PLANNING COMMISSION
STAFF REPORT

August 31, 2020

TO: Chairwoman Bailey
       Planning Commission Members
       Anna Krstulic, Zoning Counsel

FROM: Kim Young, City Clerk and Abbie Aldridge, Assistant City Clerk

APPLICANT: Aaron March with Rouse Frets White Goss Gentile Rhodes, P.C on behalf of property owners Robyn & Chris Wagner

The legal description for the lot(s) is: 5911 Howe Dr., REINHARDT ESTATES UNIT NO. 3 S 15' LT 16 & ALL LT 17 BLK 2 FAC 1256

15-297 (a)(2) – Site Design Standards-Lot Design-Greenspace requirement –

Applicant is requesting an exception to the greenspace requirement.

The lot is 16721 sf and requires 11,400 sf of the lot to be greenspace. 5681 sf of impervious is allowed.

History: In February 2020 Elliot McCalley with Pure Blue KC applied for a pool permit for 5911 Howe Dr. The plans submitted for permitting stated the proposed pool/patio project added 1614.37 sf of impervious hardscape to the lot for a total impervious area of 5663.77 sf. The plans met code and the permit was issued.

July 30th: City was contacted by a neighboring property regarding the project at 5911 Howe Dr. The neighbor was concerned with the grading and water runoff that occurred due to recent rains. The pool and patio areas had been installed and the contractor was in the processes of grading and preparing for sod. When staff was evaluating the property for erosion control to be added to the project it was noted that the patio/pool area appeared to differ from the approved plans. While on site staff took measurements and determined the patio/pool dimensions did not match the approved plans. Staff informed Mr. McCalley that an updated as built site plan must be submitted to the City.

August 3rd: the as built site plan was submitted by Mr. McCalley stated the new pool/patio hard scape is 1,627 sf. Staff arranged to meet Mr. McCalley at the property to review the as built site plan.

August 4th: Staff met with Mr. McCalley on site and again took measurements of the pool, patio areas, and all other impervious areas on the lot. Staff determined the as built site plan submitted was incorrect as the dimensions provided differed from the measurements that staff took while on site. Staff determined that the additional pool/hardscape exceeded 1,627 sf and the lot did not meet the greenspace requirement. Mr. McCalley was notified to remove impervious areas to meet the greenspace requirement or apply to seek an exception from the Planning Commission. The project was halted and fencing and erosion control were installed to secure the area.

August 6th: City was contacted by the property owner’s representative Aaron March. Mr. March stated that the property owner would be seeking an exception and obtain the needed documentation from an engineer.

Mr. March has supplied an updated as built site plan “Hardscape Exhibit” and watershed analysis prepared by an engineer. The impervious area total is 6114 sf. The as built site plan dated 8/12/2020 exceeds the allowed impervious area/hardscape amount by 433.75 sf.
The watershed analysis states the storm water runoff rate increases to adjacent properties to the east and recommends a swale and infiltration basin to offset the increase in runoff. A basin/rain garden is proposed on the northeast corner of the property.

**STAFF RECOMMENDATION:**

Staff is not supportive of the exception as proposed.

Should the Planning Commission approve the exception request the approval should include the following:

1. Three (3) revised sets of site plans are submitted for plan review and approval.
2. Submit revised watershed analysis correlating to the approved site plan.
3. That the project complies with all City ordinances and the 2012 International Residential Code.
HARDSCAPE EXHIBIT
FOR
5911 HOWE DR
FAIRWAY, KS 66205

N 88° 22' 34.00" W 146.530'

S 88° 22' 34.00" E 143.380'

HOWE DR:
(50' ROW)
L=115.039
R=1175.000

S 4° 53' 31.00" W 115.130'

DRIVEWAY
SF=725

WALK
SF=212

HOUSE
SF=3177

PATIO
SF=2000

TOTAL
SF=6114

NOTE:
BOUNDARY SURVEY INFORMATION PROVIDED BY JOHN RENNER

SCALE: 1"=30'

EXHIBIT PREPARED FOR: CHRISTOPHER WAGNER
PREPARED BY: JAKE FISCHER, PE #27258 DATE: 8/12/2020
August 18, 2020

Watershed Analysis
5911 Howe Drive
Fairway, Kansas

5911 Howe Drive, Fairway, Kansas is an existing 16,721.66 s.f. (0.38 acre) single family residential site, Lot 17, Block 2 Reinhart Estates Unit No. 3 Subdivision. The site is located within the Brush Creek watershed. The front yard drains to the west and the rear yard drains to the east. There is no known history of drainage problems in the immediate area. The site is not located within a FEMA designated flood plain or floodway.

Methodology and Analysis
The analysis of the site was conducted using the Rational Method as stated in the APWA Section 5600, 2011 edition, for the 2-year, 10-year, and 100-year rainfall frequencies. Composite runoff coefficients were calculated for each drainage area based on the amount of pervious and impervious land. Detailed calculations are provided in the appendix.

Storm Runoff
The 16,721 s.f. residence is allocated 5,680 s.f of impervious area, 34.0% impervious. The proposed construction will have 6,114 s.f of impervious area, 36.6% impervious. Refer to Table 1 for stormwater runoff analysis.

Table 1: Runoff Comparison

<table>
<thead>
<tr>
<th></th>
<th>% Impervious</th>
<th>2-year (cfs)</th>
<th>10-year (cfs)</th>
<th>100-year (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed Hardscape</td>
<td>34.0</td>
<td>1.027</td>
<td>1.396</td>
<td>2.445</td>
</tr>
<tr>
<td>Proposed Hardscape</td>
<td>36.6</td>
<td>1.068</td>
<td>1.452</td>
<td>2.543</td>
</tr>
</tbody>
</table>

The increase in runoff from the additional hardscape is marginal and can be alleviated with a stormwater BMP or some other landscaping strategy. It is advantageous to minimize downstream problems especially in the rear yard which drains across adjacent properties. In order to mitigate any impacts to the adjacent properties to the east, an infiltration basin capable of containing 150 cubic feet with a 3-foot weir should be utilized to control peak runoff to tolerable quantities. The proposed basin will encourage infiltration of stormwater and regulate the release of runoff during larger storm events. Refer to Table 2 for release rates.

Table 2: Runoff with Discharge Control

<table>
<thead>
<tr>
<th></th>
<th>2-year (cfs)</th>
<th>10-year (cfs)</th>
<th>100-year (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge Control</td>
<td>1.026</td>
<td>1.364</td>
<td>2.378</td>
</tr>
</tbody>
</table>
Summary
Stormwater runoff rates to adjacent property increase as a result of this project, therefore, mitigation of water volume is recommended. Considering site restraints, particularly the lack of existing stormwater infrastructure in the area to connect to, an infiltration basin should be constructed to offset the increase in runoff. The basin should be sized to store approximately 150 cubic feet of stormwater which will bring the runoff rates to allowable quantities.

Engineer's Statement:
The storm drainage report was prepared under my direct supervision and to the best of my knowledge conforms to the City of Fairway, Kansas storm drainage design criteria for private development.
August 26, 2020

Abbie Aldridge
Assistant City Clerk
City of Fairway, Kansas

RE: 5911 Howe, Green Space Exception supporting materials

Dear Mrs. Aldridge,

Thank you for the review of the 5911 Howe, Green Space Exception supporting materials received on August 24, 2020. Below you will find written responses to the comments for this project below in blue.

1. The watershed analysis states that the overall runoff is increasing and the proposed raingarden will mitigate any impacts to the adjacent properties to the east. However, the watershed analysis does not show how the grade of the property has changed and how that change has affected the runoff patterns.
   Unfortunately, I was engaged near the end of construction and was not able to look at or find any documentation of the existing conditions of the property prior to construction. However, the patio trench drain outfall directs flows to the infiltration basin, therefore the increased runoff will be captured by the infiltration basin, mitigating any impacts to the adjacent properties.

2. The original site plan included a retaining in the southeast corner to address the grade change in that area. The property that was affected by recent rains was the property to the south. How will the additional runoff from the patio/pool be addressed?
   A swale will be installed along the eastern fence line to redirect any drainage to the stormwater BMP/infiltration basin. Please see the attached Drainage Exhibit for clarification.

If you have any comments or questions with the revised submission documents or responses above, do not hesitate to contact me.

Sincerely,

Jake Fischer, PE
Rain Garden to accommodate 200 cubic ft according to watershed analysis

residential rain garden
(keep 10 feet away from most structures)

- Native plants absorb runoff and pollutants while attracting songbirds and butterflies
- Root zone aids in nutrient uptake, minimized activity, andfiltration
- Ground bed (if needed)
- Perforated pipe or water
- Perforated pipe or water

prepared soil mixture
(if needed)
50% 50% sand soil or peat
25% 25% compost
25% 25% compost