



Nov 3, 2014

Jon Regala  
City of Kirkland Planning and Community Development  
123 Fifth Avenue  
Kirkland, WA 98033

Project Name: Holy Family Parish Expansion / Master Plan Submittal  
Project Address: 7045 120<sup>th</sup> Avenue NE  
File No: PRE14-00695  
Parcel: 09205-9018

## **PROJECT DESCRIPTION**

Holy Family Parish is requesting a Zoning Permit for a phased Master Plan.

Phase One – which would occur within five years, involves the development of the north end of our campus. In an effort to provide more off street parking to parishioners for weekend Masses and events, we are planning to install a new parking lot adjacent to the north side of the Parish Education Center. This parking lot will have a covered structure over half of it which will allow outdoor play for the children during inclement weather. This lot will mainly be used as playground area, but will serve as overflow parking during high demand events. The lot will be gated, and accessed from 119<sup>th</sup> Avenue.

Also in an effort to insure the safety of our littlest ones, we are planning to create an off-street pre-school drop off which will be entered from 119<sup>th</sup> Avenue NE, and will exit onto NE 75<sup>th</sup> street. Adjacent to this small lot, we will have a new maintenance shed and storage facility for St. Vincent DePaul Society donations. The parking lots will have landscape buffer screening to minimize the visual impact. Tree retention has been a priority, and professional arborists have been employed help develop a scheme that will keep as many existing trees as possible. The street frontage along 119<sup>th</sup> Avenue NE and NE 75<sup>th</sup> Street will be developed with sidewalks and planting strips per City of Kirkland design standards.

Phase Two – which would occur within 5-10 years, involves expanding our current church nave to accommodate more parishioner during Mass. We anticipate offering fewer opportunities per week to attend Mass, so the number of parishioners per Mass would go up, but we expect no over-all weekly increase in attendance. The church expansion would have a similar scale and appearance to the current church, with the same overall ridge height, and a limited footprint increase of 3322 SF.

## STATEMENT OF ZONING COMPLIANCE

**Review Process:** We anticipate a Process IIB zoning permit process.

### **Variances:**

Variance Requested: Building Height – existing building is 37'-6" tall to the ridge of the roof. The proposed roof ridge will be 36'-6" tall, with a small copula that extends higher to a height of 43'-6". We are requesting a variance for building height, as the zone height limit is 30'. The edge of the roof that is not in compliance is 89' away from the east property line and 97' away from the west property line.

### **Setbacks for School Use:**

All structured play areas are 20' or more from the property line.

### **Lot Coverage:**

The proposed lot coverage is 64.6%, which is below the 70% threshold for RSX zones.

### **Height:**

The proposed Phase 2 Nave renovation will replace the existing non-compliant roof with a new non-compliant roof form of approximately the same height. See variance request above.

### **Landscape Buffers:**

KZC Section 95.42.1 buffer standard 1 will be provided along 119<sup>th</sup> Avenue and along 75<sup>th</sup> Street between day-care drop off/parking lot and the street.

### **Parking Lot Location:**

A minimum set back to the parking lot of 20' from the property line is provided.

### **Pedestrian Walkways Through Parking Lot:**

A walkway designed to comply with KZC 105.18.3.d is provided in the main parking lot.

### **Tree Retention:**

A professional arborist has been employed to help develop a tree retention plan. The Master Plan parking and play area layouts have been modified somewhat from the previous Master Plan in order to protect and retain more trees on site.

### **Parking:**

Transpo Group Parking and Traffic Assessment has been attached.

Sincerely,



Kevin J. Broderick, AIA



**CITY OF KIRKLAND**  
Planning and Building Department  
123 Fifth Avenue, Kirkland, WA 98033  
425.587.3600 ~ [www.kirklandwa.gov](http://www.kirklandwa.gov)

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## **DEVELOPMENT STANDARDS LIST HOLY FAMILY PARISH MASTER PLAN, FILE NO. ZON14-02303**

### **RETENTION OF SIGNIFICANT TREES, CHAPTER 95**

The City's objective is to retain as many viable trees as possible on a development site while still allowing the development proposal to move forward in a timely manner. In order to make better decisions about tree retention, an approved tree retention plan that establishes the priorities of tree retention is required for zoning permit applications. Tree retention values are assessed based on the site, the location of trees and the information provided by the applicant's arborist.

The following tree retention values, based on Kirkland Zoning Code definitions, for the project are listed below:

The High Retention Value trees on this site are Trees 3092, 3093, 3105, 3110, 3125 and 3141. Per the requirements in KZC 95.30, the applicant is required to retain and protect High Retention Value trees to the maximum extent possible. High Retention value trees are significant viable trees that are located within required yards or landscape buffers and fit the criteria defined in KZC 95.10.

The Moderate Retention Value trees are Trees 3102, 5488, 5489, 5490, 3103, 3107, 3109, 3100, 3101, 3082, 3127, 3128, 3130 and 3129. Moderate Retention Value trees are viable trees that are to be retained if feasible.

The Low Retention Value trees are Trees 3111, 3121, 5523, 3131, 3132, 3115, 3114, 3140, 3119, 3118 and 3120. These are typed as Low Retention Value trees based on their current condition or are located in an area where removal is unavoidable due to the anticipated development activity.

No trees are approved for removal with the approval of a zoning permit. A new retention plan shall be required at each phase of the project as more information about the location of the proposed improvements is known, subject to the requirements in KZC 95.30.

### **ZONING CODE STANDARDS**

**95.51.2.a Required Landscaping.** All required landscaping shall be maintained throughout the life of the development. The applicant shall submit an agreement to the city to be recorded with King County which will perpetually maintain required landscaping. Prior to issuance of a certificate of occupancy, the proponent shall provide a final as-built landscape plan and an agreement to maintain and replace all landscaping that is required by the City.

**95.44 Parking Area Landscape Islands.** Landscape islands must be included in parking areas as provided in this section.

**95.45 Parking Area Landscape Buffers.** Applicant shall buffer all parking areas and driveways from the right-of-way and from adjacent property with a 5-foot wide strip as provided in this section. If located in a design district a low hedge or masonry or concrete wall may be approved as an alternative through design review.

**95.50 Tree Installation Standards.** All supplemental trees to be planted shall conform to the Kirkland Plant List. All installation standards shall conform to Kirkland Zoning Code Section 95.45.

**95.52 Prohibited Vegetation.** Plants listed as prohibited in the Kirkland Plant List shall not be planted in the City.

**100.25 Sign Permits.** Separate sign permit(s) are required. In JBD and CBD cabinet signs are prohibited.

**105.18 Pedestrian Walkways.** All uses, except single family dwelling units and duplex structures, must provide pedestrian walkways designed to minimize walking distances from the building entrance to the right of way and adjacent transit facilities, pedestrian connections to adjacent properties, between primary entrances of all uses on the subject property, through parking lots and parking garages to building entrances. Easements may be required. In design districts through block pathways or other pedestrian improvements may be required. See also Plates 34 in Chapter 180.

**105.32 Bicycle Parking.** All uses, except single family dwelling units and duplex structures with 6 or more vehicle parking spaces must provide covered bicycle parking within 50 feet of an entrance to the building at a ratio of one bicycle space for each twelve motor vehicle parking spaces. Check with Planner to determine the number of bike racks required and location.

**105.18.2 Walkway Standards.** Pedestrian walkways must be at least 5' wide; must be distinguishable from traffic lanes by pavement texture or elevation; must have adequate lighting for security and safety. Lights must be non-glare and mounted no more than 20' above the ground.

**105.65 Compact Parking Stalls.** Up to 50% of the number of parking spaces may be designated for compact cars.

**105.60.2 Parking Area Driveways.** Driveways which are not driving aisles within a parking area shall be a minimum width of 20 feet.

**105.60.3 Wheelstops.** Parking areas must be constructed so that car wheels are kept at least 2' from pedestrian and landscape areas.

**105.60.4 Parking Lot Walkways.** All parking lots which contain more than 25 stalls must include pedestrian walkways through the parking lot to the main building entrance or a central location. Lots with more than 25,000 sq. ft. of paved area must provide pedestrian routes for every 3 aisles to the main entrance.

**105.77 Parking Area Curbing.** All parking areas and driveways, for uses other than detached dwelling units must be surrounded by a 6" high vertical concrete curb.

**110.60.5 Street Trees.** All trees planted in the right-of-way must be approved as to species by the City. All trees must be two inches in diameter at the time of planting as measured using the standards of the American Association of Nurserymen with a canopy that starts at least six feet above finished grade and does not obstruct any adjoining sidewalks or driving lanes.

**115.25 Work Hours.** It is a violation of this Code to engage in any development activity or to operate any heavy equipment before 7:00 am. or after 8:00 pm Monday through Friday, or before 9:00 am or after 6:00 pm Saturday. No development activity or use of heavy equipment may occur on Sundays or on the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas Day. The applicant will be required to comply with these regulations and any violation of this section will result in enforcement action, unless written permission is obtained from the Planning official.

**115.45 Garbage and Recycling Placement and Screening.** For uses other than detached

dwelling units, duplexes, moorage facilities, parks, and construction sites, all garbage receptacles and dumpsters must be setback from property lines, located outside landscape buffers, and screened from view from the street, adjacent properties and pedestrian walkways or parks by a solid sight-obscuring enclosure.

**115.47 Service Bay Locations.** All uses, except single family dwellings and multifamily structures, must locate service bays away from pedestrian areas. If not feasible must screen from view.

**115.75.2 Fill Material.** All materials used as fill must be non-dissolving and non-decomposing. Fill material must not contain organic or inorganic material that would be detrimental to the water quality, or existing habitat, or create any other significant adverse impacts to the environment.

**115.90 Calculating Lot Coverage.** The total area of all structures and pavement and any other impervious surface on the subject property is limited to a maximum percentage of total lot area. See the Use Zone charts for maximum lot coverage percentages allowed. Section 115.90 lists exceptions to total lot coverage calculations See Section 115.90 for a more detailed explanation of these exceptions.

**115.95 Noise Standards.** The City of Kirkland adopts by reference the Maximum Environmental Noise Levels established pursuant to the Noise Control Act of 1974, RCW 70.107. See Chapter 173-60 WAC. Any noise, which injures, endangers the comfort, repose, health or safety of persons, or in any way renders persons insecure in life, or in the use of property is a violation of this Code.

**115.115 Required Setback Yards.** This section establishes what structures, improvements and activities may be within required setback yards as established for each use in each zone.

**115.115.3.p HVAC and Similar Equipment:** These may be placed no closer than five feet of a side or rear property line, and shall not be located within a required front yard; provided, that HVAC equipment may be located in a storage shed approved pursuant to subsection (3)(m) of this section or a garage approved pursuant to subsection (3)(o)(2) of this section. All HVAC equipment shall be baffled, shielded, enclosed, or placed on the property in a manner that will ensure compliance with the noise provisions of KZC 115.95.

**115.115.5.c Driveway Setbacks.** Vehicle parking areas for schools and day-care centers greater than 12 students shall have a minimum 20-foot setback from all property lines.

***Prior to issuance of a grading or building permit:***

**95.30(4) Tree Protection Techniques.** A description and location of tree protection measures during construction for trees to be retained must be shown on demolition and grading plans.

**95.34 Tree Protection.** Prior to development activity or initiating tree removal on the site, vegetated areas and individual trees to be preserved shall be protected from potentially damaging activities. Protection measures for trees to be retained shall include (1) placing no construction material or equipment within the protected area of any tree to be retained; (2) providing a visible temporary protective chain link fence at least 6 feet in height around the protected area of retained trees or groups of trees until the Planning Official authorizes their removal; (3) installing visible signs spaced no further apart than 15 feet along the protective fence stating "Tree Protection Area, Entrance Prohibited" with the City code enforcement phone number; (4) prohibiting excavation or compaction of earth or other damaging activities within the barriers unless approved by the Planning Official and supervised by a qualified professional; and (5) ensuring that approved landscaping in a protected zone shall be done with light machinery or by hand.





## DEVELOPMENT STANDARDS ZON14-02303

### BUILDING DEPARTMENT

BUILDING General Conditions: Contact: Tom Jensen [tjensen@kirklandwa.gov](mailto:tjensen@kirklandwa.gov)

1. A geotechnical report is required to address commercial development activity. The report must be prepared by a Washington State licensed Professional Engineer. Recommendations contained within the report shall be incorporated into the design of the Short Plat and subsequent structures.
2. This parcel is comprised of multiple lots and must be consolidated prior to permit issuance. A Lot Consolidation by Restrictive Covenant document will be created by the City for signature by the property owners and sent to King County for recording at the time of permit issuance.
3. Prior to issuance of Building, Demolition or Landsurface Modification permit applicant must submit a proposed rat baiting program for review and approval. Kirkland Municipal Ordinance 9.04.040
4. Plumbing meter and service line shall be sized in accordance with the current UPC. We are currently using the 2012 edition.
5. Building permits must comply with the International Building and Mechanical Codes and the Uniform Plumbing Code as adopted and amended by the State of Washington and the City of Kirkland. Kirkland currently has adopted the 2012 editions. For permit submittal, please provide an analysis of the allowable area based on type of construction of each building and allowed openings with regard to fire separation distance to imaginary property lines. Because the Covered Play Structure will also be used for parking cars, please show compliance with IBC Section 406.5 for Open Parking Garages in particular the types of construction allowed. If the Parish Education Center is not of Type I, II or IV construction, then it and the new Covered Play Structure cannot be considered as portions of one building per IBC Section 503.1.2. This would require measuring fire separation distances from an imaginary property line between them which would most likely limit the openings allowed on each building. Similarly an imaginary property line between the (E) Parish Center and the proposed additions to the Church could limit allowed openings if these 2 building cannot be considered as one.
6. Structures must comply with International Energy Conservation Code as adopted and amended by the State of Washington. We are currently using the 2012 edition.
7. Kirkland reviews, issues and inspects all electrical permits in the city. Kirkland currently uses the 2009 Washington Cities Electrical Code chapters 1 and 3 as published by WABO.
8. Structures must be designed for seismic design category D, wind speed of 110 miles per hour and exposure B.
9. Nonstructural components must be designed for seismic design category D, wind speed of 110 miles per hour and exposure B. ASCE 7 - 10
10. The applicant is cautioned to investigate the implications of the Americans with Disabilities Act on the construction of this project. For more information the applicant may contact the Office of the General Counsel, Architectural and Transportation Barriers Compliance Board, 1111 18th Street, N.W., Suite 501, Washington, DC 20036, Ph# (800) 514-0301.

### FIRE DEPARTMENT

Contact: Grace Steuart at 425-587-3660; or [gsteuart@kirklandwa.gov](mailto:gsteuart@kirklandwa.gov)

#### SPRINKLER THRESHOLD

Per Kirkland Municipal Code, all new buildings which are 5,000 gross square feet or larger require fire sprinklers. The covered play structure described in the application would be subject to the sprinkler requirement if over 5,000 square feet.

#### EXISTING HYDRANTS AND FIRE FLOW ARE ADEQUATE

No additional hydrants would be required for the proposed project. Fire flow is approximately 2700 gpm, which is adequate.

### PUBLIC WORKS DEPARTMENT

Permit #: ZON-02303  
Project Name: Holy Family Parish Master Plan  
Project Address: 7045 120th Ave. NE  
Date: January 16, 2015

## PUBLIC WORKS CONDITIONS

### Public Works Staff Contacts

#### Land Use and Pre-Submittal Process:

Rob Jammerman, Development Engineering Manager  
Phone: 425-587-3845 Fax: 425-587-3807  
E-mail: rjammer@kirklandwa.gov

### General Conditions:

1. All public improvements associated with this project including street and utility improvements, must meet the City of Kirkland Public Works Pre-Approved Plans and Policies Manual. A Public Works Pre-Approved Plans and Policies manual can be purchased from the Public Works Department, or it may be retrieved from the Public Works Department's page at the City of Kirkland's web site at [www.kirklandwa.gov](http://www.kirklandwa.gov).
2. This project will be subject to Public Works Permit and Connection Fees. It is the applicant's responsibility to contact the Public Works Department by phone or in person to determine the fees. The fees can also be reviewed on the City of Kirkland web site at [www.kirklandwa.gov](http://www.kirklandwa.gov). The applicant should anticipate the following fees:
  - o Water, Sewer, and Surface Water Connection Fees (paid with the issuance of a Building Permit)
  - o Side Sewer Inspection Fee (paid with the issuance of a Building Permit)
  - o Septic Tank Abandonment Inspection Fee
  - o Water Meter Fee (paid with the issuance of a Building Permit)
  - o Right-of-way Fee
  - o Review and Inspection Fee (for utilities and street improvements).
  - o Building Permits associated with this proposed project will be subject to the traffic, park, and school impact fees per Chapter 27 of the Kirkland Municipal Code. The impact fees shall be paid prior to issuance of the Building Permit(s). Any existing buildings within this project which are demolished will receive a Traffic Impact Fee credit, Park Impact Fee Credit and School Impact Fee Credit. This credit will be applied to the first Building Permits that are applied for within the project. The credit amount for each demolished building will be equal to the most currently adopted Fee schedule.
3. The City Traffic Engineer has issued a Concurrency Test Notice. Please refer to test notice in staff report.

**CERTIFICATE OF CONCURRENCY:** This project has been reviewed and approved for water, sewer, and traffic concurrency. Any water and sewer mitigating conditions are listed within the conditions below. Any traffic mitigating conditions will be found in an attached memorandum from the Public Works Traffic Engineering Analyst to the Planning Department Project Planner. Upon issuance of this permit, this project shall have a valid Certificate of Concurrency and concurrency vesting until the permit expires. This condition shall constitute issuance of a Certificate of Concurrency pursuant to chapter 25.12 of the Kirkland Municipal Code.

4. All civil engineering plans which are submitted in conjunction with a building, grading, or right-of-way permit must conform to the Public Works Policy titled ENGINEERING PLAN REQUIREMENTS. This policy is contained in the Public Works Pre-Approved Plans and Policies manual.
5. All street improvements and underground utility improvements (storm, sewer, and water) must be designed by a Washington State Licensed Engineer; all drawings shall bear the engineers stamp.
6. All plans submitted in conjunction with a building, grading or right-of-way permit must have elevations which are based on the King County datum only (NAVD 88).
7. A completeness check meeting is required prior to submittal of any Building Permit applications.

8. Prior to issuance of any Building Permit, the applicant shall provide a plan for garbage storage and pickup. The plan shall conform to Policy G-9 in the Public Works Pre-approved Plans and be approved by Waste Management and the City.

9. The required tree plan shall include any significant tree in the public right-of-way along the property frontage.

Sanitary Sewer Conditions:

1. The existing sanitary sewer main within the public right-of-way along the front of the property is adequate to serve the proposed project.

2. Any businesses serving food or drink are required to have grease interceptor on the waste line prior to discharge to the City sewer system. The interceptor shall be sized per the Uniform Plumbing Code (minimum).

Water System Conditions:

1. The existing water main in the public right-of-way along the front of the subject property is adequate to serve this proposed development unless it is found the more on-site hydrants or fire flow is needed in which case some system upgrades will be necessary.

Surface Water Conditions:

Provide temporary and permanent storm water control per the 2009 King County Surface Water Design Manual and the Kirkland Addendum (Policy D-10) or the adopted standard in place at the time of Building Permit and Land Surface Modification Permit submittal. Under the 2009 King County SWDM that following would be applied:

Full Drainage Review

A full drainage review is required for any proposed project, new or redevelopment, that will:

- Adds 5,000ft<sup>2</sup> or more of new impervious surface area or 10,000ft<sup>2</sup> or more of new plus replaced impervious surface area,
- Propose 7,000ft<sup>2</sup> or more of land disturbing activity, or,
- Be a redevelopment project on a single or multiple parcel site in which the total of new plus replaced impervious surface area is 5,000ft<sup>2</sup> or more and whose valuation of proposed improvements (including interior improvements but excluding required mitigation and frontage improvements) exceeds 50% of the assessed value of the existing site improvements.

1. Evaluate the feasibility and applicability of dispersion, infiltration, and other stormwater low impact development facilities on-site (per section 5.2 in the 2009 King County Surface Water Design Manual). If feasible, stormwater low impact development facilities are required. See PW Pre-Approved Plan Policy L-1 or L-2 (depending on drainage review) for more information on this requirement.

2. Because this project site is one acre or greater, the following conditions apply:

- Amended soil requirements (per Ecology BMP T5.13) must be used in all landscaped areas.
- If the project meets minimum criteria for water quality treatment (5,000ft<sup>2</sup> pollution generating impervious surface area), the enhanced level of treatment is required if the project is multi-family residential, commercial, or industrial. Enhanced treatment targets the removal of metals such as copper and zinc.
- The applicant is responsible to apply for a Construction Stormwater General Permit from Washington State Department of Ecology. Provide the City with a copy of the Notice of Intent for the permit. Permit Information can be found at the following website: <http://www.ecy.wa.gov/programs/wq/stormwater/construction/>
  - o Among other requirements, this permit requires the applicant to prepare a Storm Water Pollution Prevention Plan (SWPPP) and identify a Certified Erosion and Sediment Control Lead (CESCL) prior to the start of construction. The CESCL shall attend the City of Kirkland PW Dept. pre-construction meeting with a completed SWPPP.
- Turbidity monitoring by the developer/contractor is required if a project contains a lake, stream, or wetland.
- A Stormwater Pollution Prevention and Spill (SWPPS) Plan must be kept on site during all phases of construction and shall address construction-related pollution generating activities. Follow the guidelines in the 2009

King County Surface Water Design Manual for plan preparation.

3. If a storm water detention system is required, it shall be designed to Level II standards. Historic (forested) conditions shall be used as the pre-developed modeling condition.
4. This project is creating or replacing more than 5000 square feet of new impervious area that will be used by vehicles (PGIS - pollution generating impervious surface). Provide storm water quality treatment per the 2009 King County Surface Water Design Manual. The enhanced treatment level is encouraged when feasible for multi-family residential, commercial, and industrial projects less than 1 acre in size.
5. Provide a level one off-site analysis (based on the King County Surface Water Design Manual, core requirement #2).
6. The applicant has been given notice that the Army Corps of Engineers (COE) has asserted jurisdiction over upland ditches draining to streams. Either an existing Nationwide COE permit or an Individual COE permit may be necessary for work within ditches, depending on the project activities. Applicants should obtain the applicable COE permit; information about COE permits can be found at: U.S. Army Corps of Engineers, Seattle District Regulatory Branch  
<http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx>

Specific questions can be directed to: Seattle District, Corps of Engineers, Regulatory Branch, CENWS-OD-RG, Post Office Box 3755, Seattle, WA 98124-3755, Phone: (206) 764-3495

7. Provide an erosion control report and plan with Building or Land Surface Modification Permit application. The plan shall be in accordance with the 2009 King County Surface Water Design Manual.
8. Construction drainage control shall be maintained by the developer and will be subject to periodic inspections. During the period from May 1 and September 30, all denuded soils must be covered within 7 days; between October 1 and April 30, all denuded soils must be covered within 12 hours. Additional erosion control measures may be required based on site and weather conditions. Exposed soils shall be stabilized at the end of the workday prior to a weekend, holiday, or predicted rain event.
9. Provide collection and conveyance of right-of-way storm drainage

#### Street and Pedestrian Improvement Conditions:

1. The subject property abuts 122nd Ave. NE and NE 75th Street. These streets are Neighborhood Access type streets. Zoning Code sections 110.10 and 110.25 require the applicant to make half-street improvements in rights-of-way abutting the subject property. Section 110.30-110.50 establishes that this street must be improved with the following:

##### 120th Ave. NE-

Complete the ½ street improvements on the north end of the campus to match the improvements to the south. Curbs, sidewalks, and storm drainage shall be installed but the design will account for the existing trees and avoid impact on the trees. The sidewalk may have to be located in a pedestrian easement behind the trees.

##### NE 75th Street-

Along the entire property frontage, install ½ street improvements that match the curb alignment to the east. Install storm drainage, curbs, a 4.5 ft. wide landscape strip with street trees 30 ft. o.c. and a 5 ft. wide sidewalk.

##### 119th Ave. NE-

From NE 75th St. to the south end of the street (entrance to parking lot) install ½ street improvements on the east half of the street (14 ft. from centerline to face of new curb). Install storm drainage, curbs, a 4.5 ft. wide landscape strip with street trees 30 ft. o.c. and a 5 ft. wide sidewalk.

All of these improvements shall be installed when the new parking lots on the north end of the site are installed

2. All street and driveway intersections shall not have any visual obstructions within the sight distance triangle. See Public Works Pre-approved Policy R.13 for the sight distance criteria and specifications.

3. It shall be the responsibility of the applicant to relocate any above-ground or below-ground utilities which conflict with the project associated street or utility improvements.

4. Underground all new and existing on-site utility lines and overhead transmission lines.

5. Zoning Code Section 110.60.9 establishes the requirement that existing utility and transmission (power, telephone, etc.) lines on-site and in rights-of-way adjacent to the site must be underground. The Public Works Director may determine if undergrounding transmission lines in the adjacent right-of-way is not feasible and defer the undergrounding by signing an agreement to participate in an undergrounding project, if one is ever proposed. In this case, the Public Works Director has determined that undergrounding of existing overhead utility on all street frontages is not feasible at this time and the undergrounding of off-site/frontage transmission lines should be deferred with a Local Improvement District (LID) No Protest Agreement. The final recorded subdivision mylar shall include the following note:

Local Improvement District (LID) Waiver Agreement. Chapter 110.60.7.b of the Kirkland Zoning Code requires all overhead utility lines along the frontage of the subject property to be converted to underground unless the Public Works Director determines that it is infeasible to do so at the time of the subdivision recording. If it is determined to be infeasible, then the property owner shall consent to the formation of a Local Improvement District, hereafter formed by the City or other property owners. During review of this subdivision it was determined that it was infeasible to convert the overhead utility lines to underground along the frontage of this subdivision on (((street name))). Therefore, in consideration of deferring the requirement to underground the overhead utility lines at the time of the subdivision recording, the property owner and all future property owners of lots within this subdivision hereby consent to the formation of a Local Improvement District hereafter formed by the City or other property owners

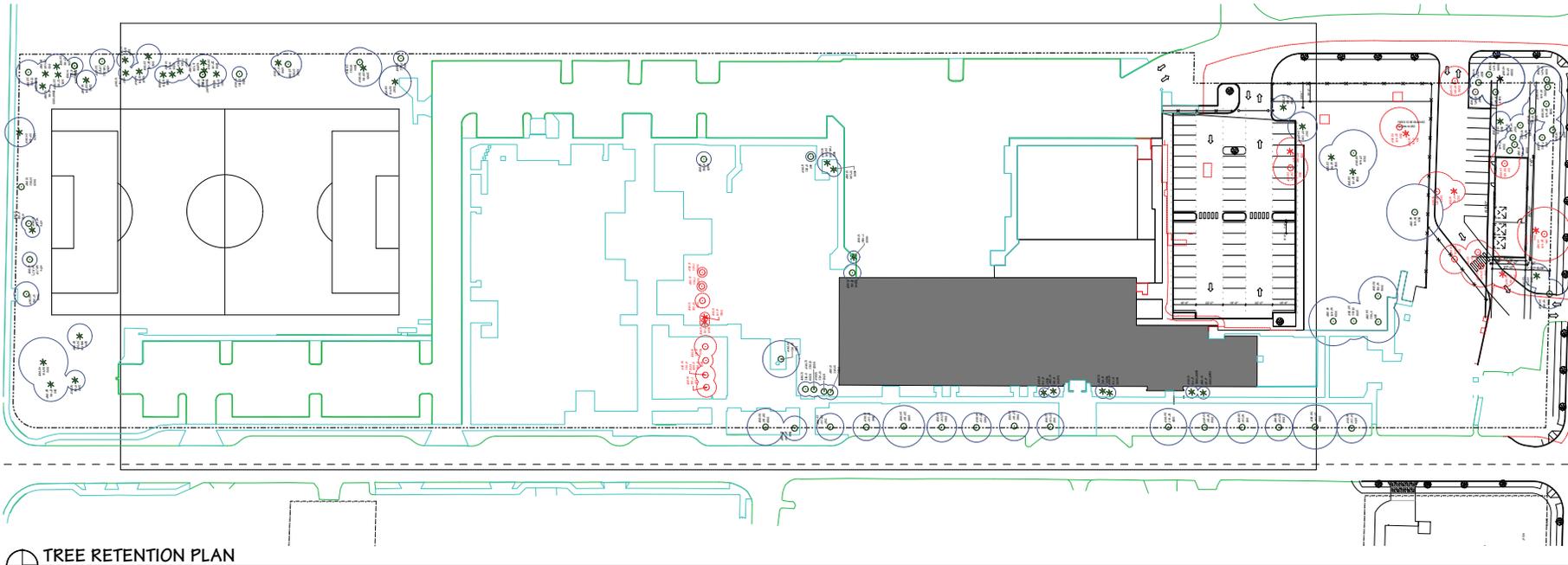
6. New street lights may be required per Puget Power design and Public Works approval. Contact the INTO Light Division at PSE for a lighting analysis. If lighting is necessary, design must be submitted prior to issuance of a grading or building permit.



AMERICAN FORESTRY MANGEMENT ABORIST REPORT

AFM Code	Tree/Tag #	Species	DBH	Credits	N	S	E	W	Condition	Viability	Comments	
	3086	big leaf maple	18	5	12	14	0	20	fair	viable	asymmetric crown, sound trunk, ok	
V	3087	big leaf maple	14	3	6	2	0	20	fair	viable	asymmetric crown, sound trunk, ok	
V	3088	big leaf maple	11	1	1	14	2	0	16	fair	viable	asymmetric crown, suppressed on east side
V	3090	big leaf maple	16	4	18	0	0	20	fair	viable	asymmetric crown, appears sound	
T	3102	big leaf maple	12	2	6	8	3	15	fair	viable	large trunk wound, asymmetric crown	
	3105	big leaf maple	15	3	22	4	6	3	fair	viable	asymmetric crown, broken top, obvious scaffold failure	
M	3111	big leaf maple	21	8	16	10	10	8	fair	viable	invasive large branch failure, ragged crown	
K	3114	Douglas-fir	11	1	8	13	9	8	fair	viable	suppressed by maple	
V	3115	big leaf maple	13	2	8	10	8	11	fair	viable	branch possibly raised around base, minor trunk seam	
B	3119	big leaf maple	22	7	16	17	19	15	fair	viable	trunk seams, moderate internal decay	
B	3123	big leaf maple	16	5	8	16	16	16	fair	viable	trunk seams, moderate decay	
B	3124	Douglas-fir	14	3	8	8	7	14	fair	viable	burn charred top	
AE	3130	Douglas-fir	16	4	6	12	12	8	fair	viable	deformed/suppressed top, appears sound, low risk	
W	3131	western red cedar	15	12	14	11	11	10	good	viable	moderate trunk decay, slight crown, old broken top, moderate risk of top failure	
BF	3133	big leaf maple (2)	16, 17	4	17	14	20	8	fair	viable	fork at 2', fairly sound attachment, asymmetric crown	
AM	3139	red maple	16	4	12	24	22	18	fair	viable	fork at 3', fairly good attachment, one splitting leader on south side	
AG	3142	Douglas-fir	20	10	12	10	12	8	good	viable	smaller companion tree, old broken top, good crown	
AN	3150	japanese fl. cherry	20	8	20	14	14	18	fair	viable	mature	
AD	3151	japanese fl. cherry	16	4	13	12	15	17	fair	viable	mature, lower epicormic branching	
AG	3152	japanese fl. cherry	20	6	12	18	15	16	fair	viable	mature, lower epicormic branching	
AG	3153	japanese fl. cherry	20	6	16	14	17	12	fair	viable	mature, no significant concerns	
AR	3154	japanese fl. cherry	14	3	14	10	10	14	fair	viable	mature, large exposed root, good crown form	
AS	3155	japanese fl. cherry	22	7	22	17	13	20	fair	viable	mature, good form, moderate decay, low risk	
AT	3156	japanese fl. cherry	10	1	2	12	10	10	fair	viable	mature, north stem removed, ok, no concerns	
AU	3157	japanese fl. cherry	16	4	14	15	10	14	fair	viable	mature, epicormic, good form	
AV	3158	japanese fl. cherry	16	4	10	14	13	12	fair	viable	mature, no significant concerns	
L	3448	big leaf maple	8	1	14	8	10	8	fair	viable	large scar on lower trunk, suppressed top	
W	3449	western red cedar	32	12	13	14	10	15	fair	viable	significant decay cavity, topped in past, low to moderate risk	
W	3091	big leaf maple	14	3	7	13	4	16	fair-good	viable	decent form, appears sound	
W	3092	big leaf maple	20	6	21	11	13	12	fair-good	viable	decent form, appears sound	
W	3100	big leaf maple	20	6	8	20	18	16	fair-good	viable	sound, decent form/structure	
AA	3101	Douglas-fir	17	4	10	6	7	9	fair-good	viable	old broken top, appears sound	
AI	3103	big leaf maple	18	5	16	12	8	10	fair-good	viable	fair trunk taper, tall, good taper	
L	3110	big leaf maple	26	9	20	22	20	24	fair-good	viable	some decaywood, good form/structure	
AI	3125	big leaf maple	30	11	19	24	22	19	fair-good	viable	good form, appears sound	
AI	3127	western red cedar	21	11	12	12	14	10	fair-good	viable	fair decay, sound top	
AC	3128	big leaf maple	27	9	16	22	14	22	fair-good	viable	old scar on lower trunk, good woundwood development, good crown form	
AK	3129	red maple	17	4	20	14	20	13	fair-good	viable	main trunk forks at dbh into E-south scaffolds, fairly good attachments	
AL	3141	Douglas-fir	20	7	12	10	8	10	fair-good	viable	appears sound, surrounded by other trees/bark, old broken top	
	3143	big leaf maple	19	5	9	17	11	12	fair-good	viable	at edge of asphalt driveway, broken top, ok	
D	3103	Douglas-fir	12	2	8	9	5	7	fair-poor	borderline	broken top, small crown	
P	3107	big leaf maple	14	3	6	8	13	8	fair-poor	borderline	broken top, moderate included bark, trunk seams, poor trunk taper	
D	3108	big leaf maple	13	2	8	0	8	8	fair-poor	borderline	broken top, seams, moderate trunk decay	
AL	3138	red maple	13	2	12	16	14	14	fair-poor	borderline	fork at dbh, 3 leaders, 1 poorly attached, significant included bark	
P	3448	big leaf maple	16	3	11	10	2	13	fair-poor	borderline	large scar on lower trunk, lean west	
P	3449	big leaf maple	8	1	6	6	5	7	fair-poor	borderline	gap lower trunk seam, minor decay, poor trunk taper	
B	3523	big leaf maple	24	8	14	18	10	22	fair-poor	borderline	minor insect damage at dbh, broken lower stem	
B	3089	big leaf maple	14	1	8	2	8	2	fair-poor	borderline	obvious big trunk, asymmetric crown, trunk seam	
B	3089	Douglas-fir	37	14	20	19	19	20	good	viable	no concerns	
AD	3124	Douglas-fir	25	8	18	12	12	12	good	viable	sound trunk taper, sound, good color	
AJ	3130	red maple	16	4	16	18	11	18	good	viable	no concerns	

\*borderline\* viable trees are not expected to positively contribute to the landscape for the long term, trees to be removed are shown in red



TREE RETENTION PLAN  
14-95



HOLY FAMILY KIRKLAND  
MASTER PLAN

7355 120TH AVE NE • KIRKLAND, WA 98033

BRODERICK ARCHITECTS  
55 SOUTH ATLANTIC STREET, SUITE 101  
SEATTLE, WASHINGTON 98104

(206) 682-7525

12/17/14

A.2

Table Prepared by Bob Layton, American Forest management, Inc. ISA Certified Arborist #PN-2714A, Tree Risk Assessment Qualified

AFM Code	Tree/Tag #	Species	DBH	Drip-Line (feet)				Condition	Viability	Comments
				N	S	E	W			
	3142	big leaf maple	19	9	17	11	12	fair-good	viable	at edge of asphalt driveway' forked top, ok
	3141	Douglas-fir	23	12	10	8	10	fair-good	viable	appears sound, surrounded by dense blackberry, old broken top
	3140	Douglas-fir	29	12	10	12	9	fair	viable	cambial ruptre-west side, old broken top, good color
E		big leaf maple	22	16	17	19	15	fair	viable	trunk seams, moderate internal decay
F		big leaf maple	13	8	15	6	11	fair	viable	grade possibly raised around tree, minor trunk sem
G		big leaf maple	18	6	16	16	8	fair	viable	trunk seams, moderate decay
H		big leaf maple	30	19	24	22	19	fair-good	viable	good form, appears sound
I		big leaf maple	24	14	18	10	22	fair-poor	borderline	honey mushrooms at base, suspect Armillaria
J		Douglas-fir	14	8	8	7	14	fair	viable	bent, stunted top
K		Douglas-fir	11	8	13	9	8	fair	viable	suppressed by maple
L		big leaf maple	26	20	22	20	24	fair-good	viable	some deadwood, good form\structure
M		big leaf maple	21	16	10	10	8	fair	viable	rrvious large branch failure, narrow crown
N		big leaf maple	18	16	12	8	10	fair-good	viable	fair trunk taper, tall, good vigor
O		big leaf maple	13	8	0	0	8	fair-poor	borderline	broken top, seams, moderate trunk decay
P		big leaf maple	14	6	8	0	8	fair-poor	borderline	forked top, moderate included bark, trunk seams, poor trunk taper
Q		Douglas-fir	12	8	9	5	7	fair-poor	borderline	broken top, small crown
R		big leaf maple	15	11	10	2	13	fair-poor	borderline	large scar on lower trunk, lean west
S		big leaf maple	9	8	2	8	2	fair-poor	borderline	previous top failure, assymetric crown, trunk seam
	3105	big leaf maple	15	22	4	6	3	fair	viable	assymetric crown, forked top, previous scaffold failure
T		big leaf maple	12	6	8	3	15	fair	viable	large trunk wound, assymetic crown
U		big leaf maple	20	21	11	13	12	fair-good	viable	decent form, appears sound
V		big leaf maple	16	18	0	0	20	fair	viable	assymetric crown, appeas sound
W		big leaf maple	14	7	13	4	16	fair-good	viable	decent form, appears sound
	3089	Douglas-fir	37	20	19	19	20	good	viable	no concerns
X		big leaf maple	9	14	8	10	8	fair	viable	large scar on lower trunk, suppressed top
Y		big leaf maple	11	14	2	0	16	fair	viable	assymetric crown, suppressed on east side
	3087	big leaf maple	14	6	2	0	20	fair	viable	same
Z		big leaf maple	8	5	6	5	7	fair-poor	borderline	lage lower trunk seam, minor decay, poor trunk taper
	3086	big leaf maple	18	12	14	0	20	fair	viable	assymetric crown, sound trunk, ok
AA		Douglas-fir	17	10	6	7	9	fair-good	viable	old broken top, appears sound
AB		big leaf maple	20	8	20	18	16	fair-good	viable	sound, decent form/structure
AC		big leaf maple	27	18	22	14	22	fair-good	viable	old scar on lower trunk, good woundwood development, good crown form
AD		Douglas-fir	25	16	14	12	12	good	viable	good trunk taper, sound, good color
AE		Douglas-fir	16	6	12	12	8	fair	viable	deformed/suppressed top, appears sound, low risk
AF		big leaf maple (2)	16,17	17	14	20	6	fair	viable	fork at 2', fairly sound attachment, assymetric crown
AG		western red cedar	32	14	11	11	10	fair	viable	moderate trunk decay, decay column, old broken top, moderate risk of top failure
AH		western red cedar	32	13	14	10	15	fair	viable	significant decay column, topped in past, low to moderate risk
AI		western red cedar	31	12	12	14	10	fair-good	viable	minor decay, sound top
AJ		red maple	16	16	18	11	18	good	viable	no concerns
AK		red maple	17	20	14	20	13	fair-good	viable	main trunk forks at dbh into 6 upright scaffolds, fairly good attachments
AL		red maple	13	12	16	14	14	fair-poor	borderline	fork at dbh, 3 leaders, 1 poorly attached, significant included bark

Table Prepared by Bob Layton, American Forest management, Inc. ISA Certified Arborist #PN-2714A, Tree Risk Assessment Qualified

AFM	Tree/Tag #	Species	DBH	Drip-Line (feet)				Condition	Viability	Comments
AM		red maple	16	12	24	22	18	fair	viable	fork at 3', fairly good attachments, one splitting leader on south side
AN		Japanese fl. cherry	20	20	14	14	18	fair	viable	mature
AO		Japanese fl. cherry	16	13	12	15	17	fair	viable	mature, lower epicormic branching
AP		Japanese fl. cherry	20	12	18	15	16	fair	viable	mature, lower epicormic branching
AQ		Japanese fl. cherry	20	16	14	17	12	fair	viable	mature, no significant concerns
AR		Japanese fl. cherry	14	14	10	10	14	fair	viable	mature, large exposed root, good crown form
AS		Japanese fl. cherry	22	22	17	13	20	fair	viable	mature, good form, moderate decay, low risk
AT		Japanese fl. cherry	10	2	12	10	10	fair	viable	mature, north stem removed, ok, no concerns
AU		Japanese fl. cherry	16	14	15	10	14	fair	viable	mature, epicormics, good form
AV		Japanese fl. cherry	16	10	14	13	12	fair	viable	mature, no significant concerns

"borderline" viable trees are not expected to positively contribute to the landscape for the long-term



## Jon Regala

---

**From:** JeffRidley@BC.com  
**Sent:** Friday, January 16, 2015 9:41 AM  
**To:** Jon Regala  
**Subject:** ZON14-02303

**Follow Up Flag:** Flag for follow up  
**Flag Status:** Flagged

I am sending this in regards to the proposed expansion of Holy Family Parish New Master Plan. As a resident and neighbor of the parish I have seen a great deal of change over the more than 25 years I have lived here. I reside on NE 75<sup>th</sup> and have had concerns over the traffic on this road for decades. The recent expansion of the Lake Washington School that is directly adjacent to the Parish has added more traffic on this road as well. While the traffic study that has been provided may say that the expansion would not generate additional weekday AM or PM peak hour trips I do believe that the new drop off drive thru and additional parking will change the traffic pattern resulting in even more congestion on 75<sup>th</sup> and 119<sup>th</sup>. The current use of driveway #1 has very limited impact on 75<sup>th</sup> as it is simply a parking area, not a drop off /drive thru. The intersection of 119<sup>th</sup> Ave NE and 75<sup>th</sup> is a very dangerous place with limited sight to the west on 75<sup>th</sup> and the added flow onto 75<sup>th</sup> from 119<sup>th</sup> from this drive thru traffic seems like a very bad plan. Interesting that no study was done on the intersection of 119<sup>th</sup> and 75<sup>th</sup>, this is a big concern for me as it's a safety issue for those using 75<sup>th</sup>. The traffic on 75<sup>th</sup> is bad enough already with the High School student/parents/bus and Church and school traffic.

The Sunday traffic is already nasty if you try to go anywhere in the area at the wrong time. The added overflow parking and drop off parking area will add more cars to the 119<sup>th</sup> Ave and NE 75<sup>th</sup> street congestion. I really feel for the folks who happen to live on 74<sup>th</sup> and want to get out at the wrong time of day. The issues already exist and adding more cars and access points to the road is not going to make it better, just worse. Just because it passes code in the book does not make it the right thing to do.

How about the lot coverage/ impervious surface calculations ? Where is all the water going from this new paved area. How about sending all the cars out onto NE 70<sup>th</sup> near the soccer field ? That is a major road that may not impact the local residents in such a negative way. I oppose this expansion simply by the fact that it's making a bad situation worse for the people that call this home and not just a drive thru.

Jeff Ridley  
11627 NE 75<sup>th</sup> St  
Kirkland, WA 98033  
[JD.Ridley@Comcast.net](mailto:JD.Ridley@Comcast.net)

Ref Permit # ZON14-02303

### Jeff Ridley

Boise Cascade Company  
BD-Drafter II (EWP/TrussDsgn) Wood Sales  
425-402-1285 JeffRidley@BC.com  
Office Hours 7:00 AM – 4:00 PM

Attention: Jon Regala, Project Planner, City of Kirkland

Subject: Permit No. ZON14-02303

“Holy Family Parish Proposed Master Plan”

Please see our concern about this project as below:

- 1) The existing traffic due to daily school activities is already overloading 119<sup>th</sup> avenue, along with the 75<sup>th</sup> and 74<sup>th</sup> intersection. These streets are not wide but the people drive fast and occupy mostly the middle of the street without considering the opposite car on the other side. The traffic is very high during morning and afternoon every day.
- 2) In addition, how can you guarantee us that even with this addition to parking, cars visiting your church or buildings will stop parking on 74<sup>th</sup> street and 119<sup>th</sup> avenue? This has created a very hectic scenario for many years, especially on weekends. Even with these new parking lots, there is no guarantee that cars will stop parking on our street, making things even more busy and congested.
- 3) By opening another gate in 119<sup>th</sup> avenue, the traffic will be elevated to higher level and the intersection between 119<sup>th</sup> avenue and 75<sup>th</sup> street is going to busy at all times, especially with the two parking lots and 74<sup>th</sup> street merging into one tiny road (119<sup>th</sup> avenue).
- 4) Lake Washington High School starts every morning during the school year around the same time as your school does, creating even more traffic and congestion in the morning within three tiny segments of street (119<sup>th</sup>, 120<sup>th</sup>, and 75<sup>th</sup>). This will be inconvenient for all parties, including the residents around here, your parents/students, and the high school parents/students.
- 5) A few years ago, you spent quite a while renovating your buildings, as well as constructing new ones. This was an inconvenience to the residents around here, and these two upcoming phases prognosticate a similar effect. 5-10 years is a long time for construction, and will be especially inconvenient for residents on 74<sup>th</sup> street. Our road is a dead end, and we can only leave through 119<sup>th</sup> avenue, which is where you are supposedly planning your construction these next few years.
- 6) This long period for construction will also bring a lot of noise to our neighborhood, and I am sure that you understand that this will be hard to live with during the extremely long Phases that you are proposing.
- 7) Based on all mentioned above the most important thing for us in neighborhood is that our house value will go down because of Holy Family Expansion project. With more school traffic, more noise and parking problems, nobody wants to buy a house in area.  
Our existing house is our most valuable asset for our family and still has to pay our mortgages for years to come. We cannot afford to lose our house value.  
Thanks for your consideration.

Regards,

Mehrdad & Shahnaz Mehrvarzan

11825 NE 74<sup>th</sup> street  
Kirkland WA 98033

Dated, 1/11/2015

December 16, 2014



Holy Family Parish  
Attention: Mrs. /Ms. Margot Washington  
7045 120<sup>th</sup> Ave NE  
Kirkland, WA 98033

re: "Holy Family Parish Proposed Master Plan Submittal Parcel: 09205-9018

To Margot Washington,

We live at 11812 NE 74<sup>th</sup> St, and we were recently informed of your expansion plans. We do not like having to deal with the heavy traffic and at times tight parking but my biggest concern is not of inconvenience but safety. My mother is 71 years old and lives next door to me. I fear that one day I will need to call an emergency vehicle and they will not be able to get to us. Traffic and parking blocks our street at times and it is tight to get even a small car to our home. Please consider using the larger and more accessible street on the other side of holy family for your expansion.

Sincerely,

A handwritten signature in black ink, appearing to be "Tracy Rockwell", written over a horizontal line.

Tracy Rockwell  
11812 NE 74<sup>th</sup> St.  
(425) 739-6503

Cc: Jon Regala, Senior Planner of City of Kirkland Planning Department

Attention: Mrs. /Ms. Margot Washington  
Pastoral Assistance for Administration

Subject: "Holy Family Parish Proposed Master Plan Submittal"  
Parcel: 09205-9018

We live at 11815 NE 74<sup>th</sup> St, and were just informed of your expansion plans and are not happy at all. Currently the traffic caused by your back-gate driveway is overwhelming to the small dead end street we live on. The morning school traffic, which is 100% directed out the back gate, blocks the street for those of us trying to get our own children to school on time. The people exiting through that same back gate almost never Stop! let alone slow down. Numerous times we have almost had an accident with cars driving out your back entrance. They drive out as if they are already on an actual road, not exiting a parking lot. Then in the afternoon, same scenario all over, with us trying to get out to pick up our kids from elementary school.

Our family also is always out and about bicycling around the neighborhood, and if there is a mass beginning the people drive 40-50mph through the small streets so they aren't late. We already try to plan our outings around these start times for masses. People would rather be on time for mass, than put public safety first.

We think if any expansion of your facility is to take place; the back-gate exit onto 119<sup>th</sup> should be closed permanently. It could still be there for emergency vehicles and such, but currently more people use the back entrance than they use your main front entrance. You are forcing all your traffic onto our no-outlet residential street. You could also build your expansion on your Soccer field thus directing all the increased traffic onto NE 70<sup>th</sup> street which could handle the increased traffic. Then put the play field at the end where you want 3 new driveways and new buildings.

Our other 20+ neighbors are also not pleased with your expansion proposal. We want a better solution to your need for expansion.

Frank & Nicole Kelley

11815 NE 74<sup>th</sup> St.

(425) 739-0387



**CITY OF KIRKLAND**  
Planning and Building Department  
123 Fifth Avenue, Kirkland, WA 98033  
[www.kirklandwa.gov](http://www.kirklandwa.gov) ~ 425.587.3225

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## DETERMINATION OF NON-SIGNIFICANCE (DNS)

**Case No.:** SEP14-02342                      **DATE ISSUED:** FEBRUARY 22, 2016

**Project Name:** HOLY FAMILY PARISH MASTER PLAN

**Project Location:** 7300 120<sup>th</sup> AVENUE NE

**Project Description:** New Master Plan for Holy Family Campus in 2 phases. Phase one work includes new parking lots, covered play area, removal of old sheds, construction of new maintenance/storage building. Phase two consists of expanding the existing church by 3,322 square feet and increasing seating capacity.

**Proponent:** John Faley of Broderick Architects

**Project Planner:** Tony Leavitt, Senior Planner

Lead agency is the City of Kirkland

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public upon request.

This DNS is issued after using the Optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.

**Responsible official:**

February 18, 2016

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Eric R. Shields, AICP, Planning Director                      Date  
City of Kirkland  
Planning & Building Department  
123 Fifth Avenue, Kirkland, WA 98033 - (425) 587-3225

You may appeal this determination to the Planning & Building Department at City of Kirkland, 123 Fifth Avenue, Kirkland, WA 98033 no later than 5:00 PM on March 7, 2016 by a Written Notice of Appeal. You should be prepared to make specific factual objections and reference case number SEP14-02342. Contact Tony Leavitt, project planner in the Planning & Building Department at (425) 587-3253 to ask about the procedures for SEPA appeals. See also KMC 24.02.230 Administrative Appeals.

**Publish in The Seattle Times on: February 25, 2016**

**Distribute this notice with a copy of the Environmental Checklist to:**

GENERAL NOTICING

- Department of Ecology - Environmental Review
- Muckleshoot Tribal Council - Environmental Division, Tribal Archeologist
- Muckleshoot Tribal Council - Environmental Division, Fisheries Division Habitat
- Cascade Water Alliance – Director of Planning
- South Rose Hill Neighborhood Association
- Lake Washington School District No. 414: Budget Manager and Director of Support Services

AGENCIES WITH JURISDICTION, AFFECTED AGENCIES, AND/OR INTERESTED PARTIES

- Parties of Record

**cc:** Applicant  
Planning Department File, Case No. SUB14-02342



CITY OF KIRKLAND  
Planning and Community Development Department  
123 Fifth Avenue, Kirkland, WA 98033 425.587.3255  
[www.kirklandwa.gov](http://www.kirklandwa.gov)

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## MEMORANDUM

**To:** Eric R. Shields, AICP, SEPA Responsible Official

**From:** Tony Leavitt, Senior Planner

**Date:** February 8, 2016

**File:** SEP14-02342, ZON14-02303

**Subject:** STATE ENVIRONMENTAL POLICY ACT (SEPA) ENVIRONMENTAL DETERMINATION  
HOLY FAMILY PARISH MASTER PLAN

## PROPOSAL

The subject property is located at 7300 120<sup>th</sup> Avenue NE (see Enclosure 1) and contains the Holy Family church, youth center, school, and parish center. The property also includes a large soccer field and several surface parking lots that support the school and church uses. The Holy Family campus also includes the property located at 12003 NE 75<sup>th</sup> Street which contains the rectory and parcel 640070-0402 which contains a gravel parking lot that provides 30 overflow parking stalls for the church.

The applicant, John Faley with Broderick Architects, has applied for SEPA review for the new Holy Family Master Plan (see Enclosure 2). Improvements to the Holy Family campus are proposed in two phases. Phase 1, to occur by year 2020, includes:

- A new parking lot (44 stalls) which will double as an outdoor covered play area during school hours
- A new parking and preschool drop-off area at the north end of the property (10 stalls)
- A new maintenance/storage shed (2,214 sq. ft.)
- Standard street frontage improvements along 119<sup>th</sup> Avenue NE and NE 75<sup>th</sup> Street.

As a result of the parking lot expansions, on-site parking would total 246 spaces. Including the overflow lot, the total increases to 276 spaces.

Phase 2 includes replacing the roof of the existing church and expanding the nave, the central part of the church, to accommodate an additional 172 seats for a total of 758 seats. The building addition would total 3,322 square feet and occur sometime between year 2020 and 2025. Enclosure 2 contains the proposed Master Plan.

## ENVIRONMENTAL ISSUES

The SEPA "threshold determination" is the formal decision as to whether the proposal is likely to cause a significant adverse environmental impact for which mitigation cannot be identified. Where City regulations have been adopted to address an environmental impact, it is presumed that such regulations are adequate to achieve sufficient mitigation [WAC 197-11-660(1)(e) and (g)]. Therefore, when requiring project mitigation based on adverse environmental impacts, the City would first consider whether a regulation has been adopted for the purpose of mitigating the environmental impact in question.

I have had an opportunity to visit the subject property and review the following documents:

- Enclosure 3: Environmental Checklist dated November 3, 2014
- Enclosure 4: Traffic and Parking Assessment Update Memo prepared by Transpo Group, dated April 7, 2015
- Enclosure 5: Addendum to Parking Analysis prepared by Transpo Group, dated December 21, 2015
- Enclosure 6: Traffic and Parking Review Memo prepared by Thang Nguyen dated December 24, 2015.

Based on a review of these materials, the main environmental issues related to the project are potential traffic and parking impacts.

The City received several emails and letters from the public during the comment period for the master plan review (see Enclosure 7). Most of the concerns raised by the public were in regards to traffic impacts and traffic safety in the area of the subject property. The early public feedback provided information on probable adverse impacts and gave suggestions on how to reduce or eliminate impacts. As a result, the City was able to review the comments prior to making a SEPA determination. Many of the public comments resulted in additional analysis as provided in the updated Traffic Impact Analysis submitted by the applicant's transportation engineer (see Enclosure 4).

Thang Nguyen, Transportation Engineer with the City of Kirkland Public Works Department has responded to the citizen concerns in his review memo (Enclosure 6). His review memo also includes an analysis of the applicant's Traffic Impact Analysis report and a list of mitigation measures.

### **TRAFFIC IMPACTS**

The Public Works Department has reviewed the Traffic Study for the proposed development (see Enclosure 4) and concluded that the project will not have a significant adverse traffic impact on existing facilities.

### **PARKING IMPACTS**

The Public Works Department has reviewed the Parking Study for the proposed development (see Enclosures 4 and 5) and recommended that the following mitigations be incorporated into the proposal:

- Provide a minimum of three masses during the Christmas and Easter Sunday morning holidays in order to spread the decrease the peak parking demand for each mass.
- For an average Sunday with two masses, provide 330 parking spaces that consist of on-site and on-street parking along the project frontage:
- Provide 252 parking stalls on the main campus and 30 parking spaces on the off-site gravel lot on the east side of 120th Avenue NE.
- Redesign 119th Avenue NE to provide three on-street parking spaces.
- Redesign NE 75th Street to provide eight on-street parking stalls along the site frontage.
- Redesign and/or restripe the west side of 120th Avenue NE to provide 32 on-street parking spaces.
- The on-street parking should be recessed to maintain traffic flow in the travel lanes. The typical half-street frontage improvements will be required along those three streets that include curbs, gutters and sidewalks. The minimum travel lane width shall be 10 feet and the parking lane width shall be 8 feet on both 119th Avenue NE, 120th Avenue NE and NE 75th Street.

The applicant has agreed to the mitigations and has incorporated the mitigations into the master plan proposal and related development plans (see Enclosure 2).

**RECOMMENDATION**

It will be necessary to further analyze certain aspects of the proposal to determine if the project complies with all the applicable City codes and policies. That analysis is most appropriately addressed with the master plan zoning permit review for the project. In contrast, State law specifies that this environmental review under the State Environmental Policy Act (SEPA) is to focus only on potential significant impacts to the environment that could not be adequately mitigated through Kirkland regulations and the Comprehensive Plan.<sup>1</sup>

Based on my review of the submitted information, I have not identified any significant adverse environmental impacts. Therefore, I recommend that a Determination of Non-Significance be issued for this proposed action.

**SEPA ENCLOSURES**

1. Vicinity Map
2. Development Plans
3. SEPA Checklist
4. Traffic and Parking Assessment Update Memo prepared by Transpo Group dated April 7, 2015
5. Addendum to Parking Analysis prepared by Transpo Group dated December 21, 2015
6. Traffic and Parking Review Memo prepared by Thang Nguyen
7. Public Comments

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Review by Responsible Official:

I concur     I do not concur

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



February 18, 2016

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Eric R. Shields, Planning Director

Date

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<sup>1</sup>ESHB 1724, adopted April 23, 1995





# Holy Family Parish Vicinity Map



- Legend**
- - City Limits
  - Grid
  - QQ Grid
  - Cross Kirkland Corridor
  - Regional Rail Corridor
  - Streets
  - Parcels
  - Buildings
  - Lakes
  - Parks
  - Schools

HOLY FAMILY MASTER PLAN  
 FILE NO. SEP14-02342  
 ENCLOSURE 1

1: 3,104



Notes



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SEPA Enclosure 2 is the same as  
Attachment 2 of the Staff Advisory  
Report dated 5/12/2016



## **SEPA ENVIRONMENTAL CHECKLIST**

### ***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

### ***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

### ***Instructions for Lead Agencies:***

Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

### ***Use of checklist for nonproject proposals:*** \_

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

#### A. BACKGROUND \_

1. Name of proposed project, if applicable: [Holy Family Parish Master Plan](#)

2. Name of applicant: [Broderick Architects](#).

3. Address and phone number of applicant and contact person: \_

[John Faley](#)

[Broderick Architects](#)

[55 South Atlantic Street Suite 301](#)

[Seattle, WA 98134](#)

[206-682-7525](#)

4. Date checklist prepared: [11/3/14](#)

5. Agency requesting checklist: [City of Kirkland](#)
6. Proposed timing or schedule (including phasing, if applicable): [Phase 1 – \(described further at line 11\) includes new parking lots, stormwater control devices, covered play structure, new maintenance/storage shed, and improvements to street frontage along 119<sup>th</sup> Avenue and 75<sup>th</sup> Street will occur within the next 5 years. Phase 2 – which involves removing the roof of the existing church, and adding a new expansion to create a total of 600 seats, and a total of 3,322 SF new building area will occur within 5-10 years.](#)
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. [Only Phase 2 described in line 6.](#)
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. [Traffic and Parking Assessment prepared by Transpo Group dated 11/14/14.](#)
9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [We are not aware of any applications pending for government approvals or other proposals directly affecting the property covered by this proposal.](#)
10. List any government approvals or permits that will be needed for your proposal, if known. [SEPA threshold determination, City of Kirkland Zoning Permit, Building Permits, Right-of-Way use permits, Water, Sewer and Storm connection permits.](#)
11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) [The project overall goal are phased. Phase One aims to create an overflow parking lot that will act as play area during the school week. Half of this lot would be covered by a roof structure to allow “rainy day” outdoor activities. Also the north end of the parcel would be developed with new day care parking and drop off areas. A new combined storage and maintenance shed would be added adjacent to 75<sup>th</sup> Street – this building would replace \(3\) existing sheds that would be demolished to accommodate the new parking lot. Street frontage along 119<sup>th</sup> Avenue would be developed per City of Kirkland public works standards. The overall site area is 376,054 SF. Total new parking and drop off areas are 15,720 SF which create 55 new parking stalls. Total new covered play area is 8000 SF. The new 2,275 SF shed would replace an equal amount of area, giving a net new building area of zero. Phase two will expand the existing church to allow 331 new seats in the Nave. Due to a decreasing number of priests, it is expected that mass sizes will get larger due to the inability to hold multiple mass times over the weekend. Overall attendance would remain the same, with a higher concentration of parishioners at fewer masses. Phase two would add 3,322 SF new building area to the campus.](#)
12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [City of Kirkland Parcel 092505-9018. 7045 120<sup>th</sup> Avenue NE.](#)

## B. ENVIRONMENTAL ELEMENTS

### 1. Earth

- a. General description of the site  
(circle one): Flat, rolling, hilly, steep slopes, mountainous,  
Flat
- b. What is the steepest slope on the site (approximate percent slope)?  
No Steep slopes on the site – 2 to 3 percent maximum.
- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. Per Geotech Consultants Soil report, dense native sand and gravel, and dense glacially compressed gravelly silty sand.
- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. None known.
- e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. The site will be graded for construction of parking lots, frontage improvements, utilities, and building pads. The preliminary quantities for cut and fill are approximately 847 cubic yards of cut, and 322 cubic yards of fill.
- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. Erosion is possible during clearing and construction. Temporary erosion control measures as approved by the City of Kirkland will be implemented on site.
- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? Approximately 64.8% of the site will be covered by impervious surface.
- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: Filter fence, hydro seeding, straw bales, and other TESC measures as approved by the City of Kirkland will be implemented on the site.

### 2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. Dust, diesel and gasoline exhaust during construction and automobile exhaust after construction.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. None known.
- c. Proposed measures to reduce or control emissions or other impacts to air, if any: Construction vehicles and equipment will be in proper working order to minimize emissions.

### 3. Water

a. Surface Water: \_

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. There are no known bodies of water or wetlands within the vicinity.
- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. No.
- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. None.
- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. No.
- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. \_
- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. No.

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. No.
- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. None.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. Runoff from roofs and parking lots will be collected into an onsite stormwater detention tank. From the onsite detention tank site stormwater discharges to the City's combined sewer system, which ultimately drains to a King County wastewater treatment

plant.

2) Could waste materials enter ground or surface waters? If so, generally describe. No, oil and other pollutants from automobiles on the parking lot will be routed through the City's combined sewer system to the waste water treatment plan. No infiltration is proposed into the groundwater

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe. The onsite stormwater detention system will control the flowrate to match previous site discharge flow rates.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: New underground detention tank will capture and slow the transfer of stormwater.

#### 4. Plants \_

a. Check the types of vegetation found on the site: \_

deciduous tree: big leaf maple, Japanese cherry, red maple,

evergreen tree: Douglas fir, western red cedar,

shrubs

grass

pasture

crop or grain

Orchards, vineyards or other permanent crops.

wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

water plants: water lily, eelgrass, milfoil, other

other types of vegetation

b. What kind and amount of vegetation will be removed or altered? 9 Big leaf maple, 2 Douglas fir, 1 western red cedar, various ground shrubs and vegetation, 23761 SF grass lawn.

c. List threatened and endangered species known to be on or near the site. None known.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: 42 trees will be retained after development of the project. Trees will be protected by temporary fencing during construction phase of the project. Street tree are not included in the count, but will be provided along 75<sup>th</sup> Street, and 119<sup>th</sup> Avenue. Type I Landscape buffer will be provided between parking lots and street frontage along 119<sup>th</sup> Avenue and 75<sup>th</sup> Street. Landscape islands will be provided inside the proposed parking lots. Replacement trees will be planted within landscape buffers and surrounding new play areas.

e. List all noxious weeds and invasive species known to be on or near the site. None known.

## 5. Animals

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include: \_

**birds:** hawk, heron, eagle, **songbirds**, other:

**mammals:** deer, bear, elk, beaver, other:

**fish:** bass, salmon, trout, herring, shellfish, other \_\_\_\_\_

- b. List any threatened and endangered species known to be on or near the site. None known.
- c. Is the site part of a migration route? If so, explain. Not known.
- d. Proposed measures to preserve or enhance wildlife, if any: 42 trees will be retained on site, and replacement trees planted to meet the City of Kirkland tree retention policy.
- e. List any invasive animal species known to be on or near the site. None known.

## 6. Energy and natural resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. Electricity for lighting and natural gas for frost protection heating in storage and maintenance sheds.
- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. No
- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: Construction will meet Washington State Energy codes with City of Kirkland amendments.

## 7. Environmental health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. It is possible that a minor spill could occur when servicing construction vehicles during construction.
- 1) Describe any known or possible contamination at the site from present or past uses. None known.
  - 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity. None known.

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project. None known.
- 4) Describe special emergency services that might be required. Normal fire, medical and police emergency services are all that is believed to be necessary.
- 5) Proposed measures to reduce or control environmental health hazards, if any: All construction and development will meet or exceed local codes and requirements.

**b. Noise**

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? Traffic noise from adjacent roadways may be heard from the site.
- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)?  
Indicate what hours noise would come from the site. Short term noise will be created by equipment and automobiles associated with project construction. Long term noise may be created by automobiles going to and from the Parish - but will not be any different that the present situation.
- 3) Proposed measures to reduce or control noise impacts, if any: Construction work is only permitted to occur within approved working hours as determined by the City of Kirkland.

**8. Land and shoreline use**

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. The current use of the is institutional in nature. The site houses a Catholic church, social hall, and school, including day care facilities. The proposal will not change the use on the site or adjacent properties. The proposal will allow more parishioners to park on the site, rather than relying on street parking to the same degree.
- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? No.
  - 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: No.
- c. Describe any structures on the site. The following is a list of all structures presently on the site. Large concrete masonry unit faced single story social hall and administrative offices. Large brick single story church, with vaulted nave roof line. Two story concrete masonry unit faced school building, including brick and cement siding faced

gymnasium.  
Single story brick daycare building.  
Wood siding faced single story storage building.  
Wood siding faced single story maintenance shed.  
Two wood siding faced portable storage sheds.

d. Will any structures be demolished? If so, what? The wood siding faced single story storage building, wood siding faced single story maintenance shed, and the two wood siding faced portable storage sheds will be demolished.

e. What is the current zoning classification of the site? RSX 7.2

f. What is the current comprehensive plan designation of the site? Low density residential.

g. If applicable, what is the current shoreline master program designation of the site? None.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. No.

i. Approximately how many people would reside or work in the completed project? 25

j. Approximately how many people would the completed project displace? 0

k. Proposed measures to avoid or reduce displacement impacts, if any: None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: The project will be developed per City of Kirkland Land Use Code and comprehensive plan. The project is very similar in size and scale to the previous (expired) Master Plan for this facility.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any: None

## 9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. None

c. Proposed measures to reduce or control housing impacts, if any: None

## 10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? The proposed tallest point for this project is a replacement of the existing church roof, with a new one, including cupola.

The overall height would be a variance from the zoning code guidelines – with a height of 40’.

- b. What views in the immediate vicinity would be altered or obstructed? No views would be altered or obstructed, as the new roof height would be the same as the current roof. Views from neighboring properties would be somewhat changed due to the height of the covered play structure. The views toward the parking lot will be screened from the street with Type 1 landscape screening.
- c. Proposed measures to reduce or control aesthetic impacts, if any: City of Kirkland zoning code compliant landscape buffers.

## 11. Light and glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? Parking lot lighting could add light pollution to the environment, however there is currently an illuminated parking lot along much of the eastern property line.
- b. Could light or glare from the finished project be a safety hazard or interfere with views? We are not aware of any potential interference or hazard from new light fixtures.
- c. What existing off-site sources of light or glare may affect your proposal? Automobile lights from vehicles entering and existing the property could produce glare.
- d. Proposed measures to reduce or control light and glare impacts, if any: Proposed parking lot illumination will be fully screened, and the parking lots themselves will have landscape buffers.

## 12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity? School playfields are across 75<sup>th</sup> Street.
- b. Would the proposed project displace any existing recreational uses? If so, describe. No.
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: The project will create micro playfields, and playground equipment for the Parish to use.

## 13. Historic and cultural preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. Yes – the church was built in 1958, but burned in a fire and was remodeled in 1980. It has been automatically marked by an electronic file transfer apparatus employed by the Washington Information System for Architectural and

Archeological Records Data. It is unlikely this would be an actual candidate for listing.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. None known.
- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. Records search through Washington Information System for Architectural and Archeological Records Data .
- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required. None

#### 14. Transportation

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. NE 75<sup>th</sup> Street, 120<sup>th</sup> Avenue, NE 70<sup>th</sup> Pl, 119<sup>th</sup> Ave NE all service the site. One new access point to the project is proposed along 119<sup>th</sup> Ave NE.
- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? Route 245 has a stop adjacent to the property on NE 70<sup>th</sup> Place and 120<sup>th</sup> Avenue.
- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? The proposed project will have 55 new parking stalls.
- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). The proposed project will improve street frontage along 75<sup>th</sup> Street, and 119<sup>th</sup> Avenue NE per City of Kirkland Public Works standards.
- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. No.
- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? Project will not generate additional weekday AM or PM peak hour trips per Transpo Group report dated 11/14/14.
- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. No.

h. Proposed measures to reduce or control transportation impacts, if any: None.

**15. Public services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. No.
- b. Proposed measures to reduce or control direct impacts on public services, if any. None.

**16. Utilities**

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other \_\_\_\_\_
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. Stormwater control infrastructure will be updated during Phase one of the proposed project. Building permits will be applied for to ensure development is per City of Kirkland standards.

**C. SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: John Faley  Digitally signed by John Faley  
DN: cn=John Faley, o=Broderick Architects, ou,  
email=john@broderickarchitects.com, c=US  
Date: 2014.11.24 09:27:26 -08'00'

Name of signee John Faley

Position and Agency/Organization Project Architect / Broderick Architects

Date Submitted: 11/3/14



## MEMORANDUM

<b>Date:</b>	April 7, 2015	<b>TG:</b>	10034.01
<b>To:</b>	Thang Nguyen – City of Kirkland		
<b>From:</b>	Stefanie Herzstein, PE, PTOE		
<b>Subject:</b>	Holy Family Parish Master Plan – Traffic and Parking Assessment Update		

This memorandum summarizes the traffic and parking assessment for the proposed Holy Family Parish Master Plan located at 7045 120th Avenue NE in Kirkland, Washington. This serves as a revised analysis based on feedback from the City of Kirkland including a revised description of the church use.

### Study Scope

As documented in the *Holy Family Church Expansion Traffic Concurrency Test Notice, Tran14-00502* dated August 4, 2014 the proposed project would not generate additional weekday AM or PM peak hour trips (see Attachment A). Based on coordination with the City of Kirkland Public Works and the City’s *Traffic Impact Analysis Guidelines, August 2014*, there are no significant intersections or off-site intersection that would require analysis. This assessment does provide an evaluation of the site access driveways, key off-site intersections adjacent to the site and an evaluation of parking as coordinated by City staff.

### Project Description

Holy Family Parish is a Catholic church that provides worship services, education (preschool through eighth grade), and fellowship to the Kirkland community. The site is located at 7045 120th Avenue NE, which is south of NE 75th Street, north of NE 70th Street, and west of 120th Avenue NE (see Figure 1).

The proposed master plan is consistent with the previously approved master plan and is primarily intended to provide additional amenities for the current Parish. This would be to maintain existing members and is not anticipated to result in an increase in Parish members. The master plan includes:

- **Storage and Maintenance Building:** Demolition of the existing shed, and construction of a new building for maintenance storage and St. Vincent de Paul Society storage to accommodate distribution of donated household items, clothing, and food.
- **Additional Parking:** Provide 10 additional parking spaces at the



Figure 1. Site Vicinity

north end of the site west of the preschool/youth center building to be used during drop-off and pick-up for the preschool. The new parking would be accessed off of a new driveway along 119th Avenue NE and the existing driveway off of NE 75th Street. Currently, drop-off/pick-up parking for the preschool is occurring on-street along 120th Avenue NE. The new parking would allow parents to park in the lot during these times instead of on-street. In addition, a new overflow parking area would be created north of the Parish Education Center with 43 parking stalls. 7 spaces would be removed with the project resulting in a total of 46 net new parking stalls on-site. The new driveway to the overflow parking lot would result in a fourth leg to the intersection of 119th Avenue NE and NE 74th Street.

- **Playfields and Playground:** Create two micro playfields for use by the existing school and youth center activities on-site south of the Youth Center and north of the existing Parish Education Center. Create a new covered asphalt playground north of the Parish Education Center, which can be used as overflow parking as needed.
- **Parish Education Center Entry:** Reconfigure the 119th Avenue NE school access to the parking lot and provide frontage improvements.
- **Expansion:** Expand the devotional chapel and expand the existing Church from 586 to 758 seats (an addition of 172 seats)<sup>1</sup>. The total expansion would be 3,322 square-feet.

On-site parking for the proposed Master Plan would total 245 parking spaces (202 general spaces and 43 spaces in the new overflow parking lot). In addition, there is an existing overflow gravel lot located along 120th Avenue NE south of the Parish Center that provides approximately 30 additional spaces for a total of 276 parking spaces for the site.

Access to the site would be via three driveways along 119th Avenue NE (two new and one existing), two existing driveways along 120th Avenue NE, and one existing driveway along NE 75th Street. Figure 2 provides an illustration for the master plan showing the driveway and parking locations.

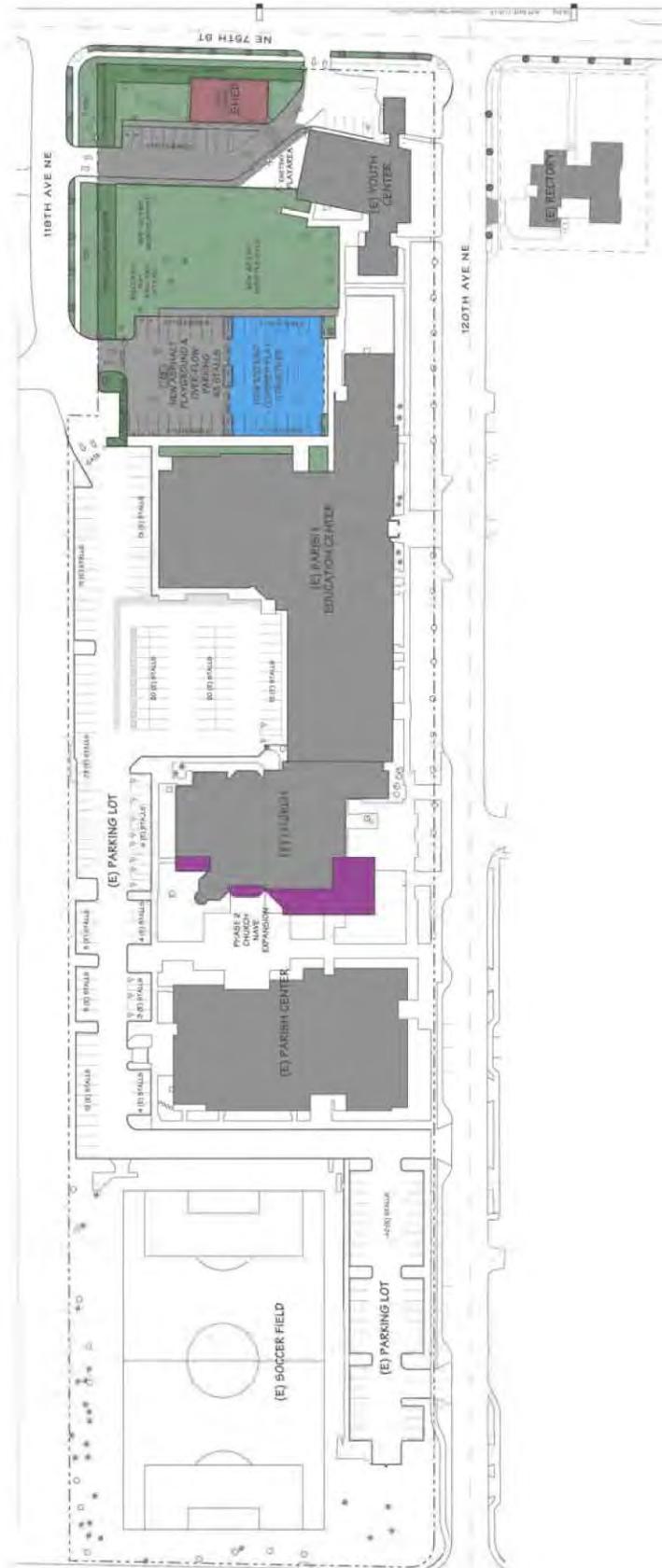
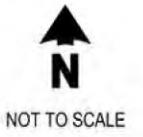
The Master Plan would be constructed in two phases with Phase 1 occurring within five years or by 2019 and Phase 2 occurring within ten years or by 2024. Phase 1 includes the storage and maintenance building, additional parking, playfields, playground, and Parish Education Center entry reconfiguration. Phase 2 includes expansion of the devotional chapel and Church. This expansion is being proposed to accommodate higher attendance levels and allow for the number of services per day to be reduced.

## Trip Generation

No changes in trip generation would occur as a result of Phase 1 as the proposal includes ancillary uses that would not impact the volume of traffic coming to or from the site. For Phase 2, the expansion of the church would accommodate the existing parishioners with fewer services and major gatherings on Sundays. This would not result in an increase in the number of overall parishioners or activities; therefore, the overall daily traffic on Sunday is not anticipated to change with Phase 2; however, the Sunday peak hour trip generation would increase given that the number of services held would be reduced and a greater number of people would attend a single Mass. The following describes the existing and proposed Master Plan trip generation. Data and existing characteristics of the site as well as the Institute of Transportation Engineers (ITE) *Trip Generation Manual* 9<sup>th</sup> Edition were reviewed to estimate future increases in trip generation.

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<sup>1</sup> The number of seats has been updated based on input from City staff and consideration of calculating seats 18 inches per person to calculate the number of seats.



# Proposed Master Plan

Holy Family Parish, Kirkland

\\srv-dfs-wa\MM\_Projects\Projects\10\10034.01 - Holy Family Kirkland\Graphics\10034.01\_graphic02\_20150331 <Fig 2 Site Plan> stephanies 04/03/15 14:02



FIGURE

2

## Weekday

As described above, weekday trip generation is not anticipated to increase as a result of the proposed project since the total number of parishioners and weekday activities would not change. Based on coordination with City staff, as a conservative estimate of potential impacts, the ITE *Trip Generation Manual*, 9th Edition was used to estimate the potential for additional trips. ITE church (#560) trip rates were applied to the gross floor area of the expansion to project weekday trips. 0 provides a summary of the estimated weekday trip generation for the expansion. As shown in the table, the proposed expansion could generate approximately 30 trips on a weekday with 2 trips during the AM peak hour and 2 trips during the PM peak hour. Master Plan.

**Table 1. Estimated Weekday Trip Generation for the Expansion<sup>1</sup>**

Time Period	Expansion Size	Rate <sup>2</sup>	Additional Trips		
			In	Out	Total
Daily		9.11	15	15	30
AM Peak Hour	3,322 ksf	0.56	1	1	2
PM Peak Hour		0.55	1	1	2

Notes: ksf = 1,000 of square-feet

1. Trip generation is based Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition Church (#560) land use.
2. Trip rate is per 1,000 square-feet from Church land use.

## Sunday

Daily traffic on Sunday would not change with the proposed Master Plan since the number of parishioners would stay the same. The reduction in the number of services would result in a greater number of people attending a single Mass, which would increase the Sunday peak hour trip generation. Sunday peak hour trip generation for the church was estimated based on the existing site characteristics described below.

## Existing

A trip generation study was performed in March 2014 to estimate trip rates of the current facility for use in forecasting future traffic generation with the proposed expansion. This included collecting data on a Sunday to estimate existing site traffic volumes during services. Attachment B provides the Sunday traffic count data. Table 2 provides a summary of the existing traffic volumes and trip rates for the site. As shown in the table, the site currently generates approximately 1,840 Sunday trips occurring with a peak hour trip generation of 368 trips. Compared to the ITE *Trip Generation Manual*, 9th Edition trip rates for church, the Sunday trip rates estimated from the March 2014 data collection are higher than the published average ITE rates.

**Table 2. Existing Sunday Trip Generation<sup>1</sup>**

	Size	Peak Hour							
		Daily		Trips			% Distribution		
		Rate <sup>2</sup>	Trips	Rate <sup>2</sup>	In	Out	Total	In	Out
Sunday	586 seats	3.14	1,840	0.63	222	146	368	60%	40%

Notes: sf = square-feet.

1. Trip generation is based on counts performed in March 2014.
2. Trip rate is based on the existing number of seats and traffic counts performed in March 2014.

**Proposed Master Plan**

Traffic generated by the proposed Master Plan for the Sunday peak hour was estimated based on the volume of existing traffic as compared to the number of seats. Phase 1 of the Master Plan is intended to accommodate existing on-site functions and would not increase the size of the church. Phase 2 would result in 172 additional church seats for a total of 758 seats. As described above, the increase in seats would result in a higher attendance at Mass and increase the Sunday peak hour trip generation. Overall trip generation on a Sunday is not anticipated to increase because the church would not be increasing the number of parishioners or activities. Table 3 summarizes the Sunday trip generation for the site. As shown in the table, the proposed project would generate an additional 110 trips during the Sunday peak hour due to the reduction in number of services. This is an increase in trips of approximately 30 percent during the Sunday peak hour.

**Table 3. Proposed Master Plan Estimated Sunday Peak Hour Trip Generation**

	Size	Peak Hour Trips			
		Rate <sup>2</sup>	In	Out	Total
Total Trips	758 seats		287	191	478
Existing Trips <sup>1</sup>	<u>586 seats</u>	0.63	<u>222</u>	<u>146</u>	<u>368</u>
<b>Net New Trips</b>	<b>172 seats</b>		<b>65</b>	<b>45</b>	<b>110</b>

Notes: sf = square-feet.

1. Existing peak hour trips are based on counts performed in March 2014.
2. Trip rate is based on the existing church size and traffic counts performed in March 2014.

**Trip Distribution and Assignment**

Trip distribution patterns for the proposed project were based on existing travel patterns for the church and adjacent street traffic and the location of the existing and proposed parking areas. The trip distribution on the weekday is not expected to change. On Sunday, the trip distribution would adjust based on the location of the additional parking. The resulting distribution patterns for the weekday and Sunday are shown on Figures 3 and 4. Project trips were assigned to the driveways and roadway network as shown on Figure 4.

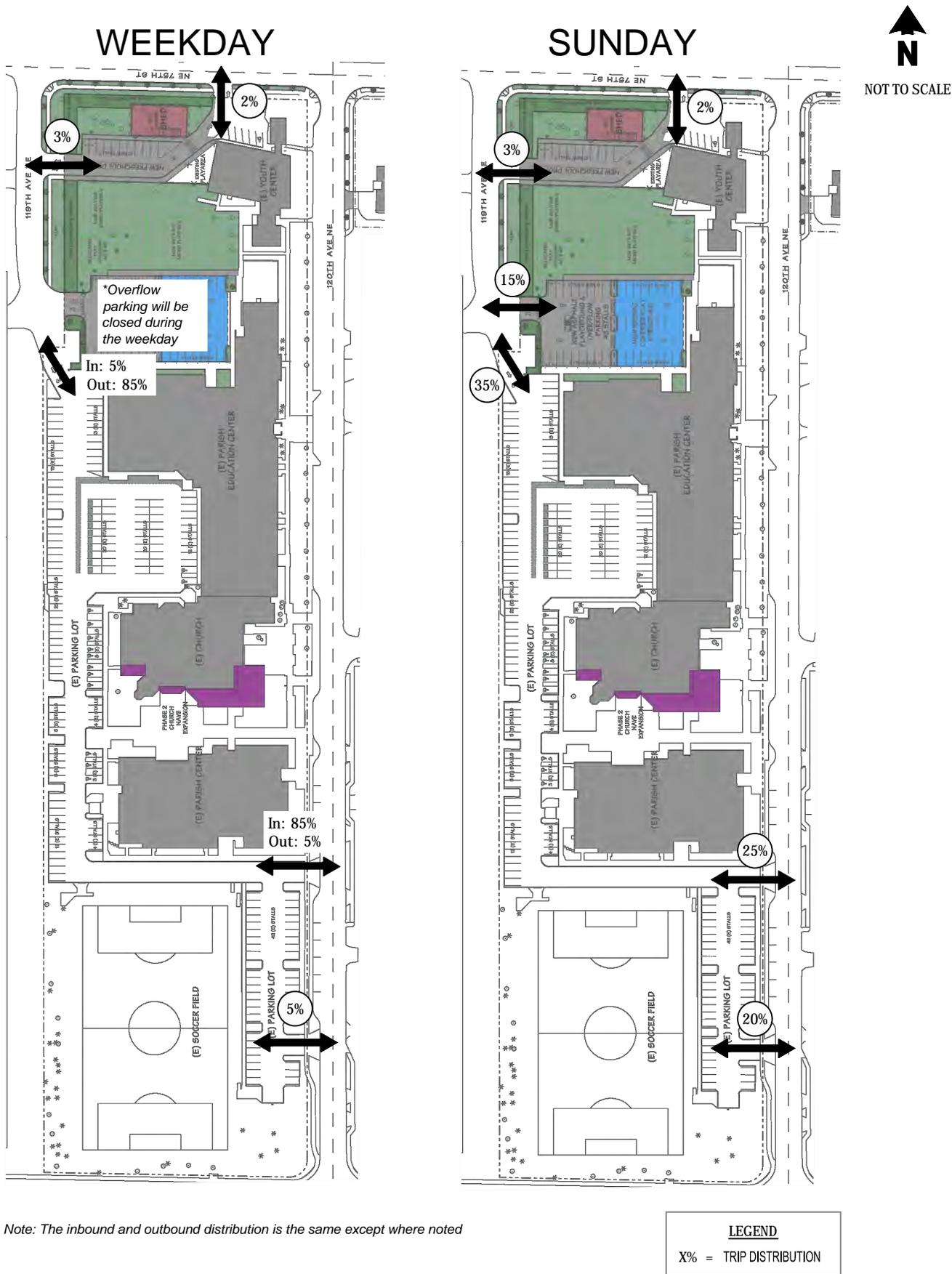
**Site Access and Off-Site Intersection Evaluation**

Traffic safety, volumes, operations, sight distance, and driveway spacing were evaluated for the proposal. Sight distance and driveway spacing were evaluated for the two new driveways only since the proposal does not include any changes to the configuration of the existing access points. The evaluation of site access volumes and operations focuses on Phase 2 during the weekday school peak hour (7:30 to 8:30 a.m.) and Sunday peak hour (10:15 to 11:15 a.m.) when site traffic generation would be highest.

Traffic safety, volumes, and operations (including service levels and queues) were also evaluated at four off-site intersections that provide direct access to the campus. Weekday and Sunday peak hours are evaluated consistent with the driveway analysis. The off-site intersections evaluated include:

- 119th Avenue NE/NE 75th Street
- 120th Avenue NE/NE 75th Street
- 120th Avenue NE/NE 73rd Street
- 120th Avenue NE/NE 70th Street





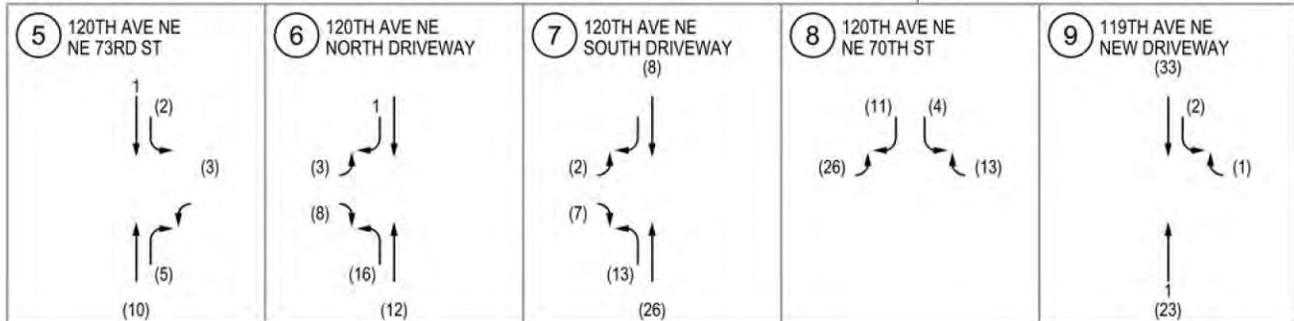
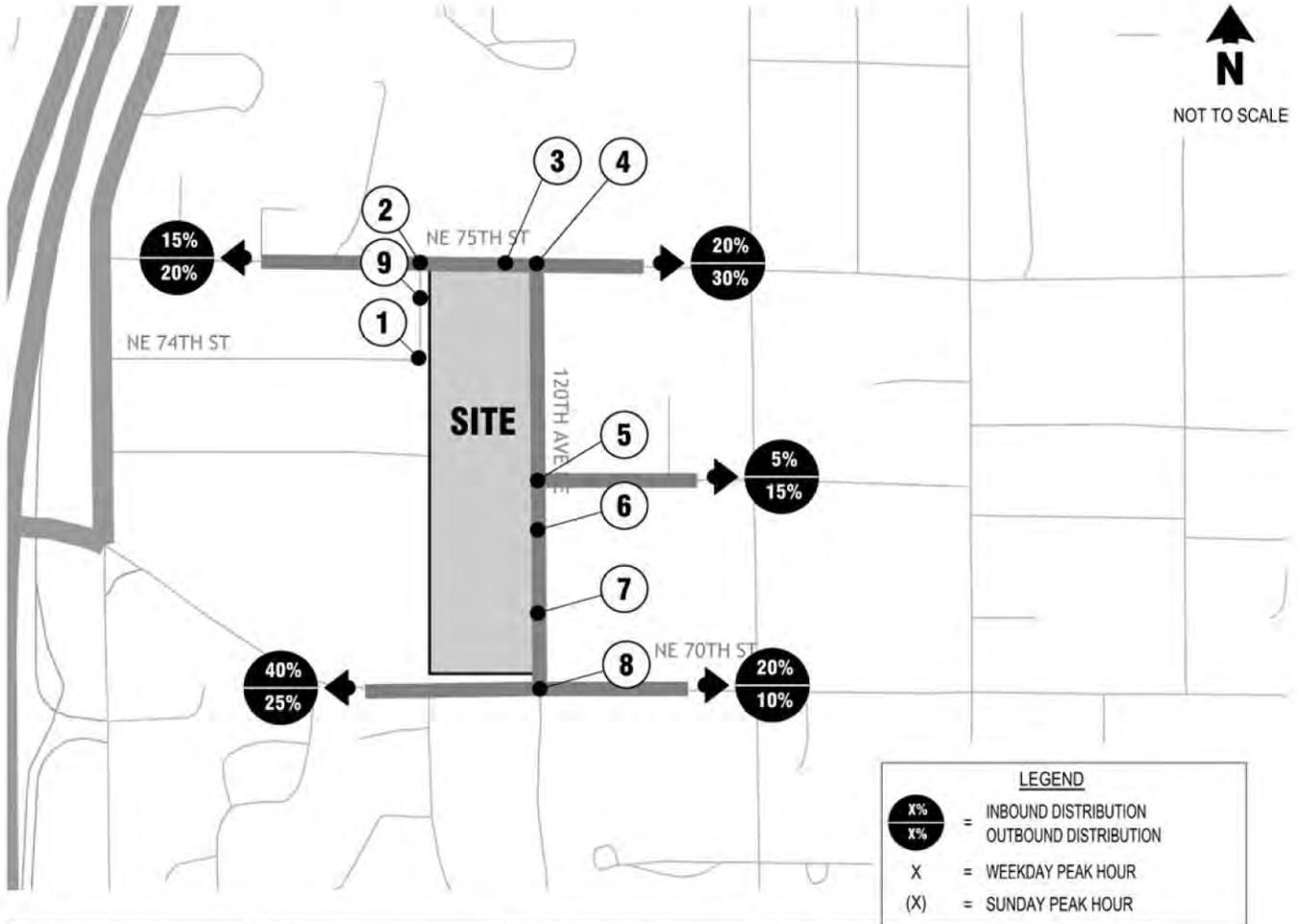
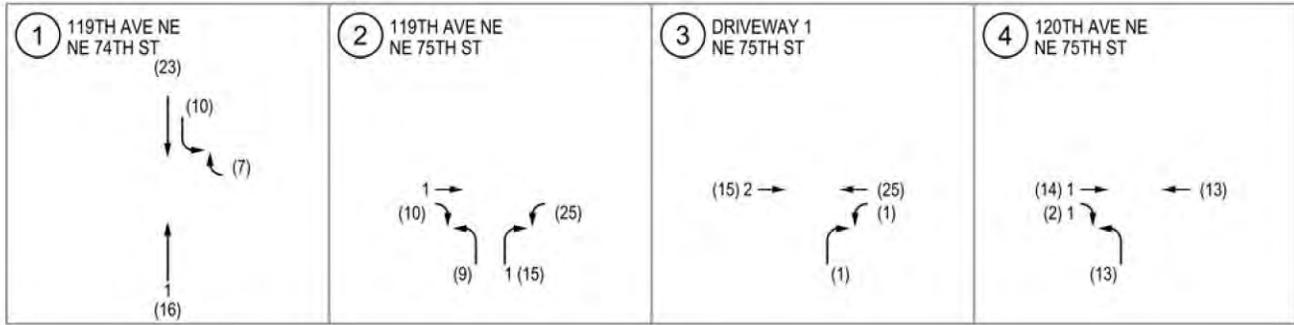
Note: The inbound and outbound distribution is the same except where noted

# Inbound and Outbound Driveway Trip Distribution

FIGURE

Holy Family Parish, Kirkland

3



# Phase 2 Project Trip Distribution and Assignment

Holy Family Parish, Kirkland

FIGURE

4

## **Traffic Safety**

Collision data for the most recent three-year period for roadways and intersections surrounding the site including at the site driveways was provided by WSDOT. The data was reviewed between January 1, 2011 and December 31, 2013. The collision history shows that no collisions were reported at any of the existing intersections or driveways along the site frontage. There were a few collisions observed along the NE 70th Street roadway segment between 119th Avenue NE and 120th Avenue NE south of the site. Two collisions occurred in 2011 and three in 2012, with none in 2013. The majority of the collisions were rear-end and were related to driver inattention and following too closely. The proposed project would not add any new traffic to this intersection.

## **Traffic Volumes**

Weekday school and Sunday peak hour traffic volumes were collected in September 2014 and March 2015 during the weekday (when school was in normal session) and Sunday peak periods. Future (2024) driveway forecasts for Phase 2 were determined by applying a 2 percent per year growth rate to existing traffic volumes. Pipeline Project trips were provided by the City of Kirkland; however, there are no pipeline projects that with traffic that would impact the site driveways. Figures 5 and 6 illustrate traffic volumes at the proposed Master Plan site access points for existing and Phase 2 conditions. The existing intersection turning movement counts are provided in Attachment C.

## **Traffic Operations**

Based on the traffic volumes, weekday school and Sunday peak hour traffic operations for existing and Phase 2 conditions were evaluated at the site access driveways and four off-site study intersections. The intersection operation level of service (LOS) analysis method was based on procedures identified in the *Highway Capacity Manual* (2010), and evaluated using Synchro version 8.0. Traffic operations for an intersection can be described alphabetically with a range of levels of service (LOS A through F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays.

All of the driveways and off-site study intersections are side-street stop controlled except the 120th Avenue NE/NE 70th Street intersection, which is all-way stop controlled. All-way stop controlled intersection LOS is expressed in terms of the weighted average control delay of the overall intersection. Side-street stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is used because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements. Table 4 summarizes the existing, without-Phase 2, and with-Phase 2 weekday and Sunday peak hour LOS at the study intersections. The detailed LOS worksheets are included in Attachment D.

**Table 4. Peak Hour Level of Service Summary**

Off-Site Intersections	Existing			2024 Without-Phase 2			2024 With-Phase 2		
	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>
<b><u>Weekday</u></b>									
1. 119th Ave NE/NE 74th St	B	11	NB	B	12	NB	B	12	NB
2. 119th Ave NE/NE 75th St	B	12	NB	B	14	NB	B	14	NB
3. Driveway 1/NE 75th St	B	10	NB	B	11	NB	B	11	NB
4. 120th Ave NE/NE 75th St	B	14	NB	C	17	NB	C	17	NB
5. 120th Ave NE/NE 73rd St	B	11	WB	B	12	WB	B	12	WB
6. 120th Ave NE/North Driveway	C	15	EB	C	17	EB	C	17	EB
7. 120th Ave NE/South Driveway	B	10	EB	B	11	EB	B	11	EB
8. 120th Ave NE/NE 70th St	E	39	-	E	42	-	E	42	-
9. 119th Ave NE/New Driveway	NA	NA	NA	NA	NA	NA	A	9	WB
<b><u>Sunday</u></b>									
1. 119th Ave NE/NE 74th St <sup>4</sup>	A	3	NB	A	3	NB	A	5	NB
2. 119th Ave NE/NE 75th St	B	10	NB	B	10	NB	B	11	NB
3. Driveway 1/NE 75th St	A	7	WB	A	7	WB	A	9	NB
4. 120th Ave NE/NE 75th St	A	10	NB	B	10	NB	B	11	NB
5. 120th Ave NE/NE 73rd St	B	10	WB	B	10	WB	B	10	WB
6. 120th Ave NE/North Driveway	C	16	EB	C	18	EB	C	19	EB
7. 120th Ave NE/South Driveway	A	10	EB	B	10	EB	B	10	EB
8. 120th Ave NE/NE 70th St	C	16	-	D	30	-	D	35	-
9. 119th Ave NE/New Driveway	NA	NA	NA	NA	NA	NA	A	9	WB

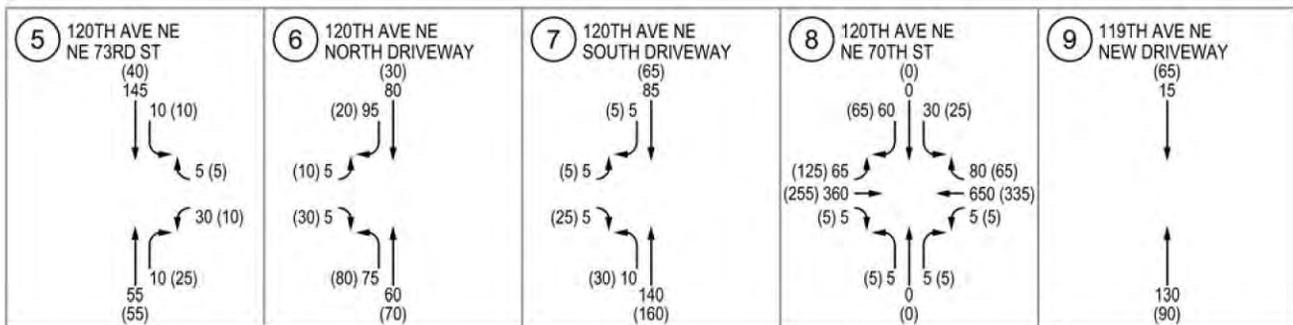
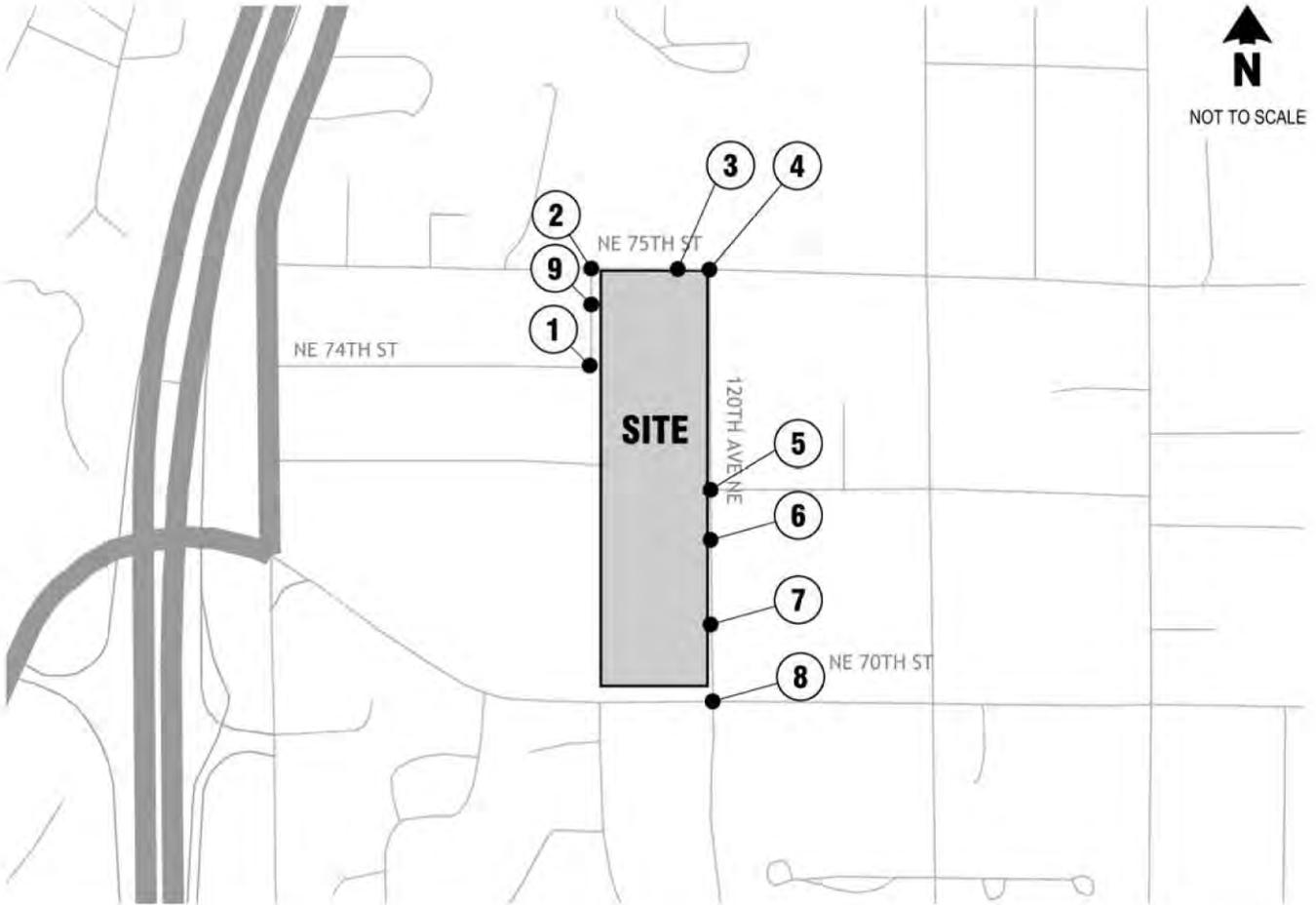
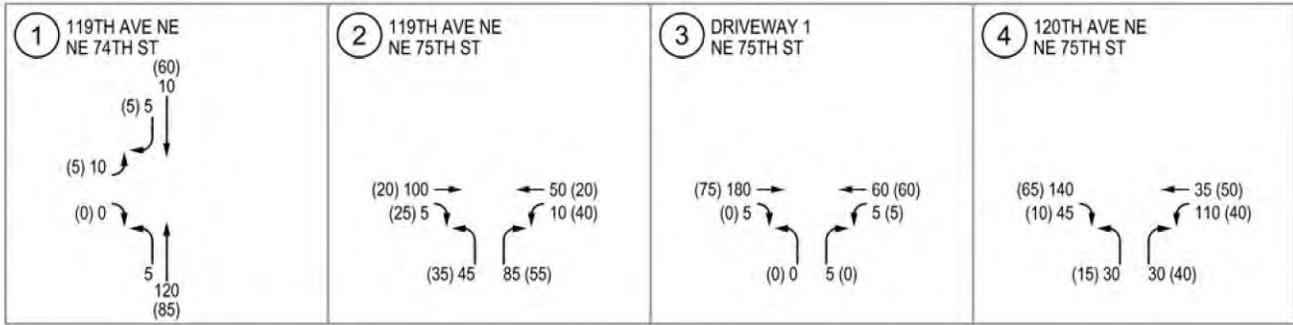
Note: NA = Proposed driveway does not exist.

1. Level of service (LOS), based on 2010 *Highway Capacity Manual* methodology.
2. Average delay in seconds per vehicle.
3. Worst movement reported for unsignalized intersections where EB = eastbound, WB = westbound, NB = northbound, and NBT = northbound through.
4. The intersection of 119th Avenue NE/NE 74th Street requires analysis with SimTraffic due to irregular intersection control. The Phase 2 analysis for Sunday, when the overflow parking lot would be open assumes that the stop-controlled approaches would be on the south and east legs of the intersection. For consistency SimTraffic was also used to analyze the existing and baseline scenarios with the stop-controlled approach on the south leg.

As shown in Table 4, all of the study intersections are currently operating at LOS C or better during the weekday morning peak hour except the 120th Avenue NE/NE 70th Street intersection. This intersection currently operates at LOS E during the weekday morning peak hour and would continue to operate at LOS E in 2024 with or without Phase 2. If an intersection is operating at LOS E, the City requires improvements to mitigate SEPA impacts when the project's intersection proportional share is greater than 15 percent. The proposed project would not add any new traffic to this intersection during the weekday morning period; therefore, no mitigation is required.

During the Sunday peak hour, all of the study intersections currently operate at LOS C. With additional growth in the study area by 2024 without the project, all of the intersection would operate at LOS D. The study intersections would continue to operate at the same levels with the addition of Phase 2 traffic during the Sunday peak hour.



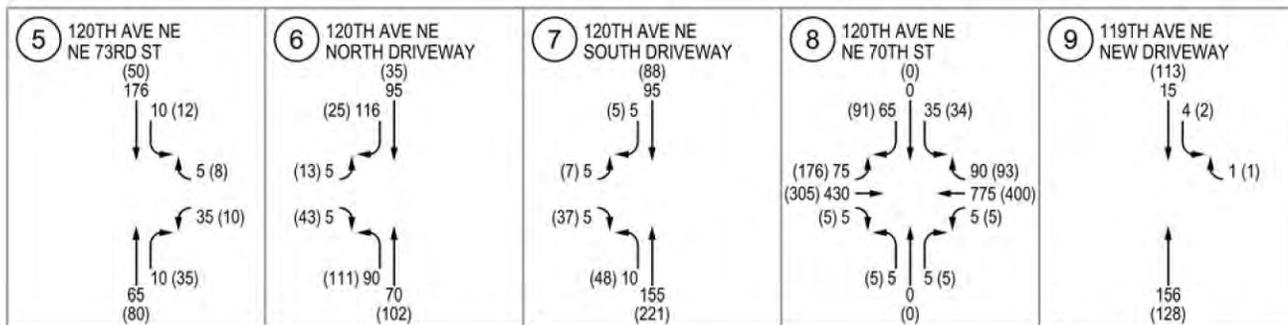
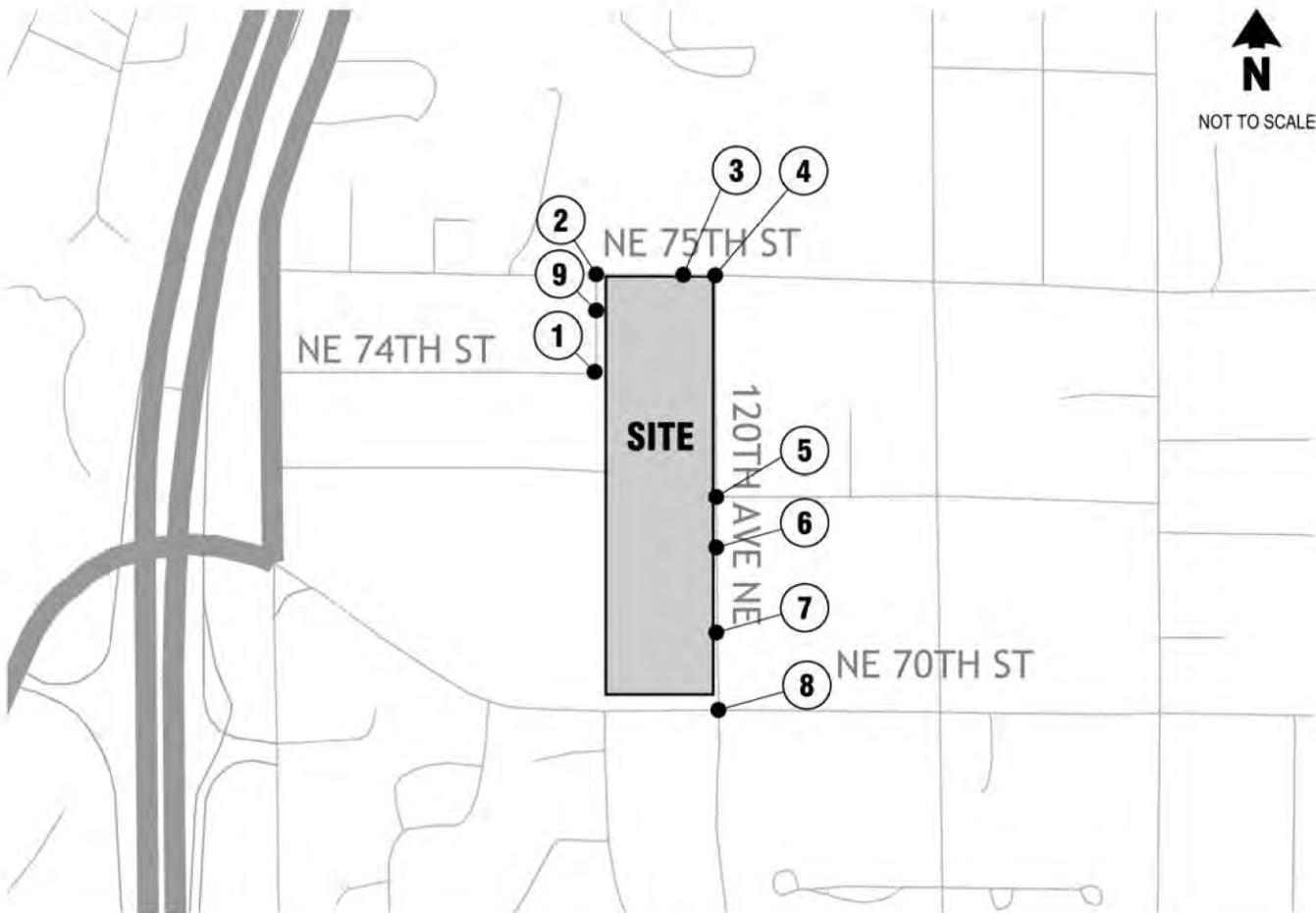
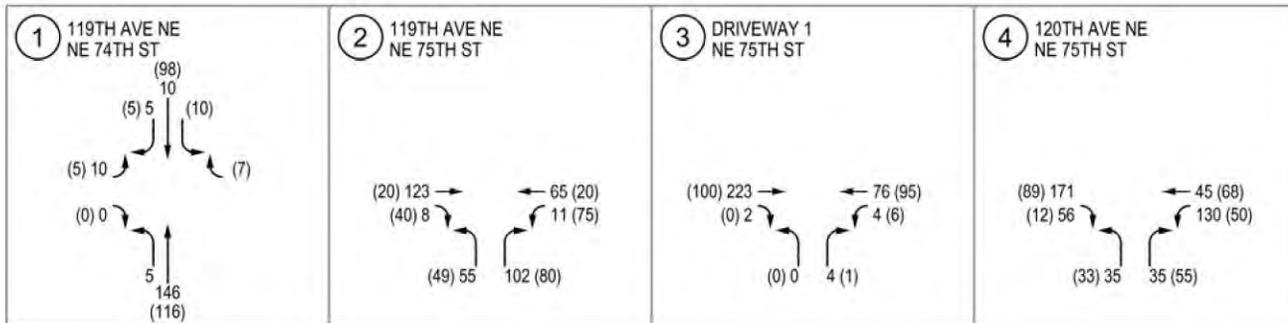


**LEGEND**  
X = WEEKDAY PEAK HOUR  
(X) = SUNDAY PEAK HOUR

# Existing Peak Hour Traffic Volumes

FIGURE

Holy Family Parish, Kirkland



**LEGEND**  
X = WEEKDAY PEAK HOUR  
(X) = SUNDAY PEAK HOUR

# Phase 2 Peak Hour Traffic Volumes

FIGURE

Holy Family Parish, Kirkland

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### ***Vehicle Queues***

Queues at the study intersections were reviewed to determine if there would be any impact to adjacent intersections due to queue spillback with the proposed Phase 2. Attachment D provides the queuing worksheets. The analysis shows that during the weekday morning and Sunday peak hour (with the addition of Phase 2) queues would generally be limited to no more than three vehicles (less than 75-feet) and would not block adjacent intersections or driveways. The only exception is the 120th Avenue NE/NE 70th Street intersection, where during the weekday morning peak hour the westbound queue is currently approximately 16 vehicles with no measurable increase in 2024. This queue does block two existing residential driveways on the north side of NE 70th Street during peak conditions. The proposal does not increase traffic the 120th Avenue NE/NE 70th Street intersection during the weekday; therefore, would not impact queues.

### ***Sight Distance***

Two new driveways will be constructed on 119th Avenue NE to access the new preschool/youth center parking area and the new overflow parking area. The City of Kirkland's standard (Policy R-13, 2014) for Type E1<sup>2</sup> driveways along a 25 mph street is a minimum and recommended of 150-feet. Based field measurements, there are clear sight lines along 119th Avenue NE for both driveways.

The overflow parking lot creates a four-legged intersection with 119th Avenue NE and NE 74th Street. The southern leg of the 119th Avenue NE/NE 74th Street intersection is an existing access to the site that dead-ends into the church parking lot. Sight distance to the north for the overflow parking lot would be 260-feet (i.e., a clear view all the way to NE 75th Street). It is recommended that stop control be provided on both the driveway approaches to this intersection and that 119th Avenue NE remain the major street. With the driveway improvements, consideration should be given to striping or curbing to minimize the skew of the existing approach and aligning approaches at the intersection.

The proposed driveway to the preschool/youth center area is located 100-feet south of the 119th Avenue NE/NE 75th Street intersection. A sight line is provided from the proposed project driveway all the way to the end of 119th Avenue NE into the intersection of NE 75th Street or for a distance of over 100-feet.

### ***Driveway Spacing***

The City of Kirkland requires a minimum spacing between driveways of 50-feet and a minimum setback from an intersection of 50-feet for a non-residential driveway on a local street. 119th Avenue NE and NE 75th Street are classified as local streets. The two driveways meet these requirements. The new project driveways are located along 119th Avenue NE and the proposed spacing between them is approximately 130-feet. In addition, the driveway to the proposed overflow parking lot is approximately 260-feet south of NE 75th Street and the driveway to the preschool/youth center is approximately 100-feet south of NE 75th Street.

### ***Parking***

The proposal provides additional parking for a total of 276 parking spaces. This total parking supply includes changes to the on-site parking and continued use of the existing gravel parking lot along 120th Avenue NE between NE 70th and NE 73rd Street. There is also on-street parking in the vicinity of the site along NE 74th Street, 119th Avenue NE, 120th Avenue NE, and NE 73rd Street. The on-street parking is generally not striped except for five spaces located along 120th Avenue NE north of the second driveway. Figure 7 illustrates the on- and off-street parking supply considered for the parking analysis. The additional parking would be provided as part of Phase 1.

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<sup>2</sup> Type E1 driveways have less than 10 PM peak hour trips and less than 6,000 average daily traffic volume on the adjacent street.



Note: Parking supply was reviewed in March 2015

## Existing On-Street and Phase 2 Proposed Parking Supply

Holy Family Parish, Kirkland

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**Code Requirement.** Holy Family Parish is located in the City of Kirkland zone RSX 7.2. The parking requirement for a church in this zone is 1 space for every 4 people based on the maximum occupancy load of worship.<sup>3</sup> No parking is required for youth center or school which is ancillary to this use. Phase 1 would not result in any changes to the number of seats provided. Phase 2 would result in a total of 758 seats in the church. The code requires 147 parking spaces based on the existing 586 seats and an additional 43 spaces for a total of 190 parking spaces with the proposed Phase 2 expansion. The proposal meets the code parking requirement with the proposed 276 parking spaces.

**Demand.** Parking counts were conducted in September and October 2014 to understand the peak parking demand of the site. Data collection included both on-site and on-street parking. Peak parking demand on the weekday is driven by the school use; therefore, weekday parking counts were conducted between 10 a.m. and 12 p.m. consistent with the peak parking for school use as indicated by the Institute of Transportation Engineers *Parking Generation*, 4th Edition school land use. Sunday parking demand peaks consistent with mass times, which in this case is 9:30 and 11:30 a.m. Sunday parking data was collected between 9:30 a.m. and 12:00 p.m. On-street parking data was also collected along both sides of NE 74th Street, 119th Avenue NE, 120th Avenue NE between NE 70th and 75th Streets, and NE 73rd Street between 120th and 122nd Avenues NE. Attachment E provides a summary of the weekday and Sunday data collection and the calculated parking demand rate.

Weekday peak parking demand is not anticipated to change as a result of Phases 1 and 2. The weekday peak parking demand was 68 vehicles on-site and 34 vehicles on-street. With the 276 parking spaces proposed on-site as part of Phase 1 weekday peak parking demand would be fully accommodated.

Sunday peak parking demand is not anticipated to change as a result of Phase 1; however, it would increase as a result of Phase 2 and the additional seating provided. Attachment E shows the calculated peak parking demand rate for Sunday is between 0.32 and 0.45 vehicles per seat depending on the level of on-street parking that occurs. It is likely that some of the vehicles included in the on-street parking demand data collection are not associated with the church use. Table 5 provides a summary for the Phase 1 and 2 parking demand as compared to the parking supply. It is likely that use of on-street parking will continue to occur even if an abundance of parking is provided on-site since this parking is used today and the church lot is not full.

**Table 5. Summary of Sunday Parking Analysis**

Phase	Size	Parking Rate	Parking Demand	Proposed Supply	Difference (Demand - Supply)	On-Street Supply	Potential Deficiency with On-street Parking Use
1 (Existing)	586 seats	0.32 to 0.45 vehicles per seat	188 to 264 vehicles	276 spaces	-88 to -12	88 spaces	None
2	758 seats		243 to 341 vehicles	276 spaces	-33 to 65	88 spaces	None

1. Existing peak hour trips are based on counts performed in March 2014.
2. Trip rate is based on the existing church size and traffic counts performed in March 2014.

As shown in the table, for Phase 1 (or existing seating capacity), the proposed 276 spaces would fully accommodate parking demand on-site. For Phase 2, depending on the level of existing on-street parking associated with the church, street parking would continue to be used.

<sup>3</sup> Kirkland Zoning Code, Section 17.10.020 (2014)



It is noted that although the new 43 parking spaces on-site are considered “overflow” as part of the Master Plan Phase 2, this parking would likely be utilized on most Sundays. During the typical weekday periods, it is anticipated that this parking would not be needed.

**Preschool Drop-off/Pick-up Parking.** Currently, weekday parking associated with parents dropping off and picking up preschool students occurs on-street along 120th Avenue NE. The proposed project would increase the parking associated with the preschool and youth center to allow drop-up/pick-up activities to occur on-site. Observations were conducted in March 2015 for the morning drop-off and afternoon pick-up periods to understand the maximum number of vehicles associated with the preschool at one time. A maximum of 5 vehicles were observed parked either on-street or in the preschool parking lot at one time during the drop-off and pick-up periods for the preschool. The proposal would not expand preschool activity; therefore, the proposed 10 drop-off/pick-up parking spaces associated with the preschool/youth center would be sufficient to accommodate this activity.

## Conclusion

The proposed driveways would operate at LOS C or better during the weekday and Sunday peak hours. In addition, driveways would meet spacing and sight distance requirements. All of the off-site study intersections would operate at LOS C or better except the 120th Avenue NE/NE 70th Street intersection during the weekday morning peak hour. This intersection would operate at LOS E in 2024 with or without Phase 2 during the weekday peak hour. No mitigation would be required since the project’s intersection proportional share is less than 15 percent (i.e., the project would not add any traffic to this intersection during the weekday peak hour).

It is recommended that stop control be provided on the overflow parking driveway and the existing driveway and that 119th Avenue NE remain the major street. With the driveway improvements, consideration should be given to striping or curbing to minimize the skew of the existing approach and aligning approaches at the intersection with 119th Avenue NE.

The proposal would meet City of Kirkland parking code requirements and all weekday parking demand would be fully accommodated on-site. The Sunday parking demand would be fully accommodated on-site for the existing seating capacity. With the Phase 2 expansion of seating capacity, there is a potential that on-street parking would need to be utilized. On-street parking is likely to continue to occur even if an abundance of parking is provided on-site since this parking is used today and the church lot is not full.





**CITY OF KIRKLAND**  
**Department of Public Works**  
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800  
www.kirklandwa.gov

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**MEMORANDUM**

**To:** Tony Leavitt, Planner  
**From:** Thang Nguyen, Transportation Engineer  
**Date:** August 4, 2014  
**Subject:** Holy Family Church Expansion Traffic Concurrency Test Notice, Tran14-00502.

The purpose of this memo is to inform you that the proposed development of the Holy Family Master Plan has passed traffic concurrency.

**Project Description and Trip Generation**

The applicant proposed to develop the Holy Family Church Master Plan in two phases. Phase I is anticipated to be complete by 2019 and includes constructing the storage and maintenance building, new drop-off area, additional parking, playfields, playground, and Parish Education Center entry reconfiguration to accommodate the existing activities. Phase II is anticipated to be complete in 2024 and includes increasing the worship area by 3,230 square feet to accommodate 331 additional seats. The reason for phase II is to consolidate and reduce the number of Sunday masses. The applicant does not anticipate an increase in new attendees.

Since no new activities are planned and existing activities are not planned to increase in intensity, Phase I is not anticipated to generate new trip during the weekday, AM peak and PM peak hour. Phase II will not increase weekday, AM peak and PM peak hour trips but will increase peak trip from Sunday masses by 284 trips. Since no additional trip is anticipated for the PM peak hour, the proposed project passed traffic concurrency.

This memo will serve as the concurrency test notice for the proposed project. Per *Section 25.10.020 Procedures* of the KMC, this Concurrency Test Notice will expire in six years (August 4, 2020) unless a development permit and certificate of concurrency are issued or an extension is granted.

**EXPIRATION**

The concurrency test notice shall expire and a new concurrency test application is required unless:

1. A complete SEPA checklist, traffic impact analysis and all required documentation are submitted to the City within 90 calendar days of the concurrency test notice.
2. A Certificate of Concurrency is issued or an extension is requested and granted by the Public Works Department within one year of issuance of the concurrency test

notice. (A Certificate of Concurrency is issued at the same time a development permit or building permit is issued if the applicant holds a valid concurrency test notice.)

3. A Certificate of Concurrency shall expire six years from the date of issuance of the concurrency test notice unless all building permits are issued for buildings approved under the concurrency test notice.

### **Concurrency for Phase Development**

The City of Kirkland Traffic Concurrency Ordinance only allow the traffic concurrency test notice to be valid for six (6) years. Phases that do not receive a building permit within six years may request for a one-year extension. If the request for an extension is not requested prior to the expiration of the concurrency test notice or the extension is not granted then a new concurrency application and test will be required. For Phase II of the development, a new concurrency test will be required unless it receives a building permit by 2020.

### **APPEALS**

The concurrency test notice may be appealed by the public or agency with jurisdiction. The concurrency test notice is subject to an appeal until the SEPA review process is complete and the appeal deadline has passed. Concurrency appeals are heard before the Hearing Examiner along with any applicable SEPA appeal. For more information, refer to the Kirkland Municipal Code, Title 25. If you have any questions, please call me at x3869.

cc: John Burkhalter, Senior Development Engineer  
Energov

Time	Driveway 1		Driveway 2		Driveway 3		Driveway 4		Driveway 5		15-min Total	Rolling Hourly Total
	In	Out										
12:00 AM	0	0	0	0	1	1	0	0	0	0	2	
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	1	0	0	0	0	0	1	1
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	1
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	1
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	1
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	1	0	0	0	0	0	1	1
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	1
5:00 AM	0	0	0	0	0	1	0	0	0	0	1	2
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	2
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	1
5:45 AM	0	0	1	0	0	0	0	0	4	1	6	7
6:00 AM	0	0	0	0	1	2	0	0	0	1	4	10
6:15 AM	0	0	0	1	2	1	0	0	0	0	4	14
6:30 AM	0	0	1	0	2	0	0	0	0	0	3	17
6:45 AM	0	0	4	0	3	0	0	0	1	0	8	19
7:00 AM	0	0	11	0	11	0	0	0	0	0	22	37
7:15 AM	0	0	23	0	31	1	2	0	6	0	63	96
7:30 AM	0	0	4	0	3	0	2	0	1	0	10	103
7:45 AM	0	0	1	0	1	0	0	0	1	1	4	99
8:00 AM	0	0	3	0	6	1	0	0	4	0	14	91
8:15 AM	1	0	7	22	11	4	1	1	2	3	52	80
8:30 AM	0	0	18	32	25	17	0	4	9	5	110	180
8:45 AM	0	0	33	3	38	2	14	0	18	0	108	284
9:00 AM	0	0	11	0	13	1	8	1	1	4	39	309
9:15 AM	0	0	0	0	1	2	0	0	0	0	3	260
9:30 AM	0	0	0	0	1	2	0	0	0	0	3	153
9:45 AM	0	0	0	0	1	4	0	0	0	0	5	50
10:00 AM	0	0	0	32	0	12	1	9	0	12	66	77
10:15 AM	0	0	4	34	6	22	0	11	2	8	87	161
10:30 AM	0	0	11	9	19	11	1	1	2	7	61	219
10:45 AM	1	1	41	5	56	4	19	1	24	2	154	368
11:00 AM	2	0	0	9	24	10	8	7	2	4	66	368
11:15 AM	1	1	0	8	7	3	0	0	1	2	23	304
11:30 AM	0	1	0	6	4	5	0	2	0	1	19	262
11:45 AM	0	0	0	9	3	6	0	1	0	5	24	132
12:00 PM	0	2	0	62	2	33	0	16	0	14	129	195
12:15 PM	0	0	2	17	8	10	0	5	0	6	48	220
12:30 PM	0	0	2	8	8	9	0	1	0	6	34	235

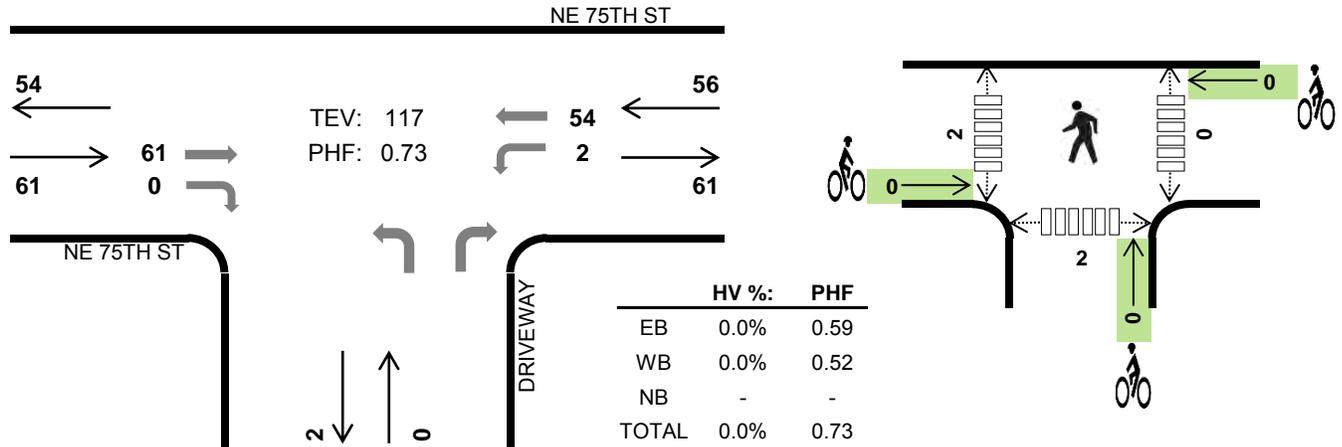
Time	<u>Driveway 1</u>		<u>Driveway 2</u>		<u>Driveway 3</u>		<u>Driveway 4</u>		<u>Driveway 5</u>		15-min Total	Rolling Hourly Total
	In	Out	In	Out	In	Out	In	Out	In	Out		
12:45 PM	0	0	1	1	1	5	0	0	0	2	10	221
1:00 PM	0	0	2	1	2	7	0	1	1	1	15	107
1:15 PM	0	0	1	1	9	3	0	0	0	1	15	74
1:30 PM	0	0	6	4	6	6	0	0	0	0	22	62
1:45 PM	0	0	6	8	5	6	0	0	0	0	25	77
2:00 PM	0	0	3	0	4	4	0	0	0	0	11	73
2:15 PM	0	0	4	2	2	1	0	0	0	0	9	67
2:30 PM	0	0	4	4	7	6	0	0	1	0	22	67
2:45 PM	0	0	2	5	6	9	0	0	3	0	25	67
3:00 PM	0	0	2	0	2	0	0	0	0	0	4	60
3:15 PM	0	0	2	2	1	6	0	0	0	0	11	62
3:30 PM	0	0	5	3	3	7	0	0	0	0	18	58
3:45 PM	0	0	0	7	5	15	0	0	0	0	27	60
4:00 PM	0	0	1	0	1	0	0	0	0	0	2	58
4:15 PM	0	0	1	0	5	0	0	0	2	1	9	56
4:30 PM	0	0	5	1	10	1	0	0	1	2	20	58
4:45 PM	0	0	36	5	44	1	0	0	8	1	95	126
5:00 PM	0	0	5	0	18	2	1	0	4	0	30	154
5:15 PM	0	0	0	0	4	0	2	0	0	0	6	151
5:30 PM	0	0	0	0	1	0	0	0	0	0	1	132
5:45 PM	0	0	0	9	3	3	0	1	0	4	20	57
6:00 PM	0	0	1	49	0	42	0	1	0	7	100	127
6:15 PM	0	0	5	4	9	8	0	0	0	3	29	150
6:30 PM	0	0	1	8	5	6	0	0	1	1	22	171
6:45 PM	1	1	1	1	1	3	0	0	0	0	8	159
7:00 PM	0	0	1	2	1	1	0	0	0	0	5	64
7:15 PM	0	0	0	0	1	0	0	0	0	1	2	37
7:30 PM	0	0	3	0	0	0	0	0	0	0	3	18
7:45 PM	0	0	7	0	7	0	0	0	0	1	15	25
8:00 PM	0	0	3	11	6	23	0	1	0	4	48	68
8:15 PM	0	0	0	0	1	4	0	0	2	0	7	73
8:30 PM	0	0	0	4	1	2	0	0	0	1	8	78
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	63
9:00 PM	0	0	0	1	1	2	0	0	0	5	9	24
9:15 PM	0	0	0	0	0	1	0	0	0	0	1	18
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	10
9:45 PM	0	0	0	0	1	0	0	0	0	0	1	11
10:00 PM	0	0	0	0	0	1	0	0	0	0	1	3
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	2
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	2
10:45 PM	0	0	0	0	1	0	0	0	0	0	1	2
11:00 PM	0	0	0	0	0	1	0	0	0	0	1	2
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	2
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	2
11:45 PM	0	0	1	0	2	0	0	0	0	0	3	4
<b>Daily Total</b>	<b>6</b>	<b>6</b>	<b>286</b>	<b>390</b>	<b>466</b>	<b>340</b>	<b>59</b>	<b>64</b>	<b>101</b>	<b>117</b>	<b>1835</b>	

# DRIVEWAY NE 75TH ST



Peak Hour

Date: Sun, Sep 21, 2014  
Count Period: 9:30 AM to 11:30 AM  
Peak Hour: 10:15 AM to 11:15 AM



## Two-Hour Count Summaries

Interval Start	NE 75TH ST			NE 75TH ST			DRIVEWAY			DRIVEWAY			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT											
9:30 AM	0	2	0	0	4	0	0	0	0	0	0	0	6	
9:45 AM	0	4	0	0	3	0	0	0	0	0	0	0	7	
10:00 AM	0	14	0	0	4	0	0	0	0	0	0	0	18	
10:15 AM	0	26	0	1	8	0	0	0	0	0	0	0	35	66
10:30 AM	0	12	0	0	9	0	0	0	0	0	0	0	21	81
10:45 AM	0	13	0	0	27	0	0	0	0	0	0	0	40	114
11:00 AM	0	10	0	1	10	0	0	0	0	0	0	0	21	117
11:15 AM	0	7	0	0	2	0	0	0	0	0	0	0	9	91
Count Total	0	88	0	2	67	0	0	0	0	0	0	0	157	
Peak Hr	0	61	0	2	54	0	0	0	0	0	0	0	117	

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

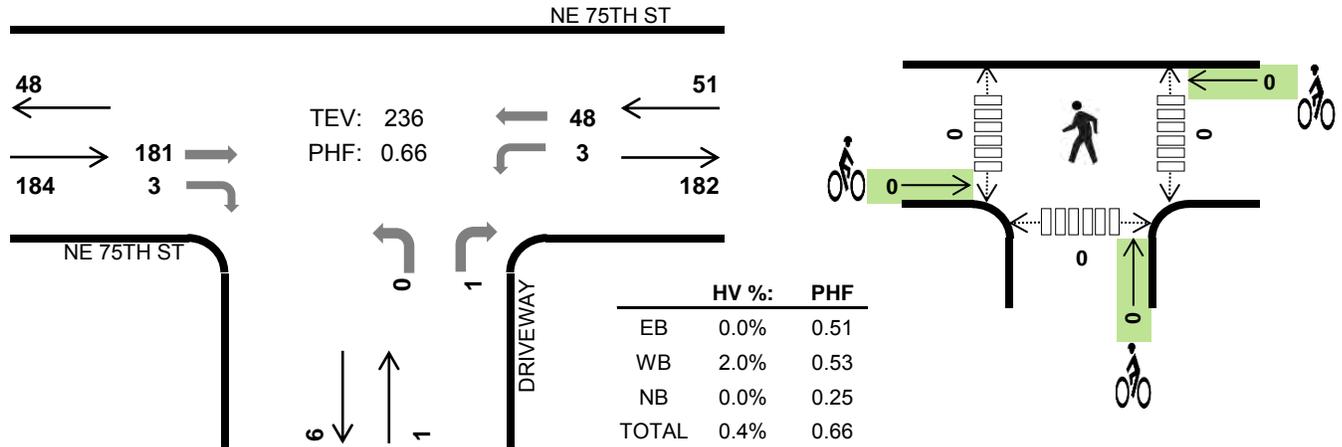
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	1	0	0	0	0	0	0	2	0	2	4
Peak Hr	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4

# DRIVEWAY NE 75TH ST



Peak Hour

Date: Tue, Sep 16, 2014  
Count Period: 7:30 AM to 9:30 AM  
Peak Hour: 7:30 AM to 8:30 AM



## Two-Hour Count Summaries

Interval Start	NE 75TH ST			NE 75TH ST			DRIVEWAY			DRIVEWAY			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:30 AM	0	32	1	2	20	0	0	0	1	0	0	0	56	
7:45 AM	0	50	1	1	23	0	0	0	0	0	0	0	75	
8:00 AM	0	9	1	0	5	0	0	0	0	0	0	0	15	
8:15 AM	0	90	0	0	0	0	0	0	0	0	0	0	90	236
8:30 AM	0	8	0	0	10	0	0	0	0	0	0	0	18	198
8:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3	126
9:00 AM	0	7	0	0	2	0	0	0	0	0	0	0	9	120
9:15 AM	0	3	0	0	2	0	0	0	0	0	0	0	5	35
Count Total	0	201	3	3	63	0	0	0	1	0	0	0	271	
Peak Hr	0	181	3	3	48	0	0	0	1	0	0	0	236	

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

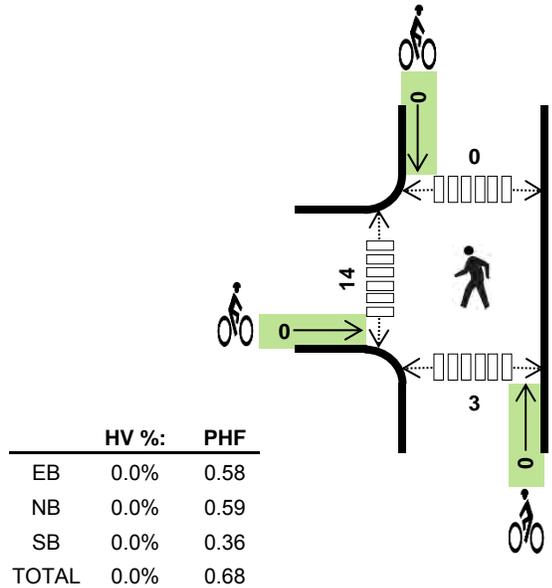
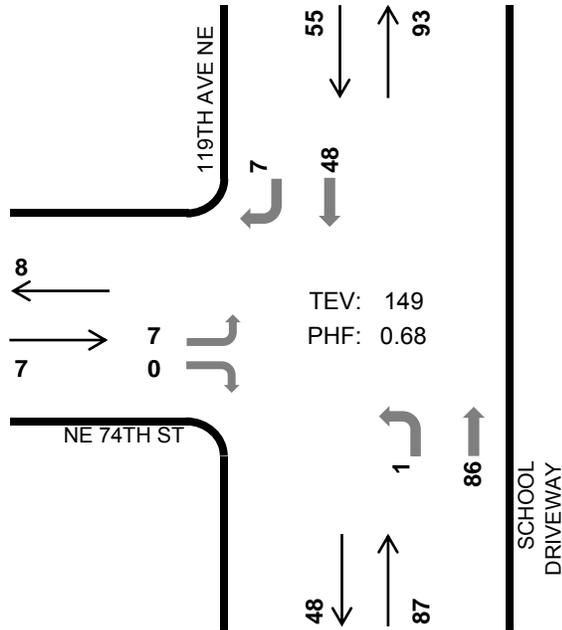
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
Peak Hr	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0

# 119TH AVE NE NE 74TH ST



Peak Hour

Date: Sun, Sep 21, 2014  
Count Period: 9:30 AM to 11:30 AM  
Peak Hour: 10:00 AM to 11:00 AM



	HV %:	PHF
EB	0.0%	0.58
NB	0.0%	0.59
SB	0.0%	0.36
TOTAL	0.0%	0.68

## Two-Hour Count Summaries

Interval Start	NE 74TH ST Eastbound			NE 74TH ST Westbound			SCHOOL DRIVEWAY Northbound			119TH AVE NE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
9:30 AM	1	0	0	0	0	0	0	0	0	0	2	0	3	
9:45 AM	2	0	0	0	0	0	0	5	0	0	2	0	9	
10:00 AM	1	0	0	0	0	0	0	22	0	0	2	3	28	
10:15 AM	3	0	0	0	0	0	0	37	0	0	2	1	43	83
10:30 AM	2	0	0	0	0	0	1	11	0	0	8	1	23	103
10:45 AM	1	0	0	0	0	0	0	16	0	0	36	2	55	149
11:00 AM	0	0	0	0	0	0	2	12	0	0	9	0	23	144
11:15 AM	0	0	0	0	0	0	0	4	0	0	1	0	5	106
Count Total	10	0	0	0	0	0	3	107	0	0	62	7	189	
Peak Hr	7	0	0	0	0	0	1	86	0	0	48	7	149	

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

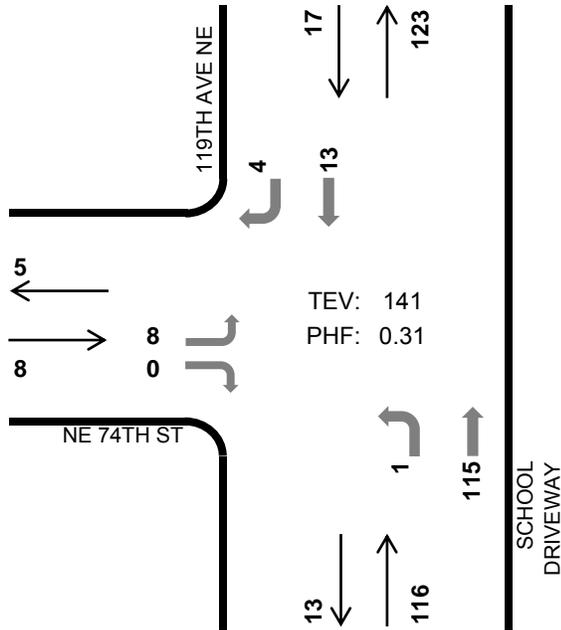
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	4	8
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	3	12
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Count Total	0	0	0	0	0	0	0	0	0	0	0	20	0	7	27
Peak Hr	0	0	0	0	0	0	0	0	0	0	0	14	0	3	17

# 119TH AVE NE NE 74TH ST

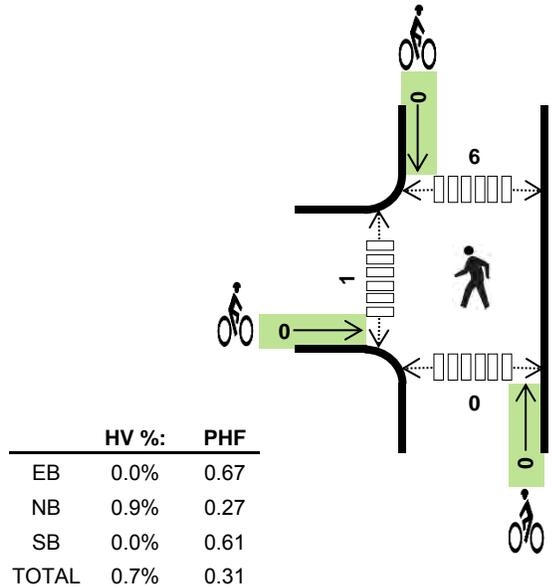


Peak Hour

Date: Tue, Sep 16, 2014  
Count Period: 7:30 AM to 9:30 AM  
Peak Hour: 7:45 AM to 8:45 AM



TEV: 141  
PHF: 0.31



	HV %:	PHF
EB	0.0%	0.67
NB	0.9%	0.27
SB	0.0%	0.61
TOTAL	0.7%	0.31

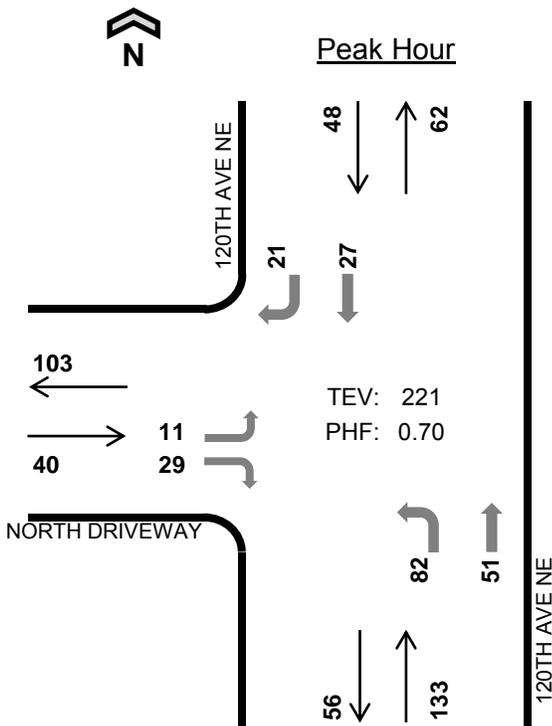
## Two-Hour Count Summaries

Interval Start	NE 74TH ST Eastbound			NE 74TH ST Westbound			SCHOOL DRIVEWAY Northbound			119TH AVE NE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:30 AM	2	0	0	0	0	0	1	1	0	0	2	2	8	
7:45 AM	1	0	0	0	0	0	0	1	0	0	5	2	9	
8:00 AM	1	0	0	0	0	0	0	2	0	0	3	0	6	
8:15 AM	3	0	0	0	0	0	0	109	0	0	0	1	113	136
8:30 AM	3	0	0	0	0	0	1	3	0	0	5	1	13	141
8:45 AM	5	0	0	0	0	0	0	0	0	0	2	1	8	140
9:00 AM	3	0	0	0	0	0	0	4	0	0	0	0	7	141
9:15 AM	0	0	0	0	0	0	0	5	0	0	0	1	6	34
Count Total	18	0	0	0	0	0	2	125	0	0	17	8	170	
Peak Hr	8	0	0	0	0	0	1	115	0	0	13	4	141	

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

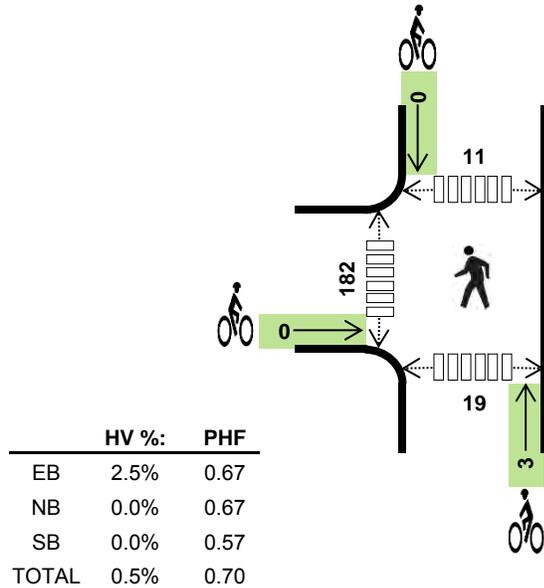
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4
8:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	1	0	1	0	0	0	0	0	0	1	8	0	9
Peak Hr	0	0	1	0	1	0	0	0	0	0	0	1	6	0	7

# 120TH AVE NE NORTH DRIVEWAY



Date: Sun, Sep 21, 2014  
Count Period: 9:30 AM to 11:30 AM  
Peak Hour: 10:15 AM to 11:15 AM

TEV: 221  
PHF: 0.70



	HV %:	PHF
EB	2.5%	0.67
NB	0.0%	0.67
SB	0.0%	0.57
TOTAL	0.5%	0.70

## Two-Hour Count Summaries

Interval Start	NORTH DRIVEWAY Eastbound			NORTH DRIVEWAY Westbound			120TH AVE NE Northbound			120TH AVE NE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
9:30 AM	0	0	4	0	0	0	1	3	0	0	1	1	10	
9:45 AM	0	0	2	0	0	0	2	4	0	0	2	0	10	
10:00 AM	1	0	6	0	0	0	3	1	0	0	5	1	17	
10:15 AM	1	0	14	0	0	0	10	10	0	0	8	1	44	81
10:30 AM	2	0	4	0	0	0	20	7	0	0	4	5	42	113
10:45 AM	3	0	5	0	0	0	32	18	0	0	10	11	79	182
11:00 AM	5	0	6	0	0	0	20	16	0	0	5	4	56	221
11:15 AM	2	0	5	0	0	0	6	5	0	0	6	1	25	202
Count Total	14	0	46	0	0	0	94	64	0	0	41	24	283	
Peak Hr	11	0	29	0	0	0	82	51	0	0	27	21	221	

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
9:45 AM	0	0	0	0	0	0	0	0	1	1	0	18	0	4	22
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	13	0	4	17
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	44	2	6	52
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	35	4	0	39
10:45 AM	0	0	0	0	0	0	0	2	0	2	0	62	4	3	69
11:00 AM	1	0	0	0	1	0	0	1	0	1	0	41	1	10	52
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7
Count Total	1	0	0	0	1	0	0	3	1	4	0	224	11	27	262
Peak Hr	1	0	0	0	1	0	0	3	0	3	0	182	11	19	212

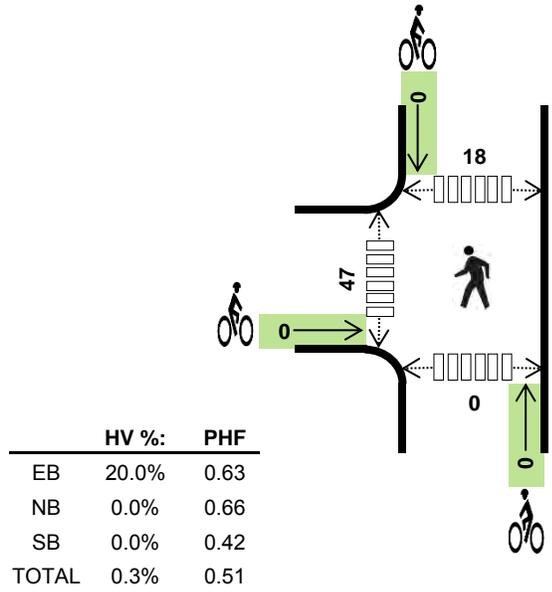
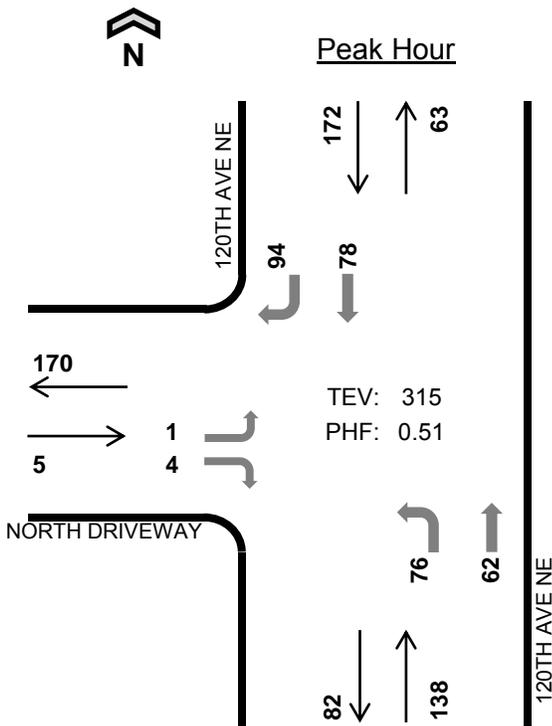
# 120TH AVE NE NORTH DRIVEWAY



Date: Tue, Sep 16, 2014

Count Period: 7:30 AM to 9:30 AM

Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	20.0%	0.63
NB	0.0%	0.66
SB	0.0%	0.42
TOTAL	0.3%	0.51

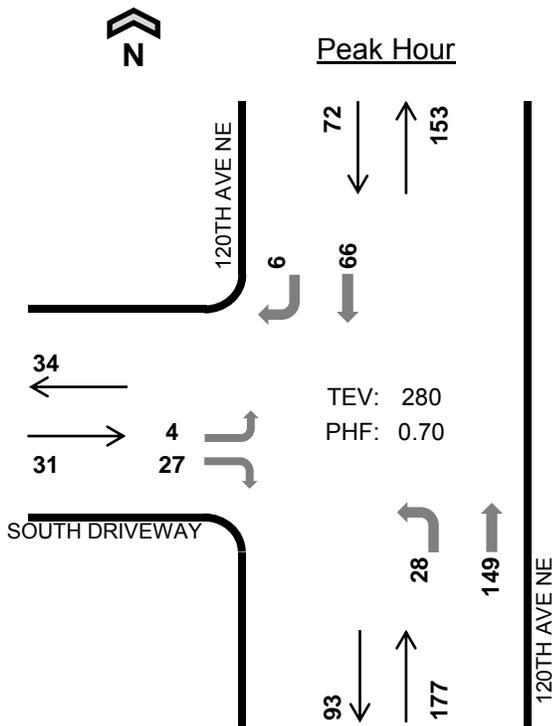
## Two-Hour Count Summaries

Interval Start	NORTH DRIVEWAY Eastbound			NORTH DRIVEWAY Westbound			120TH AVE NE Northbound			120TH AVE NE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:30 AM	1	0	1	0	0	0	7	18	0	0	17	3	47	
7:45 AM	0	0	2	0	0	0	3	32	0	0	27	3	67	
8:00 AM	0	0	0	0	0	0	17	9	0	0	4	16	46	
8:15 AM	0	0	1	0	0	0	49	3	0	0	30	72	155	315
8:30 AM	0	0	2	0	0	0	14	4	0	0	12	5	37	305
8:45 AM	0	0	0	0	0	0	2	4	0	0	2	2	10	248
9:00 AM	1	0	1	0	0	0	0	4	0	0	1	2	9	211
9:15 AM	1	0	15	0	0	0	0	6	0	0	7	0	29	85
Count Total	3	0	22	0	0	0	92	80	0	0	100	103	400	
Peak Hr	1	0	4	0	0	0	76	62	0	0	78	94	315	

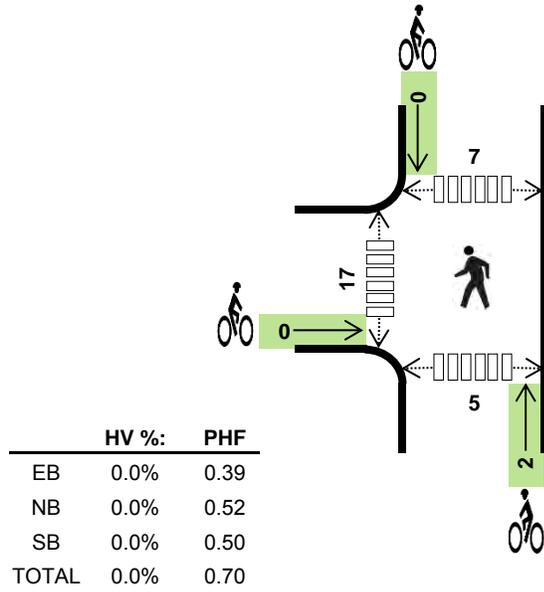
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	0	0	0	0	0	0	0	0	0	0	12	29	1	0	42
7:45 AM	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	5	3	0	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	11	14	0	34
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	12	10	1	24
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	4	1	0	6
9:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
9:15 AM	0	0	0	0	0	0	0	0	0	0	2	6	5	0	13
Count Total	1	0	0	0	1	0	0	0	0	0	26	70	34	1	131
Peak Hr	1	0	0	0	1	0	0	0	0	0	21	47	18	0	86

# 120TH AVE NE SOUTH DRIVEWAY



Date: Sun, Sep 21, 2014  
Count Period: 9:30 AM to 11:30 AM  
Peak Hour: 10:15 AM to 11:15 AM



	HV %:	PHF
EB	0.0%	0.39
NB	0.0%	0.52
SB	0.0%	0.50
TOTAL	0.0%	0.70

## Two-Hour Count Summaries

Interval Start	SOUTH DRIVEWAY Eastbound			SOUTH DRIVEWAY Westbound			120TH AVE NE Northbound			120TH AVE NE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
9:30 AM	0	0	0	0	0	0	0	3	0	0	4	0	7	
9:45 AM	0	0	2	0	0	0	1	4	0	0	8	0	15	
10:00 AM	0	0	1	0	0	0	1	8	0	0	12	0	22	
10:15 AM	2	0	18	0	0	0	2	15	0	0	36	0	73	117
10:30 AM	0	0	5	0	0	0	4	31	0	0	8	0	48	158
10:45 AM	0	0	2	0	0	0	18	67	0	0	11	2	100	243
11:00 AM	2	0	2	0	0	0	4	36	0	0	11	4	59	280
11:15 AM	0	0	2	0	0	0	1	8	0	0	9	0	20	227
Count Total	4	0	32	0	0	0	31	172	0	0	99	6	344	
Peak Hr	4	0	27	0	0	0	28	149	0	0	66	6	280	

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
9:45 AM	0	0	0	0	0	0	0	0	1	1	0	7	0	0	7
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	2	6
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8
10:45 AM	0	0	0	0	0	0	0	1	0	1	0	4	3	3	10
11:00 AM	0	0	0	0	0	0	0	1	0	1	0	3	2	0	5
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Count Total	0	0	0	0	0	0	0	2	1	3	0	28	8	5	41
Peak Hr	0	0	0	0	0	0	0	2	0	2	0	17	7	5	29

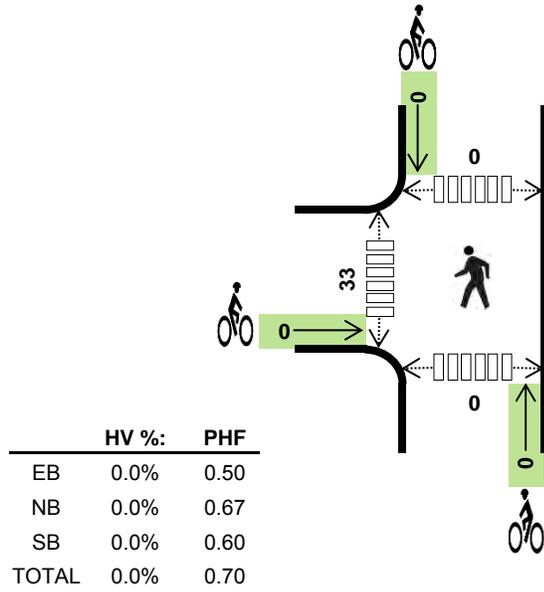
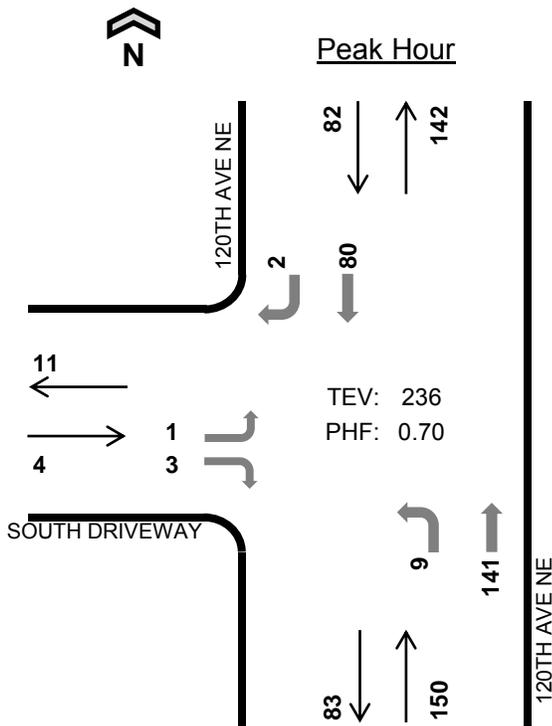
# 120TH AVE NE SOUTH DRIVEWAY



Date: Tue, Sep 16, 2014

Count Period: 7:30 AM to 9:30 AM

Peak Hour: 7:30 AM to 8:30 AM



## Two-Hour Count Summaries

Interval Start	SOUTH DRIVEWAY			SOUTH DRIVEWAY			120TH AVE NE			120TH AVE NE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:30 AM	1	0	1	0	0	0	1	24	0	0	16	0	43	
7:45 AM	0	0	0	0	0	0	0	38	0	0	34	0	72	
8:00 AM	0	0	0	0	0	0	5	26	0	0	6	0	37	
8:15 AM	0	0	2	0	0	0	3	53	0	0	24	2	84	236
8:30 AM	0	0	2	0	0	0	5	22	0	0	12	0	41	234
8:45 AM	0	0	0	0	0	0	2	8	0	0	3	0	13	175
9:00 AM	1	0	1	0	0	0	0	3	0	0	2	0	7	145
9:15 AM	4	0	5	0	0	0	1	2	0	0	22	0	34	95
Count Total	6	0	11	0	0	0	17	176	0	0	119	2	331	
Peak Hr	1	0	3	0	0	0	9	141	0	0	80	2	236	

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	29	0	0	29
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Count Total	0	0	0	0	0	0	0	0	0	0	0	40	0	0	40
Peak Hr	0	0	0	0	0	0	0	0	0	0	0	33	0	0	33

SimTraffic Performance Report  
Existing 2015 - Sunday AM Peak Hour

4/3/2015

1: 119TH AVE NE & NE 74TH ST Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.2	0.1
Total Del/Veh (s)	0.0	1.6	0.3	3.3	2.4

Queuing and Blocking Report  
Existing 2015 - Sunday AM Peak Hour

4/3/2015

Intersection: 1: 119TH AVE NE & NE 74TH ST

Movement	WB	NB
Directions Served	LT LR	
Maximum Queue (ft)	24	56
Average Queue (ft)	1	33
95th Queue (ft)	12	52
Link Distance (ft)	434	313
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

HCM 2010 TWSC  
2: 119TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
Existing - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	6.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	20	25	40	20	35	55
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	58	58	58	58	58	58
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	34	43	69	34	60	95

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	78	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.236	-
Pot Cap-1 Maneuver	-	-	1508	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1508	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	881	-	-	1508	-
HCM Lane V/C Ratio	0.176	-	-	0.046	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

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Synchro 9 Report

4/3/2015

HCM 2010 TWSC  
3: DRIVEWAY 1 & NE 75TH ST

10034.01 Kirkland Holy Family  
Existing - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	0.3					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	75	0	5	60	0	0
Conflicting Peds, #/hr	0	4	2	0	4	2
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	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	103	0	7	82	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	107	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1497	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1495	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1495	-
HCM Lane V/C Ratio	-	-	-	0.005	-
HCM Control Delay (s)	0	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

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Synchro 9 Report

4/3/2015

HCM 2010 TWSC  
4: 120TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
Existing - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	3.8					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	65	10	40	50	15	40
Conflicting Peds, #/hr	0	2	1	0	2	1
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	98	15	61	76	23	61

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	116	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1485	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1484	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	9.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	847	-	-	1484	-
HCM Lane V/C Ratio	0.098	-	-	0.041	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

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Synchro 9 Report

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HCM 2010 TWSC  
5: 120TH AVE NE & NE 73RD ST

10034.01 Kirkland Holy Family  
Existing - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	1.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	0	55	25	10	40
Conflicting Peds, #/hr	36	13	0	36	13	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	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	0	76	35	14	56

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	213	143	0
Stage 1	130	-	-
Stage 2	83	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	780	910	-
Stage 1	901	-	-
Stage 2	945	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	727	873	-
Mov Cap-2 Maneuver	727	-	-
Stage 1	874	-	-
Stage 2	907	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	727	1431
HCM Lane V/C Ratio	-	-	0.019	0.01
HCM Control Delay (s)	-	-	10	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

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HCM 2010 TWSC  
6: 120TH AVE NE & NORTH DRIVEWAY

10034.01 Kirkland Holy Family  
Existing - Sunday AM Peak Hour

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	10	30	80	70	30	20
Conflicting Peds, #/hr	193	201	201	0	0	193
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	70	70	70	70	70	70
Heavy Vehicles, %	3	3	0	0	0	0
Mvmt Flow	14	43	114	100	43	29

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	587	459	272
Stage 1	258	-	-
Stage 2	329	-	-
Critical Hdwy	6.43	6.23	4.1
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.2
Pot Cap-1 Maneuver	470	600	1303
Stage 1	783	-	-
Stage 2	727	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	290	416	1085
Mov Cap-2 Maneuver	290	-	-
Stage 1	652	-	-
Stage 2	538	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	4.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1085	-	375	-	-
HCM Lane V/C Ratio	0.105	-	0.152	-	-
HCM Control Delay (s)	8.7	0	16.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	0.5	-	-

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Synchro 9 Report

4/3/2015

HCM 2010 TWSC  
7: 120TH AVE NE & SOUTH DRIVEWAY

10034.01 Kirkland Holy Family  
Existing - Sunday AM Peak Hour

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	25	30	160	65	5
Conflicting Peds, #/hr	24	22	22	0	0	24
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	36	43	229	93	7

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	434	142	124
Stage 1	120	-	-
Stage 2	314	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	583	911	1475
Stage 1	910	-	-
Stage 2	745	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	541	876	1448
Mov Cap-2 Maneuver	541	-	-
Stage 1	892	-	-
Stage 2	705	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1448	-	794	-	-
HCM Lane V/C Ratio	0.03	-	0.054	-	-
HCM Control Delay (s)	7.6	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

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4/3/2015

HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
Existing - Sunday AM Peak Hour

Intersection												
Intersection Delay, s/veh	16.2											
Intersection LOS	C											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	125	255	5	0	5	335	65	0	5	0	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	0	0	0	0
Mvmt Flow	0	158	323	6	0	6	424	82	0	6	0	6
Number of Lanes	0	1	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	12.3	21.5	9.5
HCM LOS	B	C	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	28%
Vol Thru, %	0%	0%	98%	0%	84%	0%
Vol Right, %	50%	0%	2%	0%	16%	72%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	125	260	5	400	90
LT Vol	5	125	0	5	0	25
Through Vol	0	0	255	0	335	0
RT Vol	5	0	5	0	65	65
Lane Flow Rate	13	158	329	6	506	114
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.022	0.257	0.486	0.01	0.739	0.186
Departure Headway (Hd)	6.361	5.945	5.426	5.977	5.358	5.893
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	566	608	668	602	678	613
Service Time	4.367	3.645	3.126	3.677	3.058	3.893
HCM Lane V/C Ratio	0.023	0.26	0.493	0.01	0.746	0.186
HCM Control Delay	9.5	10.7	13.1	8.7	21.7	10.2
HCM Lane LOS	A	B	B	A	C	B
HCM 95th-tile Q	0.1	1	2.7	0	6.5	0.7

HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
Existing - Sunday AM Peak Hour

Intersection				
Intersection Delay, s/veh	16.2			
Intersection LOS	C			
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	25	0	65
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	32	0	82
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	10.2
HCM LOS	B

Lane

SimTraffic Performance Report

2024 Without Phase 2 - Sunday AM Peak Hour

4/3/2015

1: 119TH AVE NE & NE 74TH ST Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.2	0.1
Total Del/Veh (s)	0.1	1.7	0.3	3.4	2.5

Queuing and Blocking Report

2024 Without Phase 2 - Sunday AM Peak Hour

4/3/2015

Intersection: 1: 119TH AVE NE & NE 74TH ST

Movement	WB	NB
Directions Served	LT LR	
Maximum Queue (ft)	12	62
Average Queue (ft)	1	34
95th Queue (ft)	9	53
Link Distance (ft)	434	313
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

HCM 2010 TWSC  
2: 119TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
2024 Without Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	6.5					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	20	30	50	20	40	65
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	58	58	58	58	58	58
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	34	52	86	34	69	112

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	86	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.236	-
Pot Cap-1 Maneuver	-	-	1498	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1498	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	855	-	-	1498	-
HCM Lane V/C Ratio	0.212	-	-	0.058	-
HCM Control Delay (s)	10.3	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

C:\Users\stephanieg\Desktop\Synchro 9\10034.01\Sunday\_Baseline\_20150327.syn  
Synchro 9 Report

4/3/2015

HCM 2010 TWSC  
3: DRIVEWAY 1 & NE 75TH ST

10034.01 Kirkland Holy Family  
2024 Without Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	85	0	5	70	0	0
Conflicting Peds, #/hr	0	4	2	0	4	2
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	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	116	0	7	96	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	120	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1480	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1478	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1478	-
HCM Lane V/C Ratio	-	-	-	0.005	-
HCM Control Delay (s)	0	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

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Synchro 9 Report

4/3/2015

HCM 2010 TWSC  
4: 120TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
2024 Without Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	4.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	75	10	50	55	20	50
Conflicting Peds, #/hr	0	2	1	0	2	1
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	114	15	76	83	30	76

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	131	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1467	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1466	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	807	-	-	1466	-
HCM Lane V/C Ratio	0.131	-	-	0.052	-
HCM Control Delay (s)	10.1	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

HCM 2010 TWSC  
5: 120TH AVE NE & NE 73RD ST

10034.01 Kirkland Holy Family  
2024 Without Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	1.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	0	70	30	10	50
Conflicting Peds, #/hr	36	13	0	36	13	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	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	0	97	42	14	69

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	251	167	0
Stage 1	154	-	-
Stage 2	97	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	742	882	-
Stage 1	879	-	-
Stage 2	932	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	691	846	-
Mov Cap-2 Maneuver	691	-	-
Stage 1	853	-	-
Stage 2	895	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	691	1399
HCM Lane V/C Ratio	-	-	0.02	0.01
HCM Control Delay (s)	-	-	10.3	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 2010 TWSC  
6: 120TH AVE NE & NORTH DRIVEWAY

10034.01 Kirkland Holy Family  
2024 Without Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	5.5					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	10	35	95	90	45	25
Conflicting Peds, #/hr	193	201	201	0	0	193
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	70	70	70	70	70	70
Heavy Vehicles, %	3	3	0	0	0	0
Mvmt Flow	14	50	136	129	64	36

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	683	484	301
Stage 1	283	-	-
Stage 2	400	-	-
Critical Hdwy	6.43	6.23	4.1
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.2
Pot Cap-1 Maneuver	413	581	1272
Stage 1	763	-	-
Stage 2	675	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	247	403	1059
Mov Cap-2 Maneuver	247	-	-
Stage 1	635	-	-
Stage 2	484	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	4.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1059	-	353	-	-
HCM Lane V/C Ratio	0.128	-	0.182	-	-
HCM Control Delay (s)	8.9	0	17.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	0.7	-	-

HCM 2010 TWSC  
7: 120TH AVE NE & SOUTH DRIVEWAY

10034.01 Kirkland Holy Family  
2024 Without Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	1.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	30	35	195	80	5
Conflicting Peds, #/hr	24	22	22	0	0	24
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	43	50	279	114	7

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	521	164	145
Stage 1	142	-	-
Stage 2	379	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	519	886	1450
Stage 1	890	-	-
Stage 2	696	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	478	852	1423
Mov Cap-2 Maneuver	478	-	-
Stage 1	872	-	-
Stage 2	653	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1423	-	766	-	-
HCM Lane V/C Ratio	0.035	-	0.065	-	-
HCM Control Delay (s)	7.6	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
2024 Without Phase 2 - Sunday AM Peak Hour

Intersection												
Intersection Delay, s/veh	29.5											
Intersection LOS	D											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	150	305	5	0	5	400	80	0	5	0	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	0	0	0	0
Mvmt Flow	0	190	386	6	0	6	506	101	0	6	0	6
Number of Lanes	0	1	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	15.6	47.2	10.2
HCM LOS	C	E	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	27%
Vol Thru, %	0%	0%	98%	0%	83%	0%
Vol Right, %	50%	0%	2%	0%	17%	73%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	150	310	5	480	110
LT Vol	5	150	0	5	0	30
Through Vol	0	0	305	0	400	0
RT Vol	5	0	5	0	80	80
Lane Flow Rate	13	190	392	6	608	139
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.025	0.328	0.621	0.011	0.95	0.245
Departure Headway (Hd)	6.98	6.218	5.7	6.25	5.626	6.334
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	510	577	632	573	644	565
Service Time	5.062	3.958	3.44	3.988	3.364	4.392
HCM Lane V/C Ratio	0.025	0.329	0.62	0.01	0.944	0.246
HCM Control Delay	10.2	12	17.4	9.1	47.6	11.5
HCM Lane LOS	B	B	C	A	E	B
HCM 95th-tile Q	0.1	1.4	4.3	0	13.2	1

HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
2024 Without Phase 2 - Sunday AM Peak Hour

Intersection				
Intersection Delay, s/veh	29.5			
Intersection LOS	D			
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	30	0	80
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	38	0	101
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	11.5
HCM LOS	B

Lane

SimTraffic Performance Report  
2024 With Phase 2 - Sunday AM Peak Hour

4/3/2015

1: 119TH AVE NE & NE 74TH ST Performance by movement

Movement	EBL	WBR	NBT	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.0	2.5	5.3	0.1	0.1	0.1	2.6

Queuing and Blocking Report  
2024 With Phase 2 - Sunday AM Peak Hour

4/3/2015

Intersection: 1: 119TH AVE NE & NE 74TH ST

Movement	WB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	28	56
Average Queue (ft)	6	33
95th Queue (ft)	24	51
Link Distance (ft)	144	307
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

HCM 2010 TWSC  
2: 119TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	7.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	20	40	75	20	49	80
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	58	58	58	58	58	58
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	34	69	129	34	84	138

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	103	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.236	-
Pot Cap-1 Maneuver	-	-	1476	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1476	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.1	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	787	-	-	1476	-
HCM Lane V/C Ratio	0.283	-	-	0.088	-
HCM Control Delay (s)	11.4	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.3	-

HCM 2010 TWSC  
3: DRIVEWAY 1 & NE 75TH ST

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	100	0	6	95	0	1
Conflicting Peds, #/hr	0	4	2	0	4	2
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	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	137	0	8	130	0	1

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	141	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1455	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1453	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	905	-	-	1453	-
HCM Lane V/C Ratio	0.002	-	-	0.006	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 2010 TWSC  
4: 120TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	4.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	89	12	50	68	33	55
Conflicting Peds, #/hr	0	2	1	0	2	1
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	135	18	76	103	50	83

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	155	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1438	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1437	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	743	-	-	1437	-
HCM Lane V/C Ratio	0.179	-	-	0.053	-
HCM Control Delay (s)	10.9	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.2	-

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HCM 2010 TWSC  
5: 120TH AVE NE & NE 73RD ST

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	1.4					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	8	80	35	12	50
Conflicting Peds, #/hr	36	13	0	36	13	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	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	11	111	49	17	69

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	274	184	0
Stage 1	171	-	-
Stage 2	103	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	720	864	-
Stage 1	864	-	-
Stage 2	926	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	669	829	-
Mov Cap-2 Maneuver	669	-	-
Stage 1	838	-	-
Stage 2	887	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	732	1374
HCM Lane V/C Ratio	-	-	0.034	0.012
HCM Control Delay (s)	-	-	10.1	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

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HCM 2010 TWSC  
6: 120TH AVE NE & NORTH DRIVEWAY

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	6.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	13	43	111	102	35	25
Conflicting Peds, #/hr	193	201	201	0	0	193
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	70	70	70	70	70	70
Heavy Vehicles, %	3	3	0	0	0	0
Mvmt Flow	19	61	159	146	50	36

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	732	470	287
Stage 1	269	-	-
Stage 2	463	-	-
Critical Hdwy	6.43	6.23	4.1
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.2
Pot Cap-1 Maneuver	387	591	1287
Stage 1	774	-	-
Stage 2	632	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	225	410	1071
Mov Cap-2 Maneuver	225	-	-
Stage 1	644	-	-
Stage 2	441	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.6	4.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1071	- 344	-	-
HCM Lane V/C Ratio	0.148	- 0.233	-	-
HCM Control Delay (s)	8.9	0 18.6	-	-
HCM Lane LOS	A	A C	-	-
HCM 95th %tile Q(veh)	0.5	- 0.9	-	-

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HCM 2010 TWSC  
7: 120TH AVE NE & SOUTH DRIVEWAY

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	2.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	7	37	48	221	88	5
Conflicting Peds, #/hr	24	22	22	0	0	24
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	53	69	316	126	7

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	606	175	157
Stage 1	153	-	-
Stage 2	453	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	463	874	1435
Stage 1	880	-	-
Stage 2	645	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	418	841	1409
Mov Cap-2 Maneuver	418	-	-
Stage 1	862	-	-
Stage 2	595	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1409	- 724	-	-
HCM Lane V/C Ratio	0.049	- 0.087	-	-
HCM Control Delay (s)	7.7	0 10.4	-	-
HCM Lane LOS	A	A B	-	-
HCM 95th %tile Q(veh)	0.2	- 0.3	-	-

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HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection												
Intersection Delay, s/veh	34.6											
Intersection LOS	D											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	176	305	5	0	5	400	93	0	5	0	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	0	0	0	0
Mvmt Flow	0	223	386	6	0	6	506	118	0	6	0	6
Number of Lanes	0	1	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	16.4	58.6	10.5
HCM LOS	C	F	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	27%
Vol Thru, %	0%	0%	98%	0%	81%	0%
Vol Right, %	50%	0%	2%	0%	19%	73%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	176	310	5	493	125
LT Vol	5	176	0	5	0	34
Through Vol	0	0	305	0	400	0
RT Vol	5	0	5	0	93	91
Lane Flow Rate	13	223	392	6	624	158
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.025	0.393	0.635	0.011	0.998	0.283
Departure Headway (Hd)	7.191	6.348	5.829	6.396	5.756	6.44
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	566	620	559	630	555
Service Time	5.289	4.097	3.578	4.144	3.504	4.506
HCM Lane V/C Ratio	0.026	0.394	0.632	0.011	0.99	0.285
HCM Control Delay	10.5	13.2	18.2	9.2	59.1	12.1
HCM Lane LOS	B	B	C	A	F	B
HCM 95th-tile Q	0.1	1.9	4.5	0	15.2	1.2

HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection				
Intersection Delay, s/veh	34.6			
Intersection LOS	D			
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	34	0	91
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	43	0	115
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	12.1
HCM LOS	B

Lane

HCM 2010 TWSC  
9: 119TH AVE NE

10034.01 Kirkland Holy Family  
2024 With Phase 2 - Sunday AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	1	128	0	2	113
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	0	1	139	0	2	123

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	266	139	0
Stage 1	139	-	-
Stage 2	127	-	-
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	723	909	1445
Stage 1	888	-	-
Stage 2	899	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	722	909	1445
Mov Cap-2 Maneuver	722	-	-
Stage 1	888	-	-
Stage 2	898	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	909	1445	-
HCM Lane V/C Ratio	-	-	0.001	0.002	-
HCM Control Delay (s)	-	-	9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

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HCM 2010 TWSC  
1: 119TH AVE NE & NE 74TH ST

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	9.5					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	10	0	10	5	5	120
Conflicting Peds, #/hr	0	1	0	0	1	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	31	31	31	31	31	31
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	32	0	32	16	16	387

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	114
Stage 1	-	-	33
Stage 2	-	-	81
Critical Hdwy	-	4.1	6.41
Critical Hdwy Stg 1	-	-	5.41
Critical Hdwy Stg 2	-	-	5.41
Follow-up Hdwy	-	2.2	3.509
Pot Cap-1 Maneuver	-	1592	885
Stage 1	-	-	992
Stage 2	-	-	945
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1583	862
Mov Cap-2 Maneuver	-	-	862
Stage 1	-	-	991
Stage 2	-	-	921

Approach	EB	WB	NB
HCM Control Delay, s	0	4.9	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1019	-	-	1583	-
HCM Lane V/C Ratio	0.396	-	-	0.02	-
HCM Control Delay (s)	10.8	-	-	7.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

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HCM 2010 TWSC  
2: 119TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	5.6					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	100	5	10	50	45	85
Conflicting Peds, #/hr	0	0	6	0	0	6
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	52	52	52	52	52	52
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	192	10	19	96	87	163

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	208	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1375	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1368	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	756	-	-	1368	-
HCM Lane V/C Ratio	0.331	-	-	0.014	-
HCM Control Delay (s)	12.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0	-

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HCM 2010 TWSC  
3: DRIVEWAY 1 & NE 75TH ST

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	180	5	5	60	0	5
Conflicting Peds, #/hr	0	27	8	0	27	8
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	273	8	8	91	0	8

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	307	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1254	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1246	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	712	-	-	1246	-
HCM Lane V/C Ratio	0.011	-	-	0.006	-
HCM Control Delay (s)	10.1	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

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HCM 2010 TWSC  
4: 120TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	4.5					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	140	45	110	35	30	30
Conflicting Peds, #/hr	0	27	8	0	27	8
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	68	68	68	68	68	68
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	206	66	162	51	44	44

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	299	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1274	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1266	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.3	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	489	-	-	1266	-
HCM Lane V/C Ratio	0.18	-	-	0.128	-
HCM Control Delay (s)	14	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.4	-

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HCM 2010 TWSC  
5: 120TH AVE NE & NE 73RD ST

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	1.9					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	30	5	55	10	10	145
Conflicting Peds, #/hr	22	11	0	22	11	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	61	61	61	61	61	61
Heavy Vehicles, %	0	0	7	7	1	1
Mvmt Flow	49	8	90	16	16	238

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	390	131	0
Stage 1	120	-	-
Stage 2	270	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	618	924	-
Stage 1	910	-	-
Stage 2	780	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	588	899	-
Mov Cap-2 Maneuver	588	-	-
Stage 1	893	-	-
Stage 2	756	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	619	1450
HCM Lane V/C Ratio	-	-	0.093	0.011
HCM Control Delay (s)	-	-	11.4	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

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HCM 2010 TWSC  
6: 120TH AVE NE & NORTH DRIVEWAY

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	5	75	60	80	95
Conflicting Peds, #/hr	65	47	47	0	0	65
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	51	51	51	51	51	51
Heavy Vehicles, %	20	20	0	0	0	0
Mvmt Flow	10	10	147	118	157	186
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	727	362	408	0	0	
Stage 1	315	-	-	-	-	
Stage 2	412	-	-	-	-	
Critical Hdwy	6.6	6.4	4.1	-	-	
Critical Hdwy Stg 1	5.6	-	-	-	-	
Critical Hdwy Stg 2	5.6	-	-	-	-	
Follow-up Hdwy	3.68	3.48	2.2	-	-	
Pot Cap-1 Maneuver	366	644	1162	-	-	
Stage 1	701	-	-	-	-	
Stage 2	631	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	281	585	1116	-	-	
Mov Cap-2 Maneuver	281	-	-	-	-	
Stage 1	663	-	-	-	-	
Stage 2	513	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s	15	4.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR		
Capacity (veh/h)	1116	-	380	-	-	
HCM Lane V/C Ratio	0.132	-	0.052	-	-	
HCM Control Delay (s)	8.7	0	15	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.5	-	0.2	-	-	

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HCM 2010 TWSC  
7: 120TH AVE NE & SOUTH DRIVEWAY

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	5	10	140	85	5
Conflicting Peds, #/hr	33	33	33	0	0	33
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	7	14	200	121	7
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	387	191	162	0	0	
Stage 1	158	-	-	-	-	
Stage 2	229	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	620	856	1429	-	-	
Stage 1	875	-	-	-	-	
Stage 2	814	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	580	810	1390	-	-	
Mov Cap-2 Maneuver	580	-	-	-	-	
Stage 1	851	-	-	-	-	
Stage 2	783	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s	10.4	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR		
Capacity (veh/h)	1390	-	676	-	-	
HCM Lane V/C Ratio	0.01	-	0.021	-	-	
HCM Control Delay (s)	7.6	0	10.4	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

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HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection												
Intersection Delay, s/veh	39.4											
Intersection LOS	E											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	65	360	5	0	5	650	80	0	5	0	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	2	2	2	2	0	0	0	0
Mvmt Flow	0	73	404	6	0	6	730	90	0	6	0	6
Number of Lanes	0	1	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	16	57	9.9
HCM LOS	C	F	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	33%
Vol Thru, %	0%	0%	99%	0%	89%	0%
Vol Right, %	50%	0%	1%	0%	11%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	65	365	5	730	90
LT Vol	5	65	0	5	0	30
Through Vol	0	0	360	0	650	0
RT Vol	5	0	5	0	80	60
Lane Flow Rate	11	73	410	6	820	101
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.021	0.122	0.626	0.009	1	0.176
Departure Headway (Hd)	6.678	6.003	5.494	5.872	5.291	6.269
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	532	595	656	604	681	571
Service Time	4.768	3.761	3.252	3.656	3.074	4.318
HCM Lane V/C Ratio	0.021	0.123	0.625	0.01	1.204	0.177
HCM Control Delay	9.9	9.6	17.1	8.7	57.3	10.7
HCM Lane LOS	A	A	C	A	F	B
HCM 95th-tile Q	0.1	0.4	4.4	0	15.8	0.6

HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
Existing 2015 - Weekday AM Peak Hour

Intersection				
Intersection Delay, s/veh	39.4			
Intersection LOS	E			
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	30	0	60
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	34	0	67
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	10.7
HCM LOS	B

Lane

HCM 2010 TWSC  
1: 119TH AVE NE & NE 74TH ST

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	10.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	10	0	10	5	5	145
Conflicting Peds, #/hr	0	1	0	0	1	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	31	31	31	31	31	31
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	32	0	32	16	16	468
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	33	0	114	40
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	-	-	4.1	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1592	-	885	1034
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1583	-	862	1027
Mov Cap-2 Maneuver	-	-	-	-	862	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	921	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		4.9		11.7	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1020	-	-	1583	-	
HCM Lane V/C Ratio	0.474	-	-	0.02	-	
HCM Control Delay (s)	11.7	-	-	7.3	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	2.6	-	-	0.1	-	

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HCM 2010 TWSC  
2: 119TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	6.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	125	5	10	65	55	100
Conflicting Peds, #/hr	0	0	6	0	0	6
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	52	52	52	52	52	52
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	240	10	19	125	106	192
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	256	0	414	257
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	163	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1321	-	599	787
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1314	-	586	779
Mov Cap-2 Maneuver	-	-	-	-	586	-
Stage 1	-	-	-	-	791	-
Stage 2	-	-	-	-	857	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1		14	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	697	-	-	1314	-	
HCM Lane V/C Ratio	0.428	-	-	0.015	-	
HCM Control Delay (s)	14	-	-	7.8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	2.1	-	-	0	-	

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HCM 2010 TWSC  
3: DRIVEWAY 1 & NE 75TH ST

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.3					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	220	5	5	75	0	5
Conflicting Peds, #/hr	0	27	8	0	27	8
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	333	8	8	114	0	8

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	368	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1191	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1183	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	658	-	-	1183	-
HCM Lane V/C Ratio	0.012	-	-	0.006	-
HCM Control Delay (s)	10.5	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

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HCM 2010 TWSC  
4: 120TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	4.8					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	170	55	130	45	35	35
Conflicting Peds, #/hr	0	27	8	0	27	8
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	68	68	68	68	68	68
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	250	81	191	66	51	51

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	358	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1212	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1204	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	16.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	415	-	-	1204	-
HCM Lane V/C Ratio	0.248	-	-	0.159	-
HCM Control Delay (s)	16.5	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.6	-

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HCM 2010 TWSC  
5: 120TH AVE NE & NE 73RD ST

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	1.9					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	35	5	65	10	10	175
Conflicting Peds, #/hr	22	11	0	22	11	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	61	61	61	61	61	61
Heavy Vehicles, %	0	0	7	7	1	1
Mvmt Flow	57	8	107	16	16	287

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	457	148	0
Stage 1	137	-	-
Stage 2	320	-	-
Critical Hdwy	6.4	6.2	4.11
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.209
Pot Cap-1 Maneuver	565	904	1443
Stage 1	895	-	-
Stage 2	741	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	537	879	1430
Mov Cap-2 Maneuver	537	-	-
Stage 1	879	-	-
Stage 2	718	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	564	1430	-
HCM Lane V/C Ratio	-	-	0.116	0.011	-
HCM Control Delay (s)	-	-	12.2	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

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HCM 2010 TWSC  
6: 120TH AVE NE & NORTH DRIVEWAY

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	2.6					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	5	90	70	95	115
Conflicting Peds, #/hr	65	47	47	0	0	65
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	51	51	51	51	51	51
Heavy Vehicles, %	20	20	0	0	0	0
Mvmt Flow	10	10	176	137	186	225

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	854	411	477
Stage 1	364	-	-
Stage 2	490	-	-
Critical Hdwy	6.6	6.4	4.1
Critical Hdwy Stg 1	5.6	-	-
Critical Hdwy Stg 2	5.6	-	-
Follow-up Hdwy	3.68	3.48	2.2
Pot Cap-1 Maneuver	306	604	1096
Stage 1	665	-	-
Stage 2	580	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	224	549	1053
Mov Cap-2 Maneuver	224	-	-
Stage 1	629	-	-
Stage 2	449	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	5.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1053	-	318	-	-
HCM Lane V/C Ratio	0.168	-	0.062	-	-
HCM Control Delay (s)	9.1	0	17.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	0.2	-	-

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HCM 2010 TWSC  
7: 120TH AVE NE & SOUTH DRIVEWAY

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	5	10	155	95	5
Conflicting Peds, #/hr	33	33	33	0	0	33
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	7	14	221	136	7
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	422	205	176	0	0	
Stage 1	172	-	-	-	-	
Stage 2	250	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	592	841	1412	-	-	
Stage 1	863	-	-	-	-	
Stage 2	796	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	553	795	1373	-	-	
Mov Cap-2 Maneuver	553	-	-	-	-	
Stage 1	839	-	-	-	-	
Stage 2	765	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s	10.6	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1373	-	652	-	-	
HCM Lane V/C Ratio	0.01	-	0.022	-	-	
HCM Control Delay (s)	7.7	0	10.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

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HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection													
Intersection Delay, s/veh	42												
Intersection LOS	E												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	
Vol, veh/h	0	75	430	5	0	5	775	90	0	5	0	5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles, %	3	3	3	3	2	2	2	2	0	0	0	0	
Mvmt Flow	0	84	483	6	0	6	871	101	0	6	0	6	
Number of Lanes	0	1	1	0	0	1	1	0	0	0	1	0	
Approach	EB			WB			NB						
Opposing Approach	WB			EB			SB						
Opposing Lanes	2			2			1						
Conflicting Approach Left	SB			NB			EB						
Conflicting Lanes Left	1			1			2						
Conflicting Approach Right	NB			SB			WB						
Conflicting Lanes Right	1			1			2						
HCM Control Delay	21.6			57.9			10.2						
HCM LOS	C			F			B						
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1							
Vol Left, %	50%	100%	0%	100%	0%	35%							
Vol Thru, %	0%	0%	99%	0%	90%	0%							
Vol Right, %	50%	0%	1%	0%	10%	65%							
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop							
Traffic Vol by Lane	10	75	435	5	865	100							
LT Vol	5	75	0	5	0	35							
Through Vol	0	0	430	0	775	0							
RT Vol	5	0	5	0	90	65							
Lane Flow Rate	11	84	489	6	972	112							
Geometry Grp	2	7	7	7	7	2							
Degree of Util (X)	0.022	0.142	0.756	0.009	1	0.201							
Departure Headway (Hd)	6.912	6.079	5.572	6.052	5.473	6.431							
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes							
Cap	514	589	650	587	661	557							
Service Time	4.999	3.829	3.321	3.832	3.253	4.481							
HCM Lane V/C Ratio	0.021	0.143	0.752	0.01	1.47	0.201							
HCM Control Delay	10.2	9.8	23.6	8.9	58.2	11.1							
HCM Lane LOS	B	A	C	A	F	B							
HCM 95th-tile Q	0.1	0.5	6.9	0	15.6	0.7							

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Synchro 9 Report

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HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
Without-Project 2024 - Weekday AM Peak Hour

Intersection				
Intersection Delay, s/veh				
Intersection LOS				
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	35	0	65
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	39	0	73
Number of Lanes	0	0	1	0
Approach				
Approach				
SB				
Opposing Approach				
NB				
Opposing Lanes				
1				
Conflicting Approach Left				
WB				
Conflicting Lanes Left				
2				
Conflicting Approach Right				
EB				
Conflicting Lanes Right				
2				
HCM Control Delay				
11.1				
HCM LOS				
B				
Lane				

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HCM 2010 TWSC  
1: 119TH AVE NE & NE 74TH ST

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh						
10.5						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	10	0	10	5	5	146
Conflicting Peds, #/hr	0	1	0	0	1	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	31	31	31	31	31	31
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	32	0	32	16	16	471
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	33	0	114	40
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	-	-	4.1	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1592	-	885	1034
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1583	-	862	1027
Mov Cap-2 Maneuver	-	-	-	-	862	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	921	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		4.9		11.7	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1021	-	-	1583	-	
HCM Lane V/C Ratio	0.477	-	-	0.02	-	
HCM Control Delay (s)	11.7	-	-	7.3	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	2.6	-	-	0.1	-	

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HCM 2010 TWSC  
2: 119TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	6.3					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	123	8	11	65	55	102
Conflicting Peds, #/hr	0	0	6	0	0	6
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	52	52	52	52	52	52
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	237	15	21	125	106	196

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	258	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1318	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1311	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	697	-	-	1311	-
HCM Lane V/C Ratio	0.433	-	-	0.016	-
HCM Control Delay (s)	14.1	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	2.2	-	-	0	-

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HCM 2010 TWSC  
3: DRIVEWAY 1 & NE 75TH ST

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	223	2	4	76	0	4
Conflicting Peds, #/hr	0	27	8	0	27	8
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	338	3	6	115	0	6

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	368	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1191	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1183	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	657	-	-	1183	-
HCM Lane V/C Ratio	0.009	-	-	0.005	-
HCM Control Delay (s)	10.5	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

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HCM 2010 TWSC  
4: 120TH AVE NE & NE 75TH ST

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	4.8					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	171	56	130	45	35	35
Conflicting Peds, #/hr	0	27	8	0	27	8
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	68	68	68	68	68	68
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	251	82	191	66	51	51

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	361	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1209	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1201	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	413	-	-	1201	-
HCM Lane V/C Ratio	0.249	-	-	0.159	-
HCM Control Delay (s)	16.6	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.6	-

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HCM 2010 TWSC  
5: 120TH AVE NE & NE 73RD ST

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	1.9					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	35	5	65	10	10	176
Conflicting Peds, #/hr	22	11	0	22	11	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	61	61	61	61	61	61
Heavy Vehicles, %	0	0	7	7	1	1
Mvmt Flow	57	8	107	16	16	289

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	458	148	0
Stage 1	137	-	-
Stage 2	321	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	565	904	-
Stage 1	895	-	-
Stage 2	740	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	537	879	-
Mov Cap-2 Maneuver	537	-	-
Stage 1	879	-	-
Stage 2	717	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	564	1430
HCM Lane V/C Ratio	-	-	0.116	0.011
HCM Control Delay (s)	-	-	12.2	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0

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HCM 2010 TWSC  
6: 120TH AVE NE & NORTH DRIVEWAY

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	5	90	70	95	116
Conflicting Peds, #/hr	65	47	47	0	0	65
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	51	51	51	51	51	51
Heavy Vehicles, %	20	20	0	0	0	0
Mvmt Flow	10	10	176	137	186	227
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	855	412	479	0	0	
Stage 1	365	-	-	-	-	
Stage 2	490	-	-	-	-	
Critical Hdwy	6.6	6.4	4.1	-	-	
Critical Hdwy Stg 1	5.6	-	-	-	-	
Critical Hdwy Stg 2	5.6	-	-	-	-	
Follow-up Hdwy	3.68	3.48	2.2	-	-	
Pot Cap-1 Maneuver	306	603	1094	-	-	
Stage 1	664	-	-	-	-	
Stage 2	580	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	224	548	1051	-	-	
Mov Cap-2 Maneuver	224	-	-	-	-	
Stage 1	628	-	-	-	-	
Stage 2	449	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s	17.1	5.1		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR		
Capacity (veh/h)	1051	-	318	-	-	
HCM Lane V/C Ratio	0.168	-	0.062	-	-	
HCM Control Delay (s)	9.1	0	17.1	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.6	-	0.2	-	-	

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HCM 2010 TWSC  
7: 120TH AVE NE & SOUTH DRIVEWAY

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	5	10	155	95	5
Conflicting Peds, #/hr	33	33	33	0	0	33
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	7	14	221	136	7
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	422	205	176	0	0	
Stage 1	172	-	-	-	-	
Stage 2	250	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	592	841	1412	-	-	
Stage 1	863	-	-	-	-	
Stage 2	796	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	553	795	1373	-	-	
Mov Cap-2 Maneuver	553	-	-	-	-	
Stage 1	839	-	-	-	-	
Stage 2	765	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s	10.6	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR		
Capacity (veh/h)	1373	-	652	-	-	
HCM Lane V/C Ratio	0.01	-	0.022	-	-	
HCM Control Delay (s)	7.7	0	10.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

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HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection												
Intersection Delay, s/veh	42											
Intersection LOS	E											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	75	430	5	0	5	775	90	0	5	0	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	2	2	2	2	0	0	0	0
Mvmt Flow	0	84	483	6	0	6	871	101	0	6	0	6
Number of Lanes	0	1	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	21.6	57.9	10.2
HCM LOS	C	F	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	35%
Vol Thru, %	0%	0%	99%	0%	90%	0%
Vol Right, %	50%	0%	1%	0%	10%	65%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	75	435	5	865	100
LT Vol	5	75	0	5	0	35
Through Vol	0	0	430	0	775	0
RT Vol	5	0	5	0	90	65
Lane Flow Rate	11	84	489	6	972	112
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.022	0.142	0.756	0.009	1	0.201
Departure Headway (Hd)	6.912	6.079	5.572	6.052	5.473	6.431
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	589	650	587	661	557
Service Time	4.999	3.829	3.321	3.832	3.253	4.481
HCM Lane V/C Ratio	0.021	0.143	0.752	0.01	1.47	0.201
HCM Control Delay	10.2	9.8	23.6	8.9	58.2	11.1
HCM Lane LOS	B	A	C	A	F	B
HCM 95th-tile Q	0.1	0.5	6.9	0	15.6	0.7

HCM 2010 AWSC  
8: 120TH AVE NE & NE 70TH ST

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection				
Intersection Delay, s/veh	42			
Intersection LOS	E			
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	35	0	65
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	39	0	73
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	11.1
HCM LOS	B

Lane

HCM 2010 TWSC  
9: 119TH AVE NE

10034.01 Kirkland Holy Family  
Future With-Project 2024 - Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	1	156	0	4	15
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	0	1	170	0	4	16

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	195	170	0
Stage 1	170	-	-
Stage 2	25	-	-
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	794	874	1407
Stage 1	860	-	-
Stage 2	998	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	792	874	1407
Mov Cap-2 Maneuver	792	-	-
Stage 1	860	-	-
Stage 2	995	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	874	1407	-
HCM Lane V/C Ratio	-	0.001	0.003	-
HCM Control Delay (s)	-	9.1	7.6	0
HCM Lane LOS	-	A	A	A
HCM 95th %tile Q(veh)	-	0	0	-

**Attachment E: Summary of Parking Counts**

**Weekday Parking Count (9/16/2014)**

Location	Existing Supply	Time	
		10:00	11:00
<b>On-Site</b>		<b>68</b>	<b>59</b>
<b>On-Street</b>			
NE 74th Street	20	9	9
119th Avenue NE	9	1	1
120th Avenue (NE 70th to 75th Street)	56	23	20
NE 73rd Street (120th to 122nd Avenue NE)	3	1	1
<b>On-Street Subtotal</b>		<b>34</b>	<b>31</b>
<b>Total</b>		<b>102</b>	<b>90</b>

Existing Peak Parking Demand Rate (per seat w/  
586 seats) All Vehicles: **0.17**  
Existing Peak Parking Demand Rate (per seat  
w/586 seats) On-Site Vehicles: **0.12**

**Sunday Parking Counts (10/26/2014)**

Location	Existing Supply	Time				
		9:30	10:00	10:30	11:00	11:30
<b>On-Site</b>		<b>172</b>	<b>53</b>	<b>63</b>	<b>147</b>	<b>188</b>
<b>On-Street</b>						
NE 74th Street	20	8	7	8	9	9
119th Avenue NE	9	4	4	4	4	3
120th Avenue (NE 70th to 75th Street)	56	44	21	23	59	58
NE 73rd Street (120th to 122nd Avenue NE)	3	3	1	0	3	3
<b>On-Street Subtotal</b>	<b>88</b>	<b>59</b>	<b>33</b>	<b>35</b>	<b>75</b>	<b>73</b>
<b>Total</b>		<b>231</b>	<b>86</b>	<b>98</b>	<b>222</b>	<b>261</b>

Existing Peak Parking Demand Rate (per seat w/  
586 seats) All Vehicles: **0.45**  
Existing Peak Parking Demand Rate (per seat  
w/586 seats) On-Site Vehicles: **0.32**

*Notes: On-street parking supply is estimated based on standard vehicle size.  
Smaller vehicles or parking closer than typical may result in more vehicles parked along a block.*

Summary of Data Collection						
Existing Parking Demand (vehicles)			Existing Parking Spaces <sup>2</sup>	Difference (Spaces - Demand)	Proposed Spaces	Difference (Spaces - Demand)
On-Street <sup>1</sup>	Off-Street	Total				
73	188	261	229	-32	276	15

Notes:

1. This could include vehicles not related to the church; however, approximately 80% were parked along 120th Ave SE so it is likely a majority were associated with the church.
2. This includes the existing gravel lot and the small maintenance parking area off of 119th.

**Conclusions:**

- Additional parking is needed to accommodate existing demand and no additional expansion could occur.
- Any expansion should need to accommodate existing demand and 0.7 spaces per seat.

*Assuming no use of on-street parking, which has historically been the City's policy the following provides a calculation of parking needs.*

Calculation of Parking Needs Based on Data Collection					
	Seats	Parking Rate (spaces per seat)	Demand	Proposed Spaces	Additional Needed Spaces
<b>Existing</b>	586	0.45	264	276	-12
<b>Proposed</b>	758	0.45	341	276	65

Calculation of Parking Needs Based on Data Collection					
	Seats	Parking Rate (spaces per seat)	Demand	Proposed Spaces	Additional Needed Spaces
<b>Existing</b>	586	0.32	188	276	-88
<b>Proposed</b>	758	0.32	243	276	-33



## FINAL MEMORANDUM

<b>Date:</b>	December 21, 2015	<b>TG:</b>	10034.01
<b>To:</b>	Thang Nguyen – City of Kirkland		
<b>From:</b>	Stefanie Herzstein, PE, PTOE		
<b>Subject:</b>	Holy Family Parish Master Plan – Addendum to Parking Analysis – Final Update		

This memorandum provides an addendum to the April 2015 *Holy Family Parish Master Plan – Traffic and Parking Study Update* and provides additional documentation related to parking demand for the proposed expansion.

### Project Description

The April 2015 study outlined a total of 276 parking spaces for the site. Additional review of the site and on-street parking shows potential 252 on-site parking stalls (i.e., 204 general spaces and 48 spaces in new overflow parking). There is also an existing gravel lot located along 120th Avenue NE south of the Parish Center that provides approximately 30 additional spaces. In addition, there is on-street parking adjacent to the site along 120th Avenue NE project frontage and the project will also provide frontage improvements along 119th Avenue NE and NE 75th Street, which would result in 43 parking spaces on-street. This results in a total parking supply of 325 parking spaces including both on-site and on-street parking.

This expansion is being proposed to accommodate higher attendance levels and allow for the number of services per day to be reduced. There are currently three Sunday morning masses – 7:30 a.m., 9 a.m., and 11 a.m. the expansion would provide additional seating allowing for two masses.

### Parking

The following provides additional information related to the parking code requirements and parking demand for the proposed church expansion.

#### Code Requirement

Parking code was previously reviewed as part of the April 2015 study. Kirkland Zoning Code, Section 17.10.020 (2014) requires 0.25 parking spaces per seat for be provided on-site for the proposed church use. Table 1 provides a comparison of the parking required by the City’s Code and the proposed parking supply. The existing and proposed parking supply includes the parking spaces in the church owned gravel lot across 120th Avenue NE.

**Table 1. Comparison of Required Parking and Proposed Supply**

	Capacity	Code Parking Rate <sup>1</sup>	Required Parking Supply	Supply <sup>2</sup>	Proposed Parking Rate	Code Requirements Met?
Existing	586 seats	0.25 per seat	147 spaces	229 spaces	0.39 spaces per seat	Yes
Proposed	758 seats		190 spaces	282 spaces	0.37 spaces per seat	Yes

1. Kirkland Zoning Code, Section 17.10.020 (2014),  
 2. This includes the existing church owned gravel lot.

As shown in Table 1, the existing and proposed parking supplies meet the City’s parking requirements.

**Demand**

As described in the April 2015 study, a parking utilization study was conducted to determine the actual parking demand for the existing use for weekdays and Sundays. The parking utilization study counted on-site (including the gravel lot) as well as conservatively including all on-street parking in close proximity to the Church. Based on the data collection and observations, it was determined that the peak parking demand for the church occurs during Sunday mass as expected. The April 2015 study calculated a peak parking demand of 261 vehicles; however, the City and Transpo conducted additional review and determined that the estimate is conservative and on-street parking along NE 73rd and NE 74th Streets is not likely associated with church attendees since the same number of vehicles parked along those streets before and after church operations. Table 2 provides a summary of the parking utilization study excluding these two streets.

**Table 2. Sunday Parking Utilization Study<sup>1</sup>**

Location	Existing Supply	Vehicles Parked by Time				
		9:30	10:00	10:30	11:00	11:30
<b><u>Parking Lots</u></b>						
On-Site	199 spaces	153	49	62	135	174
Gravel Lot	<u>30 spaces</u>	<u>19</u>	<u>4</u>	<u>1</u>	<u>12</u>	<u>14</u>
<b>Subtotal</b>	<b>229 spaces</b>	<b>172</b>	<b>53</b>	<b>63</b>	<b>147</b>	<b>188</b>
<b><u>On-Street</u></b>						
119th Avenue NE	9 spaces	4	4	4	4	3
120th Avenue (NE 70th to 75th Street)	<u>56 spaces</u>	<u>44</u>	<u>21</u>	<u>23</u>	<u>59</u>	<u>58</u>
<b>Subtotal</b>	<b>65 spaces</b>	<b>48</b>	<b>25</b>	<b>27</b>	<b>63</b>	<b>61</b>
<b>Total</b>		<b>220</b>	<b>78</b>	<b>90</b>	<b>210</b>	<b>249</b>

1. Data was collected on Sunday, October 26.

As shown in the table, the peak parking demand occurred at 11:30 a.m. with 249 vehicles parked. Based on the 249 peak parking demand, future parking demand can be estimated for the proposed project. The calculation of future peak parking demand can be based on seats or attendees. Calculations of estimated future parking demand were presented in April 2015 and in the parking addendum dated May 2015. The following summarizes the range of potential peak parking demand for the site based on calculations presented previously and additional calculations.

**Vehicles per Seats.** The April 2015 study estimated future parking demand for the proposed project based on the increase in the number of seats. With a peak parking demand of 249 vehicles and 586 existing seats, the parking rate is 0.425 vehicles per seat. The future parking demand with 758 seats would be 322 vehicles.

**Vehicles per Attendees.** Parking demand rates can also be calculated based on the number of attendees. A review of attendance levels shows that on average the 7:30 a.m. mass is approximately 35 percent full and the 9 and 11 a.m. masses are approximately 85 percent full. Total attendance combined for the three masses ranges between 1,100 and 1,250 people. The parking utilization study (see Table 2) was conducted on a day when average attendance levels were seen. The 11 a.m. mass on October 26, 2014 had 491 attendees and was 84 percent full compared to the existing 586 seat capacity. Attached are the church attendance levels for the weekend of October 25-26, 2014. This equates to a parking rate of 0.507 vehicles per attendee. Assuming 100 percent occupancy of the church with the expansion (i.e., 758 attendees, the parking demand would be 384 vehicles. Assuming 85 percent occupancy with the expansion,



future attendance would be 644 people (with 758 seats). It is noted that two masses at 644 people would represent a slight increase in parishioners attending Sunday morning masses at the church. With 644 attendees and a parking demand rate of 0.507 vehicles per attendee, the future parking demand would be 327 vehicles.

**Vehicles per Attendees 50 percent of Attendees at each Mass.** As described above, the parking demand rate per attendee is 0.507 vehicles per attendee and the total combined attendance for the three morning masses is up to 1,250 people. It could be assumed that with only 2 masses, 50 percent of the people attend each mass for a total of 625 people at each mass. Assuming 0.507 vehicles per attendee this results in a future parking demand of 317 vehicles.

Table 3 provides a summary of the parking demand based for the methods describe above. As shown, parking demand would range between 317 and 384 vehicles.

**Table 3. Summary of Sunday Parking Analysis**

Calculation Method	Resulting Parking Demand
Vehicles Per Seat	322 vehicles
Vehicles Per Attendance (100% of Capacity)	384 vehicles
Vehicles Per Attendance (85% of Capacity)	327 vehicles
Vehicles Per Attendance (50% of Attendees at Each Morning Mass)	317 vehicles

As described previously, the proposal would provide 282 parking spaces on-site including the gravel lot and 43 parking spaces on-street for a total of 325 parking spaces. The 325 parking spaces is within the range of the potential vehicle demands for the site.

It is noted that the higher end of the range occurs when masses are 100 percent full. Based on the attendance counts for October and coordination with the church, typically the church is 85 percent or less full during mass. Higher attendance occurs during special events and holidays. This could result in on-street parking along other blocks in the neighborhood. There would continue to be two masses with expansion of the church and difficulty finding parking could influence mass attendance choices potentially resulting in a more evenly distributed attendance and making it less likely that masses are full.



## Attachment A – Mass Attendance Counts

Parish ID 083 Mission IDs (if any)           

### MASS COUNT FOR OCTOBER 2014 Catholic Archdiocese of Seattle

*Please count (rather than estimate) and record the attendance at all regularly scheduled Masses on the weekends of October 4-5, 11-12, 18-19 and 25-26, 2014.*

Parish/faith community: HOLY FAMILY City: Kirkland

Person at the parish we can contact if we have questions: Norm Bross E-mail: normb@hfkparish.org  
If you have questions, call Mary Beth Celio at 1-206-382-4272.

Weekend	Day (Saturday or Sunday)	Mass Time	Language (if other than English)	Attendance
October 4-5, 2014	Saturday	5:00 PM	—	376
	Sunday	7:30 AM	—	188
	Sunday	9:00 AM	—	484
	Sunday	11:00 AM	—	580
	Sunday	5:00 PM	—	495
October 11-12, 2014	Saturday	5:00 PM	—	390
	Sunday	7:30 AM	—	212
	Sunday	9:00 AM	—	467
	Sunday	11:00 AM	—	534
	Sunday	5:00 PM	—	397
October 18-19, 2014	Saturday	5:00 PM	—	393
	Sunday	7:30 AM	—	185
	Sunday	9:00 AM	—	543
	Sunday	11:00 AM	—	382
	Sunday	5:00 PM	—	442
October 25-26, 2014	Saturday	5:00 PM	—	363
	Sunday	7:30 AM	—	203
	Sunday	9:00 AM	—	454
	Sunday	11:00 AM	—	491
	Sunday	5:00 PM	—	381

*When completed, please (1) fold, tape, stamp and mail Mary Beth Celio at 710 9<sup>th</sup> Street, Seattle 98104; or (2) FAX to 1-206-274-3161; or (3) e-mail to [marybethc@seattlearch.org](mailto:marybethc@seattlearch.org).*

**Thank you for your assistance with this important task!**





## CITY OF KIRKLAND

### Department of Public Works

123 Fifth Avenue, Kirkland, WA 98033 425.587.3800

www.kirklandwa.gov

## MEMORANDUM

**To:** Tony Leavitt, Senior Planner

**From:** Thang Nguyen, Transportation Engineer

**Date:** December 24, 2015

**Subject:** Holy Family Church Expansion Master Plan Update, ZON14-02303, TRAN14-00502.

This memo summarizes my review of the traffic report dated April 7, 2015 *Holy Family Parish Master Plan – Traffic and Parking Assessment Update* memorandum and the *Holy Family Parish Master Plan – Addendum to Parking Analysis – Update* memorandum dated December 21, 2015 submitted by Transpo Group for the proposed Holy Family Church Master Plan update. The public concerns about traffic queues at adjacent intersections, intersection operation and parking impact to the neighborhood have been analyzed in detail within the traffic report. My findings and recommendations are summarized below followed by my review comments to the traffic impacts documented in the traffic report and parking memo.

### STAFF FINDINGS

With the mitigation measures listed in the Staff Recommendation section, the proposed project will not create significant SEPA traffic impacts.

The zoning code specifies the parking requirements for the project. Even though the parking supply meets the code requirement, it does not adequately meet the forecasted parking demand of the proposed project. For an average Sunday, the proposed project will need 327 parking spaces. The current Sunday operation requires 249 spaces. Therefore, the additional 172 seats along with reducing one mass during the Sunday morning will require 78 (327 minus 249) parking spaces. During holidays with full occupancy of the worship area, the additional 172 seats will require 88 additional parking spaces (172 seats/1.97 persons per vehicle).

The proposed 282 on-site parking supply is not adequate to accommodate the future proposed development. Additional on-street parking along the project site frontage will need to be constructed to support the proposed project and minimize neighborhood parking impact. The combination of on-site parking and on-street parking along the site frontage will supply the project with 330 parking spaces.

During Christmas and Easter holidays, the church will need to provide at least three Sunday morning masses to minimize parking impact to the neighborhood.

Traffic concurrency for Phase II of the project will need to be retested (because the anticipated build-out year is beyond 2020) unless the development plan changes and a building permit is issued by August 4, 2020.

## **STAFF RECOMMENDATIONS**

### ***SEPA Mitigation***

Staff recommends the following SEPA mitigating conditions to minimize impacts to the adjacent neighborhood. These mitigating measures are shown on Sheet A.1 of the site plan submittal dated September 14, 2015.

- Provide a minimum of three masses during the Christmas and Easter Sunday morning holidays.
- For an average Sunday with two masses, provide 330 parking spaces that consist of on-site and on-street parking along the project frontage:
  - Provide 252 parking stalls on the main campus and 30 parking spaces on the off-site gravel lot on the east side of 120<sup>th</sup> Avenue NE.
  - Redesign 119<sup>th</sup> Avenue NE to provide three on-street parking spaces.
  - Redesign NE 75<sup>th</sup> Street to provide eight on-street parking stalls along the site frontage.
  - Redesign and/or restripe the west side of 120<sup>th</sup> Avenue NE to provide 32 on-street parking spaces.

The on-street parking should be recessed to maintain traffic flow in the travel lanes. The typical half-street frontage improvements will be required along those three streets that include curbs, gutters and sidewalks. The minimum travel lane width shall be 10 feet and the parking lane width shall be 8 feet on both 119<sup>th</sup> Avenue NE, 120<sup>th</sup> Avenue NE and NE 75<sup>th</sup> Street.

### ***Public Works Permit Conditions***

The *Public Works Permit Conditions* subsection lists the conditions of approval for mitigating citywide as well as adjacent and on-site specific traffic impacts.

#### *Public Works Permit Conditions:*

1. Pay transportation impact fees as discussed in the Transportation Impact Fee section of this memo.
2. Redesign the intersection of 119<sup>th</sup> Avenue NE/NE 74<sup>th</sup> Street as shown in Figure 1 of this memo. As shown on the figure, remove the STOP signs and STOP bars on 119<sup>th</sup> Avenue NE and NE 74<sup>th</sup> Street. Remove arrow pavement markings for all approaches. For improved traffic control at the intersection, install curbs and centerline striping to define the intersection and roadway alignment and install stop signs at the project driveways.

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3. Half-street frontage improvements are required along NE 75<sup>th</sup> Street, 119<sup>th</sup> Avenue NE and 120<sup>th</sup> Avenue NE. The minimum frontage improvements will include curbs, gutters, and sidewalks. The minimum travel lane width shall be 10 feet and the parking lane width shall be 8 feet on both 120<sup>th</sup> Avenue NE, 119<sup>th</sup> Avenue NE and NE 75<sup>th</sup> Street.
4. Traffic concurrency for Phase II of the project will need to be retested (because the anticipated build-out year is beyond 2020) unless the development plan changes and a building permit is issued by August 4, 2020.

### **PROJECT DESCRIPTION AND TRIP GENERATION**

The current Holy Family Church campus has 14,083 square feet of gross building area. The applicant proposes to develop the Holy Family Church Master Plan in two phases. Phase I is anticipated to be complete by 2019 and includes constructing a storage and maintenance building, new pre-school drop-off area, additional parking, playfields, playground, and reconfiguring the Parish Education Center entry to accommodate the existing activities. Since no new activities are planned and existing activities are not planned to increase in intensity, Phase I is not anticipated to generate new trips during the weekday or weekend, in either the AM peak or PM peak hours.

Phase II is anticipated to be complete in 2024 and includes increasing the worship area by 3,322 square feet to accommodate 172 additional seats for a total of 758 seats. The final gross floor area of the worship area will be 17,405 square feet. The reason for Phase II is to consolidate and reduce the number of Sunday masses. Since there will be fewer masses, each mass is forecasted to have more attendees but it is not anticipated that the proposed project would generate new attendees.

Phase II of the project will provide 172 additional seats in the worship area. The additional seats will help accommodate the increased number of attendees during mass because the number of masses will be reduced from three to two. The increase in attendees with each mass will increase the peak hour Sunday trip generation and parking demand.

Based on the trip generation rates from the ITE Trip Generation Report, Phase II is forecasted to generate 30 new daily trips and 2 additional hourly trips during the AM and PM peak hours on weekdays and 1,402 daily and 462 peak hour trips on Sunday. The peak one-hour on Sunday generates the largest traffic impact. Therefore, the assessment of traffic impact is focused on the Sunday peak hour.

Because of the current parking overflow and the proposed change to the church operation is unique, staff believes that the ITE trip generation rate may not accurately forecast future trip generation. To more accurately determine trip generation rates, staff directed the traffic consultant to collect local trip generation data for the proposed project.

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Traffic counts were collected on Sunday during the time period when the church typically experiences the most traffic (between 7:30 AM and 11:15 AM when there are Sunday masses). Based on the traffic counts, the highest one-hour peak within the Sunday peak period occurs between 10:15 AM and 11:15 AM. Based on the trip generation data, the church generates approximately 1,840 daily trips (a trip generation rate of 3.14 daily trips per seat) and 368 peak hour trips (a trip generation rate of 0.63 trips peak hour trip per seat). In comparison, the current ITE Sunday trip generation rates are 1.85 daily trips per seat and 0.61 peak hour trip per seat.

In summary, based on the peak hour trip generation rate from local data, an increase of 172 additional seats in the worship area will generate approximately 478 peak hour Sunday trips with the proposed master plan (110 additional peak hour trips over the existing condition). This trip generation forecast is based on reducing three masses to two.

### **TRAFFIC CONCURRENCY**

Developments are tested for traffic concurrency for the weekday PM peak hour. Phase II of the project is calculated to generate approximately two (2) additional PM peak hour trips during the weekday. The proposed project passed traffic concurrency. Per *Section 25.10.020 Procedures* of the KMC, this Concurrency Test Notice will expire in six years (August 4, 2020) unless a development permit and certificate of concurrency are issued or a concurrency extension is granted.

#### ***Concurrency for Phased Development***

The City of Kirkland Traffic Concurrency Ordinance allows the traffic concurrency test notice to be valid for six (6) years. Phases that do not receive a building permit within six years may request for a one time one-year extension. If the request for an extension is not approved prior to the expiration of the concurrency test notice or the extension is not granted then a new concurrency application and test will be required.

Traffic concurrency for Phase II of the project will need to be retested (because Phase II is planned to be built after 2020) unless the development plan changes and a building permit is issued by August 4, 2020.

#### ***Concurrency Appeal***

The concurrency test notice may be appealed by the public or by an agency with jurisdiction. The concurrency test notice is subject to an appeal until the SEPA review process is complete and the appeal deadline has passed. Concurrency appeals are heard before the Hearing Examiner along with any applicable SEPA appeal. For more information, refer to the Kirkland Municipal Code, Title 25.

### **TRAFFIC IMPACT ANALYSIS**

The scope of analysis was approved by me and the traffic report was completed in accordance to the City of Kirkland TIA guidelines.

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The citywide trip distribution was determined by using the Bellevue-Kirkland-Redmond (BKR) traffic model. Manual adjustment of the traffic assignment was done at the local level for the site driveways based on current counts at the existing driveways as shown in Figure 4 of the traffic impact analysis report.

The City's Traffic Impact Analysis Guidelines (TIAG) requires a level of service (LOS) analysis using the Highway Capacity Manual (HCM) Operational Method for intersections that have a proportionate share equal or greater than 1% as calculated using the proportionate share of impact method described in the City's TIAG. Based on the proportionate share calculation for the full build-out of the proposed project, no intersections met the 1% proportionate share threshold. However, to respond to public concerns about local traffic impact four intersections adjacent to the project site were analyzed for level of service, queuing and safety for both AM and PM peak hours for weekdays and Sunday:

- 119<sup>th</sup> Avenue NE/NE 75<sup>th</sup> Street
- 120<sup>th</sup> Avenue NE/NE 75<sup>th</sup> Street
- 120<sup>th</sup> Avenue NE/NE 73<sup>rd</sup> Street
- 120<sup>th</sup> Avenue NE/NE 70<sup>th</sup> Street

#### ***Traffic Mitigation Threshold***

The City requires developers to mitigate traffic impacts when one of the following two conditions is met:

1. An intersection level of service is at E and the project has a proportional share of 15% or more at the intersection.
2. An intersection level of service is at F and the project has a proportional share of 5% or more at the intersection.

#### ***Off-site and Driveway Operation Traffic Impacts***

Based on the level of service analyses, with the exception of the intersection of 120<sup>th</sup> Avenue NE/NE 70<sup>th</sup> Street, all intersections and driveways analyzed are calculated to operate at LOS-C or better during the weekday and Sunday. The intersection of 120<sup>th</sup> Avenue NE/NE 70<sup>th</sup> Street is currently operating at LOS-E on weekdays and is calculated to continue to operate at LOS-E with the proposed master plan. Since the proposed project has less than a 15% impact to that intersections, mitigation is not warranted.

#### ***Queue Analysis***

Based on public comments that I have received from residents living nearby and adjacent to the project site, there is a concern about queuing at intersections adjacent to the project site. Based on the analysis documented in the traffic study report, the proposed expansion will not worsen any of the existing queues at the project driveway on the weekday. The additional traffic will not block adjacent intersections or driveways adjacent to the project site. The morning weekday westbound queue at the intersection of 120<sup>th</sup> Avenue NE/NE 70<sup>th</sup> Street does block two residential driveways. This queue is related to the background morning commute traffic and is not created by the project.

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Level of service analyses indicate that the proposed project will not increase the existing queue at the intersection of 120<sup>th</sup> Avenue NE/NE 70<sup>th</sup> Street.

#### *Preschool Operation*

Currently, parents are parking along 120<sup>th</sup> Avenue NE or in the existing preschool parking lot to drop off and pick up their children. The remodeled preschool will have a new on-site drop-off parking area at the north end of the campus as shown on the site plan. Ten parking spaces will be provided within the new on-site drop-off parking area. Because parents are required to park and drop off and pick up their children at the front office, there will not be any "drop-off/pick-up" in the drive aisle of the parking area.

There are two preschool sessions during the weekdays. Each session has approximately 20 students. As mentioned earlier, parents are required to park their car and drop off and pick up their children at the front office. As described in the traffic report, parents come and go throughout the morning period before class. Based on observation there was only a maximum of 5 vehicles parked (at any one time) along the 120<sup>th</sup> Avenue NE or in the existing preschool parking lot when drop-off and pick-up occurred. Since there is no plan to increase the number of students, it is anticipated that a maximum of 5 vehicles would park at one time during drop-off/pick-times. Ten parking spaces will be provided for the preschool drop-off/pick-up, which is more than the observed parking demand. Therefore, staff does not anticipate any spill-over parking or significant traffic queue during the preschool operation.

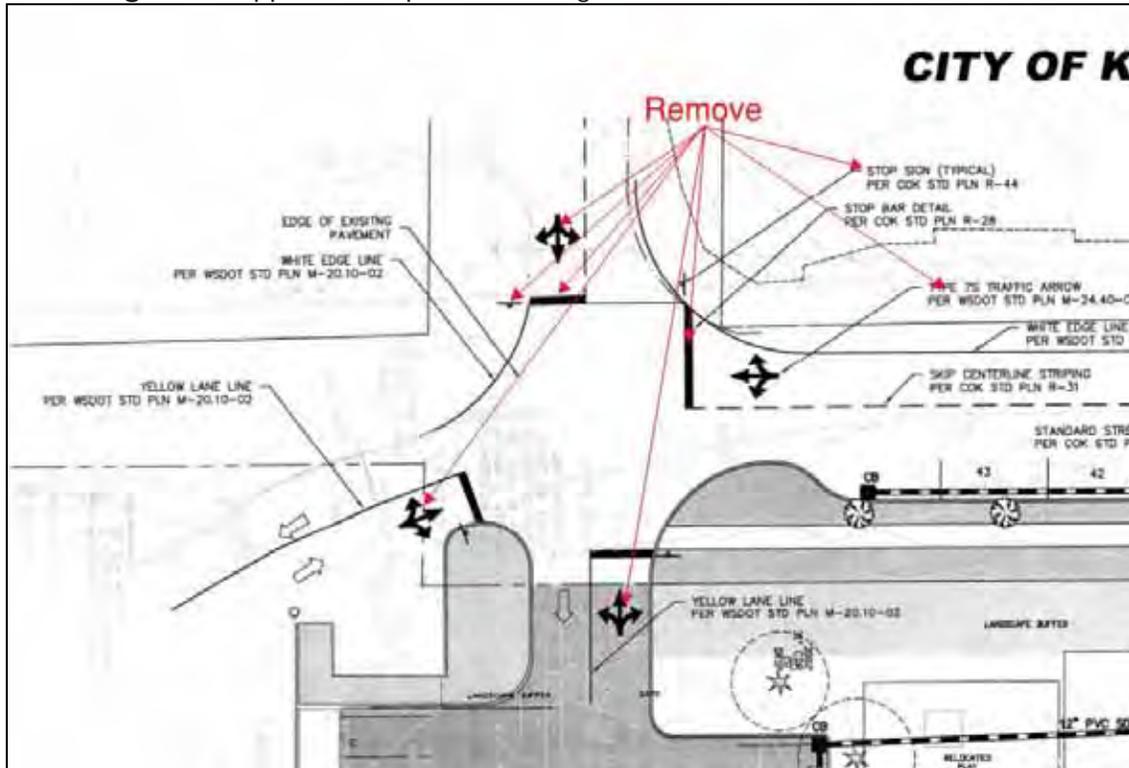
#### *Driveway & Sight Distance*

Based on the traffic study, project driveways will meet the city's sight distance requirement of 150 feet. All project driveway locations will meet Public Works' driveway spacing requirement of 50 feet.

The three-legged intersection of 119<sup>th</sup> Avenue NE/NE 74<sup>th</sup> Street is proposed to become a 4-legged intersection with the proposed additional driveway to the new on-site overflow parking area. Staff agrees with the proposed redesign of the intersection as shown in Figure 1 with the exception of the STOP signs on the west and north leg of the intersection. Based on the forecasted traffic volume and low usage of the project driveway on the weekdays, staff does not believe that the intersection warrants a 4-way STOP control. STOP signs should only be installed for the project's driveway. Drivers from NE 74<sup>th</sup> Street and from 119<sup>th</sup> Avenue NE shall continue to have the right-of-way.

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**Figure 1.** Applicant Proposed Redesign of NE 119<sup>th</sup> Avenue/NE 74<sup>th</sup> Street



**Note:** In red are staff's recommendations.

**Parking**

Currently, the project site has 229 parking spaces (224 marked stalls and 5 stalls in the unpaved area north of the gymnasium). There are 586 seats within the existing worship area. This equates to a parking supply of 0.39 space per seat. Kirkland Parking Code requires a parking supply rate of 0.25 space per seat within the worship area. The existing parking supply meets the City's parking requirement.

The proposed expansion of the worship area will provide 758 seats. Using Kirkland parking code, the expansion will require 190 (0.25 space per seat x 758 seats) on-site parking spaces. The proposed project will provide a total 282 parking spaces which equates to a parking supply of 0.372 per seat (this includes the church owned gravel lot across from the site on 120<sup>th</sup> Avenue NE but no on-street parking). The proposed parking for the master plan meet's the Kirkland parking code requirement. However, with the proposal to reduce the number of masses, the parking demand may be higher than the city's code requirement.

In response to the increase in demand for each mass with the proposed reduction of the number of masses, a parking utilization study was conducted by the traffic consultant to determine the actual parking demand for the proposed project. The parking rates calculated from the parking utilization study are used to forecast the future parking demands.

The parking study report provides several approaches to determine parking demand:

1. Parking demand calculation based on vehicle per maximum seating capacity.
2. Parking based on a 100% and 85%-tile of total seats (total attendance for three Sunday morning masses).
3. Parking based an even distribution of the total attendees during the Sunday morning masses.

*Parking Demand calculation based on vehicle per maximum seating capacity*

The parking utilization study counted on-site as well as on-street parking. Based on the church attendance data for Friday, Saturday and Sunday during masses, it was determined that the existing peak parking demand for the church occurs during Sunday morning masses. The study found the peak parking demand occurred during the 11:00 AM mass, 261 vehicles were parked during mass as shown in Table 1. In closer review of the parking demand data and making follow-up visits, I have determined that the occupied on-street parking on NE 73<sup>rd</sup> Street and NE 74<sup>th</sup> Street are most likely not from church attendees because the same number of vehicles parked on those streets before and after church operation. Therefore, the peak demand was adjusted to exclude the parked vehicles on those two streets.

As a result, the current peak parking demand on Sunday is 249 spaces (0.425 space per seat); which is greater than the supply and City's code requirements. This means that the actual parking demand is higher than the City's parking code requirement. Therefore, using the City's code requirement would under estimate the parking demand.

Table 1 provides a more detail of the parking calculation presented in the parking study memorandum. The parking demand rates are calculated based on the assumption that all the seats in the worship area was full occupied during the parking data collection. This method provides an underestimation of parking because the worship area was only about 84% occupied at the time of the parking data collection. That means the calculated parking demand rate is 16% lower than actual. As shown in Table 1, the peak parking rate of occurred at 11:30 AM when the 11:00 AM mass was in full session. Using the peak parking rate of 0.425 parking space per seat, the future worship area will require 323 (0.425 x 758 seats) parking spaces at full room occupancy.

In addition to underestimating the parking demand by 16%, this method doesn't consider the effect of reducing the number of masses from three to two as proposed by the applicant. Therefore, I do not agree with using this method to forecast the parking demand for the proposed project.

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Table 1. Existing Parking Utilization per Total Seats

Location	Supply	Sunday Morning				
		9:30	10:00	10:30	11:00	11:30
<b>On-site (off-street)</b>		172	53	63	147	188
<b>NE 74<sup>th</sup> Street</b>		8	7	8	9	9
<b>119<sup>th</sup> Ave NE</b>		4	4	4	4	3
<b>120<sup>th</sup> Ave NE</b>		44	21	23	59	58
<b>NE 73<sup>rd</sup> Street</b>		3	1	0	3	3
<b>Total</b>		<b>231</b>	<b>86</b>	<b>98</b>	<b>222</b>	<b>261</b>
<b>Total Seats</b>						<b>586</b>
<b>Parking Demand Rate (total seats/total occupied spaces)</b>						<b>0.45 parking space per seat</b>
<b>Adjusted Total (excluding parking on Ne 74<sup>th</sup> Street and NE 73<sup>rd</sup> Street)</b>		<b>220</b>	<b>78</b>	<b>90</b>	<b>210</b>	<b>249</b>
<b>Total Seats</b>						<b>586</b>
Adjusted Parking Rates		0.375	0.133	0.154	0.368	<b>0.425 parking space per seat</b>
Proposed Seating		758	758	758	758	758
Future Parking Demand		285	101	116	272	323
On-site Parking supply		277	277	277	277	277
Excess/(Deficit)		(8)	176	160	5	(46)

The following three parking demand calculations account for the number of masses, attendance level, parking AVO (average vehicle occupancy- the average number of persons per vehicle) as well as parking utilization to provide a more accurate parking demand estimate. These methods are more inclusive of the factors that affect the parking demand forecasting.

Table 2 summarizes the attendance levels during the parking utilization surveys. This data is documented with the *Holy Family Parish Master Plan – Addendum to Parking Analysis – Update* memorandum dated August 19, 2015.

Table 2. October Attendance Data

Masses	4th/5th	11th/12th	18th/19th	25th/26th	Average	Room Capacity	Occupancy Rate
Sat 5:00 PM	376	390	393	363	381	587	65%
Sun 7:30 AM	188	212	185	203	197	587	34%
Sun 9:00 AM	484	467	543	454	487	587	83%
Sun 11:00 AM	580	534	382	491	497	587	84%
<b>Sun Morning Total</b>	<b>1,252</b>	<b>1,213</b>	<b>1,110</b>	<b>1,148</b>	<b>1,181</b>	<b>587</b>	<b>67%</b>
Sun 5:00 PM	495	397	442	381	429	587	73%

One common factor that will help us forecast the future parking demand is the parking AVO (Average Vehicle Occupancy) rate. We can correlate the attendance level during the 11:00 AM mass on October 25<sup>th</sup>/26<sup>th</sup> (shown in Table 2) to the number of parked vehicles during that mass to calculate the parking AVO rate. At that time the peak parking utilization was 249 occupied parking spaces with 491 people attending the mass. This equates to a parking AVO rate of 1.97 (491/249) persons per vehicle.

*Parking based on a 100%, 85%-tile of total capacity (total number of seats in the future)*

The total room capacity of the worship area will be 758 seats. The attendance level at 100% and 85% of room capacity are summarized in Table 3. This methodology assumes that the total attendees for all Sunday morning masses would not exceed future attendance capacity from the two Sunday morning masses (758 seat per mass x 2 masses). To validate this assumption, we can refer to the current attendance data. As shown in Table 2, the current peak attendance is 1,252 persons and the average attendance is 1,181 persons which are less than 1,516 attendance capacity.

The purpose of the increase worship room capacity is to provide sufficient number of seats to be able to consolidate the current three masses into two masses and not to increase church membership, therefore it is reasonable to assume that the current attendance level would remain the same in the future.

From the attendance data in Table 2, the average attendance level is at approximately 84% of room capacity. Therefore, providing a parking supply based on 85% of the room maximum seating capacity is reasonable assuming that the future average room attendance will be at 85% or less. Table 3 summarizes the parking demand base on the 100% and 85% attendance capacity levels.

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Table 3. Parking Demand based on Attendance Levels

Attendance Levels	Attendance	Parking AVO (Ave. Vehicle Occupancy)	Parking Spaces Required
100%	758	1.97	385
85%	644	1.97	327

*Parking based on an even distribution of the total attendees during the Sunday morning masses*

This methodology uses the existing peak attendance for three masses and assumes that it will be evenly distributed into two masses. This approach assumes there is sufficient number of seats for the total Sunday morning demands with two masses (1,516 seats) and the attendees would adjust their attendance so that there would be a more even distribution in attendance between the two masses; therefore, making it less likely that masses are full. Based on the attendance data, the maximum attendance for three masses is 1,252 attendees; with an even distribution, the future two masses will have approximately 626 attendees (1,252/2) each. Using the 1.97 parking AVO, the parking demand is calculated to be 318 (626/2) parking spaces.

The three methodologies above provide a reasonable forecast of the range of attendance and parking demand. I agree with the consultant assessment that the 330 parking spaces to be provided (which includes on-street parking along the site frontage) is adequate for an average Sunday and there will not be a significant parking impact to the neighborhood.

However, there is another analysis to verify the future church Sunday morning mass attendance levels and parking demands. With the reduction of the number of masses to two it is highly unlikely that all of the attendees from the two masses with the most attendees (at 9 AM and 11 AM totaling 984 attendees) would come at the same time in the future because the room would be over capacity. It is more reasonable to assume that attendees will adjust their schedule to come at times when there is capacity. There are two scenarios that can provide us with the range of attendance:

- 1) Both masses would be attended equally or
- 2)  $\frac{1}{4}$  of the attendees from the 7:30 AM mass would attend the 9 AM mass and the other  $\frac{3}{4}$  would attend the 11 AM mass.

Column three of Table 3 provides the estimation of average attendance based on those two scenarios above. These two scenarios provide a reasonable range of attendance that can be expected from week to week.

Table 3. Future Parking Demand Estimate

Existing Masses	Average Attendance (Existing Masses)	Future Masses	Vehicle Occupancy Rate	Calculated Parking Demand
<b>Scenario 1</b>				
Sun 7:30 AM	197	<b>Not offer</b>		
Sun 9:00 AM	487	<b>591</b> <i>(197+487+497)/2</i>	1.97	300
Sun 11:00 AM	497	<b>591</b> <i>(197+487+497)/2</i>	1.97	300
<b>Sun Morning Total</b>	<b>1,181</b>	<b>1,181</b>		
<b>Scenario 2</b>				
Sun 7:30 AM	197	<b>Not offer</b>		
Sun 9:00 AM	487	<b>535</b> <i>(49+487)</i>	1.97	276
Sun 11:00 AM	497	<b>645</b> <i>(148+497)</i>	1.97	<b>327</b>
<b>Sun Morning Total</b>	<b>1,181</b>	<b>1,181</b>		

Note: the time for future masses are representative to evaluation purposes. The actual time would be determined by the church.

In the first scenario, the average attendance is estimated to be approximately 591 people (total average attendees for all three masses (1,181) divided by two masses). With a vehicle occupancy of 1.97 as calculated above, the parking demand is approximately 300 parking spaces.

In the second scenario, the attendance would be approximately 535 for one of the mass and 645 for the second mass. These attendance levels require approximately 276 and 327 parking spaces respectively.

In Summary, the Sunday average parking demand with two masses is anticipate to fluctuate from 276 to 327 parking spaces from week to week. The higher end of result in this calculation is equal to parking demand at 85% of attendance capacity as calculated by the traffic consultant.

Staff believe that on an average Sunday the peak parking demand will be approximately 327 parking spaces. Providing 327 parking spaces will minimize significant parking impact to the neighborhood.

The current Sunday operation requires 249 spaces. Therefore, on average, the additional 172 seats along with reducing one mass during the Sunday mornings will require 78 (327 – 249) additional parking spaces. If the worship area is at full capacity,

the maximum parking demand for the additional 172 seats is 88 parking spaces (172 seats/1.97 persons per vehicle).

***Parking Demand for Holidays***

Data from the ITE parking generation report indicated that peak parking occurs during Easter and Christmas; the parking demand during those two major holidays can be 50% (1.5 times the Sunday average) higher than an average Sunday. For the proposed project there are 645 attendees on an average Sunday. For those two holidays, we could expect up to 968 (645 x 1.5) attendees requiring 491 parking spaces for each mass. The total estimated attendance for two masses during holidays is 1,936 (968 x 2). The two masses can only accommodate 1,516 attendees; that means a third mass would be required to accommodate the additional parking demand of 214 parking spaces as summarized in Table 4.

Table 4. Holiday Parking Demand Comparison

	<b>Attendance per Mass</b>	<b>Attendance for 2 masses</b>	<b>Parking Demand</b>
<b>Average Sunday</b>	645	1,290	327 per mass
<b>Holidays</b>	968	1,936	491 per mass
<b>Future Room Capacity/Parking Supply</b>	758	1,516	330 per mass
<b>Over Capacity</b>	210	420	107 per mass

The applicant proposes to provide 282 off-street parking spaces (252 on the main campus and 30 on an off-site gravel lot on 120<sup>th</sup> Avenue NE). In addition, the site frontage will be improve to provide a total of 43 on-street parking spaces (3 spaces on the east side of 119<sup>th</sup> Avenue NE, 8 spaces on the south side of NE 75<sup>th</sup> Street and 32 spaces along the east side 120<sup>th</sup> Avenue NE). There is approximately 5 on-street parking spaces along the east side of 120<sup>th</sup> Avenue NE fronting the church’s rectory. The project will have a total of 330 (282+43+5) parking stalls available and for an average Sunday there would be adequate parking without impacting the on-street parking that fronts the residents near the site.

During major holidays there may be deficit of up to 214 (420/1.97 AVO) parking spaces (107 spaces per mass). This deficit can be mitigated by providing three masses during the Sunday morning. With three masses, each mass would accommodate 591 attendees requiring 300 parking spaces for each mass which is less than the proposed parking supply of 330 parking spaces.

***Parking Recommendation***

- Provide three masses during the Christmas and Easter Sunday morning holidays.
- For an average Sunday with two masses, provide 330 parking supply that consist of on-site and on-street parking along the project frontage.
- Redesign 119<sup>th</sup> Avenue NE to provide three on-street parking spaces.
- Redesign NE 75<sup>th</sup> Street to provide eight on-street parking stalls along the site frontage.

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- Redesign and/or restripe the west side of 120<sup>th</sup> Avenue NE to provide 32 on-street parking spaces.

The on-street parking should be recessed to avoid conflicts with the travel lanes. The typical half-street frontage improvements will be required along those three streets that include curbs, gutters and sidewalks. The minimum travel lane width shall be 10 feet and the parking lane width shall be 8 feet on both 119<sup>th</sup> Avenue NE, 120<sup>th</sup> Avenue NE and NE 75<sup>th</sup> Street.

**TRANSPORTATION IMPACT FEE**

Per City’s Ordinance 3685, Transportation Impact Fees is required for all developments and is calculated based on the most updated Transportation Impact Fee Schedule, January 1, 2016. Road impact fees are used to construct transportation capacity improvements throughout the City to help the City maintain traffic concurrency. Table 5 summarizes the road impact fee calculation for the proposed project. Final impact fee shall be determine at building permit approval.

Table 5. Road Impact Fee

	<b>Size</b>	<b>Impact Fee Rate</b>	<b>Church</b>
<b>Proposed Expansion</b>	3,322 sq. ft.	\$2.72 per sq. ft.	\$9,035.84

cc: Rob Jammerman, Development Engineer Manager  
John Burkhalter, Senior Development Engineer  
Energov

## Jon Regala

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**From:** JeffRidley@BC.com  
**Sent:** Friday, January 16, 2015 9:41 AM  
**To:** Jon Regala  
**Subject:** ZON14-02303

**Follow Up Flag:** Flag for follow up  
**Flag Status:** Flagged

I am sending this in regards to the proposed expansion of Holy Family Parish New Master Plan. As a resident and neighbor of the parish I have seen a great deal of change over the more than 25 years I have lived here. I reside on NE 75<sup>th</sup> and have had concerns over the traffic on this road for decades. The recent expansion of the Lake Washington School that is directly adjacent to the Parish has added more traffic on this road as well. While the traffic study that has been provided may say that the expansion would not generate additional weekday AM or PM peak hour trips I do believe that the new drop off drive thru and additional parking will change the traffic pattern resulting in even more congestion on 75<sup>th</sup> and 119<sup>th</sup>. The current use of driveway #1 has very limited impact on 75<sup>th</sup> as it is simply a parking area, not a drop off /drive thru. The intersection of 119<sup>th</sup> Ave NE and 75<sup>th</sup> is a very dangerous place with limited sight to the west on 75<sup>th</sup> and the added flow onto 75<sup>th</sup> from 119<sup>th</sup> from this drive thru traffic seems like a very bad plan. Interesting that no study was done on the intersection of 119<sup>th</sup> and 75<sup>th</sup>, this is a big concern for me as it's a safety issue for those using 75<sup>th</sup>. The traffic on 75<sup>th</sup> is bad enough already with the High School student/parents/bus and Church and school traffic.

The Sunday traffic is already nasty if you try to go anywhere in the area at the wrong time. The added overflow parking and drop off parking area will add more cars to the 119<sup>th</sup> Ave and NE 75<sup>th</sup> street congestion. I really feel for the folks who happen to live on 74<sup>th</sup> and want to get out at the wrong time of day. The issues already exist and adding more cars and access points to the road is not going to make it better, just worse. Just because it passes code in the book does not make it the right thing to do.

How about the lot coverage/ impervious surface calculations ? Where is all the water going from this new paved area. How about sending all the cars out onto NE 70<sup>th</sup> near the soccer field ? That is a major road that may not impact the local residents in such a negative way. I oppose this expansion simply by the fact that it's making a bad situation worse for the people that call this home and not just a drive thru.

Jeff Ridley  
11627 NE 75<sup>th</sup> St  
Kirkland, WA 98033  
[JD.Ridley@Comcast.net](mailto:JD.Ridley@Comcast.net)

Ref Permit # ZON14-02303

### Jeff Ridley

Boise Cascade Company  
BD-Drafter II (EWP/TrussDsgn) Wood Sales  
425-402-1285 JeffRidley@BC.com  
Office Hours 7:00 AM – 4:00 PM

Attention: Jon Regala, Project Planner, City of Kirkland

Subject: Permit No. ZON14-02303

“Holy Family Parish Proposed Master Plan”

Please see our concern about this project as below:

- 1) The existing traffic due to daily school activities is already overloading 119<sup>th</sup> avenue, along with the 75<sup>th</sup> and 74<sup>th</sup> intersection. These streets are not wide but the people drive fast and occupy mostly the middle of the street without considering the opposite car on the other side. The traffic is very high during morning and afternoon every day.
- 2) In addition, how can you guarantee us that even with this addition to parking, cars visiting your church or buildings will stop parking on 74<sup>th</sup> street and 119<sup>th</sup> avenue? This has created a very hectic scenario for many years, especially on weekends. Even with these new parking lots, there is no guarantee that cars will stop parking on our street, making things even more busy and congested.
- 3) By opening another gate in 119<sup>th</sup> avenue, the traffic will be elevated to higher level and the intersection between 119<sup>th</sup> avenue and 75<sup>th</sup> street is going to busy at all times, especially with the two parking lots and 74<sup>th</sup> street merging into one tiny road (119<sup>th</sup> avenue).
- 4) Lake Washington High School starts every morning during the school year around the same time as your school does, creating even more traffic and congestion in the morning within three tiny segments of street (119<sup>th</sup>, 120<sup>th</sup>, and 75<sup>th</sup>). This will be inconvenient for all parties, including the residents around here, your parents/students, and the high school parents/students.
- 5) A few years ago, you spent quite a while renovating your buildings, as well as constructing new ones. This was an inconvenience to the residents around here, and these two upcoming phases prognosticate a similar effect. 5-10 years is a long time for construction, and will be especially inconvenient for residents on 74<sup>th</sup> street. Our road is a dead end, and we can only leave through 119<sup>th</sup> avenue, which is where you are supposedly planning your construction these next few years.
- 6) This long period for construction will also bring a lot of noise to our neighborhood, and I am sure that you understand that this will be hard to live with during the extremely long Phases that you are proposing.
- 7) Based on all mentioned above the most important thing for us in neighborhood is that our house value will go down because of Holy Family Expansion project. With more school traffic, more noise and parking problems, nobody wants to buy a house in area. Our existing house is our most valuable asset for our family and still has to pay our mortgages for years to come. We cannot afford to lose our house value.  
Thanks for your consideration.

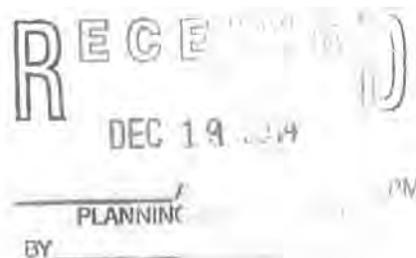
Regards,

Mehrdad & Shahnaz Mehrvarzan

11825 NE 74<sup>th</sup> street  
Kirkland WA 98033

Dated, 1/11/2015

December 16, 2014



Holy Family Parish  
Attention: Mrs. /Ms. Margot Washington  
7045 120<sup>th</sup> Ave NE  
Kirkland, WA 98033

re: "Holy Family Parish Proposed Master Plan Submittal Parcel: 09205-9018

To Margot Washington,

We live at 11812 NE 74<sup>th</sup> St, and we were recently informed of your expansion plans. We do not like having to deal with the heavy traffic and at times tight parking but my biggest concern is not of inconvenience but safety. My mother is 71 years old and lives next door to me. I fear that one day I will need to call an emergency vehicle and they will not be able to get to us. Traffic and parking blocks our street at times and it is tight to get even a small car to our home. Please consider using the larger and more accessible street on the other side of holy family for your expansion.

Sincerely,

A handwritten signature in black ink, appearing to be "Tracy Rockwell".

Tracy Rockwell  
11812 NE 74<sup>th</sup> St.  
(425) 739-6503

Cc: Jon Regala, Senior Planner of City of Kirkland Planning Department

Attention: Mrs. /Ms. Margot Washington  
Pastoral Assistance for Administration

Subject: "Holy Family Parish Proposed Master Plan Submittal"  
Parcel: 09205-9018

We live at 11815 NE 74<sup>th</sup> St, and were just informed of your expansion plans and are not happy at all. Currently the traffic caused by your back-gate driveway is overwhelming to the small dead end street we live on. The morning school traffic, which is 100% directed out the back gate, blocks the street for those of us trying to get our own children to school on time. The people exiting through that same back gate almost never Stop! let alone slow down. Numerous times we have almost had an accident with cars driving out your back entrance. They drive out as if they are already on an actual road, not exiting a parking lot. Then in the afternoon, same scenario all over, with us trying to get out to pick up our kids from elementary school.

Our family also is always out and about bicycling around the neighborhood, and if there is a mass beginning the people drive 40-50mph through the small streets so they aren't late. We already try to plan our outings around these start times for masses. People would rather be on time for mass, than put public safety first.

We think if any expansion of your facility is to take place; the back-gate exit onto 119<sup>th</sup> should be closed permanently. It could still be there for emergency vehicles and such, but currently more people use the back entrance than they use your main front entrance. You are forcing all your traffic onto our no-outlet residential street. You could also build your expansion on your Soccer field thus directing all the increased traffic onto NE 70<sup>th</sup> street which could handle the increased traffic. Then put the play field at the end where you want 3 new driveways and new buildings.

Our other 20+ neighbors are also not pleased with your expansion proposal. We want a better solution to your need for expansion.

Frank & Nicole Kelley

11815 NE 74<sup>th</sup> St.

(425) 739-0387

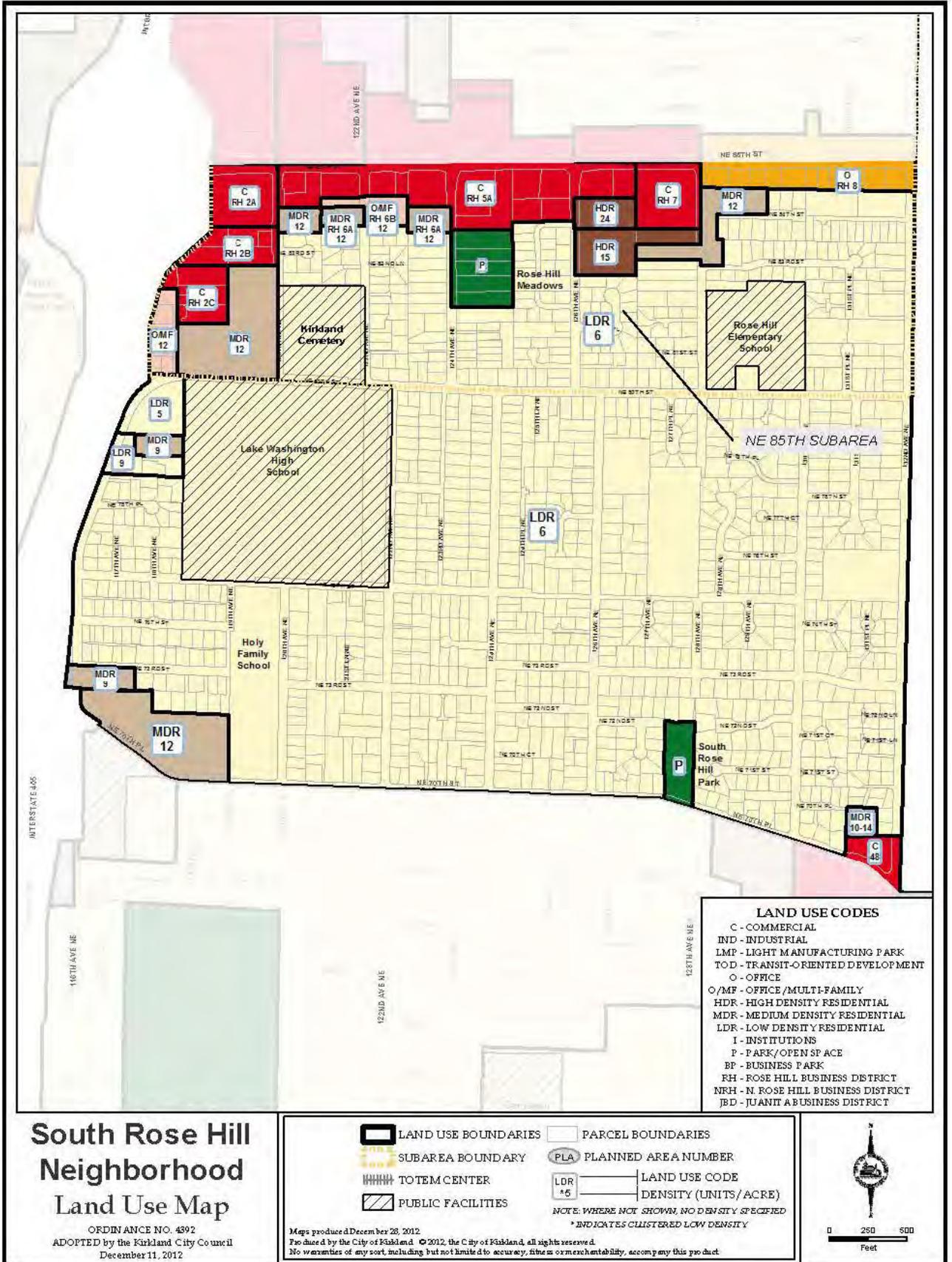


Figure SRH-3: South Rose Hill Land Use

