

MEMORANDUM

DATE: February 7, 2014

TO: Corey Watson, Project Manager
Quadrant Homes

FROM: Michael J. Read, PE, Principal
TENW

SUBJECT: Beuca Plat – Limited Scope Traffic Impact Analysis
TENW Project No. 3289

This limited scope traffic analysis summarizes a trip generation and trip distribution evaluation of a proposed 14-lot (15 total housing units) residential subdivision known as *Beuca Plat* in Redmond, Washington. Based on the City of Redmond's traffic impact analysis guidelines, no off-site traffic operational impact analysis is required given the proposed level of development. A project site vicinity map is shown in **Figure 1**.

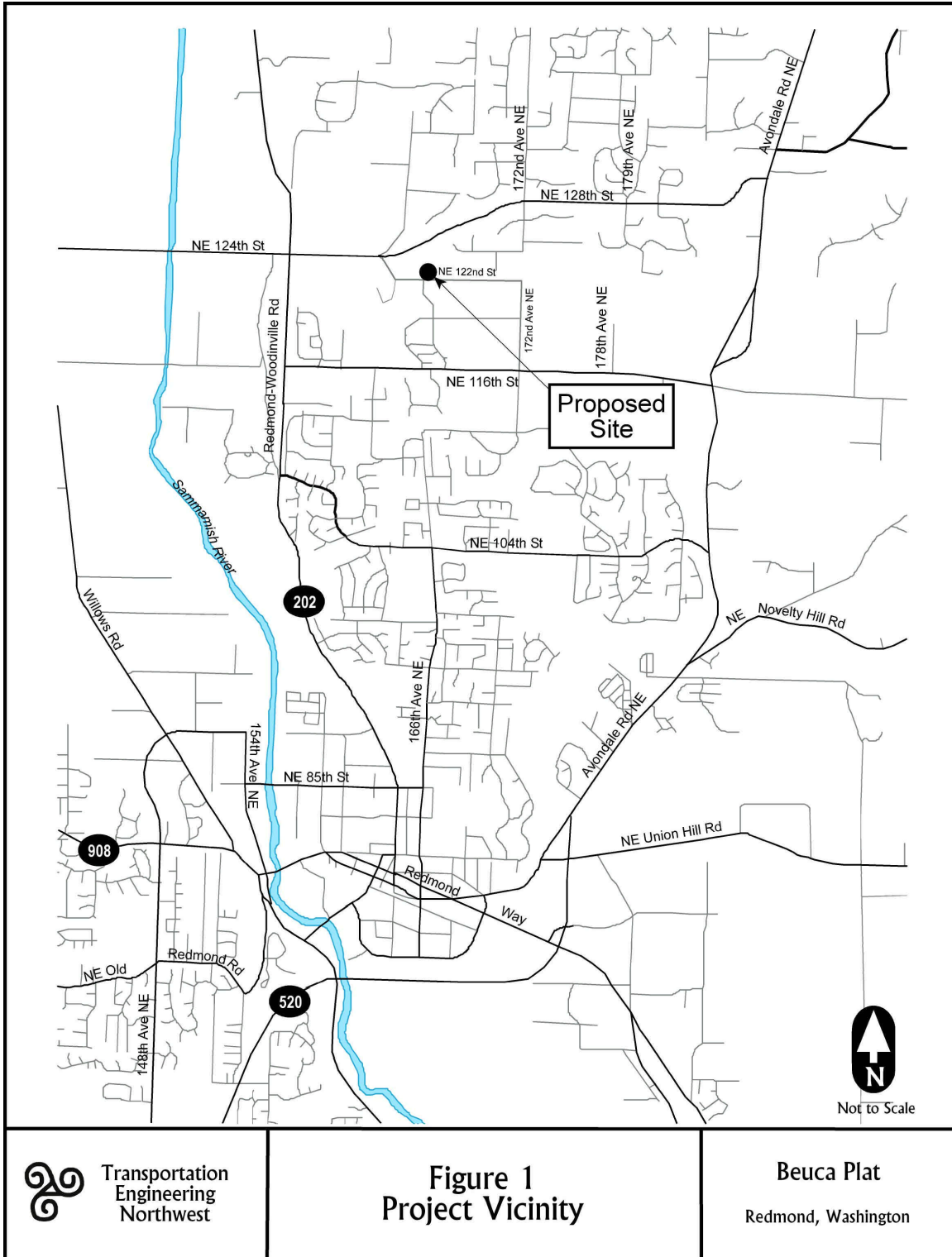
Project Description

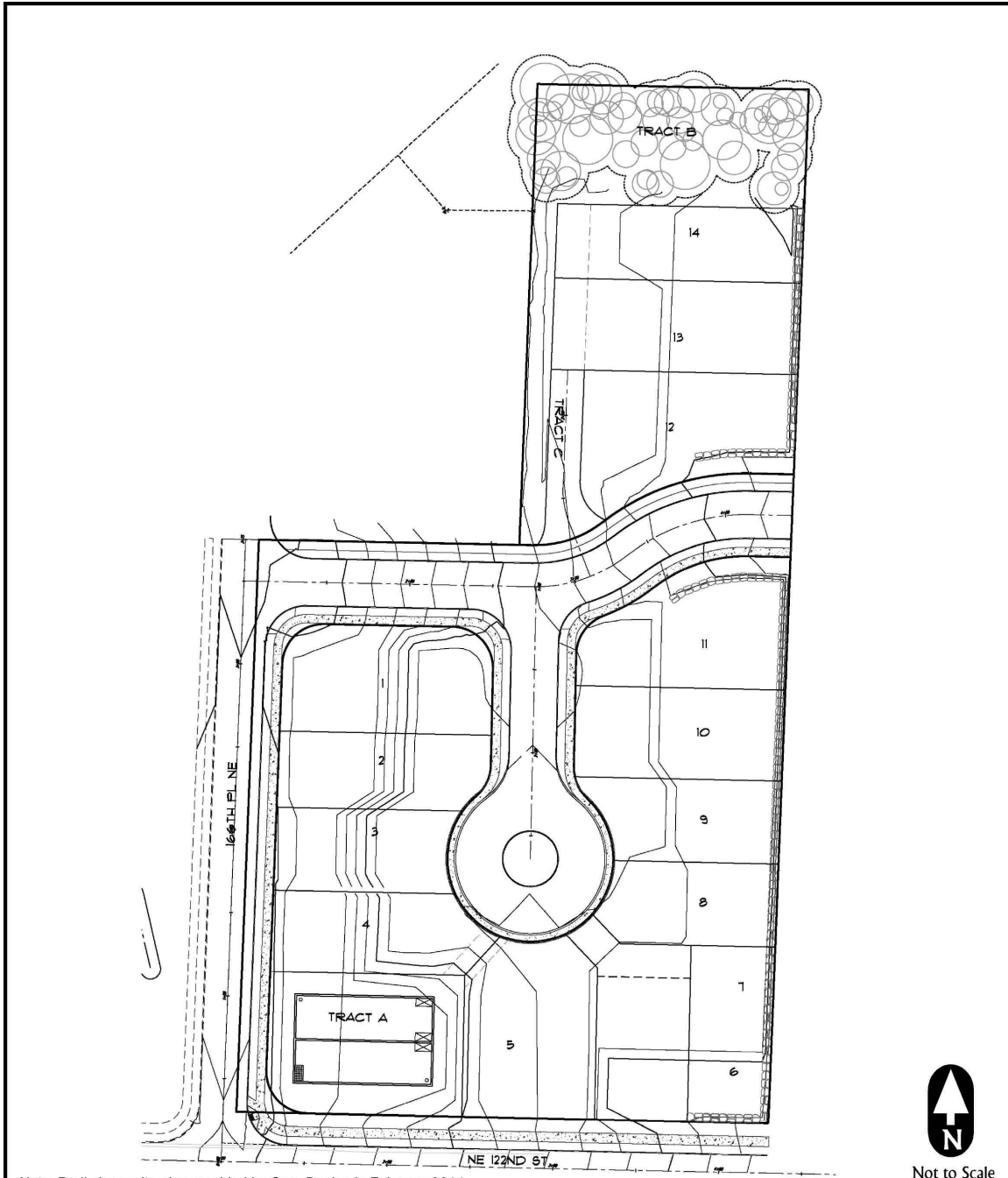
The proposed project includes subdivision of a combined 3.6-acre property in the 16600 block of NE 122nd Street that currently has two existing single family homes. As part of the subdivision, both existing homes would be demolished, and fourteen new lots created that would provide 15 dwelling units, resulting in a net increase of 13 residential homes. A preliminary site plan is shown in **Figure 2**.

Vehicular site access would be provided via construction of a new half-street public roadway that extends 166th Place NE north of NE 122nd Street, aligning with its existing intersection. An internal site access roadway would be constructed east of the 166th Place NE extension, intersecting roughly 350 feet north of NE 122nd Street. As part of the project, frontage improvements along the north side of NE 122nd Street would also be required. Full buildout and occupancy of the site is planned by 2015.

Project Trip Generation

Average trip rate equations compiled by the Institute of Transportation Engineers (ITE) *Trip Generation, 9th Edition, 2012*, were used to estimate the net increase in daily, a.m. peak hour, and p.m. peak hour traffic that would be generated by the proposed subdivision using Single-Family Homes (ITE Land Use Code 210) and Residential Townhome/Condominium (ITE Land Use Code 230). As shown in **Table 1**, an estimated net total increase of approximately 117 daily, 9 a.m. peak hour (2 entering and 7 exiting), and 12 p.m. peak hour vehicular trips (8 entering and 4 exiting) would be generated at full build-out of the project.





Note: Preliminary site plan provided by Core Design in February 2014.

 Transportation Engineering Northwest	Figure 2 Preliminary Site Plan	Beuca Plat Redmond, Washington
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Table 1
Beuca Plat – Trip Generation Summary (Net Increase)

Time Period	In	Out	Total
Weekday Daily	58	59	117
Weekday AM Peak Hour	2	7	9
Weekday PM Peak Hour	8	4	12

As shown in **Table 1**, this project would generate fewer than 20 peak hour trips, and thereby falls below the threshold criteria for a full traffic impact study per City of Redmond requirements.

Trip Distribution and Assignment

Based upon traffic volumes and patterns in the area, and existing access routes to the vicinity arterial system, project generated traffic volumes would be generally distributed as follows:

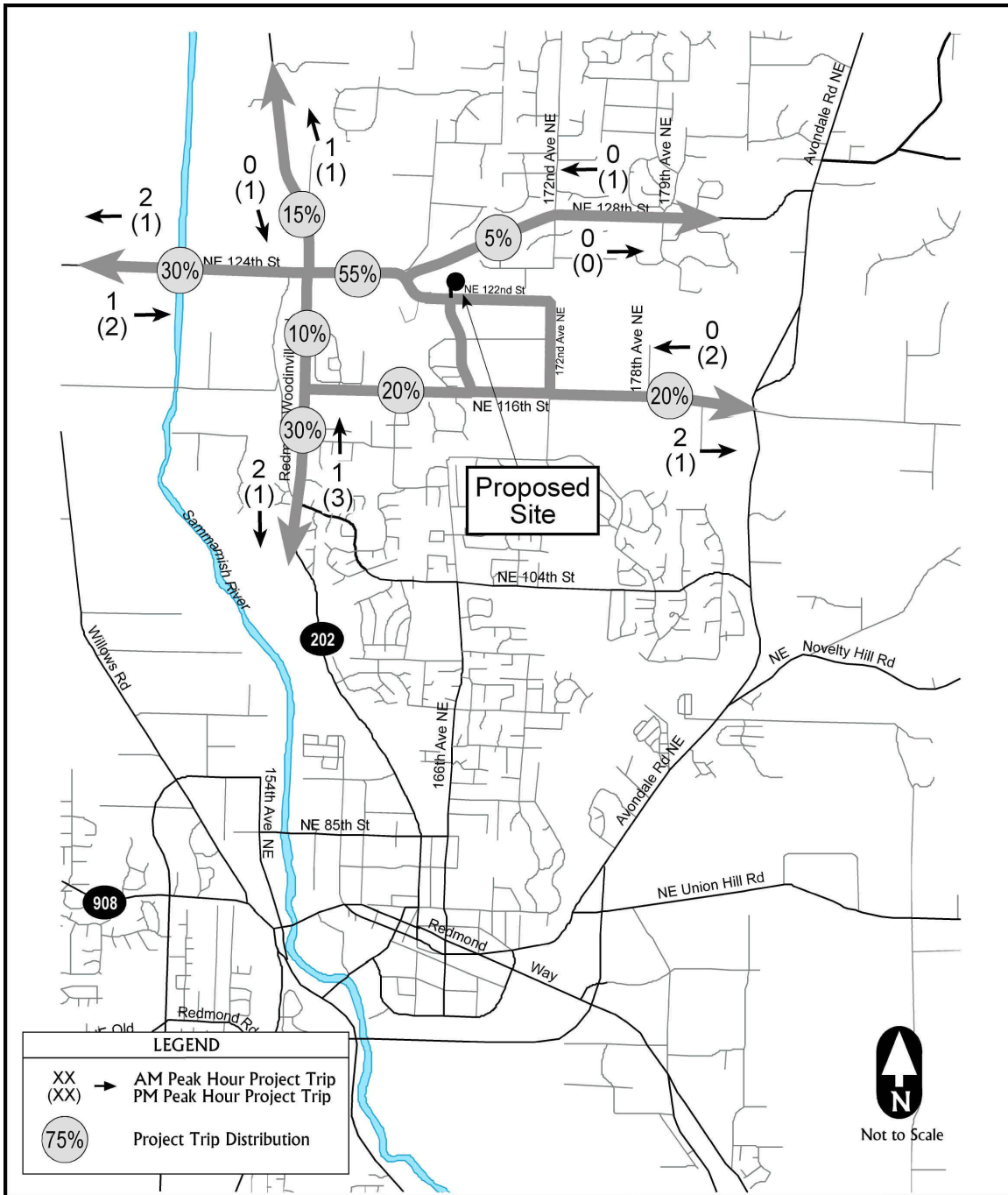
- 25 percent east to the Avondale Road corridor.
- 30 percent west via NE 124th Street.
- 15 percent north via Redmond-Woodinville Road (SR 202).
- 30 percent south via Redmond-Woodinville Road (SR 202).

The project trip distribution and assignment is illustrated in **Figure 3**.

Site Access Evaluation

NE 122nd Street is a two-lane roadway with travel lanes that vary in width in the vicinity of the site between approximately 10 and 11 feet. Shoulder conditions also vary from raised curb/landscaping and sidewalks to open ditches with narrow gravel/earthen shoulders. The speed limit is posted at 25 mph. Available entering sight distance at the proposed plat roadway intersection was field estimated by TENW at over 500 feet to the west and over 700 feet to the east, exceeding minimum requirements of 390 feet for a design speed of 35 mph¹. Frontage improvements would also be required along the north side of NE 122nd Street by the City of Redmond to bring the roadway section up to current standards.

¹ Source: City of Redmond's, *Appendix 2: Construction Specification and Design Standards for Streets and Access*, Table 9.



Mitigation Measures

Based on the review of trip generation/distribution of the net increase in vehicle trips onto the vicinity street system, the proposed *Beuca Plat* would not have any significant adverse transportation impacts as a result of the project. To mitigate proportional impacts to systemwide transportation facilities that serve new development with the City of Redmond, the project would be subject to traffic impact fees. Within the City of Redmond, traffic impact fees per single-family residential unit are assessed at \$7,024.08 and \$4,311.81 for multifamily. As such, for the proposed net increase in 11 new single-family homes and 2 new units in a duplex building, the project would be subject to an estimated \$85,888.50 in traffic impact fees based on 2013 rates. Frontage improvements would also be required along the north side of NE 122nd Street to bring the roadway section up to current standards.

Please let me know if you have any questions regarding the analysis presented in this memorandum. I can be reached at (206) 361-7333 ext 101 or via email at mikeread@tenw.com.

ATTACHMENT 1

Detailed Trip Generation Estimates

Attachment 1
Redmond Beuca Plat (February 2014)
Detailed Trip Generation Summary

Land Use	Size	Units ¹	ITE LUC ²	Average Trip Rate	Trips Generated			
					In	Out	Total	
AM PEAK HOUR								
Single Family Detached Housing (New)	11	DU	210	0.75	2	6	8	
Residential Townhomes/Condominium	2	DU	230	0.44	0	1	1	
	13							
New AM Peak Hour Trips Generated =					2	7	9	
PM PEAK HOUR								
Single Family Detached Housing (New)	11	DU	210	1.00	7	4	11	
Residential Townhomes/Condominium	2	DU	230	0.52	1	0	1	
	13							
New PM Peak Hour Trips Generated =					8	4	12	
DAILY								
Single Family Detached Housing (New)	11	DU	210	9.52	52	53	105	
Residential Townhomes/Condominium	2	DU	230	5.81	6	6	12	
	13							
New Average Daily Trips Generated =					58	59	117	

Notes:

¹ DU is Dwelling Unit.

² Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012 Land Use Codes.