) [1]
- ☐ SPECIFIC USE PERMIT ($200.00 + $15.00 ACRE) [1 & 2]
- ☐ PD DEVELOPMENT PLANS ($200.00 + $15.00 ACRE) [1]

OTHER APPLICATION FEES:
- ☐ TREE REMOVAL ($75.00)
- ☐ VARIANCE REQUEST/SPECIAL EXCEPTIONS ($100.00) [2]

NOTES:
[1]: IN DETERMINING THE FEE, PLEASE USE THE EXACT ACREAGE WHEN MULTIPLYING BY THE PER ACRE AMOUNT. FOR REQUESTS ON LESS THAN ONE ACRE, ROUND UP TO ONE (1) ACRE.
[2]: A ***$1,000.00*** FEE WILL BE ADDED TO THE APPLICATION FEE FOR ANY REQUEST THAT INVOLVES CONSTRUCTION WITHOUT OR NOT IN COMPLIANCE TO AN APPROVED BUILDING PERMIT.

PROPERTY INFORMATION [PLEASE PRINT]

ADDRESS					
SUBDIVISION	Rockwall High School 9th Grade Center	LOT	1	BLOCK	1
GENERAL LOCATION	Northwest corner of Quail Run Road and FM 1141				

ZONING, SITE PLAN AND PLATTING INFORMATION [PLEASE PRINT]

CURRENT ZONING	AG		CURRENT USE	Public School	
PROPOSED ZONING	PD for NS uses		PROPOSED USE	Public School	
ACREAGE	76.08 acres	LOTS [CURRENT]	1	LOTS [PROPOSED]	1

■ ***SITE PLANS AND PLATS:*** *BY CHECKING THIS BOX YOU ACKNOWLEDGE THAT DUE TO THE PASSAGE OF HB3167 THE CITY NO LONGER HAS FLEXIBILITY WITH REGARD TO ITS APPROVAL PROCESS, AND FAILURE TO ADDRESS ANY OF STAFF'S COMMENTS BY THE DATE PROVIDED ON THE DEVELOPMENT CALENDAR WILL RESULT IN THE DENIAL OF YOUR CASE.*

OWNER/APPLICANT/AGENT INFORMATION [PLEASE PRINT/CHECK THE PRIMARY CONTACT/ORIGINAL SIGNATURES ARE REQUIRED]

☐ OWNER	Rockwall Independent School District	☐ APPLICANT	Rockwall Independent School District
CONTACT PERSON	William Salee - Executive Director of Operations	CONTACT PERSON	Robert Howman
ADDRESS	1191 T.L. Townsend Drive	ADDRESS	4500 Fuller Drive
			Suite 220
CITY, STATE & ZIP	Rockwall, Texas 75087	CITY, STATE & ZIP	Irving, Texas 75038
PHONE	469-698-7031	PHONE	972.989.2174 (mobile)
E-MAIL	will.salee@rockwallisd.org	E-MAIL	rahowman@glennengineering.com

NOTARY VERIFICATION [REQUIRED]

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED WILL SALEE [*OWNER*] THE UNDERSIGNED, WHO STATED THE INFORMATION ON THIS APPLICATION TO BE TRUE AND CERTIFIED THE FOLLOWING:

"I HEREBY CERTIFY THAT I AM THE OWNER FOR THE PURPOSE OF THIS APPLICATION; ALL INFORMATION SUBMITTED HEREIN IS TRUE AND CORRECT; AND THE APPLICATION FEE OF $ 1,341.20 *, TO COVER THE COST OF THIS APPLICATION, HAS BEEN PAID TO THE CITY OF ROCKWALL ON THIS THE* 16th *DAY OF* JUNE *, 20* 22 *BY SIGNING THIS APPLICATION, I AGREE THAT THE CITY OF ROCKWALL (I.E. "CITY") IS AUTHORIZED AND PERMITTED TO PROVIDE INFORMATION CONTAINED WITHIN THIS APPLICATION TO THE PUBLIC. THE CITY IS ALSO AUTHORIZED AND PERMITTED TO REPRODUCE ANY COPYRIGHTED INFORMATION SUBMITTED IN CONJUNCTION WITH THIS APPLICATION, IF SUCH REPRODUCTION IS ASSOCIATED OR IN RESPONSE TO A REQUEST FOR PUBLIC INFORMATION."*

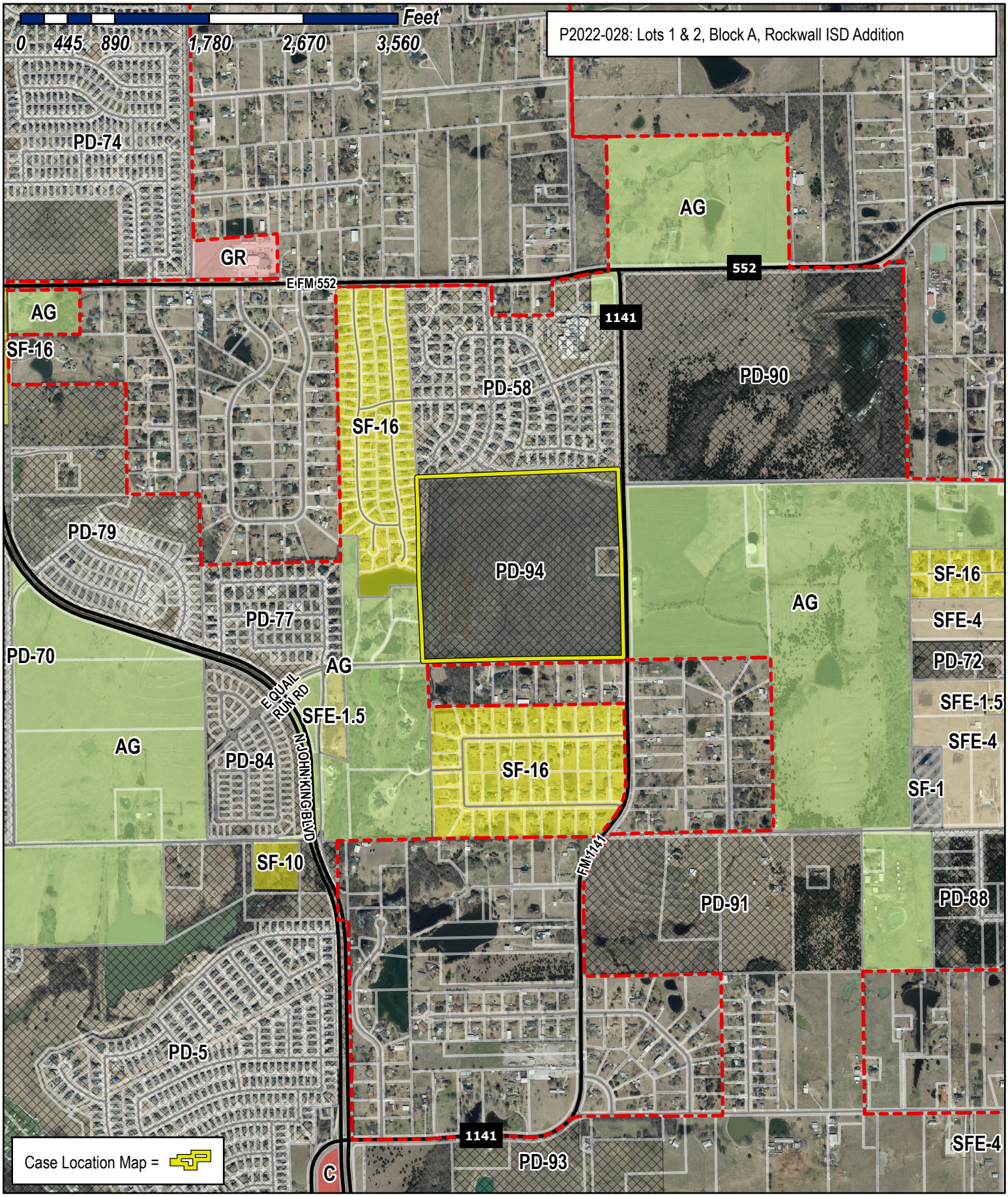
GIVEN UNDER MY HAND AND SEAL OF OFFICE ON THIS THE 16th *DAY OF* June *, 20* 22

OWNER'S SIGNATURE

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MELANIE PYLAND
My Notary ID # 126570708
Expires August 6, 2024

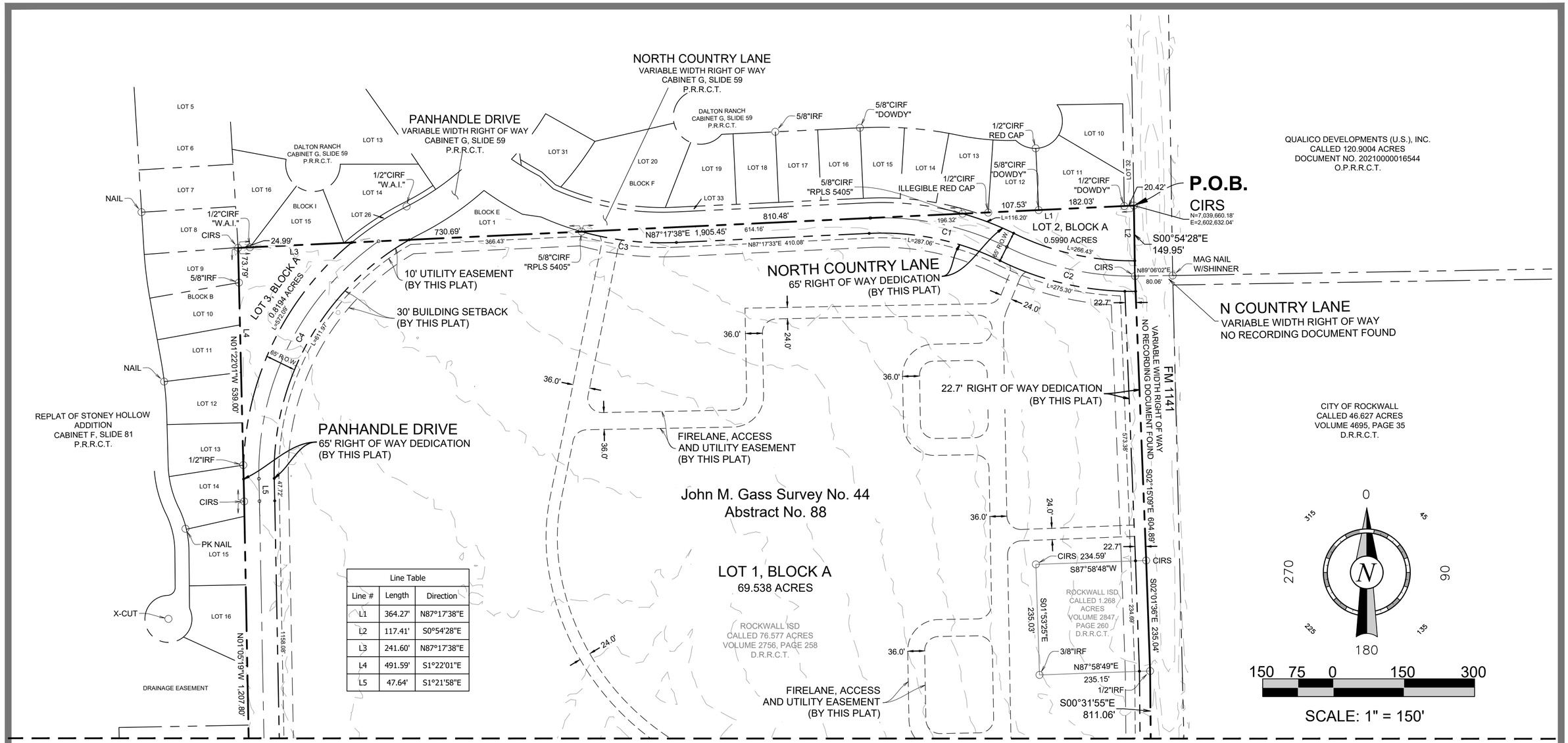
MY COMMISSION EXPIRES



City of Rockwall

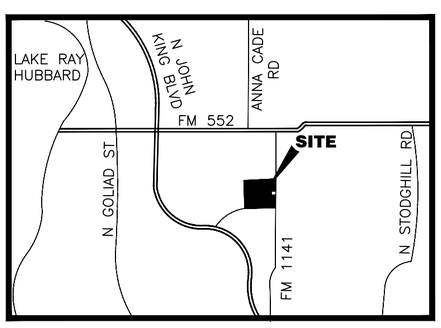
Planning & Zoning Department
385 S. Goliad Street
Rockwall, Texas 75032
(P): (972) 771-7745
(W): www.rockwall.com

The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.

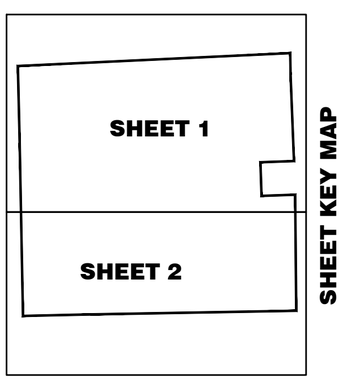


Line Table		
Line #	Length	Direction
L1	364.27'	N87°17'38"E
L2	117.41'	S0°54'28"E
L3	241.60'	N87°17'38"E
L4	491.59'	S1°22'01"E
L5	47.64'	S1°21'58"E

Match Line – See Sheet 2



LOCATION MAP
NOT TO SCALE



LEGEND

DEED RECORDS, ROCKWALL COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS

PLAT RECORDS ROCKWALL COUNTY, TEXAS

IRF	**IRON ROD FOUND**
CIRF	**CAPPED IRON ROD FOUND AS NOTED**
CIRS	**1/2" CAPPED IRON ROD STAMPED "BOWMAN PROP COR"**
MNF	**MAG NAIL FOUND**
MNS	**MAG NAIL SET**
P.O.B.	**POINT OF BEGINNING**
A.E.	**ACCESS EASEMENT**
B.L.	**BUILDING LINE**
D.E.	**DRAINAGE EASEMENT**
N.G.E.	**NATURAL GAS EASEMENT**
U.E.	**UTILITY EASEMENT**
S.S.E.	**SANITARY SEWER EASEMENT**
W.E.	**WATER LINE EASEMENT**
D.U.E.	**DRAINAGE AND UTILITY EASEMENT**
DIM	**DIMENSION**

OWNER:
Rockwall ISD
801 East Washington St.
Rockwall Texas, 75087
(469) 698-7031
Contact: William Salee

ENGINEER:
Glenn Engineering Corp.
105 Decker Court, Suite 910
Irving, Texas 75062
TBPE FIRM NO. F-303
(972) 989-2174 Cell
(972) 717-5151 Office
Contact: Robert Howman

SURVEYOR:
Bowman Consulting Group, Ltd.
1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

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1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104
TBPELS #10120600

Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 1 of 3

Match Line – See Sheet 1

Curve Table					
Curve #	Chord Bearing	Chord Distance	Arc Length	Radius	Delta
C1	S78°01'54"E	296.49'	299.59'	600.08'	28°36'17"
C2	S77°11'02"E	279.26'	281.85'	600.09'	26°54'37"
C3	S83°29'06"E	202.79'	203.67'	632.59'	18°26'48"
C4	S26°43'30"W	565.15'	588.45'	600.09'	56°11'02"

REMAINDER OF
CALLED 4.0005 ACRES
DOYL C. TULLY AND WIFE,
VONETTE S. TULLY
VOLUME 951, PAGE 61
D.R.R.C.T.

N01°05'19"W 1,207.80'

65' R.O.W.

1158.08'

John M. Gass Survey No. 44
Abstract No. 88

FIRELANE, ACCESS
AND UTILITY EASEMENT
(BY THIS PLAT)

24.0'

22.7' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

36.0'

22.7'

S00°31'55"E 811.06'

761.48'

VARIABLE WIDTH RIGHT OF WAY
NO RECORDING DOCUMENT FOUND

FM 1141

30' BUILDING SETBACK
(BY THIS PLAT)

10' UTILITY EASEMENT
(BY THIS PLAT)

CITY OF ROCKWALL
CALLED 46.627 ACRES
VOLUME 4695, PAGE 35
D.R.R.C.T.

LOT 1, BLOCK A
69.538 ACRES

PANHANDLE DRIVE
65' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

ROCKWALL ISD
CALLED 76.577 ACRES
VOLUME 2756, PAGE 258
D.R.R.C.T.

NALLEY MICHAEL R & LORI D
CALLED 2.517 ACRES
VOLUME 1024, PAGE 324
D.R.R.C.T.

EAST QUAIL RUN ROAD
VARIABLE WIDTH RIGHT OF WAY
NO RECORDING DOCUMENT FOUND

49.5' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

408.90'

1413.73'

49.5'

49.5'

22.7'

MNS

S89°52'23"E
80.48'

1/2"IRF

MAG NAIL
W/SHINNER

N=7,037,823.79'
E=2,600,764.52'

S88°42'51"W 473.96'

MAG NAIL

FOUND MAG NAIL BEARS
S72°41'19"W, 2.77'

MNS

30'

1/2"IRF

1/2"IRF

S88°58'59"W 1,435.90'

1/2"IRF

30'

RYAN S HUDDIN AND JADA HUDDIN
CALLED 2.00 ACRES
DOCUMENT NO. 20200000001690
O.P.R.R.C.T.

1/2"IRF

JEFFREY LEWIS AND BOBBIE JO LEWIS
CALLED 2.00 ACRES
DOCUMENT NO. 2016-00005283
O.P.R.R.C.T.

GERALD GLEN COX & ROSALBA CARRASCO COX
CALLED 29.97 ACRES
DOCUMENT NO. 2016-00006512
O.P.R.R.C.T.

SHEILA FLANNERY ET AL
VOLUME 1124, PAGE 65
D.R.R.C.T.

NO DEED FOUND

SADDLEBROOK ESTATES
CABINET A, SLIDE 307
P.R.R.C.T.

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

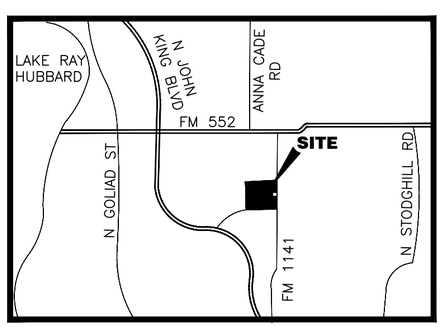
LOT 9

LOT 10

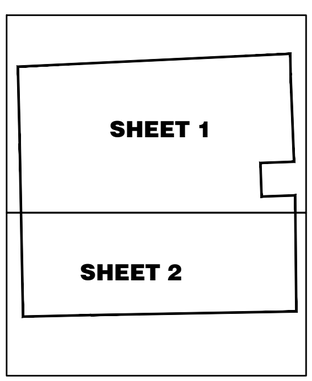
0
315
45
270
90
225
135
180
N

150 75 0 150 300

SCALE: 1" = 150'



LOCATION MAP
NOT TO SCALE



SHEET KEY MAP

LEGEND

DEED RECORDS, ROCKWALL COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS

PLAT RECORDS ROCKWALL COUNTY, TEXAS

IRF	IRON ROD FOUND
CIRF	CAPPED IRON ROD FOUND AS NOTED
CIRS	1/2" CAPPED IRON ROD STAMPED "BOWMAN PROP COR"
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W.E.	WATER LINE EASEMENT
D.U.E.	DRAINAGE AND UTILITY EASEMENT
DIM	DIMENSION

OWNER:
Rockwall ISD
801 East Washington St.
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Contact: William Salee

ENGINEER:
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TBPE FIRM NO. F-303
(972) 989-2174 Cell
(972) 717-5151 Office
Contact: Robert Howman

SURVEYOR:
Bowman Consulting Group, Ltd.
1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

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1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104
TBPELS #10120600
Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 2 of 3

PLAT PERIMETER LEGAL DESCRIPTION

STATE OF TEXAS §
COUNTY OF ROCKWALL §

WHEREAS, Rockwall Independent School District being the owner of a 69.538 acre tract of land situated within the John M Gass Survey No. 44, Abstract No. 88, City of Rockwall, Rockwall County, Texas, and being all of a called 76.577 acre tract of land as described in the deed to Rockwall ISD recorded in Volume 2756, Page 258 of the Deed Records of Rockwall County, Texas (hereafter referred to as the ISD Tract). Said 69.538 acre tract of land being more particularly describes by metes and bounds as follows:

BEGINNING at a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northeast corner of said ISD Tract, being on the west right of way line of FM 1141, a variable width right of way, as evidenced by the plat designated as “Dalton Ranch” recorded in Cabinet G, Slide 59 of the Plat Records of Rockwall County, Texas;

THENCE SOUTH 00 degrees 54 minutes 28 seconds EAST, 149.95 feet with the west right of way line of said FM 1141 to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set;

THENCE SOUTH 02 degrees 15 minutes 09 seconds EAST, 604.89 feet with the west right of way line of said FM 1141 to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northeast corner of a called 1.268 acre tract of land as described in the deed to Rockwall ISD recorded in Volume 2847, Page 260 of said Deed Records;

THENCE SOUTH 02 degrees 01 minute 36 seconds EAST, 235.04 feet with the with the west right of way line of said FM 1141 to a 1/2-inch iron rod found at the southeast corner of said called 1.268 acre tract of land;

THENCE SOUTH 00 degrees 31 minutes 55 seconds EAST, 811.06 feet with the west right of way line of said FM 1141 to a MAG nail with shiner set at the southeast corner of said ISD Tract, being the northeast corner of a 30-foot right of way dedication for East Quail Run Road as dedicated on the plat designated as “Saddlebrook Estates” recorded in Cabinet A, Slide 307 of said Plat Records;

THENCE SOUTH 88 degrees 58 minutes 59 seconds WEST, 1,435.90 feet with the south line of said ISD Tract, being the north line of said right of way dedication and the approximate centerline of said East Quail Run Road to a MAG nail with shiner set at the northwest corner of said right of way dedication;

THENCE SOUTH 88 degrees 42 minutes 51 seconds WEST, 473.96 feet with the south line of said ISD Tract and the approximate centerline of said East Quail Run Road to the southwest corner of said ISD Tract from which a found MAG nail bears SOUTH 72 degrees 41 minutes 19 seconds WEST, 2.77 feet;

THENCE NORTH 01 degree 05 minutes 19 seconds WEST, 1,207.80 feet with the west line of said ISD Tract and being the east line of a called 2.517 acre tract of land as described in the deed to Michael R and Lori D Nalley recorded in Volume 1024, Page 324 of said Deed Records, the east line of the remainder of a called 4.0005 acre tract of land as described in the deed to Doyl C. Tully and wife, Vonette S. Tully recorded in Volume 951, Page 61 of said Deed Records and being the east line of Block B of the plat designated as “Replat of Stoney Hollow Addition” recorded in Cabinet F, Slide 81 of said Plat Records to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set;

THENCE NORTH 01 degree 22 minutes 01 second WEST, 539.00 feet with the west line of said ISD Tract and being the east line of said Block B to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northwest corner of said ISD Tract and being the southwest corner of said Dalton Ranch;

THENCE NORTH 87 degrees 17 minutes 38 seconds EAST, 1,905.45 feet with the north line of said ISD Tract and being the south line of said Dalton Ranch to the POINT OF BEGINNING containing 69.538 acres.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

STATE OF TEXAS

COUNTY OF ROCKWALL

I *(we)* the undersigned owner(s) of the land shown on this plat, and designated herein as the ***ROCKWALL I.S.D. ADDITION a*** subdivision to the City of Rockwall, Texas, and whose name is subscribed hereto, hereby dedicate to the use of the public forever all streets, alleys, parks, water courses, drains, easements and public places thereon shown on the purpose and consideration therein expressed. I (we) further certify that all other parties who have a mortgage or lien interest in the ***ROCKWALL I.S.D. ADDITION*** subdivision have been notified and signed this plat. I *(we)* understand and do hereby reserve the easement strips shown on this plat for the purposes stated and for the mutual use and accommodation of all utilities desiring to use or using same. I (we) also understand the following;

1. No buildings shall be constructed or placed upon, over, or across the utility easements as described herein.
2. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other growths or improvements which in any way endanger or interfere with construction, maintenance or efficiency of their respective system on any of these easement strips; and any public utility shall at all times have the right of ingress or egress to, from and upon the said easement strips for purpose of construction, reconstruction, inspecting, patrolling, maintaining, and either adding to or removing all or part of their respective system without the necessity of, at any time, procuring the permission of anyone.
3. The City of Rockwall will not be responsible for any claims of any nature resulting from or occasioned by the establishment of grade of streets in the subdivision.
4. The developer and subdivision engineer shall bear total responsibility for storm drain improvements.
5. The developer shall be responsible for the necessary facilities to provide drainage patterns and drainage controls such that properties within the drainage area are not adversely affected by storm drainage from the development.
6. No house dwelling unit, or other structure shall be constructed on any lot in this addition by the owner or any other person until the developer and/or owner has complied with all requirements of the Subdivision Regulations of the City of Rockwall regarding improvements with respect to the entire block on the street or streets on which property abuts, including the actual installation of streets with the required base and paving, curb and gutter, water and sewer, drainage structures, storm structures, storm sewers, and alleys, all according to the specifications of the City of Rockwall; or

   Until an escrow deposit, sufficient to pay for the cost of such improvements, as determined by the city's engineer and/or city administrator, computed on a private commercial rate basis, has been made with the city secretary, accompanied by an agreement signed by the developer and/or owner, authorizing the city to make such improvements at prevailing private commercial rates, or have the same made by a contractor and pay for the same out of the escrow deposit, should the developer and/or owner fail or refuse to install the required improvements within the time stated in such written agreement, but in no case shall the City be obligated to make such improvements itself. Such deposit may be used by the owner and/or developer as progress payments as the work progresses in making such improvements by making certified requisitions to the city secretary, supported by evidence of work done; or

   Until the developer and/or owner files a corporate surety bond with the city secretary in a sum equal to the cost of such improvements for the designated area, guaranteeing the installation thereof within the time stated in the bond, which time shall be fixed by the city council of the City of Rockwall.
7. Property owner shall be responsible for maintaining, repairing, and replacing all systems in the detention and drainage easements.

I (we) further acknowledge that the dedications and/or exaction's made herein are proportional to the impact of the Subdivision upon the public services required in order that the development will comport with the present and future growth needs of the City; I (we), my (our) successors and assigns hereby waive any claim, damage, or cause of action that I (we) may have as a result of the dedication of exactions made herein.

Rockwall Independent School District

_____

Rockwall Independent School District - Dr. John Villarreal
Superintendent

STATE OF TEXAS COUNTY OF ROCKWALL

Before me, the undersigned authority, on this day personally appeared Dr. John Villarreal known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein stated.

Given upon my hand and seal of office this _____ day of _____, ***2022***.

_____ _____
Notary Public in and for the State of Texas ***My Commission Expires***

PLAT NOTES:

1. The Basis of Bearings for this plat is GRID NORTH as established by GPS observation utilizing the Texas Coordinate System of 1983, North Central Zone. To obtain a grid distance, multiply the ground distance by 0.999853886.
2. NOTICE: Selling a portion of this addition by metes and bounds is a violation of City ordinance and state law and is subject to fines and withholding of utilities and building permits.
3. All corners are 1/2" iron rods set with a plastic cap stamped "BOWMAN PROP COR" unless otherwise noted.
4. Lot, block and ROW corners will be set after substantial completion of the infrastructure.
5. According to Map No. 48397C0035L and 48397C0030L, both dated 09/26/2008 of the National Flood Insurance Program Map, Flood Insurance Rate Map of Rockwall County, Texas, Federal Emergency Management Agency, Federal Insurance Administration, Panel 30 and 35 of 145, this property is within Zone X unshaded, based on scaled imaging.

GENERAL NOTES:

1. It shall be the policy of the City of Rockwall to withhold issuing building permits until all streets, water, sewer and storm drainage systems have been accepted by the City. The approval of a plat by the City does not constitute any representation, assurance or guarantee that any building within such plat shall be approved, authorized or permit therefore issued, nor shall such approval constitute any representation, assurance or guarantee by the City of the adequacy and availability for water for personal use and fire protection within such plat, as required under Ordinance 83 54.

CERTIFICATE OF SURVEYOR

NOW, THEREFORE KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, A LSLS & REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND.

Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document. Released to the City for review. 2022-06

_____
ROBERT A. HANSEN
LSLS & REGISTERED PROFESSIONAL
LAND SURVEYOR, NO. 6439
RHANSEN@BOWMAN.COM
DATE:

STATE OF TEXAS
COUNTY OF
ROCKWALL

Before me, the undersigned authority, on this day personally appeared Dr. John Villarreal known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein stated.

Given upon my hand and seal of office this _____ day of _____, ***2022***.

_____ _____
Notary Public in and for the State of Texas ***My Commission Expires***

RECOMMENDED FOR FINAL APPROVAL:

_____ _____
Planning & Zoning Commission, Chairman ***Date***

APPROVED:

I hereby certify that the above and foregoing plat of an addition to the City of Rockwall, Texas, was approved by the City Council of the City of Rockwall on the _____ day of _____, ***2022***.

This approval shall be invalid unless the approved plat for such addition is recorded in the office of the County Clerk of Rockwall, County, Texas, within one hundred eighty (180) days from said date of final approval.

WITNESS OUR HANDS, this _____ day of _____, ***2022***.

_____ _____ _____
Mayor, City of Rockwall ***City Secretary*** ***City Engineer***

OWNER:
Rockwall ISD
801 East Washington St.
Rockwall Texas, 75087
(469) 698-7031
Contact: William Salee

ENGINEER:
Glenn Engineering Corp.
105 Decker Court, Suite 910
Irving, Texas 75062
TBPE FIRM NO. F-303
(972) 989-2174 Cell
(972) 717-5151 Office
Contact: Robert Howman

SURVEYOR:
Bowman Consulting Group, Ltd.
1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

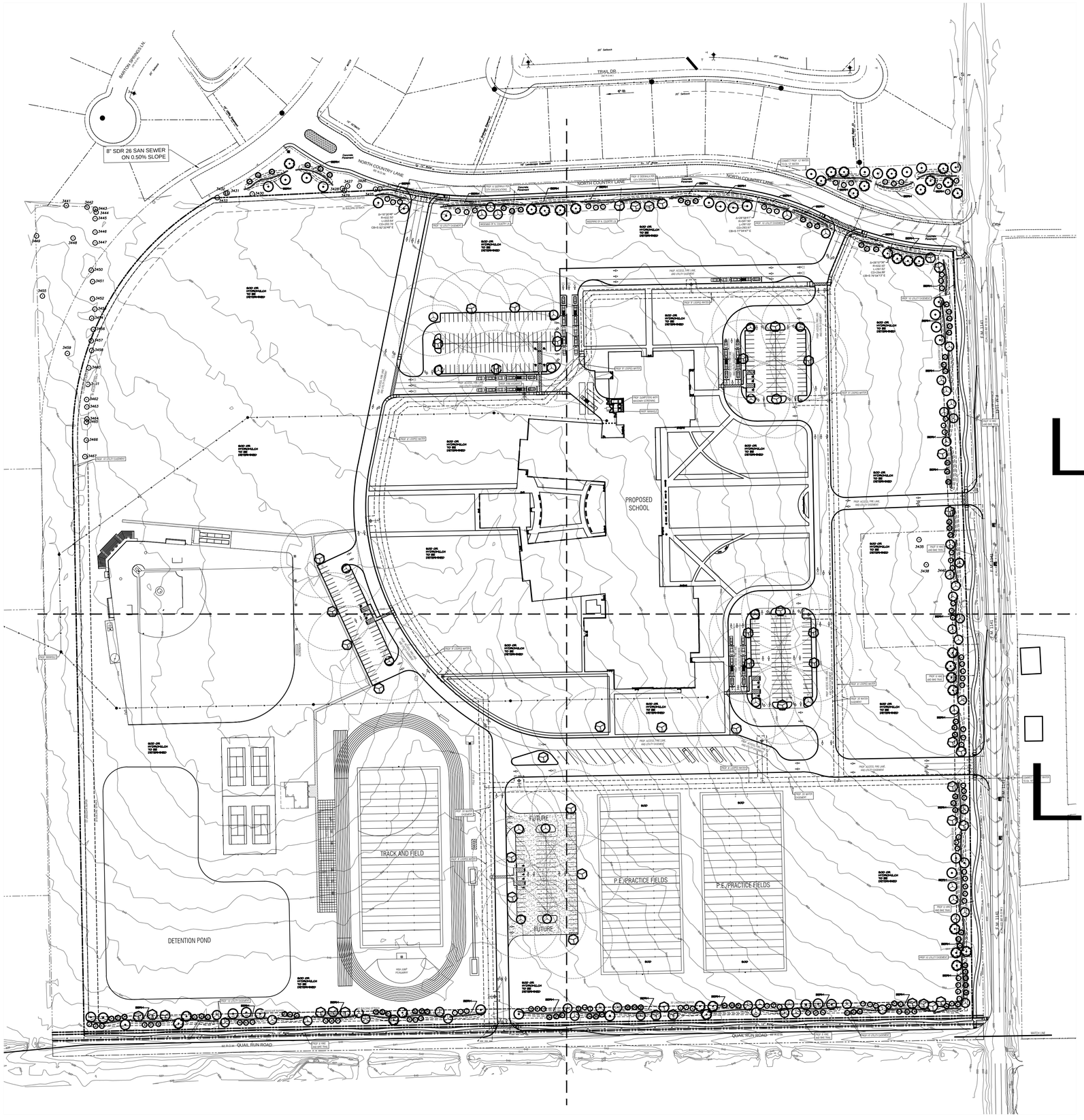
LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

© 2021 Bowman Consulting Group, Ltd.

1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104
TBPELS #10120600
Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 3 of 3



L5

L4

L2

L3

SITE DATA SUMMARY	
EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F.= 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0'x18.0'	202 SPACES
9.0'x20.0'	159 SPACES
15.0'x30.0'	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

NORTH

0 100 200

GRAPHIC SCALE
1"=100'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

ISSUES		
1	06/07/22	PERMIT REVIEW
2		
3		
4		
5		
6		

REVISIONS		

THIS DOCUMENT IS RELEASED FOR PERMIT REVIEW UNDER THE AUTHORITY OF: MICHAEL RAMSEY REGISTERED LANDSCAPE ARCHITECT #1901. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

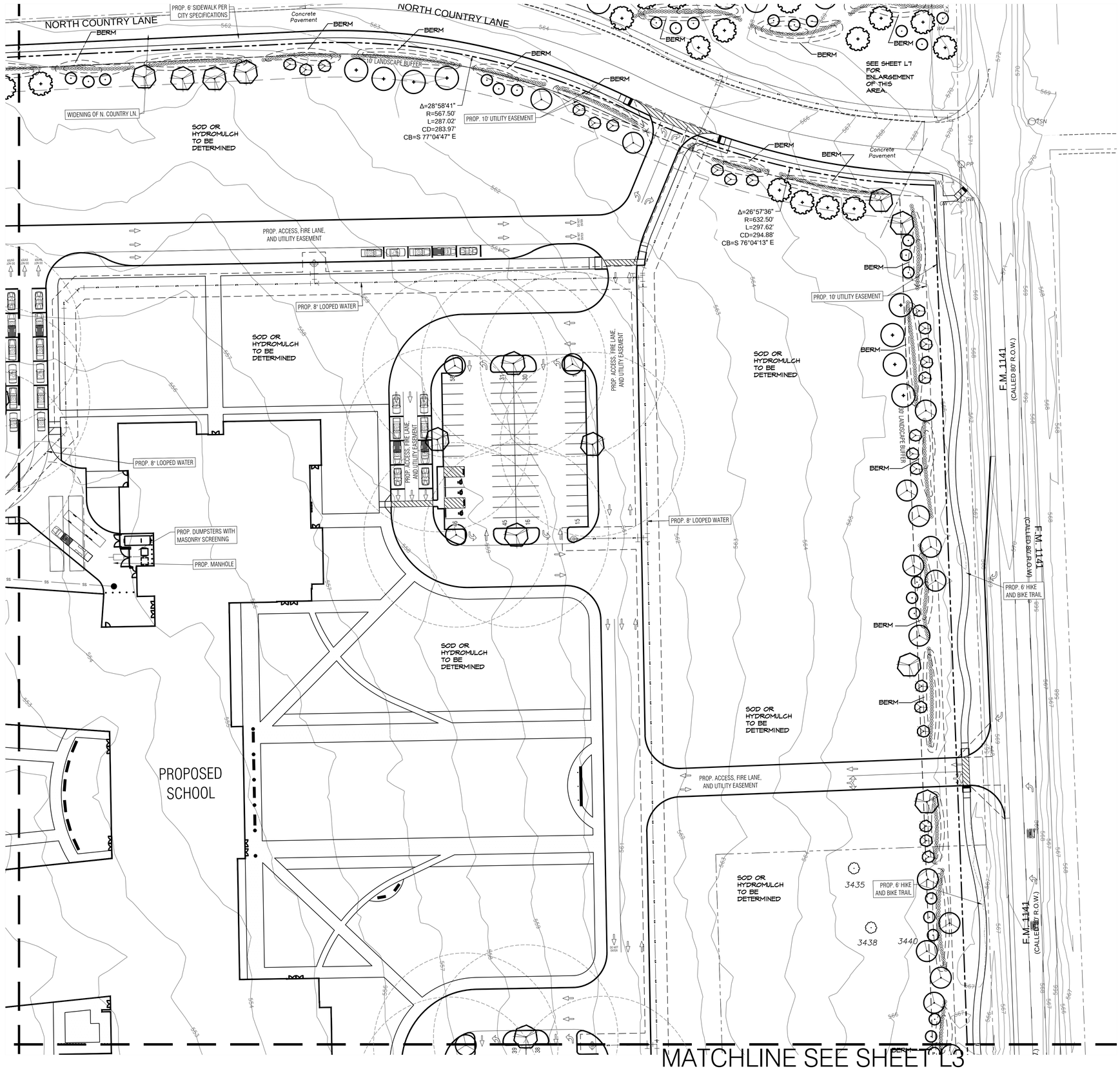
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

OVERALL
LANDSCAPE PLAN

JOB 21572.0000
DATE 06/07/22
SHEET L 1



0 40 80

GRAPHIC SCALE 1"=40'

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
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	ISSUES	
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11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA A

JOB 21572.0000
DATE 06/07/22
SHEET L 2

MATCHLINE SEE SHEET L2

MATCHLINE SEE SHEET L4

SOD OR HYDROMULCH TO BE DETERMINED

PROP. ACCESS, FIRE LANE, AND UTILITY EASEMENT

PROP. 8" LOOPED WATER

PROP. 20' WATER EASEMENT

PROP. 6' HIKE AND BIKE TRAIL

BERM

F.M. 1141 (CALLED 80' R.O.W.)

SOD

P.E./PRACTICE FIELDS

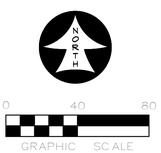
30' LANDSCAPE BUFFER

12" Water

QUAIL RUN ROAD 65' R.O.W.

PROP.10' UTILITY EASEMENT

CONN TO EX



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WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

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Dallas, TX 75202
T: 214-748-2000

ISSUES

1	06/07/22	PERMIT REVIEW
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11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA B

JOB 21572.0000
DATE 06/07/22
SHEET L 3

MATCHLINE SEE SHEET L5

MATCHLINE SEE SHEET L3

PROP. MANHOLE

SCOREBOARD

PROP. ACCESS, FIRELANE AND UTILITY EASEMENT

PROP. 8" LOOPED WATER

SOD OR HYDROMULCH TO BE DETERMINED

SOD OR HYDROMULCH TO BE DETERMINED

10' LANDSCAPE BUFFER

30' BUILDING SETBACK

400 SEATS

400 SEATS

TRACK AND FIELD

POLE VAULT

PROP. 20' WATER EASEMENT

PROP. 8" LOOPED WATER

LONG JUMP

HIGH JUMP PIT/RUNWAY

FUTURE

FUTURE

DETENTION POND

SOD OR HYDROMULCH TO BE DETERMINED

SOD OR HYDROMULCH TO BE DETERMINED

BERM

BERM

BERM

BERM

PROP. 10' UTILITY EASEMENT

30' LANDSCAPE BUFFER

30' BUILDING SETBACK

Ex. 12" Water

PROP. 6' HIKE AND BIKE TRAIL

60' R.O.W. QUAIL RUN ROAD

NORTH

0 40 80

GRAPHIC SCALE
1" = 40'

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

	ISSUES	
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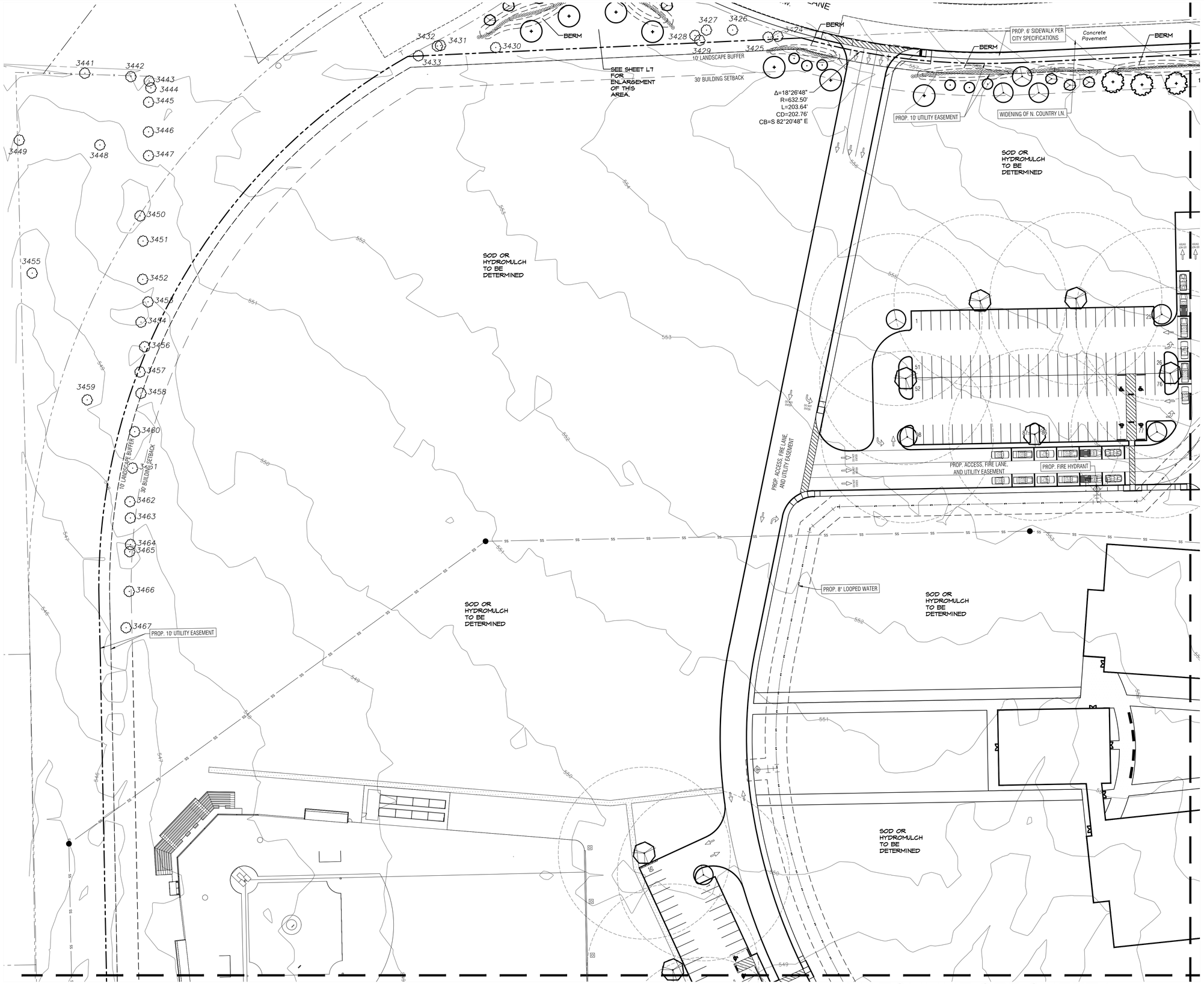
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE PLAN
AREA C

JOB 21572.0000
DATE 06/07/22
SHEET L 4



NORTH

0 40 80

GRAPHIC SCALE
1"=40'

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Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

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SUITE 300
FORT WORTH, TEXAS 76104
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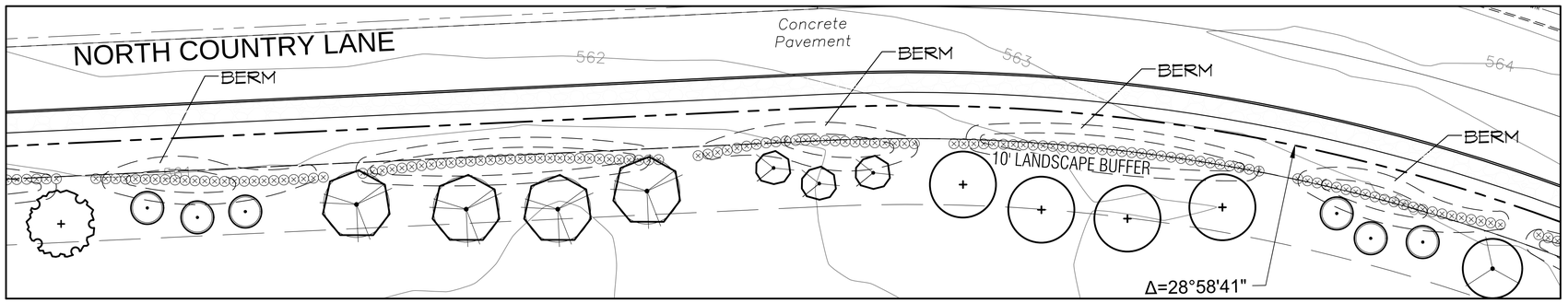
RAMSEY LANDSCAPE ARCHITECTS, LLC
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FRISCO, TEXAS 75035
PHONE (972) 335-0889
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

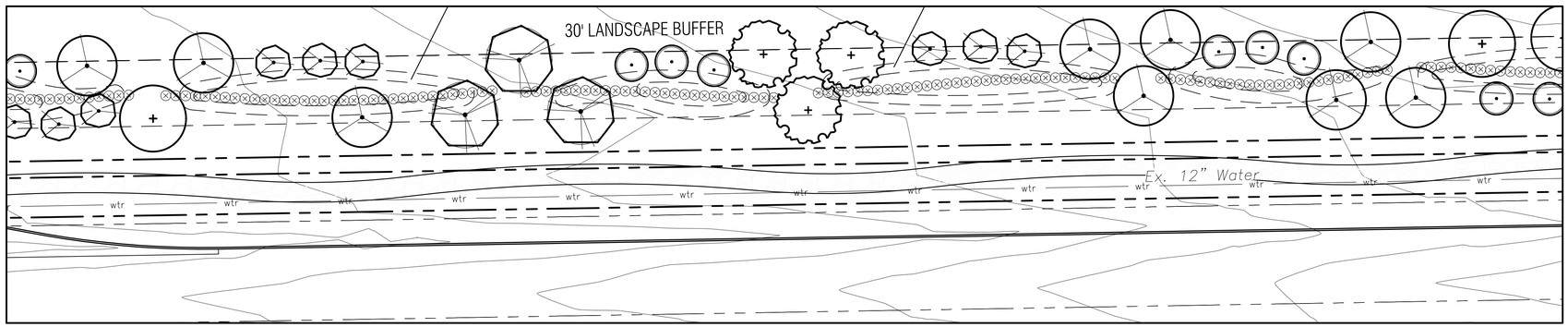
LANDSCAPE PLAN
AREA D

JOB 21572.0000
DATE 06/07/22
SHEET L 5



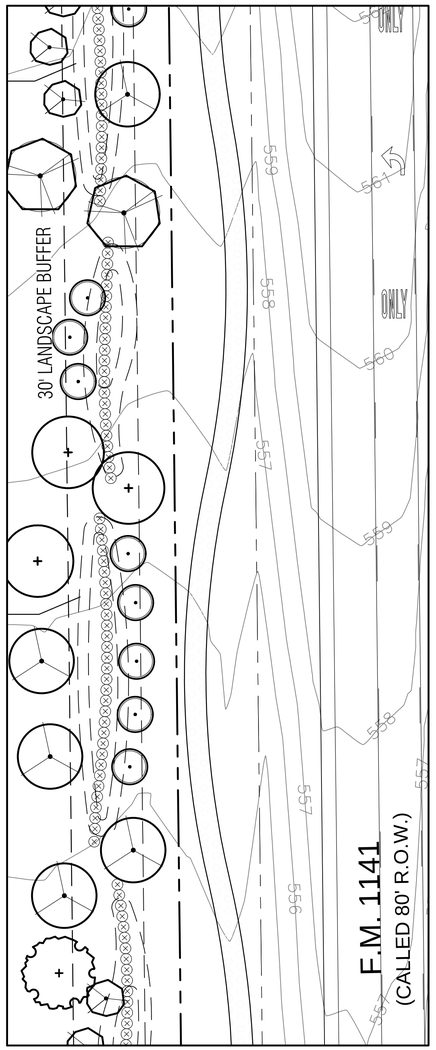
TYPICAL SEGMENT OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



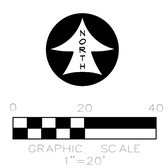
TYPICAL SEGMENT OF QUAIL RUN ROAD

SCALE: 1" = 20'-0"



TYPICAL SEGMENT OF F.M. 1141

SCALE: 1" = 20'-0"



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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
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CITY OF ROCKWALL CASE NO. SP2022-017

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	ISSUES	
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	REVISIONS	

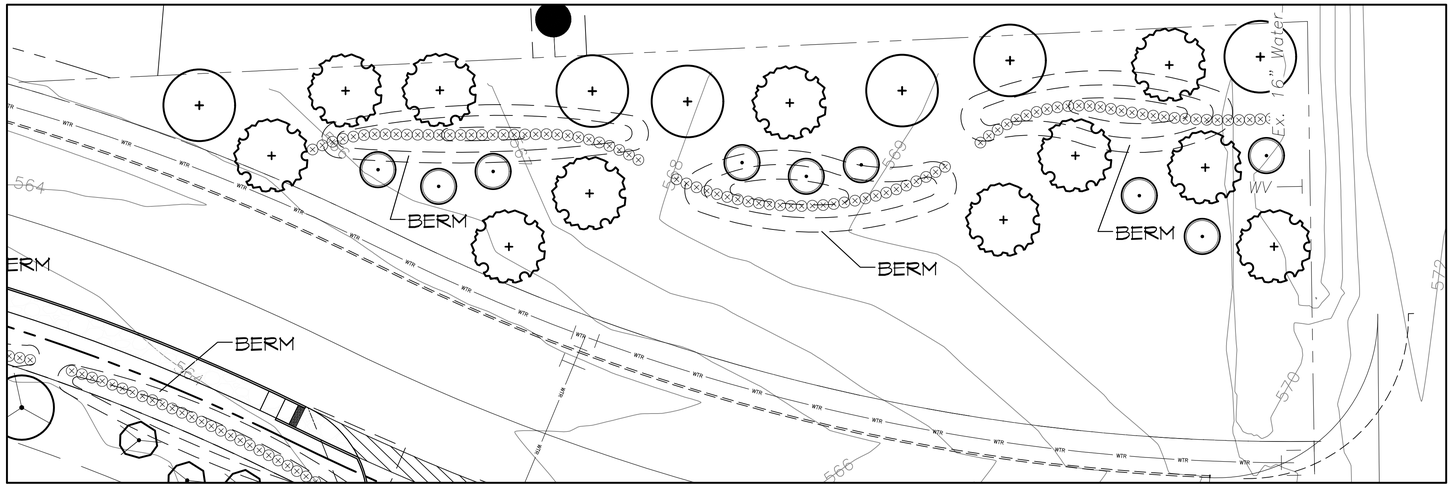
RAMSEY LANDSCAPE ARCHITECTS, LLC
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

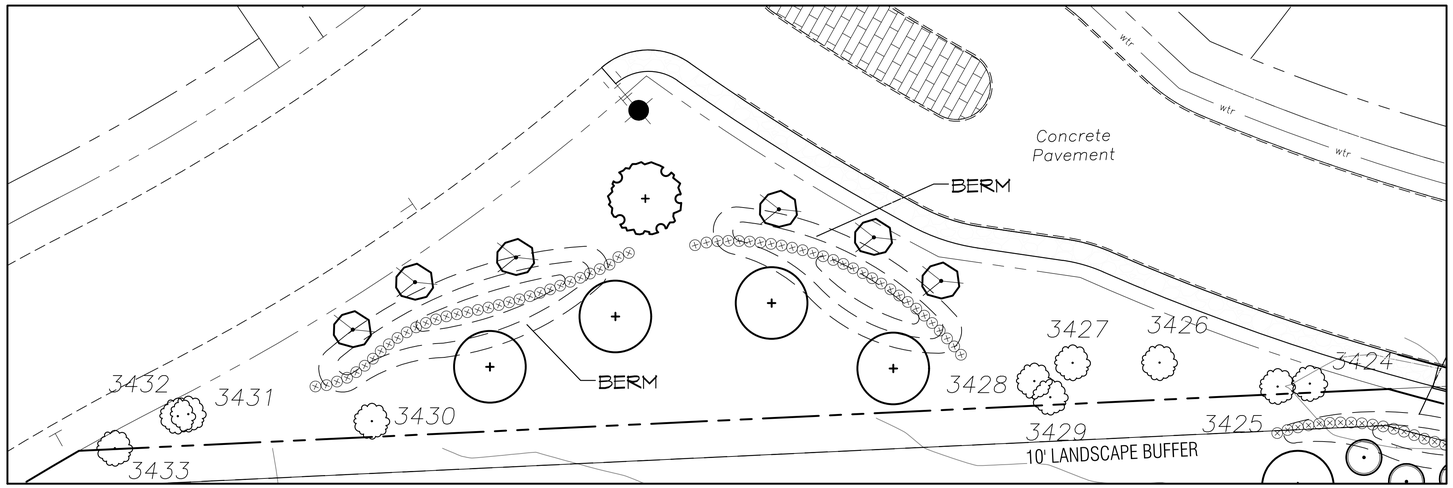
LANDSCAPE ENLARGEMENTS

JOB 21572.0000
DATE 06/07/22
SHEET L 6



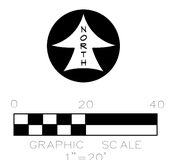
EAST REMAINDER NORTH OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



WEST REMAINDER NORTH OF NORTH COUNTRY LANE

SCALE: 1" = 20'-0"



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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
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CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

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		ISSUES
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		REVISIONS

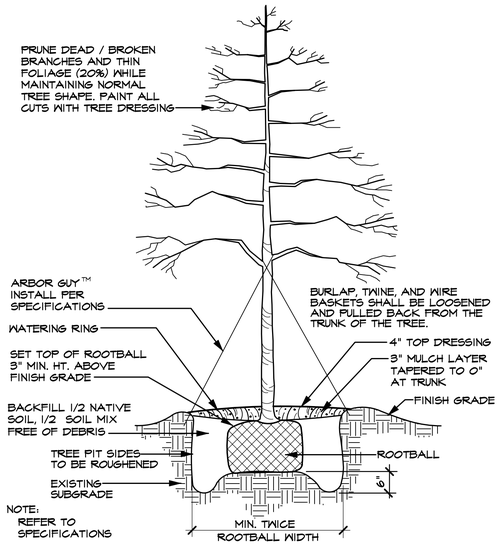
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
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ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

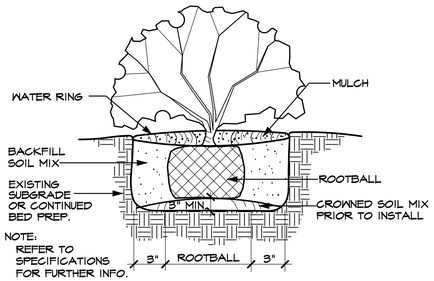
LANDSCAPE ENLARGEMENTS

JOB 21572.0000
DATE 06/07/22
SHEET L 7



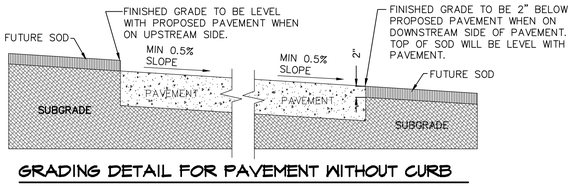
TREE PLANTING DETAIL (TYPICAL)

SCALE: N.T.S.



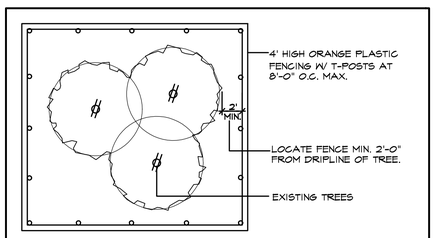
SHRUB PLANTING DETAIL (TYPICAL)

SCALE: N.T.S.



GRADING DETAIL FOR PAVEMENT WITHOUT CURB

SCALE: N.T.S.



1. EXISTING TREES WITHIN CONTRACT LIMITS ARE SHOWN ON THE DRAWINGS. EXISTING TREES DESIGNATED FOR REMOVAL SHALL BE FLAGGED AT THE PROJECT SITE WITH FLAGGING BY THE CONTRACTOR.
2. PROTECT ALL INDIVIDUAL TREES OR GROUPS OF TREES TO BE PRESERVED BY ERECTING A BARRIER AROUND EACH TREE OR GROUP OF TREES. INSTALL AND MAINTAIN BARRIER AT TREE DRIPLINE. BARRIERS SHALL REMAIN IN PLACE UNTIL REMOVAL IS NECESSARY.
3. IN THE EVENT THAT HEAVY CONSTRUCTION IS SCHEDULED TO OCCUR WITHIN THE DRIPLINE OF AN EXISTING TREE, CONTRACTOR SHALL ERECT A PROTECTION FENCE OUTSIDE THE DRIPLINE UNTIL THIS CONSTRUCTION IS SCHEDULED TO OCCUR. THE PROTECTION FENCE MAY THEN BE ADJUSTED AS REQUIRED TO COMPLETE THE PROPOSED CONSTRUCTION. AFTER CONSTRUCTION IN THIS AREA IS COMPLETED, THE PROTECTION FENCE SHALL BE ADJUSTED TO IT'S ORIGINAL LOCATION.
4. CONTRACTORS SHALL NOT PARK, CLEAN TOOLS AND EQUIPMENT OR STORE MATERIALS WITHIN THE DRIPLINE OF ANY TREE.
5. ALL ROOTS OVER 1" IN DIAMETER SHALL BE CUT CLEAN WITH A HAND SAW.

TREE PROTECTION FENCE AND NOTES

SCALE: N.T.S.

TREES

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE & CONDITION
36	+	LIVE OAK	Live Oak	Quercus virginiana	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
35	+	RED OAK	Shumard Red Oak	Quercus shumardii	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
54		LACEBARK	Lacebark Elm	Ulmus parvifolia	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
65		PISTACHIO	Chinese Pistachio	Pistacia chinensis	4" caliper, 12'-14' Ht./ 6'-7' spread, B&B straight trunk full rounded canopy
82		T. YAUPON	Yaupon Holly	Ilex vomitoria	3/4" caliper per trunk, 5 trunk min., 6' Ht./4' spread, container, female - heavy berried tree form, limbed to 3'
95		RED BUD	Oklahoma Red Bud	Cercis canadinsis 'oklahoma'	5'-6' ht, 3'-4' spread, container

SHRUBS

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE AND CONDITION
1,706	⊗	P. MUHLY	Pink Muhly Grass	Muhlenbergia capillaris	5 gallon, 18" Ht./18" full

GROUNDCOVER

QUANTITY	SYMBOL	CALLOUT	COMMON NAME	SCIENTIFIC NAME	SIZE AND CONDITION
AS SHOWN		SOD	Common Bermuda Grass	Cynodon dactylon	Sod refer to specifications
AS SHOWN		HYDRO	Common Bermuda Grass	Cynodon dactylon	Hydromulch refer to specifications

LANDSCAPE CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES

LANDSCAPE TABULATIONS

F.M. 1141 AND QUAIL RUN ROAD STREET BUFFER

30' BUFFER, BERM, SHRUBS, BERM AND SHRUBS 30" MIN. HEIGHT, 3 CANOPY/4 ACCENT TREES PER 100LF.

F.M. 1141 STREET BUFFER REQUIRED	30' BUFFER
BUFFER PROVIDED	30' BUFFER
F.M. 1141 BUFFER TREES REQUIRED (1,578 LF/100 LF =)	15.8 UNITS
BUFFER TREES REQ. (CAN. 3x15.8=47, ACC. 4x15.8=63	47 CANOPY/63 ACCENT
BUFFER TREES PROVIDED	47 CANOPY/63 ACCENT
QUAIL RUN ROAD STREET BUFFER REQUIRED	30' BUFFER
BUFFER PROVIDED	30' BUFFER
QUAIL RUN BUFFER TREES REQUIRED (1,824 LF/100 LF =)	18.2 UNITS
BUFFER TREES REQ. (CAN. 3x18.2=55, ACC. 4x18.2=73	55 CANOPY/73 ACCENT
BUFFER TREES PROVIDED	55 CANOPY/73 ACCENT

NORTH COUNTRY LANE AND PANHANDLE DRIVE STREET BUFFER

10' BUFFER, BERM, SHRUBS, BERM AND SHRUBS 30" MIN. HEIGHT, 1 CANOPY/1 ACCENT TREE PER 50LF.

NORTH COUNTRY LANE STREET BUFFER REQUIRED	10' BUFFER
BUFFER PROVIDED	10' BUFFER
NORTH COUNTRY LANE BUFFER TREES REQUIRED (1,176 LF/50 LF=)	24 UNITS
BUFFER TREES REQ. (CAN. 1x24=24, ACC. 1x24=24	24 CANOPY/24 ACCENT
BUFFER TREES PROVIDED	24 CANOPY/24 ACCENT
PANHANDLE DRIVE STREET BUFFER REQUIRED	10' BUFFER
BUFFER PROVIDED	10' BUFFER
NORTH COUNTRY LANE BUFFER TREES REQUIRED (1,792 LF/50 LF=)	36 UNITS
BUFFER TREES REQ. (CAN. 1x36=22, ACC. 1x36=36	36 CANOPY/36 ACCENT
BUFFER TREES PROVIDED (FUTURE WHEN DEVELOPED)	0 CANOPY/0 ACCENT

WEST OF PANHANDLE AND NORTH OF N. COUNTRY LANE

HEAVY LANDSCAPING, BERM, 3 TIER SCREEN, 1-SMALL/MID SHRUBS, 2-LG SHRUBS OR ACCENT TREES, 3-CANOPY MIN. 20' CENTERS.

NORTH COUNTRY LANE REMAINDER	360 LF
REMAINDER TREES REQUIRED (360 LF / 20' =)	18 TREES
REMAINDER TREES PROVIDED	18 TREES
PANHANDLE DRIVE REMAINDER	440 LF
REMAINDER TREES REQUIRED (440 LF / 20' =)	22 TREES
REMAINDER TREES PROVIDED (FUTURE WHEN DEVELOPED)	0 TREES

PARKING LOT LANDSCAPING

LOT WITH 2 ROWS HAVE GREATER OF 5% OR 200 SF LANDSCAPE, IF LOT OVER 202,200 SF 1 LG TREE PER 10 SPACES INTERIOR TO LOT, MAX 80 LF FROM TREE TO SPACE.

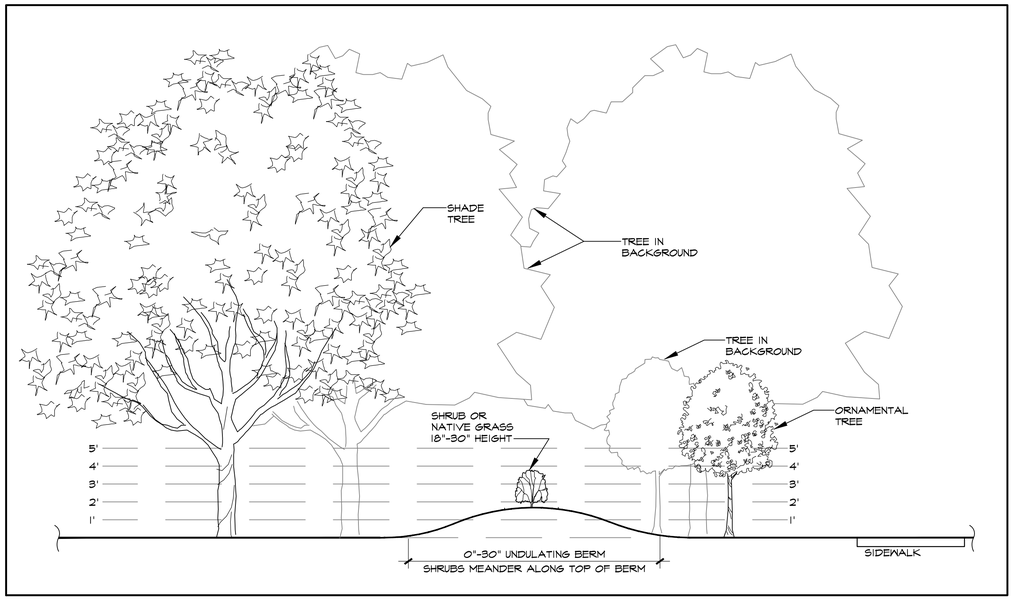
PARKING SPACES	382 SPACES
PARKING LANDSCAPE REQUIRED 102,330 SF X 5% =)	5,117 SF
PARKING LANDSCAPE PROVIDED	8,203 SF

AMOUNT OF LANDSCAPING

% LANDSCAPE BY ZONING, COMMERCIAL 15%, 50% LOCATED FRONT AND SIDE, DETENTION LANDSCAPED GRASSES, SHRUBS, TREES IN NATURAL MANNER, 1 TREE PER 750 SF OF DRY LAND AREA.

SITE AREA	3,044,080 SF
SITE LANDSCAPE REQUIRED 3,044,080 SF X 15% =)	456,612 SF
SITE LANDSCAPE PROVIDED	1,778,250 SF
% LANDSCAPE PROVIDED FRONT/SIDE	(118%) 540,843 SF
SITE IMPERVIOUS AREA	1,244,655 SF

ALL REQUIRED LANDSCAPE AREAS TO RECEIVE AUTOMATIC UNDERGROUND IRRIGATION WITH RAIN AND FREEZE PROTECTION TO MEET REQUIREMENTS OF UDC.



LANDSCAPE BUFFER SECTION

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

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WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN
401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

ISSUES

1	06/07/22	PERMIT REVIEW
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REVISIONS

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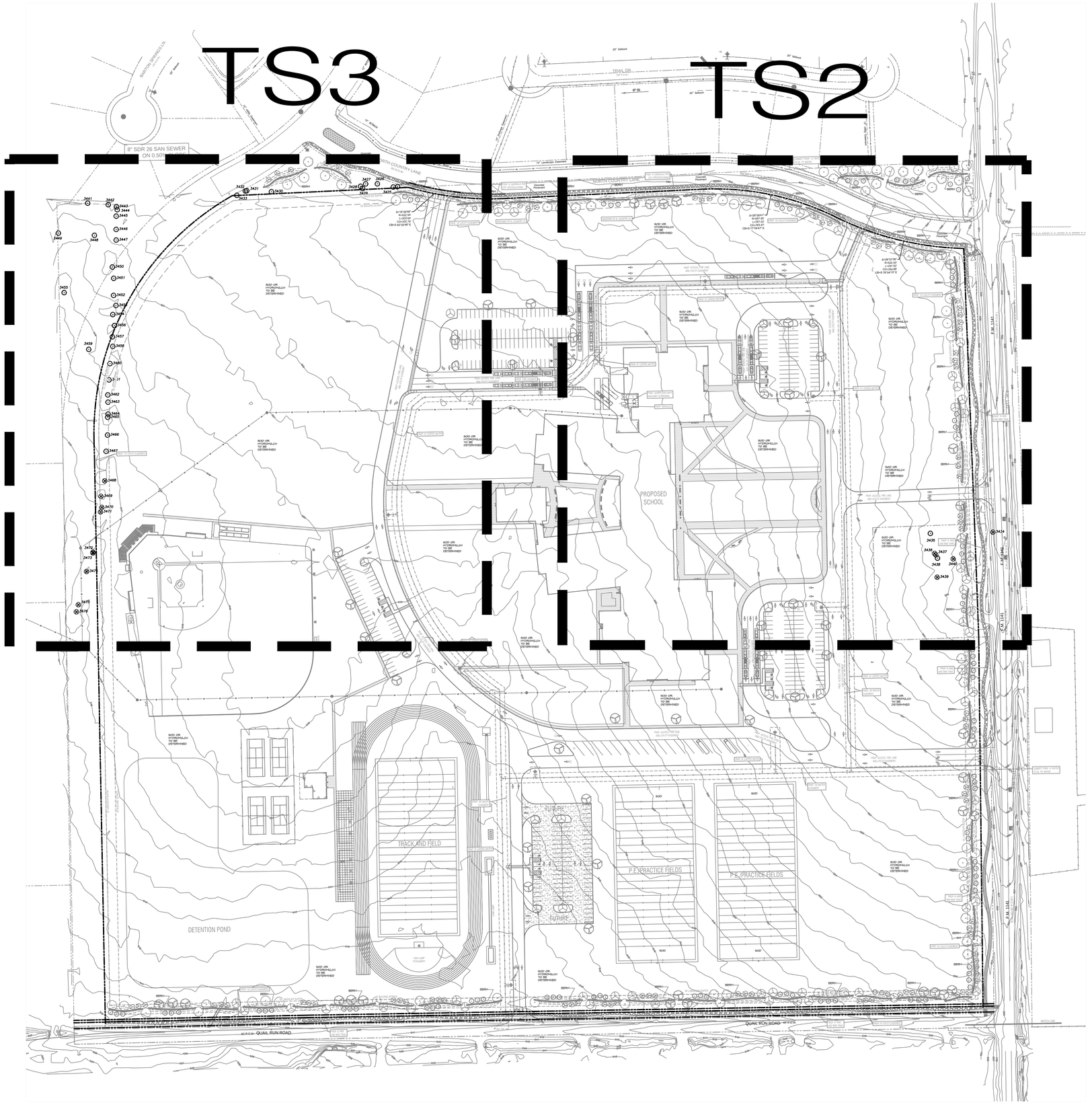
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

LANDSCAPE DETAILS

JOB 21572.0000
DATE 06/07/22
SHEET L 8



	ROCKWALL JH NORTH			
TREE #	TREE TYPE/COND.	DEMO/SAVE	MITIGATE	CREDIT
3424	TREE 16" HACKBERRY	OFF-SITE	0	
3425	TREE 14" HACKBERRY	OFF-SITE	0	
3426	TREE 13" HACKBERRY	OFF-SITE	0	
3427	TREE 16" HACKBERRY	OFF-SITE	0	
3428	TREE 13" HACKBERRY	OFF-SITE	0	
3429	TREE 13" HACKBERRY	OFF-SITE	0	
3430	TREE 15" HACKBERRY MT	OFF-SITE	0	
3431	TREE 12" HACKBERRY MT	OFF-SITE	0	
3432	TREE 16" HACKBERRY MT	OFF-SITE	0	
3433	TREE 14" HACKBERRY MT	OFF-SITE	0	
3434	TREE 30" PECAN	OFF-SITE/ROAD	0	
3435	TREE 31" PECAN	SAVE	0	31
3436	TREE 18" ELM	DEMO	18	
3437	TREE 15" ELM	DEMO	15	
3438	TREE 38" ELM	SAVE	0	38
3439	TREE 18" HACKBERRY	DEMO	9	
3440	TREE 18" PEAR	DEMO-1/2 DEAD	EXEMPT	SICK
3441	TREE 19" HACKBERRY MT	SAVE	0	
3442	TREE 11" HACKBERRY	SAVE	0	
3443	TREE 12" HACKBERRY	SAVE	0	
3444	TREE 13" HACKBERRY MT	SAVE	0	
3445	TREE 14" HACKBERRY SPLIT	SAVE	0	
3446	TREE 18" HACKBERRY	SAVE	0	
3447	TREE 12" HACKBERRY	SAVE	0	
3448	TREE 12" HACKBERRY MT	SAVE	0	
3449	TREE 12" HACKBERRY MT	SAVE	0	
3450	TREE 14" HACKBERRY	SAVE	0	
3451	TREE 16" HACKBERRY MT	SAVE	0	
3452	TREE 13" HACKBERRY	SAVE	0	
3453	TREE 14" HACKBERRY	SAVE	0	
3454	TREE 12" HACKBERRY	SAVE	0	
3455	TREE 23" HACKBERRY MT	SAVE	0	
3456	TREE 13" HACKBERRY MT	SAVE	0	
3457	TREE 11" HACKBERRY MT	SAVE	0	
3458	TREE 12" HACKBERRY MT	SAVE	0	
3459	TREE 13" HACKBERRY MT	SAVE	0	
3460	TREE 19" HACKBERRY MT	SAVE	0	
3461	TREE 15" HACKBERRY	SAVE	0	
3462	TREE 12" HACKBERRY	SAVE	0	
3463	TREE 14" HACKBERRY	SAVE	0	
3464	TREE 11" HACKBERRY	SAVE	0	
3465	TREE 13" HACKBERRY MT	SAVE	0	
3466	TREE 12" HACKBERRY	SAVE	0	
3467	TREE 14" HACKBERRY	SAVE	0	
3468	TREE 16" HACKBERRY	DEMO	8	
3469	TREE 12" HACKBERRY	DEMO	6	
3470	TREE 12" HACKBERRY	DEMO	6	
3471	TREE 12" HACKBERRY	DEMO	6	
3472	TREE 12" HACKBERRY MT	DEMO	6	
3473	TREE 12" HACKBERRY MT	DEMO	6	
3474	TREE 18" HACKBERRY	DEMO	9	
3475	TREE 12" HACKBERRY	DEMO	6	
3476	TREE 13" HACKBERRY	DEMO	6.5	
	TOTAL		101.5	69

MITIGATION 101.5 - 69 = 32.5 X $100.00 = $3,250.00

EXISTING TREE LEGEND	
3467	EXISTING TREE TO BE SAVED
3468	EXISTING TREE TO BE REMOVED

SITE DATA SUMMARY	
EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F. = 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0x18.0'	202 SPACES
9.0x20.0'	159 SPACES
15.0x30.0'	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

0 100 200
GRAPHIC SCALE 1" = 100'

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
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ROCKWALL, TEXAS 75087
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CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN
401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

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		REVISIONS

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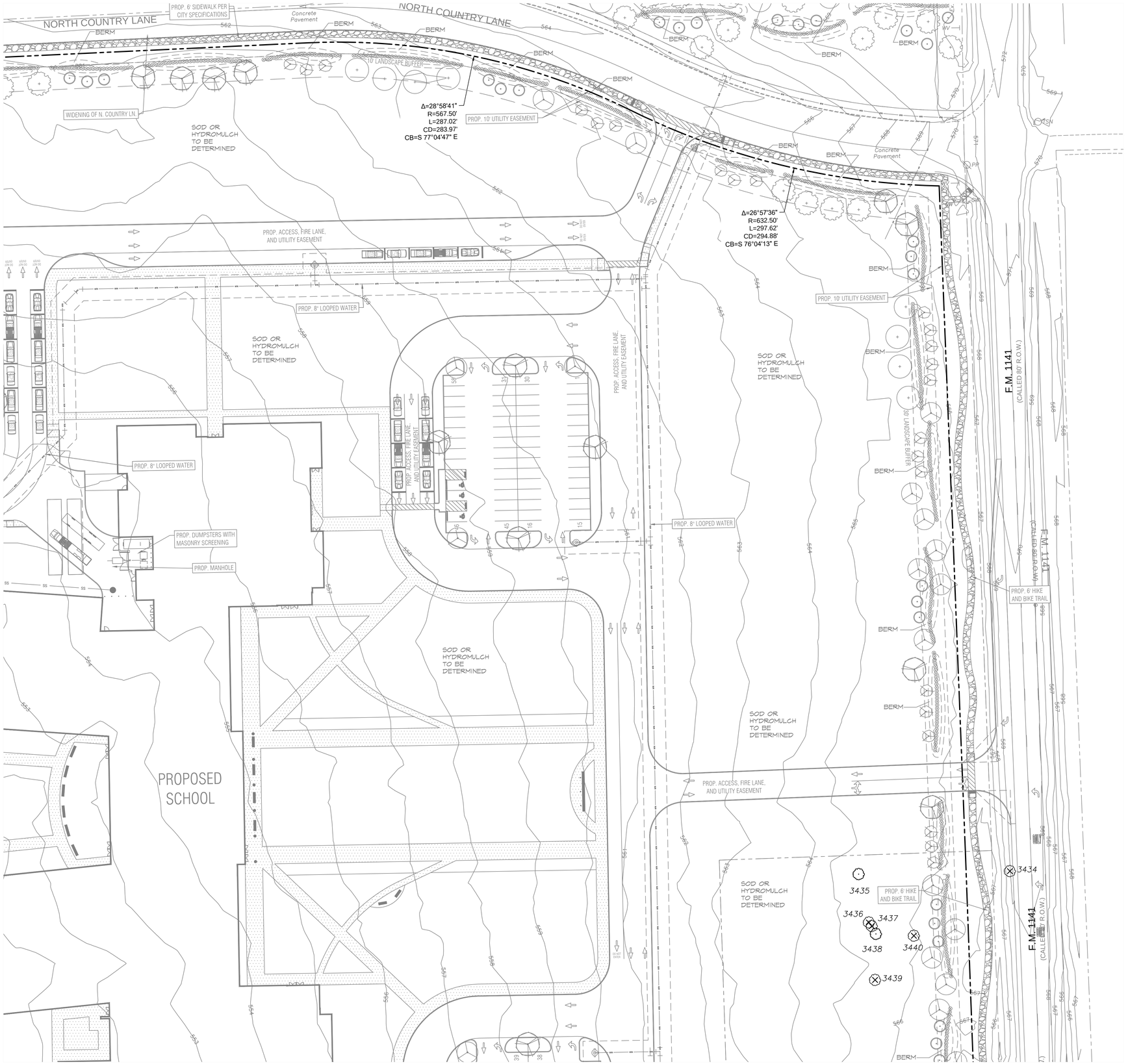
RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
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EMAIL: MIKE.RLA@ATT.NET

ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

OVERALL TREESCAPE PLAN

JOB 21572.0000
DATE 06/07/22
SHEET TS 1



	ROCKWALL JH NORTH			
TREE #	TREE TYPE/COND.	DEMO/SAVE	MITIGATE	CREDIT
3424	TREE 16" HACKBERRY	OFF-SITE	0	
3425	TREE 14" HACKBERRY	OFF-SITE	0	
3426	TREE 13" HACKBERRY	OFF-SITE	0	
3427	TREE 16" HACKBERRY	OFF-SITE	0	
3428	TREE 13" HACKBERRY	OFF-SITE	0	
3429	TREE 13" HACKBERRY	OFF-SITE	0	
3430	TREE 15" HACKBERRY MT	OFF-SITE	0	
3431	TREE 12" HACKBERRY MT	OFF-SITE	0	
3432	TREE 16" HACKBERRY MT	OFF-SITE	0	
3433	TREE 14" HACKBERRY MT	OFF-SITE	0	
3434	TREE 30" PECAN	OFF-SITE/ROAD	0	
3435	TREE 31" PECAN	SAVE	0	31
3436	TREE 18" ELM	DEMO	18	
3437	TREE 15" ELM	DEMO	15	
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3439	TREE 18" HACKBERRY	DEMO	9	
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3441	TREE 19" HACKBERRY MT	SAVE	0	
3442	TREE 11" HACKBERRY	SAVE	0	
3443	TREE 12" HACKBERRY	SAVE	0	
3444	TREE 13" HACKBERRY MT	SAVE	0	
3445	TREE 14" HACKBERRY SPLIT	SAVE	0	
3446	TREE 18" HACKBERRY	SAVE	0	
3447	TREE 12" HACKBERRY	SAVE	0	
3448	TREE 12" HACKBERRY MT	SAVE	0	
3449	TREE 12" HACKBERRY MT	SAVE	0	
3450	TREE 14" HACKBERRY	SAVE	0	
3451	TREE 16" HACKBERRY MT	SAVE	0	
3452	TREE 13" HACKBERRY	SAVE	0	
3453	TREE 14" HACKBERRY	SAVE	0	
3454	TREE 12" HACKBERRY	SAVE	0	
3455	TREE 23" HACKBERRY MT	SAVE	0	
3456	TREE 13" HACKBERRY MT	SAVE	0	
3457	TREE 11" HACKBERRY MT	SAVE	0	
3458	TREE 12" HACKBERRY MT	SAVE	0	
3459	TREE 13" HACKBERRY MT	SAVE	0	
3460	TREE 19" HACKBERRY MT	SAVE	0	
3461	TREE 15" HACKBERRY	SAVE	0	
3462	TREE 12" HACKBERRY	SAVE	0	
3463	TREE 14" HACKBERRY	SAVE	0	
3464	TREE 11" HACKBERRY	SAVE	0	
3465	TREE 13" HACKBERRY MT	SAVE	0	
3466	TREE 12" HACKBERRY	SAVE	0	
3467	TREE 14" HACKBERRY	SAVE	0	
3468	TREE 16" HACKBERRY	DEMO	8	
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3472	TREE 12" HACKBERRY MT	DEMO	6	
3473	TREE 12" HACKBERRY MT	DEMO	6	
3474	TREE 18" HACKBERRY	DEMO	9	
3475	TREE 12" HACKBERRY	DEMO	6	
3476	TREE 13" HACKBERRY	DEMO	6.5	
	TOTAL		101.5	69

EXISTING TREE LEGEND	
3467	EXISTING TREE TO BE SAVED
3468	EXISTING TREE TO BE REMOVED

NORTH

0 40 80

GRAPHIC SCALE
1"=40'

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Director of Planning and Zoning

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LOT 1, BLOCK A
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CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

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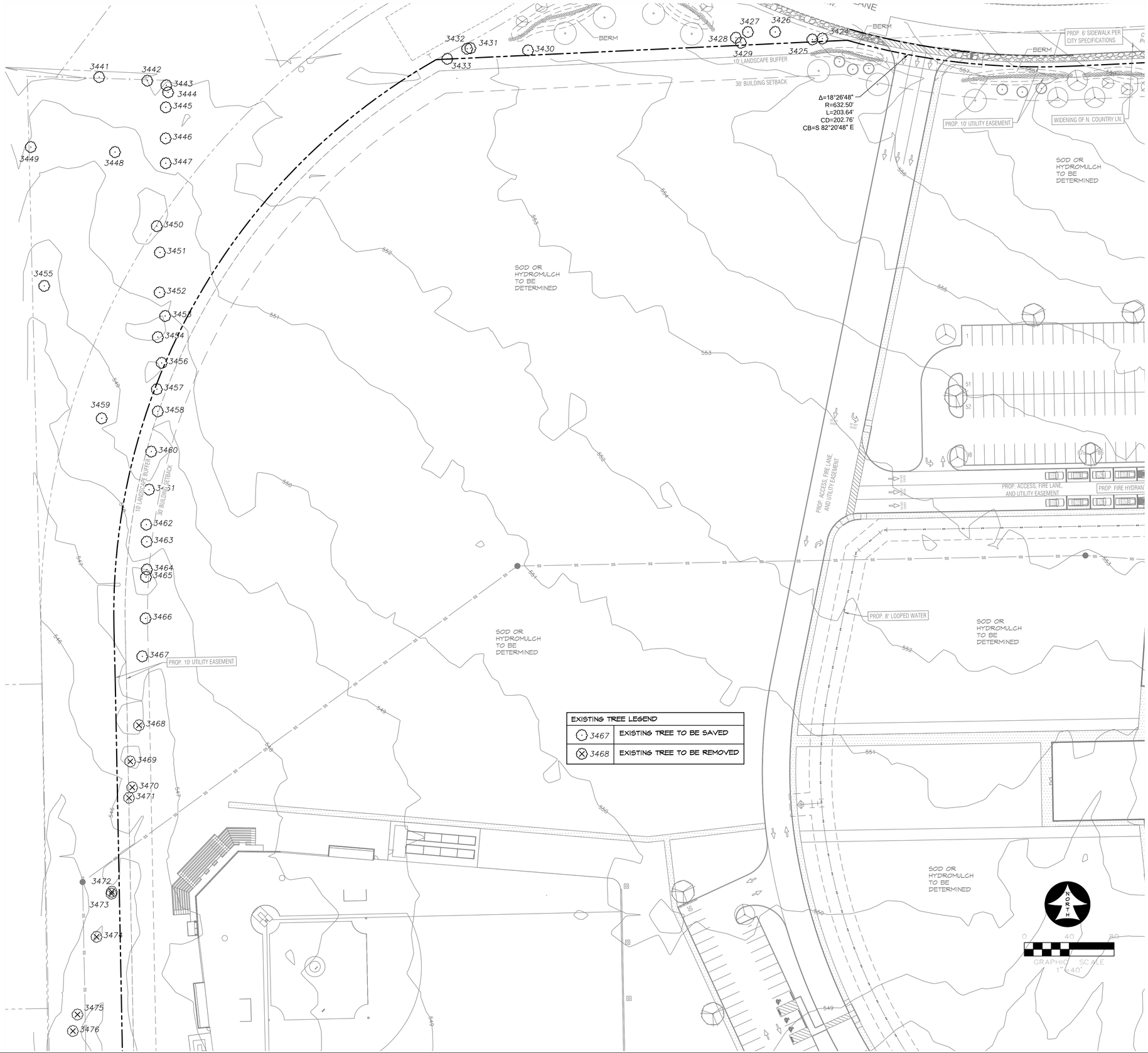
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ROCKWALL NINTH GRADE CENTER

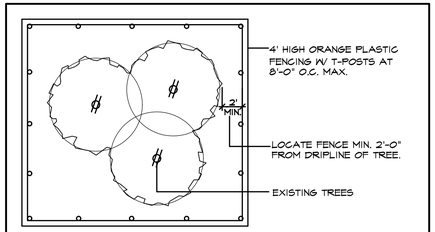
F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

TREESCAPE PLAN EAST

JOB 21572.0000
DATE 06/07/22
SHEET TS 2



	ROCKWALL JH NORTH			
TREE #	TREE TYPE/COND.	DEMO/SAVE	MITIGATE	CREDIT
3424	TREE 16" HACKBERRY	OFF-SITE	0	
3425	TREE 14" HACKBERRY	OFF-SITE	0	
3426	TREE 13" HACKBERRY	OFF-SITE	0	
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3428	TREE 13" HACKBERRY	OFF-SITE	0	
3429	TREE 13" HACKBERRY	OFF-SITE	0	
3430	TREE 15" HACKBERRY MT	OFF-SITE	0	
3431	TREE 12" HACKBERRY MT	OFF-SITE	0	
3432	TREE 16" HACKBERRY MT	OFF-SITE	0	
3433	TREE 14" HACKBERRY MT	OFF-SITE	0	
3434	TREE 30" PECAN	OFF-SITE/ROAD	0	
3435	TREE 31" PECAN	SAVE	0	31
3436	TREE 18" ELM	DEMO	18	
3437	TREE 15" ELM	DEMO	15	
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3439	TREE 18" HACKBERRY	DEMO	9	
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3443	TREE 12" HACKBERRY	SAVE	0	
3444	TREE 13" HACKBERRY MT	SAVE	0	
3445	TREE 14" HACKBERRY SPLIT	SAVE	0	
3446	TREE 18" HACKBERRY	SAVE	0	
3447	TREE 12" HACKBERRY	SAVE	0	
3448	TREE 12" HACKBERRY MT	SAVE	0	
3449	TREE 12" HACKBERRY MT	SAVE	0	
3450	TREE 14" HACKBERRY	SAVE	0	
3451	TREE 16" HACKBERRY MT	SAVE	0	
3452	TREE 13" HACKBERRY	SAVE	0	
3453	TREE 14" HACKBERRY	SAVE	0	
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3459	TREE 13" HACKBERRY MT	SAVE	0	
3460	TREE 19" HACKBERRY MT	SAVE	0	
3461	TREE 15" HACKBERRY	SAVE	0	
3462	TREE 12" HACKBERRY	SAVE	0	
3463	TREE 14" HACKBERRY	SAVE	0	
3464	TREE 11" HACKBERRY	SAVE	0	
3465	TREE 13" HACKBERRY MT	SAVE	0	
3466	TREE 12" HACKBERRY	SAVE	0	
3467	TREE 14" HACKBERRY	SAVE	0	
3468	TREE 16" HACKBERRY	DEMO	8	
3469	TREE 12" HACKBERRY	DEMO	6	
3470	TREE 12" HACKBERRY	DEMO	6	
3471	TREE 12" HACKBERRY	DEMO	6	
3472	TREE 12" HACKBERRY MT	DEMO	6	
3473	TREE 12" HACKBERRY MT	DEMO	6	
3474	TREE 18" HACKBERRY	DEMO	9	
3475	TREE 12" HACKBERRY	DEMO	6	
3476	TREE 13" HACKBERRY	DEMO	6.5	
	TOTAL		101.5	69



1. EXISTING TREES WITHIN CONTRACT LIMITS ARE SHOWN ON THE DRAWINGS. EXISTING TREES DESIGNATED FOR REMOVAL SHALL BE FLAGGED AT THE PROJECT SITE WITH FLAGGING BY THE CONTRACTOR.
2. PROTECT ALL INDIVIDUAL TREES OR GROUPS OF TREES TO BE PRESERVED BY ERECTING A BARRIER AROUND EACH TREE OR GROUP OF TREES. INSTALL AND MAINTAIN BARRIER AT TREE DRIPLINE. BARRIERS SHALL REMAIN IN PLACE UNTIL REMOVAL IS NECESSARY.
3. IN THE EVENT THAT HEAVY CONSTRUCTION IS SCHEDULED TO OCCUR WITHIN THE DRIPLINE OF AN EXISTING TREE, CONTRACTOR SHALL ERECT A PROTECTION FENCE OUTSIDE THE DRIPLINE UNTIL THIS CONSTRUCTION IS SCHEDULED TO OCCUR. THE PROTECTION FENCE MAY THEN BE ADJUSTED AS REQUIRED TO COMPLETE THE PROPOSED CONSTRUCTION. AFTER CONSTRUCTION IN THIS AREA IS COMPLETED, THE PROTECTION FENCE SHALL BE ADJUSTED TO ITS ORIGINAL LOCATION.
4. CONTRACTORS SHALL NOT PARK, CLEAN TOOLS AND EQUIPMENT OR STORE MATERIALS WITHIN THE DRIPLINE OF ANY TREE.
5. ALL ROOTS OVER 1" IN DIAMETER SHALL BE CUT CLEAN WITH A HAND SAW.

TREE PROTECTION FENCE AND NOTES

SCALE: N.T.S.

APPROVED:
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WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN
401 N. Houston St
Dallas, TX 75202
T: 214-748-2000

		ISSUES
1	06/07/22	PERMIT REVIEW
2		
3		
4		
5		
6		

		REVISIONS

THIS DOCUMENT IS RELEASED FOR PERMIT REVIEW UNDER THE AUTHORITY OF: MICHAEL RAMSEY REGISTERED LANDSCAPE ARCHITECT #1901. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

RAMSEY LANDSCAPE ARCHITECTS, LLC
11914 WISHING WELL CT.
FRISCO, TEXAS 75035
PHONE (972) 335-0889
FAX (469) 362-5433
EMAIL: MIKE.RLA@ATT.NET

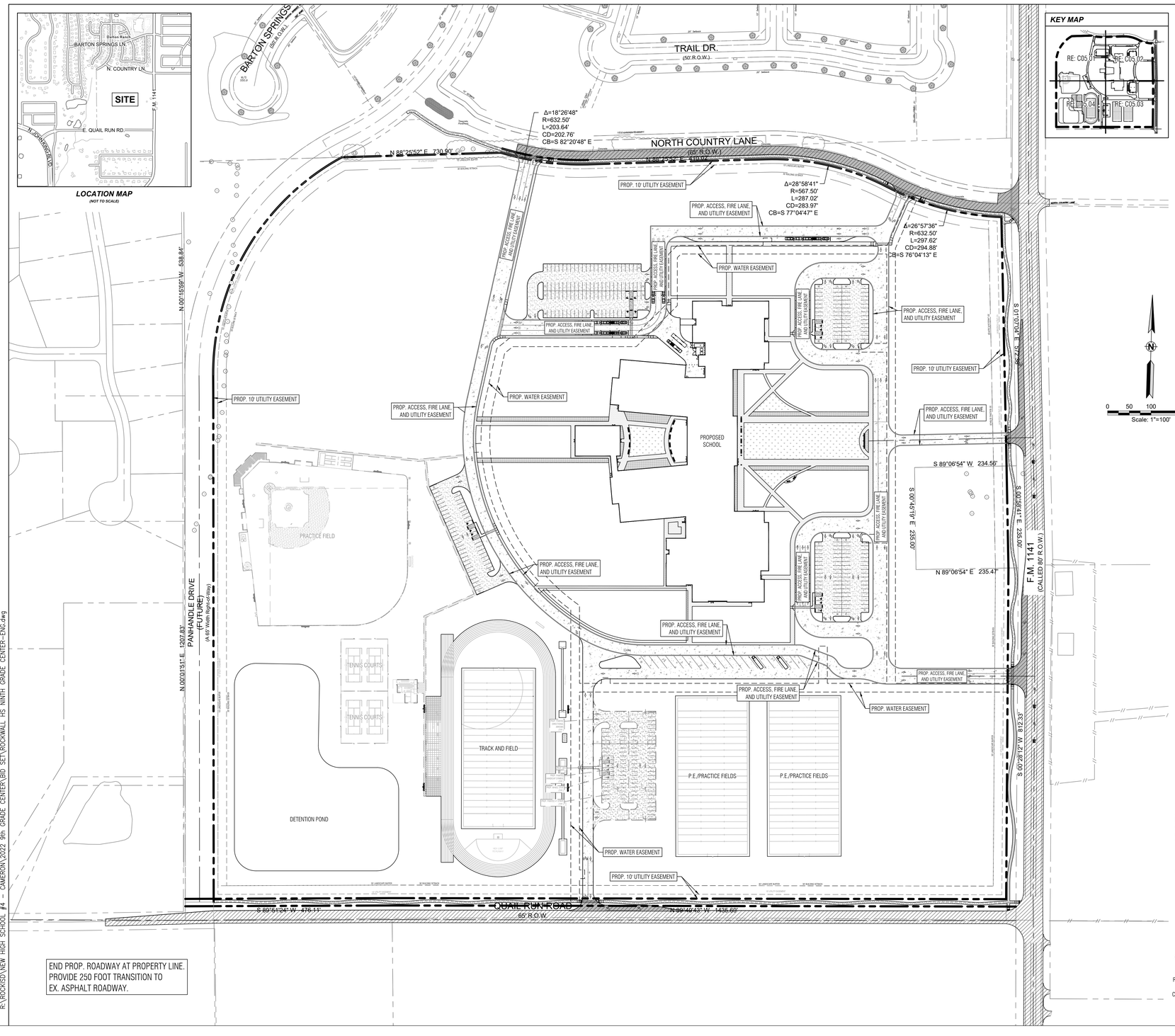
ROCKWALL NINTH GRADE CENTER

F.M. 1141 AND QUAIL RUN ROAD
ROCKWALL ISD

TREESCAPE PLAN WEST

JOB 21572.0000
DATE 06/07/22
SHEET TS 3

LOCATION MAP
(NOT TO SCALE)



END PROP. ROADWAY AT PROPERTY LINE.
PROVIDE 250 FOOT TRANSITION TO
EX. ASPHALT ROADWAY.

KEY MAP

GENERAL SITE NOTES

1. STRIPING & SIGNAGE DIMENSIONS ARE FROM FACE OF CURB.
2. ALL FIRE LANES, PARKING STRIPING, HANDICAP PARKING STRIPING & SIGNAGE ARE TO BE IN ACCORDANCE WITH CITY OF ROCKWALL REQUIREMENTS, TYP.
3. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CITY OF ROCKWALL SPECIFICATIONS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.
5. ALL WORK SHALL CONFORM TO THE CITY OF ROCKWALL SPECIFICATIONS, STANDARDS, AND DETAILS.
6. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS, PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.
8. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATING EXISTING UTILITIES AND IMPROVEMENTS PRIOR TO CONSTRUCTION.
9. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN TO THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR REVIEW.
10. MARK FIRE LANES TO THE CITY OF ROCKWALL SPECIFICATION. "NO PARKING FIRE LANE" EVERY 25' WHITE 4" LETTERS ON A 6" RED STRIPED BACKGROUND.
11. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
12. BARRIER FREE RAMPS (BFR) IN PUBLIC R.O.W. SHALL BE PER CITY SPECIFICATIONS.
13. ALL OUTDOOR LIGHTING MUST BE ORIENTED SO THAT LIGHTING LEVELS AT ALL PROPERTY LINES ARE 1FOT-CANDLE OR LESS.

PAVING LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- PAINTED TRAFFIC DIRECTIONAL ARROW
- PROPERTY LINE
- 10' MASONRY SCREENING WALL
- (PRIVATE) 5" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 6" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 2" AC SURFACE COURSE (TYPE D) OVER 6.5" AC SURFACE COURSE (TYPE B) OVER 8" STABILIZED SUBGRADE OVER 9" RECOMPACTED SUBGRADE
- (PRIVATE) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 24" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- PLANTING AREAS. RE: LANDSCAPE

PAVING LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE

SITE DATA SUMMARY TABLE

EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	153,187 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	194,206 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	153,187 S.F.
LOT COVERAGE	153,187 S.F./3,044,079 S.F. = 5.03%
FLOOR AREA RATIO	0.06:1
TOTAL IMPERVIOUS AREA	734,662.08 S.F. OR 16.87 AC.
BUILDING HEIGHT	1ST-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0x18.0	202 SPACES
9.0x20.0	159 SPACES
15.0x30.0	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

REVISIONS		

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB # 1752575193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

PRELIMINARY--FOR REVIEW ONLY
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Date: 05/11/22

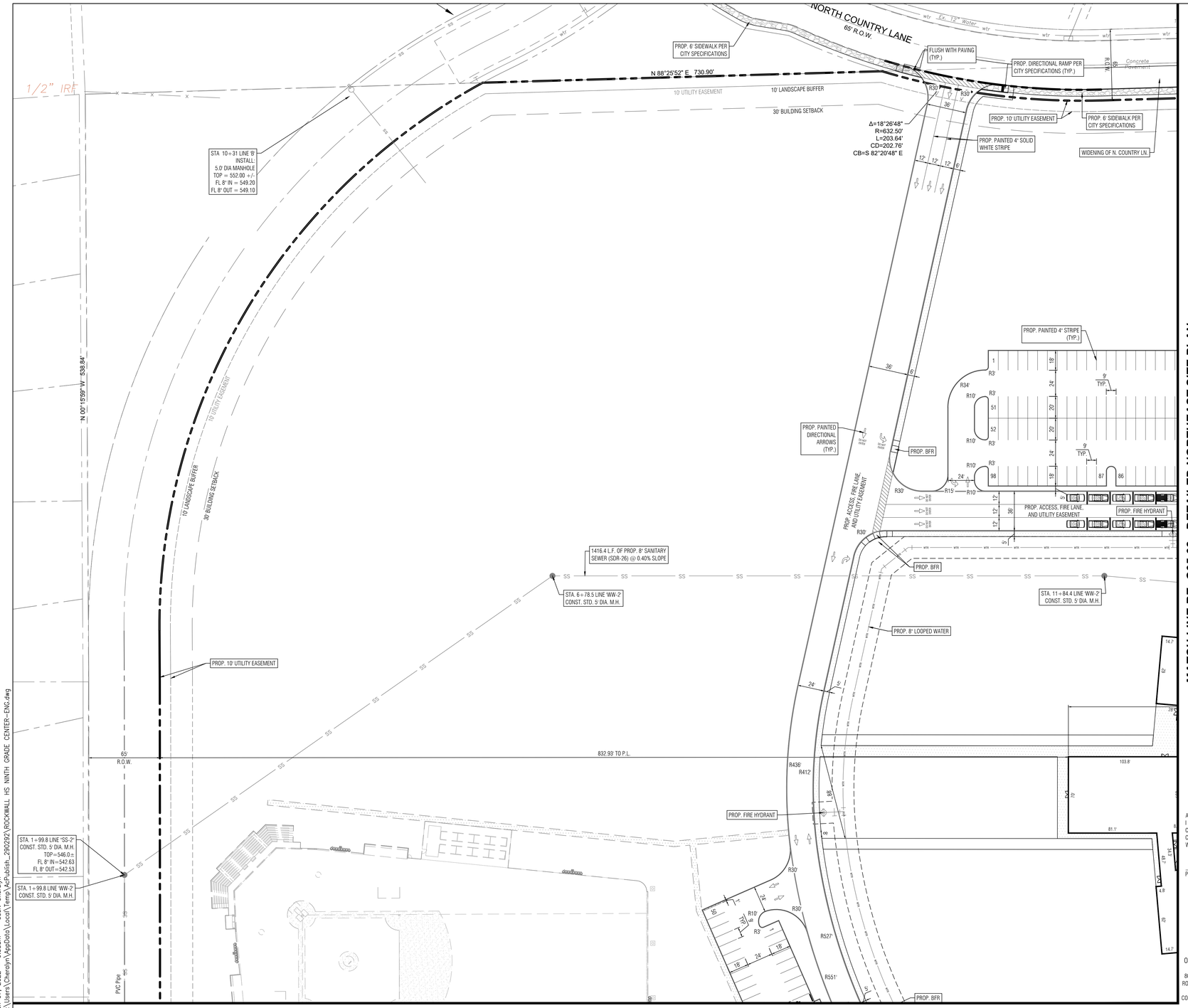
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

OVERALL SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.00

Jun 07, 2022 - 10:12am User: Cheralyn
R:\ROCKISD\NEW HIGH SCHOOL #4 - CAMERON\2022 9th GRADE CENTER\BID SET\ROCKWALL HS NINTH GRADE CENTER-ENG.dwg



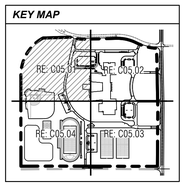
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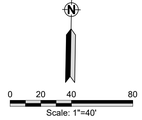
- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
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- FENCE
- PROPERTY LINE
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- STORM SEWER
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KEY MAP





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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

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LOT 1, BLOCK A
OUT OF THE
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CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

△ REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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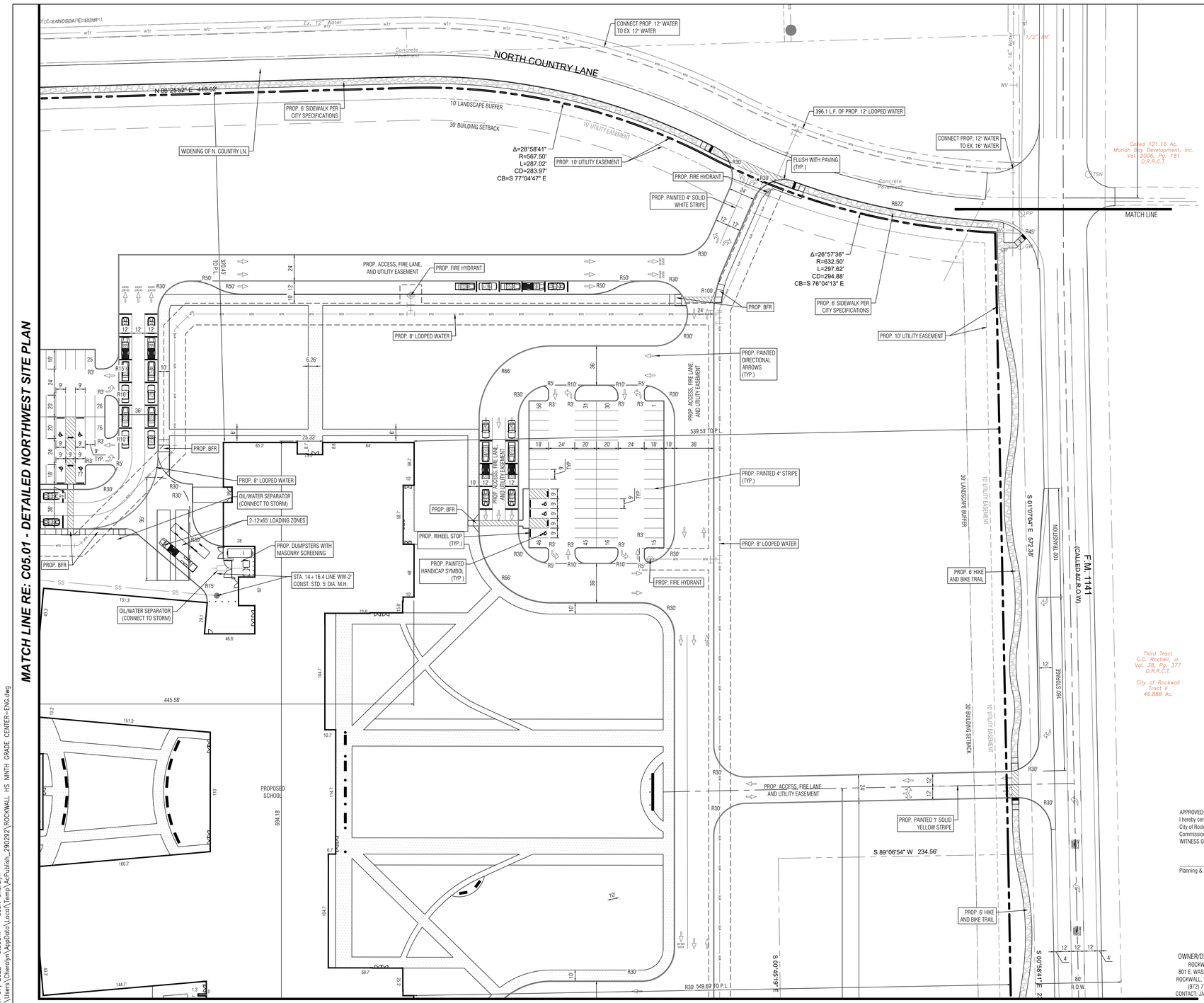
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED NORTHWEST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.01

Jun 07, 2022 – 9:38am User: Cheralyn
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MATCH LINE RE: C05.01 - DETAILED NORTHWEST SITE PLAN

MATCH LINE RE: C05.03 - DETAILED SOUTHEAST SITE PLAN

0 20 40 80
Scale: 1"=40'

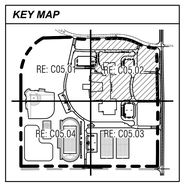
SITE LEGEND (PROPOSED)

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- ORNAMENTAL FENCE
- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
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- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

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Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD 801 E. WASHINGTON ST. ROCKWALL, TEXAS 75087 (972) 771-0605 CONTACT: JAMES WATSON	BOWMAN 1200 W. MAGNOLIA BLVD. SUITE 300 FORT WORTH, TEXAS 76104 (214) 484-8586 CONTACT: ROBERT HANSEN	GLENN ENGINEERING CORP. 4500 FULLER DR. IRVING, TEXAS 75038 (972) 717-5151 CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN ASSOCIATES, INC.
401 North Houston Street
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Tel 214 748 2000
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ISSUES		
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Date: 05/11/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED NORTHEAST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET

C05.02

Jun 07, 2022 -- 9:39am User: Cheralyn
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MATCH LINE RE: C05.04 - DETAILED SOUTHWEST SITE PLAN

MATCH LINE RE: C05.02 - DETAILED NORTHEAST SITE PLAN

PROP. FIRE HYDRANT
PROP. PAINTED 4" STRIPE (TYP.)
PROP. PAINTED HANDICAP SYMBOL (TYP.)
PROP. WHEEL STOP (TYP.)
PROP. BFR
STA. 16+34.5 LINE 'WW-1' CONST. STD. 5' DIA. M.H.
PROP. ACCESS, FIRE LANE AND UTILITY EASEMENT
PROP. 8" LOOPED WATER
PROP. 20' WATER EASEMENT
PROP. PAINTED DIRECTIONAL ARROWS (TYP.)
PROP. 6' HIKE AND BIKE TRAIL
100' TRANSITION
180' STORAGE
30' BUILDING SETBACK
10' UTILITY EASEMENT
PROP. PAINTED 1' SOLID YELLOW STRIPE
PROP. PAINTED 4' SOLID WHITE STRIPE
CONNECT PROP. 8" WATER TO EX. 16" WATER
F.M. 1141 (CALLED 80' R.O.W.)
N 89°06'54" E 235.47'
545.18' C.L. TO C.L. 15' F/F
Fourth Tract G.C. Rochell, Jr. Vol. 38, Pg. 377 D.R.R.C.T.
City of Rockwall
S 00°28'12" W 812.33'
80' ROW
30' LANDSCAPE BUFFER
P.E./PRACTICE FIELDS
670.38' TO P.I.
N 89°49'43" W 1435.69'
QUAIL RUN ROAD
65' R.O.W.
Ex. 12" Water
MATCH LINE

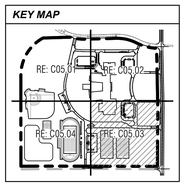
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- CONCRETE CURB
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- EDGE OF CONCRETE
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KEY MAP



0 20 40 80
Scale: 1"=40'

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ISSUES

1	05/11/22	30% PROGRESS SET

REVISIONS

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ROCKWALL NINTH GRADE CENTER

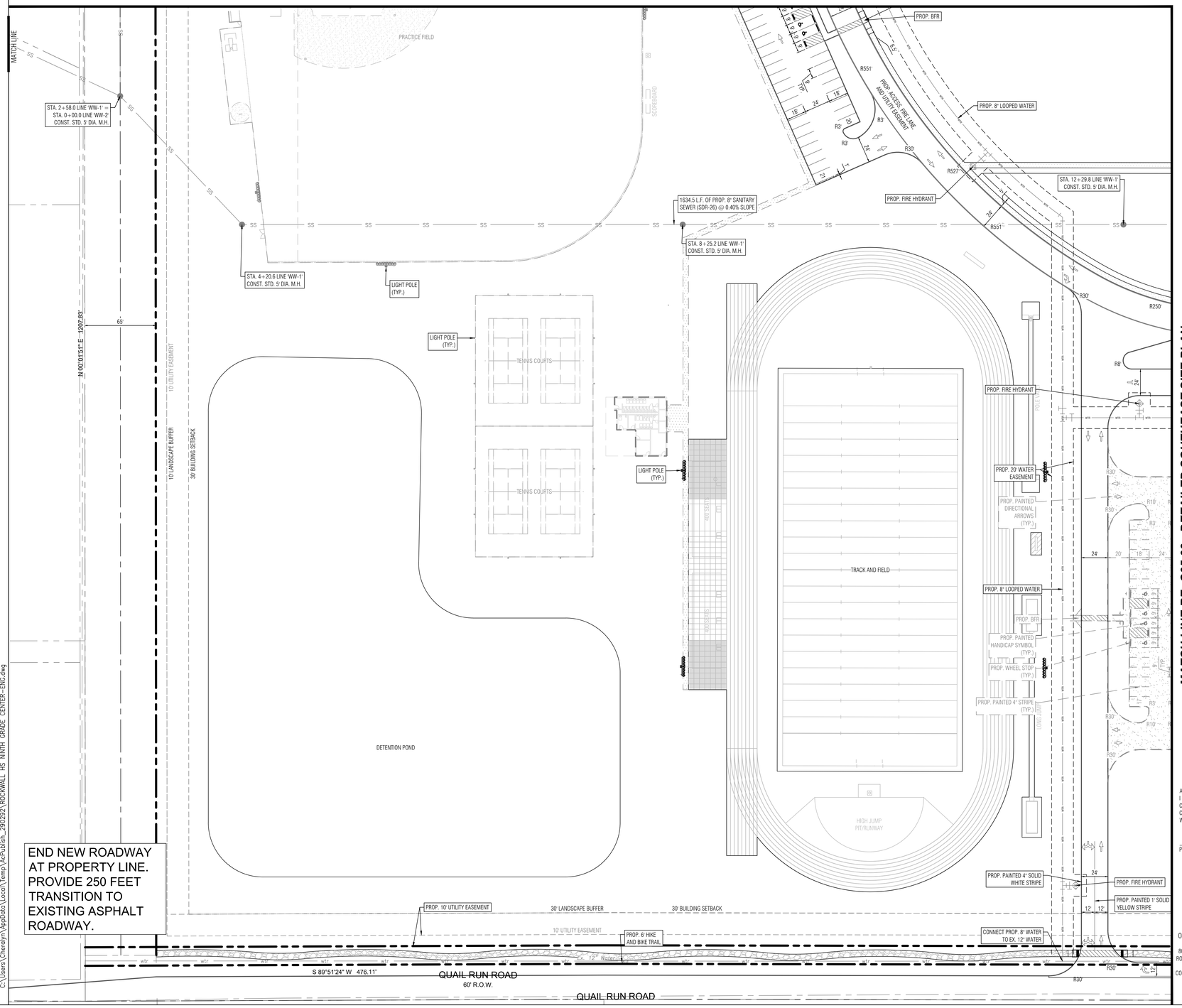
2852 F.M. 1141
Rockwall, TX 75087

DETAILED SOUTHEAST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.03

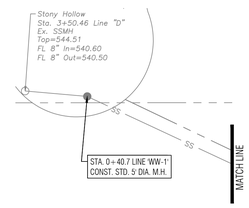
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MATCH LINE RE: C05.01 - DETAILED NORTHWEST SITE PLAN



END NEW ROADWAY AT PROPERTY LINE. PROVIDE 250 FEET TRANSITION TO EXISTING ASPHALT ROADWAY.

MATCH LINE RE: C05.03 - DETAILED SOUTHEAST SITE PLAN



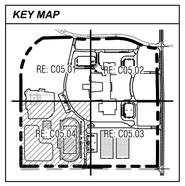
SITE LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE
- WASTEWATER
- STORM SEWER
- WATER

KEY MAP



0 20 40 80
Scale: 1"=40'

APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:
ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES

1	05/11/22	30% PROGRESS SET

REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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These documents are for Design Review and not intended for Construction, Bidding, or Permit Purposes. They were prepared by, or under the supervision of Cheralyn Armijo, P.E. 84568
Date: 05/11/22

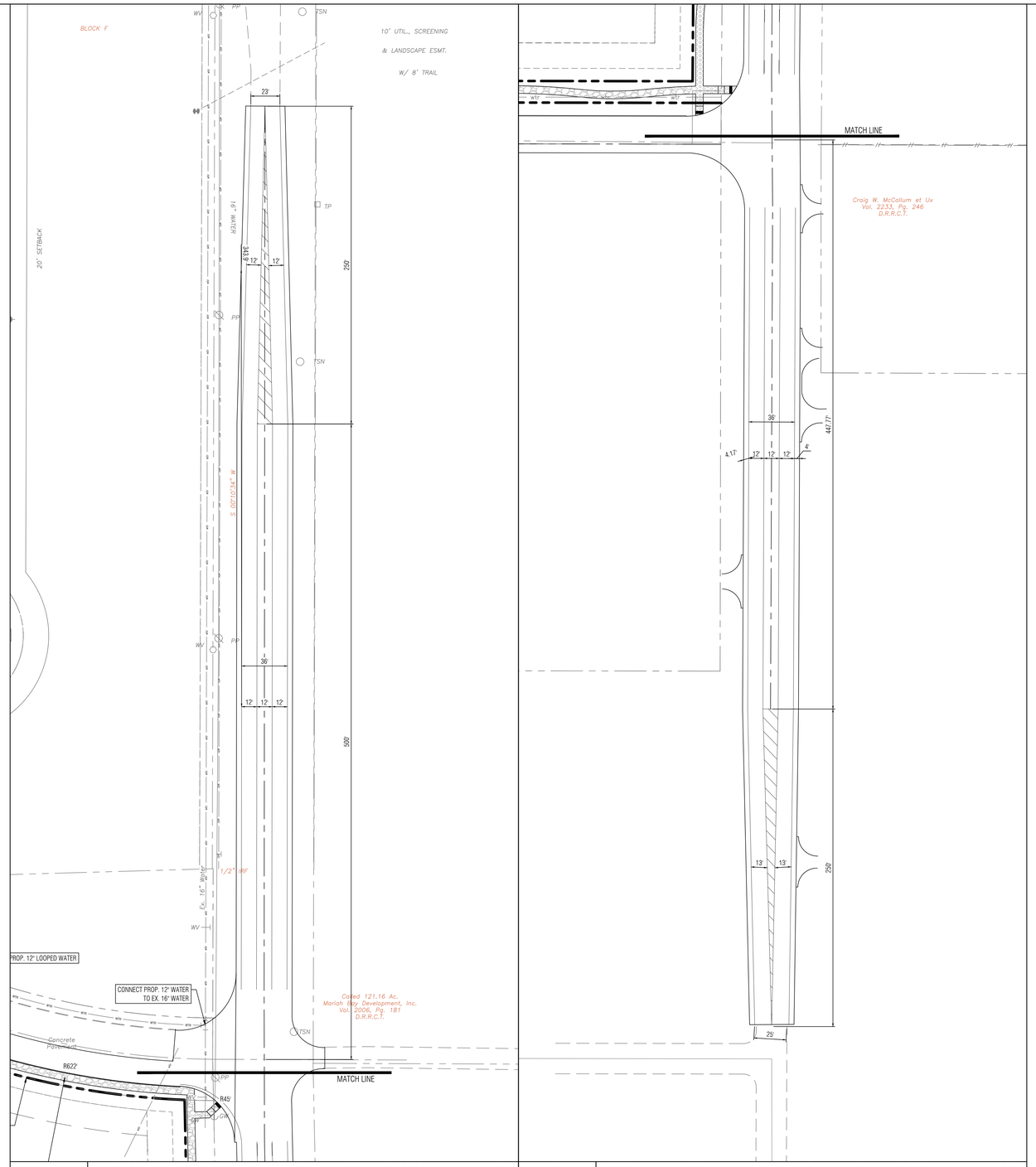
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED SOUTHWEST SITE PLAN

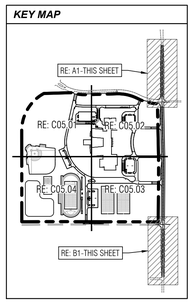
JOB 21572.0000
DATE 05/11/22
SHEET C05.04

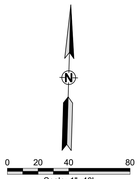
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A1	NORTHEAST F.M. 1141 PAVING IMPROVEMENTS	B1	SOUTHEAST F.M. 1141 PAVING IMPROVEMENTS
1"=40'		1"=40'	

KEY MAP





APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD 801 E. WASHINGTON ST. ROCKWALL, TEXAS 75087 (972) 771-0605 CONTACT: JAMES WATSON	BOWMAN 1200 W. MAGNOLIA BLVD. SUITE 300 FORT WORTH, TEXAS 76104 (214) 484-8586 CONTACT: ROBERT HANSEN	GLENN ENGINEERING CORP. 4500 FULLER DR. IRVING, TEXAS 75038 (972) 717-5151 CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
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ISSUES		
1	05/11/22	30% PROGRESS SET

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TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
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Date: 05/11/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

F.M. 1141 ROAD IMPROVEMENTS

JOB 21572.0000
DATE 05/11/22
SHEET

C05.05

Jun 07, 2022 - 9:39am User: Cheralyn
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EX. RUNOFF CALCULATIONS ROCKWALL NINTH GRADE CENTER

AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY "I 100" (INCHES/HR)	DESIGN FLOW "Q 100" (CFS)	REMARKS
A1	69.57	10	0.35	9.80	238.63	
	TOTAL				TOTAL	
	69.57				238.63	

PROP. RUNOFF CALCULATIONS ROCKWALL NINTH GRADE CENTER

AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY "I 100" (INCHES/HR)	DESIGN FLOW "Q 100" (CFS)	REMARKS
A1	69.57	10	0.70	9.80	477.25	
	TOTAL				TOTAL	
	69.57				477.25	

DRAINAGE AREA MAP LEGEND

DRAINAGE DIVIDE

DA# A1
69.57 Ac.
238.63 cfs
DRAINAGE AREA
NUMBER OF ACRES
DESIGN FLOW
DRAINAGE FLOW

CONCRETE CURB
CONTOUR (MAJOR) 450
CONTOUR (MAJOR) 451
EDGE OF ASPHALT
EDGE OF CONCRETE
STORM SEWER LINE
HEADWALL

BARTON SPRINGS
(50' R.O.W.)
TRAIL DR.
(50' R.O.W.)
NORTH COUNTRY LANE
(65' R.O.W.)
Δ=18°26'48"
R=632.50'
L=203.64'
CD=202.76'
CB=S 82°20'48" E
Δ=28°58'41"
R=567.50'
L=287.02'
CD=283.97'
CB=S 77°04'47" E
Δ=26°57'36"
R=632.50'
L=297.62'
CD=294.88'
CB=S 76°04'13" E
1/2" IRF
Called 38.320 Ac.
Holmc, Inc.
Vol. 1805, Pg. 296
D.R.R.C.T.
N 00°15'50" W 658.84'
DR-Horton, Texas, Ltd.
Vol. 2328, Pg. 27
D.R.R.C.T.
N 00°01'51" E 1207.83'
PANHANDLE DRIVE
(FUTURE)
(A 66' Width Ranged Area)
Doyl C. Tully et Ux
Vol. 951, Pg. 61
D.R.R.C.T.
Michael R. Nolley et Ux
Vol. 1024, Pg. 324
D.R.R.C.T.
DA# A1
69.57 Ac.
238.63 cfs
PROPOSED
DETENTION
POND
S 89°06'54" W 234.56'
S 00°45'19" E 235.00'
N 89°06'54" E 235.41'
S 00°58'41" E 235.00'
S 01°07'04" E 572.38'
S 00°28'12" W 512.33'
F.M. 1141
(CALLED 80' R.O.W.)
Third Tract
G.C. Rochell, Jr.
Vol. 38, Pg. 377
D.R.R.C.T.
City of Rockwall
Tract II
46.888 Ac.
Fourth Tract
G.C. Rochell, Jr.
Vol. 38, Pg. 377
D.R.R.C.T.
City of Rockwall
QUAIL RUN ROAD
65' R.O.W.
S 89°51'24" W 476.11'
N 89°49'43" W 1435.69'
$Q_{EX.}$ = 238.63 cfs
$Q_{PROP.}$ NOT TO EXCEED 238.63 cfs
Sheila & William J. Flannery, III
Vol. 1124, Pg. 65
D.R.R.C.T.
First Section
Saddlebrook Estates
Cab. A, Sl. 307
P.R.R.C.T.
Craig W. McCallum et Ux
Vol. 2233, Pg. 246
D.R.R.C.T.

N

0 50 100 200
Scale: 1"=100'

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

	ISSUES	
1	05/11/22	30% PROGRESS SET
	REVISIONS	

GLENN ENGINEERING
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Date: 6/16/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

EXISTING DRAINAGE AREA MAP

JOB 21572.0000
DATE 6/16/22
SHEET

C08.00

CITY OF ROCKWALL CASE NO.

Statement of Service

Prepared for
Rockwall Independent School District
Rockwall High School Ninth Grade Center Site
On Farm to Market 1141
South of North Country Road and North of East Quail Run Road

City of Rockwall, Rockwall County, Texas

June 2022

Prepared By:

GLENN ENGINEERING

GLENN ENGINEERING CORPORATION
T.B.P.E. REGISTRATION NO. F-303
4500 Fuller Drive, Suite 220
Irving, Texas 75038
(972) 717.5151

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Sanitary Sewer 3
Storm Sewer 3
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Gas 3
Telephone 3

ROADWAYS 4

Roadway Information 4

UTILITIES

Utility Information

Water

Presently there is a 16" water line on the east side of FM 1141 , a 12" water line on the north side of North Country Lane and a 12" Water Line on the north side of Quail Run Road. A looped 8" line around the Proposed Rockwall Ninth Grade Center will be constructed for fire protection. The 12" water line on the north side of North Country Lane will be extended east to the existing 16" line in FM 1141 completing the loop connection. A 4" domestic line will be provided from the proposed 12" in North Country Lane to the new Rockwall Ninth Grade Center. Based the existing water pressures and with the above improvements the City of Rockwall is capable of providing the water needs for the new Rockwall Heath Ninth Grade Center. (see Site plan sheets C5.01 – C5.04.)

Sanitary Sewer

Presently there is an 8" sanitary sewer stubbed out in Panhandle Road for future development from the south. This line has the capacity for the Rockwall Ninth Grade Center, however, based on the proposed Finish Floor elevation of the new Rockwall Ninth Grade Center a gravity line to the manhole cannot be achieved. Therefore an 8" sanitary sewer line is proposed from the new Rockwall Ninth Grade Center to the existing 8" line in the cul de sac at the end of Cobblestone Drive in the Stoney Hollow Addition. This existing 8" line has the capacity to serve the new Rockwall High School Ninth Grade Center and is the same drainage basin as the line on Panhandle. (see Site plan sheets C5.01 – C5.04.)

Storm Sewer

For the purpose of this study, it is assumed that all drainage will discharge into the existing bar ditch on the North side of Quail Run Road and flow west in the bar ditch on the North side to a triple 5'x4' box culverts flowing south under Quail Run Road. The storm sewer lines will be private and owned and operated by Rockwall ISD. A detention facility will be constructed at the southeast corner of the site and will not negatively impact the downstream neighbors. The design of the detention will be in accordance with the City of Rockwall's Standards of drainage and construction. (See Site plan sheets C5.01 – C5.04 and C8.00 Drainage area map.)

Electric

Electric service is available to the existing school site. Oncor Electric Delivery is capable of providing adequate 3-phase power to the site, but requires a site plan and load calculations to determine the size and location of lines.

Gas

If Atmos Energy is capable of providing adequate gas service to the school site, a site plan and load calculations will be required to determine the size and location of lines.

Telephone

Telephone service is available from AT&T.

ROADWAYS

Roadway Information

Farm to Market 1141 (FM 1141)

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. This roadway is capable of handling the additional traffic for the new Rockwall High School Ninth Grade Center with the improvements shown on the site plans. (See both reports for detailed information) These improvements include widening the existing roadway for the entire length of the site from and 2 lane roadway without any shoulders to a 3 lane roadway with 4 foot shoulders. This new roadway will also include deceleration lanes for all proposed driveways and both North Country Lane and Quail Run Road. The 3-lane configuration will provide a left tune line for the entire site while allowing a open travel lane in both direction so the existing traffic will not be impacted. (See Traffic Management Plan)

Panhandle Drive

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center does not show or require access to this future roadway. While we acknowledge that Panhandle Drive is shown on the City of Rockwall's Master Thoroughfare Plan the current Panhandle Drive is not required to handle the daily traffic. Panhandle will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

Quail Run Road

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center does not utilize Quail Run Road for access for Drop of and pick up. The access to Quail Run Road is a courtesy drive for afterhours access and emergency vehicles. While we acknowledge that Quail Run Road is shown on the City of Rockwall's Master Thoroughfare Plan the current asphalt road can handle the daily traffic. Quail Run Road will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

North Country Lane

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center will utilize North Country Lane for access for Drop of and pick up. The Access from North Country Lane is primarily for drop off and pick up for southbound traffic off of FM 1141 . While we acknowledge that North Country Lane Road is shown on the City of Rockwall's Master Thoroughfare Plan the current concrete half section road can handle the daily traffic. North Country Lane will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

May 24, 2022
PK# 5359-22.340

TRAFFIC IMPACT ANALYSIS

Project:
Rockwall ISD North Ninth Grade Center TIA
In Rockwall, Texas

Prepared for:
City of Rockwall

On behalf of:
Glenn Engineering Corp.

Prepared by:

Hunter W. Lemley, P.E., PTOE



Pacheco Koch
a Westwood company

7557 Rambler Road, Suite 1400
Dallas, Texas 75231-2388
(972) 235-3031 www.pkce.com
TX.REG: ENGINEERING FIRM F-469
TX. REG. SURVEYING FIRM LS-100080-00

EXECUTIVE SUMMARY

The services of **Pacheco Koch** were retained by **Glenn Engineering Corp.** to prepare a Traffic Impact Analysis (TIA) for the proposed public school known as *Rockwall ISD North Ninth Grade Center* (the "Project") located at the southwest corner of FM 1141 and N Country Lane in Rockwall, Texas. The Project will consist of a ninth-grade center with an approximate max enrollment of 1,000 students. Buildout of the Project is estimated to occur by 2024. A TIA is required by the City of Rockwall for review as part of the Owner's request for site plan approval.

The purpose of this report is to estimate the incremental impact on the background traffic operational conditions caused by the proposed development within a specific study area as determined by standardized engineering analyses. The study parameters used in this TIA are based upon the requirements of the City and are consistent with the standard industry practices used in similar studies.

Based upon the analyses performed herein, Pacheco Koch developed the following findings and recommendations.

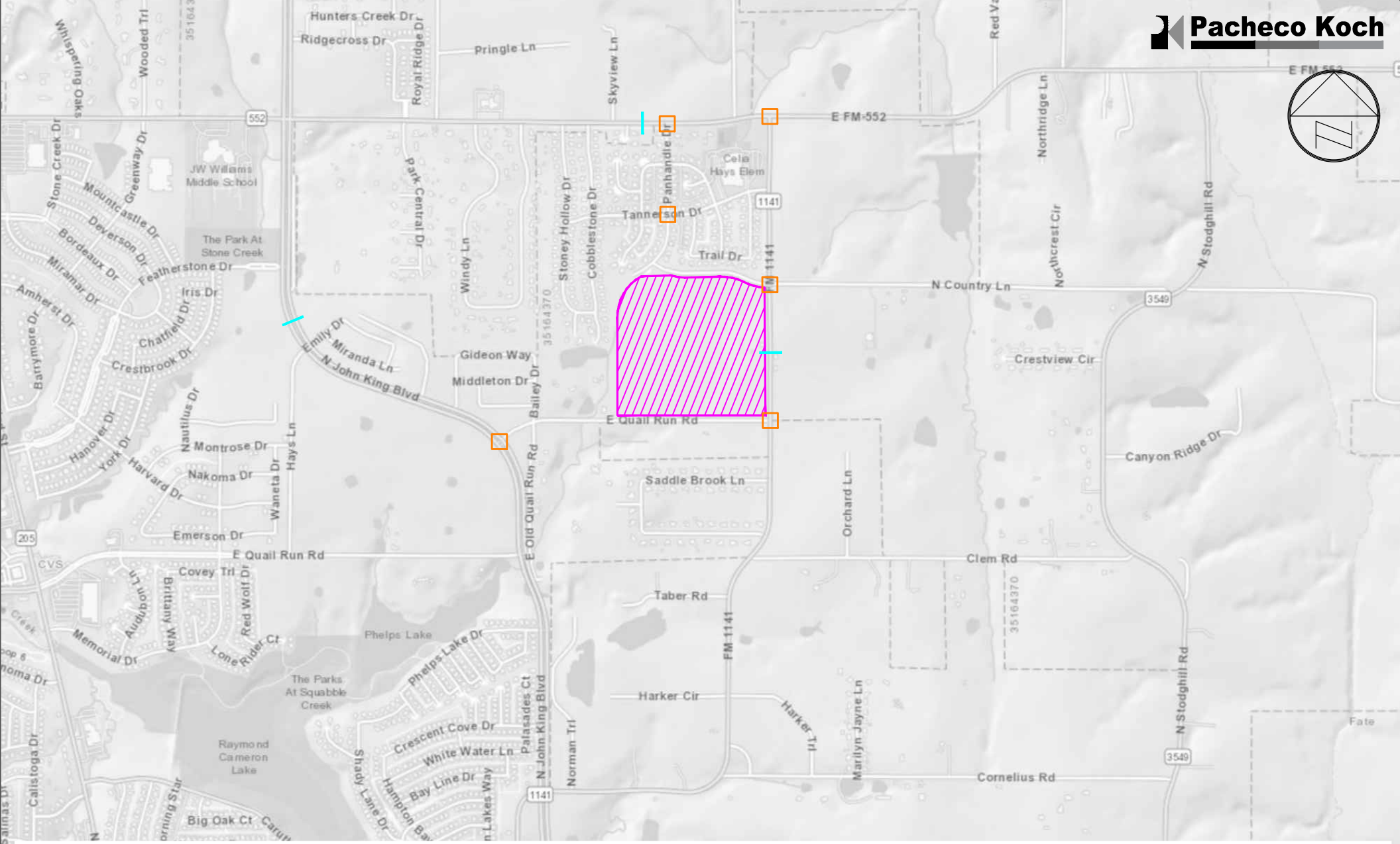
FINDING: The intersection of FM 1141 and FM 552 currently operates efficiently and at "acceptable" Levels of Service during peak traffic periods. However, with the addition of projected school traffic, the calculated average delays for the northbound left-turning maneuvers at the intersection are projected to degrade to "unacceptable" LOS. This condition is common for similar unsignalized intersections on major roadways where a traffic signal being the only mitigation measure to improve the condition. However, with the low projected traffic volumes at the driveway, a traffic signal would not be warranted.

- RECOMMENDATION: As part of the development, the following improvements will be constructed and are assumed to be implemented in the "Build" Scenario of the study:

  1. Right-turn deceleration lanes at all inbound driveways along FM 1141 and E Quail Run Road.

  2. Construction and widening of FM 1141 along the frontage of the site to a three-lane cross-section to include a center two-way left-turn lane for separation of inbound left-turns entering the campus.

END



- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)

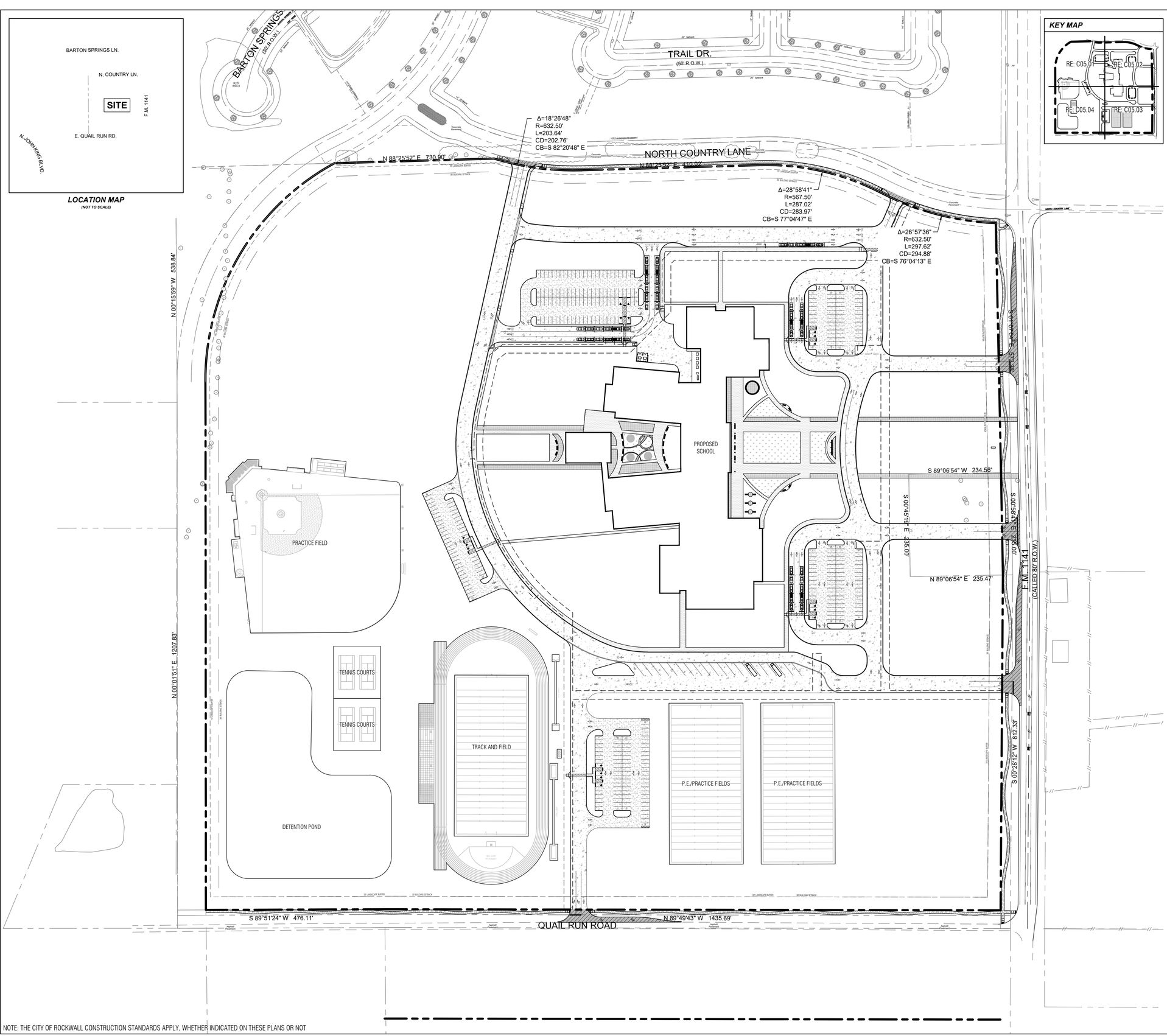
Site Location Map

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/23/22)

EXHIBIT **1**

LOCATION MAP
(NOT TO SCALE)



KEY MAP

GENERAL SITE NOTES

1. STRIPING & SIGNAGE DIMENSIONS ARE FROM FACE OF CURB.
2. ALL FIRE LANES, PARKING STRIPING, HANDICAP PARKING STRIPING & SIGNAGE ARE TO BE IN ACCORDANCE WITH CITY OF ROCKWALL REQUIREMENTS, TYP.
3. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CITY OF ROCKWALL SPECIFICATIONS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.
5. ALL WORK SHALL CONFORM TO THE CITY OF ROCKWALL SPECIFICATIONS, STANDARDS, AND DETAILS.
6. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS, PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.
8. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATING EXISTING UTILITIES AND IMPROVEMENTS PRIOR TO CONSTRUCTION.
9. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN TO THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR REVIEW.
10. MARK FIRE LANES TO THE CITY OF ROCKWALL SPECIFICATION. "NO PARKING FIRE LANE" EVERY 25' WHITE 4" LETTERS ON A 6' RED STRIPED BACKGROUND.
11. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
12. BARRIER FREE RAMPS (BFR) IN PUBLIC R.O.W. SHALL BE PER CITY SPECIFICATIONS.
13. ALL OUTDOOR LIGHTING MUST BE ORIENTED SO THAT LIGHTING LEVELS AT ALL PROPERTY LINES ARE 1FOT-CANDLE OR LESS.

PAVING LEGEND (PROPOSED)

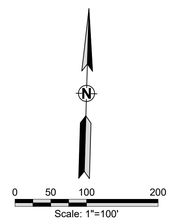
- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- PAINTED TRAFFIC DIRECTIONAL ARROW
- PROPERTY LINE
- 10' MASONRY SCREENING WALL
- (PRIVATE) 5" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 6" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 24" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- PLANTING AREAS. RE: LANDSCAPE

PAVING LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE

SITE DATA SUMMARY TABLE

EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F. = 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0'x18.0'	203 SPACES
9.0'x20.0'	159 SPACES
15.0'x30.0'	20 SPACES
TOTAL PARKING PROVIDED	382 SPACES



APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO.

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

○ ISSUES

△ REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752576193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

PRELIMINARY–FOR REVIEW ONLY
These documents are for Design Review and not intended for Construction, Bidding, or Permit Purposes. They were prepared by, or under the supervision of Cheralyn Armijo, P.E. 84568
Date: March 25, 2022

ROCKWALL NINTH GRADE CENTER

Rockwall, TX 75087

OVERALL SITE PLAN

JOB 20018.0000
DATE 5/3/21
SHEET

C05.00

NOTE: THE CITY OF ROCKWALL CONSTRUCTION STANDARDS APPLY, WHETHER INDICATED ON THESE PLANS OR NOT

R:\ROCKISD\NEW HIGH SCHOOL #4 – CAMERON\2022 9th GRADE CENTER\BID SET\ROCKWALL HS NINTH GRADE CENTER–ENG.dwg

TRAFFIC IMPACT ANALYSIS
Rockwall ISD North Ninth Grade Center
Rockwall, Texas

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INTRODUCTION

The services of **Pacheco Koch** (PK) were retained by **Glenn Engineering Corp.** (the "Owner") to prepare a Traffic Impact Analysis for a proposed public school located at the southwest corner of FM 1141 and N Country Lane in Rockwall, Texas. The Project is referred to herein as Rockwall ISD North Ninth Grade Center. A proposed site plan for the Project, prepared by Corgan Associates, Inc., and a site location map (**Exhibit *1***) are provided following the EXECUTIVE SUMMARY section of this report.

In order to facilitate development of the Project, Glenn Engineering Corp. (the "Applicant") has made a request to the City of Rockwall (the "Approving Agency") for site plan approval. As part of application process for this request, submittal of a TIA commissioned by the Applicant must be submitted to the Approving Agency for review.

This TIA was prepared by traffic engineers at Pacheco Koch (the "Engineer") in accordance with industry and local standards. Pacheco Koch is a licensed engineering firm, based in Texas, that provides professional engineering and related services.

Purpose

A Traffic Impact Analysis (TIA) is an engineering study used to provide information on the projected off-site impacts produced by a specific Project on the traffic operations of public traffic facilities. In some instances, those Project impacts can be sufficiently accommodated by the existing roadway network; while in other cases, Project impacts may require mitigation. Determination of mitigation requirements is subject to the standards and expectations of the Approving Agency.

Commissioning a TIA may be required by an Approving Agency when an Applicant is seeking approvals or entitlements for the Project. Using standardized analysis methodologies, the findings of the TIA are used to gage the direct impacts on the transportation system that are attributable to the Project. Under certain circumstances and within legal parameters, the Approving Agency may require the Applicant to fund the improvement(s) needed to mitigate the impacts.

A TIA should be prepared by a licensed Engineer skilled in the principles of traffic and transportation engineering and planning. The general methodologies, processes, and guidelines used in a TIA are established by industry standards—which are maintained by organizations such as the Institute of Transportation Engineers (ITE) and others—although, the project-specific parameters of the study (e.g., study locations, analysis scenarios, analytical assumptions, etc.) may be established by local ordinances or technical staff of the Approving Agency.

Generally, existing and background conditions of the transportation system are assumed to be the responsibility of the respective governing agency(-ies).

Although the explicit purpose of a TIA is not to evaluate those conditions and identify deficiencies, this information may be evident from the study's findings. The Engineer may suggest or recommend modifications to the transportation system that, in the Engineer's opinion, could improve overall traffic operations, safety, site access, circulation, etc. However, such proposals may be unrelated to the traffic impacts of the Project and are not considered to be the responsibility of the Developer. Implementation of such modifications are subject to the discretion and approval of the respective agency. In general all proposals from the Engineer should not be considered mandatory and are not intended to assign or imply funding responsibility.

A TIA is not a detailed site plan review nor a substitute for local or regional transportation planning.

Project Description

The Project will consist of a ninth-grade center with a maximum enrollment of approximately 1,000 students. The Project will be built in a single phase. Buildout of the Project is estimated to occur by 2024.

Access to the school will be provided by a total of three driveways along FM 1141 and two driveways along N Country Lane. The surrounding roads of FM 1141 (M4D), North Country Lane (M4U), Panhandle Drive (M4U – Not constructed adjacent to the site), and E Quail Run Road (M4U) are designated roads according to the City of Rockwall throughfare plan.

The undeveloped, 24-acre subject site is currently zoned AG.

Study Parameters

The study parameters used in this TIA are based upon industry standard practices and requirements of the City of Rockwall. Project-specific study parameters were reviewed with the City staff at the outset of the study.

This TIA analyzed the day-to-day traffic operations on the public roadway system at time periods that have the greatest combined volume of the background traffic and site-related traffic. Due to the predominant influence of background traffic, the weekday AM and PM peak hours of adjacent street traffic are typically analyzed.

The analysis scenarios addressed in this study include the following:

- at existing conditions ("Existing" scenario)
- at site buildout year with site-generated traffic ("Build" scenario)

  NOTE: Analyses of all future conditions scenarios utilize projected traffic volumes derived by Pacheco Koch using reasonable and customary assumptions that are based upon existing conditions where possible. ITE appropriately points out that, due to natural changes in traffic patterns that occur over time, the margin of error for projected traffic volumes increases as the length of time of the projection increases; and, any projection of hourly turning movement volumes beyond five years inherently contain significant assumptions.

Study Area

The study area for a TIA is typically defined to allow an assessment of the most relevant traffic impacts to the local area. The extent of the study area is discretionary but is generally commensurate with the scale of the proposed development. Special localized factors may also be considered. The specific locations included in the study area of this TIA are listed below and depicted in **Exhibit *1***.

STOP-Sign-Controlled Intersections:

(a) N John King Boulevard and E Quail Run Road
(b) FM 552 and Panhandle Drive
(c) Panhandle Drive and Tannerson Drive
(d) FM 552 and FM 1141
(e) FM 1141 and N Country Lane
(f) FM 1141 and E Quail Run Road

Roadway Links:

(A) N John King Boulevard, between Featherstone Drive and Emily Drive/Hays Lane
- Existing operation and cross-section: *four lanes, two-way operation, median-divided*
- City of Rockwall Thoroughfare Plan Designation: *P6D*
- Current Daily Traffic Volume: *13,679 (Tuesday, May 10, 2022)*

(B) FM 552, between Panhandle Drive and Skyview Lane
- Existing operation and cross-section: *two lanes, two-way operation, no median*
- City of Rockwall Thoroughfare Plan Designation: *TxDOT 4D*
- Current Daily Traffic Volume: *6,269 (Tuesday, May 10, 2022)*

(C) FM 1141, adjacent to the site
- Existing operation and cross-section: *four lanes, two-way operation, median-divided*
- City of Rockwall Thoroughfare Plan Designation: *M4D*
- Current Daily Traffic Volume: *2,217 (Tuesday, May 10, 2022)*

TRAFFIC IMPACT ANALYSIS

The following is a description of the analyses performed as part of this Traffic Impact Analysis.

Approach

The TIA presented in this report analyzed the operational conditions of the study area intersections for the relevant peak hours using standardized analytical methodologies, where applicable. Actual traffic volumes (with adjustments described previously) represent background traffic conditions with no site-related traffic included. Then, traffic generated by the proposed development was calculated using the industry-standard four-step approach of trip generation, mode split, trip distribution, and traffic assignment. By adding the site-generated traffic to the background traffic, the resulting site-plus-background operational conditions were re-analyzed in order to measure the "impact" created by the Project. For any scenario, where appropriate, the Engineer considered and may recommend measures to mitigate undue operational conditions. Recommendations may be unrelated to impact of the Project. However, any recommendations provided by the Engineer are for the consideration of the Approving Agency who may or may not accept the recommendations. Recommendations provided by the Engineer are not intended to assign or imply a mandate nor financial responsibility as such decisions are for the Approving Agency and Applicant to resolve.

Background Traffic Volume Data

Existing Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on Tuesday, May 10th, 2022. Traffic volumes are graphically summarized in **Appendix A**; detailed data sheets are provided in **Appendix B**.

Site-Related Traffic

Trip Generation and Mode Split

Trip generation is calculated in terms of "trip ends" – a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends). Trip generation for this Project was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation* manual (11th Edition). ITE *Trip Generation* is a compilation of actual, vehicular traffic volume generation data and statistics by land use as collected over several decades by creditable sources across the country. Using the ITE equations and rates is an accepted methodology to calculate the projected site-generated traffic volumes for many land uses (though engineering judgment is strongly advised).

The base trip generation data from ITE generally reflect average conditions for a standalone use on a typical day. However, in some cases, the Engineer may judge that other factors may be of sufficient significance to warrant adjusting the base

ITE calculations in order to more accurately reflect Project-specific conditions. For this analysis, no adjustments to the base ITE data were applied.

"Mode split" refers to the consideration of all modes of transportation. Typically, the majority of trips occur by passenger vehicles such as personal autos and ridesharing services. But, some alternative modes—such as travel by public transit, bicycle, and walking—do not generate additional vehicle trips. The default trip generation data from ITE is summarized in vehicular trip ends and incorporate "typical" mode split characteristics. However, when travel by alternative mode has the potential to be greater than normal, a reduction in the number of vehicular trip volume may be warranted. For this analysis, mode spilt in terms of bus and pedestrian reductions are assumed to be already in the ITE Trip Generation calculations.

NOTE: As comparison, a trip generation study performed by Glenn Engineering Corp dated April 13th, 2022, was conducted to determine the AM inbound trip generation for the site.

The study determined the following assumptions:

1. 1,000 students x 45% = 450 students by bus (13 buses)
2. 1,000 students x 55% = 550 students by parent
3. 1,000 students x 0% = 0 pedestrian traffic

1,000 students x 0.55 non-bus mode / 1.4 students per vehicles = 393 trip ends (cars/vans)

This calculated trip generation for the inbound AM peak hour is found to resemble the calculated ITE Trip Generation trips and therefore, ITE Trip Generation calculations were determined to be sufficient for this study.

All information from the trip generation study performed by Glenn Engineering Corp. for trip generation purposes has been provided in **Appendix C** for reference.

Table 1 provides a summary of the calculated trip ends generated by the project. Supplemental information used in the trip generation calculations is provided in **Appendix C.**

Table 1. Projected Trip Generation Summary

SCENARIO	ITE TRIP GENERATION DAILY VOLUMES	AM PEAK HOUR TRIP ENDS (ADJACENT STREET PEAK)	PM PEAK HOUR TRIP ENDS (GENERATOR STREET PEAK)
		Total (In/Out)	**Total** (In/Out)
School trips (ITE LUC 525)	1,940	**520** (354/166)	**320** (102/218)

Trip Distribution and Assignment

The distribution and assignment of site-generated trip ends to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic, trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.

Traffic for the proposed redevelopment was distributed and assigned to the study area roadway network based upon consideration of the factors listed above. Separate traffic assignments were generated for parent traffic and bus traffic. Detailed trip distribution and traffic assignment calculations and results are summarized in **Appendix C**.

Site-Generated Traffic Volumes

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 1**) by the corresponding traffic assignments (from **Appendix C**). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in **Appendix A**.

Traffic Operational Analysis —Roadway Links

Description

A roadway link is a segment of roadway between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. The capacity of the roadway link is predominantly a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Generally, roadway link capacity is less critical than intersection capacity; however, it can provide a gage of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions -- in the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location.

The North Central Texas Council of Governments (NCTCOG) – the metropolitan planning agency for the Dallas-Fort Worth region – has derived internal "hourly service volume" guidelines used for transportation modelling purposes. The NCTCOG values were based upon the principals 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 modelling purposes, they do provide a reasonable gage of theoretical capacity.

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
Residential	925	875	900	825	575	525
Rural	1,025	925	975	875	600	550

To determine the utilization of a roadway, the volume:capacty ratio can be 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 ≤ 25% is LOS *A*,
Volume:Capacity Ratio > 25% and ≤ 45% is LOS *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*

Summary of Results

For roadways adjacent to or in the vicinity of the subject site, the volume/capacity ratio was calculated for existing and site buildout conditions. A summary of the link capacity analysis is provided in **Table 2**. See specific recommendations in the *Recommendations* section of this report.

Table 2. Roadway Link Capacity Analysis Results Summary

ROADWAY/ SCENARIO	DAILY VOLUME	THEORETICAL DAILY CAPACITY	V:C RATIO/ LEVEL OF SERVICE
N John King Boulevard			
Existing Conditions	13,679	37,000	0.37 – *B*
"Build" Conditions	14,063	37,000	0.38 – *B*
FM 552			
Existing Conditions	6,269	16,500	0.38 – *B*
"Build" Conditions	7,037	17,500	0.43 – *B*
FM 1141			
Existing Conditions	2,217	37,000	0.12 – *A*
"Build" Conditions	3,273	37,000	0.18 – *A*

Traffic Operational Analysis —Roadway Intersections

Description

The level of performance of civil infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic an operational analysis of roadway intersection capacity over a 60-minute period is the most detailed type of analysis. An industry-standardized methodology for this type of analysis was developed by the Transportation Research Board and is presented in the Highway Capacity Manual (HCM). HCM uses the term "Level of Service" (or, LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS can be described as follows:

LOS *A* = free, unobstructed flow
LOS *B* = reasonably free flow
LOS *C* = stable flow
LOS *D* = approaching unstable flow
LOS *E* = unstable flow, operating at design capacity
LOS *F* = operating over design capacity

Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C, or better, is desirable, although LOS D is considered to be acceptable in urban conditions; LOS E indicates a facility or maneuver is approaching capacity, while LOS F is theoretically an over-capacity condition. On highly-utilized transportation facilities, brief periods of LOS E or F conditions are not uncommon for during peak periods. In some cases measures to increase capacity, either through operational changes and/or physical improvements, can be identified to improve efficiency and sometimes raise Level of Service.

For traffic-signal-controlled ("signalized") intersections and STOP-controlled ("unsignalized") intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections the average delay per vehicle can be effectively calculated for the entire intersection; however, for unsignalized intersections the average delay per vehicle is calculated only by approach or by individual traffic maneuvers that must stop or yield right-of-way.

NOTE: The HCM unsignalized intersection analysis methodology was developed and calibrated for low-to-moderate volume intersections. When applied to intersections with one or more high-volume or high-capacity approaches, the analyses often reflect poor results (i.e., low Level of Service). However, the actual delay/operational conditions are typical of similar locations and do not necessarily represent unique conditions. Low-performing, high-volume, unsignalized intersections cannot be analytically mitigated unless a traffic signal is installed. (Traffic signal installation is subject to a detailed analysis of established criteria AND approval of the responsible agency. Neither Level of Service nor vehicle delay is a warrant for traffic signal installation.)

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

	Signalized Intersection (Average Delay per Vehicle)	**Unsignalized Intersection (Average Delay per Vehicle)**
LOS *A*	≤ 10	≤ 10
LOS *B*	> 10 - ≤ 20	> 10 - ≤ 15
LOS *C*	> 20 - ≤ 35	> 15 - ≤ 25
LOS *D*	> 35 - ≤ 55	> 25 - ≤ 35
LOS *E*	> 55 - ≤ 80	> 35 - ≤ 50
LOS *F*	> 80	> 50

Analysis Traffic Volumes

Determination of the traffic impact associated with the Project is measured by comparing the incremental change in operational conditions during peak periods with and without site-related traffic. **Appendix A** provides exhibits summarizing the following:

- Existing traffic volumes during study peak hours
- Projected Site-Generated traffic volumes during study peak hours
- Projected "Build" traffic volumes at the Site Buildout Year during study peak hours

A summary of the existing intersection/roadway geometry and traffic control devices is also graphically summarized in **Appendix A**.

Summary of Results

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

NOTE: Traffic signal operational parameters used in this analysis were based upon actual, existing traffic signal operational characteristics observed in the field at the time of traffic data collection.

See specific recommendations in the *SUMMARY OF FINDINGS AND RECOMMENDATIONS* section of this report.

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

INTERSECTION	TRAFFIC MANEUVER	EXISTING CONDITIONS		BUILD CONDITIONS	
		AM	PM	AM	PM
Panhandle Drive @ Tannerson Drive	EB	A (7.1)	A (6.8)	A (7.1)	A (6.9)
	WB	A (7.2)	A (7.0)	A (7.3)	A (7.1)
	NB	A (6.9)	A (7.3)	A (7.1)	A (7.3)
	SB	A (7.6)	A (7.1)	A (7.6)	A (7.1)
FM 1141 @ FM 552	WB	A (1.4)	A (0.7)	A (2.7)	A (1.2)
	NB	C (15.7)	B (11.9)	D (33.2)	C (16.1)
FM 1141 @ N Country Lane	EB	A (9.3)	A (9.1)	B (12.9)	B (11.1)
	WB	A (9.5)	A (9.5)	B (10.1)	A (9.8)
	NB	A (0.5)	A (0.6)	A (0.5)	A (0.6)
	SB	A (0.4)	A (1.1)	A (0.2)	A (0.5)
FM 1141 @ E Quail Run Road	EB	B (10.1)	A (9.1)	B (11.5)	A (10.0)
	NB	A (0.7)	A (0.3)	A (0.4)	A (0.3)
N John King Boulevard @ E Quail Run Road	WB	C (23.2)	C (19.5)	C (22.9)	B (14.9)
	SB	A (0.1)	A (0.2)	A (1.0)	A (0.5)
FM 552 @ Panhandle Drive	WB	A (0.2)	A (0.2)	A (0.1)	A (0.2)
	NB	C (15.4)	B (12.7)	C (21.3)	B (14.7)
N Country Lane @ Site Driveway 1 (Inbound Only)		-	-	-	-
		-	-	-	-
N Country Lane @ Site Driveway 2	NB	-	-	A (9.1)	A (9.0)
FM 1141 @ Site Driveway 3	NB	-	-	A (5.4)	A (2.5)
FM 1141 @ Site Driveway 4	EB	-	-	B (10.2)	A (9.3)
FM 1141 @ Site Driveway 5	EB	-	-	A (9.8)	A (9.3)
	NB	-	-	A (0.2)	A (0.0)

KEY:

A, B, C, D, E, F = Level-of-Service
NB-, SB-, EB-, WB- = Intersection Approach
AM = AM Peak Hour of Adjacent Street
(##.#) = Average Seconds of Delay Per Vehicle
-L, -T, -R = Left, Through, Right Turning Movement
PM = PM Peak Hour of Generator

SUMMARY OF FINDINGS AND RECOMMENDATIONS

NOTE: Recommendations presented in this report reflect the opinion of Pacheco Koch based solely upon technical analysis and professional judgment but are not intended to infer mandates or funding responsibility. Any proposed improvements in the public right-of-way are subject to approval of the responsible agency(-ies). Should the approving agency determine that any off-site improvements are required for approval of the Project, legal precedents apply with regard to jurisdiction and funding allocation.

The following findings and, if applicable, recommendations were based upon an analysis of the anticipated traffic impact generated by the proposed development scenario outlined in the Project Description section of this report.

FINDING: The intersection of FM 1141 and FM 552 currently operates efficiently and at "acceptable" Levels of Service during peak traffic periods. However, with the addition of projected school traffic, the calculated average delays for the northbound left-turning maneuvers at the intersection are projected to degrade to "unacceptable" LOS. This condition is common for similar unsignalized intersections on major roadways where a traffic signal being the only mitigation measure to improve the condition. However, with the low projected traffic volumes at the driveway, a traffic signal would not be warranted.

- RECOMMENDATION: As part of the development, the following improvements will be constructed and are assumed to be implemented in the "Build" Scenario of the study:

3. Right-turn deceleration lanes at all inbound driveways along FM 1141 and E Quail Run Road.

4. Construction and widening of FM 1141 along the frontage of the site to a three-lane cross-section to include a center two-way left-turn lane for separation of inbound left-turns entering the campus.

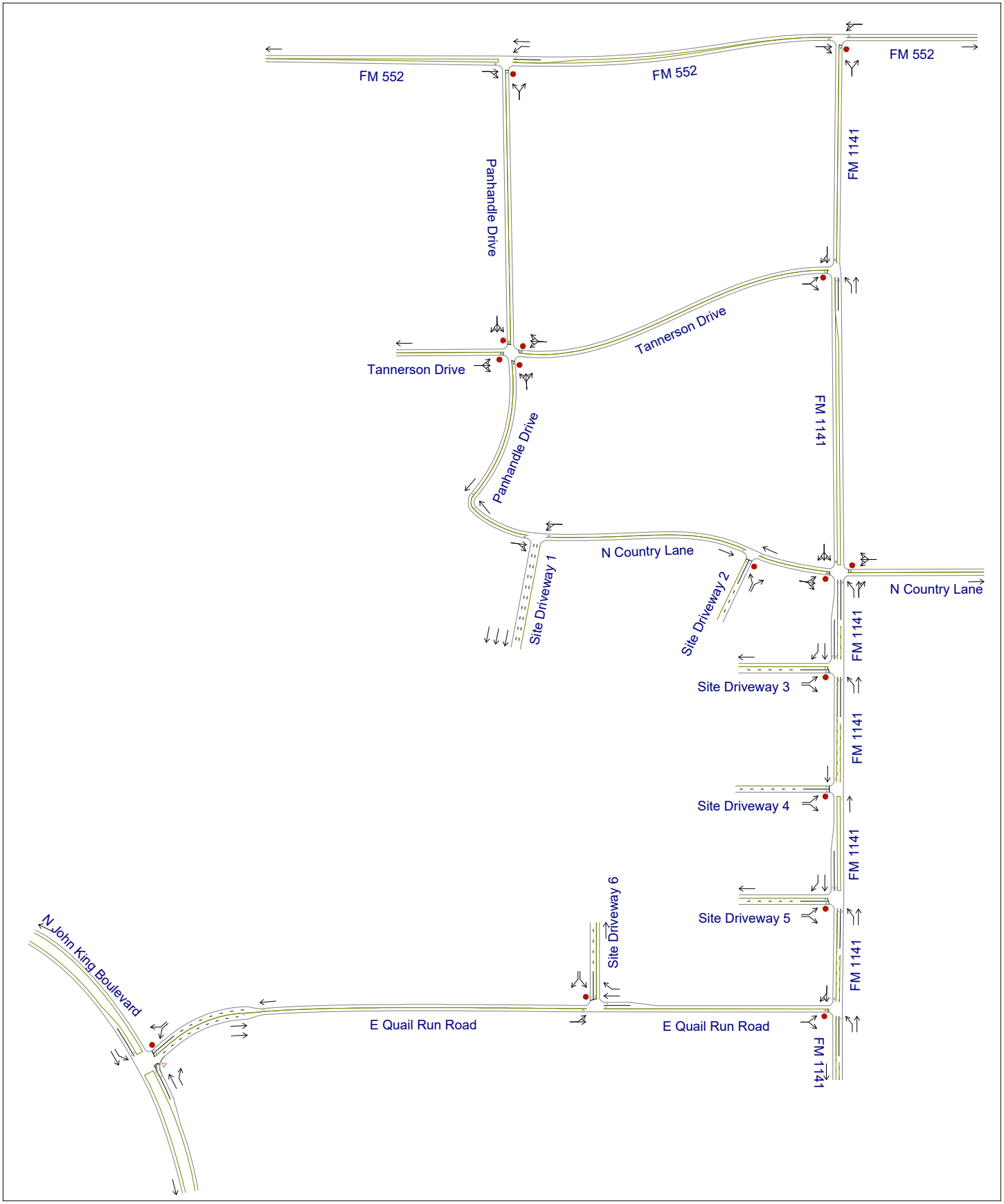
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Appendix A. Traffic Volume Exhibits

Appendix A1 - Roadway Geometry

North ^

Not to Scale



5359-22.340

LHC

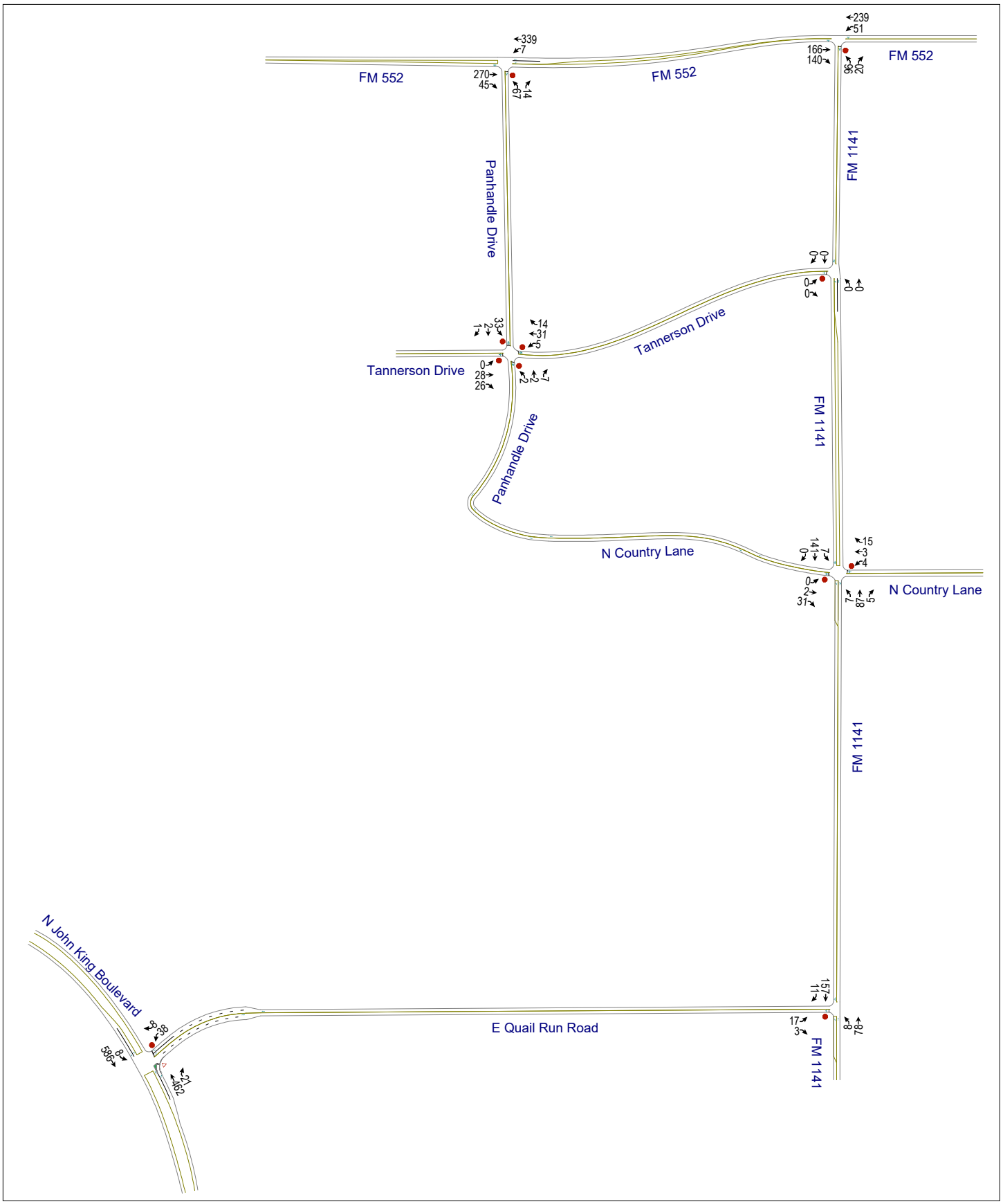
04/18/2022

Pacheco Koch

Appendix A2 - Existing AM

North ^

Not to Scale



5359-22.340

LHC

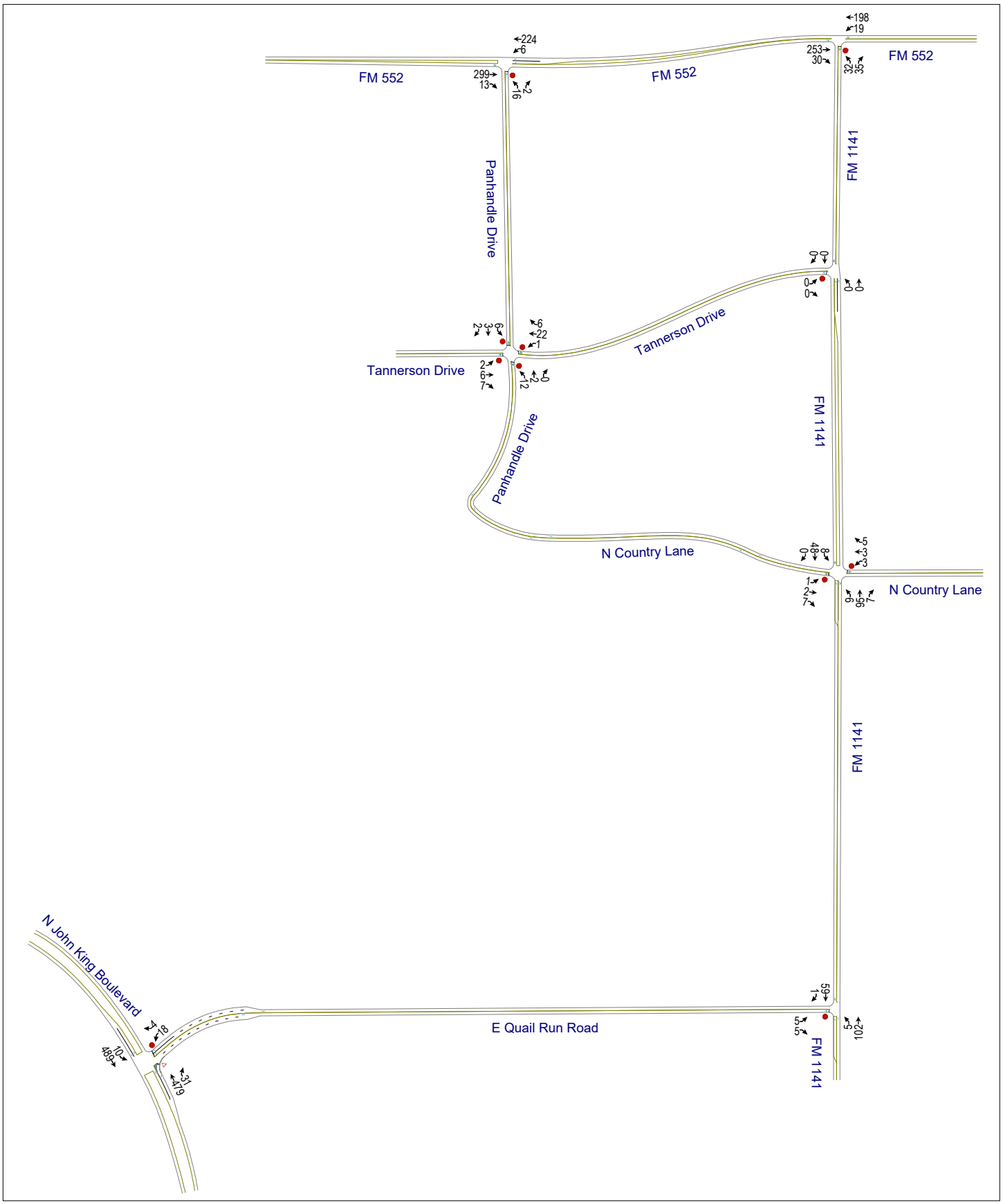
04/18/2022

Pacheco Koch

Appendix A3 - Existing PM

North ^

Not to Scale



5359-22.340

LHC

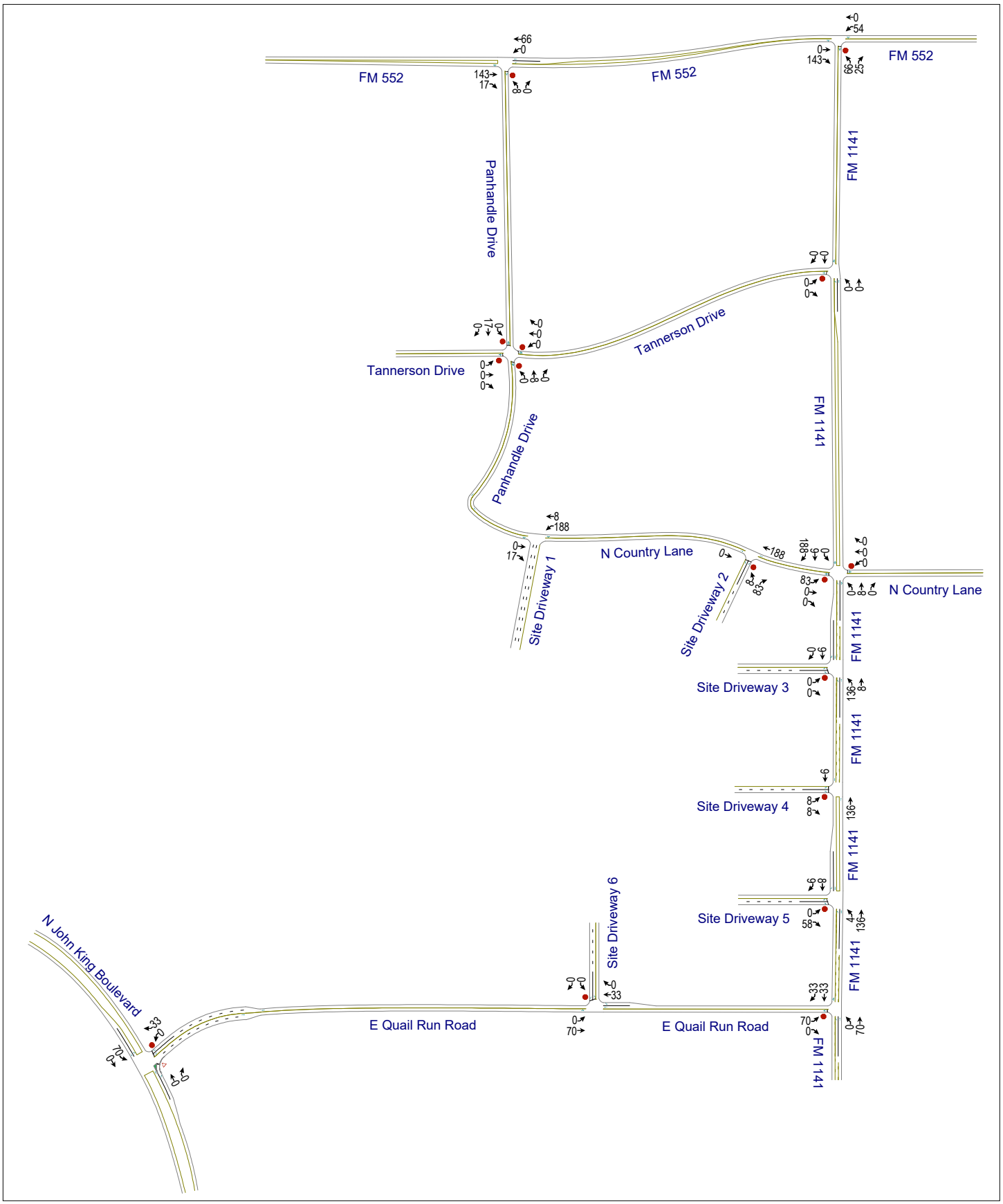
04/18/2022

Pacheco Koch

Appendix A4 - Site Generated AM

North ^

Not to Scale



5359-22.340

LHC

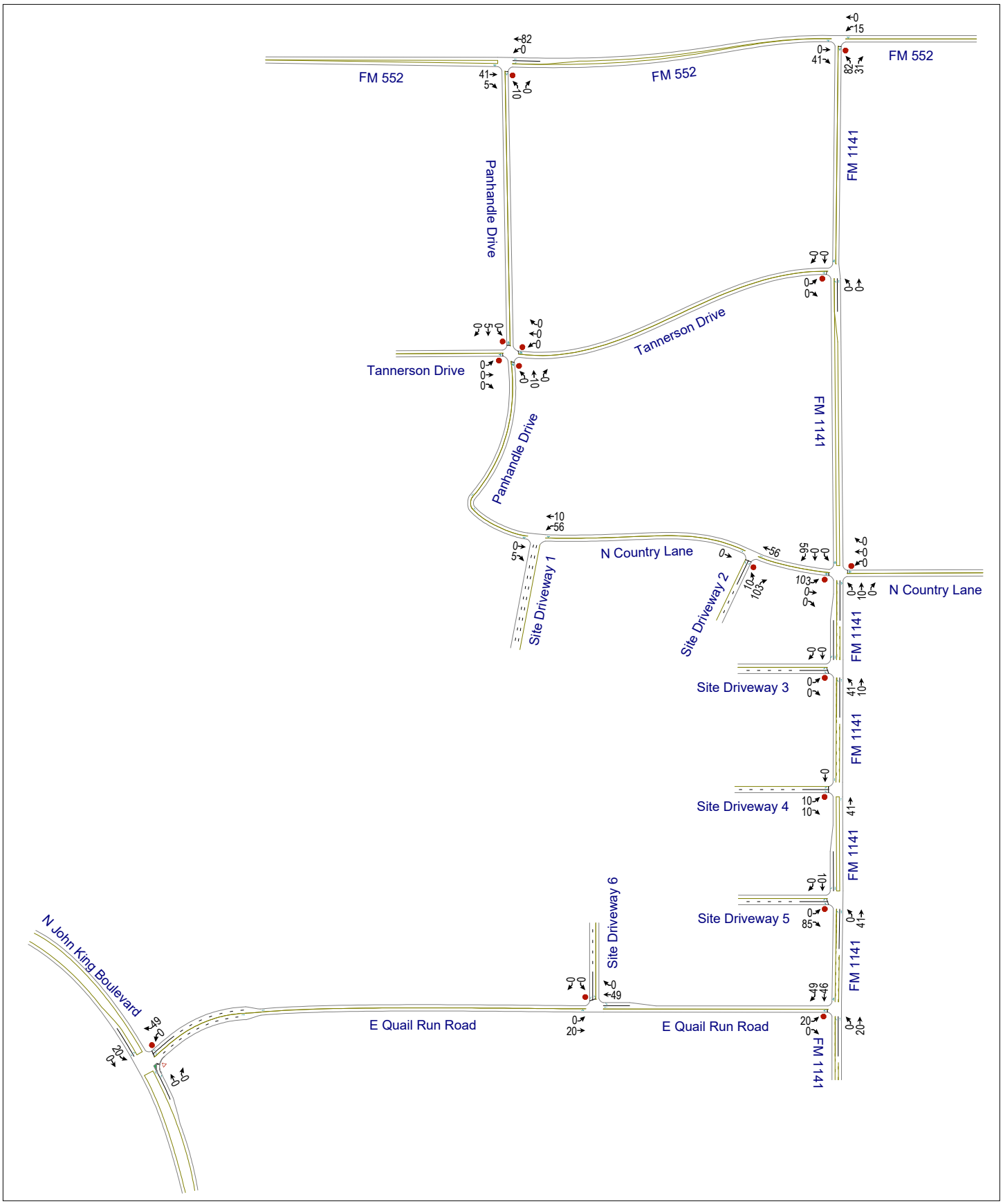
04/18/2022

Pacheco Koch

Appendix A5 - Site Generated PM

North ^

Not to Scale



5359-22.340

LHC

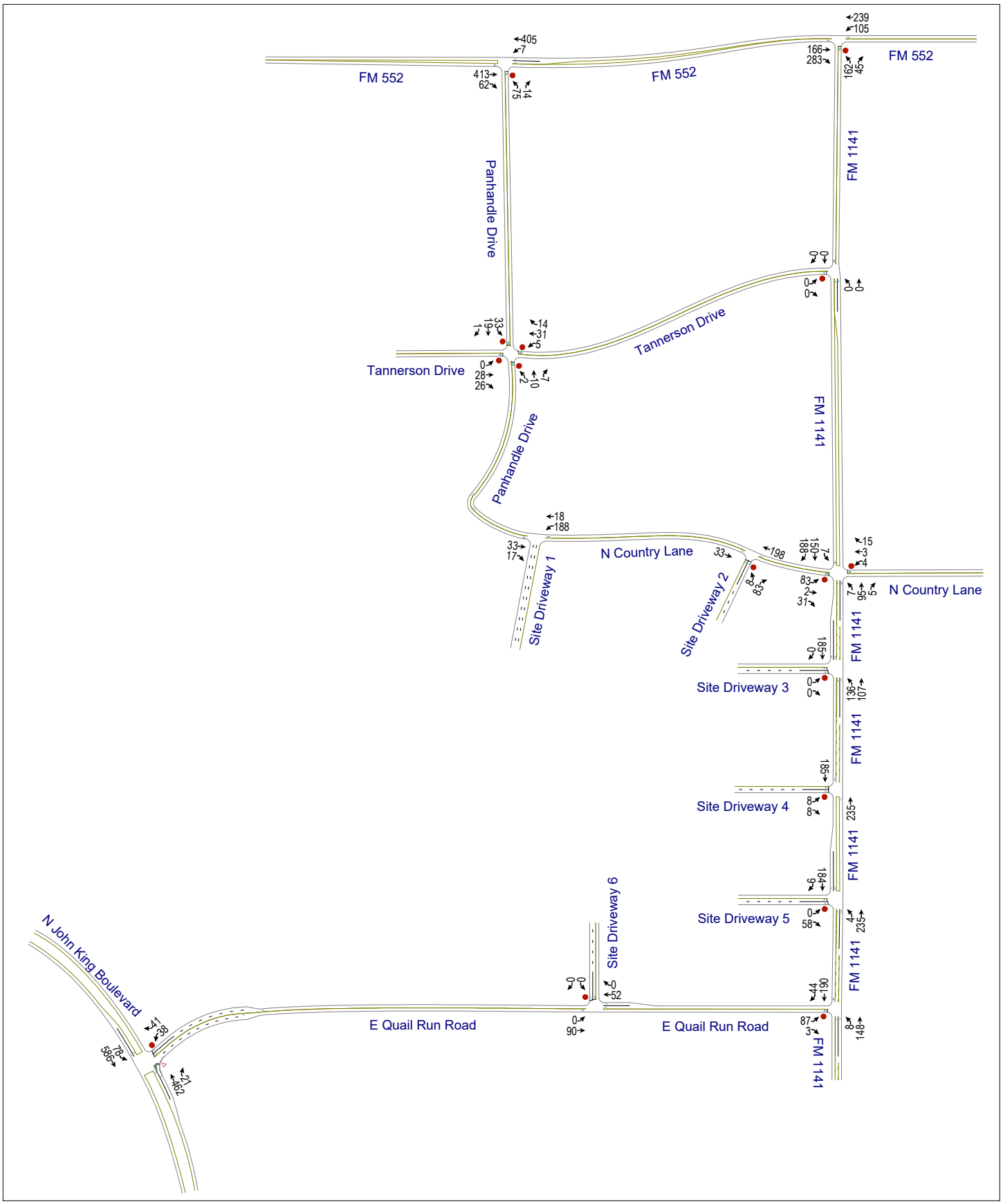
04/18/2022

Pacheco Koch

Appendix A6 - Build AM

North ^

Not to Scale



5359-22.340

LHC

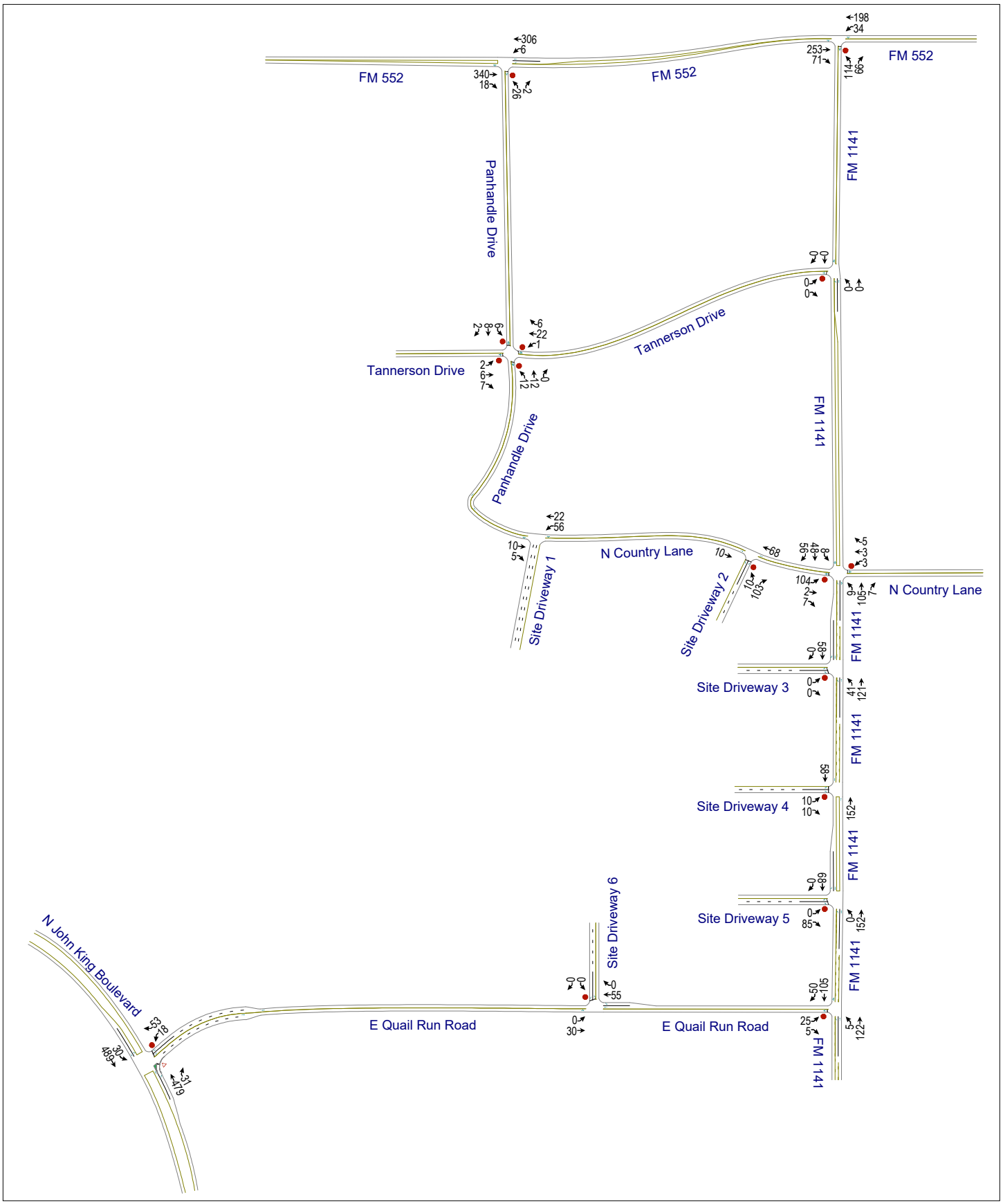
04/18/2022

Pacheco Koch

Appendix A7 - Build PM

North ^

Not to Scale



5359-22.340

LHC

04/18/2022

Pacheco Koch

Appendix B. Detailed Traffic Volume Data

Intersection Turning Movement Counts

				NORTH LEG Southbound Approach on FM 1141						EAST LEG Westbound Approach on FM 552						SOUTH LEG Northbound Approach on FM 1141						WEST LEG Eastbound Approach on FM 552					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	*Rockwall*	*7:00 AM*	*7:15 AM*		*0*	*0*	*0*				*8*	*70*	*0*				*4*	*0*	*1*				*0*	*48*	*13*		
State:	*Texas*	***7:15 AM***	***7:30 AM***		***0***	***0***	***0***				***15***	***69***	***0***				***19***	***0***	***7***				***0***	***61***	***30***		
Day:	*Tuesday*	***7:30 AM***	***7:45 AM***		***0***	***0***	***0***				***17***	***69***	***0***				***36***	***0***	***4***				***0***	***45***	***59***		
Date:	*10-May*	***7:45 AM***	***8:00 AM***		***0***	***0***	***0***				***14***	***54***	***0***				***32***	***0***	***6***				***0***	***32***	***41***		
Year:	*2022*	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***5***	***47***	***0***				***9***	***0***	***3***				***0***	***28***	***10***		
Data Collector:	*Camera*	8:15 AM	8:30 AM		0	0	0				3	69	0				6	0	2				0	38	9		
Data Source:	*CJ Hensch & Associates, Inc.*	8:30 AM	8:45 AM		0	0	0				8	37	0				2	0	5				0	32	4		
Traffic Control:	*Minor Approach Stop*	8:45 AM	9:00 AM		0	0	0				4	44	0				7	0	4				0	32	10		
Observations:																											
		3:00 PM	3:15 PM		0	0	0				9	19	0				26	0	7				0	49	8		
		3:15 PM	3:30 PM		0	0	0				5	38	0				9	0	7				0	32	1		
		3:30 PM	3:45 PM		0	0	0				6	32	0				11	0	10				0	40	5		
		3:45 PM	4:00 PM		0	0	0				6	34	0				4	0	4				0	63	7		
		4:00 PM	***4:15 PM***		***0***	***0***	***0***				***6***	***49***	***0***				***3***	***0***	***6***				***0***	***52***	***13***		
		4:15 PM	***4:30 PM***		***0***	***0***	***0***				***1***	***49***	***0***				***13***	***0***	***10***				***0***	***56***	***7***		
		4:30 PM	***4:45 PM***		***0***	***0***	***0***				***7***	***47***	***0***				***11***	***0***	***8***				***0***	***70***	***4***		
		4:45 PM	***5:00 PM***		***0***	***0***	***0***				***5***	***53***	***0***				***5***	***0***	***11***				***0***	***75***	***6***		
		5:00 PM	5:15 PM		0	0	0				5	53	0				7	0	14				0	58	6		
		5:15 PM	5:30 PM		0	0	0				9	54	0				7	0	15				0	81	8		
		5:30 PM	5:45 PM		0	0	0				7	39	0				7	0	10				0	74	7		
		5:45 PM	6:00 PM		0	0	0				4	54	0				6	0	12				0	63	6		
AM Peak Hour	*Intersection PHF:*	*0.82*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*54*	*262*	*0*			*0*	*91*	*0*	*18*			*0*	*0*	*186*	*143*		
	Peak Hour	*7:00 AM - 8:00 AM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.79*	*0.94*	*0.00*				*0.63*	*0.00*	*0.64*				*0.00*	*0.76*	*0.61*		
	Study Area PHF:	**0.77**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**51**	**239**	**0**			**0**	**96**	**0**	**20**			**0**	**0**	**166**	**140**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.75**	**0.87**	**0.00**				**0.67**	**0.00**	**0.71**				**0.00**	**0.68**	**0.59**		
PM Peak Hour	*Intersection PHF:*	*0.89*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*26*	*207*	*0*			*0*	*30*	*0*	*48*			*0*	*0*	*284*	*24*		
	Peak Hour	*4:30 PM - 5:30 PM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.72*	*0.96*	*0.00*				*0.68*	*0.00*	*0.80*				*0.00*	*0.88*	*0.75*		
	Study Area PHF:	**0.91**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**19**	**198**	**0**			**0**	**32**	**0**	**35**			**0**	**0**	**253**	**30**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.68**	**0.93**	**0.00**				**0.62**	**0.00**	**0.80**				**0.00**	**0.84**	**0.58**		

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on FM 1141						Westbound Approach on N COUNTRY LANE						Northbound Approach on FM 1141						Eastbound Approach on N COUNTRY LANE					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		2	14	0				0	0	0				0	9	1				0	0	5		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***1***	***19***	***0***				***0***	***0***	***3***				***0***	***21***	***2***				***0***	***0***	***7***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***1***	***55***	***0***				***0***	***2***	***6***				***4***	***32***	***1***				***0***	***0***	***6***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***4***	***51***	***0***				***3***	***1***	***6***				***2***	***22***	***2***				***0***	***0***	***11***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***1***	***16***	***0***				***1***	***0***	***0***				***1***	***12***	***0***				***0***	***2***	***7***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	17	0				1	1	1				1	9	0				0	0	6		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		2	19	0				1	0	0				1	14	0				1	0	3		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		1	22	1				3	0	0				0	16	0				0	0	5		
Observations:																											
		3:00 PM	3:15 PM		4	42	0				0	0	2				1	14	2				0	0	2		
		3:15 PM	3:30 PM		0	17	0				0	0	0				2	22	3				0	0	4		
		3:30 PM	3:45 PM		0	19	0				3	0	2				0	24	0				0	0	0		
		3:45 PM	4:00 PM		2	24	0				1	0	0				0	13	2				0	0	2		
		4:00 PM	***4:15 PM***		***2***	***18***	***0***				***1***	***0***	***1***				***3***	***14***	***5***				***0***	***1***	***0***		
		4:15 PM	***4:30 PM***		***4***	***8***	***0***				***2***	***1***	***1***				***3***	***30***	***0***				***1***	***0***	***2***		
		4:30 PM	***4:45 PM***		***1***	***12***	***0***				***0***	***2***	***2***				***1***	***22***	***2***				***0***	***1***	***2***		
		4:45 PM	***5:00 PM***		***1***	***10***	***0***				***0***	***0***	***1***				***2***	***29***	***0***				***0***	***0***	***3***		
		5:00 PM	5:15 PM		0	15	0				2	1	0				0	24	2				0	2	1		
		5:15 PM	5:30 PM		0	21	0				0	0	1				1	26	1				0	0	1		
		5:30 PM	5:45 PM		0	21	0				1	1	4				0	31	3				0	0	3		
		5:45 PM	6:00 PM		0	17	0				2	0	1				2	25	1				0	0	2		
AM Peak Hour	*Intersection PHF:*	*0.71*	*Intersection PHV:*	*0*	*7*	*141*	*0*			*0*	*4*	*3*	*15*			*0*	*7*	*87*	*5*			*0*	*0*	*2*	*31*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.44*	*0.64*	*0.00*				*0.33*	*0.38*	*0.63*				*0.44*	*0.68*	*0.63*				*0.00*	*0.25*	*0.70*		
	Study Area PHF:	**0.71**	**Study Area PHV:**	**0**	**7**	**141**	**0**			**0**	**4**	**3**	**15**			**0**	**7**	**87**	**5**			**0**	**0**	**2**	**31**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.44**	**0.64**	**0.00**				**0.33**	**0.38**	**0.63**				**0.44**	**0.68**	**0.63**				**0.00**	**0.25**	**0.70**		
PM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*0*	*74*	*0*			*0*	*5*	*2*	*6*			*0*	*3*	*106*	*7*			*0*	*0*	*2*	*7*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.00*	*0.88*	*0.00*				*0.63*	*0.50*	*0.38*				*0.38*	*0.85*	*0.58*				*0.00*	*0.25*	*0.58*		
	Study Area PHF:	**0.90**	**Study Area PHV:**	**0**	**8**	**48**	**0**			**0**	**3**	**3**	**5**			**0**	**9**	**95**	**7**			**0**	**1**	**2**	**7**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.67**	**0.00**				**0.38**	**0.38**	**0.63**				**0.75**	**0.79**	**0.35**				**0.25**	**0.50**	**0.58**		

Pacheco Koch

PK# 5359-22.340

FM 1141 at N COUNTRY LANE

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on FM 1141						Westbound Approach on E QUAIL RUN ROAD						Northbound Approach on FM 1141						Eastbound Approach on E QUAIL RUN ROAD					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		0	17	0				0	0	0				0	10	0				4	0	1		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***0***	***30***	***0***				***0***	***0***	***0***				***2***	***21***	***0***				***3***	***0***	***0***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***57***	***2***				***0***	***0***	***0***				***3***	***32***	***0***				***8***	***0***	***2***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***0***	***46***	***9***				***0***	***0***	***0***				***2***	***11***	***0***				***4***	***0***	***1***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***24***	***0***				***0***	***0***	***0***				***1***	***14***	***0***				***2***	***0***	***0***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	19	0				0	0	0				2	9	0				0	0	2		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	22	1				0	0	0				2	10	0				2	0	2		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		0	28	1				0	0	0				1	14	0				4	0	0		
Observations:																											
		3:00 PM	3:15 PM		0	30	4				0	0	0				2	16	0				2	0	2		
		3:15 PM	3:30 PM		0	18	0				0	0	0				0	21	0				2	0	4		
		3:30 PM	3:45 PM		0	27	1				0	0	0				0	24	0				3	0	1		
		3:45 PM	4:00 PM		0	21	1				0	0	0				3	12	0				3	0	2		
		4:00 PM	***4:15 PM***		***0***	***15***	***0***				***0***	***0***	***0***				***2***	***22***	***0***				***1***	***0***	***1***		
		4:15 PM	***4:30 PM***		***0***	***13***	***1***				***0***	***0***	***0***				***1***	***30***	***0***				***2***	***0***	***2***		
		4:30 PM	***4:45 PM***		***0***	***16***	***0***				***0***	***0***	***0***				***1***	***27***	***0***				***1***	***0***	***2***		
		4:45 PM	***5:00 PM***		***0***	***15***	***0***				***0***	***0***	***0***				***1***	***23***	***0***				***1***	***0***	***0***		
		5:00 PM	5:15 PM		0	14	0				0	0	0				4	27	0				7	0	2		
		5:15 PM	5:30 PM		0	21	2				0	0	0				2	24	0				5	0	0		
		5:30 PM	5:45 PM		0	18	1				0	0	0				0	25	0				4	0	1		
		5:45 PM	6:00 PM		0	17	0				0	0	0				1	23	0				5	0	3		
AM Peak Hour	*Intersection PHF:*	*0.66*	*Intersection PHV:*	*0*	*0*	*157*	*11*			*0*	*0*	*0*	*0*			*0*	*8*	*78*	*0*			*0*	*17*	*0*	*3*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.00*	*0.69*	*0.31*				*0.00*	*0.00*	*0.00*				*0.67*	*0.61*	*0.00*				*0.53*	*0.00*	*0.38*		
	Study Area PHF:	**0.66**	**Study Area PHV:**	**0**	**0**	**157**	**11**			**0**	**0**	**0**	**0**			**0**	**8**	**78**	**0**			**0**	**17**	**0**	**3**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.69**	**0.31**				**0.00**	**0.00**	**0.00**				**0.67**	**0.61**	**0.00**				**0.53**	**0.00**	**0.38**		
PM Peak Hour	*Intersection PHF:*	*0.95*	*Intersection PHV:*	*0*	*0*	*70*	*3*			*0*	*0*	*0*	*0*			*0*	*7*	*99*	*0*			*0*	*21*	*0*	*6*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.00*	*0.83*	*0.38*				*0.00*	*0.00*	*0.00*				*0.44*	*0.92*	*0.00*				*0.75*	*0.00*	*0.50*		
	Study Area PHF:	**0.90**	**Study Area PHV:**	**0**	**0**	**59**	**1**			**0**	**0**	**0**	**0**			**0**	**5**	**102**	**0**			**0**	**5**	**0**	**5**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.92**	**0.25**				**0.00**	**0.00**	**0.00**				**0.63**	**0.85**	**0.00**				**0.63**	**0.00**	**0.63**		

Pacheco Koch

PK# 5359-22.340

FM 1141 at E QUAIL RUN ROAD

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on N JOHN KING BOULEVARD						Westbound Approach on E QUAIL RUN ROAD (NORTH LEG)						Northbound Approach on N JOHN KING BOULEVARD						Eastbound Approach on E QUAIL RUN ROAD (NORTH LEG)					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		1	89	0				2	0	1				0	75	5				0	1	0		
State:	***Texas***	**7:15 AM**	**7:30 AM**		**2**	**100**	**0**				**10**	**0**	**2**				**0**	**98**	**2**				**0**	**0**	**0**		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***135***	***0***				***11***	***0***	***0***				***0***	***113***	***6***				***0***	***0***	***0***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***4***	***191***	***1***				***11***	***0***	***3***				***0***	***134***	***6***				***0***	***0***	***0***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***2***	***160***	***0***				***6***	***0***	***3***				***0***	***117***	***7***				***0***	***0***	***0***		
Data Collector:	***Camera***	*8:15 AM*	*8:30 AM*		*0*	*133*	*1*				*8*	*0*	*0*				*0*	*106*	*5*				*0*	*0*	*2*		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		4	130	0				5	0	1				0	92	8				0	0	0		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		2	100	0				5	0	1				0	71	5				0	0	0		
Observations:																											
		3:00 PM	3:15 PM		3	135	0				7	0	2				0	71	12				0	0	0		
		3:15 PM	3:30 PM		4	96	1				2	0	1				0	92	11				1	1	1		
		3:30 PM	3:45 PM		2	103	1				10	0	1				1	103	4				0	1	1		
		3:45 PM	4:00 PM		9	157	0				6	0	2				0	116	5				0	0	0		
		4:00 PM	***4:15 PM***		***3***	***132***	***0***				***4***	***0***	***2***				***0***	***124***	***8***				***0***	***0***	***0***		
		4:15 PM	***4:30 PM***		***5***	***135***	***0***				***5***	***0***	***2***				***0***	***113***	***12***				***0***	***0***	***0***		
		4:30 PM	***4:45 PM***		***1***	***121***	***0***				***5***	***0***	***0***				***0***	***130***	***7***				***0***	***0***	***0***		
		4:45 PM	***5:00 PM***		***1***	***101***	***0***				***4***	***0***	***0***				***0***	***112***	***4***				***0***	***0***	***0***		
		5:00 PM	5:15 PM		2	121	0				4	0	0				0	131	9				0	0	0		
		5:15 PM	5:30 PM		5	110	0				7	0	3				0	143	7				0	0	0		
		5:30 PM	5:45 PM		1	123	0				8	0	1				0	97	10				0	0	0		
		5:45 PM	6:00 PM		3	134	0				6	0	1				0	116	8				0	0	0		
AM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*6*	*619*	*2*			*0*	*36*	*0*	*6*			*0*	*0*	*470*	*24*			*0*	*0*	*0*	*2*		
	Peak Hour	*7:30 AM - 8:30 AM*	*PHF:*		*0.38*	*0.81*	*0.50*				*0.82*	*0.00*	*0.50*				*0.00*	*0.88*	*0.86*				*0.00*	*0.00*	*0.25*		
	Study Area PHF:	**0.80**	**Study Area PHV:**	**0**	**8**	**586**	**1**			**0**	**38**	**0**	**8**			**0**	**0**	**462**	**21**			**0**	**0**	**0**	**0**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.50**	**0.77**	**0.25**				**0.86**	**0.00**	**0.67**				**0.00**	**0.86**	**0.75**				**0.00**	**0.00**	**0.00**		
PM Peak Hour	*Intersection PHF:*	*0.95*	*Intersection PHV:*	*0*	*11*	*488*	*0*			*0*	*25*	*0*	*5*			*0*	*0*	*487*	*34*			*0*	*0*	*0*	*0*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.55*	*0.91*	*0.00*				*0.78*	*0.00*	*0.42*				*0.00*	*0.85*	*0.85*				*0.00*	*0.00*	*0.00*		
	Study Area PHF:	**0.94**	**Study Area PHV:**	**0**	**10**	**489**	**0**			**0**	**18**	**0**	**4**			**0**	**0**	**479**	**31**			**0**	**0**	**0**	**0**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.91**	**0.00**				**0.90**	**0.00**	**0.50**				**0.00**	**0.92**	**0.65**				**0.00**	**0.00**	**0.00**		

Pacheco Koch

PK# 5359-22.340

N JOHN KING BOULEVARD at E QUAIL RUN ROAD (NORTH LEG)

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on PANHANDLE DRIVE						Westbound Approach on FM 552						Northbound Approach on PANHANDLE DRIVE						Eastbound Approach on FM 552					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	*7:00 AM*	*7:15 AM*		*0*	*0*	*0*				*1*	*79*	*0*				*6*	*0*	*0*				*0*	*63*	*2*		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***0***	***0***	***0***				***1***	***85***	***0***				***6***	***0***	***4***				***0***	***78***	***14***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***0***	***0***				***3***	***106***	***0***				***31***	***0***	***7***				***0***	***97***	***20***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***0***	***0***	***0***				***3***	***89***	***0***				***23***	***0***	***3***				***0***	***61***	***9***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***0***	***59***	***0***				***7***	***0***	***0***				***0***	***34***	***2***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	0	0				0	73	0				3	0	1				0	45	3		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	0	0				0	42	0				3	0	1				0	39	4		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		0	0	0				0	52	0				3	0	0				0	38	3		
Observations:																											
		3:00 PM	3:15 PM		0	0	0				1	46	0				27	0	8				0	56	2		
		3:15 PM	3:30 PM		0	0	0				0	48	0				5	0	0				0	43	2		
		3:30 PM	3:45 PM		0	0	0				0	42	0				4	0	1				0	45	3		
		3:45 PM	4:00 PM		0	0	0				0	40	0				8	0	1				0	70	5		
		4:00 PM	***4:15 PM***		***0***	***0***	***0***				***2***	***51***	***0***				***1***	***0***	***1***				***0***	***61***	***1***		
		4:15 PM	***4:30 PM***		***0***	***0***	***0***				***1***	***61***	***0***				***6***	***0***	***0***				***0***	***73***	***5***		
		4:30 PM	***4:45 PM***		***0***	***0***	***0***				***1***	***52***	***0***				***5***	***0***	***0***				***0***	***78***	***4***		
		4:45 PM	***5:00 PM***		***0***	***0***	***0***				***2***	***60***	***0***				***4***	***0***	***1***				***0***	***87***	***3***		
		5:00 PM	5:15 PM		0	0	0				1	56	0				2	0	1				0	68	5		
		5:15 PM	5:30 PM		0	0	0				0	58	0				5	0	0				0	85	7		
		5:30 PM	5:45 PM		0	0	0				1	42	0				6	0	0				0	85	1		
		5:45 PM	6:00 PM		0	0	0				1	61	0				2	0	2				0	67	5		
AM Peak Hour	*Intersection PHF:*	*0.75*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*8*	*359*	*0*			*0*	*66*	*0*	*14*			*0*	*0*	*299*	*45*		
	Peak Hour	*7:00 AM - 8:00 AM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.67*	*0.85*	*0.00*				*0.53*	*0.00*	*0.50*				*0.00*	*0.77*	*0.56*		
	Study Area PHF:	**0.70**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**7**	**339**	**0**			**0**	**67**	**0**	**14**			**0**	**0**	**270**	**45**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.58**	**0.80**	**0.00**				**0.54**	**0.00**	**0.50**				**0.00**	**0.70**	**0.56**		
PM Peak Hour	*Intersection PHF:*	*0.93*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*4*	*226*	*0*			*0*	*16*	*0*	*2*			*0*	*0*	*318*	*19*		
	Peak Hour	*4:30 PM - 5:30 PM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.50*	*0.94*	*0.00*				*0.80*	*0.00*	*0.50*				*0.00*	*0.91*	*0.68*		
	Study Area PHF:	**0.89**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**6**	**224**	**0**			**0**	**16**	**0**	**2**			**0**	**0**	**299**	**13**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.75**	**0.92**	**0.00**				**0.67**	**0.00**	**0.50**				**0.00**	**0.86**	**0.65**		

Pacheco Koch

PK# 5359-22.340

PANHANDLE DRIVE at FM 552

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on PANHANDLE DRIVE						Westbound Approach on TANNERSON DRIVE						Northbound Approach on PANHANDLE DRIVE						Eastbound Approach on TANNERSON DRIVE					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		2	0	0				0	0	0				0	1	0				0	3	5		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***4***	***0***	***0***				***0***	***2***	***2***				***0***	***0***	***0***				***0***	***4***	***6***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***20***	***0***	***0***				***1***	***12***	***4***				***1***	***0***	***5***				***0***	***16***	***6***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***9***	***2***	***1***				***3***	***12***	***7***				***0***	***1***	***2***				***0***	***8***	***8***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***1***	***5***	***1***				***1***	***1***	***0***				***0***	***0***	***6***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		1	1	0				0	2	1				2	0	0				0	1	5		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	1	0				0	6	1				0	0	0				0	4	3		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		1	1	2				0	0	0				0	0	0				0	6	1		
Observations:																											
		3:00 PM	3:15 PM		1	1	3				3	11	4				1	2	1				0	2	0		
		3:15 PM	3:30 PM		0	0	0				0	1	2				3	1	0				0	1	4		
		3:30 PM	3:45 PM		1	1	0				0	7	0				0	0	0				0	3	0		
		3:45 PM	4:00 PM		1	0	1				1	4	1				0	0	1				0	2	2		
		4:00 PM	***4:15 PM***		***1***	***0***	***0***				***0***	***3***	***1***				***3***	***0***	***0***				***0***	***3***	***1***		
		4:15 PM	***4:30 PM***		***3***	***1***	***1***				***0***	***7***	***2***				***5***	***1***	***0***				***0***	***3***	***2***		
		4:30 PM	***4:45 PM***		***1***	***1***	***0***				***1***	***4***	***1***				***3***	***1***	***0***				***0***	***0***	***2***		
		4:45 PM	***5:00 PM***		***1***	***1***	***1***				***0***	***8***	***2***				***1***	***0***	***0***				***2***	***0***	***2***		
		5:00 PM	5:15 PM		2	2	3				0	2	1				1	1	0				0	1	2		
		5:15 PM	5:30 PM		4	0	0				0	2	2				1	0	0				0	3	2		
		5:30 PM	5:45 PM		0	0	1				0	5	3				1	0	0				1	2	3		
		5:45 PM	6:00 PM		1	1	0				0	5	0				2	0	0				0	1	1		
AM Peak Hour	*Intersection PHF:*	*0.58*	*Intersection PHV:*	*0*	*33*	*2*	*1*			*0*	*5*	*31*	*14*			*0*	*2*	*2*	*7*			*0*	*0*	*28*	*26*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.41*	*0.25*	*0.25*				*0.42*	*0.65*	*0.50*				*0.50*	*0.50*	*0.35*				*0.00*	*0.44*	*0.81*		
	Study Area PHF:	**0.58**	**Study Area PHV:**	**0**	**33**	**2**	**1**			**0**	**5**	**31**	**14**			**0**	**2**	**2**	**7**			**0**	**0**	**28**	**26**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.41**	**0.25**	**0.25**				**0.42**	**0.65**	**0.50**				**0.50**	**0.50**	**0.35**				**0.00**	**0.44**	**0.81**		
PM Peak Hour	*Intersection PHF:*	*0.72*	*Intersection PHV:*	*0*	*7*	*5*	*5*			*0*	*1*	*21*	*6*			*0*	*10*	*3*	*0*			*0*	*2*	*4*	*8*		
	Peak Hour	*4:15 PM - 5:15 PM*	*PHF:*		*0.58*	*0.63*	*0.42*				*0.25*	*0.66*	*0.75*				*0.50*	*0.75*	*0.00*				*0.25*	*0.33*	*1.00*		
	Study Area PHF:	**0.69**	**Study Area PHV:**	**0**	**6**	**3**	**2**			**0**	**1**	**22**	**6**			**0**	**12**	**2**	**0**			**0**	**2**	**6**	**7**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.75**	**0.50**				**0.25**	**0.69**	**0.75**				**0.60**	**0.50**	**0.00**				**0.25**	**0.50**	**0.88**		

ROADWAY: FM 1141
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

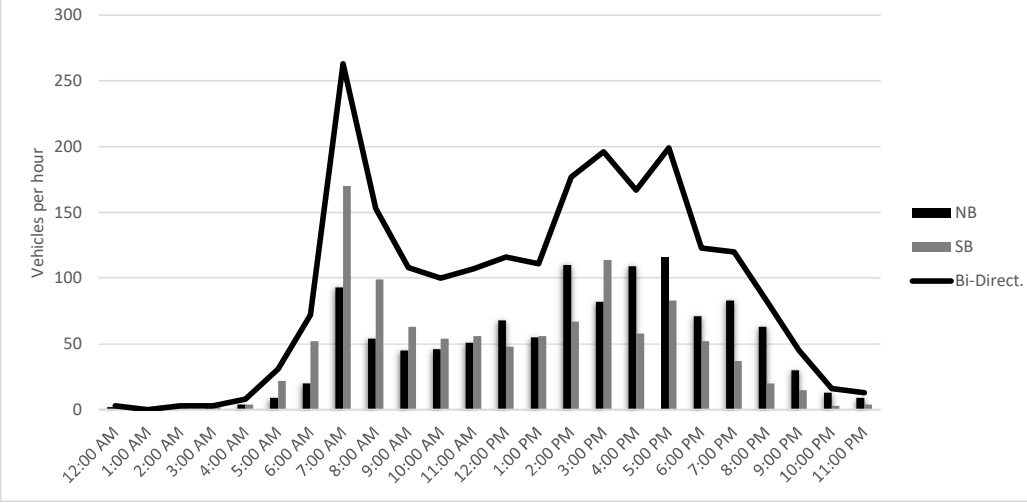
24-HOUR, BI-DIRECTIONAL VOLUME
2,217
(WEEKDAY)

FM 1141

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	1	0	0	1	1	0	0	0	2	1	3
1:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	2	0	0	1	0	0	0	2	1	3
3:00 AM	0	0	1	0	0	0	1	1	1	2	3
4:00 AM	3	0	0	1	0	2	1	1	4	4	8
5:00 AM	0	3	2	4	3	6	5	8	9	22	31
6:00 AM	2	2	5	11	8	12	13	19	20	52	72
7:00 AM	11	25	34	23	17	30	62	61	93	170	263
8:00 AM	15	9	14	16	22	26	21	30	54	99	153
9:00 AM	11	13	12	9	19	14	13	17	45	63	108
10:00 AM	14	10	13	9	13	11	19	11	46	54	100
11:00 AM	8	14	17	12	14	13	18	11	51	56	107
12:00 PM	14	21	15	18	10	20	9	9	68	48	116
1:00 PM	19	15	11	10	15	16	8	17	55	56	111
2:00 PM	25	17	25	43	18	12	17	20	110	67	177
3:00 PM	15	26	25	16	44	19	24	27	82	114	196
4:00 PM	22	31	26	30	17	12	15	14	109	58	167
5:00 PM	27	29	32	28	18	21	25	19	116	83	199
6:00 PM	30	11	14	16	13	14	14	11	71	52	123
7:00 PM	31	18	16	18	6	16	8	7	83	37	120
8:00 PM	18	15	13	17	6	9	3	2	63	20	83
9:00 PM	13	2	8	7	4	5	2	4	30	15	45
10:00 PM	3	3	4	3	2	0	1	0	13	3	16
11:00 PM	5	2	1	1	1	2	0	1	9	4	13

			NB	SB	Bi-Direct.
		24-Hour Total:	1,136	1,081	2,217
7:15 AM	8:15 AM	(Bi-Direct.) AM Peak Hour Total:	97	175	272
2:45 PM	3:45 PM	(Bi-Direct.) PM Peak Hour Total:	109	107	216
5:15 PM	6:15 PM	Highest By Direction (NB):	119		
7:15 AM	8:15 AM	Highest By Direction (SB):		175	

Graph



PK# 5359-22.340

Pacheco Koch

ROADWAY: N JOHN KING BOULEVARD
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

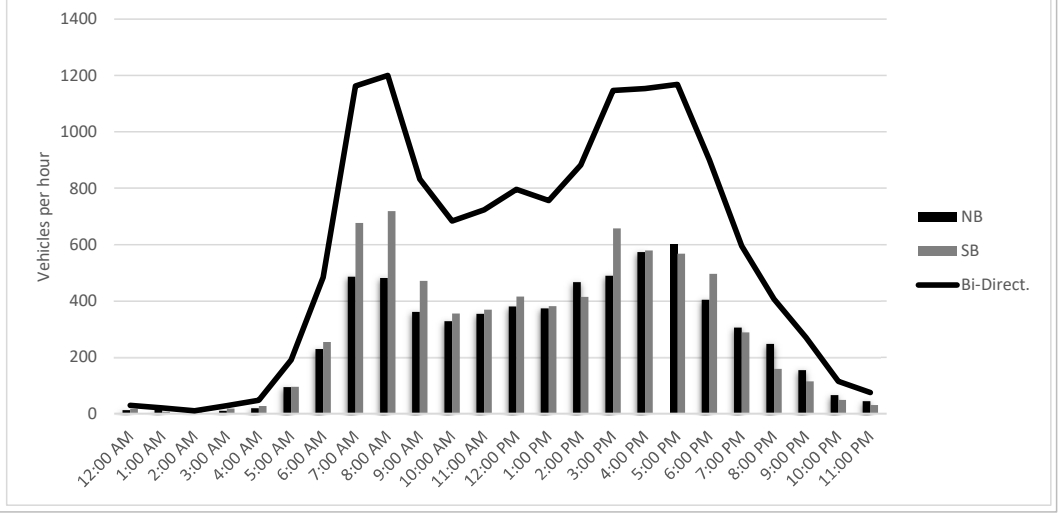
24-HOUR, BI-DIRECTIONAL VOLUME
13,679
(WEEKDAY)

N JOHN KING BOULEVARD

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	3	5	3	2	5	4	4	4	13	17	30
1:00 AM	3	5	2	4	0	2	2	3	14	7	21
2:00 AM	2	0	1	2	0	0	2	3	5	5	10
3:00 AM	1	2	4	4	7	6	3	2	11	18	29
4:00 AM	3	3	4	10	2	4	10	12	20	28	48
5:00 AM	17	20	22	36	19	24	22	31	95	96	191
6:00 AM	40	65	67	58	32	64	63	95	230	254	484
7:00 AM	88	110	134	154	109	142	184	242	486	677	1163
8:00 AM	144	137	109	91	211	196	176	136	481	719	1200
9:00 AM	85	100	86	90	107	124	132	108	361	471	832
10:00 AM	86	91	79	72	100	76	74	106	328	356	684
11:00 AM	78	74	94	108	94	94	95	86	354	369	723
12:00 PM	72	108	90	110	88	104	126	98	380	416	796
1:00 PM	92	115	89	78	101	100	95	86	374	382	756
2:00 PM	86	122	130	129	86	115	112	102	467	415	882
3:00 PM	96	117	130	146	170	128	122	238	489	658	1147
4:00 PM	144	150	148	132	152	170	136	121	574	579	1153
5:00 PM	160	176	126	138	130	144	138	156	600	568	1168
6:00 PM	122	104	94	84	133	125	128	110	404	496	900
7:00 PM	76	94	62	74	85	90	57	57	306	289	595
8:00 PM	66	60	66	56	42	48	30	39	248	159	407
9:00 PM	41	46	48	20	43	26	24	22	155	115	270
10:00 PM	17	17	17	15	13	12	16	8	66	49	115
11:00 PM	12	16	10	6	8	8	7	8	44	31	75

			NB	SB	Bi-Direct.
		24-Hour Total:	6,505	7,174	13,679
7:30 AM	8:30 AM	(Bi-Direct.) AM Peak Hour Total:	569	833	1,402
3:45 PM	4:45 PM	(Bi-Direct.) PM Peak Hour Total:	588	696	1,284
4:30 PM	5:30 PM	Highest By Direction (NB):	616		
7:30 AM	8:30 AM	Highest By Direction (SB):		833	

Graph



PK# 5359-22.340

Pacheco Koch

ROADWAY: FM 552
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

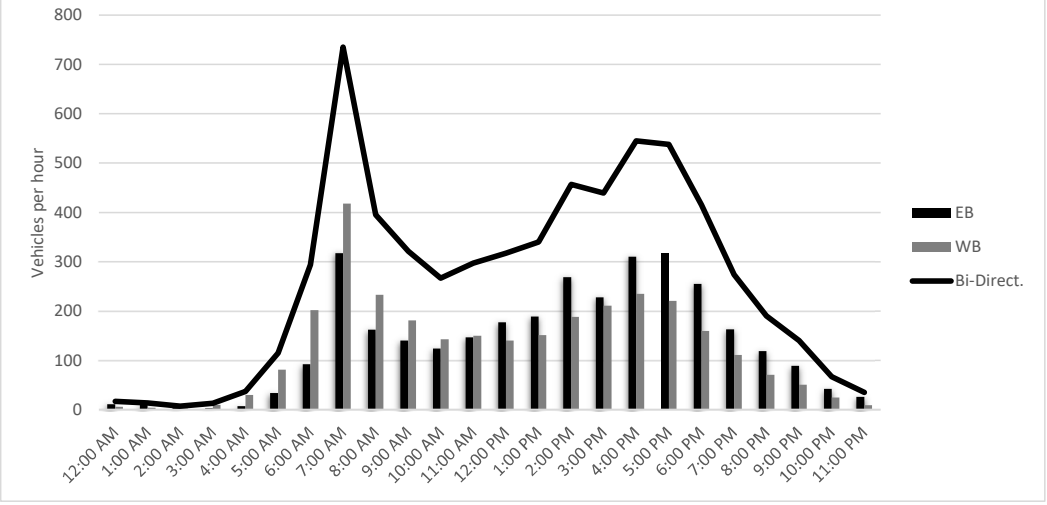
24-HOUR, BI-DIRECTIONAL VOLUME
6,269
(WEEKDAY)

FM 552

	Eastbound				Westbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	EB	WB	Bi-Direct.
12:00 AM	4	3	2	2	2	1	3	0	11	6	17
1:00 AM	5	3	1	1	0	1	2	1	10	4	14
2:00 AM	1	0	1	2	0	0	1	2	4	3	7
3:00 AM	2	0	1	0	1	1	4	4	3	10	13
4:00 AM	0	0	6	1	7	3	9	11	7	30	37
5:00 AM	8	7	9	10	8	15	26	32	34	81	115
6:00 AM	19	9	26	38	30	49	59	64	92	202	294
7:00 AM	62	87	106	62	80	96	134	108	317	418	735
8:00 AM	33	50	39	40	64	73	45	51	162	233	395
9:00 AM	33	38	40	29	47	48	43	43	140	181	321
10:00 AM	30	28	24	42	39	34	37	33	124	143	267
11:00 AM	34	32	37	44	22	43	39	46	147	150	297
12:00 PM	34	52	51	40	38	26	41	35	177	140	317
1:00 PM	34	46	58	51	46	41	30	34	189	151	340
2:00 PM	53	68	73	75	43	46	35	64	269	188	457
3:00 PM	60	43	49	76	66	50	49	46	228	211	439
4:00 PM	59	75	87	89	54	64	55	62	310	235	545
5:00 PM	73	93	81	70	56	58	47	60	317	221	538
6:00 PM	75	62	58	60	53	39	36	32	255	160	415
7:00 PM	46	47	35	35	38	32	27	14	163	111	274
8:00 PM	38	28	24	29	16	23	15	17	119	71	190
9:00 PM	24	26	25	14	21	7	9	14	89	51	140
10:00 PM	13	12	10	7	9	7	2	7	42	25	67
11:00 PM	5	9	7	5	2	0	4	3	26	9	35

			EB	WB	Bi-Direct.
		24-Hour Total:	3,235	3,034	6,269
7:00 AM	8:00 AM	(Bi-Direct.) AM Peak Hour Total:	317	418	735
4:30 PM	5:30 PM	(Bi-Direct.) PM Peak Hour Total:	342	231	573
4:30 PM	5:30 PM	Highest By Direction (EB):	342		
7:00 AM	8:00 AM	Highest By Direction (WB):		418	

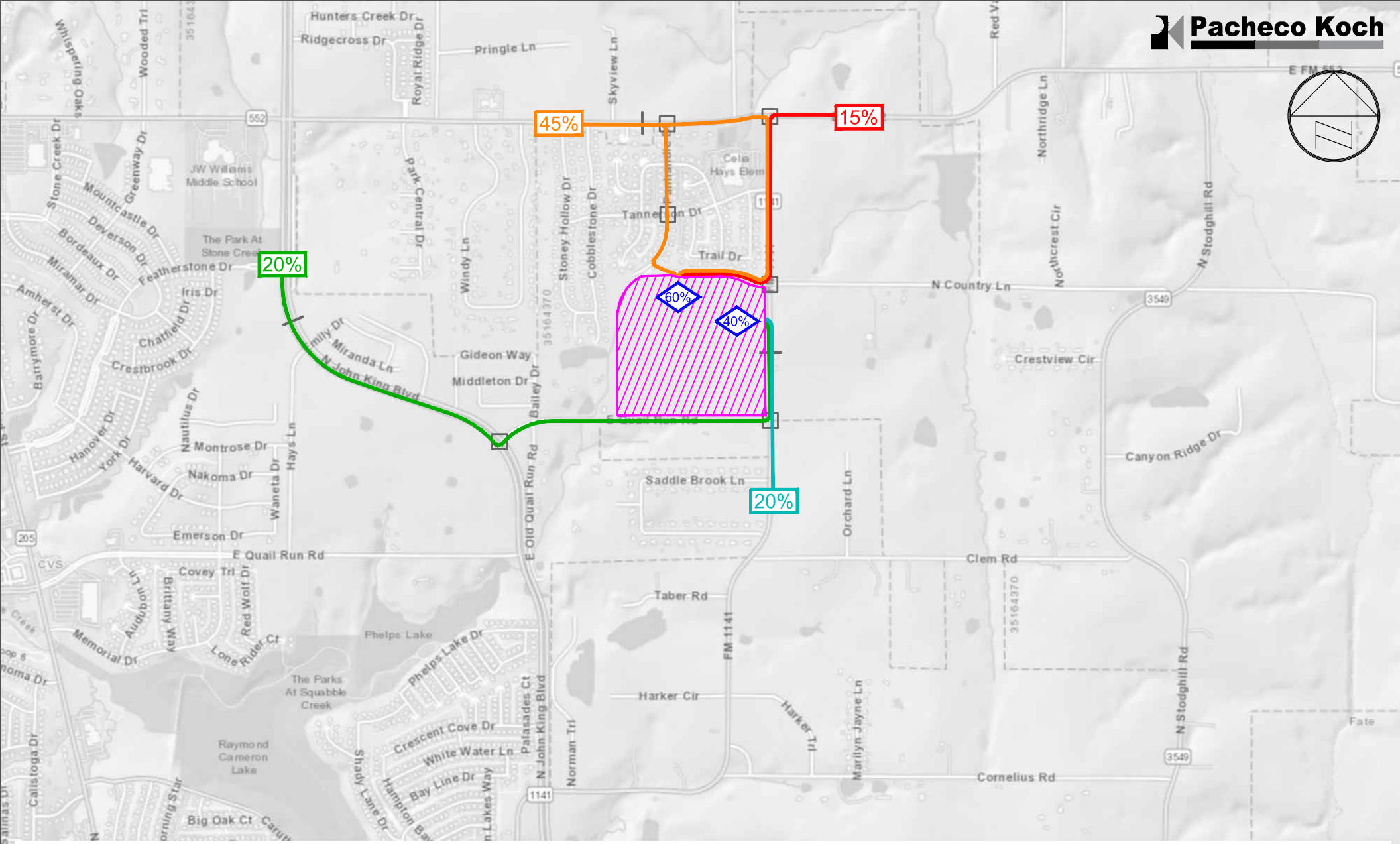
Graph



PK# 5359-22.340

Pacheco Koch

Appendix C. Site-Generated Traffic Supplement



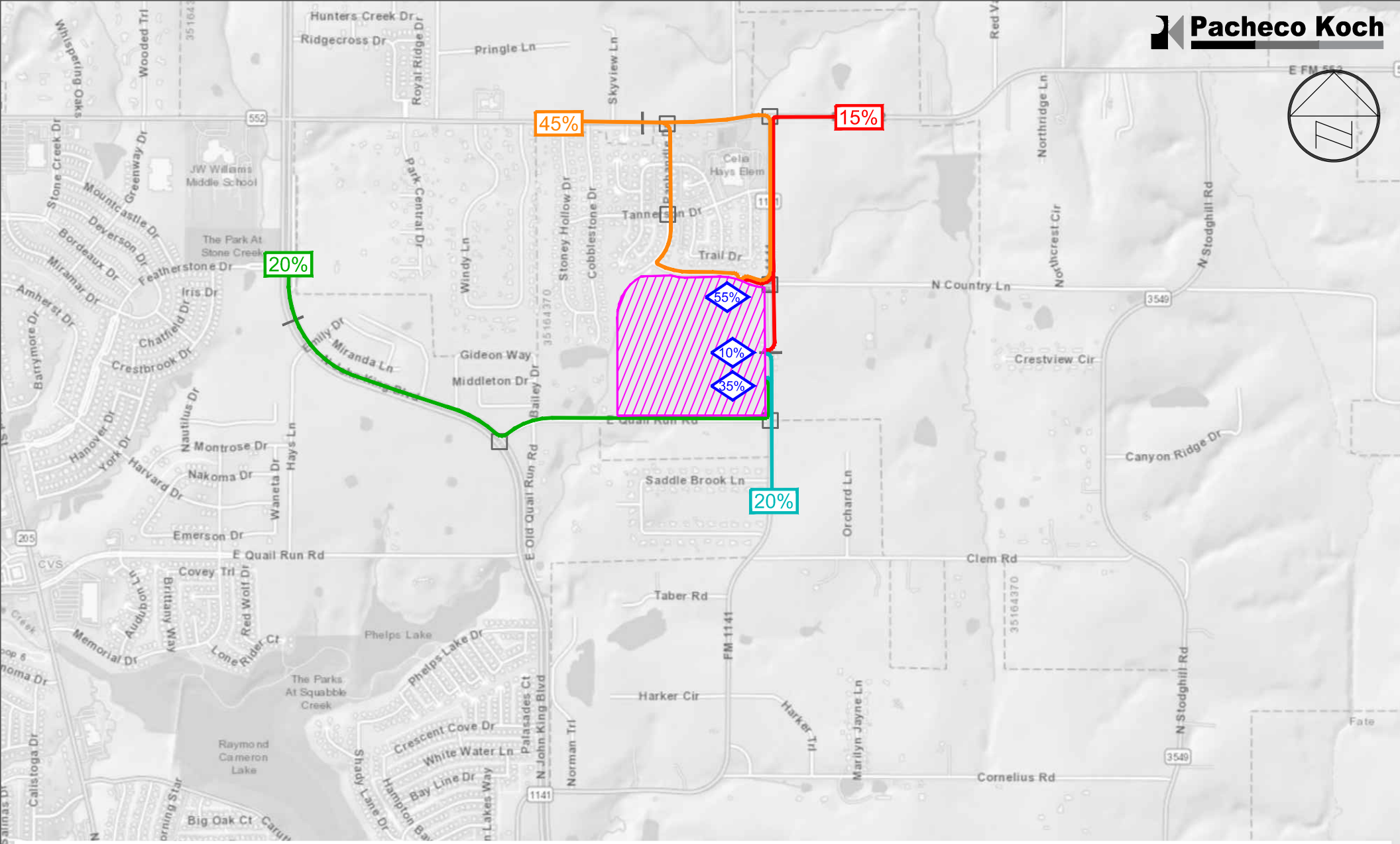
- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Parent Vehicles (Inbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C1**



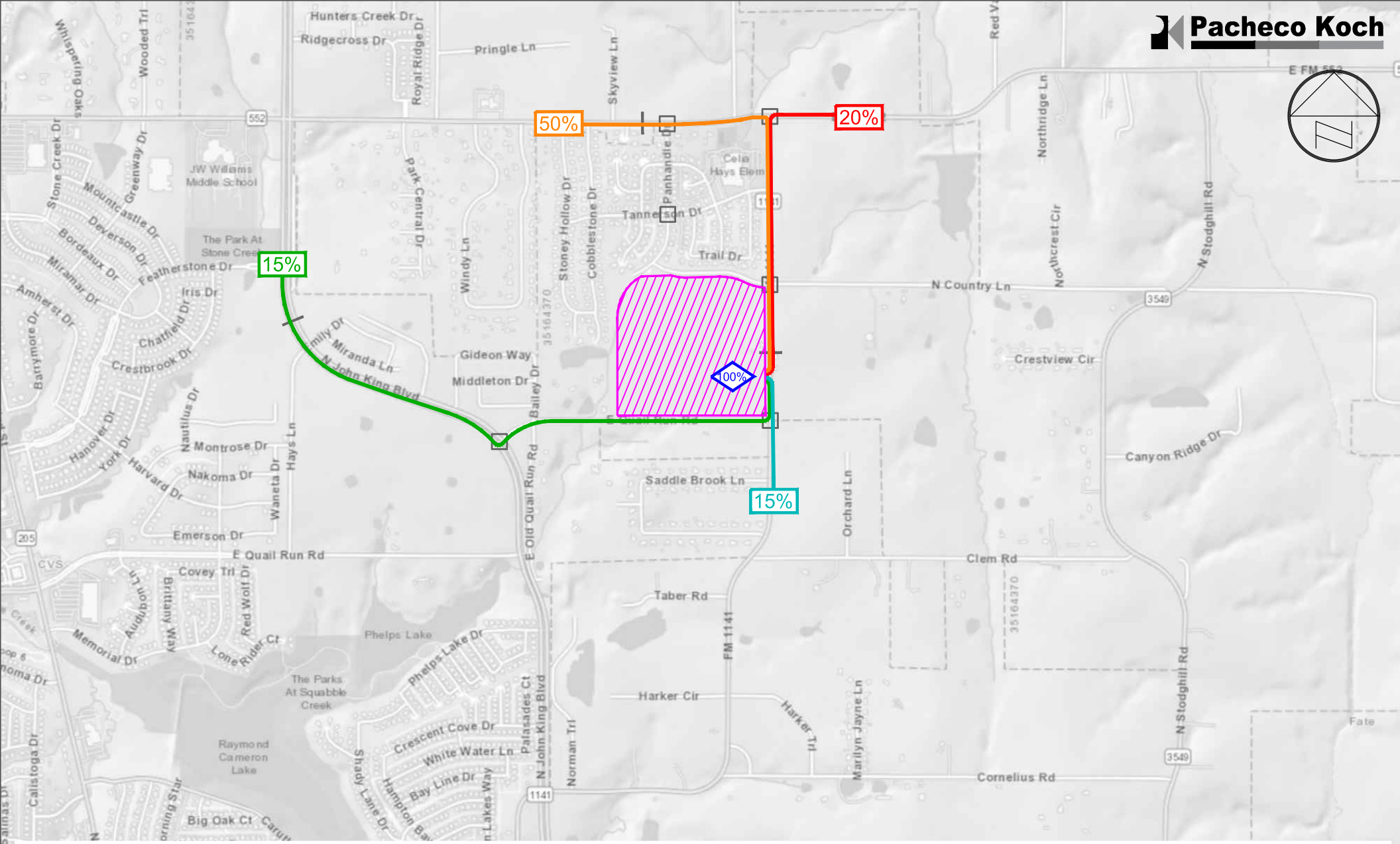
- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Parent Vehicles (Outbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C2**

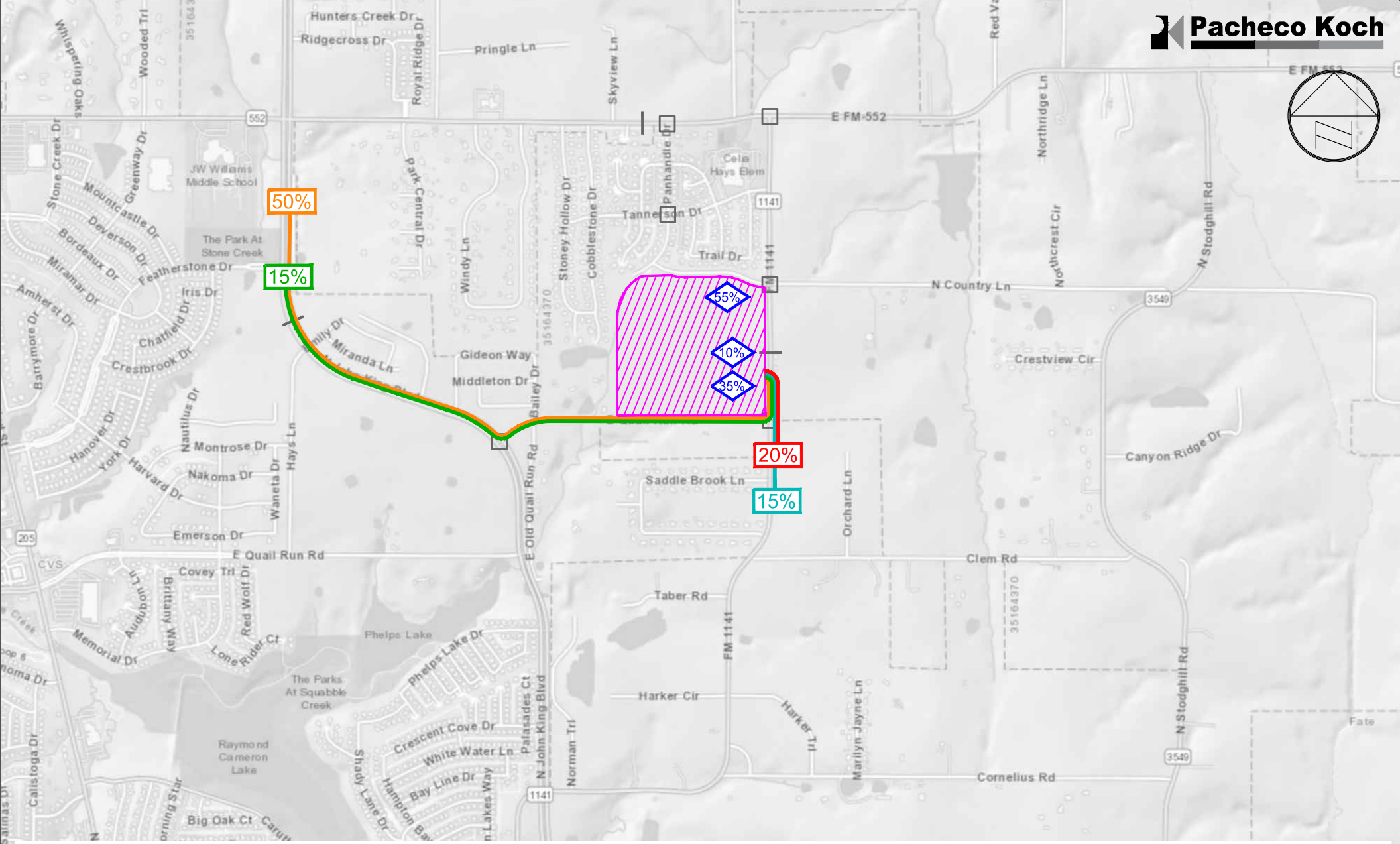


Site Generated Trip Distribution - Buses (Inbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C3**



- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Buses (Outbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C4**

Trip Generation

The two sources for the trip generation rates used to estimate the future generation potential of the proposed new Rockwall Ninth Grade Center are as follows:

Given the regional attendance zone for the proposed new Rockwall Ninth Grade Center, its location at the northern fringe of the urbanized area of the City of Rockwall, located at center of the Rockwall Independent School District, and the location of existing schools in the school district, trip generation by the Rockwall Ninth Grade Center facility does not fit the description of the ITE Code 520 – Public School land use provided by the Institute of Transportation Engineers (ITE) Trip Generation data, graphs, and formulae. Therefore, trip generation will be based on the following assumptions utilizing data from the current high school Rockwall HS and Rockwall-Heath HS (utilizing current enrollment and ridership) (1) the critical peak trip generation in terms of both capacity and efficiency of travel will occur during the A.M. peak hour, which coincide with the morning peak hour background traffic; currently the school start time is 8:40 am with dismissal at 3:50 pm (2) only students arrivals will be considered since staff trips will occur before the peak of students arrival trips; (3) the District currently runs 14 buses (last semester 17 buses served the campus) with a current ridership of approximately 442 student (last semester has a ridership of 517 student with 218 freshman) with an approximate student population of 2,872 students; of the 442 riders, 218 were Freshman students or a freshman ridership of 42.1%; Freshman students that utilize bus transportation outside the 2 mile walk zone is accepted; to be conservative, a higher value of 45% will be used for the study due to siblings not being able ride together and Freshman not being able to ride with friends; (4) the District's current number of Freshman students being drop off by parent vehicles are approximately 332, 1.4 students per vehicle 237 trips, with an approximate Freshman student population of 788 student or 42.1% of students being dropped off; without pedestrian traffic and friends and sibling being able to provide transportation for a freshman student to a higher the value of 55% will be used for the study; (5) the District's projection that only 5% of students currently are pedestrian traffic (40 students) within the 2 mile walk zone is accepted; a value of 0% is used for the study; however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic.. (6) entering and exiting trip ends will be equal since the only logical exception would be attending students who are children of school staff; (7) average occupancy will be 1.4 students per passenger car or van; average bus load will be assumed to be 35 students; (8) Buses will access site by way of Approach #2 - the south approach off of Farm to Market 1141 (FM 1141).

Morning peak traffic generation will be similar, but without the need to consider the morning peak hour background traffic or will be less due to arrival times being more staggered. Also, it is typically observed that parents and others providing non-bus transportation for the current high school students commonly arrive up to thirty to forty-five minutes in advance of school start time. These varied arrival times tend to mitigate the traffic impact of, at least, the entering trip end, while the exiting trip end more closely resembles the P.M. peak situation.

Proposed Rockwall Ninth Grade Center Transportation projections. (Full Build Out)

Inbound A.M. peak hour trip ends generated by the proposed new Rockwall Ninth Grade Center is calculated as follows for passenger cars and buses accessing the site by way of Farm to Market 1141 (FM 1141):

Proposed Rockwall Ninth Grade Center Transportation projections. (At full capacity)

1,000 students	x	45.0%	= 450 students by bus (13 Buses)
1,000 students	x	55.0%	= 550 students by parent
1,000 students	x	0%	= 0 pedestrian traffic

Inbound A.M. peak hour trip ends by school buses accessing site are calculated as:

1,000 students x 0.45 by bus mode / 35 students average per bus = 12.9 (13) trip ends (bus)

Inbound A.M. peak hour trip ends by non-bus mode Freshman students' personal vehicles accessing site are calculated as:

1,000 Freshman Students x 0.55 non-bus mode / 1.4 students per vehicle = 393 trip ends (cars/vans)

Inbound A.M. peak hour trip ends by non-bus mode parents accessing site are calculated as:

1,000 students x 0.05 non-bus mode / pedestrian traffic = 0 (walkers)

It is assumed that 0% of the students will come from within the 2-mile walking zone and however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic.

Proposed Rockwall Ninth Grade Center Transportation projections. (On opening day 2024)

(Current 8th grade Enrollment 2022 1,424 Students)

(Current 7th grade Enrollment 2022 1,371 Students)

(Current 6th grade Enrollment 2022 1,381 Students)

700 Freshman Students	x	45.0%	= 315 students by bus (9 Buses)
700 Freshman Students	x	55.0%	= 385 students by parent
700 Freshman Students	x	0%	= 0 pedestrian traffic

The assumption above is made utilizing the current enrollment data and projected growth.
Source: Rockwall Independent School District

Inbound A.M. peak hour trip ends by school buses accessing site are calculated as:

700 Freshman Students x 0.35 by bus mode / 35 students average per bus = 9 (9) trip ends (bus)

Inbound A.M. peak hour trip ends by non-bus mode students' personal vehicles accessing site are calculated as:

700 Freshman Students x 0.60 non-bus mode / 1.4 students per vehicle = 275 trip ends (cars/vans)

Inbound A.M. peak hour trip ends by non-bus mode parents accessing site are calculated as:

700 Freshman Students x 0.05 non-bus mode / pedestrian traffic = 0 (walkers)

It is assumed that 0% of the students will come from within the 2-mile walking zone and however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic. The Dalton Ranch, Stoney Hollow and Saddlebrook Subdivision have considered the pedestrian traffic to the school and provided sidewalks leading to the school site. Also, the neighborhood around Nelson Lake will need to have sidewalk access to the school in the future.

Trip Distribution

The following assumptions are made regarding trip distribution:

(1) All of the morning peak hour inbound Ninth grade, all parent vehicular access to the site will access the site in two locations. Parents north bound on Farm to Market 1141 (FM 1141) will utilize Approach #1 the most southern approach and use and continue to the student drop off lane. This student drop-off lane is intended to be a one-way single / partial double stack loop for student drop-off and pick-up. Parents will exit the student drop lane and exit via the same direction southbound from Approach #2 the southern middle approach where they can make, and right or left hand turn back onto Farm to Market 1141 (FM 1141). The same process will hold true in the afternoon departing traffic flow.

(2) Parents southbound on Farm to Market 1141 (FM 1141) will utilize Approach #3 - center approach via the new left-hand lane and turn left into the site and continue to the student drop-off lane. This student drop-off lane is intended to be a one-way double stack loop for student drop-off and pick-up in front of the new Rockwall Ninth Grade Center. Parents will exit the student drop lane and exit via Approach #4 northern middle approach where they can make a right or left hand turn back onto Farm to Market 1141 (FM 1141). The same process will hold true in the afternoon departing traffic flow.

(3) It will be further assumed that all minibuses, school buses, HC Buses and service traffic will enter the site both Northbound and southbound off Farm to Market 1141 (FM 1141) and will utilize Approach #4 the most northern middle approach and continue to the bus drop off loop around the back of the school. The buses will also exit back onto Farm to Market 1141 (FM 1141) but will be limited to only a right hand turn only. This bus loop is intended to be a one-way single stack parking lot for approximately 18 buses for student drop-off and pick-up. This bus traffic is not intended to mix with parent traffic except at the entrance and exit locations on site. This is the only location where school traffic and bus traffic occur in the same location.

(4) Given the location of this site, for this analysis, it shall be assumed that there will be 5% pedestrian traffic. As residential communities develop around the new Rockwall Ninth Grade Center facility, the pedestrian traffic is anticipated to increase from the growth in new and existing Dalton Ranch, Stoney Hollow and Saddlebrook Subdivision have considered the pedestrian traffic to the school and provided sidewalks leading to the school site. Also, the neighborhood around Nelson Lake will need to have sidewalk access to the school in the future.

(5) No internal trips are anticipated.

Distribution of these trips is as Follows:

40% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
60% of vehicular traffic (parent) will be Southbound on Farm to Market 1141 (FM 1141).

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141).
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141).

0% of pedestrian traffic (student) will be utilizing sidewalks off Farm to Market 1141 (FM 1141).

1,000 students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 157.1 (158) trip ends (cars/vans) Northbound on Farm to Market 1141 (FM 1141). (Left turn into Approach #4 - Northerly Entrance)

1,000 students x 55% x 60% Vehicular Traffic (1.4 students per vehicle) = 235.7 (236) trip ends (cars/vans) Southbound on Farm to Market 1141 (FM 1141). (Left turn into North Country Lane) enter through Approach #6 west approach on North Country Lane

13 buses x 45% x 30% Bus (35 students per Bus) = 4 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). (Right Turn Only into approach #4)

13 buses x 45% x 70% Bus (35 students per Bus) = 9 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Left Turn into Approach #4)

Afternoon peak traffic generation will be similar, but without the need to consider the P.M. peak hour background traffic or will be less if dismissal times by grade are staggered. Also, it is typically observed that parents and others providing non-bus transportation for Rockwall Ninth Grade Center students commonly arrive up to one-half hour to forty- five minutes in advance of dismissal time which tends to mitigate the traffic impact of, at least, the entering trip end, while the exiting trip end more closely resembles the A.M. peak situation. Likewise, school buses typically arrive early and over a period of time to be ready to receive the students at dismissal. Buses will be allowed to depart prior to the parents.

Route Assignment – Split by inbound Direction

Total trip generation for the afternoon peak traffic period was determined to be 232 car ends entering and 290 is study as stated above, route assignment for afternoon inbound trips only will be addressed. Using the trip distribution assumptions above, route assignment of all afternoon peak entering trips is expected to be as follows:

Ninth grade northbound would be assigned to the front pick area on the south side of the main entrance and Ninth grade southbound would be assigned to the front pick on the north side of the main entrance. This would equate to a 50/50split at the front drop off area at build out between the two drop off and pick areas enter the site, both from southbound and northbound off of Farm to Market 1141 (FM 1141), double stack thru the student drop-off and pick up lanes and exit one way from the student lane back onto north south drive (one-way student drop-off lane). It is anticipated that both exiting lanes will split 90% northbound and 90% southbound on exiting the site. The 10% is for those who are not compliant or follow the design intent.

Total Vehicles = 392
60% 235.7 (236) car trips into the north pick up area
40% 157.1 (158) car trips into the north pickup area.

All bus traffic will and enter and exit the site off Farm to Market 1141 (FM 1141). through Approach #2 and will not conflict with non-bus traffic, except onsite. Buses single stack thru the bus drop-off and pick up lane and exit one way from the bus lane back onto Farm to Market 1141 (FM 1141). This exit will be limited to a left hand turn only. (One-way bus pick-up and drop-off lane).

Inbound 9 bus trips southbound from Farm to Market 1141 (FM 1141).
Inbound 4 bus trips northbound only onto Farm to Market 1141 (FM 1141).)
Outbound 13 bus trips northbound only onto Farm to Market 1141 (FM 1141).
(All through Approach #2)

This plan is to be designed to for vehicular traffic to be split by direction of travel off of Farm to Market 1141 (FM 1141). With 40% of the northbound traffic turning into Approach #4 and exiting through Approaches #2 and #3.

With 60% of the southbound traffic turning into North Country Lane and utilizing Approaches #5 and #6 of the same traffic turning into Approach #6.

Distribution of these trips is as Follows:

40% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
60% of vehicular traffic (parent) will be Southbound on North Country Lane

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141)
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141)

0% of pedestrian traffic (student).

1,000 Freshman Students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 158 trip ends (cars/vans) Northbound on Farm to Market 1141 (FM 1141).
100% Left turn into Approach #4 = 158 trip ends
80% right turn Exit southbound Approach #2 = 126 trip ends
20% left turn Exit northbound Approach #3 = 32 trip ends

1,000 Freshman Students x 55% x 60% Vehicular Traffic (1.4 students per vehicle = 236 trip ends (cars/vans) Southbound on Farm to Market 1141 (FM 1141) to North Country Lane.
90% Left turn into west Entrance off North Country Lane Approach #5 = 212 trip ends
10% Right turn into West Entrance off North Country Lane Approach #5 = 24 trip ends
90% Right turn from East Exit onto North Country Lane Approach #6 = 212 trip ends
10% Left turn from East Exit onto North Country Lane Approach #6 = 24 trip ends

9 buses x 60% Bus (35 students per Bus) = 5 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Right Turn) Approach #2 Inbound
4 buses x 60% Bus (35 students per Bus) = 8 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141) (Left Turn) Approach #2 Inbound

13 buses x 60% Bus (35 students per Bus) =10 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). Parkway (Left Turn) Approach #2 Outbound

Opening Day Site Access Distribution of these trips is as Follows:

700 Freshman Students x 45.0% = 315 students by bus (9 Buses)
700 Freshman Students x 55.0% = 385 students by parent (275 trips)
700 Freshman Students x 0% = 0 pedestrian traffic

The assumption above is made utilizing the current enrollment data and projected growth.
Source: Rockwall Independent School District

35% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
65% of vehicular traffic (parent) will be Southbound on Farm to Market 1141 (FM 1141)

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141)
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141)

0% of pedestrian traffic (student)

700 Freshman Students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 96 trip ends
(cars/vans) Northbound on Farm to Market 1141 (FM 1141).
100% Left turn into Approach #4 = 96 trip ends
80% right turn Exit southbound Approach #2 = 20 trip ends
20% left turn Exit northbound Approach #3 = 76 trip ends

700 Freshman Students x 55% x 60% Vehicular Traffic (1.4 students per vehicle = 179 trip ends (cars/vans)
Southbound on Farm to Market 1141 (FM 1141) to North Country Lane.

90% Left turn into west Entrance off North Country Lane Approach #5 = 161 trip ends
10% Right turn into West Entrance off North Country Lane Approach #5 = 18 trip ends
90% Right turn from East Exit onto North Country Lane Approach #6 = 161 trip ends
10% Left turn from East Exit onto North Country Lane Approach #6 = 18 trip ends

7buses x 60% Bus (35 students per Bus) = 5 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Right Turn) Approach #2 Inbound
2 buses x 60% Bus (35 students per Bus) = 8 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141) (Left Turn) Approach #2 Inbound

9 buses x 60% Bus (35 students per Bus) =10 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). Parkway (Left Turn) Approach #2 Outbound

Appendix D. Detailed Intersection Capacity Analysis Results

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	26	5	31	14	2	2	7	33	2	1
Future Vol, veh/h	0	28	26	5	31	14	2	2	7	33	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	28	5	34	15	2	2	8	36	2	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.2	6.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	0%	10%	92%
Vol Thru, %	18%	52%	62%	6%
Vol Right, %	64%	48%	28%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	54	50	36
LT Vol	2	0	5	33
Through Vol	2	28	31	2
RT Vol	7	26	14	1
Lane Flow Rate	12	59	54	39
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.062	0.059	0.047
Departure Headway (Hd)	3.813	3.776	3.92	4.305
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	932	945	911	829
Service Time	1.864	1.813	1.956	2.347
HCM Lane V/C Ratio	0.013	0.062	0.059	0.047
HCM Control Delay	6.9	7.1	7.2	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.2	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	140	51	239	96	20
Future Vol, veh/h	166	140	51	239	96	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	152	55	260	104	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	332	0	626	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1227	-	448	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1227	-	425	783
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	663	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	461	-	-	1227	-
HCM Lane V/C Ratio	0.274	-	-	0.045	-
HCM Control Delay (s)	15.7	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	2	31	4	3	15	7	87	5	7	141	0
Future Vol, veh/h	0	2	31	4	3	15	7	87	5	7	141	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	34	4	3	16	8	95	5	8	153	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	292	285	153	301	283	98	153	0	0	100	0	0
Stage 1	169	169	-	114	114	-	-	-	-	-	-	-
Stage 2	123	116	-	187	169	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	660	624	893	651	626	958	1428	-	-	1493	-	-
Stage 1	833	759	-	891	801	-	-	-	-	-	-	-
Stage 2	881	800	-	815	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	640	617	893	619	618	958	1428	-	-	1493	-	-
Mov Cap-2 Maneuver	640	617	-	619	618	-	-	-	-	-	-	-
Stage 1	828	754	-	886	796	-	-	-	-	-	-	-
Stage 2	857	795	-	777	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.5	0.5	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1428	-	-	869	816	1493	-	-
HCM Lane V/C Ratio	0.005	-	-	0.041	0.029	0.005	-	-
HCM Control Delay (s)	7.5	0	-	9.3	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	3	8	78	157	11
Future Vol, veh/h	17	3	8	78	157	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	3	9	85	171	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	280	177	183	0	-	0
Stage 1	177	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	710	866	1392	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	705	866	1392	-	-	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1392	-	725	-	-
HCM Lane V/C Ratio	0.006	-	0.03	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	8	462	21	8	586
Future Vol, veh/h	38	8	462	21	8	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	9	502	23	9	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1157	502	0	0	502	0
Stage 1	502	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	217	569	-	-	1062	-
Stage 1	608	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	215	569	-	-	1062	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	215	569	1062	-
HCM Lane V/C Ratio	-	-	0.192	0.015	0.008	-
HCM Control Delay (s)	-	-	25.7	11.4	8.4	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	45	7	339	67	14
Future Vol, veh/h	270	45	7	339	67	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	293	49	8	368	73	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	342	0	702	318
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1217	-	404	723
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1217	-	401	723
Mov Cap-2 Maneuver	-	-	-	-	401	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	683	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	1217	-
HCM Lane V/C Ratio	0.203	-	-	0.006	-
HCM Control Delay (s)	15.4	-	-	8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	7	1	22	6	12	2	0	6	3	2
Future Vol, veh/h	2	6	7	1	22	6	12	2	0	6	3	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	8	1	24	7	13	2	0	7	3	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.8	7	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	13%	3%	55%
Vol Thru, %	14%	40%	76%	27%
Vol Right, %	0%	47%	21%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	15	29	11
LT Vol	12	2	1	6
Through Vol	2	6	22	3
RT Vol	0	7	6	2
Lane Flow Rate	15	16	32	12
Geometry Grp	1	1	1	1
Degree of Util (X)	0.018	0.017	0.034	0.013
Departure Headway (Hd)	4.197	3.753	3.877	4.028
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	854	955	925	889
Service Time	2.216	1.77	1.892	2.049
HCM Lane V/C Ratio	0.018	0.017	0.035	0.013
HCM Control Delay	7.3	6.8	7	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	30	19	198	32	35
Future Vol, veh/h	253	30	19	198	32	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	33	21	215	35	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	308	0	549	292
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1253	-	497	747
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1253	-	488	747
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	596	-	-	1253	-
HCM Lane V/C Ratio	0.122	-	-	0.016	-
HCM Control Delay (s)	11.9	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	7	3	3	5	9	95	7	8	48	0
Future Vol, veh/h	1	2	7	3	3	5	9	95	7	8	48	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	8	3	3	5	10	103	8	9	52	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	201	201	52	202	197	107	52	0	0	111	0	0
Stage 1	70	70	-	127	127	-	-	-	-	-	-	-
Stage 2	131	131	-	75	70	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	757	695	1016	756	699	947	1554	-	-	1479	-	-
Stage 1	940	837	-	877	791	-	-	-	-	-	-	-
Stage 2	873	788	-	934	837	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	743	686	1016	741	690	947	1554	-	-	1479	-	-
Mov Cap-2 Maneuver	743	686	-	741	690	-	-	-	-	-	-	-
Stage 1	933	832	-	871	785	-	-	-	-	-	-	-
Stage 2	858	782	-	919	832	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.5	0.6	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	897	804	1479	-	-
HCM Lane V/C Ratio	0.006	-	-	0.012	0.015	0.006	-	-
HCM Control Delay (s)	7.3	0	-	9.1	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	102	59	1
Future Vol, veh/h	5	5	5	102	59	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	5	111	64	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	186	65	65	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	803	999	1537	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	801	999	1537	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1537	-	889	-	-
HCM Lane V/C Ratio	0.004	-	0.012	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	4	479	31	10	489
Future Vol, veh/h	18	4	479	31	10	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	4	521	34	11	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1075	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	243	555	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	240	555	-	-	1045	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	240	555	1045	-
HCM Lane V/C Ratio	-	-	0.082	0.008	0.01	-
HCM Control Delay (s)	-	-	21.3	11.5	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	299	13	6	224	16	2
Future Vol, veh/h	299	13	6	224	16	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	325	14	7	243	17	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	339	0	589	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1220	-	471	710
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1220	-	468	710
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	486	-	-	1220	-
HCM Lane V/C Ratio	0.04	-	-	0.005	-
HCM Control Delay (s)	12.7	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	26	5	31	14	2	10	7	33	19	1
Future Vol, veh/h	0	28	26	5	31	14	2	10	7	33	19	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	28	5	34	15	2	11	8	36	21	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.3	7.1	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	10%	62%
Vol Thru, %	53%	52%	62%	36%
Vol Right, %	37%	48%	28%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	54	50	53
LT Vol	2	0	5	33
Through Vol	10	28	31	19
RT Vol	7	26	14	1
Lane Flow Rate	21	59	54	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.023	0.062	0.06	0.068
Departure Headway (Hd)	3.973	3.821	3.965	4.258
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	893	930	897	837
Service Time	2.031	1.874	2.017	2.305
HCM Lane V/C Ratio	0.024	0.063	0.06	0.069
HCM Control Delay	7.1	7.1	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2	0.2

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	283	105	239	162	45
Future Vol, veh/h	166	283	105	239	162	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	308	114	260	176	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	488	0	822	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1075	-	344	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1075	-	301	708
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	540	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	33.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	1075	-
HCM Lane V/C Ratio	0.654	-	-	0.106	-
HCM Control Delay (s)	33.2	-	-	8.7	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	4.4	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	2	31	4	3	15	7	95	5	7	150	188
Future Vol, veh/h	83	2	31	4	3	15	7	95	5	7	150	188
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	2	34	4	3	16	8	103	5	8	163	204

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	412	405	265	421	505	106	367	0	0	108	0	0
Stage 1	281	281	-	122	122	-	-	-	-	-	-	-
Stage 2	131	124	-	299	383	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	550	535	774	543	470	948	1192	-	-	1483	-	-
Stage 1	726	678	-	882	795	-	-	-	-	-	-	-
Stage 2	873	793	-	710	612	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	532	528	774	513	463	948	1192	-	-	1483	-	-
Mov Cap-2 Maneuver	532	528	-	513	463	-	-	-	-	-	-	-
Stage 1	721	673	-	876	789	-	-	-	-	-	-	-
Stage 2	849	787	-	672	608	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	10.1	0.5	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1192	-	-	580	731	1483	-	-
HCM Lane V/C Ratio	0.006	-	-	0.217	0.033	0.005	-	-
HCM Control Delay (s)	8	-	-	12.9	10.1	7.4	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	3	8	148	190	44
Future Vol, veh/h	87	3	8	148	190	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	3	9	161	207	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	410	231	255	0	-	0
Stage 1	231	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	598	808	1310	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	594	808	1310	-	-	-
Mov Cap-2 Maneuver	647	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1310	-	651	-	-
HCM Lane V/C Ratio	0.007	-	0.15	-	-
HCM Control Delay (s)	7.8	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	41	462	21	78	586
Future Vol, veh/h	38	41	462	21	78	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	45	502	23	85	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1309	502	0	0	502	0
Stage 1	502	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	176	569	-	-	1062	-
Stage 1	608	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	569	-	-	1062	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	404	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.9	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	162	569	1062	-
HCM Lane V/C Ratio	-	-	0.255	0.078	0.08	-
HCM Control Delay (s)	-	-	34.7	11.9	8.7	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1	0.3	0.3	-

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	413	62	7	405	75	14
Future Vol, veh/h	413	62	7	405	75	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	449	67	8	440	82	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	516	0	939	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	456	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1050	-	293	584
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1050	-	291	584
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	633	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	-	-	1050	-
HCM Lane V/C Ratio	0.306	-	-	0.007	-
HCM Control Delay (s)	21.3	-	-	8.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	0	0	198	8	83
Future Vol, veh/h	33	0	0	198	8	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	0	0	215	13	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	251	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	738	1037
Stage 1	-	0	0	-	986	-
Stage 2	-	0	0	-	821	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	738	1037
Mov Cap-2 Maneuver	-	-	-	-	738	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	738	1037	-	-
HCM Lane V/C Ratio	0.018	0.133	-	-
HCM Control Delay (s)	10	9	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	0.1	0.5	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	136	107	185	0
Future Vol, veh/h	0	0	136	107	185	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	227	116	201	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	771	201	201	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	368	840	1371	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	307	840	1371	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1371	-	-	-	-	-
HCM Lane V/C Ratio	0.165	-	-	-	-	-
HCM Control Delay (s)	8.1	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	0	235	185	0
Future Vol, veh/h	8	8	0	235	185	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	0	255	201	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	456	201	-	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	562	840	0	-	-	0
Stage 1	833	-	0	-	-	0
Stage 2	788	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	562	840	-	-	-	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	625	840	-
HCM Lane V/C Ratio	-	0.021	0.016	-
HCM Control Delay (s)	-	10.9	9.4	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	58	4	235	184	9
Future Vol, veh/h	0	58	4	235	184	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	97	7	255	200	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	469	200	215	0	-	0
Stage 1	200	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	553	841	1355	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	550	841	1355	-	-	-
Mov Cap-2 Maneuver	550	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1355	-	-	841	-	-
HCM Lane V/C Ratio	0.005	-	-	0.115	-	-
HCM Control Delay (s)	7.7	-	0	9.8	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	90	52	0	0	0
Future Vol, veh/h	0	90	52	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	92	92	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	98	57	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	57	0	-	0	155	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1547	-	-	-	836	1009
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1547	-	-	-	836	1009
Mov Cap-2 Maneuver	-	-	-	-	836	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1547	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	7	1	22	6	12	12	0	6	8	2
Future Vol, veh/h	2	6	7	1	22	6	12	12	0	6	8	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	8	1	24	7	13	13	0	7	9	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7.1	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	13%	3%	38%
Vol Thru, %	50%	40%	76%	50%
Vol Right, %	0%	47%	21%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	15	29	16
LT Vol	12	2	1	6
Through Vol	12	6	22	8
RT Vol	0	7	6	2
Lane Flow Rate	26	16	32	17
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.017	0.034	0.019
Departure Headway (Hd)	4.129	3.778	3.903	4.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	868	946	917	887
Service Time	2.15	1.805	1.927	2.059
HCM Lane V/C Ratio	0.03	0.017	0.035	0.019
HCM Control Delay	7.3	6.9	7.1	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	71	34	198	114	66
Future Vol, veh/h	253	71	34	198	114	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	77	37	215	124	72

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	352	0	603	314
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	289	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1207	-	462	726
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	760	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1207	-	446	726
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	519	-	-	1207	-
HCM Lane V/C Ratio	0.377	-	-	0.031	-
HCM Control Delay (s)	16.1	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	2	7	3	3	5	9	105	7	8	48	56
Future Vol, veh/h	104	2	7	3	3	5	9	105	7	8	48	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	2	8	3	3	5	10	114	8	9	52	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	243	243	83	244	269	118	113	0	0	122	0	0
Stage 1	101	101	-	138	138	-	-	-	-	-	-	-
Stage 2	142	142	-	106	131	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	711	659	976	710	637	934	1476	-	-	1465	-	-
Stage 1	905	811	-	865	782	-	-	-	-	-	-	-
Stage 2	861	779	-	900	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	697	650	976	695	628	934	1476	-	-	1465	-	-
Mov Cap-2 Maneuver	697	650	-	695	628	-	-	-	-	-	-	-
Stage 1	899	805	-	859	777	-	-	-	-	-	-	-
Stage 2	847	774	-	884	782	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	9.8	0.6	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1476	-	-	709	761	1465	-	-
HCM Lane V/C Ratio	0.007	-	-	0.173	0.016	0.006	-	-
HCM Control Delay (s)	7.5	-	-	11.1	9.8	7.5	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	5	5	122	105	50
Future Vol, veh/h	25	5	5	122	105	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	5	5	133	114	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	284	141	168	0	-	0
Stage 1	141	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	706	907	1410	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	703	907	1410	-	-	-
Mov Cap-2 Maneuver	724	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1410	-	749	-	-
HCM Lane V/C Ratio	0.004	-	0.044	-	-
HCM Control Delay (s)	7.6	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	53	479	31	30	489
Future Vol, veh/h	18	53	479	31	30	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	58	521	34	33	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1119	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	229	555	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	222	555	-	-	1045	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	222	555	1045	-
HCM Lane V/C Ratio	-	-	0.088	0.104	0.031	-
HCM Control Delay (s)	-	-	22.8	12.2	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	340	18	6	306	26	2
Future Vol, veh/h	340	18	6	306	26	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	370	20	7	333	28	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	390	0	727	380
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1169	-	391	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	389	667
Mov Cap-2 Maneuver	-	-	-	-	389	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	401	-	-	1169	-
HCM Lane V/C Ratio	0.076	-	-	0.006	-
HCM Control Delay (s)	14.7	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	0	0	68	10	103
Future Vol, veh/h	10	0	0	68	10	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	0	74	17	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	85	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	916	1070
Stage 1	-	0	0	-	1012	-
Stage 2	-	0	0	-	949	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	916	1070
Mov Cap-2 Maneuver	-	-	-	-	916	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	916	1070	-	-
HCM Lane V/C Ratio	0.018	0.16	-	-
HCM Control Delay (s)	9	9	-	-
HCM Lane LOS	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.6	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	41	121	58	0
Future Vol, veh/h	0	0	41	121	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	68	132	63	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	331	63	63	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	664	1002	1540	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	635	1002	1540	-	-	-
Mov Cap-2 Maneuver	666	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	2.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1540	-	-	-	-	-
HCM Lane V/C Ratio	0.044	-	-	-	-	-
HCM Control Delay (s)	7.4	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	0	152	58	0
Future Vol, veh/h	10	10	0	152	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	17	0	165	63	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	228	63	-	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	760	1002	0	-	-	0
Stage 1	960	-	0	-	-	0
Stage 2	864	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	760	1002	-	-	-	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	756	1002	-
HCM Lane V/C Ratio	-	0.022	0.017	-
HCM Control Delay (s)	-	9.9	8.7	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	85	0	152	68	0
Future Vol, veh/h	0	85	0	152	68	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	142	0	165	74	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	239	74	74	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	749	988	1526	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	749	988	1526	-	-	-
Mov Cap-2 Maneuver	749	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1526	-	-	988	-	-
HCM Lane V/C Ratio	-	-	-	0.143	-	-
HCM Control Delay (s)	0	-	0	9.3	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	55	0	0	0
Future Vol, veh/h	0	30	55	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	92	92	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	60	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	60	0	-	0	93	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1544	-	-	-	907	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1544	-	-	-	907	1005
Mov Cap-2 Maneuver	-	-	-	-	907	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1544	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

CITY OF ROCKWALL
CITY COUNCIL CASE MEMO

PLANNING AND ZONING DEPARTMENT
385 S. GOLIAD STREET • ROCKWALL, TX 75087
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TO:	The Mayor and City Council
DATE:	July 5, 2022
APPLICANT:	Robert Howman; *Glenn Engineering Corp.*
CASE NUMBER:	P2022-028; *Preliminary Plat for lots 1 & 2, Block A, Rockwall ISD Addition*

SUMMARY

Discuss and consider a request by Robert Howman of Glenn Engineering Corp. on behalf of William Salee of the Rockwall Independent School District (RISD) for the approval of a *Preliminary Plat* for Lots 1 & 2, Block A, Rockwall ISD Addition being a 76.068-acre tract of land identified as Tracts 14-01 & 14-11 of the J. M. Glass Survey, Abstract No. 88, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 94 (PD-94) for limited Neighborhood Services (NS) District land uses, generally located at the northwest corner of the intersection of FM-1141 and E. Quail Run Road, and take any action necessary.

PLAT INFORMATION

☑ The purpose of the applicant's request is to *Preliminary Plat* a 76.068-acre tract of land (*i.e. Tracts 14-01 & 14-11 of the J. M. Glass Survey, Abstract No. 88*) to establish the necessary easements (*e.g. fire lane, public access/right-of-way, utilities, and drainage*) for the future development of a school. In addition, the applicant has submitted a letter requesting waivers to the required infrastructure as stipulated in Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances.

☑ On August 30, 1999, the subject property was annex by the City Council through *Ordinance No. 99-33* [*Case No. A1999-001*]. At the time of annexation, the subject property was zoned Agricultural (AG) District. The subject property has been remained vacant since annexation. On May 2, 2022, City Council approved a zoning change by *Ordinance No. 22-25* [*Case No. Z2022-015*] from Agricultural (AG) District to Planned Development 95 (PD-95) District for Neighborhood Services (NS) District land uses.

☑ The purpose of a *Preliminary Plat* is to provide sufficient information to evaluate and review the general design of the development to ensure compliance with the OURHometown Vision 2040 Comprehensive Plan, the Unified Development Code (UDC), and the *Subdivision Ordinance* contained in the Municipal Code of Ordinances.

☑ The applicant has submitted a letter requesting that the City Council waive infrastructure required by Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances. In response to the applicant's request staff has prepared a memorandum addressing the infrastructure requirements for this property and the applicant's requested waivers (*see attached memorandum*). In addition, the following is a summary of the infrastructure the applicant is required to build and the applicant's request/conformance with these requirements:

TABLE 1: ROADWAY

REQUIREMENT	APPLICANT'S PROPOSAL
Panhandle Drive: Dedicate a 65-foot right-of-way and construct a 45-foot back-to-back concrete street from the northern property line to the southern property line.	*WAIVER*; The applicant is proposing to dedicate the right-of-way for the roadway, but is requesting a waiver to no construct the street.
Quail Run Road: Dedicate 32.50-feet from the centerline of the roadway and construct a minimum of 24-feet of Quail Run Road from the western property line to FM-1141.	*IN CONFORMANCE*; The applicant is proposing to dedicate the right-of-way for the roadway, and construct the required street section.
North Country Lane: Dedicate 32.50-feet from the centerline of the roadway and construct the remaining width of 20-feet for North Country Lane.	*WAIVER*; The applicant is proposing to dedicate the right-of-way for the roadway, but is requesting a waiver to no construct the street.

TABLE 2: WATER REQUIREMENT	APPLICANT'S PROPOSAL
Panhandle Drive Water Line: Build a 12-inch water line from the existing 12-inch water line at the northern property line to the existing 12-inch water line in Quail Run Road.	*WAIVER*; The applicant is proposing to dedicate the right-of-way for the roadway, but is requesting a waiver to not construct the waterline.

☑ The surveyor has completed the majority of the technical revisions requested by staff, and this plat -- *conforming to the requirements for plats as stipulated by the Subdivision Ordinance in the Municipal Code of Ordinances* -- is recommended for conditional approval pending the completion of final technical modifications and submittal requirements.

☑ Conditional approval of this plat by the City Council shall constitute approval subject to the conditions stipulated in the *Conditions of Approval* section below.

☑ With the exception of the items listed in the *Conditions of Approval* section of this case memo, this plat is in substantial compliance with the requirements of the *Subdivision Ordinance* in the Municipal Code of Ordinances.

CONDITIONS OF APPROVAL

If the Planning and Zoning Commission chooses to recommend approval of a ***Preliminary Plat*** for *Lots 1 & 2, Block A, Rockwall ISD Addition*, staff would propose the following conditions of approval:

(1) All technical comments from City Staff (*i.e. Engineering, Planning and Fire Department*) shall be addressed prior to submittal of civil engineering plans;

(2) Any construction resulting from the approval of this ***Preliminary Plat*** shall conform to the requirements set forth by the Unified Development Code (UDC), the International Building Code (IBC), the Rockwall Municipal Code of Ordinances, city adopted engineering and fire codes and with all other applicable regulatory requirements administered and/or enforced by the state and federal government.

PLANNING AND ZONING COMMISION

On June 28, 2022, the Planning and Zoning Commission approved a motion to recommend denial of the ***Infrastructure Variance*** and the ***Preliminary Plat*** by a vote of 6-1, with Commissioner Llewellyn dissenting.

CITY OF ROCKWALL
CITY COUNCIL MEMORANDUM

PLANNING AND ZONING DEPARTMENT
385 S. GOLIAD STREET • ROCKWALL, TX 75087
PHONE: (972) 771-7745 • EMAIL: PLANNING@ROCKWALL.COM

TO:	Mayor and City Council
CC:	Mary Smith, *City Manager* Joey Boyd, *Assistant City Manager*
FROM:	Ryan Miller, *Director of Planning and Zoning*
DATE:	July 5, 2022
SUBJECT:	Infrastructure Request Associated with *Case No. P2022-028*

As part of the preliminary plat for *Case No. P2022-028*, the applicant -- *William Salee of the Rockwall Independent School District* -- has submitted a letter requesting the City Council waive certain infrastructure requirements associated with the development of a school on the subject property. The infrastructure the applicant is requesting the waiver for is required by Subsection (4), *Property Owner's Obligation*, of Section 38-5, *Policy*, of Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances, which states:

(a) *Dedication and Construction of Improvements*. The property owner shall dedicate all rights-of-way, and easements for, and shall construct, capital improvements within the rights-of-way or easements for those water, wastewater, road or drainage improvements needed to adequately serve a proposed development consistent with the applicable master facilities plans, whether the facilities are located on, adjacent to or outside the boundaries of the property being platted.

Specifically, the applicant is requesting the following *required* infrastructure be waived:

ROADWAYS

Required Infrastructure: The following roadway infrastructure is required:

(1) *Panhandle Drive*. This roadway is identified as a M4U (*i.e. major collector, four [4] lane, undivided roadway*) on the City's Master Thoroughfare Plan contained in the OURHometown Vision 2040 Comprehensive Plan. Based on this, this roadway requires a minimum right-of-way width of 65-feet with a 45-foot *back-of-curb* to *back-of-curb* concrete roadway to be constructed within the right-of-way. Since the applicant's property is situated on both sides of this roadway, they would be required to construct the full width of this roadway from the northern property line adjacent to the Dalton Ranch Subdivision to the southern property line adjacent to Quail Run Road.



FIGURE 1: MASTER THOROUGHFARE PLAN FOR THE SUBJECT PROPERTY
1: PANHANDLE DRIVE
2: NORTH COUNTRY LANE
3: QUAIL RUN ROAD
4: FM-1141

Applicant's Response: The applicant has stated that they are willing to dedicate the right-of-way for the roadway, but are requesting that they not be required to construct the roadway.

(2) *Quail Run Road*. This roadway is an existing 17-foot wide asphalt street that is identified as a M4U (*i.e. major collector, four [4] lane, undivided roadway*) on the City's Master Thoroughfare Plan contained in the OURHometown Vision 2040 Comprehensive Plan. Based on this, the proposed project would require that the applicant verify the width of E. Quail Run Road to ensure that there is 32.50-feet of right-of-way from the centerline of the roadway and dedicate any necessary right-of-way. In addition, a minimum 24-foot concrete road section would be required to be constructed along E. Quail Run Road from the western corner of the subject property to the eastern corner of the subject property.

~~*Applicant's Response*: The applicant has stated that they are willing to dedicate the right-of-way for the roadway, but are requesting that they not be required to construct the roadway.~~

Updated Applicant's Response: The applicant is proposing to dedicate the right-of-way and construct the required street cross section for E. Quail Run Road.

(3) *North Country Lane*. This roadway is identified as a M4U (*i.e. major collector, four [4] lane, undivided roadway*) on the City's Master Thoroughfare Plan contained in the OURHometown Vision 2040 Comprehensive Plan. Based on this, this roadway requires a minimum right-of-way width of 65-feet with a 45-foot *back-of-curb* to *back-of-curb* concrete roadway to be constructed within the right-of-way. An existing 24-foot concrete road section for this roadway was constructed when the Dalton Ranch subdivision was constructed. The applicant's project would require the balance of this roadway to be constructed.

Applicant's Response: The applicant has stated that they are willing to dedicate the right-of-way for the roadway, but are requesting that they not be required to construct the remaining 20-foot wide roadway section.

Staff's Response: The applicant has cited the Traffic Impact Analysis (TIA) they submitted to the City as being the rationale for not constructing these roadways. Staff is obligated to point out that this study has *not* been approved by the City's consultants or the City, and that major discrepancies still exist. In addition, staff is also obligated to note that in the City's original conversations with the applicant, the applicant indicated a willingness to construct portions of Quail Run Road adjacent to the property line and construct their portion of North Country Lane. The site plan submitted with this case also shows North Country Lane being constructed. It wasn't until the recent letter submitted by the applicant that this roadway was requested to be waived.

Infrastructure Being Provided: The applicant is constructing improvements to FM-1141, which include widening the existing roadway from the northern property line to the southern property line to make this roadway a three (3) lane roadway with four (4) foot shoulders. In addition, the applicant is proposing to construct deceleration lanes for all of the proposed driveways and North Country Lane and Quail Run Road. This work will also include an asphalt overlay of the existing roadway from the northern property line to the southern property line of the subject property.

WATER

Required Infrastructure: According to the Water Distribution System Master Plan a 12-inch waterline is required to be constructed in the right-of-way of Panhandle Drive, extending from the existing stub in Panhandle Drive adjacent to the northern property line to the southern property line adjacent to Quail Run Road. This water line will need to be put into the 65-foot right-of-way for Panhandle Drive dedicated with this project.

Applicant's Response: The applicant has stated they are willing to dedicate the right-of-way for the waterline, but are requesting not to construct this waterline.



FIGURE 2: MASTER WATER DISTRIBUTION SYSTEM MASTER PLAN FOR THE SUBJECT PROEPRTY
1: 12-INCH ALONG PANHANDLE DRIVE
2: 12-INCH ALONG NORTH COUNTRY LANE

Staff's Response: Staff has consulted with Birkoff, Hendricks, & Carter LLP -- *the City's Water Consultant* -- concerning the applicant's request, and has determined that 12-inch line in Panhandle is not necessary to serve the current development, but may be needed for any additional development.

Infrastructure Being Provided: Staff should note that the applicant is proposing to extend the 12-inch line in North Country Lane from the northern property line to FM-1141 in accordance with the Water Distribution System Master Plan.

WASTEWATER

Infrastructure Being Provided: The applicant will construct an eight (8) inch wastewater line that will connect with the existing wastewater line existing along Quail Run Road.

Staff should point out that all of the above infrastructure requirements were originally outlined in the case memo for *Case No. Z2022-015*, which involved rezoning the subject property from an Agricultural (AG) District to a Planned Development District for Neighborhood Services (NS) District land uses; however, staff was not informed about the request to waive infrastructure until after the site plan was submitted. It should also be pointed out that the applicant does currently have a site plan in review (*Case No. SP2022-017*), which is pending action until after these infrastructure questions are addressed.

As part of this preliminary plat request, the City Council is being tasked with determining if the requests to waive the above-mentioned infrastructure is warranted. According to Section 38-8, *Preliminary Plat*, of Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances, the approval criteria for a preliminary plat is as follows:

(g) *Criteria for Approval*. The following criteria shall be used to determine whether the application for a preliminary plat shall be approved, approved with conditions, or denied:

(1) Where a master plat has been approved for the land subject to the proposed preliminary plat, the preliminary plat conforms to the general layout of the master plat, the conditions attached to the master plat, and the phasing plan approved therein.

(2) The preliminary plat is consistent with all zoning requirements for the property, and any approved development or annexation agreements.

(3) The proposed provision and configuration of roads, water, wastewater, drainage easements and rights-of-way and park facilities conforms to the city's master facilities plans for such facilities, including the city's adopted thoroughfare plan, and any amendments thereto.

(4) The water, wastewater, roadway and drainage systems serving the development have adequate capacity to accommodate the demands for services created by the development at the time of preliminary plat approval, or that such capacity will be available by the time of final plat approval, in accordance with section 38-15 et seq. of these subdivision regulations.

(5) The dedication of land, construction of public improvements or fees to be contributed by the subdivider are adequate to offset the impacts on public improvements created by the development.

(6) The design of the subdivision meets all other standards of this chapter.

(7) Where the proposed development is located in whole in part in the extraterritorial jurisdiction of the city and is subject to an interlocal agreement under V.T.C.A., Local Government Code Chapter 242, the proposed preliminary subdivision plat meets any county standards to be applied pursuant to the agreement.

In addition, Section 38-5, *Policy*, of Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances, states "(l)and shall not be approved for platting or development unless and until adequate public facilities necessary to serve the development exist or provision has been made for the facilities, whether the facilities are to be located within the property being developed or offsite." Should the City Council not wish to approve the waivers requested by the applicant they would effectively be denying the proposed preliminary plat. Staff should point out that if this request is denied, staff will be obligated to recommend that the Planning and Zoning Commission deny *Case No. SP2022-017* on the grounds that adequate public facilities have not been

provided. Attached to this memorandum staff has included the applicant's letter, which provides more background on the request. Should the City Council have any questions concerning this request, staff will be available at the *July 5, 2022* City Council meeting.

June 29, 2022

Ryan Miller
Director of Planning
City of Rockwall
385 South Goliad
Rockwall, Tx 75087

Rockwall ISD – Cover Letter – Ninth Grade Center Projects – Preliminary Plat Submission

Mr, Miller

Per feedback the district received from the Planning and Zoning Commission at the meeting held on June 28th, 2022 and the subsequent meeting that included City of Rockwall and Rockwall ISD staff on June 29th the district proposes to include the additional infrastructure to the Preliminary Plat Submissions:

The district will demolish the existing asphalt E. Quail Run Road from FM 1141 to John King Blvd and will construct a new 24' wide concrete wide road section of the same length and tie in to the existing concrete intersection paving at John King Blvd. The road alignment will be built on the northern half of the right of way adjacent to the district's property. The road section will conform to City of Rockwall construction standards and be in alignment with the city's Master Thoroughfare plan.

Per the meeting held on June 29, 2022 the district understands that adding this scope at the E. Quail Run roadway will be sufficient per city staff to support both the North site at Dalton Ranch and the South site along John King. All other infrastructure proposed in the preliminary plat would remain to be included as previously submitted.

Sincerely,

Will Salee
Executive Director of Operations

Ryan Miller
Director of Planning, City of Rockwall
385 South Goliad
Rockwall TX 75087

June 22, 2022

Rockwall ISD – Preliminary Plat Submittal for Ninth Grade Center Projects

Mr. Miller,

Rockwall ISD is providing this letter to provide clarity to the proposed infrastructure scope for the district's planned North and South Ninth Grade Center projects. Per discussion with city staff on June 21, 2022 it was indicated by city staff to the district that clarification was needed to ensure the proposed scope was easily identifiable for consideration by P&Z and City Council.

In addition to dialogue with you and other city staff members regarding the Ninth Grade Center projects, the district, our architect (Corgan), and Civil Engineer (Glenn Engineering), have also considered the following information below in regards to the proposed the infrastructure scope:

- TIA Reports created by Glenn Engineering, dated April 13, 2022
- TIA Reports created by Pacheco Koch with updated traffic data collected on May 10, 2022 as requested by city staff, report dated May 24, 2022
- TIA Report comments from Binkley & Barfield, dated June 16, 2022
    - District's engineering firms are currently working on comment responses. Comment responses will not significantly alter traffic generated by district proposed development.
- Water and Wastewater Analysis Report by Birkhoff, Hendricks, & Carter LLP, dated May 11, 2022

With current economic conditions persisting that include supply chain disruptions and significant inflation in fuel and building materials, construction pricing continues to increase on a monthly basis. The district acknowledges our obligation to provide the required city infrastructure (Roads, Water, and Waste Water) to support these facilities for the design capacity of two 1,000-student capacity Ninth Grade Center facilities. The district must focus our efforts on providing the required infrastructure before considering any auxiliary infrastructure desires of the city or the district due to the consistently rising construction costs referenced above. The district's obligation above all else is to provide a safe and secure facility that meets the curriculum needs of the district's ninth grade programs and invests the bond funds that have been entrusted to the district in the highest and best way to serve the students of Rockwall ISD. It has been the district's intent in dialogue with the city regarding these projects to meet all of these goals.

The district will comply with all landscaping, storm drainage, and dumpster oil separator requirements noted on the city's plan review. The district has ensured franchise utilities for electric, natural gas, and telephone/fiber are available and is currently in discussions with these utility companies to bring these utilities to the project sites at no cost to the city. These projects will meet the requirements of the planned development zoning and materiality requirements as reviewed by the Architectural Review Board. This includes the John King overlay requirements. No building variances are being requested.

The required, and thus, district proposed, road, water, and wastewater, infrastructure needs for these projects are as follows:

Infrastructure Item Legend
R – Required & Proposed Infrastructure to be constructed by RISD as a part of these projects
O – City Infrastructure per City Comment, Not required at this time per TIA or Infrastructure Report

Rockwall High School Ninth Grade Center (North Site at Dalton Ranch)

Road Infrastructure - General

The school district's engineering firms have performed two traffic impact analysis (TIA) reports for this site as referenced above. The below proposed scope at each road identified is based on what is required to support existing traffic and any new traffic generated by the Ninth Grade Centers. Please note that the proposed Ninth Grade center projects will not have student drivers, as very few ninth graders will have obtained a driver's license during their time at this campus. The current site plan indicates significant stacking length for vehicle queuing that exceeds other district secondary campus locations. These extensive drop off lanes will mitigate back up on city roads.

R Farm to Market 1141 (FM 1141)

This roadway is capable of handling the additional traffic for the new Rockwall High School Ninth Grade Center with improvements. These improvements include widening the existing roadway the entire length of the site from a 2-lane roadway without any shoulders to a 3-lane roadway with 4-foot shoulders. This new roadway will also include deceleration lanes for all proposed driveways and both North Country Lane and Quail Run Road. The 3-lane configuration will provide a left turn lane for the entire site while allowing an open travel lane in both direction so the existing traffic will not be impacted. This improvement will also include a full asphalt overlay the length of the improvement

The estimated cost of the required improvements per the district's construction manager to Farm to Market Road 1141 is $3,083,234

O Panhandle Drive

The current plan for the new Rockwall High School Ninth Grade Center does not require access to this future roadway. The district acknowledges that Panhandle Drive is shown on the City of Rockwall's Master Thoroughfare Plan. However, it is not required to be constructed to handle the daily traffic per the completed TIA reports. Panhandle drive may be constructed in the future should the district need to enlarge the facility and the road is shown to be required by an updated TIA.

The district will provide the right of way as shown in the preliminary plat for this future road development whether built by the district, the city, or developer. Value of the right of way provided is $245,078.

O Quail Run Road

The current plan for the new Rockwall High School Ninth Grade Center does not utilize Quail Run Road for access for drop off and pick up. The site design is for traffic to enter the site on North Country or 1141 for drop off pickup queuing. Bus traffic will use the south portion of the site to keep this traffic separate for safety. The access to Quail Run Road is a courtesy drive for after-hours access for sports events and emergency vehicles. While we acknowledge that Quail Run Road is shown on the City of Rockwall's Master Thoroughfare plan the current road can handle the daily traffic per the completed TIA reports. Quail Run Road may be reconstructed or widened in the future should the district need to enlarge the facility and the road is shown to be required by an updated TIA.

The district will provide the right of way as shown in the preliminary plat for this future road development whether built by the district, the city, or developer. Value of the right of way provided is $73,462.

O North Country Lane

The current plan for the new Rockwall High School Ninth Grade Center will utilize North Country Lane for access for drop off and pick up. The access from North Country Lane is primarily for drop off and pick up for southbound traffic off of FM 1141. We acknowledge that North Country Lane is shown on the City of Rockwall's Master Thoroughfare Plan. The current concrete half section road can handle the daily traffic per the completed TIA reports. North Country Lane may be widened in the future should the district need to enlarge the facility and the road is shown to be required by an updated TIA.

The district will provide the right of way as shown in the preliminary plat for this future road development whether built by the district, the city, or developer. Value of the right of way provided is $60,606.

Water

R Presently there is a 16" water line on the east side of Farm to Market 1141 (FM 1141), a 12" water line on the North Side of North Country Lane and a 12" Water Line on the north side of Quail Run Road. A looped 8" line around the Proposed Rockwall Ninth Grade Center will be constructed for fire protection. The 12" water line on the north side of North Country Lane will be extended east to the existing 16" line in FM 1141 completing the loop connection. A 4" Domestic line will be provided from the Proposed 12" line in North Country Lane to the new Rockwall Ninth Grade Center. Based the existing water pressures and with the above improvements the City of Rockwall is capable of providing the water needs for the new Rockwall High School Ninth Grade Center.

O The 12" water line on the Master Infrastructure plan along Panhandle Drive is not required to provide domestic or fire protection water service to the facility at this time. This line may be built in the future should the district need to enlarge the facility and it is shown to be needed at that time. The district will provide the easement for the future water line as shown on the preliminary plat.

Sanitary Sewer

R An 8" sanitary sewer line will be provided from the new Rockwall Ninth Grade Center to the proposed sanitary sewer line being constructed by the developer on the south side of Quail Run.

Rockwall Heath High School Ninth Grade Center (South Site at GBCCA & John King Blvd)

Road Infrastructure - General

The school district's engineering firms have performed two traffic impact analysis (TIA) reports for this site as referenced above. The below proposed scope at each road identified is based on what is required to support existing traffic and any new traffic generated by the Ninth Grade Centers. Please note that the proposed ninth grade center projects will not have student drivers, as very few ninth graders will have obtained a driver's license during their time at this campus. The current site plan indicates significant stacking length for vehicle queuing that exceeds other district secondary campus locations. These extensive drop off lanes will mitigate back up on city roads. Note the drop off pick up times for the College and Career Academy and the Ninth Grade Center will be offset by one hour as the CCA does not operate the first and last period of the school day.

R South John King Boulevard

This roadway is capable of handling the additional traffic for the new Rockwall Heath High School Ninth Grade Center. All access for the new Rockwall Heath High School Ninth Grade Center will be taken from South John King Boulevard. Some of the access to the site will come from the existing drives for the

Gene Burton Academy. The original design for the Academy showed additional buildings being placed on this site and so the drive was constructed for future development.

O Stableglen Drive

The current plan for the new Rockwall Heath High School Ninth Grade Center does not require access to this future roadway. While we acknowledge that Stableglen Drive is shown on the City of Rockwall's Master Thoroughfare Plan, the current development of the Ninth Grade Center just like the Gene Burton Academy does not require the construction of Stableglen to handle the daily traffic. Stableglen may be constructed in the future should the district need to enlarge the facility and the road is shown to be required by an updated TIA.

The district will provide the right of way as shown in the preliminary plat for this future road development whether built by the district, the city, or developer. Value of the right of way provided is $289,256.

Water

R Presently there is a 16" water line ending at the southeast corner of the Gene Burton Academy. This 16" water line will be extended to the southeast corner of the proposed Rockwall Heath High School Ninth Grade Center Site. With the construction of The Gene Burton Academy an 8" water line was constructed for fire protection and an 8" stub out connection was provided for future growth at the southeast corner of the existing Academy. A looped 8" line around the proposed Rockwall Heath High School Ninth Grade Center will be constructed for fire protection. A 4" Domestic line will be provided from the Proposed 16" along John King Blvd to the new Rockwall Heath High School Ninth Grade Center. Based on the Water and Wastewater Analysis provided by the City of Rockwall prepared by Birkhoff, Hendricks and Carter L.L.P. dated May 11, 2022, with the above improvements, the City of Rockwall water system is capable of providing the needs for the new Rockwall Heath High School Ninth Grade Center.

O The 12" water line on the Master Infrastructure plan along Stableglen Drive is not required to provide domestic or fire protection water service to the facility at this time. This line may be built in the future should the district need to enlarge the facility and it is shown to be needed at that time. The district will provide the easement for the future water line as shown on the preliminary plat.

R Sanitary Sewer

Presently there is an 8" sanitary sewer serving this proposed site that is connected to the Hickory Ridge Lift Station. Based on the above referenced infrastructure report for Water and Wastewater Analysis this line has the capacity to serve the new Rockwall Heath High School Ninth Grade Center. While the line and the lift station both have adequate capacity, the analysis indicated that even though the downstream Mims Road force main currently has capacity, this capacity will be utilized by future developments and the school site was not part of the future development.

As such, the Rockwall Independent School District would have to construct approximately 3 miles of the Little Buffalo Creek Trunk Sewer Main from the existing Hickory Ridge Lift Station to the FM 3097 No. 1 Lift station as shown on the City of Rockwall's Master Sewer Plan. City staff has indicated that they may not be able to ensure construction of the CIP portion of the line from the lift station at FM 3097 to Wallace Lake in time for the district's Ninth Grade Center to open in the summer of 2024. The construction of the Little Buffalo Trunk Sewer main will result in the Hickory Creek Lift Station no longer being needed. The School District would like the flexibility in the alignment of the City's C.I.P. project to be better able to serve future development / subdivisions on the east side of Wallace Lake. While preserving the intent of the trunk main.

Rockwall
INDEPENDENT SCHOOL DISTRICT

The district's construction manager estimates the cost to build this sewer line extension to serve the facility to be approximately $2,250,000.00 not including the cost to acquire easements through the property required.

Conclusion

The district, as indicated above, will be committing to a significant investment in the required city infrastructure to support these projects. These commitments as part of the proposed development of these projects include road improvements, city sanitary sewer trunk line extensions, city water line extensions, and granting of right of ways and easements for potential future construction if and when it is needed. All proposed construction is in alignment with the city's Master Infrastructure and Thoroughfare plans to the extent that it is required to be constructed. The district is asking for consideration and approval of the proposed city infrastructure improvements as indicated in this letter. The school district, which is a similar governmental entity as the city, must always remain a good steward of taxpayer dollars while meeting its obligations to the community and city in regards to the development of these projects. Acceptance of the infrastructure as proposed will ensure the district meets these obligations.

Proposed School District Infrastructure Investments

Construction of FM 1141 road improvements	$3,083,234
12" Water line extension along North Country	$39,600
South John King Road Improvements	$18,630
16" Water line extension along John King Blvd	$125,800
Little Buffalo Creek sanitary Sewer Line Extension	$2,250,000
Total estimated cost of ROWs granted	$668,403
Total Investment in City Infrastructure by RISD	**$6,185,667**

Sincerely,

William Salee
Executive Director of Operations

DEVELOPMENT APPLICATION

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

STAFF USE ONLY

PLANNING & ZONING CASE NO.

NOTE: *THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.*

DIRECTOR OF PLANNING:

CITY ENGINEER:

PLEASE CHECK THE APPROPRIATE BOX BELOW TO INDICATE THE TYPE OF DEVELOPMENT REQUEST [SELECT ONLY ONE BOX]:

PLATTING APPLICATION FEES:
- ☐ MASTER PLAT ($100.00 + $15.00 ACRE) [1]
- ■ PRELIMINARY PLAT ($200.00 + $15.00 ACRE) [1]
- ☐ FINAL PLAT ($300.00 + $20.00 ACRE) [1]
- ☐ REPLAT ($300.00 + $20.00 ACRE) [1]
- ☐ AMENDING OR MINOR PLAT ($150.00)
- ☐ PLAT REINSTATEMENT REQUEST ($100.00)

SITE PLAN APPLICATION FEES:
- ☐ SITE PLAN ($250.00 + $20.00 ACRE) [1]
- ☐ AMENDED SITE PLAN/ELEVATIONS/LANDSCAPING PLAN ($100.00)

ZONING APPLICATION FEES:
- ☐ ZONING CHANGE ($200.00 + $15.00 ACRE) [1]
- ☐ SPECIFIC USE PERMIT ($200.00 + $15.00 ACRE) [1 & 2]
- ☐ PD DEVELOPMENT PLANS ($200.00 + $15.00 ACRE) [1]

OTHER APPLICATION FEES:
- ☐ TREE REMOVAL ($75.00)
- ☐ VARIANCE REQUEST/SPECIAL EXCEPTIONS ($100.00) [2]

NOTES:
[1]: IN DETERMINING THE FEE, PLEASE USE THE EXACT ACREAGE WHEN MULTIPLYING BY THE PER ACRE AMOUNT. FOR REQUESTS ON LESS THAN ONE ACRE, ROUND UP TO ONE (1) ACRE.
[2]: A ***$1,000.00*** FEE WILL BE ADDED TO THE APPLICATION FEE FOR ANY REQUEST THAT INVOLVES CONSTRUCTION WITHOUT OR NOT IN COMPLIANCE TO AN APPROVED BUILDING PERMIT.

PROPERTY INFORMATION [PLEASE PRINT]

ADDRESS					
SUBDIVISION	Rockwall High School 9th Grade Center	LOT	1	BLOCK	1
GENERAL LOCATION	Northwest corner of Quail Run Road and FM 1141				

ZONING, SITE PLAN AND PLATTING INFORMATION [PLEASE PRINT]

CURRENT ZONING	AG		CURRENT USE	Public School	
PROPOSED ZONING	PD for NS uses		PROPOSED USE	Public School	
ACREAGE	76.08 acres	LOTS [CURRENT]	1	LOTS [PROPOSED]	1

■ ***SITE PLANS AND PLATS:*** *BY CHECKING THIS BOX YOU ACKNOWLEDGE THAT DUE TO THE PASSAGE OF HB3167 THE CITY NO LONGER HAS FLEXIBILITY WITH REGARD TO ITS APPROVAL PROCESS, AND FAILURE TO ADDRESS ANY OF STAFF'S COMMENTS BY THE DATE PROVIDED ON THE DEVELOPMENT CALENDAR WILL RESULT IN THE DENIAL OF YOUR CASE.*

OWNER/APPLICANT/AGENT INFORMATION [PLEASE PRINT/CHECK THE PRIMARY CONTACT/ORIGINAL SIGNATURES ARE REQUIRED]

☐ OWNER	Rockwall Independent School District	☐ APPLICANT	Rockwall Independent School District
CONTACT PERSON	William Salee - Executive Director of Operations	CONTACT PERSON	Robert Howman
ADDRESS	1191 T.L. Townsend Drive	ADDRESS	4500 Fuller Drive
			Suite 220
CITY, STATE & ZIP	Rockwall, Texas 75087	CITY, STATE & ZIP	Irving, Texas 75038
PHONE	469-698-7031	PHONE	972.989.2174 (mobile)
E-MAIL	will.salee@rockwallisd.org	E-MAIL	rahowman@glennengineering.com

NOTARY VERIFICATION [REQUIRED]

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED WILL SALEE [*OWNER*] THE UNDERSIGNED, WHO STATED THE INFORMATION ON THIS APPLICATION TO BE TRUE AND CERTIFIED THE FOLLOWING:

"I HEREBY CERTIFY THAT I AM THE OWNER FOR THE PURPOSE OF THIS APPLICATION; ALL INFORMATION SUBMITTED HEREIN IS TRUE AND CORRECT; AND THE APPLICATION FEE OF $ 1,341.20 *, TO COVER THE COST OF THIS APPLICATION, HAS BEEN PAID TO THE CITY OF ROCKWALL ON THIS THE* 16th *DAY OF* JUNE *, 20* 22 *BY SIGNING THIS APPLICATION, I AGREE THAT THE CITY OF ROCKWALL (I.E. "CITY") IS AUTHORIZED AND PERMITTED TO PROVIDE INFORMATION CONTAINED WITHIN THIS APPLICATION TO THE PUBLIC. THE CITY IS ALSO AUTHORIZED AND PERMITTED TO REPRODUCE ANY COPYRIGHTED INFORMATION SUBMITTED IN CONJUNCTION WITH THIS APPLICATION, IF SUCH REPRODUCTION IS ASSOCIATED OR IN RESPONSE TO A REQUEST FOR PUBLIC INFORMATION."*

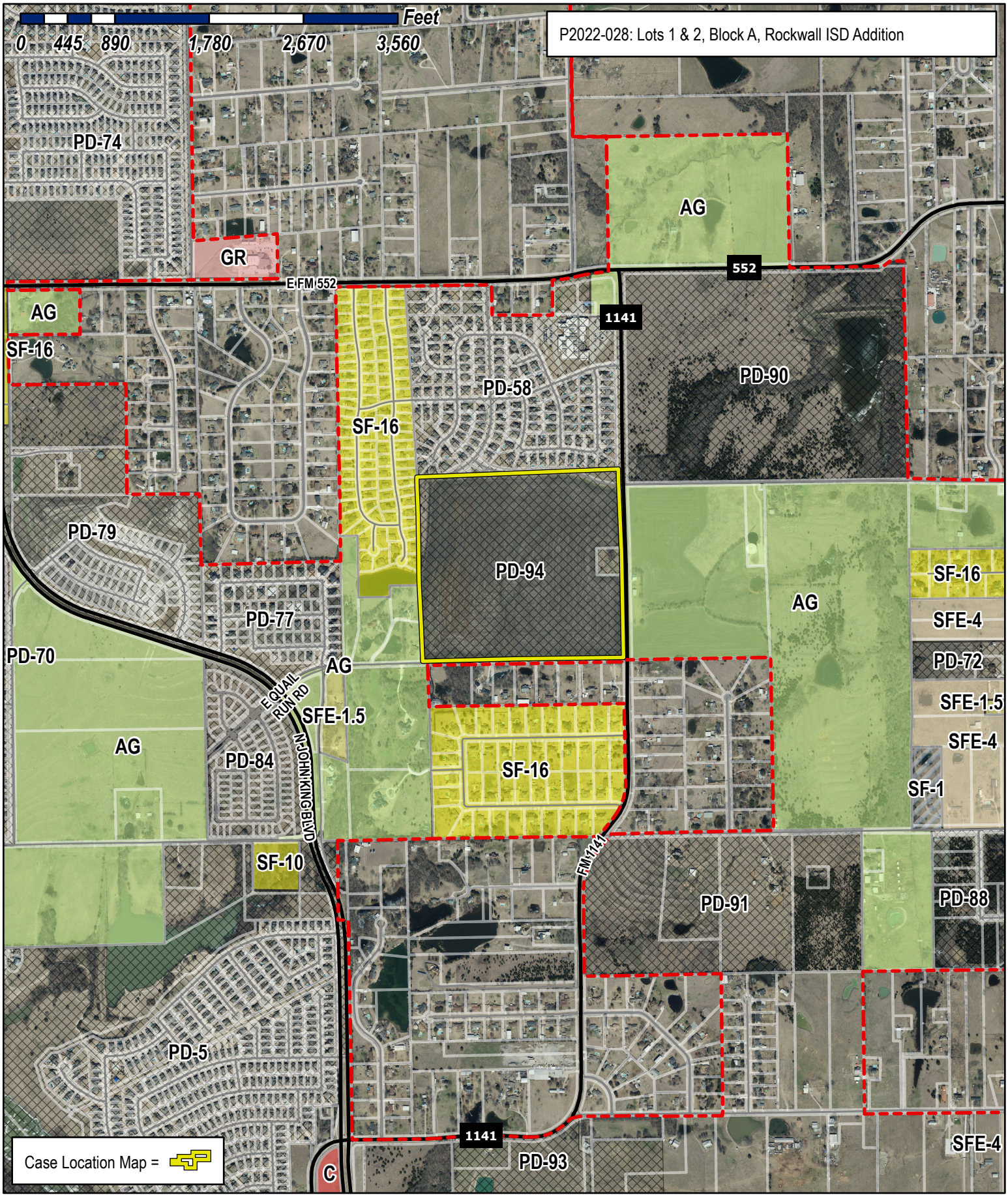
GIVEN UNDER MY HAND AND SEAL OF OFFICE ON THIS THE 16th *DAY OF* June *, 20* 22

OWNER'S SIGNATURE

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MELANIE PYLAND
My Notary ID # 126570708
Expires August 6, 2024

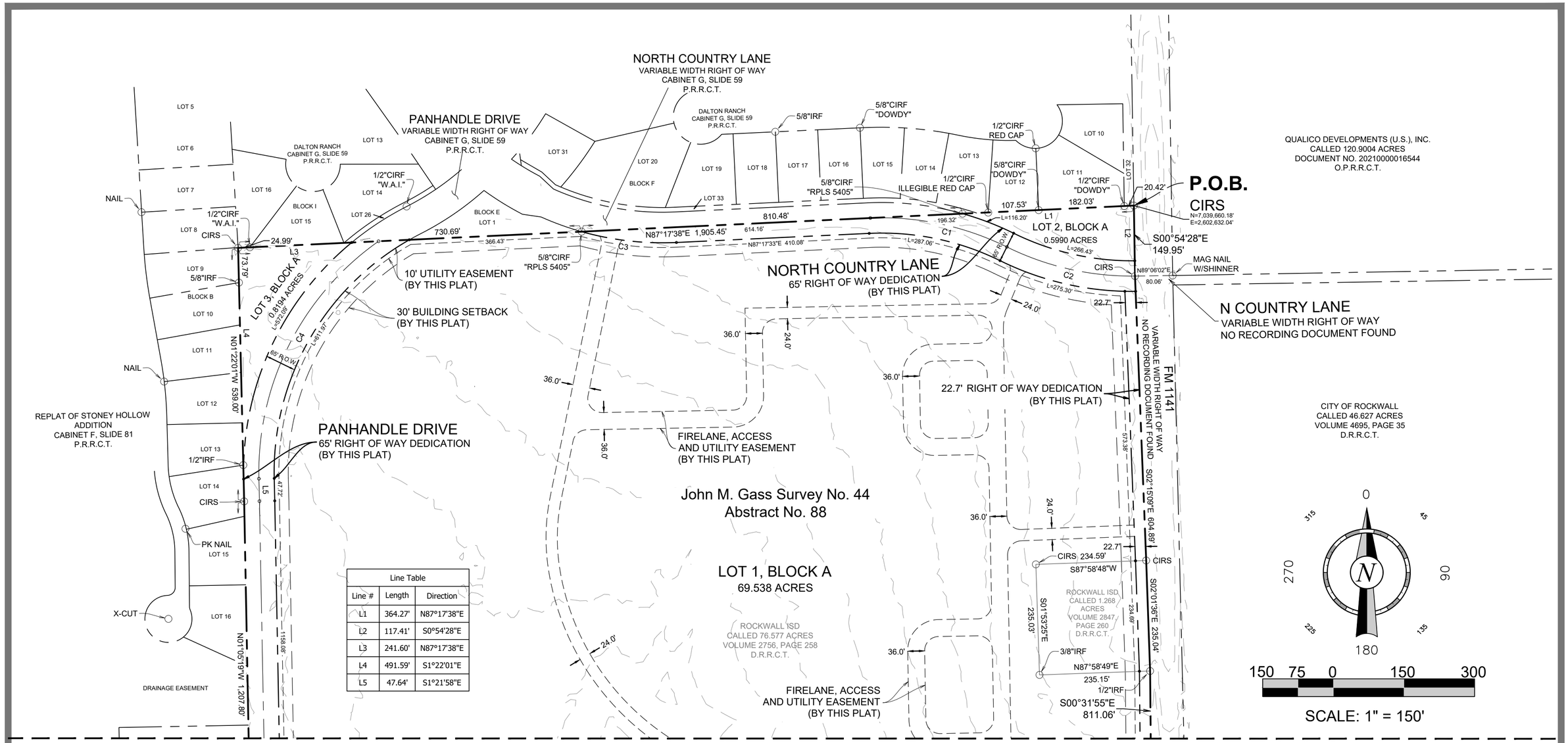
MY COMMISSION EXPIRES



City of Rockwall

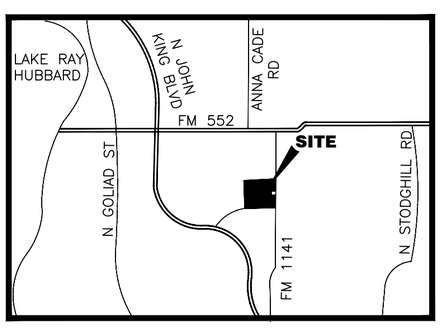
Planning & Zoning Department
385 S. Goliad Street
Rockwall, Texas 75032
(P): (972) 771-7745
(W): www.rockwall.com

The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.

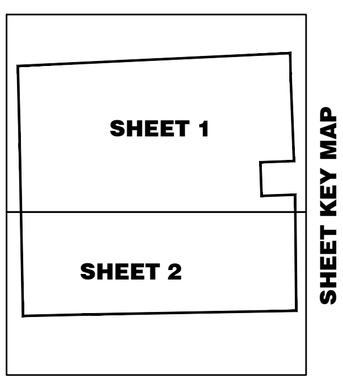


Line Table		
Line #	Length	Direction
L1	364.27'	N87°17'38"E
L2	117.41'	S0°54'28"E
L3	241.60'	N87°17'38"E
L4	491.59'	S1°22'01"E
L5	47.64'	S1°21'58"E

Match Line – See Sheet 2



LOCATION MAP
NOT TO SCALE



LEGEND

DEED RECORDS, ROCKWALL COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS

PLAT RECORDS ROCKWALL COUNTY, TEXAS

IRF	**IRON ROD FOUND**
CIRF	**CAPPED IRON ROD FOUND AS NOTED**
CIRS	**1/2" CAPPED IRON ROD STAMPED "BOWMAN PROP COR"**
MNF	**MAG NAIL FOUND**
MNS	**MAG NAIL SET**
P.O.B.	**POINT OF BEGINNING**
A.E.	**ACCESS EASEMENT**
B.L.	**BUILDING LINE**
D.E.	**DRAINAGE EASEMENT**
N.G.E.	**NATURAL GAS EASEMENT**
U.E.	**UTILITY EASEMENT**
S.S.E.	**SANITARY SEWER EASEMENT**
W.E.	**WATER LINE EASEMENT**
D.U.E.	**DRAINAGE AND UTILITY EASEMENT**
DIM	**DIMENSION**

OWNER:
Rockwall ISD
801 East Washington St.
Rockwall Texas, 75087
(469) 698-7031
Contact: William Salee

ENGINEER:
Glenn Engineering Corp.
105 Decker Court, Suite 910
Irving, Texas 75062
TBPE FIRM NO. F-303
(972) 989-2174 Cell
(972) 717-5151 Office
Contact: Robert Howman

SURVEYOR:
Bowman Consulting Group, Ltd.
1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104

PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

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1200 West Magnolia Blvd., Suite 300
Fort Worth, TX 76104
TBPELS #10120600

Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 1 of 3

Match Line – See Sheet 1

Curve Table					
Curve #	Chord Bearing	Chord Distance	Arc Length	Radius	Delta
C1	S78°01'54"E	296.49'	299.59'	600.08'	28°36'17"
C2	S77°11'02"E	279.26'	281.85'	600.09'	26°54'37"
C3	S83°29'06"E	202.79'	203.67'	632.59'	18°26'48"
C4	S26°43'30"W	565.15'	588.45'	600.09'	56°11'02"

REMAINDER OF
CALLED 4.0005 ACRES
DOYL C. TULLY AND WIFE,
VONETTE S. TULLY
VOLUME 951, PAGE 61
D.R.R.C.T.

N01°05'19"W 1,207.80'

65' R.O.W.

1158.08'

John M. Gass Survey No. 44
Abstract No. 88

FIRELANE, ACCESS
AND UTILITY EASEMENT
(BY THIS PLAT)

24.0'

22.7' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

36.0'

22.7'

S00°31'55"E 811.06'

761.48'

VARIABLE WIDTH RIGHT OF WAY
NO RECORDING DOCUMENT FOUND

FM 1141

30' BUILDING SETBACK
(BY THIS PLAT)

10' UTILITY EASEMENT
(BY THIS PLAT)

CITY OF ROCKWALL
CALLED 46.627 ACRES
VOLUME 4695, PAGE 35
D.R.R.C.T.

LOT 1, BLOCK A
69.538 ACRES

PANHANDLE DRIVE
65' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

ROCKWALL ISD
CALLED 76.577 ACRES
VOLUME 2756, PAGE 258
D.R.R.C.T.

NALLEY MICHAEL R & LORI D
CALLED 2.517 ACRES
VOLUME 1024, PAGE 324
D.R.R.C.T.

EAST QUAIL RUN ROAD
VARIABLE WIDTH RIGHT OF WAY
NO RECORDING DOCUMENT FOUND

49.5' RIGHT OF WAY DEDICATION
(BY THIS PLAT)

408.90'

1413.73'

49.5'

49.5'

22.7'

MNS

S89°52'23"E
80.48'

1/2"IRF

MAG NAIL
W/SHINNER

N=7,037,823.79'
E=2,600,764.52'

S88°42'51"W 473.96'

MAG NAIL

FOUND MAG NAIL BEARS
S72°41'19"W, 2.77'

MNS

30'

1/2"IRF

1/2"IRF

S88°58'59"W 1,435.90'

1/2"IRF

30'

RYAN S HUDDIN AND JADA HUDDIN
CALLED 2.00 ACRES
DOCUMENT NO. 20200000001690
O.P.R.R.C.T.

1/2"IRF

JEFFREY LEWIS AND BOBBIE JO LEWIS
CALLED 2.00 ACRES
DOCUMENT NO. 2016-00005283
O.P.R.R.C.T.

GERALD GLEN COX & ROSALBA CARRASCO COX
CALLED 29.97 ACRES
DOCUMENT NO. 2016-00006512
O.P.R.R.C.T.

SHEILA FLANNERY ET AL
VOLUME 1124, PAGE 65
D.R.R.C.T.

NO DEED FOUND

SADDLEBROOK ESTATES
CABINET A, SLIDE 307
P.R.R.C.T.

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

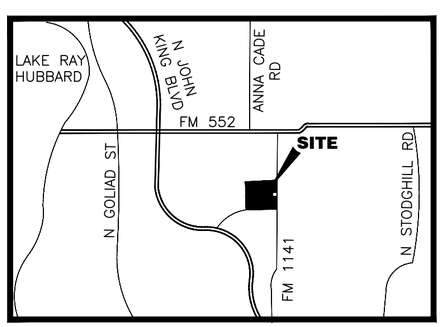
LOT 9

LOT 10

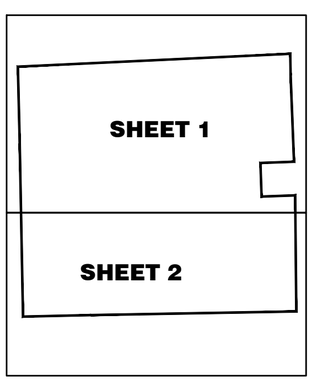
0
315
45
270
90
225
135
180
N

150 75 0 150 300

SCALE: 1" = 150'



LOCATION MAP
NOT TO SCALE



SHEET KEY MAP

LEGEND

DEED RECORDS, ROCKWALL COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS

PLAT RECORDS ROCKWALL COUNTY, TEXAS

IRF	IRON ROD FOUND
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PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

LOTS 1 AND 2, BLOCK A
BEING 76.536 ACRES
SITUATED WITHIN THE
JOHN M. GASS SURVEY NO. 44, ABSTRACT NUMBER 88
CITY OF ROCKWALL , ROCKWALL COUNTY, TEXAS

Bowman

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TBPELS #10120600
Phone: (214) 484-8586
www.bowman.com

Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 2 of 3

PLAT PERIMETER LEGAL DESCRIPTION

STATE OF TEXAS §
COUNTY OF ROCKWALL §

WHEREAS, Rockwall Independent School District being the owner of a 69.538 acre tract of land situated within the John M Gass Survey No. 44, Abstract No. 88, City of Rockwall, Rockwall County, Texas, and being all of a called 76.577 acre tract of land as described in the deed to Rockwall ISD recorded in Volume 2756, Page 258 of the Deed Records of Rockwall County, Texas (hereafter referred to as the ISD Tract). Said 69.538 acre tract of land being more particularly describes by metes and bounds as follows:

BEGINNING at a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northeast corner of said ISD Tract, being on the west right of way line of FM 1141, a variable width right of way, as evidenced by the plat designated as “Dalton Ranch” recorded in Cabinet G, Slide 59 of the Plat Records of Rockwall County, Texas;

THENCE SOUTH 00 degrees 54 minutes 28 seconds EAST, 149.95 feet with the west right of way line of said FM 1141 to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set;

THENCE SOUTH 02 degrees 15 minutes 09 seconds EAST, 604.89 feet with the west right of way line of said FM 1141 to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northeast corner of a called 1.268 acre tract of land as described in the deed to Rockwall ISD recorded in Volume 2847, Page 260 of said Deed Records;

THENCE SOUTH 02 degrees 01 minute 36 seconds EAST, 235.04 feet with the with the west right of way line of said FM 1141 to a 1/2-inch iron rod found at the southeast corner of said called 1.268 acre tract of land;

THENCE SOUTH 00 degrees 31 minutes 55 seconds EAST, 811.06 feet with the west right of way line of said FM 1141 to a MAG nail with shiner set at the southeast corner of said ISD Tract, being the northeast corner of a 30-foot right of way dedication for East Quail Run Road as dedicated on the plat designated as “Saddlebrook Estates” recorded in Cabinet A, Slide 307 of said Plat Records;

THENCE SOUTH 88 degrees 58 minutes 59 seconds WEST, 1,435.90 feet with the south line of said ISD Tract, being the north line of said right of way dedication and the approximate centerline of said East Quail Run Road to a MAG nail with shiner set at the northwest corner of said right of way dedication;

THENCE SOUTH 88 degrees 42 minutes 51 seconds WEST, 473.96 feet with the south line of said ISD Tract and the approximate centerline of said East Quail Run Road to the southwest corner of said ISD Tract from which a found MAG nail bears SOUTH 72 degrees 41 minutes 19 seconds WEST, 2.77 feet;

THENCE NORTH 01 degree 05 minutes 19 seconds WEST, 1,207.80 feet with the west line of said ISD Tract and being the east line of a called 2.517 acre tract of land as described in the deed to Michael R and Lori D Nalley recorded in Volume 1024, Page 324 of said Deed Records, the east line of the remainder of a called 4.0005 acre tract of land as described in the deed to Doyl C. Tully and wife, Vonette S. Tully recorded in Volume 951, Page 61 of said Deed Records and being the east line of Block B of the plat designated as “Replat of Stoney Hollow Addition” recorded in Cabinet F, Slide 81 of said Plat Records to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set;

THENCE NORTH 01 degree 22 minutes 01 second WEST, 539.00 feet with the west line of said ISD Tract and being the east line of said Block B to a 1/2-inch capped iron rod stamped "BOWMAN PROP COR" set at the northwest corner of said ISD Tract and being the southwest corner of said Dalton Ranch;

THENCE NORTH 87 degrees 17 minutes 38 seconds EAST, 1,905.45 feet with the north line of said ISD Tract and being the south line of said Dalton Ranch to the POINT OF BEGINNING containing 69.538 acres.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

STATE OF TEXAS

COUNTY OF ROCKWALL

I *(we)* the undersigned owner(s) of the land shown on this plat, and designated herein as the ***ROCKWALL I.S.D. ADDITION a*** subdivision to the City of Rockwall, Texas, and whose name is subscribed hereto, hereby dedicate to the use of the public forever all streets, alleys, parks, water courses, drains, easements and public places thereon shown on the purpose and consideration therein expressed. I (we) further certify that all other parties who have a mortgage or lien interest in the ***ROCKWALL I.S.D. ADDITION*** subdivision have been notified and signed this plat. I *(we)* understand and do hereby reserve the easement strips shown on this plat for the purposes stated and for the mutual use and accommodation of all utilities desiring to use or using same. I (we) also understand the following;

1. No buildings shall be constructed or placed upon, over, or across the utility easements as described herein.
2. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other growths or improvements which in any way endanger or interfere with construction, maintenance or efficiency of their respective system on any of these easement strips; and any public utility shall at all times have the right of ingress or egress to, from and upon the said easement strips for purpose of construction, reconstruction, inspecting, patrolling, maintaining, and either adding to or removing all or part of their respective system without the necessity of, at any time, procuring the permission of anyone.
3. The City of Rockwall will not be responsible for any claims of any nature resulting from or occasioned by the establishment of grade of streets in the subdivision.
4. The developer and subdivision engineer shall bear total responsibility for storm drain improvements.
5. The developer shall be responsible for the necessary facilities to provide drainage patterns and drainage controls such that properties within the drainage area are not adversely affected by storm drainage from the development.
6. No house dwelling unit, or other structure shall be constructed on any lot in this addition by the owner or any other person until the developer and/or owner has complied with all requirements of the Subdivision Regulations of the City of Rockwall regarding improvements with respect to the entire block on the street or streets on which property abuts, including the actual installation of streets with the required base and paving, curb and gutter, water and sewer, drainage structures, storm structures, storm sewers, and alleys, all according to the specifications of the City of Rockwall; or

   Until an escrow deposit, sufficient to pay for the cost of such improvements, as determined by the city's engineer and/or city administrator, computed on a private commercial rate basis, has been made with the city secretary, accompanied by an agreement signed by the developer and/or owner, authorizing the city to make such improvements at prevailing private commercial rates, or have the same made by a contractor and pay for the same out of the escrow deposit, should the developer and/or owner fail or refuse to install the required improvements within the time stated in such written agreement, but in no case shall the City be obligated to make such improvements itself. Such deposit may be used by the owner and/or developer as progress payments as the work progresses in making such improvements by making certified requisitions to the city secretary, supported by evidence of work done; or

   Until the developer and/or owner files a corporate surety bond with the city secretary in a sum equal to the cost of such improvements for the designated area, guaranteeing the installation thereof within the time stated in the bond, which time shall be fixed by the city council of the City of Rockwall.
7. Property owner shall be responsible for maintaining, repairing, and replacing all systems in the detention and drainage easements.

I (we) further acknowledge that the dedications and/or exaction's made herein are proportional to the impact of the Subdivision upon the public services required in order that the development will comport with the present and future growth needs of the City; I (we), my (our) successors and assigns hereby waive any claim, damage, or cause of action that I (we) may have as a result of the dedication of exactions made herein.

Rockwall Independent School District

_____

Rockwall Independent School District - Dr. John Villarreal
Superintendent

STATE OF TEXAS COUNTY OF ROCKWALL

Before me, the undersigned authority, on this day personally appeared Dr. John Villarreal known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein stated.

Given upon my hand and seal of office this _____ day of _____, ***2022***.

_____ _____
Notary Public in and for the State of Texas ***My Commission Expires***

PLAT NOTES:

1. The Basis of Bearings for this plat is GRID NORTH as established by GPS observation utilizing the Texas Coordinate System of 1983, North Central Zone. To obtain a grid distance, multiply the ground distance by 0.999853886.
2. NOTICE: Selling a portion of this addition by metes and bounds is a violation of City ordinance and state law and is subject to fines and withholding of utilities and building permits.
3. All corners are 1/2" iron rods set with a plastic cap stamped "BOWMAN PROP COR" unless otherwise noted.
4. Lot, block and ROW corners will be set after substantial completion of the infrastructure.
5. According to Map No. 48397C0035L and 48397C0030L, both dated 09/26/2008 of the National Flood Insurance Program Map, Flood Insurance Rate Map of Rockwall County, Texas, Federal Emergency Management Agency, Federal Insurance Administration, Panel 30 and 35 of 145, this property is within Zone X unshaded, based on scaled imaging.

GENERAL NOTES:

1. It shall be the policy of the City of Rockwall to withhold issuing building permits until all streets, water, sewer and storm drainage systems have been accepted by the City. The approval of a plat by the City does not constitute any representation, assurance or guarantee that any building within such plat shall be approved, authorized or permit therefore issued, nor shall such approval constitute any representation, assurance or guarantee by the City of the adequacy and availability for water for personal use and fire protection within such plat, as required under Ordinance 83 54.

CERTIFICATE OF SURVEYOR

NOW, THEREFORE KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, A LSLS & REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND.

Preliminary, this document shall not be recorded for any purpose and shall not be used or viewed or relied upon as a final survey document. Released to the City for review. 2022-06

_____
ROBERT A. HANSEN
LSLS & REGISTERED PROFESSIONAL
LAND SURVEYOR, NO. 6439
RHANSEN@BOWMAN.COM
DATE:

STATE OF TEXAS
COUNTY OF
ROCKWALL

Before me, the undersigned authority, on this day personally appeared Dr. John Villarreal known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein stated.

Given upon my hand and seal of office this _____ day of _____, ***2022***.

_____ _____
Notary Public in and for the State of Texas ***My Commission Expires***

RECOMMENDED FOR FINAL APPROVAL:

_____ _____
Planning & Zoning Commission, Chairman ***Date***

APPROVED:

I hereby certify that the above and foregoing plat of an addition to the City of Rockwall, Texas, was approved by the City Council of the City of Rockwall on the _____ day of _____, ***2022***.

This approval shall be invalid unless the approved plat for such addition is recorded in the office of the County Clerk of Rockwall, County, Texas, within one hundred eighty (180) days from said date of final approval.

WITNESS OUR HANDS, this _____ day of _____, ***2022***.

_____ _____ _____
Mayor, City of Rockwall ***City Secretary*** ***City Engineer***

OWNER:
Rockwall ISD
801 East Washington St.
Rockwall Texas, 75087
(469) 698-7031
Contact: William Salee

ENGINEER:
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PRELIMINARY PLAT

ROCKWALL I.S.D. ADDITION

LOTS 1 AND 2, BLOCK A
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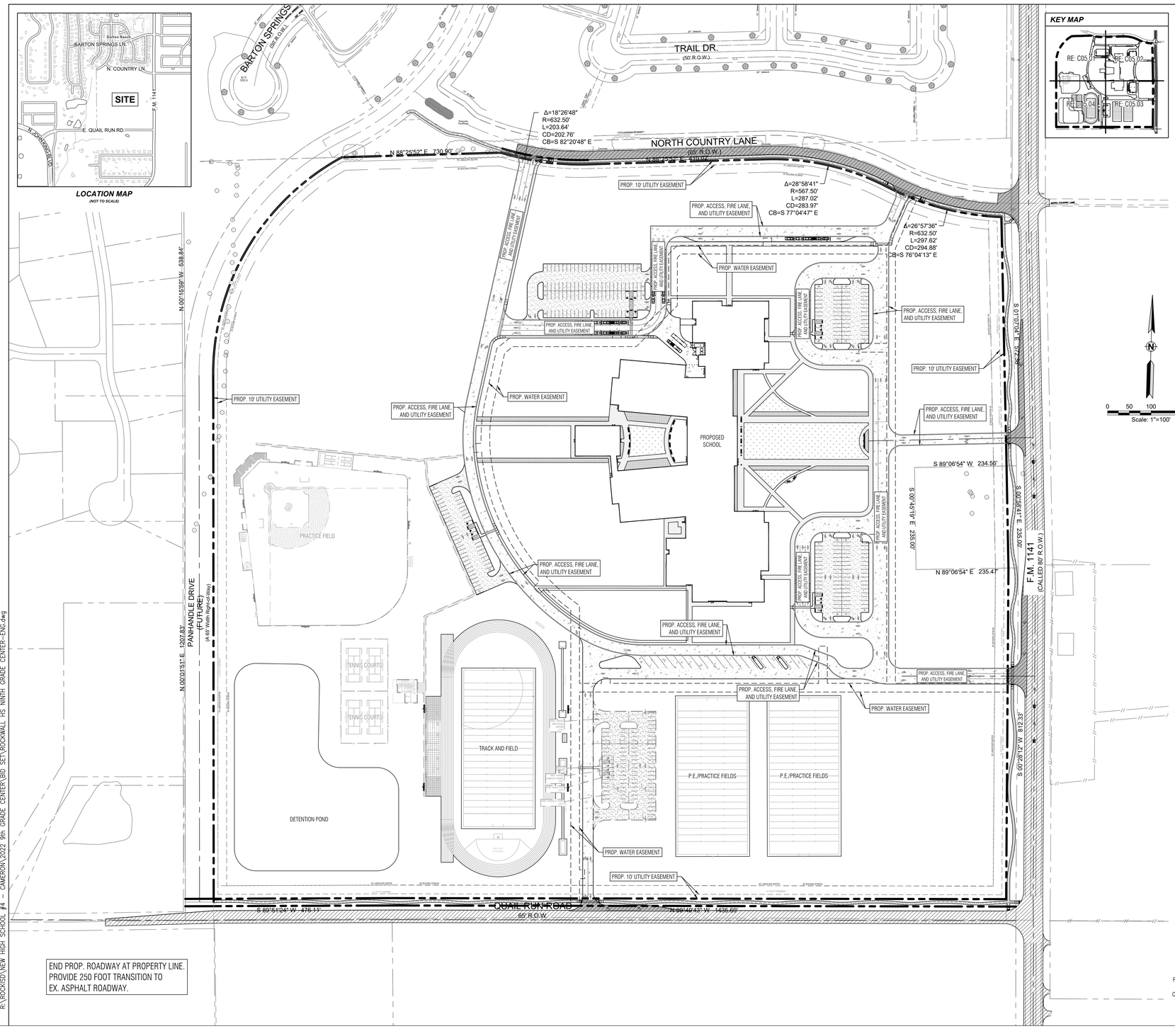
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TBPELS #10120600
Phone: (214) 484-8586
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Bowman Job No.: 10305 | Drawn By: RAP | Sheet: 3 of 3

LOCATION MAP
(NOT TO SCALE)



END PROP. ROADWAY AT PROPERTY LINE.
PROVIDE 250 FOOT TRANSITION TO
EX. ASPHALT ROADWAY.

KEY MAP

GENERAL SITE NOTES

1. STRIPING & SIGNAGE DIMENSIONS ARE FROM FACE OF CURB.
2. ALL FIRE LANES, PARKING STRIPING, HANDICAP PARKING STRIPING & SIGNAGE ARE TO BE IN ACCORDANCE WITH CITY OF ROCKWALL REQUIREMENTS, TYP.
3. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CITY OF ROCKWALL SPECIFICATIONS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.
5. ALL WORK SHALL CONFORM TO THE CITY OF ROCKWALL SPECIFICATIONS, STANDARDS, AND DETAILS.
6. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS, PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.
8. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATING EXISTING UTILITIES AND IMPROVEMENTS PRIOR TO CONSTRUCTION.
9. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN TO THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR REVIEW.
10. MARK FIRE LANES TO THE CITY OF ROCKWALL SPECIFICATION. "NO PARKING FIRE LANE" EVERY 25' WHITE 4" LETTERS ON A 6" RED STRIPED BACKGROUND.
11. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
12. BARRIER FREE RAMPS (BFR) IN PUBLIC R.O.W. SHALL BE PER CITY SPECIFICATIONS.
13. ALL OUTDOOR LIGHTING MUST BE ORIENTED SO THAT LIGHTING LEVELS AT ALL PROPERTY LINES ARE 1FOT-CANDLE OR LESS.

PAVING LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- PAINTED TRAFFIC DIRECTIONAL ARROW
- PROPERTY LINE
- 10' MASONRY SCREENING WALL
- (PRIVATE) 5" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 6" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6/6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 2" AC SURFACE COURSE (TYPE D) OVER 6.5" AC SURFACE COURSE (TYPE B) OVER 8" STABILIZED SUBGRADE OVER 9" RECOMPACTED SUBGRADE
- (PRIVATE) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 24" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- PLANTING AREAS. RE: LANDSCAPE

PAVING LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE

SITE DATA SUMMARY TABLE

EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	153,187 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	194,206 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	153,187 S.F.
LOT COVERAGE	153,187 S.F./3,044,079 S.F. = 5.03%
FLOOR AREA RATIO	0.06:1
TOTAL IMPERVIOUS AREA	734,662.08 S.F. OR 16.87 AC.
BUILDING HEIGHT	1ST-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0x18.0	202 SPACES
9.0x20.0	159 SPACES
15.0x30.0	20 SPACES
TOTAL PARKING PROVIDED	381 SPACES

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WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

REVISIONS		

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB # 1752575193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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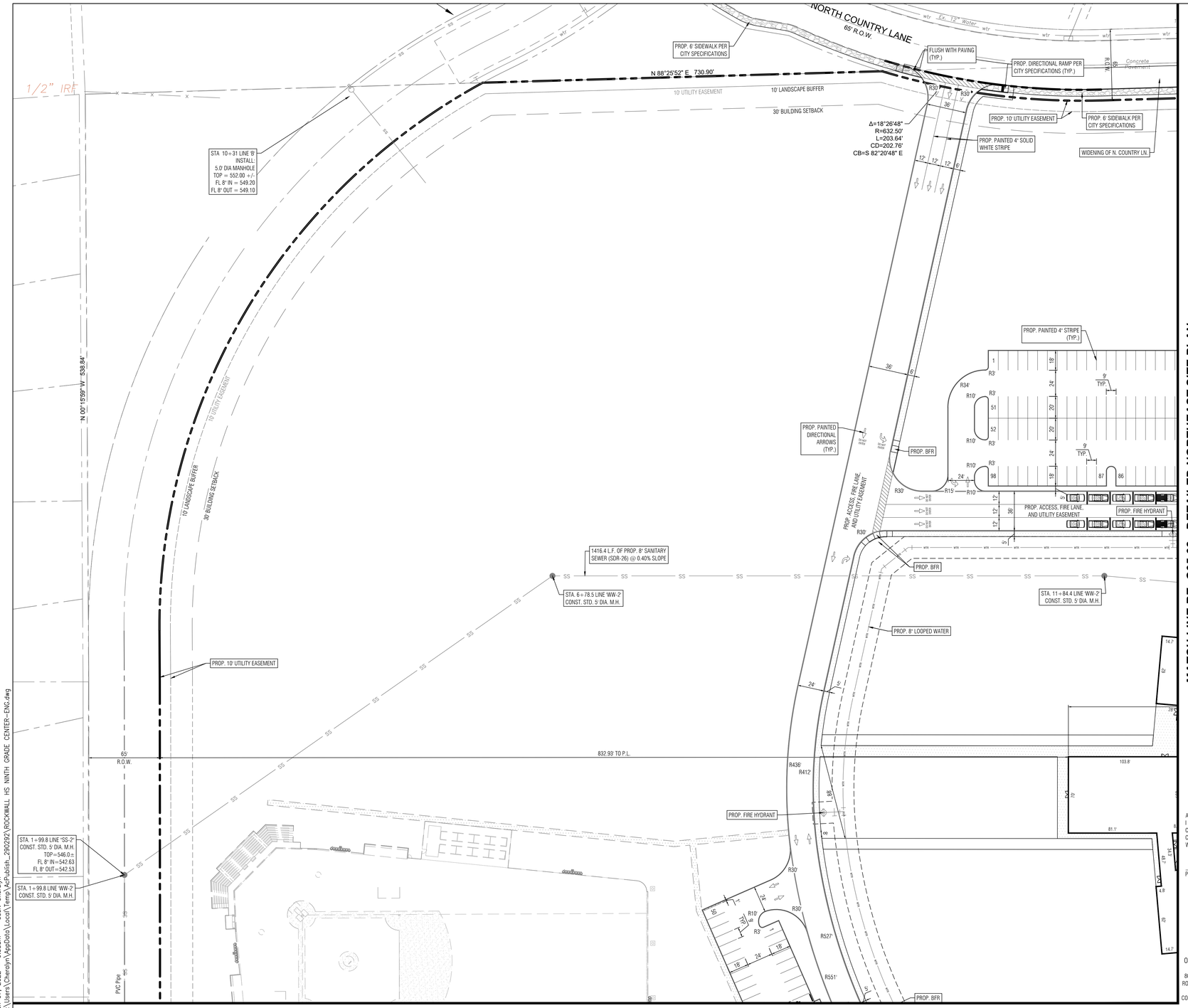
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

OVERALL SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.00

Jun 07, 2022 - 10:12am User: Cheralyn
R:\ROCKISD\NEW HIGH SCHOOL #4 - CAMERON\2022 9th GRADE CENTER\BID SET\ROCKWALL HS NINTH GRADE CENTER-ENG.dwg



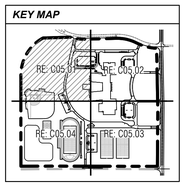
SITE LEGEND (PROPOSED)

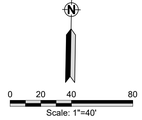
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- EDGE OF CONCRETE
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- FIRE LANE PAINTED TRAFFIC DIRECTIONAL ARROW
- PLANTING AREAS RE: LANDSCAPE
- PROPERTY LINE
- WASTEWATER
- 10' MASONRY SCREENING WALL
- SIDEWALK (PRIVATE)
- SIDEWALK (PUBLIC)
- WATER

SITE LEGEND (EXISTING)

- CONCRETE CURB
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KEY MAP





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Planning & Zoning Commission, Chairman

Director of Planning and Zoning

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ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

△ REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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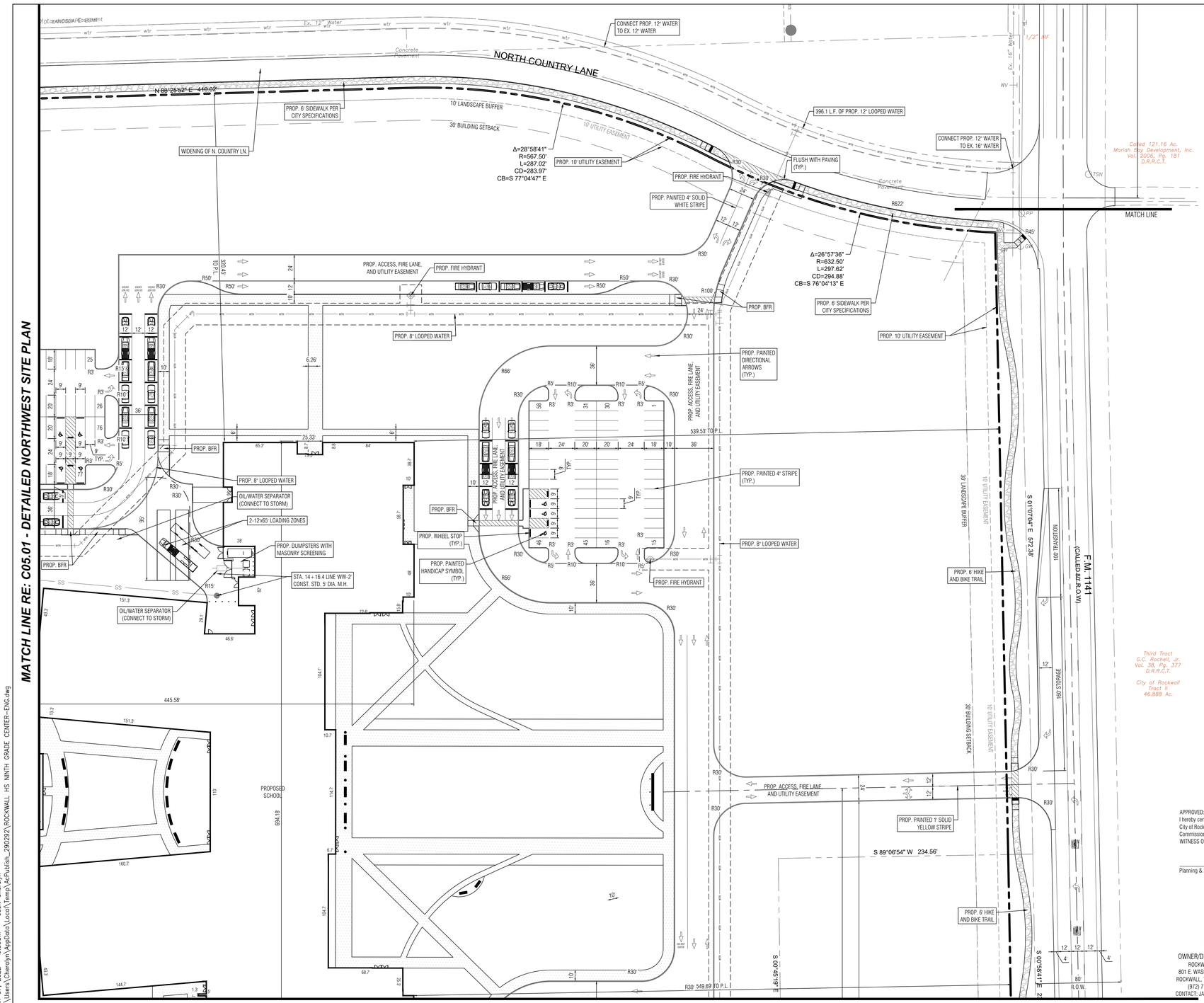
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED NORTHWEST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.01

Jun 07, 2022 – 9:38am User: Cheralyn
C:\Users\Cheralyn\AppData\Local\Temp\AcPublish_23\0292\ROCKWALL HS NINTH GRADE CENTER-ENG.dwg



MATCH LINE RE: C05.01 - DETAILED NORTHWEST SITE PLAN

MATCH LINE RE: C05.03 - DETAILED SOUTHEAST SITE PLAN

0 20 40 80
Scale: 1"=40'

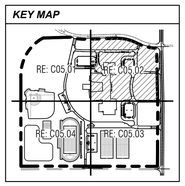
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Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD 801 E. WASHINGTON ST. ROCKWALL, TEXAS 75087 (972) 771-0605 CONTACT: JAMES WATSON	BOWMAN 1200 W. MAGNOLIA BLVD. SUITE 300 FORT WORTH, TEXAS 76104 (214) 484-8586 CONTACT: ROBERT HANSEN	GLENN ENGINEERING CORP. 4500 FULLER DR. IRVING, TEXAS 75038 (972) 717-5151 CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

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ISSUES		
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ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED NORTHEAST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET

C05.02

Jun 07, 2022 -- 9:39am User: Cheralyn
C:\Users\Cheralyn\AppData\Local\Temp\AcPublish_29029\ROCKWALL HS NINTH GRADE CENTER-ENG.dwg

MATCH LINE RE: C05.04 - DETAILED SOUTHWEST SITE PLAN

MATCH LINE RE: C05.02 - DETAILED NORTHEAST SITE PLAN

PROP. FIRE HYDRANT
PROP. PAINTED 4" STRIPE (TYP.)
PROP. PAINTED HANDICAP SYMBOL (TYP.)
PROP. WHEEL STOP (TYP.)
PROP. BFR
STA. 16+34.5 LINE 'WW-1' CONST. STD. 5' DIA. M.H.
PROP. ACCESS, FIRE LANE AND UTILITY EASEMENT
PROP. 8" LOOPED WATER
PROP. 20' WATER EASEMENT
PROP. PAINTED DIRECTIONAL ARROWS (TYP.)
PROP. 6' HIKE AND BIKE TRAIL
100' TRANSITION
180' STORAGE
30' BUILDING SETBACK
10' UTILITY EASEMENT
PROP. PAINTED 1' SOLID YELLOW STRIPE
PROP. PAINTED 4' SOLID WHITE STRIPE
CONNECT PROP. 8" WATER TO EX. 16" WATER
F.M. 1141 (CALLED 80' R.O.W.)
N 89°06'54" E 235.47'
545.18' C.L. TO C.L. 15' F/F
Fourth Tract G.C. Rochell, Jr. Vol. 38, Pg. 377 D.R.R.C.T.
City of Rockwall
S 00°28'12" W 812.33'
80' ROW
30' LANDSCAPE BUFFER
P.E./PRACTICE FIELDS
670.38' TO P.I.
N 89°49'43" W 1435.69'
QUAIL RUN ROAD
65' R.O.W.
Ex. 12" Water
MATCH LINE

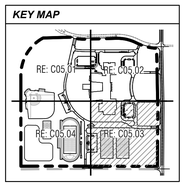
SITE LEGEND (PROPOSED)

- CONCRETE CURB
- EDGE OF ASPHALT
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- ORNAMENTAL FENCE
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SITE LEGEND (EXISTING)

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KEY MAP



0 20 40 80
Scale: 1"=40'

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Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
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CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS. 75038
(972) 771-0605	FORT WORTH, TEXAS. 76104	(9/72) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES

1	05/11/22	30% PROGRESS SET

REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752375193300
PHONE (972) 717-5151 FAX (972) 717-2176
4500 FULLER DRIVE, SUITE 220 IRVING, TEXAS 75038

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ROCKWALL NINTH GRADE CENTER

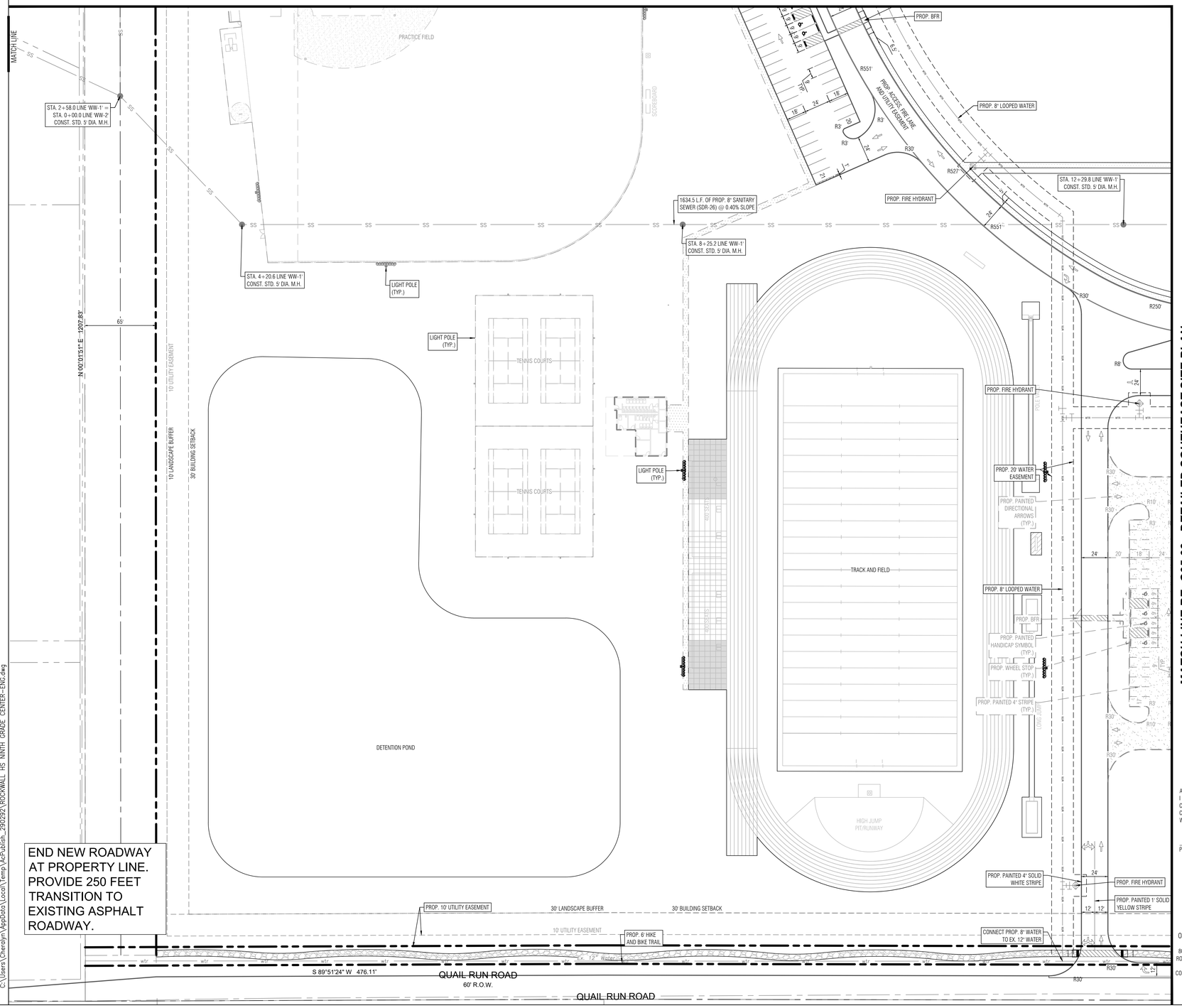
2852 F.M. 1141
Rockwall, TX 75087

DETAILED SOUTHEAST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.03

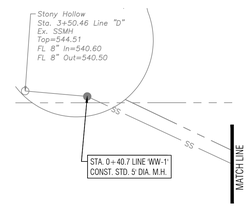
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MATCH LINE RE: C05.01 - DETAILED NORTHWEST SITE PLAN



END NEW ROADWAY AT PROPERTY LINE. PROVIDE 250 FEET TRANSITION TO EXISTING ASPHALT ROADWAY.

MATCH LINE RE: C05.03 - DETAILED SOUTHEAST SITE PLAN



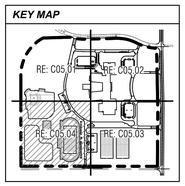
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KEY MAP



0 20 40 80
Scale: 1"=40'

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SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

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ISSUES

1	05/11/22	30% PROGRESS SET

REVISIONS

GLENN ENGINEERING
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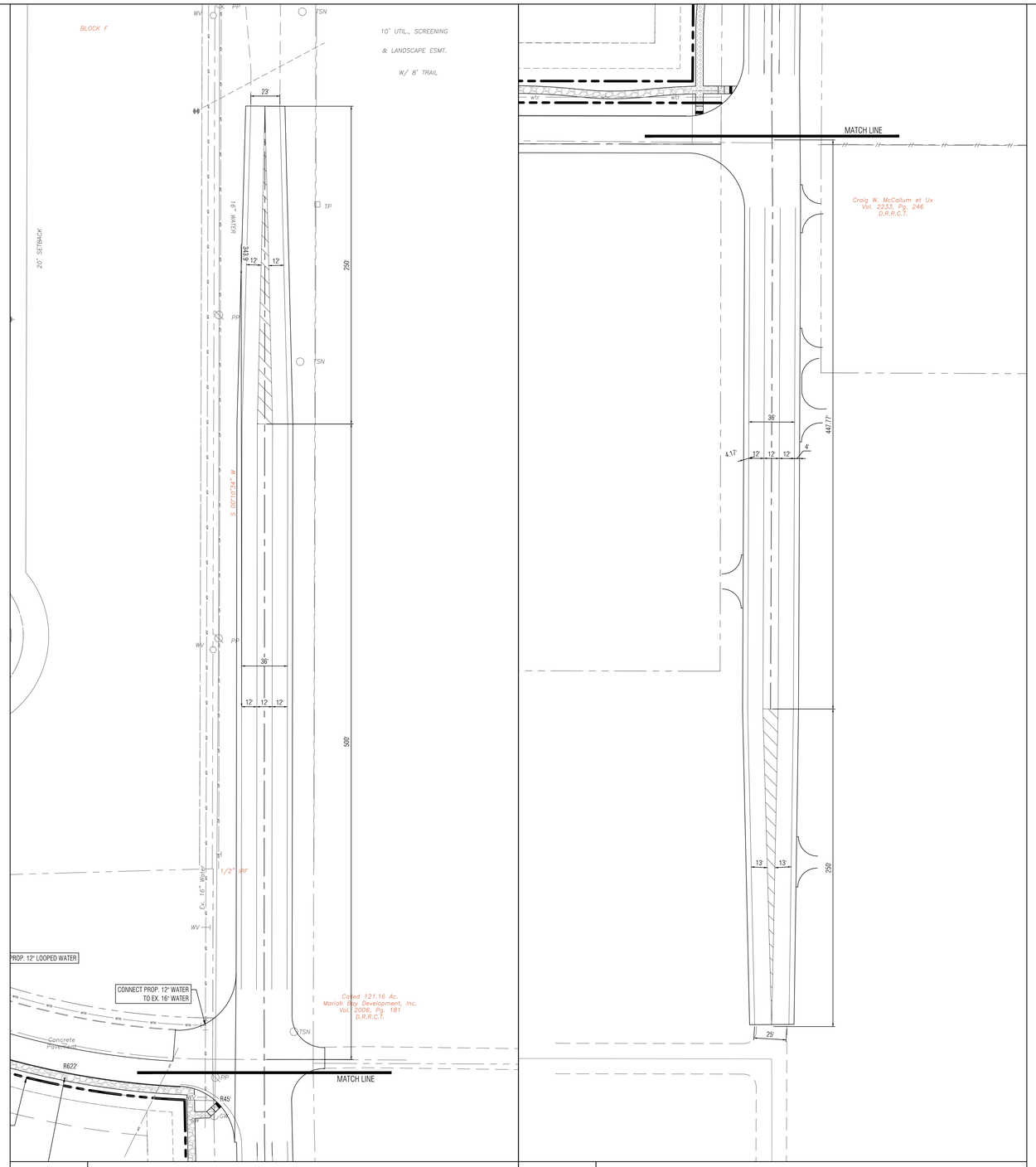
ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

DETAILED SOUTHWEST SITE PLAN

JOB 21572.0000
DATE 05/11/22
SHEET C05.04

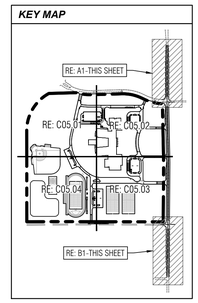
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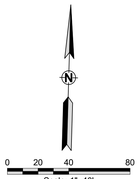


A1	NORTHEAST F.M. 1141 PAVING IMPROVEMENTS	B1	SOUTHEAST F.M. 1141 PAVING IMPROVEMENTS
1"=40'		1"=40'	

Jun 07, 2022 - 9:39am User: Cheralyn
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KEY MAP





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ROCKWALL ISD
801 E. WASHINGTON ST.
ROCKWALL, TEXAS 75087
(972) 771-0605
CONTACT: JAMES WATSON

SURVEYOR:
BOWMAN
1200 W. MAGNOLIA BLVD.
SUITE 300
FORT WORTH, TEXAS 76104
(214) 484-8586
CONTACT: ROBERT HANSEN

ENGINEER:
GLENN ENGINEERING CORP.
4500 FULLER DR.
IRVING, TEXAS 75038
(972) 717-5151
CONTACT: CHERALYN M. ARMIJO

CITY OF ROCKWALL CASE NO. SP2022-017

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

ISSUES		
1	05/11/22	30% PROGRESS SET

REVISIONS		

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303
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4500 FULLER DRIVE, SUITE 220
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IRVING, TEXAS 75038

PRELIMINARY-FOR REVIEW ONLY
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Date: 05/11/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

F.M. 1141 ROAD IMPROVEMENTS

JOB 21572.0000
DATE 05/11/22
SHEET

C05.05

EX. RUNOFF CALCULATIONS ROCKWALL NINTH GRADE CENTER

AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY "I 100" (INCHES/HR)	DESIGN FLOW "Q 100" (CFS)	REMARKS
A1	69.57	10	0.35	9.80	238.63	
	TOTAL				TOTAL	
	69.57				238.63	

PROP. RUNOFF CALCULATIONS ROCKWALL NINTH GRADE CENTER

AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY "I 100" (INCHES/HR)	DESIGN FLOW "Q 100" (CFS)	REMARKS
A1	69.57	10	0.70	9.80	477.25	
	TOTAL				TOTAL	
	69.57				477.25	

DRAINAGE AREA MAP LEGEND

DRAINAGE DIVIDE

DA# A1
69.57 Ac.
238.63 cfs
DRAINAGE AREA
NUMBER OF ACRES
DESIGN FLOW
DRAINAGE FLOW

CONCRETE CURB
CONTOUR (MAJOR) 450
CONTOUR (MAJOR) 451
EDGE OF ASPHALT
EDGE OF CONCRETE
STORM SEWER LINE
HEADWALL

BARTON SPRINGS
(50' R.O.W.)
TRAIL DR.
(50' R.O.W.)
NORTH COUNTRY LANE
(65' R.O.W.)
Δ=18°26'48"
R=632.50'
L=203.64'
CD=202.76'
CB=S 82°20'48" E
Δ=28°58'41"
R=567.50'
L=287.02'
CD=283.97'
CB=S 77°04'47" E
Δ=26°57'36"
R=632.50'
L=297.62'
CD=294.88'
CB=S 76°04'13" E
1/2" IRF
Called 38.320 Ac.
Holmc, Inc.
Vol. 1805, Pg. 296
D.R.R.C.T.
N 00°15'50" W 658.84'
DR-Horton, Texas, Ltd.
Vol. 2328, Pg. 27
D.R.R.C.T.
N 00°01'51" E 1207.83'
PANHANDLE DRIVE
(FUTURE)
(A 66' Width Ranged Area)
Doyl C. Tully et Ux
Vol. 951, Pg. 61
D.R.R.C.T.
Michael R. Nolley et Ux
Vol. 1024, Pg. 324
D.R.R.C.T.
DA# A1
69.57 Ac.
238.63 cfs
PROPOSED
DETENTION
POND
S 89°06'54" W 234.56'
S 00°45'19" E 235.00'
N 89°06'54" E 235.41'
S 00°58'41" E 235.00'
S 01°07'04" E 572.38'
S 00°28'12" W 512.33'
F.M. 1141
(CALLED 80' R.O.W.)
Third Tract
G.C. Rochell, Jr.
Vol. 38, Pg. 377
D.R.R.C.T.
City of Rockwall
Tract II
46.888 Ac.
Fourth Tract
G.C. Rochell, Jr.
Vol. 38, Pg. 377
D.R.R.C.T.
City of Rockwall
QUAIL RUN ROAD
65' R.O.W.
S 89°51'24" W 476.11'
N 89°49'43" W 1435.69'
$Q_{EX.}$ = 238.63 cfs
$Q_{PROP.}$ NOT TO EXCEED 238.63 cfs
Sheila & William J. Flannery, III
Vol. 1124, Pg. 65
D.R.R.C.T.
First Section
Saddlebrook Estates
Cab. A, Sl. 307
P.R.R.C.T.
Craig W. McCallum et Ux
Vol. 2233, Pg. 246
D.R.R.C.T.

N

0 50 100 200
Scale: 1"=100'

CORGAN

CORGAN ASSOCIATES, INC.
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Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

	ISSUES	
1	05/11/22	30% PROGRESS SET
	REVISIONS	

GLENN ENGINEERING
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Date: 6/16/22

ROCKWALL NINTH GRADE CENTER

2852 F.M. 1141
Rockwall, TX 75087

EXISTING DRAINAGE AREA MAP

JOB 21572.0000
DATE 6/16/22
SHEET

C08.00

CITY OF ROCKWALL CASE NO.

Statement of Service

Prepared for
Rockwall Independent School District
Rockwall High School Ninth Grade Center Site
On Farm to Market 1141
South of North Country Road and North of East Quail Run Road

City of Rockwall, Rockwall County, Texas

June 2022

Prepared By:

GLENN ENGINEERING

GLENN ENGINEERING CORPORATION
T.B.P.E. REGISTRATION NO. F-303
4500 Fuller Drive, Suite 220
Irving, Texas 75038
(972) 717.5151

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UTILITIES

Utility Information

Water

Presently there is a 16" water line on the east side of FM 1141 , a 12" water line on the north side of North Country Lane and a 12" Water Line on the north side of Quail Run Road. A looped 8" line around the Proposed Rockwall Ninth Grade Center will be constructed for fire protection. The 12" water line on the north side of North Country Lane will be extended east to the existing 16" line in FM 1141 completing the loop connection. A 4" domestic line will be provided from the proposed 12" in North Country Lane to the new Rockwall Ninth Grade Center. Based the existing water pressures and with the above improvements the City of Rockwall is capable of providing the water needs for the new Rockwall Heath Ninth Grade Center. (see Site plan sheets C5.01 – C5.04.)

Sanitary Sewer

Presently there is an 8" sanitary sewer stubbed out in Panhandle Road for future development from the south. This line has the capacity for the Rockwall Ninth Grade Center, however, based on the proposed Finish Floor elevation of the new Rockwall Ninth Grade Center a gravity line to the manhole cannot be achieved. Therefore an 8" sanitary sewer line is proposed from the new Rockwall Ninth Grade Center to the existing 8" line in the cul de sac at the end of Cobblestone Drive in the Stoney Hollow Addition. This existing 8" line has the capacity to serve the new Rockwall High School Ninth Grade Center and is the same drainage basin as the line on Panhandle. (see Site plan sheets C5.01 – C5.04.)

Storm Sewer

For the purpose of this study, it is assumed that all drainage will discharge into the existing bar ditch on the North side of Quail Run Road and flow west in the bar ditch on the North side to a triple 5'x4' box culverts flowing south under Quail Run Road. The storm sewer lines will be private and owned and operated by Rockwall ISD. A detention facility will be constructed at the southeast corner of the site and will not negatively impact the downstream neighbors. The design of the detention will be in accordance with the City of Rockwall's Standards of drainage and construction. (See Site plan sheets C5.01 – C5.04 and C8.00 Drainage area map.)

Electric

Electric service is available to the existing school site. Oncor Electric Delivery is capable of providing adequate 3-phase power to the site, but requires a site plan and load calculations to determine the size and location of lines.

Gas

If Atmos Energy is capable of providing adequate gas service to the school site, a site plan and load calculations will be required to determine the size and location of lines.

Telephone

Telephone service is available from AT&T.

ROADWAYS

Roadway Information

Farm to Market 1141 (FM 1141)

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. This roadway is capable of handling the additional traffic for the new Rockwall High School Ninth Grade Center with the improvements shown on the site plans. (See both reports for detailed information) These improvements include widening the existing roadway for the entire length of the site from and 2 lane roadway without any shoulders to a 3 lane roadway with 4 foot shoulders. This new roadway will also include deceleration lanes for all proposed driveways and both North Country Lane and Quail Run Road. The 3-lane configuration will provide a left tune line for the entire site while allowing a open travel lane in both direction so the existing traffic will not be impacted. (See Traffic Management Plan)

Panhandle Drive

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center does not show or require access to this future roadway. While we acknowledge that Panhandle Drive is shown on the City of Rockwall's Master Thoroughfare Plan the current Panhandle Drive is not required to handle the daily traffic. Panhandle will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

Quail Run Road

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center does not utilize Quail Run Road for access for Drop of and pick up. The access to Quail Run Road is a courtesy drive for afterhours access and emergency vehicles. While we acknowledge that Quail Run Road is shown on the City of Rockwall's Master Thoroughfare Plan the current asphalt road can handle the daily traffic. Quail Run Road will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

North Country Lane

The school district has performed two traffic Impact Analysis (TIA) for this site per the request of the City of Rockwall's staff. The current plan for the new Rockwall High School Ninth Grade Center will utilize North Country Lane for access for Drop of and pick up. The Access from North Country Lane is primarily for drop off and pick up for southbound traffic off of FM 1141 . While we acknowledge that North Country Lane Road is shown on the City of Rockwall's Master Thoroughfare Plan the current concrete half section road can handle the daily traffic. North Country Lane will be constructed in a future phase of construction as this site continues to grow if required by an updated TIA. (See Traffic Management Plan)

May 24, 2022
PK# 5359-22.340

TRAFFIC IMPACT ANALYSIS

Project:
Rockwall ISD North Ninth Grade Center TIA
In Rockwall, Texas

Prepared for:
City of Rockwall

On behalf of:
Glenn Engineering Corp.

Prepared by:

Hunter W. Lemley, P.E., PTOE



Pacheco Koch
a Westwood company

7557 Rambler Road, Suite 1400
Dallas, Texas 75231-2388
(972) 235-3031 www.pkce.com
TX.REG: ENGINEERING FIRM F-469
TX. REG. SURVEYING FIRM LS-100080-00

EXECUTIVE SUMMARY

The services of **Pacheco Koch** were retained by **Glenn Engineering Corp.** to prepare a Traffic Impact Analysis (TIA) for the proposed public school known as *Rockwall ISD North Ninth Grade Center* (the "Project") located at the southwest corner of FM 1141 and N Country Lane in Rockwall, Texas. The Project will consist of a ninth-grade center with an approximate max enrollment of 1,000 students. Buildout of the Project is estimated to occur by 2024. A TIA is required by the City of Rockwall for review as part of the Owner's request for site plan approval.

The purpose of this report is to estimate the incremental impact on the background traffic operational conditions caused by the proposed development within a specific study area as determined by standardized engineering analyses. The study parameters used in this TIA are based upon the requirements of the City and are consistent with the standard industry practices used in similar studies.

Based upon the analyses performed herein, Pacheco Koch developed the following findings and recommendations.

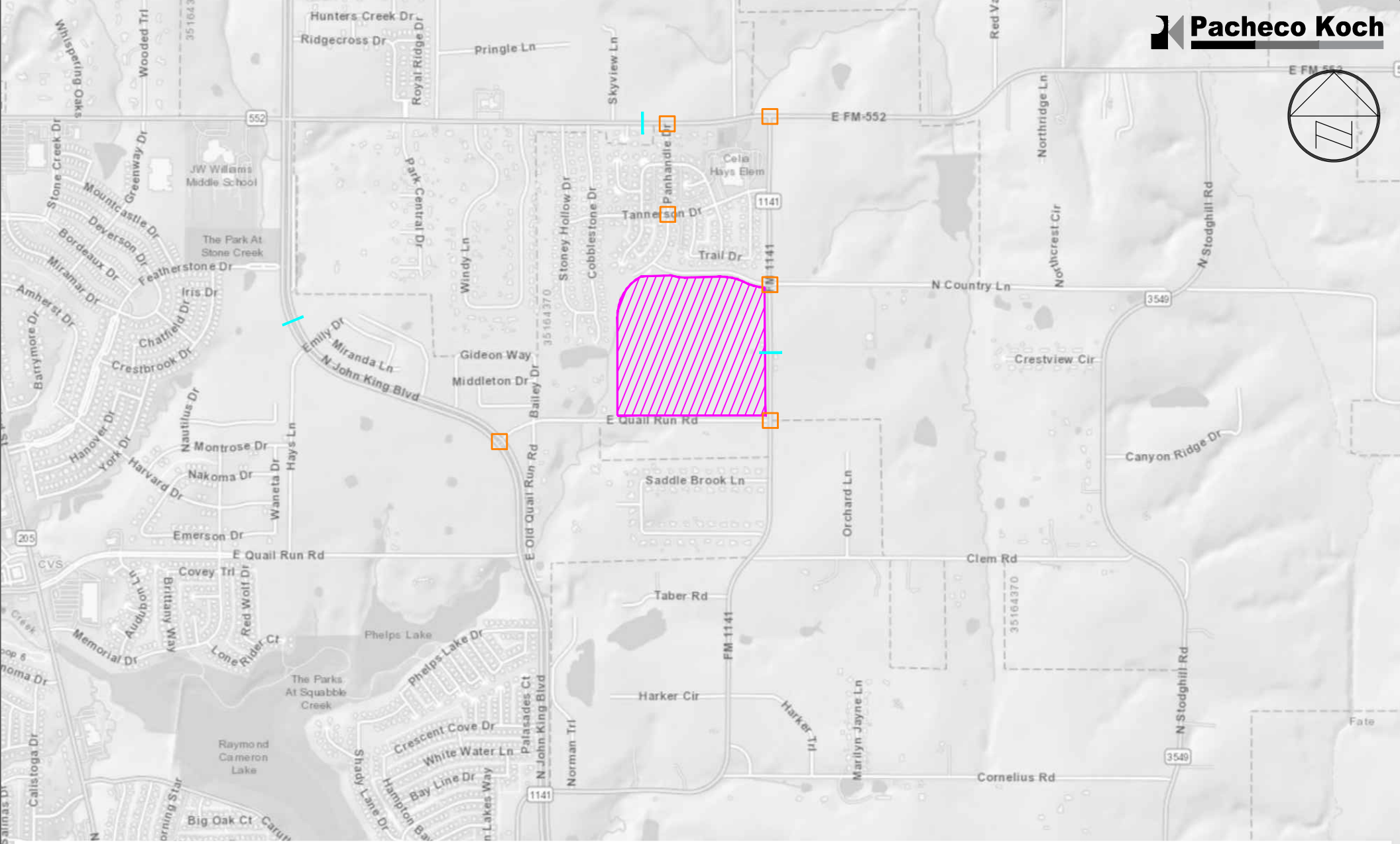
FINDING: The intersection of FM 1141 and FM 552 currently operates efficiently and at "acceptable" Levels of Service during peak traffic periods. However, with the addition of projected school traffic, the calculated average delays for the northbound left-turning maneuvers at the intersection are projected to degrade to "unacceptable" LOS. This condition is common for similar unsignalized intersections on major roadways where a traffic signal being the only mitigation measure to improve the condition. However, with the low projected traffic volumes at the driveway, a traffic signal would not be warranted.

- RECOMMENDATION: As part of the development, the following improvements will be constructed and are assumed to be implemented in the "Build" Scenario of the study:

  1. Right-turn deceleration lanes at all inbound driveways along FM 1141 and E Quail Run Road.

  2. Construction and widening of FM 1141 along the frontage of the site to a three-lane cross-section to include a center two-way left-turn lane for separation of inbound left-turns entering the campus.

END



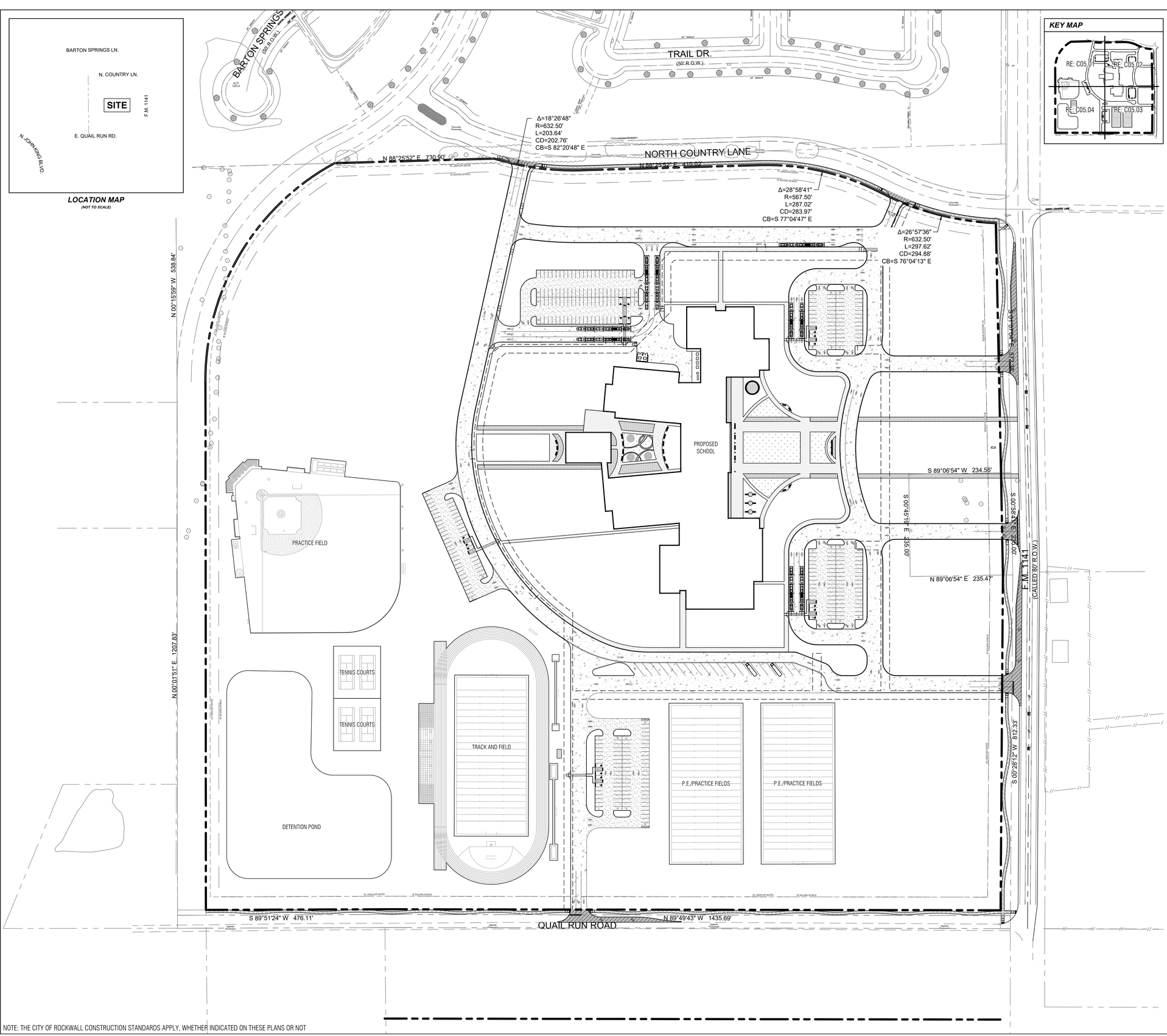
Site Location Map

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/23/22)

EXHIBIT **1**

LOCATION MAP
(NOT TO SCALE)



KEY MAP

GENERAL SITE NOTES

1. STRIPING & SIGNAGE DIMENSIONS ARE FROM FACE OF CURB.
2. ALL FIRE LANES, PARKING STRIPING, HANDICAP PARKING STRIPING & SIGNAGE ARE TO BE IN ACCORDANCE WITH CITY OF ROCKWALL REQUIREMENTS, TYP.
3. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CITY OF ROCKWALL SPECIFICATIONS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.
5. ALL WORK SHALL CONFORM TO THE CITY OF ROCKWALL SPECIFICATIONS, STANDARDS, AND DETAILS.
6. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS, PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.
8. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATING EXISTING UTILITIES AND IMPROVEMENTS PRIOR TO CONSTRUCTION.
9. TRENCH SAFETY DESIGN WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN TO THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR REVIEW.
10. MARK FIRE LANES TO THE CITY OF ROCKWALL SPECIFICATION. "NO PARKING FIRE LANE" EVERY 25' WHITE 4" LETTERS ON A 6' RED STRIPED BACKGROUND.
11. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
12. BARRIER FREE RAMPS (BFR) IN PUBLIC R.O.W. SHALL BE PER CITY SPECIFICATIONS.
13. ALL OUTDOOR LIGHTING MUST BE ORIENTED SO THAT LIGHTING LEVELS AT ALL PROPERTY LINES ARE 1FOT-CANDLE OR LESS.

PAVING LEGEND (PROPOSED)

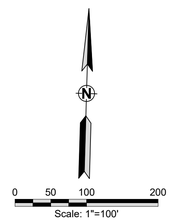
- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- ORNAMENTAL FENCE
- PAINTED TRAFFIC DIRECTIONAL ARROW
- PROPERTY LINE
- 10' MASONRY SCREENING WALL
- (PRIVATE) 5" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 6" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6⁄6 SACK HAND FINISH 6 SACK MACHINE FINISH W/ #4 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PRIVATE) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 18" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- (PUBLIC) 4" REINFORCED CONCRETE SIDEWALK W/ #3 REBARS ON 24" CENTERS EACH WAY. RE: GEOTECHNICAL REPORT
- PLANTING AREAS. RE: LANDSCAPE

PAVING LEGEND (EXISTING)

- CONCRETE CURB
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE
- PROPERTY LINE

SITE DATA SUMMARY TABLE

EXISTING ZONING	AG
PROPOSED ZONING	PD FOR NS USES (Z2022-015)
USE	PUBLIC SCHOOL
LOT AREA	3,044,079 S.F. OR 69.88 AC.
BUILDING AREA (FLOOR AREA)	
PROPOSED FIRST FLOOR	150,170 S.F.
PROPOSED SECOND FLOOR	41,019 S.F.
TOTAL BUILDING AREA	150,170 S.F.
TOTAL FLOOR AREA (FIRST FLOOR)	150,170 S.F.
LOT COVERAGE	150,170 S.F./3,044,079 S.F. = 4.93%
FLOOR AREA RATIO	0.05:1
TOTAL IMPERVIOUS AREA	731,645.08 S.F. OR 24.04 AC.
BUILDING HEIGHT	137'-10" (2 STORY)
TOTAL REQUIRED PARKING (1 PER 5 STUDENTS)	203 SPACES
PARKING PROVIDED	
PARKING SURFACE	
9.0'x18.0'	203 SPACES
9.0'x20.0'	159 SPACES
15.0'x30.0'	20 SPACES
TOTAL PARKING PROVIDED	382 SPACES



APPROVED:
I hereby certify that the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the [DAY] day of [MONTH], [YEAR].
WITNESS OUR HANDS, this [DAY] day of [MONTH], [YEAR].

Planning & Zoning Commission, Chairman

Director of Planning and Zoning

ROCKWALL - NINTH GRADE CENTER
LOT 1, BLOCK A
OUT OF THE
JOHN M. GASS SURVEY, ABSTRACT NO. 88
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER/DEVELOPER:	SURVEYOR:	ENGINEER:
ROCKWALL ISD	BOWMAN	GLENN ENGINEERING CORP.
801 E. WASHINGTON ST.	1200 W. MAGNOLIA BLVD.	4500 FULLER DR.
ROCKWALL, TEXAS 75087	SUITE 300	IRVING, TEXAS 75038
(972) 771-0605	FORT WORTH, TEXAS 76104	(972) 717-5151
CONTACT: JAMES WATSON	(214) 484-8586	CONTACT: CHERALYN M. ARMIJO
	CONTACT: ROBERT HANSEN	

CITY OF ROCKWALL CASE NO.

CORGAN

CORGAN ASSOCIATES, INC.
401 North Houston Street
Dallas, Texas 75202
Tel 214 748 2000
Fax 214 653 8281

○ ISSUES

△ REVISIONS

GLENN ENGINEERING
TEXAS REGISTRATION #: F-303 HUB #: 1752576193300
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Date: March 25, 2022

ROCKWALL NINTH GRADE CENTER

Rockwall, TX 75087

OVERALL SITE PLAN

JOB 20018.0000
DATE 5/3/21
SHEET

C05.00

NOTE: THE CITY OF ROCKWALL CONSTRUCTION STANDARDS APPLY, WHETHER INDICATED ON THESE PLANS OR NOT

R:\ROCKISD\NEW HIGH SCHOOL #4 – CAMERON\2022 9th GRADE CENTER\BID SET\ROCKWALL HS NINTH GRADE CENTER–ENG.dwg

TRAFFIC IMPACT ANALYSIS
Rockwall ISD North Ninth Grade Center
Rockwall, Texas

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Appendix C. Site-Generated Traffic Supplement
Appendix D. Detailed Intersection Capacity Analysis Results

INTRODUCTION

The services of **Pacheco Koch** (PK) were retained by **Glenn Engineering Corp.** (the "Owner") to prepare a Traffic Impact Analysis for a proposed public school located at the southwest corner of FM 1141 and N Country Lane in Rockwall, Texas. The Project is referred to herein as Rockwall ISD North Ninth Grade Center. A proposed site plan for the Project, prepared by Corgan Associates, Inc., and a site location map (**Exhibit *1***) are provided following the EXECUTIVE SUMMARY section of this report.

In order to facilitate development of the Project, Glenn Engineering Corp. (the "Applicant") has made a request to the City of Rockwall (the "Approving Agency") for site plan approval. As part of application process for this request, submittal of a TIA commissioned by the Applicant must be submitted to the Approving Agency for review.

This TIA was prepared by traffic engineers at Pacheco Koch (the "Engineer") in accordance with industry and local standards. Pacheco Koch is a licensed engineering firm, based in Texas, that provides professional engineering and related services.

Purpose

A Traffic Impact Analysis (TIA) is an engineering study used to provide information on the projected off-site impacts produced by a specific Project on the traffic operations of public traffic facilities. In some instances, those Project impacts can be sufficiently accommodated by the existing roadway network; while in other cases, Project impacts may require mitigation. Determination of mitigation requirements is subject to the standards and expectations of the Approving Agency.

Commissioning a TIA may be required by an Approving Agency when an Applicant is seeking approvals or entitlements for the Project. Using standardized analysis methodologies, the findings of the TIA are used to gage the direct impacts on the transportation system that are attributable to the Project. Under certain circumstances and within legal parameters, the Approving Agency may require the Applicant to fund the improvement(s) needed to mitigate the impacts.

A TIA should be prepared by a licensed Engineer skilled in the principles of traffic and transportation engineering and planning. The general methodologies, processes, and guidelines used in a TIA are established by industry standards—which are maintained by organizations such as the Institute of Transportation Engineers (ITE) and others—although, the project-specific parameters of the study (e.g., study locations, analysis scenarios, analytical assumptions, etc.) may be established by local ordinances or technical staff of the Approving Agency.

Generally, existing and background conditions of the transportation system are assumed to be the responsibility of the respective governing agency(-ies).

Although the explicit purpose of a TIA is not to evaluate those conditions and identify deficiencies, this information may be evident from the study's findings. The Engineer may suggest or recommend modifications to the transportation system that, in the Engineer's opinion, could improve overall traffic operations, safety, site access, circulation, etc. However, such proposals may be unrelated to the traffic impacts of the Project and are not considered to be the responsibility of the Developer. Implementation of such modifications are subject to the discretion and approval of the respective agency. In general all proposals from the Engineer should not be considered mandatory and are not intended to assign or imply funding responsibility.

A TIA is not a detailed site plan review nor a substitute for local or regional transportation planning.

Project Description

The Project will consist of a ninth-grade center with a maximum enrollment of approximately 1,000 students. The Project will be built in a single phase. Buildout of the Project is estimated to occur by 2024.

Access to the school will be provided by a total of three driveways along FM 1141 and two driveways along N Country Lane. The surrounding roads of FM 1141 (M4D), North Country Lane (M4U), Panhandle Drive (M4U – Not constructed adjacent to the site), and E Quail Run Road (M4U) are designated roads according to the City of Rockwall throughfare plan.

The undeveloped, 24-acre subject site is currently zoned AG.

Study Parameters

The study parameters used in this TIA are based upon industry standard practices and requirements of the City of Rockwall. Project-specific study parameters were reviewed with the City staff at the outset of the study.

This TIA analyzed the day-to-day traffic operations on the public roadway system at time periods that have the greatest combined volume of the background traffic and site-related traffic. Due to the predominant influence of background traffic, the weekday AM and PM peak hours of adjacent street traffic are typically analyzed.

The analysis scenarios addressed in this study include the following:

- at existing conditions ("Existing" scenario)
- at site buildout year with site-generated traffic ("Build" scenario)

  NOTE: Analyses of all future conditions scenarios utilize projected traffic volumes derived by Pacheco Koch using reasonable and customary assumptions that are based upon existing conditions where possible. ITE appropriately points out that, due to natural changes in traffic patterns that occur over time, the margin of error for projected traffic volumes increases as the length of time of the projection increases; and, any projection of hourly turning movement volumes beyond five years inherently contain significant assumptions.

Study Area

The study area for a TIA is typically defined to allow an assessment of the most relevant traffic impacts to the local area. The extent of the study area is discretionary but is generally commensurate with the scale of the proposed development. Special localized factors may also be considered. The specific locations included in the study area of this TIA are listed below and depicted in **Exhibit *1***.

STOP-Sign-Controlled Intersections:

(a) N John King Boulevard and E Quail Run Road
(b) FM 552 and Panhandle Drive
(c) Panhandle Drive and Tannerson Drive
(d) FM 552 and FM 1141
(e) FM 1141 and N Country Lane
(f) FM 1141 and E Quail Run Road

Roadway Links:

(A) N John King Boulevard, between Featherstone Drive and Emily Drive/Hays Lane
- Existing operation and cross-section: *four lanes, two-way operation, median-divided*
- City of Rockwall Thoroughfare Plan Designation: *P6D*
- Current Daily Traffic Volume: *13,679 (Tuesday, May 10, 2022)*

(B) FM 552, between Panhandle Drive and Skyview Lane
- Existing operation and cross-section: *two lanes, two-way operation, no median*
- City of Rockwall Thoroughfare Plan Designation: *TxDOT 4D*
- Current Daily Traffic Volume: *6,269 (Tuesday, May 10, 2022)*

(C) FM 1141, adjacent to the site
- Existing operation and cross-section: *four lanes, two-way operation, median-divided*
- City of Rockwall Thoroughfare Plan Designation: *M4D*
- Current Daily Traffic Volume: *2,217 (Tuesday, May 10, 2022)*

TRAFFIC IMPACT ANALYSIS

The following is a description of the analyses performed as part of this Traffic Impact Analysis.

Approach

The TIA presented in this report analyzed the operational conditions of the study area intersections for the relevant peak hours using standardized analytical methodologies, where applicable. Actual traffic volumes (with adjustments described previously) represent background traffic conditions with no site-related traffic included. Then, traffic generated by the proposed development was calculated using the industry-standard four-step approach of trip generation, mode split, trip distribution, and traffic assignment. By adding the site-generated traffic to the background traffic, the resulting site-plus-background operational conditions were re-analyzed in order to measure the "impact" created by the Project. For any scenario, where appropriate, the Engineer considered and may recommend measures to mitigate undue operational conditions. Recommendations may be unrelated to impact of the Project. However, any recommendations provided by the Engineer are for the consideration of the Approving Agency who may or may not accept the recommendations. Recommendations provided by the Engineer are not intended to assign or imply a mandate nor financial responsibility as such decisions are for the Approving Agency and Applicant to resolve.

Background Traffic Volume Data

Existing Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on Tuesday, May 10th, 2022. Traffic volumes are graphically summarized in **Appendix A**; detailed data sheets are provided in **Appendix B**.

Site-Related Traffic

Trip Generation and Mode Split

Trip generation is calculated in terms of "trip ends" – a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends). Trip generation for this Project was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation* manual (11th Edition). ITE *Trip Generation* is a compilation of actual, vehicular traffic volume generation data and statistics by land use as collected over several decades by creditable sources across the country. Using the ITE equations and rates is an accepted methodology to calculate the projected site-generated traffic volumes for many land uses (though engineering judgment is strongly advised).

The base trip generation data from ITE generally reflect average conditions for a standalone use on a typical day. However, in some cases, the Engineer may judge that other factors may be of sufficient significance to warrant adjusting the base

ITE calculations in order to more accurately reflect Project-specific conditions. For this analysis, no adjustments to the base ITE data were applied.

"Mode split" refers to the consideration of all modes of transportation. Typically, the majority of trips occur by passenger vehicles such as personal autos and ridesharing services. But, some alternative modes—such as travel by public transit, bicycle, and walking—do not generate additional vehicle trips. The default trip generation data from ITE is summarized in vehicular trip ends and incorporate "typical" mode split characteristics. However, when travel by alternative mode has the potential to be greater than normal, a reduction in the number of vehicular trip volume may be warranted. For this analysis, mode spilt in terms of bus and pedestrian reductions are assumed to be already in the ITE Trip Generation calculations.

NOTE: As comparison, a trip generation study performed by Glenn Engineering Corp dated April 13th, 2022, was conducted to determine the AM inbound trip generation for the site.

The study determined the following assumptions:

1. 1,000 students x 45% = 450 students by bus (13 buses)
2. 1,000 students x 55% = 550 students by parent
3. 1,000 students x 0% = 0 pedestrian traffic

1,000 students x 0.55 non-bus mode / 1.4 students per vehicles = 393 trip ends (cars/vans)

This calculated trip generation for the inbound AM peak hour is found to resemble the calculated ITE Trip Generation trips and therefore, ITE Trip Generation calculations were determined to be sufficient for this study.

All information from the trip generation study performed by Glenn Engineering Corp. for trip generation purposes has been provided in **Appendix C** for reference.

Table 1 provides a summary of the calculated trip ends generated by the project. Supplemental information used in the trip generation calculations is provided in **Appendix C.**

Table 1. Projected Trip Generation Summary

SCENARIO	ITE TRIP GENERATION DAILY VOLUMES	AM PEAK HOUR TRIP ENDS (ADJACENT STREET PEAK)	PM PEAK HOUR TRIP ENDS (GENERATOR STREET PEAK)
		Total (In/Out)	**Total** (In/Out)
School trips (ITE LUC 525)	1,940	**520** (354/166)	**320** (102/218)

Trip Distribution and Assignment

The distribution and assignment of site-generated trip ends to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic, trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.

Traffic for the proposed redevelopment was distributed and assigned to the study area roadway network based upon consideration of the factors listed above. Separate traffic assignments were generated for parent traffic and bus traffic. Detailed trip distribution and traffic assignment calculations and results are summarized in **Appendix C**.

Site-Generated Traffic Volumes

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 1**) by the corresponding traffic assignments (from **Appendix C**). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in **Appendix A**.

Traffic Operational Analysis —Roadway Links

Description

A roadway link is a segment of roadway between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. The capacity of the roadway link is predominantly a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Generally, roadway link capacity is less critical than intersection capacity; however, it can provide a gage of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions -- in the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location.

The North Central Texas Council of Governments (NCTCOG) – the metropolitan planning agency for the Dallas-Fort Worth region – has derived internal "hourly service volume" guidelines used for transportation modelling purposes. The NCTCOG values were based upon the principals 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 modelling purposes, they do provide a reasonable gage of theoretical capacity.

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
Residential	925	875	900	825	575	525
Rural	1,025	925	975	875	600	550

To determine the utilization of a roadway, the volume:capacty ratio can be 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 ≤ 25% is LOS *A*,
Volume:Capacity Ratio > 25% and ≤ 45% is LOS *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*

Summary of Results

For roadways adjacent to or in the vicinity of the subject site, the volume/capacity ratio was calculated for existing and site buildout conditions. A summary of the link capacity analysis is provided in **Table 2**. See specific recommendations in the *Recommendations* section of this report.

Table 2. Roadway Link Capacity Analysis Results Summary

ROADWAY/ SCENARIO	DAILY VOLUME	THEORETICAL DAILY CAPACITY	V:C RATIO/ LEVEL OF SERVICE
N John King Boulevard			
Existing Conditions	13,679	37,000	0.37 – *B*
"Build" Conditions	14,063	37,000	0.38 – *B*
FM 552			
Existing Conditions	6,269	16,500	0.38 – *B*
"Build" Conditions	7,037	17,500	0.43 – *B*
FM 1141			
Existing Conditions	2,217	37,000	0.12 – *A*
"Build" Conditions	3,273	37,000	0.18 – *A*

Traffic Operational Analysis —Roadway Intersections

Description

The level of performance of civil infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic an operational analysis of roadway intersection capacity over a 60-minute period is the most detailed type of analysis. An industry-standardized methodology for this type of analysis was developed by the Transportation Research Board and is presented in the Highway Capacity Manual (HCM). HCM uses the term "Level of Service" (or, LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS can be described as follows:

LOS *A* = free, unobstructed flow
LOS *B* = reasonably free flow
LOS *C* = stable flow
LOS *D* = approaching unstable flow
LOS *E* = unstable flow, operating at design capacity
LOS *F* = operating over design capacity

Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C, or better, is desirable, although LOS D is considered to be acceptable in urban conditions; LOS E indicates a facility or maneuver is approaching capacity, while LOS F is theoretically an over-capacity condition. On highly-utilized transportation facilities, brief periods of LOS E or F conditions are not uncommon for during peak periods. In some cases measures to increase capacity, either through operational changes and/or physical improvements, can be identified to improve efficiency and sometimes raise Level of Service.

For traffic-signal-controlled ("signalized") intersections and STOP-controlled ("unsignalized") intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections the average delay per vehicle can be effectively calculated for the entire intersection; however, for unsignalized intersections the average delay per vehicle is calculated only by approach or by individual traffic maneuvers that must stop or yield right-of-way.

NOTE: The HCM unsignalized intersection analysis methodology was developed and calibrated for low-to-moderate volume intersections. When applied to intersections with one or more high-volume or high-capacity approaches, the analyses often reflect poor results (i.e., low Level of Service). However, the actual delay/operational conditions are typical of similar locations and do not necessarily represent unique conditions. Low-performing, high-volume, unsignalized intersections cannot be analytically mitigated unless a traffic signal is installed. (Traffic signal installation is subject to a detailed analysis of established criteria AND approval of the responsible agency. Neither Level of Service nor vehicle delay is a warrant for traffic signal installation.)

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

	Signalized Intersection (Average Delay per Vehicle)	**Unsignalized Intersection (Average Delay per Vehicle)**
LOS *A*	≤ 10	≤ 10
LOS *B*	> 10 - ≤ 20	> 10 - ≤ 15
LOS *C*	> 20 - ≤ 35	> 15 - ≤ 25
LOS *D*	> 35 - ≤ 55	> 25 - ≤ 35
LOS *E*	> 55 - ≤ 80	> 35 - ≤ 50
LOS *F*	> 80	> 50

Analysis Traffic Volumes

Determination of the traffic impact associated with the Project is measured by comparing the incremental change in operational conditions during peak periods with and without site-related traffic. **Appendix A** provides exhibits summarizing the following:

- Existing traffic volumes during study peak hours
- Projected Site-Generated traffic volumes during study peak hours
- Projected "Build" traffic volumes at the Site Buildout Year during study peak hours

A summary of the existing intersection/roadway geometry and traffic control devices is also graphically summarized in **Appendix A**.

Summary of Results

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

NOTE: Traffic signal operational parameters used in this analysis were based upon actual, existing traffic signal operational characteristics observed in the field at the time of traffic data collection.

See specific recommendations in the *SUMMARY OF FINDINGS AND RECOMMENDATIONS* section of this report.

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

INTERSECTION	TRAFFIC MANEUVER	EXISTING CONDITIONS		BUILD CONDITIONS	
		AM	PM	AM	PM
Panhandle Drive @ Tannerson Drive	EB	A (7.1)	A (6.8)	A (7.1)	A (6.9)
	WB	A (7.2)	A (7.0)	A (7.3)	A (7.1)
	NB	A (6.9)	A (7.3)	A (7.1)	A (7.3)
	SB	A (7.6)	A (7.1)	A (7.6)	A (7.1)
FM 1141 @ FM 552	WB	A (1.4)	A (0.7)	A (2.7)	A (1.2)
	NB	C (15.7)	B (11.9)	D (33.2)	C (16.1)
FM 1141 @ N Country Lane	EB	A (9.3)	A (9.1)	B (12.9)	B (11.1)
	WB	A (9.5)	A (9.5)	B (10.1)	A (9.8)
	NB	A (0.5)	A (0.6)	A (0.5)	A (0.6)
	SB	A (0.4)	A (1.1)	A (0.2)	A (0.5)
FM 1141 @ E Quail Run Road	EB	B (10.1)	A (9.1)	B (11.5)	A (10.0)
	NB	A (0.7)	A (0.3)	A (0.4)	A (0.3)
N John King Boulevard @ E Quail Run Road	WB	C (23.2)	C (19.5)	C (22.9)	B (14.9)
	SB	A (0.1)	A (0.2)	A (1.0)	A (0.5)
FM 552 @ Panhandle Drive	WB	A (0.2)	A (0.2)	A (0.1)	A (0.2)
	NB	C (15.4)	B (12.7)	C (21.3)	B (14.7)
N Country Lane @ Site Driveway 1 (Inbound Only)		-	-	-	-
		-	-	-	-
N Country Lane @ Site Driveway 2	NB	-	-	A (9.1)	A (9.0)
FM 1141 @ Site Driveway 3	NB	-	-	A (5.4)	A (2.5)
FM 1141 @ Site Driveway 4	EB	-	-	B (10.2)	A (9.3)
FM 1141 @ Site Driveway 5	EB	-	-	A (9.8)	A (9.3)
	NB	-	-	A (0.2)	A (0.0)

KEY:

A, B, C, D, E, F = Level-of-Service
NB-, SB-, EB-, WB- = Intersection Approach
AM = AM Peak Hour of Adjacent Street
(##.#) = Average Seconds of Delay Per Vehicle
-L, -T, -R = Left, Through, Right Turning Movement
PM = PM Peak Hour of Generator

SUMMARY OF FINDINGS AND RECOMMENDATIONS

NOTE: Recommendations presented in this report reflect the opinion of Pacheco Koch based solely upon technical analysis and professional judgment but are not intended to infer mandates or funding responsibility. Any proposed improvements in the public right-of-way are subject to approval of the responsible agency(-ies). Should the approving agency determine that any off-site improvements are required for approval of the Project, legal precedents apply with regard to jurisdiction and funding allocation.

The following findings and, if applicable, recommendations were based upon an analysis of the anticipated traffic impact generated by the proposed development scenario outlined in the Project Description section of this report.

FINDING: The intersection of FM 1141 and FM 552 currently operates efficiently and at "acceptable" Levels of Service during peak traffic periods. However, with the addition of projected school traffic, the calculated average delays for the northbound left-turning maneuvers at the intersection are projected to degrade to "unacceptable" LOS. This condition is common for similar unsignalized intersections on major roadways where a traffic signal being the only mitigation measure to improve the condition. However, with the low projected traffic volumes at the driveway, a traffic signal would not be warranted.

- RECOMMENDATION: As part of the development, the following improvements will be constructed and are assumed to be implemented in the "Build" Scenario of the study:

3. Right-turn deceleration lanes at all inbound driveways along FM 1141 and E Quail Run Road.

4. Construction and widening of FM 1141 along the frontage of the site to a three-lane cross-section to include a center two-way left-turn lane for separation of inbound left-turns entering the campus.

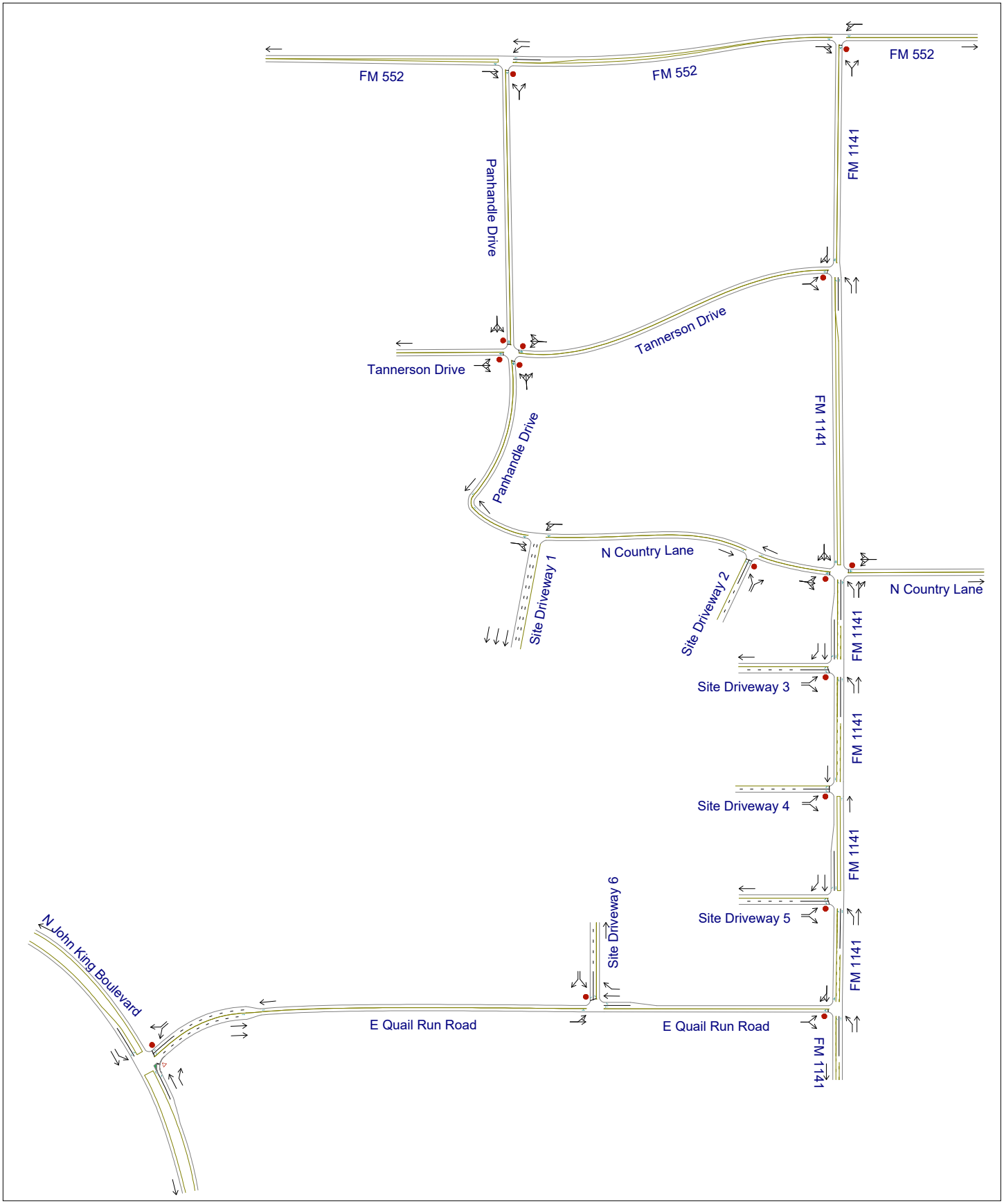
END OF MEMO

Appendix A. Traffic Volume Exhibits

Appendix A1 - Roadway Geometry

North ^

Not to Scale



5359-22.340

LHC

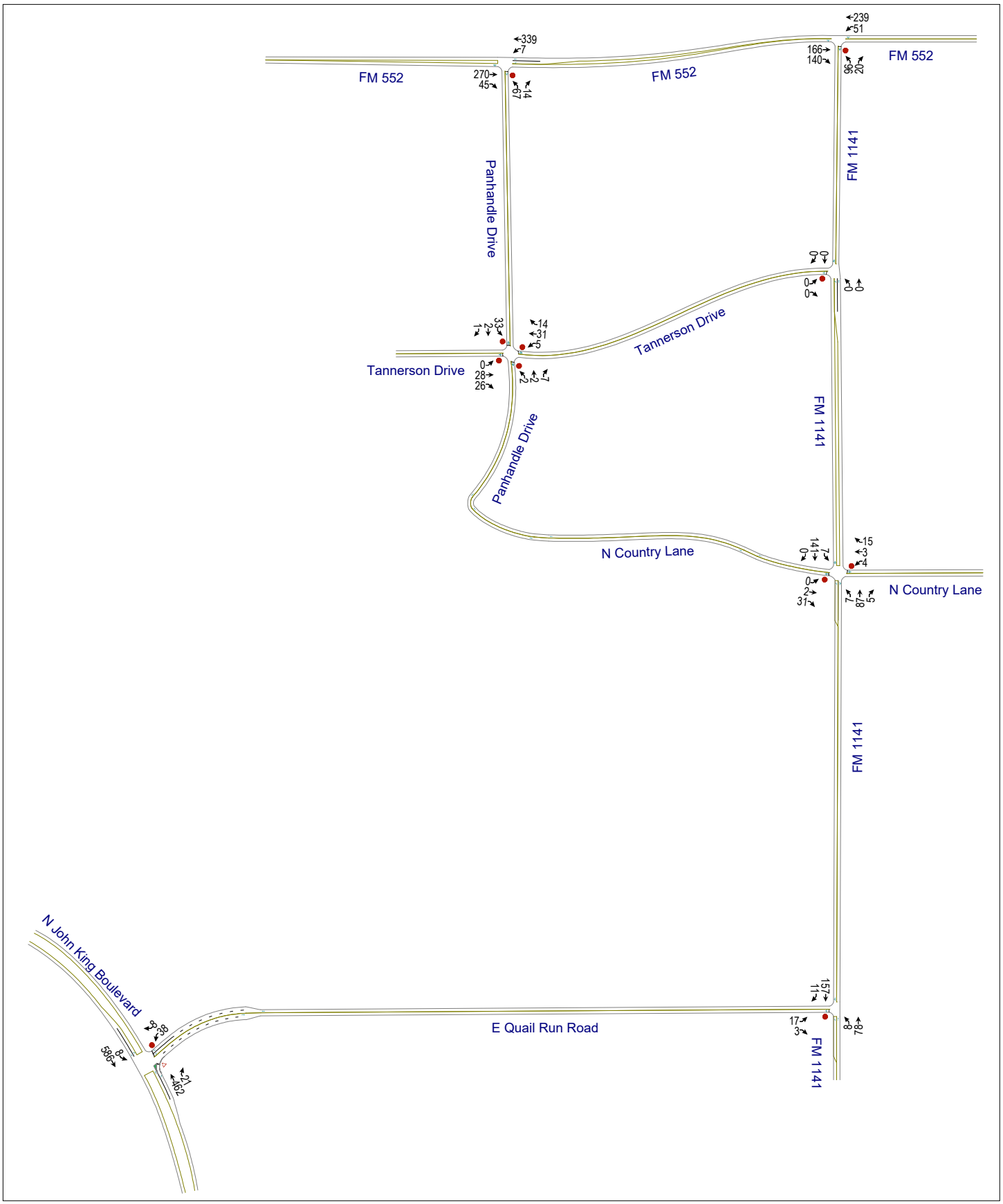
04/18/2022

Pacheco Koch

Appendix A2 - Existing AM

North ^

Not to Scale



5359-22.340

LHC

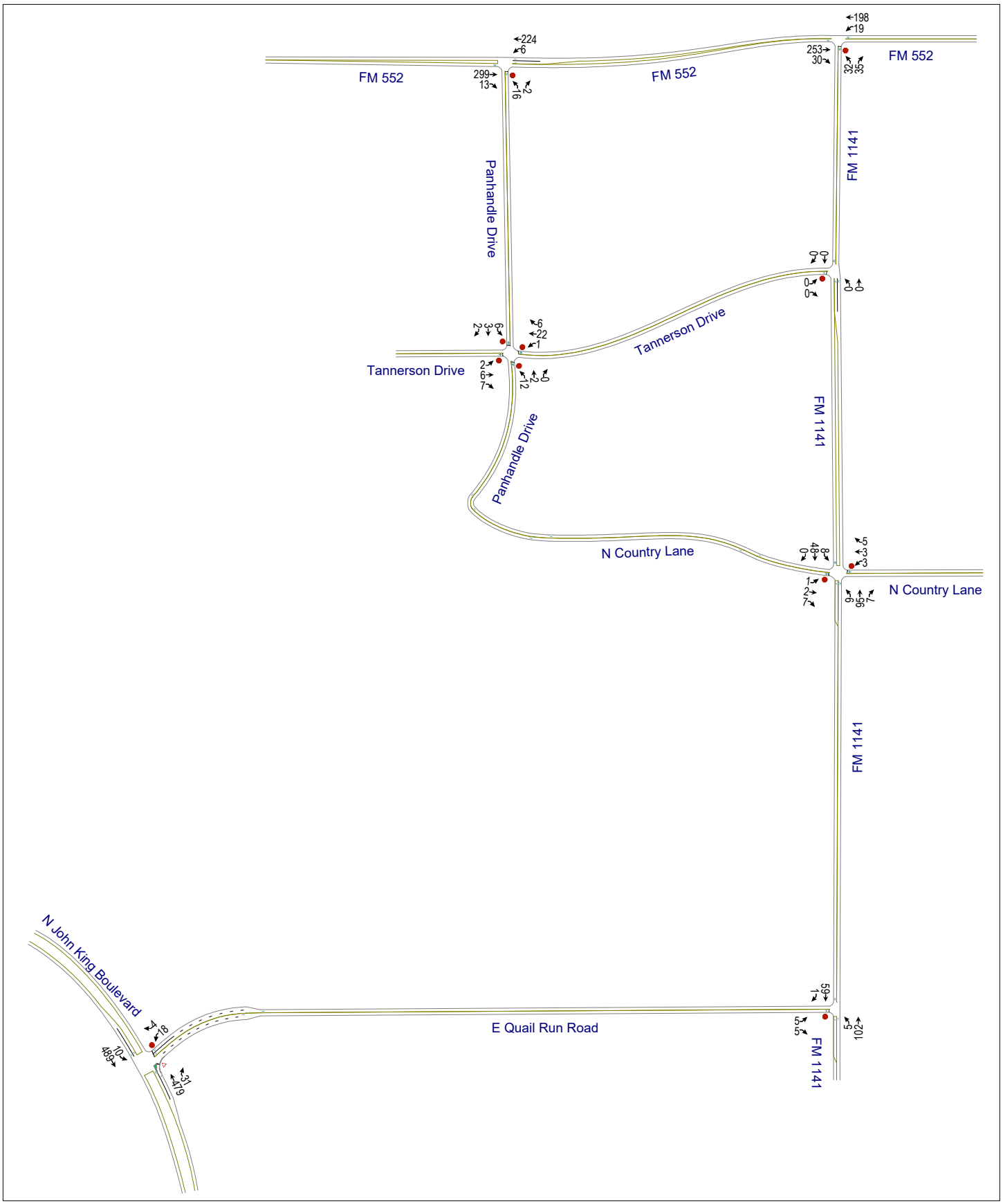
04/18/2022

Pacheco Koch

Appendix A3 - Existing PM

North ^

Not to Scale



5359-22.340

LHC

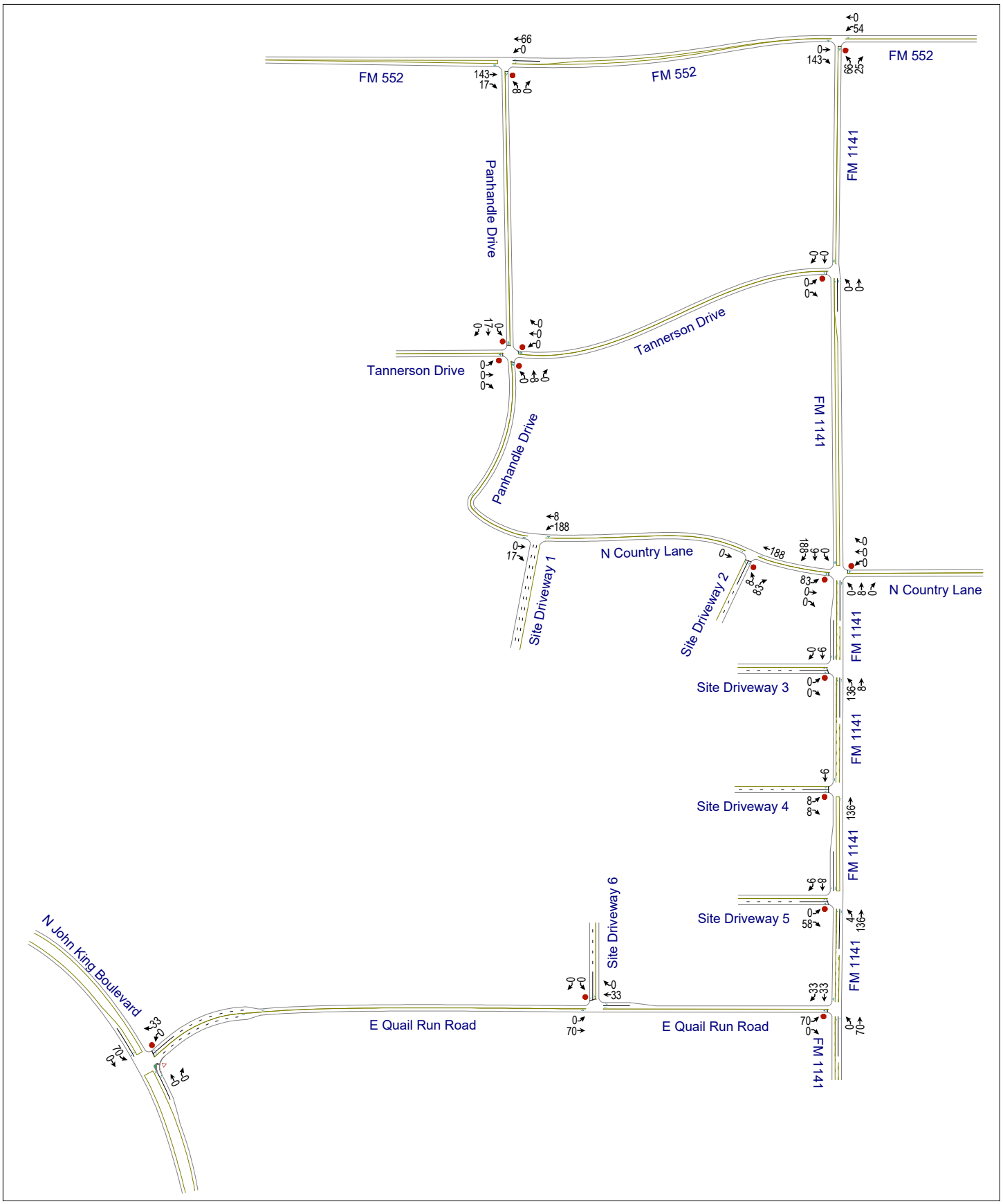
04/18/2022

Pacheco Koch

Appendix A4 - Site Generated AM

North ^

Not to Scale



5359-22.340

LHC

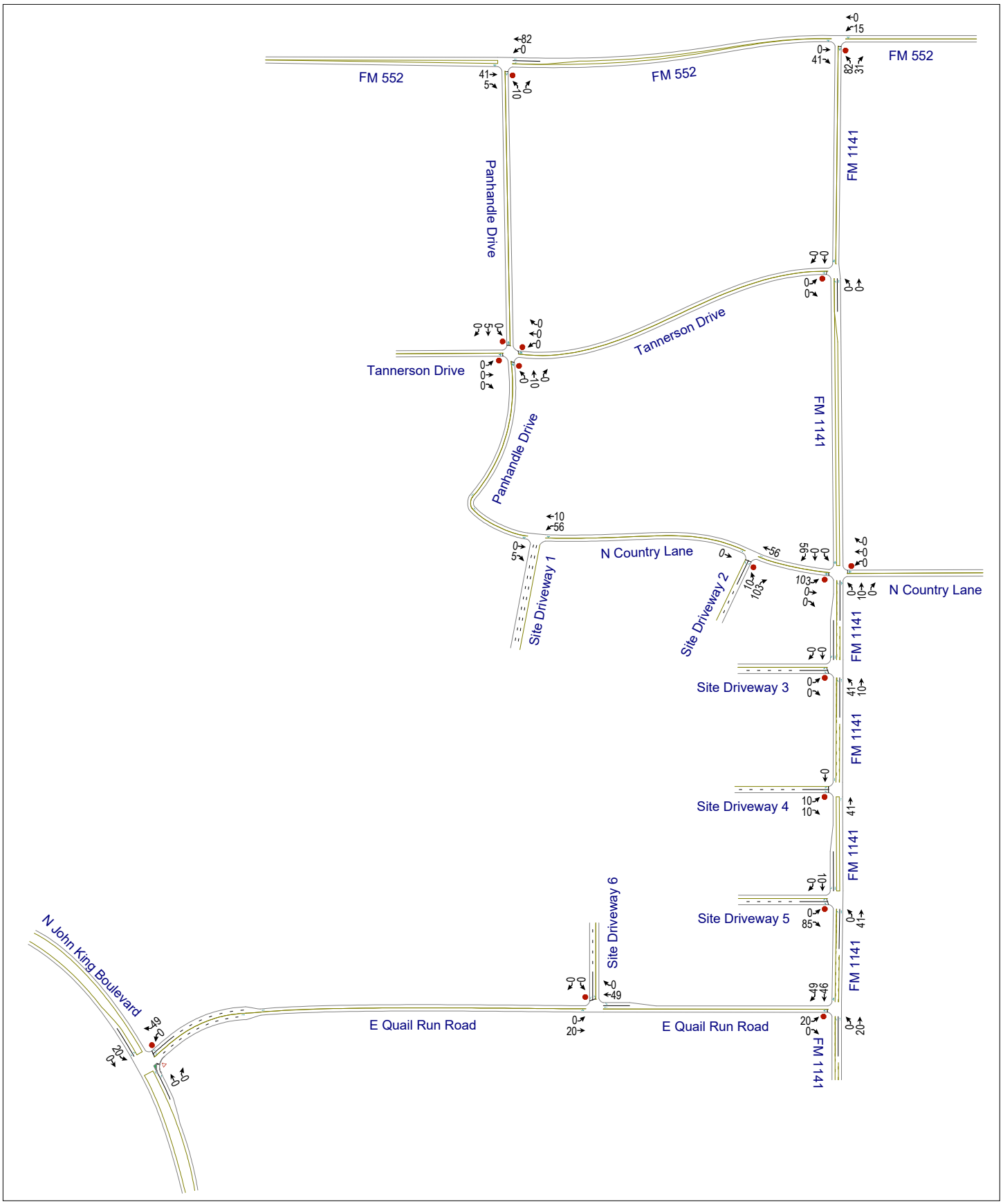
04/18/2022

Pacheco Koch

Appendix A5 - Site Generated PM

North ^

Not to Scale



5359-22.340

LHC

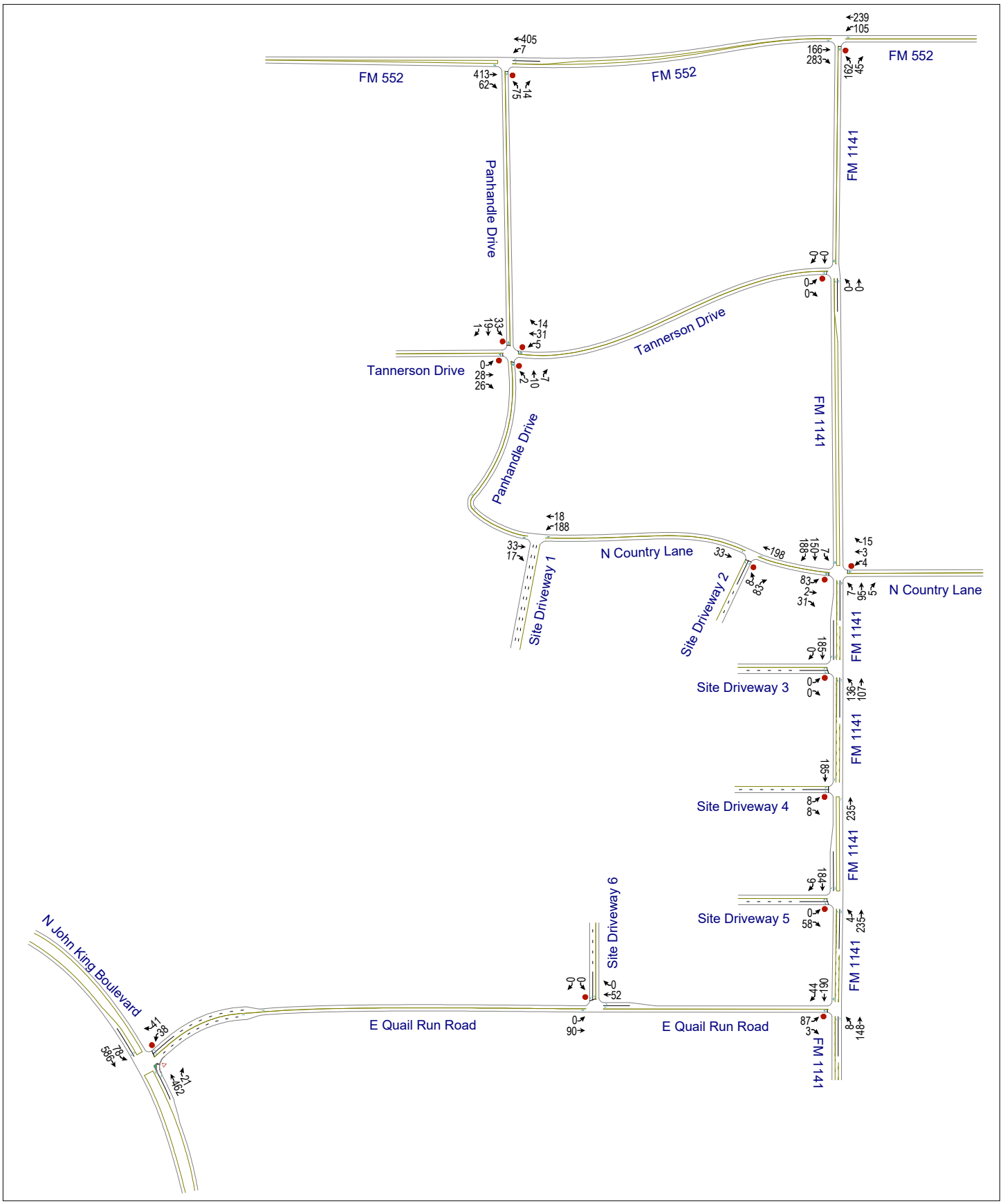
04/18/2022

Pacheco Koch

Appendix A6 - Build AM

North ^

Not to Scale



5359-22.340

LHC

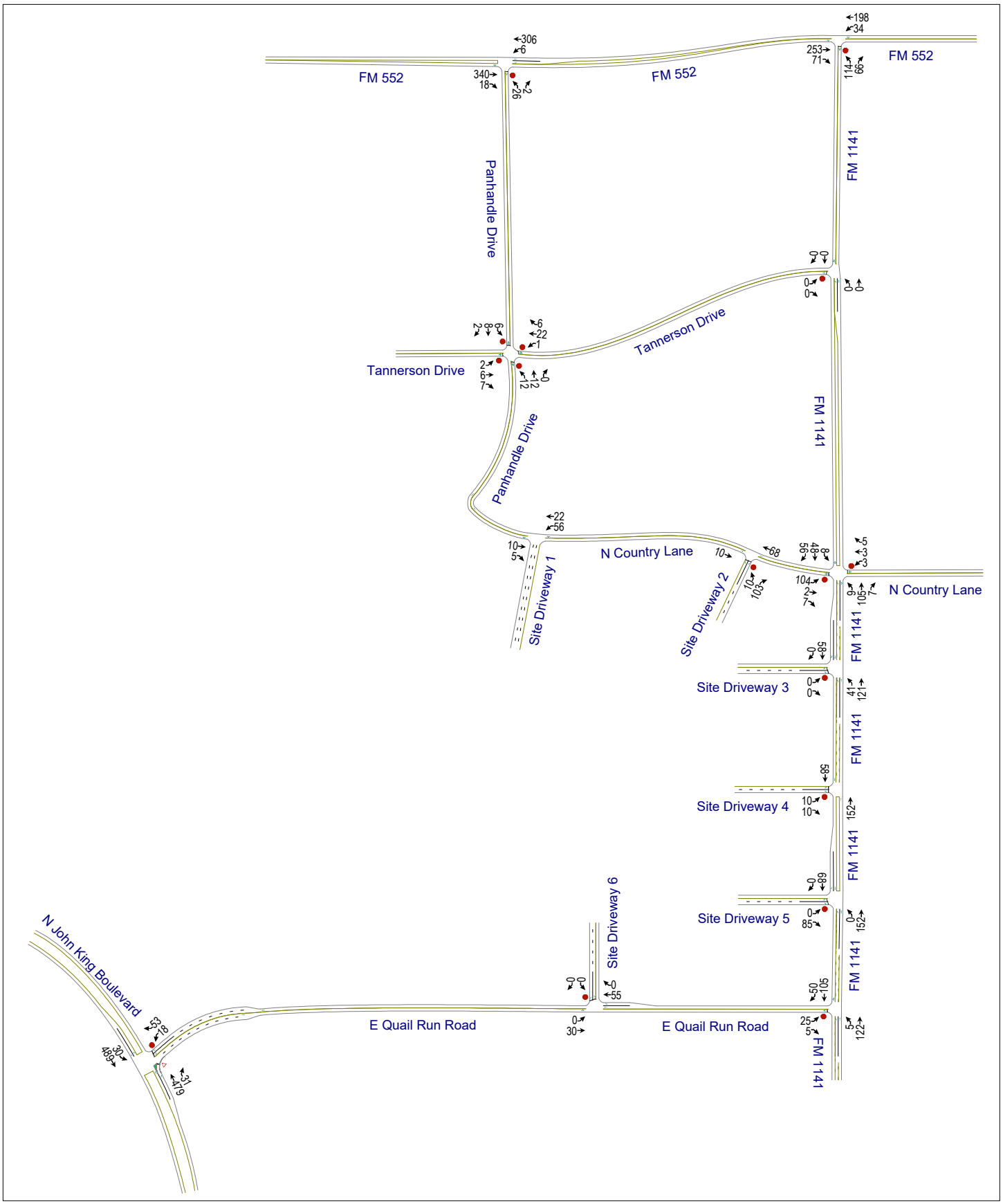
04/18/2022

Pacheco Koch

Appendix A7 - Build PM

North ^

Not to Scale



5359-22.340

LHC

04/18/2022

Pacheco Koch

Appendix B. Detailed Traffic Volume Data

Intersection Turning Movement Counts

				NORTH LEG Southbound Approach on FM 1141						EAST LEG Westbound Approach on FM 552						SOUTH LEG Northbound Approach on FM 1141						WEST LEG Eastbound Approach on FM 552					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	*Rockwall*	*7:00 AM*	*7:15 AM*		*0*	*0*	*0*				*8*	*70*	*0*				*4*	*0*	*1*				*0*	*48*	*13*		
State:	*Texas*	***7:15 AM***	***7:30 AM***		***0***	***0***	***0***				***15***	***69***	***0***				***19***	***0***	***7***				***0***	***61***	***30***		
Day:	*Tuesday*	***7:30 AM***	***7:45 AM***		***0***	***0***	***0***				***17***	***69***	***0***				***36***	***0***	***4***				***0***	***45***	***59***		
Date:	*10-May*	***7:45 AM***	***8:00 AM***		***0***	***0***	***0***				***14***	***54***	***0***				***32***	***0***	***6***				***0***	***32***	***41***		
Year:	*2022*	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***5***	***47***	***0***				***9***	***0***	***3***				***0***	***28***	***10***		
Data Collector:	*Camera*	8:15 AM	8:30 AM		0	0	0				3	69	0				6	0	2				0	38	9		
Data Source:	*CJ Hensch & Associates, Inc.*	8:30 AM	8:45 AM		0	0	0				8	37	0				2	0	5				0	32	4		
Traffic Control:	*Minor Approach Stop*	8:45 AM	9:00 AM		0	0	0				4	44	0				7	0	4				0	32	10		
Observations:																											
		3:00 PM	3:15 PM		0	0	0				9	19	0				26	0	7				0	49	8		
		3:15 PM	3:30 PM		0	0	0				5	38	0				9	0	7				0	32	1		
		3:30 PM	3:45 PM		0	0	0				6	32	0				11	0	10				0	40	5		
		3:45 PM	4:00 PM		0	0	0				6	34	0				4	0	4				0	63	7		
		4:00 PM	***4:15 PM***		***0***	***0***	***0***				***6***	***49***	***0***				***3***	***0***	***6***				***0***	***52***	***13***		
		4:15 PM	***4:30 PM***		***0***	***0***	***0***				***1***	***49***	***0***				***13***	***0***	***10***				***0***	***56***	***7***		
		4:30 PM	***4:45 PM***		***0***	***0***	***0***				***7***	***47***	***0***				***11***	***0***	***8***				***0***	***70***	***4***		
		4:45 PM	***5:00 PM***		***0***	***0***	***0***				***5***	***53***	***0***				***5***	***0***	***11***				***0***	***75***	***6***		
		5:00 PM	5:15 PM		0	0	0				5	53	0				7	0	14				0	58	6		
		5:15 PM	5:30 PM		0	0	0				9	54	0				7	0	15				0	81	8		
		5:30 PM	5:45 PM		0	0	0				7	39	0				7	0	10				0	74	7		
		5:45 PM	6:00 PM		0	0	0				4	54	0				6	0	12				0	63	6		
AM Peak Hour	*Intersection PHF:*	*0.82*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*54*	*262*	*0*			*0*	*91*	*0*	*18*			*0*	*0*	*186*	*143*		
	Peak Hour	*7:00 AM - 8:00 AM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.79*	*0.94*	*0.00*				*0.63*	*0.00*	*0.64*				*0.00*	*0.76*	*0.61*		
	Study Area PHF:	**0.77**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**51**	**239**	**0**			**0**	**96**	**0**	**20**			**0**	**0**	**166**	**140**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.75**	**0.87**	**0.00**				**0.67**	**0.00**	**0.71**				**0.00**	**0.68**	**0.59**		
PM Peak Hour	*Intersection PHF:*	*0.89*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*26*	*207*	*0*			*0*	*30*	*0*	*48*			*0*	*0*	*284*	*24*		
	Peak Hour	*4:30 PM - 5:30 PM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.72*	*0.96*	*0.00*				*0.68*	*0.00*	*0.80*				*0.00*	*0.88*	*0.75*		
	Study Area PHF:	**0.91**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**19**	**198**	**0**			**0**	**32**	**0**	**35**			**0**	**0**	**253**	**30**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.68**	**0.93**	**0.00**				**0.62**	**0.00**	**0.80**				**0.00**	**0.84**	**0.58**		

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on FM 1141						Westbound Approach on N COUNTRY LANE						Northbound Approach on FM 1141						Eastbound Approach on N COUNTRY LANE					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		2	14	0				0	0	0				0	9	1				0	0	5		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***1***	***19***	***0***				***0***	***0***	***3***				***0***	***21***	***2***				***0***	***0***	***7***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***1***	***55***	***0***				***0***	***2***	***6***				***4***	***32***	***1***				***0***	***0***	***6***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***4***	***51***	***0***				***3***	***1***	***6***				***2***	***22***	***2***				***0***	***0***	***11***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***1***	***16***	***0***				***1***	***0***	***0***				***1***	***12***	***0***				***0***	***2***	***7***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	17	0				1	1	1				1	9	0				0	0	6		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		2	19	0				1	0	0				1	14	0				1	0	3		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		1	22	1				3	0	0				0	16	0				0	0	5		
Observations:																											
		3:00 PM	3:15 PM		4	42	0				0	0	2				1	14	2				0	0	2		
		3:15 PM	3:30 PM		0	17	0				0	0	0				2	22	3				0	0	4		
		3:30 PM	3:45 PM		0	19	0				3	0	2				0	24	0				0	0	0		
		3:45 PM	4:00 PM		2	24	0				1	0	0				0	13	2				0	0	2		
		4:00 PM	***4:15 PM***		***2***	***18***	***0***				***1***	***0***	***1***				***3***	***14***	***5***				***0***	***1***	***0***		
		4:15 PM	***4:30 PM***		***4***	***8***	***0***				***2***	***1***	***1***				***3***	***30***	***0***				***1***	***0***	***2***		
		4:30 PM	***4:45 PM***		***1***	***12***	***0***				***0***	***2***	***2***				***1***	***22***	***2***				***0***	***1***	***2***		
		4:45 PM	***5:00 PM***		***1***	***10***	***0***				***0***	***0***	***1***				***2***	***29***	***0***				***0***	***0***	***3***		
		5:00 PM	5:15 PM		0	15	0				2	1	0				0	24	2				0	2	1		
		5:15 PM	5:30 PM		0	21	0				0	0	1				1	26	1				0	0	1		
		5:30 PM	5:45 PM		0	21	0				1	1	4				0	31	3				0	0	3		
		5:45 PM	6:00 PM		0	17	0				2	0	1				2	25	1				0	0	2		
AM Peak Hour	*Intersection PHF:*	*0.71*	*Intersection PHV:*	*0*	*7*	*141*	*0*			*0*	*4*	*3*	*15*			*0*	*7*	*87*	*5*			*0*	*0*	*2*	*31*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.44*	*0.64*	*0.00*				*0.33*	*0.38*	*0.63*				*0.44*	*0.68*	*0.63*				*0.00*	*0.25*	*0.70*		
	Study Area PHF:	**0.71**	**Study Area PHV:**	**0**	**7**	**141**	**0**			**0**	**4**	**3**	**15**			**0**	**7**	**87**	**5**			**0**	**0**	**2**	**31**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.44**	**0.64**	**0.00**				**0.33**	**0.38**	**0.63**				**0.44**	**0.68**	**0.63**				**0.00**	**0.25**	**0.70**		
PM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*0*	*74*	*0*			*0*	*5*	*2*	*6*			*0*	*3*	*106*	*7*			*0*	*0*	*2*	*7*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.00*	*0.88*	*0.00*				*0.63*	*0.50*	*0.38*				*0.38*	*0.85*	*0.58*				*0.00*	*0.25*	*0.58*		
	Study Area PHF:	**0.90**	**Study Area PHV:**	**0**	**8**	**48**	**0**			**0**	**3**	**3**	**5**			**0**	**9**	**95**	**7**			**0**	**1**	**2**	**7**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.67**	**0.00**				**0.38**	**0.38**	**0.63**				**0.75**	**0.79**	**0.35**				**0.25**	**0.50**	**0.58**		

Pacheco Koch

PK# 5359-22.340

FM 1141 at N COUNTRY LANE

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on FM 1141						Westbound Approach on E QUAIL RUN ROAD						Northbound Approach on FM 1141						Eastbound Approach on E QUAIL RUN ROAD					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		0	17	0				0	0	0				0	10	0				4	0	1		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***0***	***30***	***0***				***0***	***0***	***0***				***2***	***21***	***0***				***3***	***0***	***0***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***57***	***2***				***0***	***0***	***0***				***3***	***32***	***0***				***8***	***0***	***2***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***0***	***46***	***9***				***0***	***0***	***0***				***2***	***11***	***0***				***4***	***0***	***1***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***24***	***0***				***0***	***0***	***0***				***1***	***14***	***0***				***2***	***0***	***0***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	19	0				0	0	0				2	9	0				0	0	2		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	22	1				0	0	0				2	10	0				2	0	2		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		0	28	1				0	0	0				1	14	0				4	0	0		
Observations:																											
		3:00 PM	3:15 PM		0	30	4				0	0	0				2	16	0				2	0	2		
		3:15 PM	3:30 PM		0	18	0				0	0	0				0	21	0				2	0	4		
		3:30 PM	3:45 PM		0	27	1				0	0	0				0	24	0				3	0	1		
		3:45 PM	4:00 PM		0	21	1				0	0	0				3	12	0				3	0	2		
		4:00 PM	***4:15 PM***		***0***	***15***	***0***				***0***	***0***	***0***				***2***	***22***	***0***				***1***	***0***	***1***		
		4:15 PM	***4:30 PM***		***0***	***13***	***1***				***0***	***0***	***0***				***1***	***30***	***0***				***2***	***0***	***2***		
		4:30 PM	***4:45 PM***		***0***	***16***	***0***				***0***	***0***	***0***				***1***	***27***	***0***				***1***	***0***	***2***		
		4:45 PM	***5:00 PM***		***0***	***15***	***0***				***0***	***0***	***0***				***1***	***23***	***0***				***1***	***0***	***0***		
		5:00 PM	5:15 PM		0	14	0				0	0	0				4	27	0				7	0	2		
		5:15 PM	5:30 PM		0	21	2				0	0	0				2	24	0				5	0	0		
		5:30 PM	5:45 PM		0	18	1				0	0	0				0	25	0				4	0	1		
		5:45 PM	6:00 PM		0	17	0				0	0	0				1	23	0				5	0	3		
AM Peak Hour	*Intersection PHF:*	*0.66*	*Intersection PHV:*	*0*	*0*	*157*	*11*			*0*	*0*	*0*	*0*			*0*	*8*	*78*	*0*			*0*	*17*	*0*	*3*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.00*	*0.69*	*0.31*				*0.00*	*0.00*	*0.00*				*0.67*	*0.61*	*0.00*				*0.53*	*0.00*	*0.38*		
	Study Area PHF:	**0.66**	**Study Area PHV:**	**0**	**0**	**157**	**11**			**0**	**0**	**0**	**0**			**0**	**8**	**78**	**0**			**0**	**17**	**0**	**3**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.69**	**0.31**				**0.00**	**0.00**	**0.00**				**0.67**	**0.61**	**0.00**				**0.53**	**0.00**	**0.38**		
PM Peak Hour	*Intersection PHF:*	*0.95*	*Intersection PHV:*	*0*	*0*	*70*	*3*			*0*	*0*	*0*	*0*			*0*	*7*	*99*	*0*			*0*	*21*	*0*	*6*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.00*	*0.83*	*0.38*				*0.00*	*0.00*	*0.00*				*0.44*	*0.92*	*0.00*				*0.75*	*0.00*	*0.50*		
	Study Area PHF:	**0.90**	**Study Area PHV:**	**0**	**0**	**59**	**1**			**0**	**0**	**0**	**0**			**0**	**5**	**102**	**0**			**0**	**5**	**0**	**5**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.92**	**0.25**				**0.00**	**0.00**	**0.00**				**0.63**	**0.85**	**0.00**				**0.63**	**0.00**	**0.63**		

Pacheco Koch

PK# 5359-22.340

FM 1141 at E QUAIL RUN ROAD

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on N JOHN KING BOULEVARD						Westbound Approach on E QUAIL RUN ROAD (NORTH LEG)						Northbound Approach on N JOHN KING BOULEVARD						Eastbound Approach on E QUAIL RUN ROAD (NORTH LEG)					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		1	89	0				2	0	1				0	75	5				0	1	0		
State:	***Texas***	**7:15 AM**	**7:30 AM**		**2**	**100**	**0**				**10**	**0**	**2**				**0**	**98**	**2**				**0**	**0**	**0**		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***135***	***0***				***11***	***0***	***0***				***0***	***113***	***6***				***0***	***0***	***0***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***4***	***191***	***1***				***11***	***0***	***3***				***0***	***134***	***6***				***0***	***0***	***0***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***2***	***160***	***0***				***6***	***0***	***3***				***0***	***117***	***7***				***0***	***0***	***0***		
Data Collector:	***Camera***	*8:15 AM*	*8:30 AM*		*0*	*133*	*1*				*8*	*0*	*0*				*0*	*106*	*5*				*0*	*0*	*2*		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		4	130	0				5	0	1				0	92	8				0	0	0		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		2	100	0				5	0	1				0	71	5				0	0	0		
Observations:																											
		3:00 PM	3:15 PM		3	135	0				7	0	2				0	71	12				0	0	0		
		3:15 PM	3:30 PM		4	96	1				2	0	1				0	92	11				1	1	1		
		3:30 PM	3:45 PM		2	103	1				10	0	1				1	103	4				0	1	1		
		3:45 PM	4:00 PM		9	157	0				6	0	2				0	116	5				0	0	0		
		4:00 PM	***4:15 PM***		***3***	***132***	***0***				***4***	***0***	***2***				***0***	***124***	***8***				***0***	***0***	***0***		
		4:15 PM	***4:30 PM***		***5***	***135***	***0***				***5***	***0***	***2***				***0***	***113***	***12***				***0***	***0***	***0***		
		4:30 PM	***4:45 PM***		***1***	***121***	***0***				***5***	***0***	***0***				***0***	***130***	***7***				***0***	***0***	***0***		
		4:45 PM	***5:00 PM***		***1***	***101***	***0***				***4***	***0***	***0***				***0***	***112***	***4***				***0***	***0***	***0***		
		5:00 PM	5:15 PM		2	121	0				4	0	0				0	131	9				0	0	0		
		5:15 PM	5:30 PM		5	110	0				7	0	3				0	143	7				0	0	0		
		5:30 PM	5:45 PM		1	123	0				8	0	1				0	97	10				0	0	0		
		5:45 PM	6:00 PM		3	134	0				6	0	1				0	116	8				0	0	0		
AM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*6*	*619*	*2*			*0*	*36*	*0*	*6*			*0*	*0*	*470*	*24*			*0*	*0*	*0*	*2*		
	Peak Hour	*7:30 AM - 8:30 AM*	*PHF:*		*0.38*	*0.81*	*0.50*				*0.82*	*0.00*	*0.50*				*0.00*	*0.88*	*0.86*				*0.00*	*0.00*	*0.25*		
	Study Area PHF:	**0.80**	**Study Area PHV:**	**0**	**8**	**586**	**1**			**0**	**38**	**0**	**8**			**0**	**0**	**462**	**21**			**0**	**0**	**0**	**0**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.50**	**0.77**	**0.25**				**0.86**	**0.00**	**0.67**				**0.00**	**0.86**	**0.75**				**0.00**	**0.00**	**0.00**		
PM Peak Hour	*Intersection PHF:*	*0.95*	*Intersection PHV:*	*0*	*11*	*488*	*0*			*0*	*25*	*0*	*5*			*0*	*0*	*487*	*34*			*0*	*0*	*0*	*0*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.55*	*0.91*	*0.00*				*0.78*	*0.00*	*0.42*				*0.00*	*0.85*	*0.85*				*0.00*	*0.00*	*0.00*		
	Study Area PHF:	**0.94**	**Study Area PHV:**	**0**	**10**	**489**	**0**			**0**	**18**	**0**	**4**			**0**	**0**	**479**	**31**			**0**	**0**	**0**	**0**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.91**	**0.00**				**0.90**	**0.00**	**0.50**				**0.00**	**0.92**	**0.65**				**0.00**	**0.00**	**0.00**		

Pacheco Koch

PK# 5359-22.340

N JOHN KING BOULEVARD at E QUAIL RUN ROAD (NORTH LEG)

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on PANHANDLE DRIVE						Westbound Approach on FM 552						Northbound Approach on PANHANDLE DRIVE						Eastbound Approach on FM 552					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	*7:00 AM*	*7:15 AM*		*0*	*0*	*0*				*1*	*79*	*0*				*6*	*0*	*0*				*0*	*63*	*2*		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***0***	***0***	***0***				***1***	***85***	***0***				***6***	***0***	***4***				***0***	***78***	***14***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***0***	***0***	***0***				***3***	***106***	***0***				***31***	***0***	***7***				***0***	***97***	***20***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***0***	***0***	***0***				***3***	***89***	***0***				***23***	***0***	***3***				***0***	***61***	***9***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***0***	***59***	***0***				***7***	***0***	***0***				***0***	***34***	***2***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		0	0	0				0	73	0				3	0	1				0	45	3		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	0	0				0	42	0				3	0	1				0	39	4		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		0	0	0				0	52	0				3	0	0				0	38	3		
Observations:																											
		3:00 PM	3:15 PM		0	0	0				1	46	0				27	0	8				0	56	2		
		3:15 PM	3:30 PM		0	0	0				0	48	0				5	0	0				0	43	2		
		3:30 PM	3:45 PM		0	0	0				0	42	0				4	0	1				0	45	3		
		3:45 PM	4:00 PM		0	0	0				0	40	0				8	0	1				0	70	5		
		4:00 PM	***4:15 PM***		***0***	***0***	***0***				***2***	***51***	***0***				***1***	***0***	***1***				***0***	***61***	***1***		
		4:15 PM	***4:30 PM***		***0***	***0***	***0***				***1***	***61***	***0***				***6***	***0***	***0***				***0***	***73***	***5***		
		4:30 PM	***4:45 PM***		***0***	***0***	***0***				***1***	***52***	***0***				***5***	***0***	***0***				***0***	***78***	***4***		
		4:45 PM	***5:00 PM***		***0***	***0***	***0***				***2***	***60***	***0***				***4***	***0***	***1***				***0***	***87***	***3***		
		5:00 PM	5:15 PM		0	0	0				1	56	0				2	0	1				0	68	5		
		5:15 PM	5:30 PM		0	0	0				0	58	0				5	0	0				0	85	7		
		5:30 PM	5:45 PM		0	0	0				1	42	0				6	0	0				0	85	1		
		5:45 PM	6:00 PM		0	0	0				1	61	0				2	0	2				0	67	5		
AM Peak Hour	*Intersection PHF:*	*0.75*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*8*	*359*	*0*			*0*	*66*	*0*	*14*			*0*	*0*	*299*	*45*		
	Peak Hour	*7:00 AM - 8:00 AM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.67*	*0.85*	*0.00*				*0.53*	*0.00*	*0.50*				*0.00*	*0.77*	*0.56*		
	Study Area PHF:	**0.70**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**7**	**339**	**0**			**0**	**67**	**0**	**14**			**0**	**0**	**270**	**45**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.58**	**0.80**	**0.00**				**0.54**	**0.00**	**0.50**				**0.00**	**0.70**	**0.56**		
PM Peak Hour	*Intersection PHF:*	*0.93*	*Intersection PHV:*	*0*	*0*	*0*	*0*			*0*	*4*	*226*	*0*			*0*	*16*	*0*	*2*			*0*	*0*	*318*	*19*		
	Peak Hour	*4:30 PM - 5:30 PM*	*PHF:*		*0.00*	*0.00*	*0.00*				*0.50*	*0.94*	*0.00*				*0.80*	*0.00*	*0.50*				*0.00*	*0.91*	*0.68*		
	Study Area PHF:	**0.89**	**Study Area PHV:**	**0**	**0**	**0**	**0**			**0**	**6**	**224**	**0**			**0**	**16**	**0**	**2**			**0**	**0**	**299**	**13**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.00**	**0.00**	**0.00**				**0.75**	**0.92**	**0.00**				**0.67**	**0.00**	**0.50**				**0.00**	**0.86**	**0.65**		

Pacheco Koch

PK# 5359-22.340

PANHANDLE DRIVE at FM 552

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on PANHANDLE DRIVE						Westbound Approach on TANNERSON DRIVE						Northbound Approach on PANHANDLE DRIVE						Eastbound Approach on TANNERSON DRIVE					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Rockwall***	7:00 AM	7:15 AM		2	0	0				0	0	0				0	1	0				0	3	5		
State:	***Texas***	***7:15 AM***	***7:30 AM***		***4***	***0***	***0***				***0***	***2***	***2***				***0***	***0***	***0***				***0***	***4***	***6***		
Day:	***Tuesday***	***7:30 AM***	***7:45 AM***		***20***	***0***	***0***				***1***	***12***	***4***				***1***	***0***	***5***				***0***	***16***	***6***		
Date:	***10-May***	***7:45 AM***	***8:00 AM***		***9***	***2***	***1***				***3***	***12***	***7***				***0***	***1***	***2***				***0***	***8***	***8***		
Year:	***2022***	***8:00 AM***	***8:15 AM***		***0***	***0***	***0***				***1***	***5***	***1***				***1***	***1***	***0***				***0***	***0***	***6***		
Data Collector:	***Camera***	8:15 AM	8:30 AM		1	1	0				0	2	1				2	0	0				0	1	5		
Data Source:	***CJ Hensch & Associates, Inc.***	8:30 AM	8:45 AM		0	1	0				0	6	1				0	0	0				0	4	3		
Traffic Control:	***Minor Approach Stop***	8:45 AM	9:00 AM		1	1	2				0	0	0				0	0	0				0	6	1		
Observations:																											
		3:00 PM	3:15 PM		1	1	3				3	11	4				1	2	1				0	2	0		
		3:15 PM	3:30 PM		0	0	0				0	1	2				3	1	0				0	1	4		
		3:30 PM	3:45 PM		1	1	0				0	7	0				0	0	0				0	3	0		
		3:45 PM	4:00 PM		1	0	1				1	4	1				0	0	1				0	2	2		
		4:00 PM	***4:15 PM***		***1***	***0***	***0***				***0***	***3***	***1***				***3***	***0***	***0***				***0***	***3***	***1***		
		4:15 PM	***4:30 PM***		***3***	***1***	***1***				***0***	***7***	***2***				***5***	***1***	***0***				***0***	***3***	***2***		
		4:30 PM	***4:45 PM***		***1***	***1***	***0***				***1***	***4***	***1***				***3***	***1***	***0***				***0***	***0***	***2***		
		4:45 PM	***5:00 PM***		***1***	***1***	***1***				***0***	***8***	***2***				***1***	***0***	***0***				***2***	***0***	***2***		
		5:00 PM	5:15 PM		2	2	3				0	2	1				1	1	0				0	1	2		
		5:15 PM	5:30 PM		4	0	0				0	2	2				1	0	0				0	3	2		
		5:30 PM	5:45 PM		0	0	1				0	5	3				1	0	0				1	2	3		
		5:45 PM	6:00 PM		1	1	0				0	5	0				2	0	0				0	1	1		
AM Peak Hour	*Intersection PHF:*	*0.58*	*Intersection PHV:*	*0*	*33*	*2*	*1*			*0*	*5*	*31*	*14*			*0*	*2*	*2*	*7*			*0*	*0*	*28*	*26*		
	Peak Hour	*7:15 AM - 8:15 AM*	*PHF:*		*0.41*	*0.25*	*0.25*				*0.42*	*0.65*	*0.50*				*0.50*	*0.50*	*0.35*				*0.00*	*0.44*	*0.81*		
	Study Area PHF:	**0.58**	**Study Area PHV:**	**0**	**33**	**2**	**1**			**0**	**5**	**31**	**14**			**0**	**2**	**2**	**7**			**0**	**0**	**28**	**26**		
	Peak Hour:	**7:15 AM - 8:15 AM**	**PHF:**		**0.41**	**0.25**	**0.25**				**0.42**	**0.65**	**0.50**				**0.50**	**0.50**	**0.35**				**0.00**	**0.44**	**0.81**		
PM Peak Hour	*Intersection PHF:*	*0.72*	*Intersection PHV:*	*0*	*7*	*5*	*5*			*0*	*1*	*21*	*6*			*0*	*10*	*3*	*0*			*0*	*2*	*4*	*8*		
	Peak Hour	*4:15 PM - 5:15 PM*	*PHF:*		*0.58*	*0.63*	*0.42*				*0.25*	*0.66*	*0.75*				*0.50*	*0.75*	*0.00*				*0.25*	*0.33*	*1.00*		
	Study Area PHF:	**0.69**	**Study Area PHV:**	**0**	**6**	**3**	**2**			**0**	**1**	**22**	**6**			**0**	**12**	**2**	**0**			**0**	**2**	**6**	**7**		
	Peak Hour:	**4:00 PM - 5:00 PM**	**PHF:**		**0.50**	**0.75**	**0.50**				**0.25**	**0.69**	**0.75**				**0.60**	**0.50**	**0.00**				**0.25**	**0.50**	**0.88**		

ROADWAY: FM 1141
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

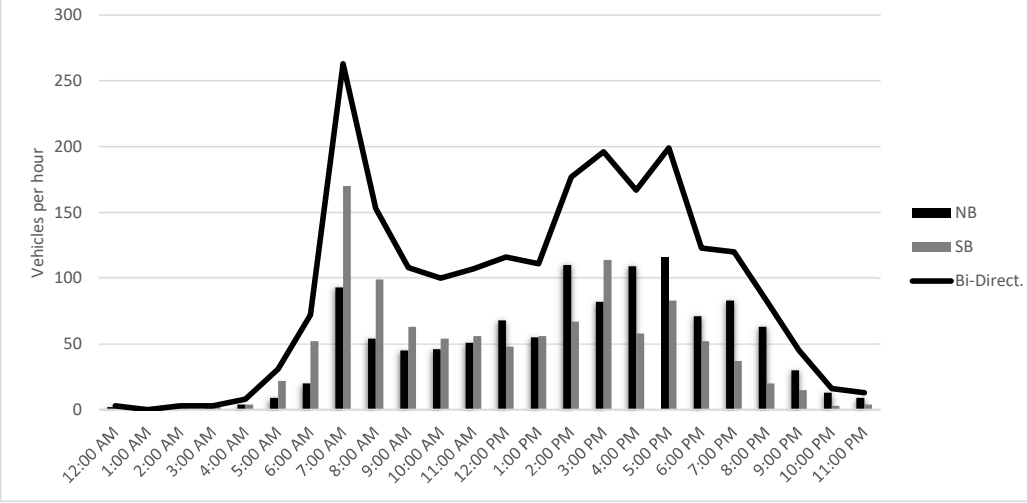
24-HOUR, BI-DIRECTIONAL VOLUME
2,217
(WEEKDAY)

FM 1141

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	1	0	0	1	1	0	0	0	2	1	3
1:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	2	0	0	1	0	0	0	2	1	3
3:00 AM	0	0	1	0	0	0	1	1	1	2	3
4:00 AM	3	0	0	1	0	2	1	1	4	4	8
5:00 AM	0	3	2	4	3	6	5	8	9	22	31
6:00 AM	2	2	5	11	8	12	13	19	20	52	72
7:00 AM	11	25	34	23	17	30	62	61	93	170	263
8:00 AM	15	9	14	16	22	26	21	30	54	99	153
9:00 AM	11	13	12	9	19	14	13	17	45	63	108
10:00 AM	14	10	13	9	13	11	19	11	46	54	100
11:00 AM	8	14	17	12	14	13	18	11	51	56	107
12:00 PM	14	21	15	18	10	20	9	9	68	48	116
1:00 PM	19	15	11	10	15	16	8	17	55	56	111
2:00 PM	25	17	25	43	18	12	17	20	110	67	177
3:00 PM	15	26	25	16	44	19	24	27	82	114	196
4:00 PM	22	31	26	30	17	12	15	14	109	58	167
5:00 PM	27	29	32	28	18	21	25	19	116	83	199
6:00 PM	30	11	14	16	13	14	14	11	71	52	123
7:00 PM	31	18	16	18	6	16	8	7	83	37	120
8:00 PM	18	15	13	17	6	9	3	2	63	20	83
9:00 PM	13	2	8	7	4	5	2	4	30	15	45
10:00 PM	3	3	4	3	2	0	1	0	13	3	16
11:00 PM	5	2	1	1	1	2	0	1	9	4	13

			NB	SB	Bi-Direct.
		24-Hour Total:	1,136	1,081	2,217
7:15 AM	8:15 AM	(Bi-Direct.) AM Peak Hour Total:	97	175	272
2:45 PM	3:45 PM	(Bi-Direct.) PM Peak Hour Total:	109	107	216
5:15 PM	6:15 PM	Highest By Direction (NB):	119		
7:15 AM	8:15 AM	Highest By Direction (SB):		175	

Graph



PK# 5359-22.340

Pacheco Koch

ROADWAY: N JOHN KING BOULEVARD
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

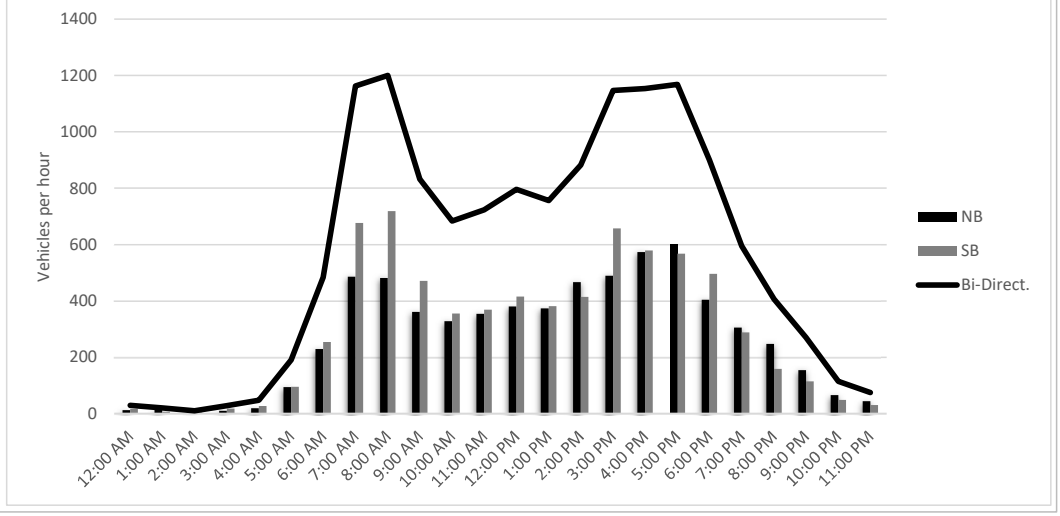
24-HOUR, BI-DIRECTIONAL VOLUME
13,679
(WEEKDAY)

N JOHN KING BOULEVARD

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	3	5	3	2	5	4	4	4	13	17	30
1:00 AM	3	5	2	4	0	2	2	3	14	7	21
2:00 AM	2	0	1	2	0	0	2	3	5	5	10
3:00 AM	1	2	4	4	7	6	3	2	11	18	29
4:00 AM	3	3	4	10	2	4	10	12	20	28	48
5:00 AM	17	20	22	36	19	24	22	31	95	96	191
6:00 AM	40	65	67	58	32	64	63	95	230	254	484
7:00 AM	88	110	134	154	109	142	184	242	486	677	1163
8:00 AM	144	137	109	91	211	196	176	136	481	719	1200
9:00 AM	85	100	86	90	107	124	132	108	361	471	832
10:00 AM	86	91	79	72	100	76	74	106	328	356	684
11:00 AM	78	74	94	108	94	94	95	86	354	369	723
12:00 PM	72	108	90	110	88	104	126	98	380	416	796
1:00 PM	92	115	89	78	101	100	95	86	374	382	756
2:00 PM	86	122	130	129	86	115	112	102	467	415	882
3:00 PM	96	117	130	146	170	128	122	238	489	658	1147
4:00 PM	144	150	148	132	152	170	136	121	574	579	1153
5:00 PM	160	176	126	138	130	144	138	156	600	568	1168
6:00 PM	122	104	94	84	133	125	128	110	404	496	900
7:00 PM	76	94	62	74	85	90	57	57	306	289	595
8:00 PM	66	60	66	56	42	48	30	39	248	159	407
9:00 PM	41	46	48	20	43	26	24	22	155	115	270
10:00 PM	17	17	17	15	13	12	16	8	66	49	115
11:00 PM	12	16	10	6	8	8	7	8	44	31	75

			NB	SB	Bi-Direct.
		24-Hour Total:	6,505	7,174	13,679
7:30 AM	8:30 AM	(Bi-Direct.) AM Peak Hour Total:	569	833	1,402
3:45 PM	4:45 PM	(Bi-Direct.) PM Peak Hour Total:	588	696	1,284
4:30 PM	5:30 PM	Highest By Direction (NB):	616		
7:30 AM	8:30 AM	Highest By Direction (SB):		833	

Graph



PK# 5359-22.340

Pacheco Koch

ROADWAY: FM 552
LOCATION: ROCKWALL, TX
DAY: TUESDAY
DATE: 10-May
YEAR: 2022
SOURCE: CJ HENSCH

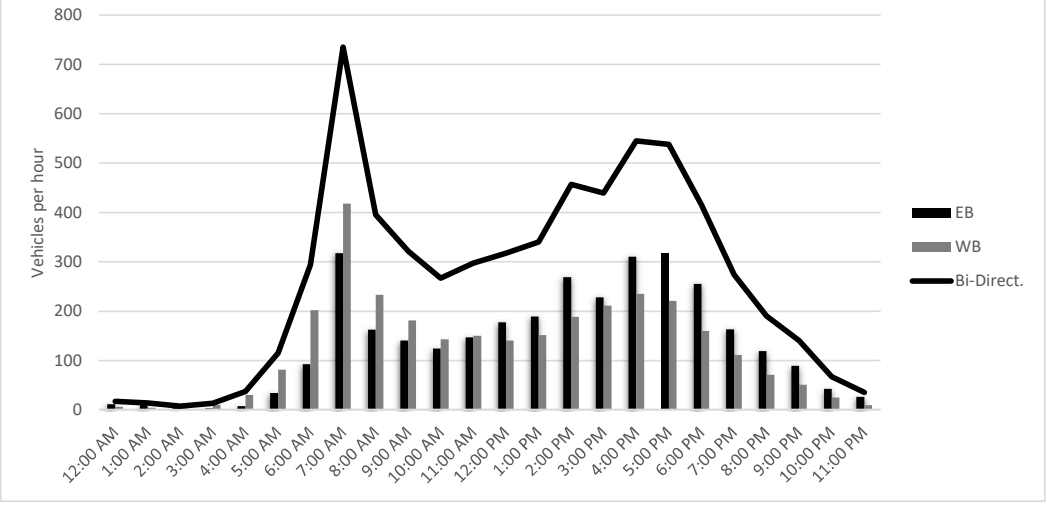
24-HOUR, BI-DIRECTIONAL VOLUME
6,269
(WEEKDAY)

FM 552

	Eastbound				Westbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	EB	WB	Bi-Direct.
12:00 AM	4	3	2	2	2	1	3	0	11	6	17
1:00 AM	5	3	1	1	0	1	2	1	10	4	14
2:00 AM	1	0	1	2	0	0	1	2	4	3	7
3:00 AM	2	0	1	0	1	1	4	4	3	10	13
4:00 AM	0	0	6	1	7	3	9	11	7	30	37
5:00 AM	8	7	9	10	8	15	26	32	34	81	115
6:00 AM	19	9	26	38	30	49	59	64	92	202	294
7:00 AM	62	87	106	62	80	96	134	108	317	418	735
8:00 AM	33	50	39	40	64	73	45	51	162	233	395
9:00 AM	33	38	40	29	47	48	43	43	140	181	321
10:00 AM	30	28	24	42	39	34	37	33	124	143	267
11:00 AM	34	32	37	44	22	43	39	46	147	150	297
12:00 PM	34	52	51	40	38	26	41	35	177	140	317
1:00 PM	34	46	58	51	46	41	30	34	189	151	340
2:00 PM	53	68	73	75	43	46	35	64	269	188	457
3:00 PM	60	43	49	76	66	50	49	46	228	211	439
4:00 PM	59	75	87	89	54	64	55	62	310	235	545
5:00 PM	73	93	81	70	56	58	47	60	317	221	538
6:00 PM	75	62	58	60	53	39	36	32	255	160	415
7:00 PM	46	47	35	35	38	32	27	14	163	111	274
8:00 PM	38	28	24	29	16	23	15	17	119	71	190
9:00 PM	24	26	25	14	21	7	9	14	89	51	140
10:00 PM	13	12	10	7	9	7	2	7	42	25	67
11:00 PM	5	9	7	5	2	0	4	3	26	9	35

			EB	WB	Bi-Direct.
		24-Hour Total:	3,235	3,034	6,269
7:00 AM	8:00 AM	(Bi-Direct.) AM Peak Hour Total:	317	418	735
4:30 PM	5:30 PM	(Bi-Direct.) PM Peak Hour Total:	342	231	573
4:30 PM	5:30 PM	Highest By Direction (EB):	342		
7:00 AM	8:00 AM	Highest By Direction (WB):		418	

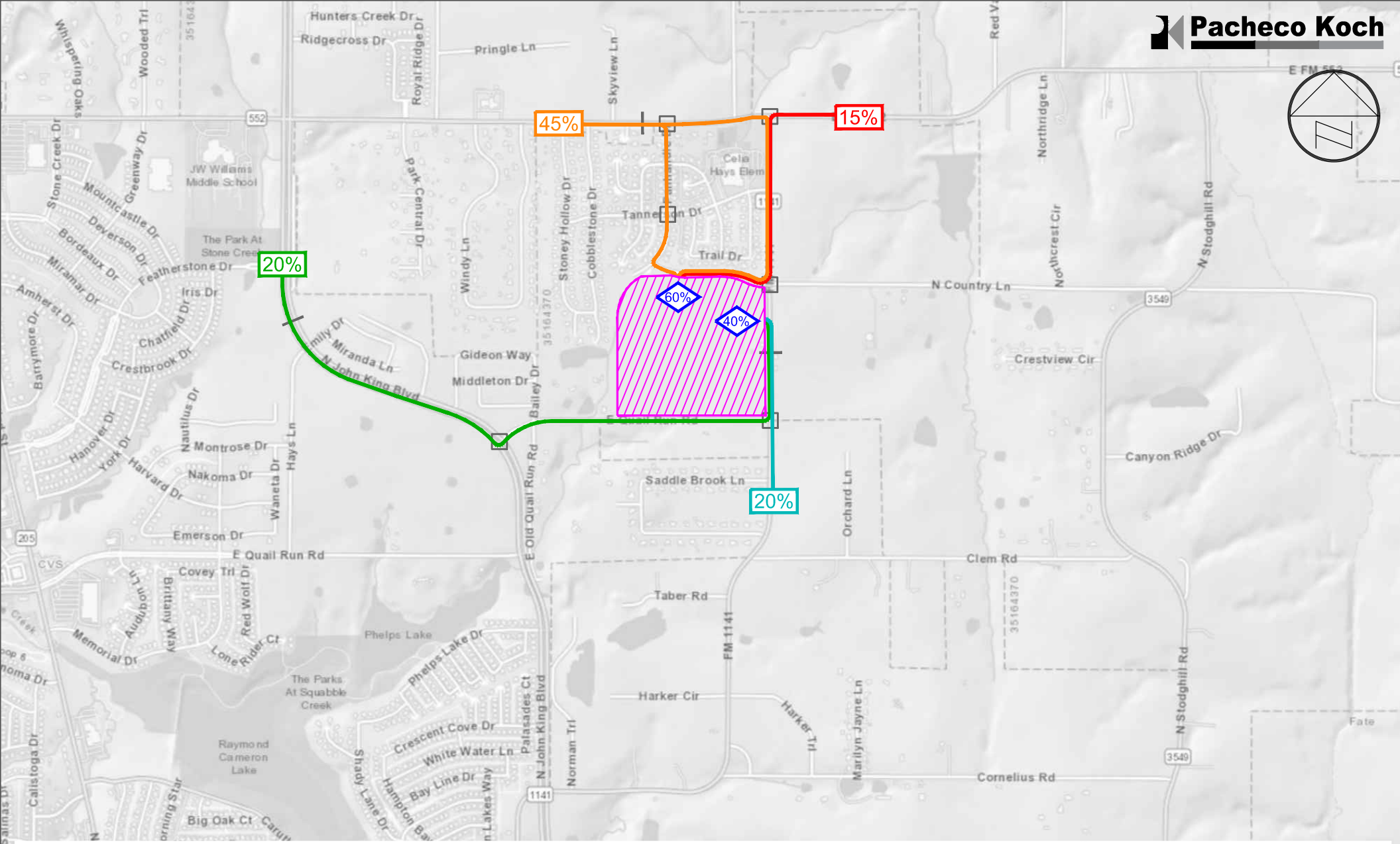
Graph



PK# 5359-22.340

Pacheco Koch

Appendix C. Site-Generated Traffic Supplement



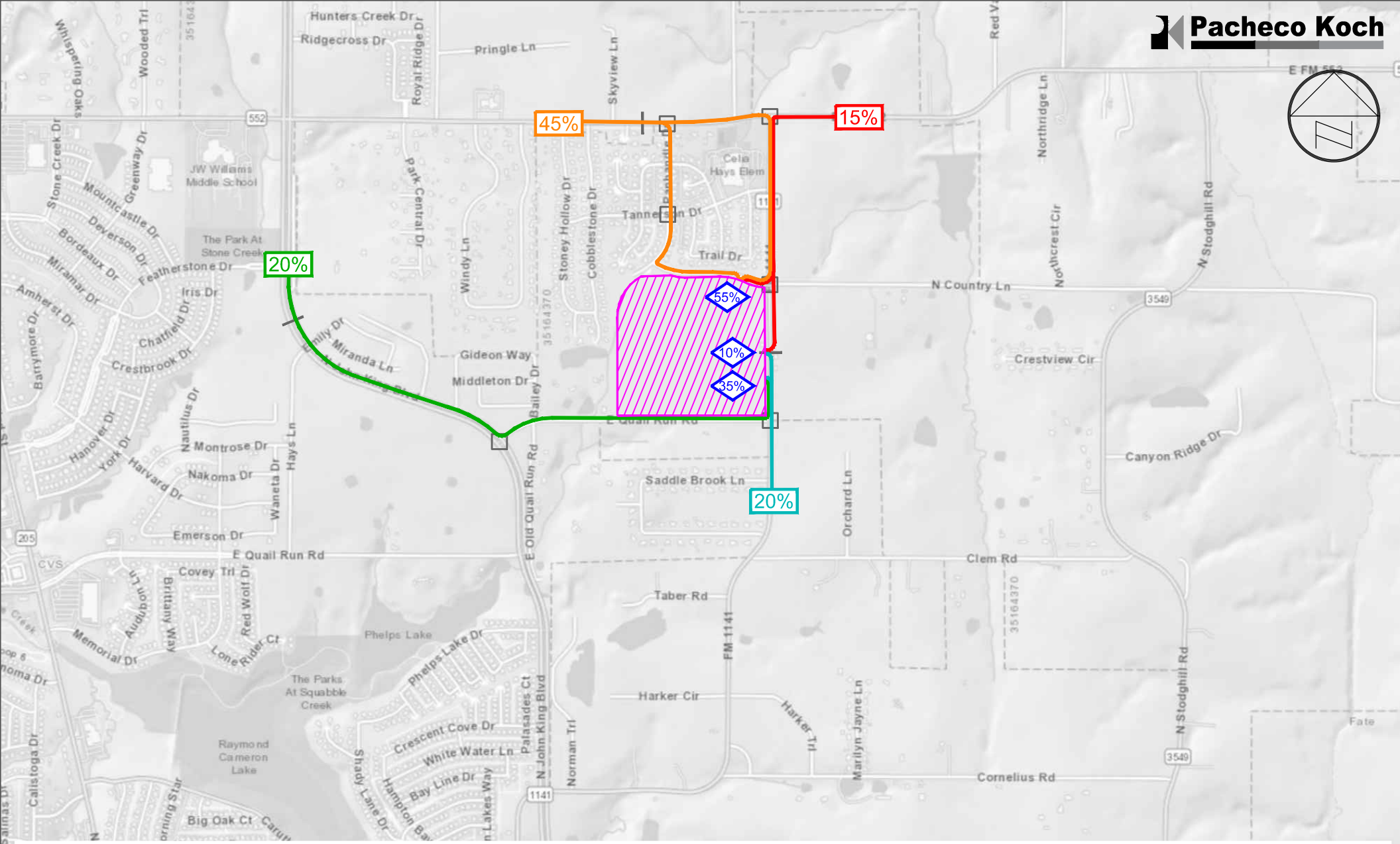
- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Parent Vehicles (Inbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C1**



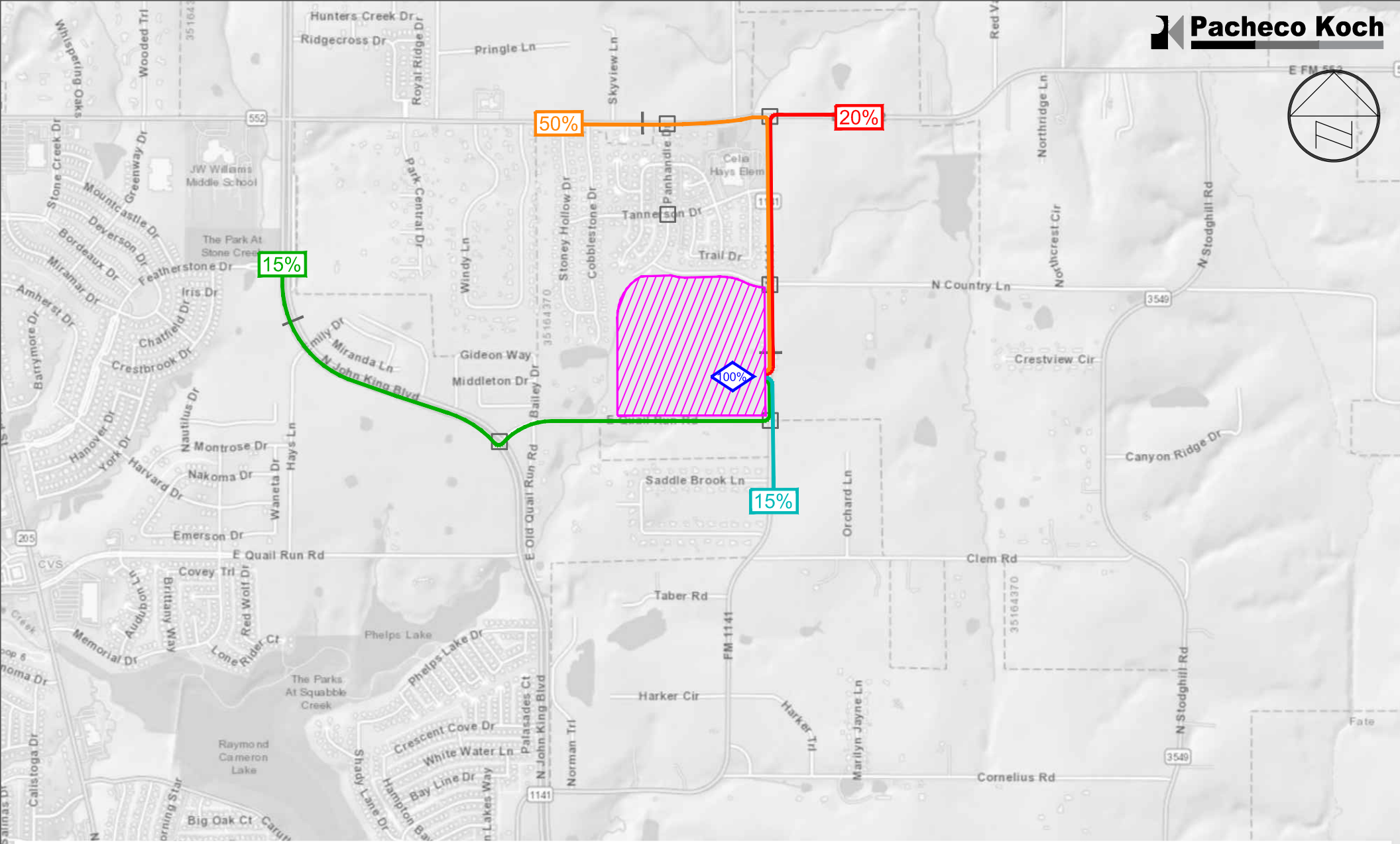
- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Parent Vehicles (Outbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C2**

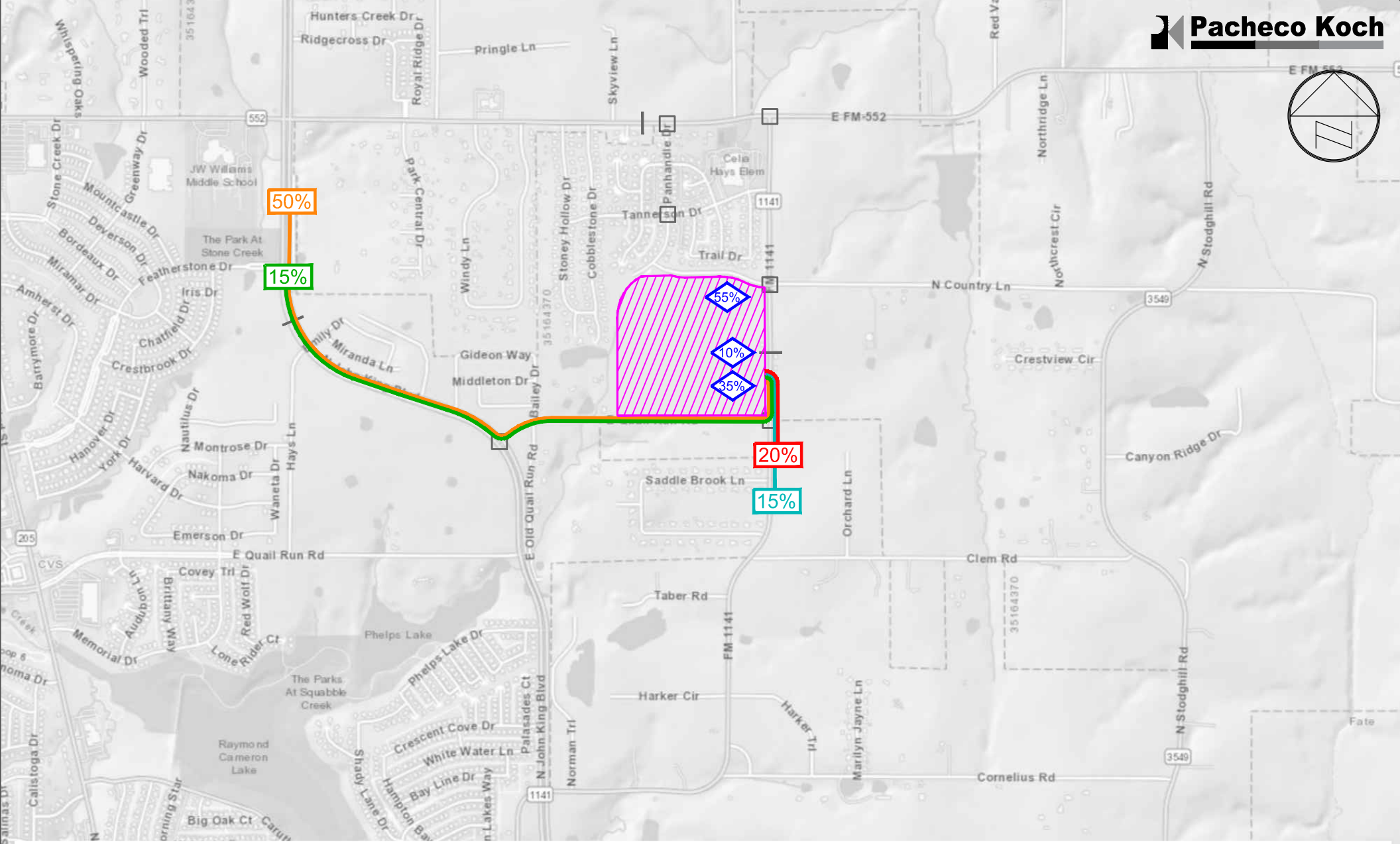


Site Generated Trip Distribution - Buses (Inbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C3**



- Project Location
- Study Area Intersection (Signalized)
- Road-Tube Counts
- Traffic Signal
- Study Area Intersection (Unsignalized)
- X% - Traffic Assignment

Site Generated Trip Distribution - Buses (Outbound)

RISD North 9th Grade Center, Rockwall, Texas

PK 5359-22.340 (LHC: 05/24/22)

APPENDIX **C4**

Trip Generation

The two sources for the trip generation rates used to estimate the future generation potential of the proposed new Rockwall Ninth Grade Center are as follows:

Given the regional attendance zone for the proposed new Rockwall Ninth Grade Center, its location at the northern fringe of the urbanized area of the City of Rockwall, located at center of the Rockwall Independent School District, and the location of existing schools in the school district, trip generation by the Rockwall Ninth Grade Center facility does not fit the description of the ITE Code 520 – Public School land use provided by the Institute of Transportation Engineers (ITE) Trip Generation data, graphs, and formulae. Therefore, trip generation will be based on the following assumptions utilizing data from the current high school Rockwall HS and Rockwall-Heath HS (utilizing current enrollment and ridership) (1) the critical peak trip generation in terms of both capacity and efficiency of travel will occur during the A.M. peak hour, which coincide with the morning peak hour background traffic; currently the school start time is 8:40 am with dismissal at 3:50 pm (2) only students arrivals will be considered since staff trips will occur before the peak of students arrival trips; (3) the District currently runs 14 buses (last semester 17 buses served the campus) with a current ridership of approximately 442 student (last semester has a ridership of 517 student with 218 freshman) with an approximate student population of 2,872 students; of the 442 riders, 218 were Freshman students or a freshman ridership of 42.1%; Freshman students that utilize bus transportation outside the 2 mile walk zone is accepted; to be conservative, a higher value of 45% will be used for the study due to siblings not being able ride together and Freshman not being able to ride with friends; (4) the District's current number of Freshman students being drop off by parent vehicles are approximately 332, 1.4 students per vehicle 237 trips, with an approximate Freshman student population of 788 student or 42.1% of students being dropped off; without pedestrian traffic and friends and sibling being able to provide transportation for a freshman student to a higher the value of 55% will be used for the study; (5) the District's projection that only 5% of students currently are pedestrian traffic (40 students) within the 2 mile walk zone is accepted; a value of 0% is used for the study; however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic.. (6) entering and exiting trip ends will be equal since the only logical exception would be attending students who are children of school staff; (7) average occupancy will be 1.4 students per passenger car or van; average bus load will be assumed to be 35 students; (8) Buses will access site by way of Approach #2 - the south approach off of Farm to Market 1141 (FM 1141).

Morning peak traffic generation will be similar, but without the need to consider the morning peak hour background traffic or will be less due to arrival times being more staggered. Also, it is typically observed that parents and others providing non-bus transportation for the current high school students commonly arrive up to thirty to forty-five minutes in advance of school start time. These varied arrival times tend to mitigate the traffic impact of, at least, the entering trip end, while the exiting trip end more closely resembles the P.M. peak situation.

Proposed Rockwall Ninth Grade Center Transportation projections. (Full Build Out)

Inbound A.M. peak hour trip ends generated by the proposed new Rockwall Ninth Grade Center is calculated as follows for passenger cars and buses accessing the site by way of Farm to Market 1141 (FM 1141):

Proposed Rockwall Ninth Grade Center Transportation projections. (At full capacity)

1,000 students	x	45.0%	= 450 students by bus (13 Buses)
1,000 students	x	55.0%	= 550 students by parent
1,000 students	x	0%	= 0 pedestrian traffic

Inbound A.M. peak hour trip ends by school buses accessing site are calculated as:

1,000 students x 0.45 by bus mode / 35 students average per bus = 12.9 (13) trip ends (bus)

Inbound A.M. peak hour trip ends by non-bus mode Freshman students' personal vehicles accessing site are calculated as:

1,000 Freshman Students x 0.55 non-bus mode / 1.4 students per vehicle = 393 trip ends (cars/vans)

Inbound A.M. peak hour trip ends by non-bus mode parents accessing site are calculated as:

1,000 students x 0.05 non-bus mode / pedestrian traffic = 0 (walkers)

It is assumed that 0% of the students will come from within the 2-mile walking zone and however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic.

Proposed Rockwall Ninth Grade Center Transportation projections. (On opening day 2024)

(Current 8th grade Enrollment 2022 1,424 Students)

(Current 7th grade Enrollment 2022 1,371 Students)

(Current 6th grade Enrollment 2022 1,381 Students)

700 Freshman Students	x	45.0%	= 315 students by bus (9 Buses)
700 Freshman Students	x	55.0%	= 385 students by parent
700 Freshman Students	x	0%	= 0 pedestrian traffic

The assumption above is made utilizing the current enrollment data and projected growth.
Source: Rockwall Independent School District

Inbound A.M. peak hour trip ends by school buses accessing site are calculated as:

700 Freshman Students x 0.35 by bus mode / 35 students average per bus = 9 (9) trip ends (bus)

Inbound A.M. peak hour trip ends by non-bus mode students' personal vehicles accessing site are calculated as:

700 Freshman Students x 0.60 non-bus mode / 1.4 students per vehicle = 275 trip ends (cars/vans)

Inbound A.M. peak hour trip ends by non-bus mode parents accessing site are calculated as:

700 Freshman Students x 0.05 non-bus mode / pedestrian traffic = 0 (walkers)

It is assumed that 0% of the students will come from within the 2-mile walking zone and however, since it is a new Ninth Grade Center, the pedestrian traffic is expected to grow with the future development of sidewalks but at this time not enough infrastructure is available for pedestrian traffic. The Dalton Ranch, Stoney Hollow and Saddlebrook Subdivision have considered the pedestrian traffic to the school and provided sidewalks leading to the school site. Also, the neighborhood around Nelson Lake will need to have sidewalk access to the school in the future.

Trip Distribution

The following assumptions are made regarding trip distribution:

(1) All of the morning peak hour inbound Ninth grade, all parent vehicular access to the site will access the site in two locations. Parents north bound on Farm to Market 1141 (FM 1141) will utilize Approach #1 the most southern approach and use and continue to the student drop off lane. This student drop-off lane is intended to be a one-way single / partial double stack loop for student drop-off and pick-up. Parents will exit the student drop lane and exit via the same direction southbound from Approach #2 the southern middle approach where they can make, and right or left hand turn back onto Farm to Market 1141 (FM 1141). The same process will hold true in the afternoon departing traffic flow.

(2) Parents southbound on Farm to Market 1141 (FM 1141) will utilize Approach #3 - center approach via the new left-hand lane and turn left into the site and continue to the student drop-off lane. This student drop-off lane is intended to be a one-way double stack loop for student drop-off and pick-up in front of the new Rockwall Ninth Grade Center. Parents will exit the student drop lane and exit via Approach #4 northern middle approach where they can make a right or left hand turn back onto Farm to Market 1141 (FM 1141). The same process will hold true in the afternoon departing traffic flow.

(3) It will be further assumed that all minibuses, school buses, HC Buses and service traffic will enter the site both Northbound and southbound off Farm to Market 1141 (FM 1141) and will utilize Approach #4 the most northern middle approach and continue to the bus drop off loop around the back of the school. The buses will also exit back onto Farm to Market 1141 (FM 1141) but will be limited to only a right hand turn only. This bus loop is intended to be a one-way single stack parking lot for approximately 18 buses for student drop-off and pick-up. This bus traffic is not intended to mix with parent traffic except at the entrance and exit locations on site. This is the only location where school traffic and bus traffic occur in the same location.

(4) Given the location of this site, for this analysis, it shall be assumed that there will be 5% pedestrian traffic. As residential communities develop around the new Rockwall Ninth Grade Center facility, the pedestrian traffic is anticipated to increase from the growth in new and existing Dalton Ranch, Stoney Hollow and Saddlebrook Subdivision have considered the pedestrian traffic to the school and provided sidewalks leading to the school site. Also, the neighborhood around Nelson Lake will need to have sidewalk access to the school in the future.

(5) No internal trips are anticipated.

Distribution of these trips is as Follows:

40% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
60% of vehicular traffic (parent) will be Southbound on Farm to Market 1141 (FM 1141).

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141).
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141).

0% of pedestrian traffic (student) will be utilizing sidewalks off Farm to Market 1141 (FM 1141).

1,000 students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 157.1 (158) trip ends (cars/vans) Northbound on Farm to Market 1141 (FM 1141). (Left turn into Approach #4 - Northerly Entrance)

1,000 students x 55% x 60% Vehicular Traffic (1.4 students per vehicle) = 235.7 (236) trip ends (cars/vans) Southbound on Farm to Market 1141 (FM 1141). (Left turn into North Country Lane) enter through Approach #6 west approach on North Country Lane

13 buses x 45% x 30% Bus (35 students per Bus) = 4 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). (Right Turn Only into approach #4)

13 buses x 45% x 70% Bus (35 students per Bus) = 9 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Left Turn into Approach #4)

Afternoon peak traffic generation will be similar, but without the need to consider the P.M. peak hour background traffic or will be less if dismissal times by grade are staggered. Also, it is typically observed that parents and others providing non-bus transportation for Rockwall Ninth Grade Center students commonly arrive up to one-half hour to forty- five minutes in advance of dismissal time which tends to mitigate the traffic impact of, at least, the entering trip end, while the exiting trip end more closely resembles the A.M. peak situation. Likewise, school buses typically arrive early and over a period of time to be ready to receive the students at dismissal. Buses will be allowed to depart prior to the parents.

Route Assignment – Split by inbound Direction

Total trip generation for the afternoon peak traffic period was determined to be 232 car ends entering and 290 is study as stated above, route assignment for afternoon inbound trips only will be addressed. Using the trip distribution assumptions above, route assignment of all afternoon peak entering trips is expected to be as follows:

Ninth grade northbound would be assigned to the front pick area on the south side of the main entrance and Ninth grade southbound would be assigned to the front pick on the north side of the main entrance. This would equate to a 50/50split at the front drop off area at build out between the two drop off and pick areas enter the site, both from southbound and northbound off of Farm to Market 1141 (FM 1141), double stack thru the student drop-off and pick up lanes and exit one way from the student lane back onto north south drive (one-way student drop-off lane). It is anticipated that both exiting lanes will split 90% northbound and 90% southbound on exiting the site. The 10% is for those who are not compliant or follow the design intent.

Total Vehicles = 392
60% 235.7 (236) car trips into the north pick up area
40% 157.1 (158) car trips into the north pickup area.

All bus traffic will and enter and exit the site off Farm to Market 1141 (FM 1141). through Approach #2 and will not conflict with non-bus traffic, except onsite. Buses single stack thru the bus drop-off and pick up lane and exit one way from the bus lane back onto Farm to Market 1141 (FM 1141). This exit will be limited to a left hand turn only. (One-way bus pick-up and drop-off lane).

Inbound 9 bus trips southbound from Farm to Market 1141 (FM 1141).
Inbound 4 bus trips northbound only onto Farm to Market 1141 (FM 1141).)
Outbound 13 bus trips northbound only onto Farm to Market 1141 (FM 1141).
(All through Approach #2)

This plan is to be designed to for vehicular traffic to be split by direction of travel off of Farm to Market 1141 (FM 1141). With 40% of the northbound traffic turning into Approach #4 and exiting through Approaches #2 and #3.

With 60% of the southbound traffic turning into North Country Lane and utilizing Approaches #5 and #6 of the same traffic turning into Approach #6.

Distribution of these trips is as Follows:

40% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
60% of vehicular traffic (parent) will be Southbound on North Country Lane

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141)
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141)

0% of pedestrian traffic (student).

1,000 Freshman Students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 158 trip ends (cars/vans) Northbound on Farm to Market 1141 (FM 1141).
100% Left turn into Approach #4 = 158 trip ends
80% right turn Exit southbound Approach #2 = 126 trip ends
20% left turn Exit northbound Approach #3 = 32 trip ends

1,000 Freshman Students x 55% x 60% Vehicular Traffic (1.4 students per vehicle = 236 trip ends (cars/vans) Southbound on Farm to Market 1141 (FM 1141) to North Country Lane.
90% Left turn into west Entrance off North Country Lane Approach #5 = 212 trip ends
10% Right turn into West Entrance off North Country Lane Approach #5 = 24 trip ends
90% Right turn from East Exit onto North Country Lane Approach #6 = 212 trip ends
10% Left turn from East Exit onto North Country Lane Approach #6 = 24 trip ends

9 buses x 60% Bus (35 students per Bus) = 5 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Right Turn) Approach #2 Inbound
4 buses x 60% Bus (35 students per Bus) = 8 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141) (Left Turn) Approach #2 Inbound

13 buses x 60% Bus (35 students per Bus) =10 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). Parkway (Left Turn) Approach #2 Outbound

Opening Day Site Access Distribution of these trips is as Follows:

700 Freshman Students x 45.0% = 315 students by bus (9 Buses)
700 Freshman Students x 55.0% = 385 students by parent (275 trips)
700 Freshman Students x 0% = 0 pedestrian traffic

The assumption above is made utilizing the current enrollment data and projected growth.
Source: Rockwall Independent School District

35% of vehicular traffic (parent) will be Northbound on Farm to Market 1141 (FM 1141).
65% of vehicular traffic (parent) will be Southbound on Farm to Market 1141 (FM 1141)

30% of bus traffic will be Northbound on Farm to Market 1141 (FM 1141)
70% of bus traffic will be Southbound on Farm to Market 1141 (FM 1141)

0% of pedestrian traffic (student)

700 Freshman Students x 55% x 40% Vehicular Traffic (1.4 students per vehicle) = 96 trip ends
(cars/vans) Northbound on Farm to Market 1141 (FM 1141).
100% Left turn into Approach #4 = 96 trip ends
80% right turn Exit southbound Approach #2 = 20 trip ends
20% left turn Exit northbound Approach #3 = 76 trip ends

700 Freshman Students x 55% x 60% Vehicular Traffic (1.4 students per vehicle = 179 trip ends (cars/vans)
Southbound on Farm to Market 1141 (FM 1141) to North Country Lane.

90% Left turn into west Entrance off North Country Lane Approach #5 = 161 trip ends
10% Right turn into West Entrance off North Country Lane Approach #5 = 18 trip ends
90% Right turn from East Exit onto North Country Lane Approach #6 = 161 trip ends
10% Left turn from East Exit onto North Country Lane Approach #6 = 18 trip ends

7buses x 60% Bus (35 students per Bus) = 5 trip ends (cars/vans/HC bus)
Southbound on Farm to Market 1141 (FM 1141). (Right Turn) Approach #2 Inbound
2 buses x 60% Bus (35 students per Bus) = 8 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141) (Left Turn) Approach #2 Inbound

9 buses x 60% Bus (35 students per Bus) =10 trip ends (cars/vans/HC bus)
Northbound on Farm to Market 1141 (FM 1141). Parkway (Left Turn) Approach #2 Outbound

Appendix D. Detailed Intersection Capacity Analysis Results

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	26	5	31	14	2	2	7	33	2	1
Future Vol, veh/h	0	28	26	5	31	14	2	2	7	33	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	28	5	34	15	2	2	8	36	2	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.2	6.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	0%	10%	92%
Vol Thru, %	18%	52%	62%	6%
Vol Right, %	64%	48%	28%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	54	50	36
LT Vol	2	0	5	33
Through Vol	2	28	31	2
RT Vol	7	26	14	1
Lane Flow Rate	12	59	54	39
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.062	0.059	0.047
Departure Headway (Hd)	3.813	3.776	3.92	4.305
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	932	945	911	829
Service Time	1.864	1.813	1.956	2.347
HCM Lane V/C Ratio	0.013	0.062	0.059	0.047
HCM Control Delay	6.9	7.1	7.2	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.2	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	140	51	239	96	20
Future Vol, veh/h	166	140	51	239	96	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	152	55	260	104	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	332	0	626	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1227	-	448	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1227	-	425	783
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	663	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	461	-	-	1227	-
HCM Lane V/C Ratio	0.274	-	-	0.045	-
HCM Control Delay (s)	15.7	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	2	31	4	3	15	7	87	5	7	141	0
Future Vol, veh/h	0	2	31	4	3	15	7	87	5	7	141	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	34	4	3	16	8	95	5	8	153	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	292	285	153	301	283	98	153	0	0	100	0	0
Stage 1	169	169	-	114	114	-	-	-	-	-	-	-
Stage 2	123	116	-	187	169	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	660	624	893	651	626	958	1428	-	-	1493	-	-
Stage 1	833	759	-	891	801	-	-	-	-	-	-	-
Stage 2	881	800	-	815	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	640	617	893	619	618	958	1428	-	-	1493	-	-
Mov Cap-2 Maneuver	640	617	-	619	618	-	-	-	-	-	-	-
Stage 1	828	754	-	886	796	-	-	-	-	-	-	-
Stage 2	857	795	-	777	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.5	0.5	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1428	-	-	869	816	1493	-	-
HCM Lane V/C Ratio	0.005	-	-	0.041	0.029	0.005	-	-
HCM Control Delay (s)	7.5	0	-	9.3	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	3	8	78	157	11
Future Vol, veh/h	17	3	8	78	157	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	3	9	85	171	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	280	177	183	0	-	0
Stage 1	177	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	710	866	1392	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	705	866	1392	-	-	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1392	-	725	-	-
HCM Lane V/C Ratio	0.006	-	0.03	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	8	462	21	8	586
Future Vol, veh/h	38	8	462	21	8	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	9	502	23	9	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1157	502	0	0	502	0
Stage 1	502	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	217	569	-	-	1062	-
Stage 1	608	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	215	569	-	-	1062	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	215	569	1062	-
HCM Lane V/C Ratio	-	-	0.192	0.015	0.008	-
HCM Control Delay (s)	-	-	25.7	11.4	8.4	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	45	7	339	67	14
Future Vol, veh/h	270	45	7	339	67	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	293	49	8	368	73	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	342	0	702	318
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1217	-	404	723
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1217	-	401	723
Mov Cap-2 Maneuver	-	-	-	-	401	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	683	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	1217	-
HCM Lane V/C Ratio	0.203	-	-	0.006	-
HCM Control Delay (s)	15.4	-	-	8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	7	1	22	6	12	2	0	6	3	2
Future Vol, veh/h	2	6	7	1	22	6	12	2	0	6	3	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	8	1	24	7	13	2	0	7	3	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.8	7	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	13%	3%	55%
Vol Thru, %	14%	40%	76%	27%
Vol Right, %	0%	47%	21%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	15	29	11
LT Vol	12	2	1	6
Through Vol	2	6	22	3
RT Vol	0	7	6	2
Lane Flow Rate	15	16	32	12
Geometry Grp	1	1	1	1
Degree of Util (X)	0.018	0.017	0.034	0.013
Departure Headway (Hd)	4.197	3.753	3.877	4.028
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	854	955	925	889
Service Time	2.216	1.77	1.892	2.049
HCM Lane V/C Ratio	0.018	0.017	0.035	0.013
HCM Control Delay	7.3	6.8	7	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	30	19	198	32	35
Future Vol, veh/h	253	30	19	198	32	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	33	21	215	35	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	308	0	549	292
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1253	-	497	747
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1253	-	488	747
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	596	-	-	1253	-
HCM Lane V/C Ratio	0.122	-	-	0.016	-
HCM Control Delay (s)	11.9	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	7	3	3	5	9	95	7	8	48	0
Future Vol, veh/h	1	2	7	3	3	5	9	95	7	8	48	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	8	3	3	5	10	103	8	9	52	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	201	201	52	202	197	107	52	0	0	111	0	0
Stage 1	70	70	-	127	127	-	-	-	-	-	-	-
Stage 2	131	131	-	75	70	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	757	695	1016	756	699	947	1554	-	-	1479	-	-
Stage 1	940	837	-	877	791	-	-	-	-	-	-	-
Stage 2	873	788	-	934	837	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	743	686	1016	741	690	947	1554	-	-	1479	-	-
Mov Cap-2 Maneuver	743	686	-	741	690	-	-	-	-	-	-	-
Stage 1	933	832	-	871	785	-	-	-	-	-	-	-
Stage 2	858	782	-	919	832	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.5	0.6	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	897	804	1479	-	-
HCM Lane V/C Ratio	0.006	-	-	0.012	0.015	0.006	-	-
HCM Control Delay (s)	7.3	0	-	9.1	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	102	59	1
Future Vol, veh/h	5	5	5	102	59	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	5	111	64	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	186	65	65	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	803	999	1537	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	801	999	1537	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1537	-	889	-	-
HCM Lane V/C Ratio	0.004	-	0.012	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	4	479	31	10	489
Future Vol, veh/h	18	4	479	31	10	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	4	521	34	11	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1075	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	243	555	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	240	555	-	-	1045	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	240	555	1045	-
HCM Lane V/C Ratio	-	-	0.082	0.008	0.01	-
HCM Control Delay (s)	-	-	21.3	11.5	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	299	13	6	224	16	2
Future Vol, veh/h	299	13	6	224	16	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	325	14	7	243	17	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	339	0	589	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1220	-	471	710
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1220	-	468	710
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	486	-	-	1220	-
HCM Lane V/C Ratio	0.04	-	-	0.005	-
HCM Control Delay (s)	12.7	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	28	26	5	31	14	2	10	7	33	19	1
Future Vol, veh/h	0	28	26	5	31	14	2	10	7	33	19	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	28	5	34	15	2	11	8	36	21	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.3	7.1	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	10%	62%
Vol Thru, %	53%	52%	62%	36%
Vol Right, %	37%	48%	28%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	54	50	53
LT Vol	2	0	5	33
Through Vol	10	28	31	19
RT Vol	7	26	14	1
Lane Flow Rate	21	59	54	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.023	0.062	0.06	0.068
Departure Headway (Hd)	3.973	3.821	3.965	4.258
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	893	930	897	837
Service Time	2.031	1.874	2.017	2.305
HCM Lane V/C Ratio	0.024	0.063	0.06	0.069
HCM Control Delay	7.1	7.1	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2	0.2

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	283	105	239	162	45
Future Vol, veh/h	166	283	105	239	162	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	308	114	260	176	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	488	0	822	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1075	-	344	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1075	-	301	708
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	540	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	33.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	1075	-
HCM Lane V/C Ratio	0.654	-	-	0.106	-
HCM Control Delay (s)	33.2	-	-	8.7	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	4.4	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	2	31	4	3	15	7	95	5	7	150	188
Future Vol, veh/h	83	2	31	4	3	15	7	95	5	7	150	188
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	2	34	4	3	16	8	103	5	8	163	204

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	412	405	265	421	505	106	367	0	0	108	0	0
Stage 1	281	281	-	122	122	-	-	-	-	-	-	-
Stage 2	131	124	-	299	383	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	550	535	774	543	470	948	1192	-	-	1483	-	-
Stage 1	726	678	-	882	795	-	-	-	-	-	-	-
Stage 2	873	793	-	710	612	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	532	528	774	513	463	948	1192	-	-	1483	-	-
Mov Cap-2 Maneuver	532	528	-	513	463	-	-	-	-	-	-	-
Stage 1	721	673	-	876	789	-	-	-	-	-	-	-
Stage 2	849	787	-	672	608	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	10.1	0.5	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1192	-	-	580	731	1483	-	-
HCM Lane V/C Ratio	0.006	-	-	0.217	0.033	0.005	-	-
HCM Control Delay (s)	8	-	-	12.9	10.1	7.4	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	3	8	148	190	44
Future Vol, veh/h	87	3	8	148	190	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	3	9	161	207	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	410	231	255	0	-	0
Stage 1	231	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	598	808	1310	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	594	808	1310	-	-	-
Mov Cap-2 Maneuver	647	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1310	-	651	-	-
HCM Lane V/C Ratio	0.007	-	0.15	-	-
HCM Control Delay (s)	7.8	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	41	462	21	78	586
Future Vol, veh/h	38	41	462	21	78	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	45	502	23	85	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1309	502	0	0	502	0
Stage 1	502	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	176	569	-	-	1062	-
Stage 1	608	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	569	-	-	1062	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	404	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.9	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	162	569	1062	-
HCM Lane V/C Ratio	-	-	0.255	0.078	0.08	-
HCM Control Delay (s)	-	-	34.7	11.9	8.7	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1	0.3	0.3	-

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	413	62	7	405	75	14
Future Vol, veh/h	413	62	7	405	75	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	449	67	8	440	82	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	516	0	939	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	456	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1050	-	293	584
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1050	-	291	584
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	633	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	-	-	1050	-
HCM Lane V/C Ratio	0.306	-	-	0.007	-
HCM Control Delay (s)	21.3	-	-	8.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	0	0	198	8	83
Future Vol, veh/h	33	0	0	198	8	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	0	0	215	13	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	251	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	738	1037
Stage 1	-	0	0	-	986	-
Stage 2	-	0	0	-	821	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	738	1037
Mov Cap-2 Maneuver	-	-	-	-	738	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	738	1037	-	-
HCM Lane V/C Ratio	0.018	0.133	-	-
HCM Control Delay (s)	10	9	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	0.1	0.5	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	136	107	185	0
Future Vol, veh/h	0	0	136	107	185	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	227	116	201	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	771	201	201	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	368	840	1371	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	307	840	1371	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1371	-	-	-	-	-
HCM Lane V/C Ratio	0.165	-	-	-	-	-
HCM Control Delay (s)	8.1	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	0	235	185	0
Future Vol, veh/h	8	8	0	235	185	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	0	255	201	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	456	201	-	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	562	840	0	-	-	0
Stage 1	833	-	0	-	-	0
Stage 2	788	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	562	840	-	-	-	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	625	840	-
HCM Lane V/C Ratio	-	0.021	0.016	-
HCM Control Delay (s)	-	10.9	9.4	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	58	4	235	184	9
Future Vol, veh/h	0	58	4	235	184	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	97	7	255	200	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	469	200	215	0	-	0
Stage 1	200	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	553	841	1355	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	550	841	1355	-	-	-
Mov Cap-2 Maneuver	550	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1355	-	-	841	-	-
HCM Lane V/C Ratio	0.005	-	-	0.115	-	-
HCM Control Delay (s)	7.7	-	0	9.8	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	90	52	0	0	0
Future Vol, veh/h	0	90	52	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	92	92	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	98	57	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	57	0	-	0	155	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1547	-	-	-	836	1009
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1547	-	-	-	836	1009
Mov Cap-2 Maneuver	-	-	-	-	836	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1547	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	7	1	22	6	12	12	0	6	8	2
Future Vol, veh/h	2	6	7	1	22	6	12	12	0	6	8	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	8	1	24	7	13	13	0	7	9	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7.1	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	13%	3%	38%
Vol Thru, %	50%	40%	76%	50%
Vol Right, %	0%	47%	21%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	15	29	16
LT Vol	12	2	1	6
Through Vol	12	6	22	8
RT Vol	0	7	6	2
Lane Flow Rate	26	16	32	17
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.017	0.034	0.019
Departure Headway (Hd)	4.129	3.778	3.903	4.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	868	946	917	887
Service Time	2.15	1.805	1.927	2.059
HCM Lane V/C Ratio	0.03	0.017	0.035	0.019
HCM Control Delay	7.3	6.9	7.1	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	71	34	198	114	66
Future Vol, veh/h	253	71	34	198	114	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	77	37	215	124	72

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	352	0	603	314
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	289	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1207	-	462	726
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	760	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1207	-	446	726
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	519	-	-	1207	-
HCM Lane V/C Ratio	0.377	-	-	0.031	-
HCM Control Delay (s)	16.1	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	2	7	3	3	5	9	105	7	8	48	56
Future Vol, veh/h	104	2	7	3	3	5	9	105	7	8	48	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	2	8	3	3	5	10	114	8	9	52	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	243	243	83	244	269	118	113	0	0	122	0	0
Stage 1	101	101	-	138	138	-	-	-	-	-	-	-
Stage 2	142	142	-	106	131	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	711	659	976	710	637	934	1476	-	-	1465	-	-
Stage 1	905	811	-	865	782	-	-	-	-	-	-	-
Stage 2	861	779	-	900	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	697	650	976	695	628	934	1476	-	-	1465	-	-
Mov Cap-2 Maneuver	697	650	-	695	628	-	-	-	-	-	-	-
Stage 1	899	805	-	859	777	-	-	-	-	-	-	-
Stage 2	847	774	-	884	782	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	9.8	0.6	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1476	-	-	709	761	1465	-	-
HCM Lane V/C Ratio	0.007	-	-	0.173	0.016	0.006	-	-
HCM Control Delay (s)	7.5	-	-	11.1	9.8	7.5	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	5	5	122	105	50
Future Vol, veh/h	25	5	5	122	105	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	5	5	133	114	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	284	141	168	0	-	0
Stage 1	141	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	706	907	1410	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	703	907	1410	-	-	-
Mov Cap-2 Maneuver	724	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1410	-	749	-	-
HCM Lane V/C Ratio	0.004	-	0.044	-	-
HCM Control Delay (s)	7.6	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	53	479	31	30	489
Future Vol, veh/h	18	53	479	31	30	489
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	0	-	125	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	58	521	34	33	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1119	521	0	0	521	0
Stage 1	521	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	229	555	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	222	555	-	-	1045	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	222	555	1045	-
HCM Lane V/C Ratio	-	-	0.088	0.104	0.031	-
HCM Control Delay (s)	-	-	22.8	12.2	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	340	18	6	306	26	2
Future Vol, veh/h	340	18	6	306	26	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	370	20	7	333	28	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	390	0	727	380
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1169	-	391	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	389	667
Mov Cap-2 Maneuver	-	-	-	-	389	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	401	-	-	1169	-
HCM Lane V/C Ratio	0.076	-	-	0.006	-
HCM Control Delay (s)	14.7	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	0	0	68	10	103
Future Vol, veh/h	10	0	0	68	10	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	0	74	17	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	85	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	916	1070
Stage 1	-	0	0	-	1012	-
Stage 2	-	0	0	-	949	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	916	1070
Mov Cap-2 Maneuver	-	-	-	-	916	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	916	1070	-	-
HCM Lane V/C Ratio	0.018	0.16	-	-
HCM Control Delay (s)	9	9	-	-
HCM Lane LOS	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.6	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	41	121	58	0
Future Vol, veh/h	0	0	41	121	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	68	132	63	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	331	63	63	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	664	1002	1540	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	635	1002	1540	-	-	-
Mov Cap-2 Maneuver	666	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	2.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1540	-	-	-	-	-
HCM Lane V/C Ratio	0.044	-	-	-	-	-
HCM Control Delay (s)	7.4	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	0	152	58	0
Future Vol, veh/h	10	10	0	152	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	17	0	165	63	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	228	63	-	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	760	1002	0	-	-	0
Stage 1	960	-	0	-	-	0
Stage 2	864	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	760	1002	-	-	-	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	756	1002	-
HCM Lane V/C Ratio	-	0.022	0.017	-
HCM Control Delay (s)	-	9.9	8.7	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	85	0	152	68	0
Future Vol, veh/h	0	85	0	152	68	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	92	92	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	142	0	165	74	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	239	74	74	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	749	988	1526	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	749	988	1526	-	-	-
Mov Cap-2 Maneuver	749	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1526	-	-	988	-	-
HCM Lane V/C Ratio	-	-	-	0.143	-	-
HCM Control Delay (s)	0	-	0	9.3	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	55	0	0	0
Future Vol, veh/h	0	30	55	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	92	92	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	60	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	60	0	-	0	93	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1544	-	-	-	907	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1544	-	-	-	907	1005
Mov Cap-2 Maneuver	-	-	-	-	907	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1544	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

July 13, 2022

TO: Robert Howman
4500 Fuller Drive
Suite 220
Irving, TX 75038

CC: Will Salee
1191 T.L. Townsend Drive
Rockwall, TX 75087

FROM: Bethany Ross
City of Rockwall Planning and Zoning Department
385 S. Goliad Street
Rockwall, TX 75087

SUBJECT: P2022-028; *Preliminary Plat for Lots 1 & 2, Block A, Rockwall ISD Addition*

Robert Howman:

This letter serves to notify you that the above referenced platting case that you submitted for consideration by the City of Rockwall was approved by the City Council on July 5, 2022. The following is a record of all recommendations, voting records and conditions of approval:

Staff Recommendations

(1) All technical comments from City Staff (*i.e. Engineering, Planning and Fire Department*) shall be addressed prior to submittal of civil engineering plans;

(2) Any construction resulting from the approval of this *Preliminary Plat* shall conform to the requirements set forth by the Unified Development Code (UDC), the International Building Code (IBC), the Rockwall Municipal Code of Ordinances, city adopted engineering and fire codes and with all other applicable regulatory requirements administered and/or enforced by the state and federal government.

Planning and Zoning Commission

On June 28, 2022, the Planning and Zoning Commission approved a motion to recommend denial of the *Infrastructure Waivers* and the *Preliminary Plat* by a vote of 6-1, with Commissioner Llewellyn dissenting.

City Council

On July 5, 2022, the City Council approved a motion to approve the *Infrastructure Waivers* and the *Preliminary Plat* with the conditions of approval by a vote of 5-0, with Mayor Fowler absent and Council Member Campbell recusing herself.

Prior to submitting the required materials for filing, please send or submit a physical or digital copy of the plat to allow staff to ensure that all outstanding comments have been addressed. Once staff has verified all comments have been addressed you will be required to submit -- *at a minimum* -- one (1) bonded copy of the preliminary plat and all subsequent documents. All preliminary plats must be submitted to the City within 180-days of the approval date. Failure to adhere to this deadline, will result in the plat being expired in accordance with the requirements of Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances. Should you have any questions or concerns regarding your plat or the platting process, please feel free to contact me a (972) 772-6488.

Sincerely,

Bethany Ross

Bethany Ross
Planner