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MEMO TO: Township of Franklin  
Planning Board

FROM: Robert J. Russo, PE, PP, CME *RJR*  
Township Engineer *ED*

DATE: September 1, 2021

RE: **Mohamed Gouda**  
**Preliminary and Final Major Site Plan**  
**Report #1**  
**Engineering**  
**Block 286, Lot 14.02**  
**360 Franklin Boulevard**  
**Franklin, New Jersey**  
**Our File: PFRP0286.03/600.01**  
**Application # PLN-20-00015**

As per your request, this office has reviewed the following documents relative to the above referenced preliminary and final site plan application:

- Preliminary and Final Subdivision Plan, as prepared by Van Cleef Engineering Associates, dated December 15, 2017, with no revisions;
- Property Survey, as prepared by Van Cleef Engineering Associates, dated November 7, 2017, with no revisions;
- Stormwater Management Report, as prepared by Van Cleef Engineering Associates, dated December 15, 2017, with no revisions;
- Stormwater Best Management Practices (BMPs) Operation and Maintenance Manual, as prepared by Van Cleef Engineering Associates, dated December 15, 2017, with no revisions;
- Environmental Conditions Report, as prepared by Van Cleef Engineering Associates, dated December 22, 2017, with no revisions;
- Traffic Impact Analysis, as prepared by Van Cleef Engineering Associates, dated November 27, 2020, with no revisions;
- Application Forms.

The following comments are offered with regard to same:

#### **A. PROJECT OVERVIEW**

The site is located at the southern terminus of Rogers Avenue, at its intersection with Belmar Street. The property is approximately 2.773 acres and is located in the R-10 zone. The site is currently heavily forested. The applicant is proposing to subdivide existing lot 14.02 into six (6) lots [five (5) lots will contain single family dwellings and the remaining lot will contain an infiltration basin that will be dedicated to the Township]. The applicant will provide access to the site by extending Rogers Avenue with a proposed cul-de-sac. The existing forested lot will be cleared. The applicant is proposing the following site improvements including but not limited to one (1) infiltration basin to address NJDEOP stormwater management rules, extension of Rogers Avenue, utilities, modular block wall, grading, lighting and landscaping.

We defer the review of the zoning related issues to the Board Planner except where they may pertain to engineering issues.



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**B. GENERAL SITE IMPROVEMENTS**

1. Official street addresses shall be obtained from the Franklin Township 911 Coordinator.
2. An Engineering Cost Estimate will be required once final plans are signed-off on by the Board. Upon approval, applicant shall provide appropriate bonds and Engineering inspection fees and attend a pre-construction meeting, prior to any site work.
3. All fees shall be paid by the applicant at the time of adoption of a resolution of site plan approval for the cost of making upgrades and modifications to the Tax Maps and geographic information system (GIS) (§112-329)
4. At the time the final plans are submitted for signature of the municipal officials, the applicant shall submit CAD-generated data files, prepared by a New Jersey licensed land surveyor, directly translatable into an identical image of the plan per the requirements of Ordinance §112-329.
5. Note: An As-Built Plan prepared by a licensed Land Surveyor is to be submitted to the Township prior to any Certificate of Occupancy inspection or the release of performance bonds. Same should be noted on the site plan.
6. Note: No soil can be imported to or removed from the site until a Soil Importation or Exportation Permit has been obtained from the Township as required by the Ordinance. Soil removal shall be in accordance with §206 of the Ordinance.
7. In accordance with Ordinance §333-45.A.1, a local residential road should provide a fifty foot (50') right-of-way and pavement width of thirty feet (30'). The Township standard engineering details require curbing and sidewalk along both sides of the roadway. Section 5:21-4.5 Table 4.3 of the R.S.I.S. standards require a fifty foot (50') right-of-way, containing a pavement width of twenty-eight feet (28') (consisting of a seven foot (7') parking lane and twenty-one foot (21') travel way, sidewalk along side of the road and graded area along the other for a low intensity street. The applicant is proposing a forty foot (40') right-of-way, twenty four foot (24') pavement with no on-street parking, no curbing or sidewalk. We recommend the applicant redesign the plan for compliance with the ordinance or at a minimum compliance with the R.S.I.S. standard should be provided.
8. The property survey was prepared on November 7, 2017. The Township constructed sidewalk along the southern portion of Belmar Street in the late fall/early winter of 2018. The survey should be updated to show the sidewalk. The applicant's design plan will require the installation of a handicap ramp crossing (including curb installation) along the intersection of the new proposed roadway and Belmar Street.
9. As required by a condition of resolution approval from the previous subdivision (Docket no. PLN-2007-00022) for this property, compliance with the Township Engineer review memo dated July 12, 2011 is required. The following outstanding comment should be addressed:
  - a. The Viking Avenue property was required to provide a 25' wide conservation easement / buffer in the rear of all of the properties. It is recommended that a conservation easement be required for any lot areas bordering the existing dwellings along Belmar Street, Irvington Avenue, and Viking Avenue.
10. This office defers to the Fire Prevention Officer as to the appropriate number of Fire Hydrants and their locations, respectively. In addition, we defer to the Fire Prevention Officer regarding the need of 'No Parking' fire lane signage and striping. Please note, all proposed fire hydrants should be installed a maximum of 2' from the face of curb/edge of pavement to the center of the hydrant, as shown on the Township typical detail. This will conflict with the proposed grass swales, final approval from the Fire Prevention Officer for any deviations from the Township details is required. At a minimum, the fire hydrant should be relocated within the public right of way.
11. The Fire Truck Turning Template should be revised to delineate the wheel well travel path, in addition to the body envelope shown. It is unclear if the emergency vehicle can navigate the cul-de-sac without entering the proposed grass swale. In addition, it is unclear if an emergency vehicle can enter the traveling eastbound along



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Belmar Street, or make a right turn exit movement from the unnamed roadway to Belmar Street. Additional turning movement exhibits should be provided.

12. Limited geotechnical information has been provided. The basement elevation for each dwelling shall be a minimum of two feet above the seasonal high ground water elevation (SHGW). The applicant shall perform the required geotechnical testing to demonstrate compliance with this requirement.
13. The existing shoulder striping along Belmar Street should be removed at the proposed extension of Rogers Avenue.
14. It appears that a significant redesign is required to address the storm water management design and to address conservation easement/buffer noted above; therefore, the preliminary subdivision plan will be reviewed after the project redesign.
15. The applicant's engineer should provide intersection sight distance triangles that conform to the latest AASHTO (American Association of State Highway and Transportation Officials) guidelines as published in the current edition of A Policy on Geometric Design of Highways and Streets for the intersection of Belmar Street and Rogers Avenue.
16. The applicant should install new street sign at the intersection of Belmar Street and Rogers Avenue. Same should be noted on the site plan.
17. A safety fence should be provided at the top of wall for the infiltration basin. Same should be delineated on the site plan.

**C. GRADING AND UTILITY COMMENTS**

1. The profile appears to be been created from east to west while the roadway plan is shown in west to east. The profile should be regenerated to run in the same direction of the road plan.
2. The profile proposes a 76.68' vertical curve at PVI station 7+17.64 and 100' vertical curve at PVI stations 2+00.00 and 6+00.00, respectively, that do not appear necessary. The applicant's engineer should clarify.
3. Cross sections of the proposed roadway should be provided at intervals of 50' o.c.
4. Sheet no. 6 has conflicting existing contour information shown for the Viking Avenue Major Subdivision.
5. Existing and proposed topography shown within the site and extending to 200' beyond the site boundary should be provided at 1-foot intervals where practical. Proposed contours should be shown in 1' intervals. Where existing contours are not practical to be shown in 1-foot intervals spot elevations along the property line and neighbor properties should be provided demonstrating the drainage path. Please note, the project off-site topography provided has been based upon County Lidar information and has not been field verified. The applicant's engineer should verify same. In addition, existing topography and spot elevations should be provided along Belmar Street at its intersection with Rogers Avenue.
6. Delineate proposed utility services, curb boxes and cleanouts for each dwelling. Size and type of material for each service should be identified on the utility plan.
7. An existing 4" PVC inv. 105.2, is noted coming from Lot 2.01. It is unclear what this pipe is servicing, the applicant's engineer should investigate this pipe further. In addition, it appears the discharge from this pipe will be blocked by the proposed drainage swale and may result in a ponding area.



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8. The applicant should address the following general grading comments:

- The applicant should provide detailed grades at all handicap ramps within the public right of way to ensure same are ADA compliant and meet current regulations. The grade information required but is not limited to, top of depressed curb, 4' x 4' turnaround landing, ramp grades and tie in grades;
- Provide spot elevations at all sidewalk driveway crossings to demonstrate ADA compliance (a maximum cross slope of 2% is permitted);
- The proposed cross slope of Rogers Avenue should be noted on the plan;
- Provide grate elevations for inlets located on the Viking Avenue subdivision. Provide additional spot elevations verifying the drainage path of the arrows for this subdivision;
- Provide a profile of the proposed top of wall elevations, as it appears there will be steps along the wall to accommodate the top of wall elevations of 99.0', 100.80' and 102.3';
- Provide a minimum of 2.0% slope from the emergency spillway elevation 100.8' and the Rogers Avenue improvements;
- The grass swales and drainage improvements along the rear of the proposed lots should be relocated outside of the 25' conservation easements required under the previous board approval;
- The proposed 106' contour does not tie into the existing topography at Lot 66.01;
- The slope from the proposed 102' contour and CB #107 exceeds a maximum slope of 3:1;
- Provide proposed/existing spot elevations at all property corners;
- Provide a proposed spot elevation for the southeast corner of the driveway for lot 14.04. In addition, the driveway slope from the northwest corner of the driveway to the proposed 104' contour is approximately 12.5%. We recommend the applicant's engineer review same further;
- Provide existing tie-in grades at the intersection of Rogers Avenue and Belmar Street;
- As noted below, the grass swale along Rogers Avenue should be relocated outside of the right of way. Initial grading comments on the swale are noted below
  - A high point is noted within the cul de sac with an EOP elevation of 107.18 and a swale elevation of 107.00, yet to the north there is an EOP elevation of 107.40 and swale elevation of 107.00. The applicant's engineer should review this further;
  - The slope from proposed 102' contour and CB#113 exceeds a maximum slope of 3:1. In addition, should this be regraded to 3:1 our office has concerns with such a steep slope at the edge of the travel way that has no shoulder for safety. Should be the Board grant the applicant's waiver our office would recommend a guide rail warrant analysis be performed for vehicular safety;
  - The slope from proposed 101.75 spot elevation and CB#102 exceeds a maximum slope of 3:1. In addition, should this be regraded to 3:1 our office has concerns with such a steep slope at the edge of the travel way that has no shoulder for safety. Should be the Board grant the applicant's waiver our office would recommend a guide rail warrant analysis be performed for vehicular safety;
  - The slope from proposed 100' contour and CB#6 exceeds a maximum slope of 3:1. In addition, should this be regraded to 3:1 our office has concerns with such a steep slope at the edge of the travel way that has no shoulder for safety. Should be the Board grant the applicant's waiver our office would recommend a guide rail warrant analysis be performed for vehicular safety;
  - The slope from proposed 100' contour and CB#5 exceeds a maximum slope of 3:1. In addition, should this be regraded to 3:1 our office has concerns with such a steep slope at the edge of the travel way that has no shoulder for safety. Should be the Board grant the applicant's waiver our office would recommend a guide rail warrant analysis be performed for vehicular safety;
  - The proposed 102' contour runs through CB#201; the grate elevation for CB#201 is 101.77'. The applicant's engineer should review this further;
  - The proposed 100' contour along the eastern swale ties into the neighboring property on lot 7. A construction access and grading easement will be required;
  - It is unclear how the proposed 100' contour will tie in along the western swale;
- The grading will be reviewed further when the above has been addressed.



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**D. LANDSCAPING AND LIGHTING COMMENTS**

1. Applicant supplied a tree removal and replacement calculation on sheet no. 6, to satisfy the requirements of Ordinance §222- Trees. The applicant is will provide a contribution to the Township Tree Fund to satisfy the replacement requirement. This office defers to the Township Planner as to the adequacy of the tree replacement plan, as well as the adequacy of the proposed landscaping and buffering to adjacent properties, respectively.
2. The previously mentioned conservation easement/buffer should be provided along the rear properties lines as noted above. Otherwise the applicant should request amended approval for Docket no. PLN-2007-00022, requesting elimination of same.
3. The proposed light poles are located within the proposed drainage swales and will impede the drainage path. As previously mentioned, the swales should be moved outside of the public right of way.
4. The Applicant should supply a point by point foot-candle analysis of the proposed lighting improvements, for further review.

**E. POTABLE WATER DISTRIBUTION SYSTEM**

1. The applicant should provide in table format cross tabulations for water services/ utility crossings (including lateral crossings) with corresponding clearances to reflect the avoidance of conflicts with other underground utilities, as required. The site plan should indicate the proposed location of all required concrete cradles.
2. The fire hydrant at the intersection of Belmar Street and Rogers Avenue was relocated as part of the Township's sidewalk capital improvement project, mentioned above. The survey/site plan should be updated to reflect the hydrant's current location. It appears the fire hydrant will need to be relocated. The applicant's engineer should review this further.
3. A fire hydrant should be added at the following locations:
  - In the cul de sac at the end of the main;
  - Between station 3+00 and 4+00.
4. Identify size and type of material for the proposed water main extension.
5. The applicant should add the following notes to the plans:
  - All constructions shall comply with the current rules and regulations/ or ordinances of Franklin Township, NJDEP, AWWA and all applicable regulatory agencies having jurisdiction.
  - The minimum clearances between water mains and sanitary sewers shall be in accordance with the State standards, i.e. Minimum horizontal clearance between water main and sanitary sewer in parallel shall be ten ft. (10'), Minimum vertical clearance between pipe crossing shall be eighteen inches (18") with the sanitary sewer below the water line. If such minimum vertical clearance cannot be provided, the sanitary sewer shall be encased in concrete ten ft. (10') from each side of the crossing or a total of twenty ft. (20').
  - Water mains crossing storm sewers or drains where the clearance between the pipes is less than eighteen (18") inches, pier supports for the storm line shall be provided in order to prevent the load transfer to the affected utility.

**F. ENVIRONMENTAL IMPACT COMMENTS**

1. The information in Environment Impact Statement Report should be coordinated with the information presented in other documents included with this application. For example, the EIS presents the stormwater management method as a "Sand Filter with underdrains." In contrast, the stormwater management report identifies an "infiltration basin" and an "MTD device" as the methods used in the design. The operation manual identifies an "infiltration basin", "MTD" and "grass swales" as the methods used in the design. Street address in EIS report does not match with Traffic Report.



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2. The Applicant should review township ordinance requirements for the environmental impact assessment Ordinance § 112-199.F. The Environmental Impact Assessment should address all items F(1) thru F(9) in the Township Ordinance.
3. A copy of all referenced site-specific documents should be provided in the appendices.
4. All maps and figures provided in appendices must be legible.
5. The qualifications of the preparer of EIS should be provided in appendices.

**G. STORM WATER MANAGEMENT:**

1. The project exceeds the threshold of 1 acre of disturbance and in accordance with RSIS Standards is classified as a major development for stormwater management purposes. Major projects must comply with water quantity control, water quality and groundwater recharge standards.
2. The Stormwater Management report on page 11 references stormwater rules from June 2016. It appears these stormwater control measures were designed to 2016 standards and these rules have had a major revision since which went into effect earlier this year. The current regulations require green infrastructure to meet stormwater quantity, quality and recharge standards. Two stormwater BMP are used for stormwater management, i.e., infiltration basin and Upflo Filter (an MTD). The infiltration basin and MTD used in this design do not meet green infrastructure standards. The infiltration basin has a drainage area of approximately 3 acres, while a max of 2.5 acres is allowed under green infrastructure rules. MTD used is not on the NJDEP green infrastructure MTD list. The applicant's engineer should review the current stormwater rules dated March 2, 2020, and make necessary adjustments to the stormwater management design to address the new regulations. This office will perform a full stormwater management review upon said revisions.
3. The project site is located within the review zone of the Delaware and Raritan Canal Commission and the Applicant should obtain approval from the Commission. A copy of the permit should be provided to this office.
4. The Applicant must obtain a Soil Erosion and Sediment Control Plan Certification from the Somerset-Union Soil Conservation District. A copy of the certification must be provided to this office.
5. The proposed development proposes more than 1 acre of land disturbance and must obtain a General Permit for Construction Activities from the NJDEP. A copy of the permit must be provided to this office.
6. In accordance with ordinance § 330-6.T.(11) stormwater BMPs may not be constructed within municipal rights-of-way. The Applicant proposes to construct BMP devices (grass swales and MTD) within the right-of-way. This will not be accepted by the Township. In addition, a homeowner's association (HOA) shall be designated to maintain these improvements, as well as the proposed infiltration basin, and all proposed storm sewer easements.
7. All storm sewer pipe within the public right of way and in any easements to be maintained by the Township shall be reinforced concrete pipe. HDPE in these locations is not acceptable.
8. In accordance with ordinance § 330-6.T.(10), all storm sewer pipe and structures (inlets, manholes and trench drains) shall be located a minimum of 10' from all property lines and right-of-way lines. The applicant's engineer should review the constructability of a storm sewer system near the northern property line; it appears the neighbor's fencing will need to be removed and replaced and a construction easement will be required along lots 2.01 and 6.01.
9. When the storm sewer is redesigned to meet the current stormwater regulations, the emergency spillway should be realigned/relocated to avoid draining through Lot 6.01.



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10. The drainage report should be revised to include a capacity analysis of the existing 15" RCP along Belmar Street to document adequate capacity to convey outflow peak flows from the proposed development. The analysis should include at least two pipe reaches downstream of the intersection of Rogers Avenue and Belmar Street and should include onsite and offsite flows. The site plan should be revised to show the downstream drainage structures including grate and invert elevations.
11. It appears a concrete headwall without flares would be more appropriate since a modular block wall system is proposed.

#### H. MISCELLANOUS

1. Revise/Add the following details based on Franklin Township standard details:
  - a. Township Concrete Sidewalk detail, revising same to indicate 4,500 psi concrete is required;
  - b. Township Roadway Typical Section detail;
  - c. Township Restoration of Street Openings detail;
  - d. Township Thrust Block detail;
  - e. Remove the Trench Detail for D.I.P. Watermain Type II w/ Bedding;
  - f. Remove Trench Detail for PVC or HDPE Storm Drain Pipe detail;
  - g. Remove Storm Sewer Trench detail;
  - h. Remove Restoration of Street Openings detail;
  - i. Revise the Stop Sign, No Parking Sign and No Parking Fire Lane Sign details to indicate breakaway sign posts are required. The site plan should be revised to show the proposed locations of all signage;
  - j. Revise the Stop Sign detail to remove 'for within County R.O.W.';
  - k. Township Utility Pipe Bedding detail;
  - l. Township Concrete Pipe Cradle detail;
  - m. Township House Service Connection detail;
  - n. Township No Parking Fire Lane sign detail;
  - o. Township Concrete Headwall detail;
  - p. Township Street Name Sign detail;
  - q. Revise the Precast Storm Drainage Manhole detail to indicate H-20 loading is required;
  - r. All sanitary sewer details shall be submitted directly to the Franklin Township Sewerage Authority for review and approval – Comment Only

The Applicant is required to obtain either approvals or letter of no interest from the following agencies:

#### Outside Agencies:

- Delaware Raritan Canal Commission
- Somerset County Planning Board
- Somerset-Union Soil Conservation District

#### Township Departments:

- Franklin Township Fire Department
- Franklin Township Police Department
- Somerset County Health Department
- Franklin Township Sewerage Authority

***The Engineering Department reserves the right to make additional comments based upon the submission of revised plans or testimony presented to the Board.***

Should you have any questions regarding this matter, please do not hesitate to contact this office.

RJR/DM

cc: Planning Board Secretary  
Scott M. Thomas, Franklin Township Engineering Department