TRANSPORTATION IMPACT STUDY (TIS)
SCOPING MEETING APPLICATION

Scoping Meeting Date: **N/A**

Applicant/ Development: **Freedom Management, LLC / Freedom Road Townhouses**

Business Partner ID:

Applicant's Consultant: **Stahl Sheaffer Engineering, LLC Attn: James Kerins, P.E.**

Applicant's Primary Contact: **John Schleicher, P.E., P.L.S.**

(Attach a list of meeting attendees along with phone numbers and email addresses)

(1)   LOCATION OF PROPOSED DEVELOPMENT: (Attach location map if available)

PennDOT Engineering Dist.: **10** - **0**   County: **Butler**

Municipality: **Cranberry Township**

State Route(s) (SR): **3020**

Segment(s): **0030**   Offset(s): **2285**

Are 102" wide combinations (w/ trailer lengths greater than 28') allowed access to SR

in accordance with 75 PA. C.S. §4908: **Yes**

(2)   DESCRIPTION OF PROPOSED DEVELOPMENT: (Attach site plan if available)

The applicant is proposing to develop 67-units of three-story townhouses on a 6.7-acre parcel located adjacent to Freedom Road (S.R. 3020) at the intersection with Laporte Drive (T-652). A copy of the site plan is attached.

Proposed site access: **Access to the site is proposed via two (2) proposed local roadways. The first local roadway (Drive "A") will be full access and intersect Laporte Drive (T-652), the other local roadway (Drive "B") will be a right-in/right-out access only intersecting Freedom Road (S.R. 3020).**

Proposed land uses: **67-Dwelling Units, Multifamily Housing (Low-Rise) (ITE Land Use 220)**

Community linkages *(access to neighboring properties, cross easements, pedestrian, and transit accommodations):* **Sidewalk within the proposed community, sidewalk proposed along Freedom Road (S.R. 3020) as part of PennDOT S.R. 3020/297 &298 (ECMS 112528, 112933) projects. Transit accommodations are not provided within the study area.**

(3) DEVELOPMENT SCHEDULE AND STAGING:

Anticipated Opening Date: **2024**

Full Buildout Date: **2026**

Describe Proposed Development Schedule/Staging:

Development to be completed in a single stage beginning in Late 2023 with a completion date in 2026 based upon housing market demand.

(4) TRIP GENERATION: (Use the most recent edition of "Institute of Transportation Engineers (ITE) *Trip Generation*," unless the Department approves another source. Non-ITE methods must be fully justified based on surveys of multiple sites of the same land use type and size.)

Trip generation for the proposed development will be based on:

X ITE *Trip Generation Manual (11th Edition)*.
(List proposed development land uses and associated ITE Land Use Codes)

_____ Other independent surveys.
(Attach justification for non-ITE methods)

List land development and trip generation information, as appropriate. If necessary, attach additional sheets to indicate additional land uses or development phases.

Land Use	Size	Anticipated Trip Generation (ITE Data)[1]						
		Daily Trips	AM Peak			PM Peak		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Multifamily Housing (Low-Rise) (Land Use 220)	67 Units	505	11	33	44	31	18	49
Totals		505	11	33	44	31	18	49

(1) Anticipated site generated traffic volumes based on data presented in the Institute of Transportation Engineers (ITE) *Trip Generation, 11th Edition*.

(5)   ESTIMATED DAILY TRIP GENERATION/DRIVEWAY CLASSIFICATION:

        (a)   Estimated Daily Trip Generation of Proposed Development -- Assuming One Access Point and Full Build out/Occupancy of Entire Tract: **505** trips/day → **253** vehicles/day

        (b) Driveway Classification Based on Trip Generation and One Access Point:

                Medium Volume: _____   Low Volume: **X** _____

                High Volume: _____

(6) TRANSPORTATION IMPACT STUDY REQUIRED?

    X__ No

    ____ Yes, based on: ____ 3,000 or more vehicle trips/day generated

                ____ During any one-hour time period, 100 or more new (added) vehicle trips generated entering or 100 or more new (added) vehicle trips generated exiting development

                ____ Other considerations as described below:

(7) TRANSPORTATION IMPACT ASSESSMENT REQUIRED? **X** ____No   ____Yes

(If a TIS is required, the following sections of this checklist will be discussed at the TIS Scoping Meeting. The applicant may provide preliminary information.)

(8)   STUDY AREA: (Describe; attach map and/or diagram)

        (a) Roadway and Study Intersections

        N/A

        (b) Land use context (Refer to PennDOT Design Manual, Part 1X, Appendix B)

        N/A

        (c) Known Congestion Areas **N/A**

        (d) Known Safety Concerns **N/A**

        (e) Known Environmental Constraints **N/A**

        (f) Pedestrian/Bike Review (Community Centers, Parks, Schools, etc.) **N/A**

        (g) Transit Review (Current routes/stops) **N/A**

(9)   STUDY AREA TYPE: Urban __**N/A**__   Rural _____

(10) TIS ANALYSIS PERIODS AND TIMES:

> (List periods and times. Normal analysis periods are existing conditions, 5 years in the future without development, and 5 years in the future with development. Normal analysis times for each period are the AM peak hour, the PM peak hour, and the peak hour of site-generated traffic.)

N/A

(11) TRAFFIC ADJUSTMENT FACTORS:

> (a) Seasonal Adjustment: (Identify counts requiring adjustment and methodology)
> **N/A**

> (b) Annual Base Traffic Growth:__**N/A**___%/yr. Source: _____

> (c) Pass-By Trips: (Attach justification where required)

> | Land Use | % | Source |
> |---|---|---|
>
> **N/A**

> (d) Captured Trips for Multi-Use Sites:
> > (List % and manner of application. Attach justification where required.)
> **N/A**

> (e) Modal Split Reductions

> **N/A**

> (f) Other Reductions

> **N/A**

(12) OTHER PROJECTS WITHIN STUDY AREA TO BE ADDED TO BASE TRAFFIC:
        (Identify proposed developments with issued permits that need to be included.)
     N/A

(13) TRIP DISTRIBUTION AND ASSIGNMENT:
        (Describe; explain/justify; attach diagram and related information.)

     N/A

(14) Approval of Data Collection Elements and Methodologies :

     <u>Location</u>   <u>Period</u>   <u>Type</u>

     N/A

(15) CAPACITY/LOS ANALYSIS:

     <u>Location</u>   <u>Period</u>   <u>Type</u>

     N/A

(16) ROADWAY IMPROVEMENTS/MODIFICATIONS BY OTHERS TO BE INCLUDED:
        (Projects programmed for construction or other developments with issued permits.)

     PennDOT S.R. 3020/297 &298 (ECMS 112528, 112933) projects are currently underway along Freedom Road. These projects are not anticipated to interfere with the development.

(17) OTHER NEEDED ANALYSES:

    (a)   Sight Distance Analysis:

                (Required for all site access driveways; identify other locations)

                Sight Distance analysis will be completed at the proposed site access locations as part of the HOP process.

    (b)   Signal Warrant Analysis:

                (Identify locations)

                N/A

    (c)   Required Signal Phasing/Timing Modifications:

                (Determine for all signalized intersections; specify methodology.)

                N/A

    (d)   Traffic Signal Corridor/Network Analysis:

                (Identify locations/methodology)

                N/A

    (e)   Analysis of the Need for Turning Lanes:

                (Identify locations/methodology)

                N/A

    (f)   Turning Lane Lengths:

                (Identify methodology to be used)

                N/A

    (g)   Left Turn Signal Phasing Analysis:

                (Identify locations/methodology)

                N/A

    (h)   Queuing Analysis:

                (Identify locations/methodology)

                N/A

    (i)   Gap Studies:

                (Identify locations/methodology)

                N/A

(j)   Crash Analysis:
          (Identify locations)

N/A

(k)   Weaving Analysis:
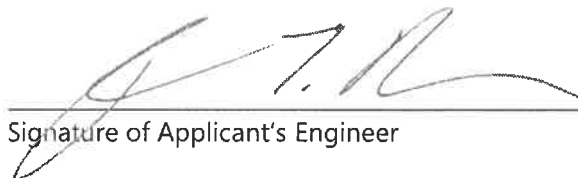   (Identify locations)

N/A

(l)   Other Required Studies:
          (Specify locations/methodology)

None.

(18) ADDITIONAL COMMENTS OR RECOMMENDATIONS RELATIVE TO THE SCOPE OF THE TIS:

It is understood that although the proposed development does not meet the threshold for a traffic impact study or assessment, impact fees in accordance with Cranberry Township Impact Fee Program (Ord. 2001-312, 3/29/2001) may be assessed.

_____ Date: 17 Oct. 2022
Signature of Applicant's Engineer

_____ Date: _____
Signature of District Traffic PennDOT Representative

_____ Date: _____
Signature of District Permit PennDOT Representative (if present)

_____ Date: 3/1/23
Signature of Municipal Traffic Representative

ATTACHMENT A
SITE LOCATION AND SITE PLAN

EVANS

40° 45'

Beaver County

Allegheny County

Glen Eden

Ogle

Fernway

Hendersonville

Criders Corners

SEVEN FIELDS

80° 05'

SITE

PROJECT:	FREEDOM ROAD DEVELOPMENT CRANBERRY TOWNSHIP, BUTLER COUNTY, PA	DATE:	OCTOBER 2022
		PROJECT NO.:	21-362
		DRAWN BY:	JTK
DRAWING:	Site Location	CHECKED BY:	JAG
		FIGURE:	1
		SCALE:	NTS
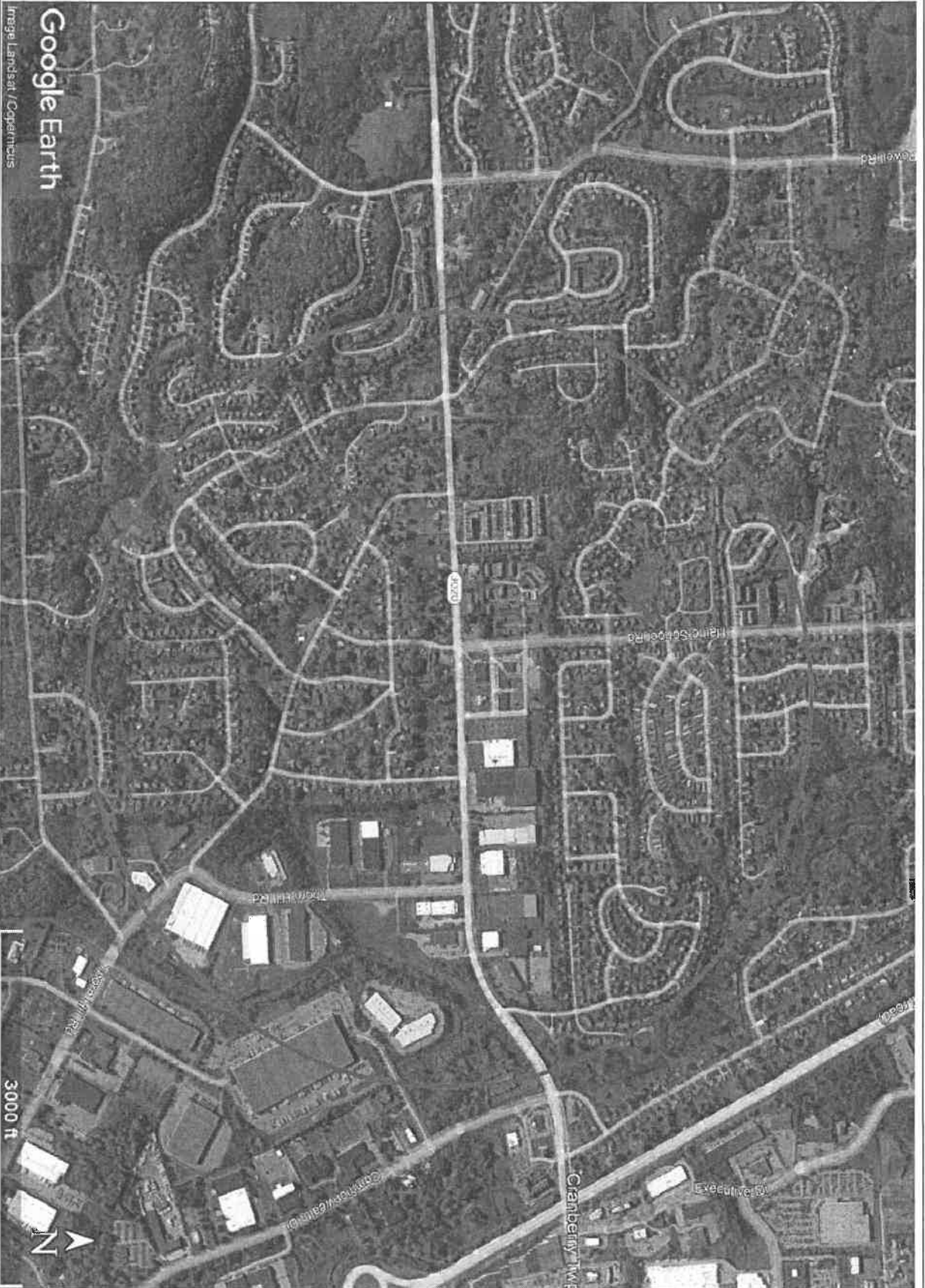
Google Earth

Image Landsat /Copernicus

3000 ft

N

STAHL SHEAFFER ENGINEERING

800 TOWN CENTER BLVD.
SUITE 215
CANONSBURG, PA 15317

PH: 724-860-1111
FAX: 724-860-1182
www.STAHLSHEAFFER.COM

PROJECT:	FREEDOM ROAD DEVELOPMENT
	CRANBERRY TOWNSHIP, BUTLER COUNTY, PA
DRAWING:	1-Mile Radius Map

DATE:	OCTOBER 2022
PROJECT NO.:	21-362
DRAWN BY:	JTK
CHECKED BY:	JAG
FIGURE:	2
SCALE:	NTS

Google Earth

Economy

Cranberry Twp

Bradford Woods

Warrendale

Seven Fields

3 mi

N

STAHLSHEAFFER ENGINEERING

6000 TOWN CENTER BLVD.
SUITE 215
CANONSBURG, PA 15317
PH: 724-990-1111
FAX: 724-990-1162
WWW.STAHLSHEAFFER.COM

PROJECT:
FREEDOM ROAD DEVELOPMENT
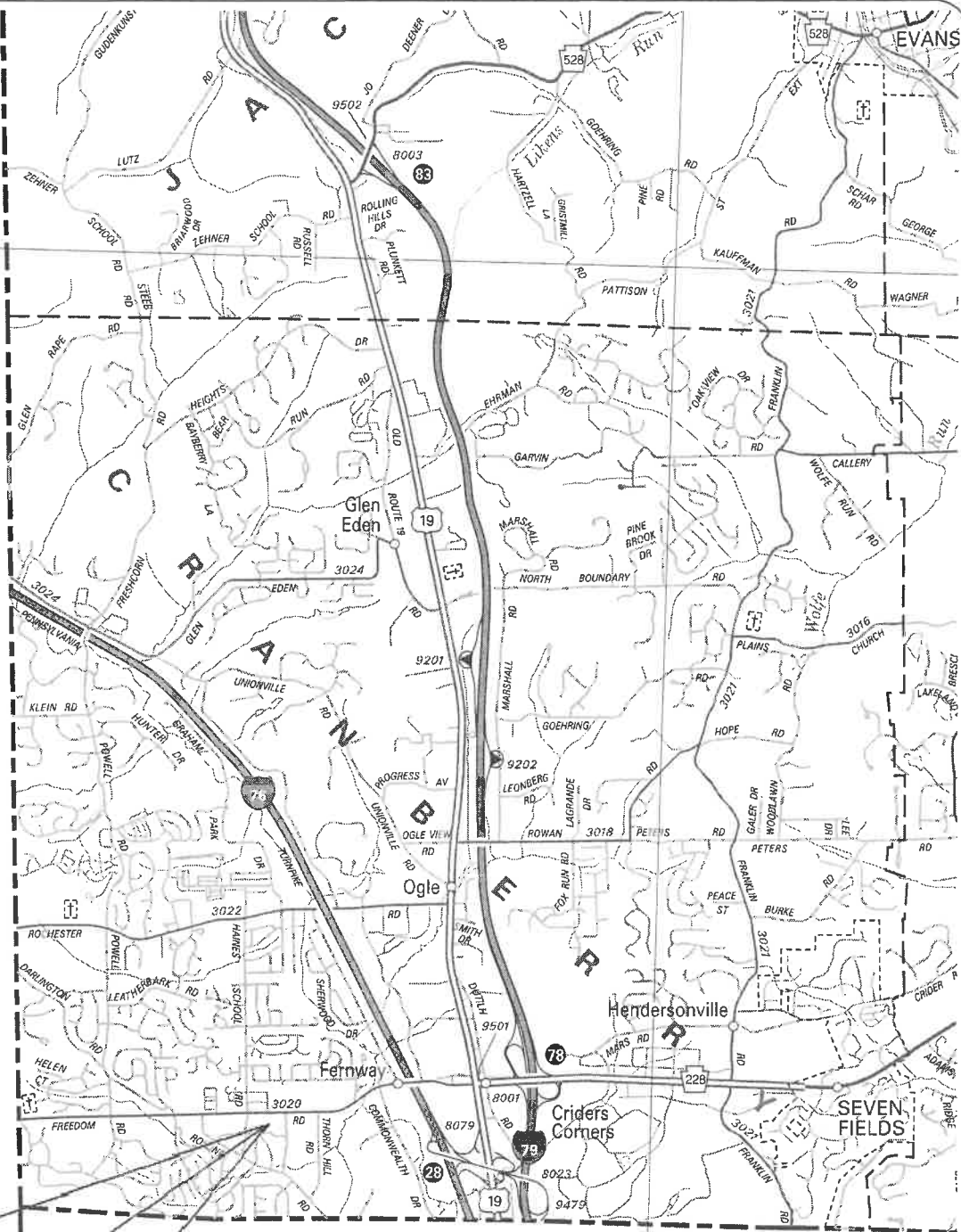CRANBERRY TOWNSHIP, BUTLER COUNTY, PA

DRAWING:
5-Mile Radius Map

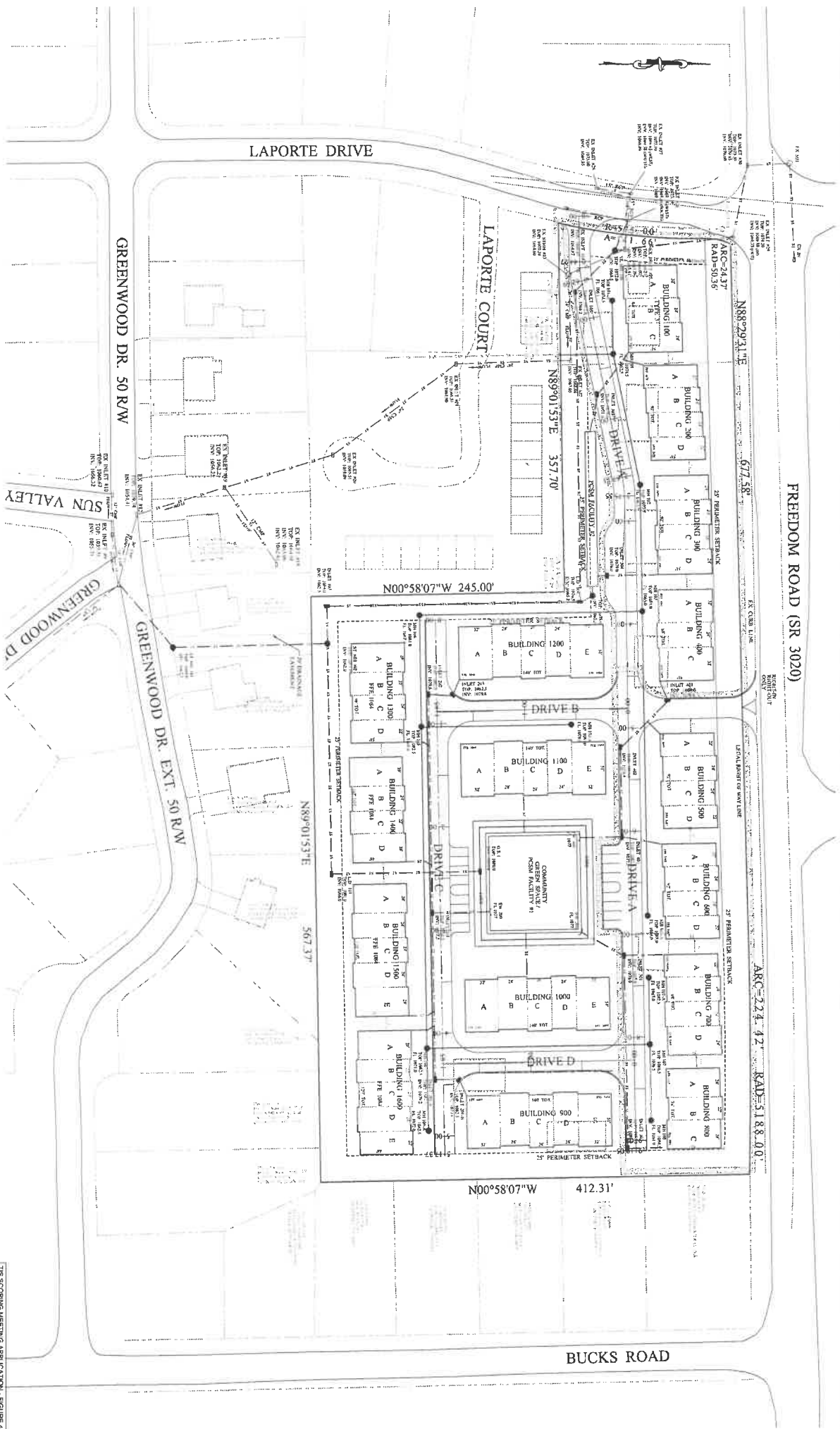|	
DATE:	OCTOBER 2022
PROJECT NO.:	21-362
DRAWN BY:	JTK
CHECKED BY:	JAG
FIGURE:	3
SCALE:	NTS

Site Data:
Concept K
Zoning District: CCD Corridor
67 Total Units
Scale: 1" = 40'

TOTAL PLAN AREA = 291,796 s.f.
6.70 acres

GRAPHIC SCALE

LAPORTE DRIVE

GREENWOOD DR. 50 R/W

GREENWOOD DR. EXT. 50 R/W

SUN VALLEY

LAPORTE COURT

FREEDOM ROAD (SR 3020)

N88°29'31"E
ARC=24.37'
RAD=50.36'

N89°01'53"E 357.70'

N89°01'53"E 567.37'

N00°58'07"W 245.00'

N00°58'07"W 412.31'

ARC=224.42' RAD=5188.00'

677.58'

DRIVE A

DRIVE B

DRIVE C

DRIVE D

BUILDING 100 TYPE 'S'
BUILDING 200
BUILDING 300
BUILDING 400
BUILDING 500
BUILDING 600
BUILDING 700
BUILDING 800
BUILDING 900
BUILDING 1000
BUILDING 1100
BUILDING 1200
BUILDING 1300
BUILDING 1400
BUILDING 1500
BUILDING 1600

COMMUNITY GREEN SPACE / PCSM FACILITY #1

25' PERIMETER SETBACK

BUCKS ROAD

	DATE	REVISION

DATE 8-3-2022
SCALE 1" = 40'
DRAWING NO. CP-1

CONSTRUCTION PLAN
FREEDOM ROAD
Solution for
MARSHALL TOWNSHIP ALLEGHENY CO., PA
MADE FOR
FREEDOM MANAGEMENT LLC

JMS ENGINEERING

ATTACHMENT B
TRIP GENERATION CALCULATIONS

Land Use: 220
Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.

- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.

- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in British Columbia (CAN), California, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, and Washington.

Source Numbers

188, 204, 237, 300, 305, 306, 320, 321, 357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 229
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation
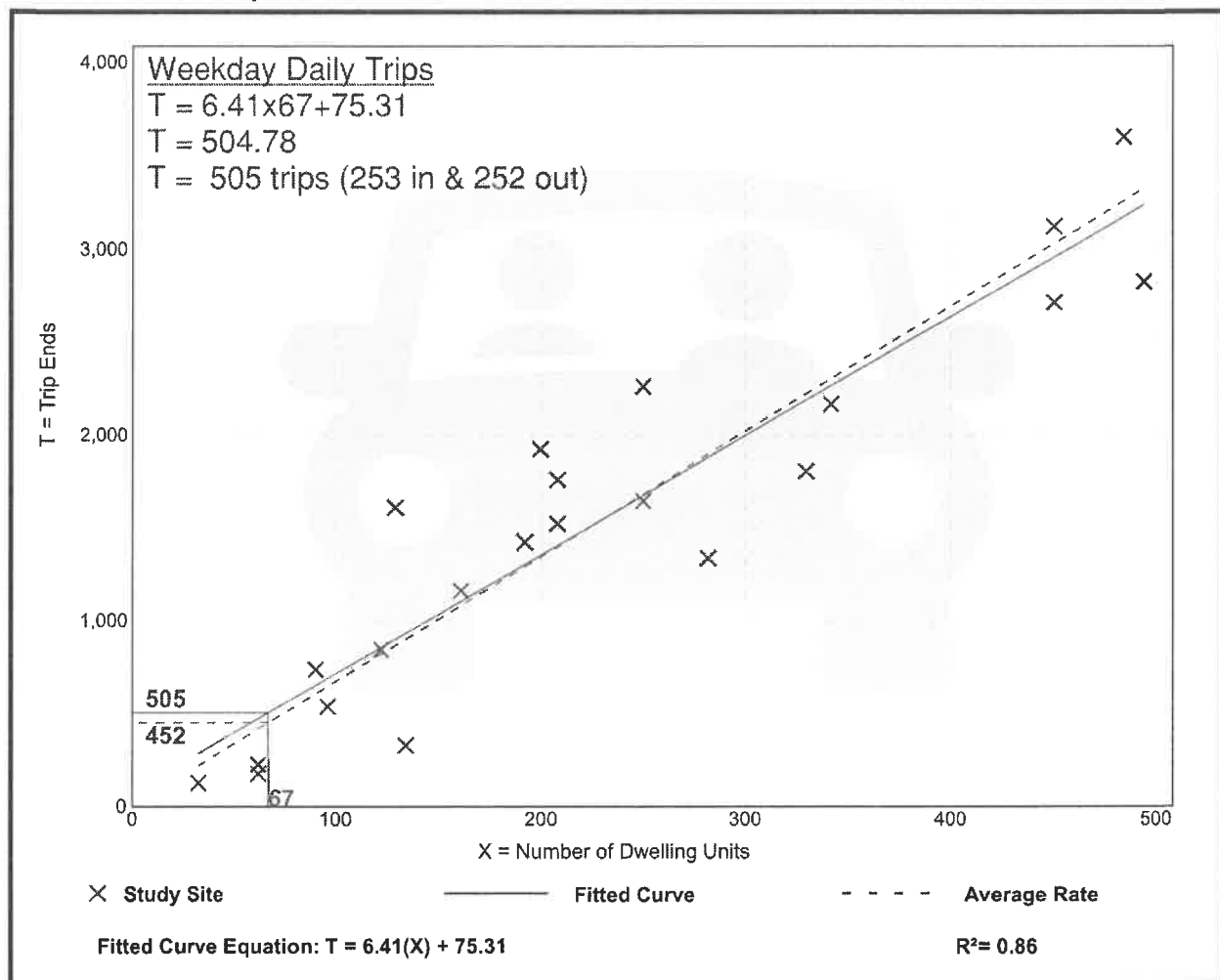
Weekday Daily Trips
$T = 6.41x67+75.31$
$T = 504.78$
$T = 505$ trips (253 in & 252 out)

X = Number of Dwelling Units
T = Trip Ends

| X | Study Site | —— Fitted Curve | - - - - Average Rate |

Fitted Curve Equation: T = 6.41(X) + 75.31   **R²= 0.86**

Trip Gen Manual, 11th Edition   ● Institute of Transportation Engineers

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

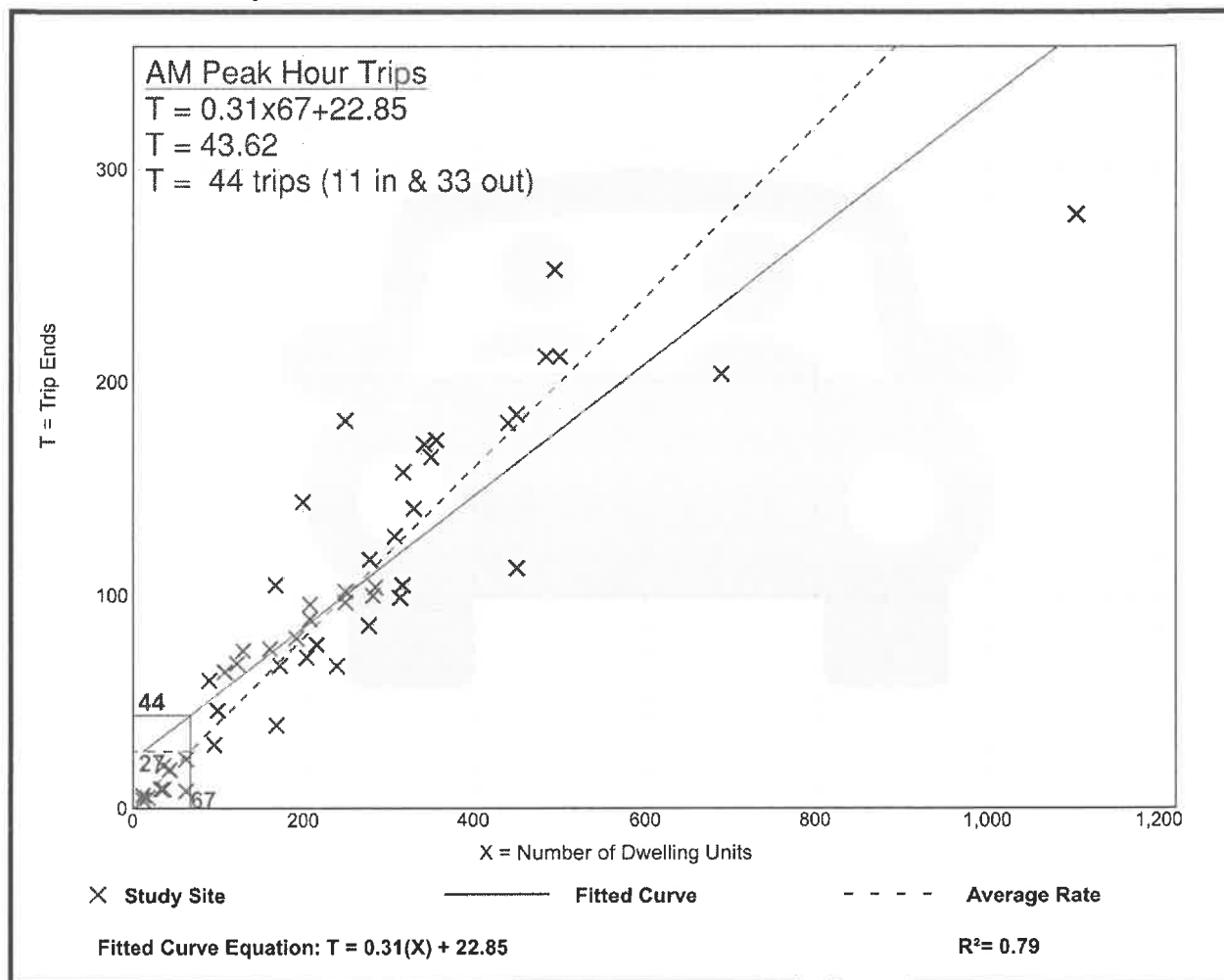|	
Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	49
Avg. Num. of Dwelling Units:	249
Directional Distribution:	24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation

AM Peak Hour Trips
T = 0.31x67+22.85
T = 43.62
T = 44 trips (11 in & 33 out)

T = Trip Ends (y-axis)

X = Number of Dwelling Units (x-axis)

✕ **Study Site** — **Fitted Curve** - - - - **Average Rate**

Fitted Curve Equation: T = 0.31(X) + 22.85   **R²= 0.79**

Trip Gen Manual, 11th Edition   ● Institute of Transportation Engineers

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	59
Avg. Num. of Dwelling Units:	241
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation

PM Peak Hour Trips
$T = 0.43x67 + 20.55$
$T = 49.36$
$T = 49$ trips (31 in & 18 out)

X = Number of Dwelling Units

T = Trip Ends

✕ **Study Site**   ——— **Fitted Curve**   - - - - **Average Rate**

Fitted Curve Equation: $T = 0.43(X) + 20.55$ $R^2 = 0.84$

Trip Gen Manual, 11th Edition   ● Institute of Transportation Engineers