

UPS GROUND

May 29, 2020

Dan Peterson
Building & Development Director
City of Prospect Heights
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RE: Name of Project: Reserves at Muir Park (formerly Prospect Pointe)
Municipality of Project: Prospect Heights
Review Letter No.: 1
Dated 04/06/2020
Our File#: 18-219

Mr. Peterson:

We have received review comments from the Village, dated April 6, 2020, regarding the preliminary submittal for Reserve at Muir Park (formerly Prospect Pointe). Attached for your review are the following:

- Twelve (12) Sets of Reserve at Muir Park Preliminary Engineering Plans, revised 05/28/2020
- Twelve (12) Sets of Reserve at Muir Park Stormwater Management Report, revised 05/22/2020
- Twelve (12) Sets of Report of Soils Exploration, dated 03/01/2019
- Twelve (12) Sets of Traffic Impact Study, revised 05/19/2020 prepared by KLOA
- Twelve (12) Sets of Comment Responses, dated 05/19/2020 prepared by KLOA
- Twelve (12) Sets of Fire Truck Turning Exhibit, dated 05/27/2020
- Twelve (12) Sets of Population Equivalent Calculations, dated 05/22/2020
- Twelve (12) Sets of Title Commitment for 1001 Oak Avenue
- Twelve (12) Sets of PUD Site Plan
- Twelve (12) Sets of Tentative Plat of Subdivision
- Twelve (12) Sets of Surrounding Conditions Exhibit

Below, please find the review comments grouped by subject and shown in italics, with our responses following immediately in bold:

Engineering Plans

General Comments

1. *The applicant should copy the City on correspondence with other permitting agencies.*
Understood, the City will be copied on correspondence once permit submittals are initiated.
 2. *It is recommended that on all proposed condition sheets, items that are to be demolished/removed should be turned off for clarity. It is also recommended that proposed building numbers are shown on all sheets.*
This will be completed in final engineering.
 3. *Provide data regarding the quality and quantity of groundwater available for the proposed water supply system as well as anticipated impacts on nearby private well supplies.*
Research and design of the potable water system is in progress as of the date of this submission. Preliminary studies by Lintech Engineering and Water Well Solutions suggest an 8" x 200' well into the limestone aquifer would be recommended to support the proposed 40 gpm production.
 4. *Provide sanitary sewer flow calculations for the proposed development.*
PE and sanitary flow calculations have been included in this submittal.
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5. *Soil borings should be provided, and the groundwater / seasonal high groundwater table indicated.*
The Geotechnical Report is included in this submittal.
6. *When the required information for the preliminary plat is provided, additional engineering comments may be generated. It will also need to be confirmed that the Lot 13 and Lot 14 provisions include utility and stormwater language per City requirements.*
The Developer and Park District are entering into an agreement for the maintenance of utilities, stormwater, etc that will be recorded against the Developer's property. The Final Plat of Subdivision will include Utility & Stormwater Easement Provisions in accordance with City requirements.
7. *It was discussed previously with the applicant that portions of Drake Terrace and the neighborhood to the north could potentially be drained into the proposed detention facility as part of the TIF development. If that is still the case, it should be considered in preliminary engineering.*
Per our discussions with the City Engineer, it is our understanding that this is no longer being considered as part of this development and will be designed separate from the site improvements.
8. *When final engineering is submitted, the plans should include reference to Prospect Heights standard details and specifications for all utilities.*
Noted, these references will be included when we proceed to final engineering.

Engineering Plan Comments

9. *A datum and benchmark should be provided on the cover sheet.*
This information will be provided in final engineering. For reference, the datum is NAVD88 per the requirements on the MWRD
10. *The mapped Zone A floodplain should be shown on all applicable pages of the engineering plans.*
The mapped Zone A floodplain has been added to the plan sheets. Refer to the response to comment 39 for additional information regarding the Zone A floodplain on this site.
11. *Sheet 2.0 does not indicate any water or sanitary services for the existing parcel. All existing lines should be shown.*
The building is on a well for water located on the southeast side of the building. The location and routing the existing water and sanitary service(s) are unknown and have not been able to be independently verified. Notes have been added to sheet C2.0 for the contractor to field locate and remove services.
12. *Sheet 2.0 should indicate the sizes of existing utility lines.*
The size of existing utility lines are called out on the structure labels.
13. *Proposed sanitary and watermain sizes should be indicated on the plans.*
Typical sanitary and watermain sizes have been indicated.
14. *It is our understanding IDPH is currently requiring fire hydrant leads on private property be less than 5'. We recommend the engineer review the current interpretation of the plumbing code by IDPH and adjust the plans accordingly.*
The watermain layout and hydrant locations have been revised to provide hydrant leads 5-ft or less.
15. *Fire hydrant spacing should be reviewed by the Prospect Heights Fire District.*
Noted.
16. *Valves should be placed on two legs of each three-legged junction.*
Valve vaults have been placed on the legs of each junction as appropriate.
17. *A sidewalk should be provided along Oak Avenue to Drake Terrace.*
A sidewalk connection has been provided to Drake Terrace.



18. *Oak Avenue should be reconstructed as part of the project. A mill and overlay or reconstruction of Drake Terrace may be required as well.*

Noted, Oak Avenue is now shown as a full reconstruction.

19. *A proposed typical street cross section that indicates width, type of curb, slopes, sidewalk width and slope, and easement width should be provided.*

Typical sections have been provided on Sheet C3.4.

20. *Additional information should be provided pertaining to the proposed retaining wall on the eastern property line (size, material, dimension from property line, etc.). It should be noted that a structural seal will be required for this wall at final engineering.*

Callouts have been added indicating that the proposed walls will be segmental block retaining walls. Block specifications and structural design will be provided in final engineering. Please note that we are reviewing the soil conditions in the area of the proposed stormwater management basin that may impact the type of wall being provided. This will be investigated further during the final engineering phase of the project.

21. *There are proposed storm sewer structures along the southern perimeter of the park with rim elevations below the HWL of the proposed pond they are draining to.*

The grading has been revised to raise the rim elevations where applicable. All rims are, at a minimum, at the same elevation as the HWL. In surcharge conditions, ponding may be present in these areas but under typical conditions they will function normally.

22. *The perimeter grading on the south and southeastern corner of the park property creates some cut over an existing storm sewer system. It should be ensured adequate cover is still provided.*

The grading has been revised to raise the grades above the existing storm sewer to the extent practicable. Adequate cover is being provided above the existing sewer based on the proposed usage of the surface (ground and multi-use path).

23. *Additional information should be provided pertaining to the pump, pump structure, and box culvert overflow structure for the detention basin.*

This information will be provided in final engineering.

24. *The proposed grading along the eastern property line does not appear to consider the retention of the pavement and concrete areas of Pleasant Run Park. Grading should be refined to reflect them and it should be ensured the cut does not undermine the areas or cause safety concerns for the park.*

The grading has been revised such that the pavement areas of Pleasant Run Park can safely remain.

25. *It is not recommended that roadway low points be located in the driveway aprons.*

The low point in the apron has been shifted to the south.

Stormwater Management Report Comments

26. *Electronic stormwater models and schematic diagrams for modeling should be provided.*

Schematic diagrams have been added to the stormwater report. Electronic models have been included in this resubmittal.

27. *Updated Bulletin 75 rainfall data should be used for all calculations. The narrative refers to Bulletin 70 and TP 40 rainfall being utilized.*

The previous drainage study was completed prior to the issuance of Bulletin 75, however the rainfalls used represent the March 2019 update of Bulletin 70. The models included in this report utilize Bulletin 75. TP40 is referenced in the stormwater report regarding the previously provided detention for the Prospect Heights and Wheeling park sites.

28. *The existing conditions narrative and exhibit should be enhanced to show where each subarea drains to offsite and the critical duration rate at which it leaves. Outfall structures should be identified.*

Additional information has been added to the narrative and exhibit to clarify the drainage. Summary tables have been provided on the peak release rates.



29. *The proposed conditions narrative should describe how existing drainage patterns are maintained and how the proposed improvements will not adversely impact adjacent properties. In particular, the narrative and plans should include a clear indication of the point(s) of overland discharge if the receiving storm sewer is beyond capacity or fails.*

Additional information has been added to the narrative describing existing drainage patterns and overflow capacity.

30. *The proposed narrative should describe, in more detail, the proposed detention basin design, including defining what is considered the “existing basin” and “proposed cistern”, the purpose of the internal spillways, the proposed vegetation / NWL conditions, the connection downstream, the overall basin overflow weir, freeboard, and all other applicable information.*

The narrative has been clarified to include information as applicable at this stage of the design. Further information will be provided as we proceed into final engineering.

31. *A pump and overflow structure are shown on the plans, but not incorporated into the stormwater report. Additional detail and calculations should be provided.*

Additional details have been provided on the plans regarding the overflow structure. The pump will be designed in final engineering.

32. *Adequate capacity should be demonstrated for the downstream storm sewer network the proposed basin is releasing to.*

Based on our analysis of on-site and upstream flows, we are reducing the flow to the downstream sewer network. Refer to the stormwater report for additional information.

33. *Per Section 6.5.2.B.1, the release will not cause the elevation of any receiving surface water to be increased by more than one-tenth foot (0.1') during the 100-year flood. Also release rate is determined by the lesser of 0.15 cfs/acre or the 3-year existing condition runoff rate. The report should provide calculations to comply with these requirements and illustrate which release rate is prevailing.*

Based on the analysis above, the flows to the receiving surface water are being reduced as a result of the provided detention and restrictor therefore we believe it is reasonable to assume that the water surface elevation will not increase as a result of the proposed development activities.

34. *Per Section 6.5.2.B.1, a copy of the storm sewer system calculations should be provided with preliminary plans.*

Storm sewer calculations will be provided in final engineering.

35. *Per Section 7.1.6, a base flood elevation (BFE) determination must be provided. Compensatory storage at a ratio of 1.5:1 is required per Section 7.1.9.B.4 based on the computed BFE. If the applicant has data or documentation that the area was inadvertently/inaccurately mapped by FEMA, this documentation should be included in the report.*

The BFE and storage volume of the existing depressional storage areas are identified on the Existing Conditions Drainage Exhibit. Design plans showing a stormwater basin in the approximate location of the Zone A floodplain have been included in this submittal that pre-date the issuance of the FEMA map. To provide a conservative design, the depressional storage volume is being compensated at a ratio of 1.5:1. Note that the detention storage in “PD1 Pond” is not being compensated in the same manner, as a portion of the tributary area for that pond is being redeveloped (Muir Park site) while the Pleasant Run Park site detention is provided in the proposed basin.

36. *The report should separate out the calculations for the detention volume required for the Wheeling Park.*

These calculations were provided on the Park District Storm Water Analysis included in the Stormwater Management Report

37. *Overland flow paths from adjacent properties should be identified and considered. For instance, there are low points along the curb line of the western property that will overflow into the proposed site that must be accounted for.*

Flow from the adjacent sites has been considered in this analysis. The adjacent site to the west



38. *The report and plans should indicate 100-year flow routes and specify if they are overland or in-pipe. Proposed spot elevations and rim grades are very close to existing grades at the property lines, and it must be ensured the 100-year flow is contained onsite.*

The Stormwater Management Report and plans have been revised to clarify that overflow from the proposed pond will be contained in the 36" outfall sewer. It is our intention that the storm sewer will be designed to convey 100-year flow when it is designed in final engineering.

39. *Since the site is in a mapped Zone A, the narrative should address what process (LOMA, LOMR, etc) is proposed to remove proposed structures from the floodplain.*

We believe that the Zone A floodplain is mapped in error as this area includes a stormwater management basin that pre-dates the issuance of the first FEMA map. Per related comments, as part of our drainage study we determined the BFE for the localized depressional areas, and are compensating that volume at a ratio of 1.5:1.

40. *The report should be enhanced to address building protection standards for proposed and existing structures adjacent to the detention basin and overland flow paths.*

Based on the elevation differences between the basin & overflow design compared to the existing and proposed buildings, no additional protections are needed.

41. *The stormwater report should be enhanced to include a discussion of existing wetlands on the site, any impacts from the proposed development, and the applicable permit requirements.*

Based on field investigations, the mapped wetland in the southeast corner of the park district site is mapped incorrectly as it is a stormwater management basin. There is a wetland present in the southeast corner of the school site that is being investigated. A wetland delineation report is being prepared and will be submitted under separate cover. We will include a discussion of impacts and permit requirements in final engineering.

Traffic Impact Study & Site Operations

Traffic Impact Study

Refer to comment responses provided by KLOA.

Haeger Engineering Plans

48. *We concur that the 26-foot face-to-face (F:F) private street dimensions will adequately accommodate site traffic, as will the 24-foot F:F dimensions of the driveway aisles serving the garages.*

Noted.

49. *AutoTurn should be run throughout the development for a larger automobile in/out of the garages and a fire truck along the internal streets. This data should be reviewed by the Prospect Heights Fire District.*

Turning movement exhibits have been included in this submittal.

50. *KLOA noted that there were to be 40 guest spaces and 26 guest / shared spaces. Which spaces are to be designated as guest only and which one shared? These spaces are distributed fairly well throughout the site.*

The 26 shared spaces are located on the Park District parcel.

51. *Clarify whether on-street parking is proposed as well as proposed enforcement procedures regarding parking in the proposed guest spaces.*

On-street parking is not proposed. We will coordinate enforcement procedures going into final engineering.

52. *The 5-foot sidewalks and 7-foot wide carriage (or attached) sidewalks are appropriate. Provide a discussion/rationale for not providing sidewalks on both sides of the subdivision streets.*

Sidewalks are provided for access to the residential units and to provide circulation to the park district. To allow for adequate guest parking, one side of the road features parking stalls which make it impractical to provide a sidewalk on that side.



Tentative Plat of Subdivision Comments

Prospect Heights City Code section 6-3-2 Preliminary Plat Requirements

1-b: *Please add the legal description.*

The legal description has been added.

1-c: *Shown on Engineering Plan not on this Preliminary Plat*

A current Boundary/ Topographic survey has been included in this submittal.

1-d: *Shown on Engineering Plan not on this Preliminary Plat*

Ownership has been added.

2-e: *Shown on Engineering Plan not on this Preliminary Plat*

See below.

2-f: *No location map. The lot key map is insufficient.*

A location map has been added

2-g: *Shown on Engineering Plan not on this Preliminary Plat*

See below.

2-h: *The plat needs to show the location of all survey monuments located, etc.*

The location and type of found monuments have been noted.

3-b: *Street names are shown on Engineering Plan not on this Preliminary Plat.*

Street names have been added.

3-e: *Need to show building setback lines*.*

Setback lines have been added.

3-f: *The zoning for the subject property needs to be shown*.*

The existing and proposed zoning has been noted.

3-h: *Shown on Engineering Plan not on this Preliminary Plat*

See below.

**Subject to P.U.D. requirements.*

Items 2-e, 2-g, 3-h: Topographic and utility information is presented on other drawings in this submittal per standard engineering and surveying practice. We will prepare an “overlay” drawing with all of the requested information combined as part of our final submittal.

General Comments

53. *Please provide a complete copy of the title policy, including Schedule B.*

We have enclosed copies of the Title Commitments for the School Site.

54. *The tentative plat should provide draft easement language for the ingress/egress, stormwater management, and utility easements. A blanket easement should also be granted to the Prospect Heights Fire District.*

We will coordinate easement language for ingress/egress, stormwater management, and utility easements as well as blanket easement(s) over the common areas during the Final Plat of Subdivision process.

In addition to the comments and responses above, additional detail was requested regarding the following issues:

- *Adequacy of the proposed well system and impacts on nearby private wells.*
Research and design of the potable water system is in progress as of the date of this submission. Preliminary studies by Lintech Engineering and Water Well Solutions suggest an 8” x 200’ well into the limestone aquifer would be recommended to support the proposed 40 gpm production.
- *Comparison of traffic impacts from the proposed development/park with the prior school/park uses.*
This information has been included in the revised Traffic Impact Study.
- *Analysis of the capacity of the existing 36” storm sewer and emergency overflow from the proposed detention facility.*
An analysis of the capacity of the existing 36” storm sewer is now included in the stormwater report.



- *Additional improvements that can be included in the project to address inadequate drainage in the neighborhood to the north.*

As discussed above, it is our understanding that the drainage improvements to the north have been separated from this project with drainage improvements for the neighborhood being incorporated into the overall TIF but that will be independent of the redevelopment of the property. We need to gain a better understanding on the drainage issues that the neighborhood to the north is experiencing so that an action plan can be developed.

This concludes our submittal. Please do not hesitate to contact me with any questions or concerns.

Sincerely,

HAEGER ENGINEERING, LLC

Todd A. Shaffer, PE
Principal