CITY OF Apple Valley

MEMO

Public Works

TO: Kathy Bodmer, Planner

FROM: Brandon S. Anderson, City Engineer

DATE: June 14, 2018

SUBJECT: Ryan Real Estate Redevelopment at 147th and Cedar Avenue

Kathy,

The following are comments regarding the Ryan Real Estate Redevelopment Preliminary Plans dated May 24, 2018 and Site Plan Revisions dated June 12, 2018. Please include these items as conditions to approval.

General

1. Provide a narrative of how the buildings will be constructed and any impacts prior to building permit authorization. The narrative shall include the following:
    a. Shoring (if applicable)
    b. Material Storage.
    c. Haul routes to and from the site.
    d. Phasing
    e. Construction and temporary parking
2. A separate Public Improvement project is being considered for the recommended transportation/traffic improvements on 147th Street and Glazier Avenue.
    a. The recommended improvements could include:
        i. Converting the intersection of 147th Street SW & Glazier Avenue (south) to a ¾ access intersection where the NB left turn movement is prohibited.
        ii. Reconfigure Glazier Avenue at 147th with raised median and striping to provide only one approach lane (right turn lane).
        iii. Construct a roundabout at the intersection of 147th street SW and Glazier Avenue (north)
        iv. Construct a raised concrete median between Cedar Avenue and Glazier Avenue (south) along 147th street. This would prohibit all left turn movements in and out of the Applebee's driveway access.
3. Modifying the proposed right-in only access to a full access should be evaluated as an option upon completion of Public Improvements as outlined above.
4. An underground infiltration system construction and maintenance agreement will be required.
5. Additional Road Easement and/or ROW would be needed in the NE corner of site to accommodate public roadway improvements as recommended on 147th Street and Glazier.

Site/Traffic

1. See additional memo from SRF regarding the review of the traffic study as provided by applicant.
2. The proposed land use is expected to have approximately 3,475 daily trips as compared to the existing site which currently generates approximately 340 trips.
3. A review of the interim conditions was completed to understand how the site would operate under a full build out scenario prior to any Public Improvement Projects along 147th Street, which includes a restricted thee-quarter access at Glazier Avenue (south) and a roundabout at Glazier Avenue (north). Results of preliminary tests conclude that there is expected to be average northbound queues along Glazier Avenue of approximately 100 feet and 95th percentile queues of approximately 200 feet during the midday peak hour. It is estimated that queues would extend beyond the northern enter only access point only 10 percent of the peak hour. It should be noted that northbound left-turn delays from Glazier to 147th Street are expected to increase from 16 seconds per vehicle in the year 2019 no build condition to 33 seconds per vehicle, which represents a side-street (Glazier and 147th Street) Level of Service (LOS) **D** condition.
4. The recommended changes to the turn lanes on 147th and Glazier are deemed acceptable at this time to provide additional storage during the peak hours
5. Site plan should show site line triangles at access entrances as well as on the landscape plan.
6. Auto turn drawing should include review of prohibited NB left turn at north RI access driveway to site. Driveway alignment may need to be adjusted to ensure right in access only. Additional no Exit Signage is recommended.
7. A commercial driveway entrance is required at all access points to public roadways per AV Plate No. STR-4 or STR-5. Standard city plates should be referenced on plans.
8. An existing sidewalk currently exists connecting to the property to the south. No future connection is shown on the plans. Please clarify is sidewalk is to remain or be removed.
9. A streetscape plan will be required for restoration of public sidewalk, fence, and street lights along 147th street where the existing driveway access is to be abandoned if constructed privately.

Grading, Drainage and Erosion Control

1. Final Storm Water Pollution Prevention Plan (SWPPP) shall be included with plans and shall be reviewed and approved by City Engineer.
2. Final Grading Plans shall be reviewed and approved by City Engineer.
3. Final Storm Water Management Plan shall be reviewed and approved by City Engineer.

Sanitary Sewer, Water Main and Storm Sewer

4. Final locations and sizes of Sanitary & Storm Sewer and Water main shall be reviewed with the final construction plans and approved by City Engineer.
5. Domestic water and Fire service shall be split outside the building and the valves shall be located 1.5 times the height of the building away from the building or placed in location readily accessible per City of Apple Valley standard detail plate SER-6.
6. C5.0 - Note pointing to Sanitary sewer service line states connect to existing water main stub
7. Confirm the size of the sanitary sewer stub from the street to ensure adequate size for proposed land use.
8. Abandon existing water service at the main in the street if not adequately sized to use existing service. New service would require wet tab.

Landcape and Natural Resources

1. Final locations and sizes of trees and landscaping shall be reviewed with the final construction plans and approved by Natural Resource Coordinator.
2. A tree demo plan shall be provided, if any trees are to remain along Glazier Avenue a tree preservation plan should identify the drip line and protected throughout construction. Plans should clearly identify the removals.
3. Landscape plan should clearly indicate drainage and utility easements and property line.
4. No major tree plantings shall be located over any underground utilities. Clusters of trees shall be used near or around these areas instead of planting in a row. The Drainage and Utility Easement will require clearance around the underground utilities, or the expectation that trees may have to be removed for access when needed.
5. The 13 existing elm trees in public right-of-way along Cedar Avenue and 147th Street W shall not be impacted by construction, parking, or deliveries. If damaged a 2.5" caliper replacement shall be required in addition to the proposed re-plantings on the property. The City shall be notified of damage as soon as it occurs and to have a replacement species approved.
6. No plantings shall create sight distance issues at entrances, exits, or intersections.
7. Existing elms and Ring Route trees to be protected throughout construction. An additional Oak shall not be inter-planted along Cedar Ave as proposed.
8. Boulevard Lindens are a more narrow species than other varieties of lindens, but when full size will still be 25'-30' wide each. The parking islands may be better suited to other tree varieties.
9. Currently there are five large established evergreens on site. Three of the evergreens on the northeast corner could be saved and counted towards the tree preservation.
    a. No evergreen trees are included in the proposed landscape schedule, only evergreen shrubs.

Review Summary

SRF No. 11833.00

To: Brandon Anderson, PE, City Engineer
City of Apple Valley

From: Tom Sachi, PE, Senior Engineer
Matthew Pacyna, PE, Principal

Date: June 14, 2018

Subject: Review of Redevelopment Site – Cedar Avenue at 147th Street Traffic Impact Study

Introduction

As requested, SRF has completed a review of the *Redevelopment Site – Cedar Avenue at 147th Street Traffic Impact Study* document, dated May 24, 2018 completed by Kimley-Horn and Associates, Inc. The proposed development is located in the southeast quadrant of the Cedar Avenue/147th Street intersection in the City of Apple Valley. Review of the traffic impact study identified the following questions and comments for consideration.

Review Summary

Based on our review, the following items were identified. Underlined text indicates potential study modification considerations.

1. **Site Trip Generation** – The trip generation estimate approach using the *Institute of Transportation Engineers Trip Generation Manual*, 10th Edition is reasonable for the a.m. and p.m. peak hours. However, the midday peak hour trip generation shown is lower than the peak hour of generator for fast-casual restaurants, which is the midday peak hour (12:00 p.m. to 1:00 p.m.). This peak hour of generator rate from ITE is consistent with locally collected trip generation data. The midday peak hour trip generation analysis should be updated using the peak hour of generator trip generation rate to determine level of service and queuing impacts.
2. **Trip Distribution and Assignment** – The directional distribution is reasonable.
3. **Intersection Capacity Analysis**
    a. The analysis approach and existing condition results are reasonable.
    b. While not specifically noted in the document, the build out and horizon background analysis appears to have used a background growth rate of one (1) percent, which is consistent with historical trends within the area and the Dakota County 20-year growth project factor (typical growth is between 0.5 and 1.5 percent growth per year). This approach is reasonable, however, the growth rates should be noted within the Build-Out Background Analysis section.
    c. Midday peak hour conditions should be updated with the peak hour generator trip generation.
    d. The horizon year build capacity analysis is noted that all intersections are anticipated to have an acceptable overall LOS, however, the Cedar Avenue and 147th Street intersection is anticipated to have a LOS E during the p.m. peak hour.

4. **Turn Lane Analysis**

   a. It is noted to restripe the westbound left-turn lane at the Cedar Avenue and Glazier Avenue intersection, which should be modified to the Cedar Avenue and 147th Street intersection. The recommended restriping of the westbound left-turn lane on 147th Street to Cedar Avenue is reasonable and should be considered.

   b. Existing queues are not provided within the Turn Lane Queue Summary tables. This could provide a comparison to baseline conditions.

   c. Year 2030 Horizon analysis indicates the average and 95th percentile northbound left-turn queues at Glazier Avenue/147th Street under build conditions are 115 feet and 190 feet, respectively. The northern site access, which is right-in only, as well as the Wing's Financial driveway should not be impacted by the northbound left-turn queue. The midday peak hour condition should be updated to determine if there are additional queuing impacts that may extend to the southern site access or beyond, which could cause internal site operational issues.

   d. The recommended restriping of the northbound left-turn lane on Glazier Avenue to 147th Street is reasonable and could be considered, as an interim improvement condition prior to the public improvement project. This turn lane should accommodate northbound left-turning queues from 147th Street, pending any findings from a midday analysis.

5. **Conclusions and Recommendations** – This section may be updated based on the recommendation to reanalyze the midday peak hour trip generation and intersection capacity analysis. If midday queuing is expected to impact the southern driveway or adjacent driveways further to the south, discussions may need to occur with area stakeholders during the interim condition prior to the public improvement project.

Additional Trip Generation Comparison

SRF developed an updated trip generation estimate using the *ITE Trip Generation Manual, 10th Edition* to understand differences between the proposed land uses and both the existing land uses and the current zoning allowable maximum square footage for a Class 1 restaurant space (i.e. ~11,.000 square feet). In general, Class 1 restaurant spaces are formal sit down restaurants with menus or can be casual sit down restaurants that meet a number of criteria (i.e. fast casual). Class 1 restaurant spaces do not have drive-thru capabilities.

Results of the trip generation comparison between the land use application and the existing land uses is shown in Table 1. This indicates that the peak hour trips are expected to increase significantly as compared to the existing land use. Additionally, it should be noted that the proposed land use is expected to have approximately 3,475 daily trips as compared to the existing site, which currently generates approximately 340 daily trips. Note the trip generation comparisons include the peak hour of generator for the midday trip generation.

Table 1 Trip Generation Comparison (Existing Land Uses)

Land Use Type *(ITE Code)*	Size	Weekday A.M Peak Hour Trips		Weekday M.D. Peak Hour Trips		Weekday P.M Peak Hour Trips	
		In	Out	In	Out	In	Out
Land Use Application							
Coffee Shop w/ Drive Through *(937)*	1,800 sf	82	78	34	33	39	39
Fast-Casual Restaurant *(930)*	6,000 sf	8	4	121	142	47	38
Medical-Dental Office *(720)*	3,000 sf	7	2	7	4	3	7
Total		97	84	162	179	89	84
Existing Site							
Office Space	9,900 sf	15	5	3	5	16	18
Trip Difference		+82	+79	+159	+174	+73	+66

Results of the trip generation comparison with the Class 1 maximum square footage of 11,000 sf, shown in Table 2, indicate that there is expected to be significantly more a.m. peak hour trips. However, midday peak hour trips are expected to be reduced by approximately 30 percent and p.m. peak hour trips increase by approximately 10 percent as compared to the maximum allowable Class 1 restaurant space. Additionally, the proposed land uses and the Class 1 maximum use are expected to have a similar amount of daily trips.

Table 2 Trip Generation Comparison (Class 1 Max)

Land Use Type *(ITE Code)*	Size	Weekday A.M Peak Hour Trips		Weekday M.D. Peak Hour Trips		Weekday P.M Peak Hour Trips	
		In	Out	In	Out	In	Out
Land Use Application							
Coffee Shop w/ Drive Through *(937)*	1,800 sf	82	78	34	33	39	39
Fast-Casual Restaurant *(930)*	6,000 sf	8	4	121	142	47	38
Medical-Dental Office *(720)*	3,000 sf	7	2	7	4	3	7
Total		97	84	162	179	89	84
Class 1 Maximum Allowable							
Fast-Casual Restaurant *(930)*	11,000 sf	15	8	222	260	85	70
Trip Difference		+82	+76	(-60)	(-81)	+4	+14

Interim Conditions

A review of the interim conditions was completed to understand how the site would operate under a full build out scenario prior to the public improvement projects along 147th Street, which includes a restricted thee-quarter access at Glazier Avenue (south) and a roundabout at Glazier Avenue (north). Note that this assessment includes the refined midday peak hour trip generation for the proposed development. Results of preliminary tests conclude that there is expected to be average northbound queues along Glazier Avenue of approximately 100 feet and 95th percentile queues of approximately 200 feet during the midday peak hour. It is estimated that queues would extend beyond the northern enter only access point only 10 percent of the peak hour. It should be noted that northbound left-turn delays are expected to increase from 16 seconds per vehicle in the year 2019 no build condition to 33 seconds per vehicle, which represents a side-street level of service D condition.

The recommended turn-lane length for this turn-lane is 190 feet of storage of a 50 foot taper. This turn-lane storage would be adequate for approximately 90 to 95 percent of the midday peak hour and is expected to be adequate for both the a.m. and p.m. peak hours. Therefore, no other geometric or traffic control improvements are necessary during the interim condition.