October 26, 2023

Mr. Gregory Rondeau, Chairman
Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Application for Site Plan Review
100 & 200 Financial Park – Warehouse/Industrial Development
Franklin, Massachusetts

Dear Mr. Chairman:

On behalf of Berkeley Partners (Applicant), Highpoint Engineering Inc. (Highpoint) submits this letter to the Planning Board to summarize the Applicant's responses to the remaining items raised by the Board, Town Engineer Mike Maglio, and the BETA peer reviewers Gary James and Jacklyn Centraccio. The Applicant recognizes the complexities of redeveloping an existing property such as 100/200 Financial Park and appreciates the attention to detail that the Board and its representatives have considered in their reviews. Given the discussions at the 10/23/2023 public hearing, the Applicant is of the opinion that the Project review is substantially completed except for a few noted outstanding items as follows:

1. Regarding the site and stormwater management design, a final Response to Comments letter with accompanying detail was submitted to the Planning Board and BETA on 10/17/2023. We await a final letter from BETA to verify all additional comments are addressed.
2. Regarding the traffic design, a final Response to Comments letter with accompanying detail will be submitted to the Planning Board and BETA upon final coordination between MDM and BETA. This will be submitted as quickly as possible to allow BETA to respond to the Board prior to their 11/06/2023 meeting.
3. As requested by the Planning Board, the Applicant has contacted the owners of 553 Washington Street and 881 King Street, respectively, to determine if there is interest in granting right of way or construction easements to increase available roadway/intersection width for potential intersection improvements. The property owners have declined this request.
4. We understand that the Town Engineer has reviewed the proposed mountable curb/island at the King/Washington intersection with the DPW Director and he has taken no exceptions to the proposal, pending final review and approval by Franklin Engineering and DPW.
5. Regarding the Conservation Commission's concurrent Notice of Intent review, the final set of Site Development Plans and Stormwater Management Report will be submitted for record on 10/26/2023. Highpoint has requested that the Commission's peer reviewer, BETA, provide a final correspondence to the Commission that all review comments are addressed. It is our goal to have the Commission close their hearing and vote to approve the Project with conditions at their 11/02/2023 public hearing.

Assuming the Applicant is successful in resolving Items 1-5 above, and it is the Board's will to close the public hearing and vote on the Site Plan Review Application at the 11/06/2023 hearing, the Applicant hereby agrees to comply with the following conditions should the Board choose to implement them:

1. The Applicant will construct the intersection improvements depicted on the plan entitled, "Alternate Roadway Widening Plan 1" dated 10/09/2023 prepared by MDM Transportation Consultants. Additional improvements will include abandonment of the existing signal loop detection system, and installation of a new signal video-detection system with any minor signal timing adjustments as may be required by the DPW. Said modifications to be constructed in conformance with Franklin DPW requirements and will be substantially completed and operational prior to the Town's issuance of a Certificate of Occupancy for the first building.
2. The Applicant will provide a $50,000 sidewalk grant to the Town of Franklin, to use at its discretion, for design and construction of a future sidewalk extension along Washington Street from King Street to the Rte. 495 overpass. Said grant to be payable to the Town of Franklin and submitted prior to issuance of a building permit for the first building.
3. The Applicant will take responsibility for coordination with the owners of 300 Financial Drive, the Benjamin Franklin Classical Charter Public School, and the Franklin DPW regarding ongoing maintenance of shared campus stormwater controls not specifically located on the Project site. The Applicant will submit a draft Operation and Maintenance Plan to the DPW for review within six months from the date of Site Plan Review approval.

In conclusion, assuming all outstanding review items have been addressed and the Planning Board agrees with the above referenced conditions, the Applicant requests that the Planning Board close the public hearing and vote to approve the Site Plan Review application at the Board's November 6th hearing.

If you should have any questions, please contact my office at 781-770-0977.

Sincerely,
HIGHPOINT ENGINEERING, INC.

Douglas J. Hartnett, P.E.
President

cc: Andy Ramirez, Berkeley Partners
Brendan Pellerin, Berkeley Partners
Daniel Mills, MDM Transportation
Connie Lu, Highpoint

File

MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

PRINCIPALS
Robert J. Michaud, P.E.
Daniel J. Mills, P.E., PTOE

M E M O R A N D U M

DATE: October 30, 2023

TO: Mr. Gregory Rondeau, Chairman
Franklin Planning Board
355 E Central Street
Franklin, MA 02038

FROM: Daniel J. Mills, P.E., PTOE – Principal
Daniel A. Dumais, P.E. – Senior Project Manager

RE: **Response to Comments - Peer Review of Traffic Memorandum**
Proposed Warehouse Facilities
100/200 Financial Park, Franklin, MA

MDM Transportation Consultants, Inc. (MDM) has prepared the following responses to the outstanding transportation-related comments as issued in a letter to you by BETA Group, Inc. dated October 18, 2023. To facilitate review, specific outstanding comments that require further response or clarification are paraphrased with corresponding responses.

BETA Supplemental Comment T8: *"BETA understands that two different analyses were included due to the intersection configuration. Please elaborate on how the results provided in the LOS tables were determined when varying LOS output was generated."*

MDM Response T8: The intersection is unconventional from the perspective of the highway capacity manual (HCM). Highway capacity analysis requires either an all-way stop or two-way stop on four-legged intersections to provide analysis. To most accurately provide analysis, the intersection was modeled as an all-way stop and as a two-way stop. The all-way stop analysis was used for the Washington Street northbound approach, the Arlington Street southbound approach and the Union Street westbound approach all of which operate under "STOP" sign control. For the eastbound Union Street approach to the intersection the two-way stop analysis was used given that this approach is not under "STOP" control. The analysis results for the other outputs are not relevant and thus not used (i.e. eastbound Union Street "all-way STOP" analysis, and Washington Street/Arlington Street/Union Street northbound, southbound and westbound "two way STOP" analysis). MDM notes that regardless of the analysis methodology, the project has a nominal impact on this study intersection compared to No-Build conditions. No further analysis is required.

BETA Supplemental Comment T15: *Please show the proposed stop sign location and widths of the egress lane and the gore area. A mountable or more distinct separation between the gored section and egress lane would be ideal to ensure that standard vehicles do not use the area as a second egress lane. BETA suggests installing a flush scored pavement area where the gore extension to the median is shown.*

MDM Response T15*:* The Site Entrance Layout Plan (EXH-1) prepared by Highpoint Engineering (see **Attachment** for reference) has been updated to include the STOP sign locations and widths of the egress lane and the shoulder (gore) area. The plan has also been updated to include a mountable concrete truck apron instead of standard gore markings within the shoulder area along the egress lane and to provide a 6-foot-wide flush scored concrete extension of the median.

BETA Supplemental Comment T16*: The proposed mountable median end sections and relocation of the median signs shown in Exhibit 2 would provide limited benefit for trucks taking the left turn from Washington Street onto King Street and encroachment into the adjacent lane would continue. Exhibit 3 shows the adjustment needed to the east side of Washington Street to eliminate truck encroachment on the Washington Street right turn lane. This option would require an easement or property taking of the corner property to construct but would address many of the safety concerns at the intersection.*

MDM Response T16*:* MDM notes that while truck encroachment is required in the Washington Street right turn lane for the left turn movement, the operation of the intersection remains satisfactory with the Washington Street approach to King Street queue generally clearing out with each cycle of the traffic signal. From a safety perspective, there were no reported crashes involving trucks at the Washington Street at King Street between 2018 and present (October 2023) and a total of 7 total crashes involving passenger vehicles over this 5-year period; indicating no safety concern based on crash history.

MDM agrees that land acquisition or easement through private property not under the control of the proponent or the Town will be needed to eliminate truck encroachment into the Washington Street right turn lane. As requested by the Planning Board, the Proponent has contacted the owners of 553 Washington Street and 881 King Street to determine if there is an interest in granting right-of-way or construction easements to increase the available roadway/intersection width for potential intersection improvements. The property owners have declined this request; therefore, the recommended improvement is bound by the existing right-of-way and is recommended by MDM to include the mountable island option. We understand that the Town Engineer has reviewed the proposed mountable curb/island at the King/Washington intersection with the DPW Director and he has taken no exceptions to the proposal, pending final review and approval by Franklin Engineering and DPW. It is the opinion of MDM that the mountable median end sections will enhance the operations and resolve the primary operation deficiency of the intersection by eliminating the occasional occurrence of larger trailer trucks tracking over the median curb or being stuck within the intersection. While BETA may find this to be a limited benefit, MDM believes this to be an appropriate mitigation measure that addresses the primary operational concern.

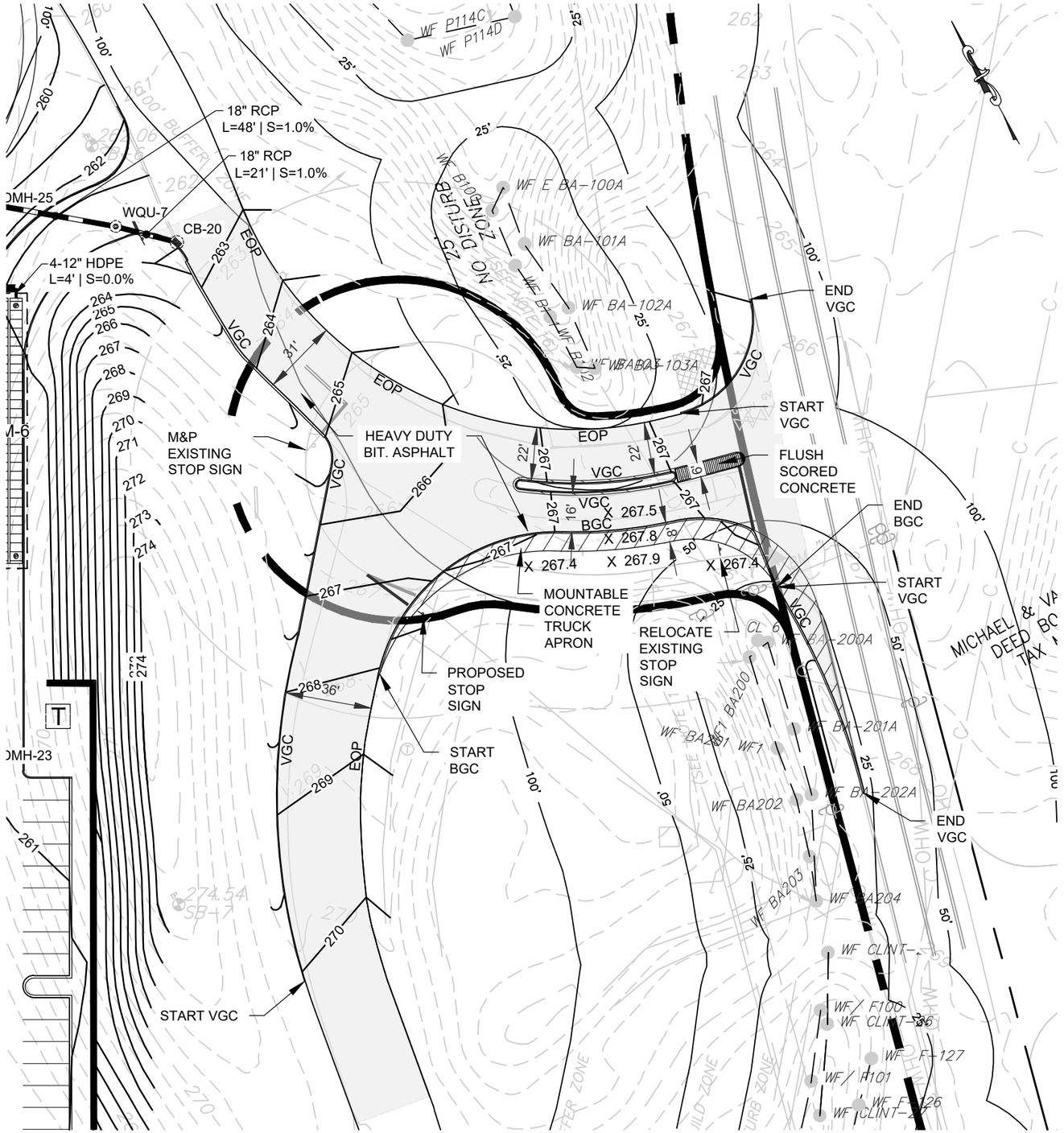
The Proponent will commit to a traffic monitoring program as outlined below to document future traffic volumes and optimize the traffic signal timings at the King Street at Washington Street intersection, if required to adjust the operational parameters of the traffic signal should the Site trips from the 100/200 financial park redevelopment warrant adjustment.

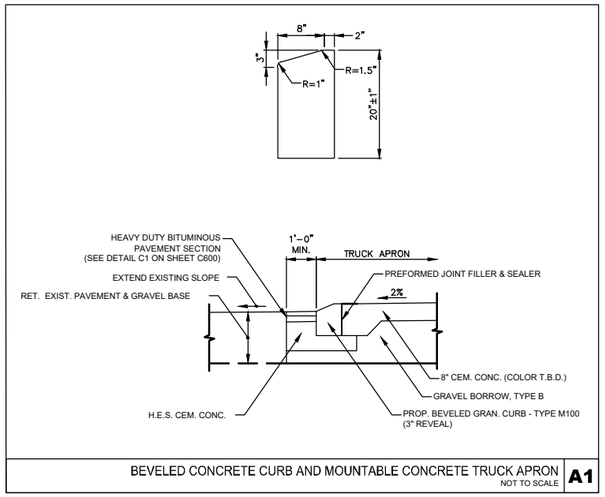
Monitoring Program

The Proponent is committed to working with the Town to provide Transportation monitoring for two periods; within 6 months of initial occupancy and within 6 months of full occupancy of the project to include traffic data collection to identify potential traffic signal timing adjustments. Monitoring shall include:

- Weekday morning (7:00 am – 9:00 am) and weekday evening (3:00 pm – 6:00 pm) peak hour turning movement counts at the Kings Street at Washington Street intersection.

The Proponent will submit the results of these monitoring studies to the Town Engineering/DPW. If applicable, the Proponent will design and implement an optimized traffic signal timing plan.





BEVELED CONCRETE CURB AND MOUNTABLE CONCRETE TRUCK APRON
NOT TO SCALE — A1

SYMBOL LEGEND

EOP	EDGE OF PAVEMENT
BGC	BEVELED GRANITE CURB
VGC	VERTICAL GRANITE CURB
	PROPOSED PAVEMENT STRIPING
118	EXISTING ELEVATION CONTOUR
118	PROPOSED ELEVATION CONTOUR
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	DOUBLE GRATE CATCH BASIN
	PROPOSED STORM DRAIN
T	PROPOSED ELECTRICAL TRANSFORMER
	PROPOSED RETAINING WALL

50 0 25 50
1 inch = 50 ft.

HIGHPOINT ENGINEERING, INC.
LAND PLANNING
PERMIT EXPEDITING
CIVIL ENGINEERING
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WAREHOUSE/INDUSTRIAL DEVELOPMENT

FRANKLIN, MA
100/200 FINANCIAL PARK

OWNER/APPLICANT: BERKELEY PARTNERS

ISSUE DATE:
10/27/2023

PROJECT NUMBER:
22051

SHEET TITLE:
SITE ENTRANCE LAYOUT AND GRADING/ DRAINAGE EXHIBIT

SHEET NUMBER:
EXH-1

October 31, 2023

Mr. Gregory Rondeau, Chairman
Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Warehouse/Industrial Development
100 Financial Park
Site Plan Application – Traffic Peer Review

Dear Mr. Rondeau:

BETA Group, Inc. (BETA) has received the Response to Comments letter dated October 30, 2023 for traffic-related items for the proposed project entitled "Warehouse / Industrial Development" located at 100 Financial Park in response to BETA's review comments dated October 18, 2023. This letter provides BETA's comprehensive findings, comments and recommendations.

Basis of Review

The following documents were received by BETA and formed the basis of the review:

- Plans (45 sheets) entitled: Warehouse Industrial Development Site Development Plans 100/200 Financial Park Franklin Massachusetts, dated May 11, 2023, prepared by Highpoint.
- Traffic Impact and Access Study (TIA), dated April 2023, prepared by MDM Transportation Consultants, Inc. (MDM).
- Response to Comments – Peer Review of Traffic Memorandum, 100/200 Financial Park, dated June 7, 2023, prepared by MDM Transportation Consultants, Inc.
- Response to Comments – Peer Review of Traffic Memorandum, 100/200 Financial Park, dated July 17, 2023, prepared by MDM Transportation Consultants, Inc.
- Response to Comments – Peer Review of Traffic Memorandum, 100/200 Financial Park, dated September 8, 2023, prepared by MDM Transportation Consultants, Inc.
- Response to Comments – Peer Review of Traffic Memorandum, 100/200 Financial Park, dated September 20, 2023, prepared by MDM Transportation Consultants, Inc.
- Alternate Washington Street/King Street Intersection Concept Plans, 100/200 Financial Park, dated October 9, 2023, prepared by MDM Transportation Consultants, Inc.
- Response to Comments – Peer Review of Traffic Memorandum, 100/200 Financial Park, dated October 30, 2023, prepared by MDM Transportation Consultants, Inc.

Introduction

The project site includes two parcels, located at 100 Financial Park in the Town of Franklin (the "Site"). The Site and all the surrounding lots are located within the Industrial zoning district.

The existing Site is the location of a 1-story office building with a footprint area of 180,000± sq. ft. and a 2-story warehouse building with a footprint area of 57,570± sq. ft. Paved parking areas are located to the

north and south of the buildings. Access to the Site is provided within Financial Park, a private roadway which connects to Washington Street from the west.

The project proposes to construct two new warehouse buildings with 300,000± sq. ft of warehouse space. The existing 180,500± sq. ft office building will be demolished, and the existing warehouse building will be retained. The existing parking layout will be replaced with new areas of paved parking proposed and existing areas either retained, removed, or reconfigured. A new loading area with heavy duty pavement is proposed in the central area of the Site between the two new buildings.

COMPILED REVIEW LETTER KEY

BETA has provided review comments to the Board dated June 1, 2023, June 22, 2023, August 8, 2023, September 14, 2023, and October 18, 2023 (original comments in standard text), MDM Transportation Consultants, Inc. (MDM) provided responses (responses in italic text), and BETA's most recent response comments are provided (status in standard bold text). The comments related to the latest concept plans are provided in the last section. All other comments shown in standard text are original or subsequent comments for this review.

For brevity, comments which have been satisfactorily addressed in previous review letters have been omitted from this letter.

FINDINGS, COMMENTS, AND RECOMMENDATIONS

Traffic operations analysis was performed with Synchro software based on the Highway Capacity Manual 6th Edition methodologies.

T8. Synchro backup traffic data sheets for the Baseline (Existing), No-Build, and Build morning and afternoon peak periods are missing in the Appendix for the Financial Parkway and Washington Street intersection and the Washington Street and Union Avenue intersection. Provide backup data sheets for review and reference.

MDM: The Synchro backup traffic data sheets for the Baseline, No-Build, and Build weekday morning and weekday evening peak periods are provided in the Attachments.

BETA2: Backup Synchro data for the Baseline Existing and No-Build conditions are still missing for the Financial Parkway and Washington Street intersection and the Washington Street and Union Avenue intersection.

MDM2: Backup Synchro data for the for the Baseline, No-Build and Build for the study intersections are provided in the Attachments.

BETA3: The information has been provided. Please elaborate on the discrepancies between the Synchro/HCM analysis results and the Table 6 and 7 summary tables. For instance, how the Washington Street northbound approach to Union Street was determined to operate at LOS C during the morning peak. The analysis results show differing LOS C and LOS F for that movement during the 2023 morning peak.

MDM3: The Washington Street at Union Street intersection is a four-legged intersection that operates as a three-way stop with the eastbound approach being a free movement. Highway capacity analysis requires either an all-way stop or two-way stop on four-legged intersections to provide analysis. To most accurately provide analysis the intersection was modeled as an all-way stop and as a two-way stop with the all-way stop analysis used for the northbound, southbound

and westbound approach and the two-way stop analysis used for the eastbound approach which does not have a STOP sign. No further analysis is required.

BETA4: BETA understands that two different analyses were included due to the intersection configuration. Please elaborate on how the results provided in the LOS tables were determined when varying LOS output was generated.

MDM4: The intersection is unconventional from the perspective of the highway capacity manual (HCM). Highway capacity analysis requires either an all-way stop or two-way stop on four-legged intersections to provide analysis. To most accurately provide analysis, the intersection was modeled as an all-way stop and as a two-way stop. The all-way stop analysis was used for the Washington Street northbound approach, the Arlington Street southbound approach and the Union Street westbound approach all of which operate under "STOP" sign control. For the eastbound Union Street approach to the intersection the two-way stop analysis was used given that this approach is not under "STOP" control. The analysis results for the other outputs are not relevant and thus not used (i.e. eastbound Union Street "all-way STOP" analysis, and Washington Street/Arlington Street/Union Street northbound, southbound and westbound "two way STOP" analysis). MDM notes that regardless of the analysis methodology, the project has a nominal impact on this study intersection compared to No-Build conditions. No further analysis is required.

BETA5: Information provided. No further comment.

ADDITIONAL COMMENTS

T15. Tractor Trailers were observed to have a challenging time turning left into and out of Financial Park due to the tight geometry and must slow down entering the driveway which causes traffic to back up as they are trying to take the left.

MDM: The Applicant is developing proposed modifications to the Financial Park Drive approach to Washington Street. These modifications will be submitted under separate cover and are expected to include driveway widening and realignment to facilitate truck entrance and exit movements.

BETA2: BETA has not been provided with the above-mentioned concept plan and turning movement plan for review.

MDM2: The concept plan for the proposed improvements at the Financial Park Drive approach to Washington Street is shown in Exhibit 1. The proposed improvements include driveway widening and realignment in addition to the reconstruction of the driveway to better accommodate existing and future truck usage. AutoTurn for the proposed concept plan is provided in the Attachments for delivery/loading design vehicles (WB-62).

BETA3: For Exhibit 1, please label the existing and proposed edge of pavement, and clarify if the gored areas are just pavement markings or sloped/raised areas.

MDM3: The existing and proposed edge of pavement and curb lines are labeled on the latest Site Plan set prepared by Highpoint Engineering. As shown in Exhibit 1, the intention of the design is to provide painted gore areas and not sloped or raised areas. Due to its long, irregular shape, a raised area could impact drainage, impact rideability by trucks and be difficult to maintain by the Town and site maintenance contractors, especially during snow events.

It should be noted that a Stop sign is located in advance of the area in question, as such, no further speed control measures appear to be necessary at the exit driveway.

BETA4: Please show the proposed stop sign location and widths of the egress lane and the gore area. A mountable or more distinct separation between the gored section and egress lane would be ideal to ensure that standard vehicles do not use the area as a second egress lane. BETA suggests installing a flush scored pavement area where the gore extension to the median is shown.

MDM4: The Site Entrance Layout Plan (EXH-1) prepared by Highpoint Engineering (see Attachment for reference) has been updated to include the STOP sign locations and widths of the egress lane and the shoulder (gore) area. The plan has also been updated to include a mountable concrete truck apron instead of standard gore markings within the shoulder area along the egress lane and to provide a 6-foot-wide flush scored concrete extension of the median.

BETA5: Information has been provided. No further comment.

T16. Trucks turning left from Washington Street onto King Street were observed taking up both Washington Street lanes to make the turn which queues up vehicles or getting stuck within the intersection and then backing up in order to renegotiate the movement."

MDM: Subject to all necessary permits and approvals, the Proponent is committed to continuing to work with the Town of Franklin to provide improvements at the signalized Washington Street intersection with King Street. The existing right-of-way at the intersection limits additional widening without encroachment onto private land which is not under the control of the Proponent. To enhance operations for large articulated trucks, proposed improvements by the Proponent include replacing the existing median island on the southbound approach with a scored concrete island and pavement markings. A conceptual improvement plan for the King Street at Washington Street intersection is shown in Exhibit 3 and associated AutoTurn® movement is provided in the Attachments. These modifications are expected to facilitate truck movements from Washington Street to King Street.

BETA2: Please provide truck movements for all turning movements at the intersection of Washington Street and King Street. BETA would not recommend the removal of the raised island at the intersection. The removal of the island could contribute to an increase in safety issues including vehicle crossover at the intersection. Consider taking another look at other geometric improvements that do not require the removal of the median.

MDM2: AutoTurn movements for a WB-62 design vehicle are provided in the Attachments for the Washington Street at King Street intersection with existing geometry and traffic controls. Note that as summarized in AASHTO under design vehicles, "…In many cases, operators of WB-67 and larger vehicles pull the rear axles of the vehicle forward to maintain a kingpin-to-rear-axle distance of 41 feet, which makes the truck more maneuverable and is required by law in many jurisdictions. Were this practice is prevalent, the WB-62 may be used as the design for turning maneuvers… ". Field observations at the intersection over multiple days indicate that a WB-62 is the appropriate design vehicle for the intersection given the observed turning maneuvers and forward wheel positions on 53-foot trailers at the intersection. AutoTurn movements for a WB-62 design vehicle are provided in the Attachments for the Washington Street at King Street intersection with existing geometry and traffic controls.

BETA3: The largest truck anticipated to be accessing the site was stated to be a WB-67 and trucks have been observed either being unable to make the left turn from Washington Street to King Street or significantly encroaching the adjacent lane in the process of turning. The AutoTurn

provided using a WB-62 shows the truck encroaching the adjacent lane when navigating the left turn from Washington Street, which is the same condition as exists today. Please provide a turning movement graphic, which would show an improvement in today's conditions, that shows a truck not encroaching the adjacent lane.

It appears that a land acquisition or easement will be needed to shift the sidewalk along the northeast corner of the intersection. Has consideration been given to widening the roadway to the north and shifting the center median to better accommodate the left turning trucks?

For Exhibit 2, please clarify if the intention is to provide a scored concrete truck apron as noted on the plans or a stamped concrete apron as shown on the graphic. Please label the existing and proposed edge of pavement, signs, and back of sidewalk for clarity.

MDM3: Given the benefits of modifying the existing median island to better accommodate truck turns at the Washington Street/King Street intersection, verse the impacts to private property not under the applicant's control, the Applicant will work with the Town of Franklin to reconstruct the median island as shown in Exhibit 2. See an expanded discussion of each comment below:

(a) Preliminary discussions with the Proponent indicate that trucks at Site will primarily utilize 53-foot trailers. Based on a review of AASHTO's design vehicles, MDM indicated that a tractor trailer with a 53-foot trailer is generally consistent with a WB-67 design vehicle; however, field observations indicate the rear-axles of the trailers are pulled forward to maintain a kingpin-to-rear-axle distance of 41 feet, which makes the truck more maneuverable and is required by law in many local jurisdictions. Per AASHTO and field review, the WB-62 is the appropriate design vehicle for the existing uses in the area and proposed Site.

The AutoTurn® graphics for the existing roadway layout and island for the Washington Street left turn onto King Street using the WB-62 design vehicle are included in the Attachments. As shown the WB-62 movement onto King Street would require the removal or relocation of the raised median island for it to stay fully within the left turn lane. Based on the review, MDM initially recommended that the raised median island be removed and replaced with a flush scored concrete island.

Given the length of the WB-62 design vehicle, it is less critical to remain in the left turn lane on Washington Street turning left onto King Street; in most cases the truck is expected to partially encroach into the right turn lane until the maneuver is made. To account for the field observation that a truck turning left onto King Street from Washington Street occasionally tracks over the median island, MDM provided an alternative (Exhibit 2) that would retain the raised median island with modification to provide mountable stamped concrete aprons on both ends of the island. Exhibit 2 can be fully constructed within the available right of way and will provide greater room for truck driver error and address the occasional tracking over the median curbing.

(b) As shown in Exhibit 3, in order to eliminate any encroachment into the adjacent right turn lane on Washington Street, a large easement or property taking would be required on the eastern side of Washington Street to shift the median island and widen the roadway. The AutoTurn® graphics for the Washington Street left-turn onto King Street and King Street right-turn onto Washington Street using the WB-62 design vehicle are included in the Attachments.

(c) MDM agrees that land acquisition or easement through private property not under the control of the proponent or the Town will be needed for any shift in the sidewalk along either side of the roadway or expansion of the intersection beyond the enhance median proposed in Exhibit 2. Consideration has been given to widening the roadway to the north and shifting the center median

to better accommodate the left turning trucks. Field observations, available survey, and previous design work at the intersection indicates that widening on the Washington Street approach to the intersection on the western side is not feasible based on grading issues, retaining walls, existing utility structures, and limited available right-or-way. Again, these more extensive alternatives would require land acquisition or easement through private property not under the control of the proponent or the Town.

(d) For the previously provided Exhibit 2, the intention is to provide mountable end treatments with stamped concrete surface as shown in the graphic. That said, the island surface treatment is flexible based on the desires of the Town's Engineering Department. The proposed pavement markings, mountable and raised island features are labeled on Exhibit 2. The existing edge of pavement and back of sidewalk are proposed to be retained.

BETA4: The proposed mountable median end sections and relocation of the median signs shown in Exhibit 2 would provide limited benefit for trucks taking the left turn from Washington Street onto King Street and encroachment into the adjacent lane would continue. Exhibit 3 shows the adjustment needed to the east side of Washington Street to eliminate truck encroachment on the Washington Street right turn lane. This option would require an easement or property taking of the corner property to construct but would address many of the safety concerns at the intersection.

MDM4: MDM notes that while truck encroachment is required in the Washington Street right turn lane for the left turn movement, the operation of the intersection remains satisfactory with the Washington Street approach to King Street queue generally clearing out with each cycle of the traffic signal. From a safety perspective, there were no reported crashes involving trucks at the Washington Street at King Street between 2018 and present (October 2023) and a total of 7 total crashes involving passenger vehicles over this 5- year period; indicating no safety concern based on crash history.

MDM agrees that land acquisition or easement through private property not under the control of the proponent or the Town will be needed to eliminate truck encroachment into the Washington Street right turn lane. As requested by the Planning Board, the Proponent has contacted the owners of 553 Washington Street and 881 King Street to determine if there is an interest in granting right-of-way or construction easements to increase the available roadway/intersection width for potential intersection improvements. The property owners have declined this request; therefore, the recommended improvement is bound by the existing right-of-way and is recommended by MDM to include the mountable island option. We understand that the Town Engineer has reviewed the proposed mountable curb/island at the King/Washington intersection with the DPW Director and he has taken no exceptions to the proposal, pending final review and approval by Franklin Engineering and DPW. It is the opinion of MDM that the mountable median end sections will enhance the operations and resolve the primary operation deficiency of the intersection by eliminating the occasional occurrence of larger trailer trucks tracking over the median curb or being stuck within the intersection. While BETA may find this to be a limited benefit, MDM believes this to be an appropriate mitigation measure that addresses the primary operational concern. The Proponent will commit to a traffic monitoring program as outlined below to document future traffic volumes and optimize the traffic signal timings at the King Street at Washington Street intersection, if required to adjust the operational parameters of the traffic signal should the Site trips from the 100/200 financial park redevelopment warrant adjustment.

Monitoring Program

The Proponent is committed to working with the Town to provide Transportation monitoring for two periods; within 6 months of initial occupancy and within 6 months of full occupancy of the project to include traffic data collection to identify potential traffic signal timing adjustments. Monitoring shall include:

- Weekday morning (7:00 am – 9:00 am) and weekday evening (3:00 pm – 6:00 pm) peak hour turning movement counts at the King Street at Washington Street intersection.

The Proponent will submit the results of these monitoring studies to the Town Engineering/DPW. If applicable, the Proponent will design and implement an optimized traffic signal timing plan.

BETA4: As mentioned above, the proponent has explored all feasible options at the intersection of King Street and Washington Street to provide mitigation using areas within and outside of the R.O.W. The proponent was unsuccessful in acquiring an easement from the adjacent property owners which narrowed down the options. The proposed improvement to the intersection represents what is possible within the existing/available R.O.W. and would provide a benefit for the two key movements, which consist of trucks turning left from Washington Street onto King Street and trucks turning right from King Street westbound onto Washington Street. Ideally the "pinch point" on the Washington Street approach to the intersection would be eliminated and the trucks on Washington Street would not encroach the adjacent lane but given that crashes have been limited at the intersection over the last five years with zero involving trucks, BETA finds the proposed median improvement to be reasonable. In addition to the data collection effort outlined above for the monitoring program, BETA would recommend that the proponent also include a crash analysis for the months following the beginning of construction.

Very truly yours,
BETA Group, Inc.

Jaklyn Centracchio

Jaklyn Centracchio, PE, PTOE
Project Manager/Senior Traffic Engineer

cc: Amy Love, Town Planner
Job No: 10519.05

October 30, 2023

Mr. Gregory Rondeau, Chairman
Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Warehouse/Industrial Development
100 Financial Park
Site Plan Application

Dear Mr. Rondeau:

BETA Group, Inc. is pleased to continue our engineering peer review services for the proposed project entitled **"Warehouse / Industrial Development"** located at 100 Financial Park in Franklin, Massachusetts. This letter is provided to outline findings, comments, and recommendations.

BASIS OF REVIEW

The following documents were received by BETA and formed the basis of the review:

- BETA Letter dated October 10,2023, with redline comments identified as ***Highpoint Engineering. Inc. Response to Comments #4-10/20/2023***
- Letter from Highpoint Engineering to Gregory Rondeau, Chairman, Franklin Planning Board, dated October 20,2023 ***RE: 100/200 Financial Way Redevelopment Peer Review Response to Comments.*** Signed by Douglas J. Hartnett, P.E.
- Plans (46 sheets) entitled: ***Warehouse Industrial Development Site Development Plans 100/200 Financial Park Franklin Massachusetts,*** dated May 11, 2023, revised October 19,2023 prepared by Highpoint Engineering, Inc.
- ***Stormwater Management Analysis*** dated March 11, 2023, revised October 20,2023 prepared by Highpoint Engineering, Inc.

Review by BETA will include the above items along with the following, as applicable:

- ***Zoning Chapter 185 From the Code of the Town of Franklin,*** current through July 2021
- ***Zoning Map of the Town of Franklin, Massachusetts,*** attested to October 7, 2020
- ***Stormwater Management Chapter 153 From the Code of the Town of Franklin,*** Adopted May 2, 2007
- ***Subdivision Regulations Chapter 300 From the Code of the Town of Franklin,*** current through March 8, 2021
- ***Wetlands Protection Chapter 181 From the Code of the Town of Franklin,*** dated August 20, 1997
- ***Town of Franklin Best Development Practices Guidebook***, dated September 2016

INTRODUCTION

The project site includes two parcels, Lots 312-020-000 and 312-020-001, with a total area of 51.045 acres, located at 100 Financial Park in the Town of Franklin (the "Site"). The Site and all the surrounding lots are located within the Industrial zoning district. The Site is located within a Water Resource District.

The existing Site is the location of a 1-story office building with a footprint area of 183,306± sq. ft. and a 2-story warehouse building with a footprint area of 57,570± sq. ft. Paved parking areas are located to the north and south of the buildings. Access to the Site is provided within Financial Park, a private roadway which connects to Washington Street to the east. The northernmost and westernmost portions of the Site are generally woodlands with flagged wetland resources areas present. A wetland resource area is also present to the north of the existing office building.

Topography at the Site generally slopes to the north and west towards the wetland resource areas. The Site is partially located within a Zone II wellhead protection area. Portions of the Site to the north and west are within a FEMA-mapped 100-year flood zone (Zone AE). The Site is not located within an NHESP-mapped estimated habitat of rare or endangered species, or any other critical area. NRCS soil maps indicate the presence of Merrimac fine sandy loam, Merrimac-Urban land, Hinckley loamy sand, and Udorthents, sandy, all with a Hydrologic Soil Group (HSG) rating of A (high infiltration potential).

The project proposes to construct two new warehouse buildings with footprints areas of 224,300± sq. ft and 70,500 ± sq. ft. The existing office building will be demolished, and the existing warehouse building will be retained. The existing parking layout will be replaced with new areas of paved parking proposed and existing areas either retained, removed, or reconfigured. A new loading area with heavy duty pavement is proposed in the central area of the Site between the two new buildings. Additional proposed site features include retaining walls, sidewalks, repairs to Financial Park and driveways, and new water, electric, telecommunication, sewer, and gas utilities. Stormwater management is proposed via new closed drainage systems which will convey stormwater runoff to several new subsurface infiltration systems and rain gardens.

FINDINGS, COMMENTS, AND RECOMMENDATIONS

To assist with the review, the response to comments from Highpoint Engineering, Inc. to the 3rd round of BETA comments are highlighted in yellow ***(HEI4***: ….) and the response by BETA will be ***BETA5.*** Those comments that were addressed in prior reviews and require no further consideration by the Planning Board will be removed. Comments to be considered by the Board have been maintained.

ZONING

The Site is located within the industrial (I) Zoning District. The proposed use is a warehouse which is permitted within this district.

SCHEDULE OF LOT, AREA, FRONTAGE, YARD, AND HEIGHT REQUIREMENTS (§185 ATTACHMENT 9)

The Site meets the requirements for lot area, depth, frontage, width, yard widths, building height, and impervious area coverage.

PARKING, LOADING AND DRIVEWAY REQUIREMENTS (§185-21)

The project proposes to retain the existing "Financial Park" private roadway, which connects to Washington Street to the east and Grove St to the west. Several driveways are proposed which will

connect to the Financial Park ring road and provide access to various parking areas. Proposed driveways are 24' in width.

Three warehouse buildings are proposed with approximate floor areas of 220,000 ± Sq. ft., 65,000 ± Sq. Ft., and 65,000 ± Sq. Ft. Required parking for warehouses is calculated as 1 space per 1,000 Sq. Ft., resulting in required parking quantities of 220, 65, and 65 spaces respectively. Provided parking is approximately 191 spaces for Building 1, 69 spaces for Building 2, and 24 spaces for Building 3.

The Applicant has requested a waiver from the need to provide the required parking on the grounds that actual demand is significantly lower than that required by the regulations.

Accessible parking spaces are required in accordance with the Americans with Disabilities Act (ADA) and Massachusetts Architectural Access Board (MAAB). Required/Provided accessible parking is as follows:

	Required	Required (Van)	Provided	Provided (Van)
Building 1	7	2	8	4
Building 2	3	1	3	2
Building 3	1	1	0	0

P1. BETA defers to the Town regarding approval of the requested waiver.

HEI RESPONSE: *Acknowledged.*

P2. The Parking Summary on Sheet C100 does not include the parking requirements for the proposed office space in Buildings 1 or 2. Sheet C300 indicates that there is 12,000 square feet of office proposed in Building 1 and another 6,000 square feet proposed in Building 2. Revise the parking summary table appropriately.

HEI RESPONSE: *The drawing sheet has been revised to include separate off street parking demand requirements by use. The revised parking demand for the Project is 413 spaces, with the request waiver to allow 216 spaces to be constructed.*
BETA: The Parking Summary on Sheet C-100 has been modified as requested. Total provided as shown on sheets C-300 & C-301 will be 256 spaces which will require a waiver for 157 spaces. It is important to note that in accordance with §185-21.(4)

> (4) The number of spaces may be reduced below that determined under §185-21B by the Planning Board ….. upon determination that a lesser provision would be adequate for all parking because of special circumstances "

The applicant should provide an explanation of the special circumstances at the site that will allow the Planning Board to make the determination needed to grant the reduction.

HEI2: *The Applicant requests the parking waiver as current warehouse market leasing trends within the region indicate that actual parking demand is less than what the offsite parking ratios defined in the Bylaws require. Constructing more parking than regional leasing trends require results in unnecessary impervious cover and the associated stormwater mitigation. A banked parking layout plan demonstrating locations for additional surface parking, if required, will be provided to the Planning Board under separate cover as requested by the Board at the last public hearing.*

BETA3: *The Banked Parking Plan was submitted on August 25th, and it shows an additional 132 spaces. 96 spaces are contained inside the limits of the proposed pavement in areas currently designated as trailer parking areas. The remaining 36 spaces would require additional pavement. That would bring the total on site to 392 spaces which would be 20 spaces below the 413 required in accordance with zoning. BETA agrees that additional unneeded spaces will increase the impervious cover on the parcel unnecessarily. Since the pavement area would provide an additional 96 spaces, BETA recommends that the "regional leasing trends" be presented to the Board for their consideration with the 56-space shortfall.*

HEI3: *Acknowledged. Highpoint defers to the Planning Board regarding this recommendation.*

BETA4: BETA defers this issue to the Board.

INDUSTRIAL DISTRICT PERFORMANCE CONTROLS (§185-22)

The project is located within an Industrial District and therefore must conform to these requirements.

I1. Provide data quantifying anticipated sound, noise, vibrations, odor, and flashing to determine conformity with these requirements (§185-22.A).

HEI RESPONSE: *The proposed use is allowed by right within the Industrial District. A tenant has not been identified for either of the proposed buildings. When a tenant is identified, the Applicant will consult with the tenant regarding the requirements §185-22 and their obligation. to demonstrate compliance with §185-22 during design of the tenant improvements and building permit application/review. Enforcement of §185-22.A will be at the discretion of the Zoning Enforcement Officer (ZEO).*

BETA: BETA recommends that a condition of approval be added to cover this issue when a tenant is chosen.

HEI2: *Highpoint defers to the Planning Board regarding this recommendation.*

BETA2: *BETA Defers to the Planning Board on this issue.*

HEI3: No response required.

FLOODPLAIN DISTRICT (§185-24)

A FEMA-mapped 100-year floodzone (Zone AE) is located along the northern and western limits of the Site (Approx. elevation 241.4'). No work is proposed within this area and all proposed grading is above this elevation.

SIDEWALKS (§185-28) AND CURBING (§185-29)

No sidewalks are proposed along Financial Park under this project. Several pedestrian walkways are proposed throughout the Site, generally along parking areas with connections to building entrances.

Proposed curbing includes precast concrete curb, sloped granite curb, vertical granite curb, and cape cod berm along the limits of new parking areas.

SITE PLAN AND DESIGN REVIEW (§185-31)

The project has been submitted for Site Plan Review and is required to conform to the requirements of this section. The submitted plan set has been brought into compliance with the requirements of the bylaws.

LANDSCAPING AND SCREENING (§185-35)

The project proposes outdoor parking for 10 or more cars and loading and service areas which must be screened in accordance with this section. Abutting residential districts are located across Washington Street to the East. Existing vegetation along the western side of Washington Street will be retained to provide required screening.

Proposed landscaping includes tree, shrub, and grass plantings proposed within landscaping islands, around the parking lot perimeter, and along Financial Park. Grassed areas throughout the Site will be seeded with native seed mix.

LA1. Provide required tree and shrub plantings for bioretention basin in accordance with V2C2 Page 27 of the MA Stormwater Handbook. Good practice is to include at least one tree or shrub per 50 square feet of bioretention area, and at least 3 species each of herbaceous perennials and shrubs. Acceptable plant species are identified in the handbook.

HEI RESPONSE: *Tree and shrub planting details for the bioretention basins / rain gardens in accordance with the Handbook will be included in the final construction document Plans and submitted for record prior to the Pre-Construction Meeting.*

BETA: BETA recommends that a plant list with numbers and species be provided with a condition that the final planting scheme be provided prior to the pre-construction meeting.

HEI2: *The landscape plans have been revised to include a plant species schedule. A final planting scheme will be prepared upon completion of Project construction documents and presented to BETA at the pre-construction meeting for determination of substantial conformance with the approved design.*

BETA2: *BETA agrees with the condition that final planting scheme shall be presented prior to pre-construction meeting.*

HEI3: Acknowledged.

UTILITIES

Proposed utility include domestic water, water for fire protection, sanitary sewer, underground electric, gas, and telecommunications. Each utility will connect to an existing service within the Financial Park development. Existing utilities will generally be retained for Building 3.

WATER RESOURCES DISTRICT (§185-40)

The Site is located within the Town of Franklin Water Resources District and a Zone II Wellhead Protection Area. The project does not include any use that would be prohibited in this district.

W1. Confirm that the warehouse uses will not include any storage of toxic or hazardous materials (§185-40.D.1(a)).

HEI RESPONSE: *The proposed use is allowed by right within the Industrial District and no prohibitions for warehouse use are defined in the Water Resource District regulations. A tenant has not been identified for either of the proposed buildings. When a tenant is identified, the Applicant will consult with the tenant regarding the requirements of the Water Resources District, §185-40.D.1(a), and the Tenant's obligation to demonstrate compliance with §185-40.D.1(a) during design of the tenant improvements and building permit application/review. Enforcement of §185-40.D.1(a) will be at the discretion of the Zoning Enforcement Officer (ZEO).*

BETA: *BETA recommends that a condition of approval be added to cover this issue.*

HEI2: *Acknowledged.*

BETA2: *BETA defers to the Planning Board on this issue.*

HEI3: No response required.

STORMWATER MANAGEMENT

The stormwater management design proposes two rain gardens and seven subsurface infiltration systems to capture, store, and infiltrate stormwater. Conveyance to these BMPs will be achieved via new closed drainage systems consisting of catch basins, manholes, water quality units, and roof leaders. Portions of the existing closed drainage system in the southern area of the Site will also be retained. Stormwater BMPs are proposed to connect to each other in series; overflow from these systems will ultimately discharge to the L-series wetlands in the northern portion of the Site through an existing culvert.

This modification to the site design has been primarily in response to the stormwater comments received in the 3rd review. The outlet configuration for the proposed infiltration structures were modified as required to meet the storage and treatment requirements of the bylaws. These changes included.

1. The outlets from SWM 2 were raised slightly to increase the static storage.
2. The outlet configuration from the 2 Rain Gardens was modified to separate the 2 discharge pipes and connect directly with the manholes which discharge to the Fire Pond.
3. Isolator rows were provided for SWM 3 & 4 to replace the proprietary separators originally proposed. These will provide the pretreatment required for the infiltration measures.
4. The inlet and outlet configuration to SWM 3 & 4 were changed to a manifold system rather than a single inlet point.
5. WQU 6 was removed from the treatment train down gradient of the Infiltration SCMs.
6. The pipe from DMH 3 – DMH 24 – DMH 30 – DMH 7 was increased from 36" to 48 "in diameter.

In response to these changes, BETA has the following comments:

- *Provide construction details for*
    - *ICS 1 & 2 which control flows into SWM 3 & 4, including inverts and control devices.*

- *Outlets from SWM 3 & 4 including inverts and manifold design.*
- *At SWM 6, since there are 4 outlets and only three rows of chambers, provide a construction detail for the outlet configuration or add a 4th row.*

- *BETA recommends that the designer review the manufacturer's design recommendations for the isolator row. The filter fabric layer between the isolator row and the main chamber field is not included in the detail.*

HEI4:

- ***The following requested construction details have been provided:***
  - ***ICS 1 & 2: The two inlet control structures are designed to be standard drain manholes. The lowest pipe in each of the manholes is designed to act as the 'control device' and is set at an invert out of the structure to provide adequate pitch into the isolator row. Each of the pipe inverts into the isolator rows has been set at a specific invert (ICS-1=246.00 and ICS-2=245.97) resulting in a sediment storage volume inside the isolator row equal to the required 0.1" over contributing impervious area. An Inlet Control Structure detail has been added to the plans, refer to detail A1 on Sheet C604.***
  - ***SWM-3 and SWM-4: Inlet and outlet manifold designs for the subsurface stormwater systems are now depicted on Sheet C604. Refer to SWM-3 Inlet and Outlet Manifolds, detail A2 and SWM-4 Inlet Manifold, detail B1.***
  - ***SWM-6: Highpoint contacted the vendor, Cultec, for confirmation regarding the configuration of four outlet pipes with three rows of chambers at SWM-6. Cultec provided Highpoint with a detail depicting the required separation between the two (2) 12-inch pipes that will operate as outlets from the same chamber, requiring a specially fabricated end cap. Refer to Detail C2, on Sheet C603.***
- ***A Typical Cultec Separator (Isolator) Row Configuration detail (C3) has been provided on Sheet C603, which contains notes referring to the installation of the filter fabric associated with the separator row: "Cultec No.410 Non-woven geotextile around stone. Top and sides mandatory" and "Entire separator row to be covered with Cultec No. 410 non-woven geotextile". These notes ensure that both the Cultec chamber itself and the surrounding stone will be wrapped in Cultec No. 410 Non-woven geotextile adjacent to the primary stormwater management system.***

BETA5: The details for the inlet control structure are adequate. The inverts in the table agree with the calculations. The vendor detail for SWM 6 shows the 2-12" diameter outlets at the Cultec row. The detail for the Isolator Row has been provided and as shown on detail A4 and B3 on sheet C601 the filter fabric is along the outside of the system and not between the rows. No further comments.

Previously outstanding comments with responses, and comments regarding conditions to be addressed by the Board are as follows.

SW4. BETA observed that the western detention basin was filled with water and overgrown with vegetation, suggesting it may not function as originally designed. BETA defers to the Town whether restoration and maintenance of this basin should be required under this application.

HEI RESPONSE: *The western detention basin serves stormwater discharges from multiple parcels within the Financial Way campus. The basin is operated and managed under a Reciprocal Easement Agreement (REA) that provides for rights and responsibilities of maintenance between the three parties identified within the REA including the BFCCPS, 300 Financial Way, and the Project site. The Applicant will coordinate with the other entities listed in the REA regarding required cleaning and maintenance of the western detention basin in accordance with obligations summarized in the REA.*

BETA: *BETA will defer this issue to the Town of Franklin DPW to be addressed at the time of the stormwater permit application. As noted, it is identified as routine maintenance in the Stormwater Management O & M Plan.*

HEI2: *Acknowledged.*

BETA2: *No response required.*

STORMWATER MANAGEMENT REGULATIONS (CHAPTER 153)

The project proposes to disturb land in excess of one acre within the Town of Franklin. It is therefore subject to the Stormwater Management Regulations. The project is also required to comply with the Town of Franklin Best Development Practices Guidebook (BDPG). Compliance with these regulations is outlined below and throughout the following sections.

SW5. Indicate any existing or proposed easements for the conveyance of stormwater across property lines. The proposed stormwater management system is dependent on conveying stormwater from Lot 5B to Lot 5A which must be maintained in perpetuity (§153-15.A(11) & §300-11.A(6)).

HEI RESPONSE: *Stormwater management for the campus is managed under a Reciprocal Easement Agreement, and rights to generate, manage, and discharge stormwater across parcels is summarized in the REA. The REA allows for a mutual easement for the natural runoff of surface water between lot owners, but no drainage using a stormwater management apparatus may be used to drain on another lot without prior written consent of the lot owner.*

BETA: *BETA recommends that the REA be submitted to the Planning Board and incorporated into the submission to document compliance with this section of the bylaw.*

HEI2: *Highpoint defers to the Planning Board regarding this recommendation.*

BETA2: *BETA defers to the Planning Board on this issue.*

HEI3: No response required.

SUBDIVISION REGULATIONS - STORMWATER MANAGEMENT REGULATIONS (§300-11)

Additional requirements for stormwater management are outlined in §300-11 of the Town of Franklin Subdivision Regulations.

SW6. Revise proposed drainage pipe to be reinforced concrete or request waiver (§300-11.B(2.a)).

HEI RESPONSE: *Drainage pipe is specified as Reinforced Concrete Pipe (RCP) throughout the Project site, except for the header/roof drain leader collector pipe and drain-pipe manifolds and inlet/outlet pipes associated with the HDPE subsurface detention/infiltration system. The*

Applicant requests a waiver of the specified RCP pipe material and allow HDPE pipe for the roof drain collector due to the multiple entrance locations, and the subsurface HDPE stormwater chamber system to allow for use of standard pipes and fittings.

BETA: *The roof leaders in this section all connect to manholes, thus the header reference is incorrect. Since this pipe will be under the pavement with less than 2' of cover, BETA recommends that this section be converted to RCP also.*

HEI2: The roof leader layout has been revised in consultation with the Design-Build contractor to apply roof leader locations in coordination with anticipated roof drain collection points. Roof drain leaders exiting the building are proposed to be HDPE pipe with wye connections to a single HDPE roof drain header pipe that connects to the subsurface infiltration system. Where the subsurface infiltration system is located along the buildings, direct connection of the roof leaders to the infiltration system is proposed.

Use of similar HDPE pipe materials and fittings for the roof drain collection system allows for a more standard design and avoids pipe couplings to join dissimilar pipe materials, which could result in premature pipe joint failure.

The header pipe diameters have been adjusted to account for the varying pipe capacity requirements for the roof drain leaders. A minimum of 2' of cover is now provided for all roof leader and header pipes.

Highpoint notes that both HDPE corrugated, and RCP pipes are designed to withstand AASHTO H-20, H-25, and/or HL-93 loads under minimum cover requirements. ADS, a popular manufacturer of corrugated HDPE pipe, issued a Technical Note, TN 2.01 "Minimum and Maximum Burial Depth for Corrugated HDPE Pipe", which includes a table providing the minimum cover depths required for corrugated HPDE pipe to withstand AASHTO H-20, H-25, and/or HL-93 loads. Additionally, the Plastics Pipe Institute states on their website that properly installed HDPE corrugated pipe can withstand AASHTO HS-25 loads with a minimum 1 ft cover for pipes up to 48-inch diameter.

In conclusion, the choice of material between HDPE and RCP would therefore not make a functional difference for supporting vehicle loading when installed with the recommended minimum cover. A waiver request for the use of three HDPE collector pipes is included in this submission.

BETA2: *BETA notes that the issue with the HDPE pipe is that the performance of the material is dependent upon the quality of the backfill process. RCP is not. BETA will defer this issue to the Board.*

HEI3: *Acknowledged*

BETA4: *No further comments.*

MASSDEP REPORTABLE RELASES

The MassDEP Waste Site / Reportable Release database identified the Stie as the location of a reportable release under Release Tracking Number (RTN) 2-4017015. Available documentation indicates that the release originated from the discovery of Methyl Tert-butyl Ether (MTBE) in groundwater circa 2001. Response actions included the installation of monitoring wells to sample contaminant levels. Sampling conducted circa 2003 did no detect MTBE concentration above reportable limits. A Response Action Outcome (RAO) Statement was submitted to MassDEP supporting a condition of "No Significant Risk." The RTN has since been closed.

MASSDEP STORMWATER STANDARDS

The project is subject to the Massachusetts Stormwater Standards as outlined by MassDEP. Compliance with these standards is outlined below:

NO UNTREATED STORMWATER (STANDARD NUMBER 1): *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.* The project proposes to connect new closed drainage systems to existing outfalls located within wetland resource areas. Existing splashpads are located at each outfall for erosion control.

SW9. Verify condition of existing outfalls at DB, J, and L-series wetlands. BETA could not locate the existing outfalls associated with the north "detention pond" in the field nor their respective splashpads. Confirm that inverts for these outfalls is above the typical water elevation for these ponds.

HEI RESPONSE: *Existing Splashpad #1 and #2, as referenced on the Grading and Drainage Plan should be labeled as existing pipe inverts. Pipe inverts and associated splashpads are set below the average water elevation per the original design by CE Maguire, Inc. in October of 1980. HEI is proposing to reuse all existing outfalls of the existing drainage discharging to the North Pond.*

BETA: *The condition where the outfalls are submerged is not ideal. However, these outfalls as noted have been in place since 1980. The O & M Plan specifically notes the maintenance requirements for these 2 outfalls. Based upon this continued maintenance, BETA agrees with the designer that these outfalls can be maintained and used in conjunction with the new stormwater management system. This will minimize the disturbance in the area and the potential environmental issues associated with the removal and replacement of the outfalls.*

The existing conditions plans note that these 2 outfalls are steel conduit. However, the grading and drainage plans indicate that they are RCP. Resolve the material and if they are steel report on their condition.

HEI2: *Based on Hancock Associates additional site visit on August 9, 2023, the two (2) existing outfall pipes are steel conduit. Both outfalls were submerged at the time of the site visit and the condition of the pipes was undetermined. The Applicant will coordinate with the site contractor to determine the condition of these outfalls prior to beginning of construction and will report to BETA on their condition.*

BETA2: *BETA recommends that a condition of approval be added that notes that these outfalls should be inspected prior to the start of construction and a determination made if they should be replaced.*

HEI3: *Acknowledged*

BETA4: *No further comments.*

POST-DEVELOPMENT PEAK DISCHARGE RATES (STANDARD NUMBER 2): *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.* The project proposes changes to site hydrology and ground cover which will impact stormwater flow to the analyzed design points. Stormwater runoff will be mitigated via capture, storage, and infiltration within nine new stormwater BMPs.

Calculations indicate a net increase in peak discharge rate for the 2-, 10-, and 25-year storm events for POA A and the 2-year storm event for POA C. These design points represent the wetlands located to the west of the Site for which no new BMPs are proposed. The stormwater mitigation narrative notes that POA A is a previously constructed detention basin sized for a larger inflow capacity.

Calculations indicate a new decrease in peak discharge rate for all other storm events and points of analysis.

SW17. Review pipe sizing calculation for DMH-16 to WQU-4 and DMH-7 to Splashpad-1. The peak flow is greater than the design flow.

HEI RESPONSE: *The pipe capacity analysis has been revised for the stormwater collection system at the discharge locations to the North Pond. The pipe segments connecting DMH-24, DMH-30, DMH-7, and invert/splashpad #1; and the pipe segment DMH-9 to invert/splashpad #2 operate under surcharge conditions similar to existing conditions. We note that the proposed surcharge condition occurs in less pipe length than what is assumed exists today based upon the original drainage system design, resulting in an improvement in surcharge condition.*

Based upon the pipe capacity analysis, the surcharge condition does not backwater into any water quality inlet devices, the subsurface infiltration facilities, rain gardens, nor catch basin inlets. Refer to the revised pipe capacity analysis included in the revised Stormwater Report.

BETA: *BETA agrees that the condition from DMH-9 to the splashpad #2 is identical to existing conditions and the surcharge impact will not extend upgradient of DMH-9. However, at splashpad #1 the surcharge impacts extend further upgradient than existing and should be reviewed. BETA recommends that the water surface elevations for the design storm from the basin upgradient to DMH-24 be determined to ensure that the surcharge does not impact any of the infiltration structures that are tied into this discharge point.*

HEI2: *Highpoint has conducted a pipe capacity analysis utilizing Civil 3D's "Storm and Sanitary Analysis (SSA)" engineering software and HydroCAD for the modeling of the North Pond to assess drainage system surcharge. A fixed tailwater elevation (El.=245.71) is assigned to the inlet pipe to the North Pond, which represents the peak flood elevation in the North Pond for the 25-yr storm event. The SSA model was run to verify which pipe segments operate under surcharge conditions when assigning the peak pond flood elevation as a fixed tailwater elevation for the duration of the storm.*

The Pipe Capacity Analysis identifies three pipe segments up to DMH-24 that operate under surcharge conditions during the design storm. The remaining upstream pipe segments and infiltration facilities operate in free-flow conditions during the design storm event. See Appendix B in the Stormwater Report for Pipe Capacity Analysis and operations.

We note that the Hydrology Model assumes the static surface water level in the North Pond is at the outlet weir elevation/grate (El.=243.95). The North Pond is used for irrigation and supplemental fire protection and was originally designed with a working water level between El. 240.2± and El. 244.0±, which fluctuates based upon demand.

BETA2: *The analysis for the 36" culvert from DMH 3- DMH 24 is missing from the table. The analysis provided looks only at the barrel capacity of the culvert and does not consider the tailwater elevation. Based upon the inverts, with the pond level at Elevation 244.0, the still water level will reach back to WQU 6. To insure that it will not impact beyond WQU 6, perform the hydraulic analysis necessary to determine water surface elevations in each of the structures from DMH 30-WQU 6.*

HEI3: *The 36" RCP pipe in question has been replaced by a 48" RCP pipe and added to the Pipe Sizing Spreadsheet found in Appendix B of the Revised Stormwater Report. The pipe sizing analysis using Civil 3D's "Storm and Sanitary Analysis (SSA)" was conducted having a fixed tailwater condition of EL. 245.71 set at the North Detention Pond equal to the pond's 25-year storm highwater elevation. As listed in the Pipe Sizing Spreadsheet, the surcharged pipes extend two pipe lengths from the pond upstream to DMH-30. Having analyzed the pipes with this fixed tailwater elevation of 245.71, eliminates the need to examine the pipe network based on the resting water elevation of the North Detention Pond.*

BETA4: *There is no indication in the output that confirms the design assumption associated with the starting pond depth. In addition, the peak flow rates identified do not increase from upstream to downstream. Specifically, from the table*

Pipe run	*Dia.*	*Peak flow*
DMH 8-DMH 13	*36"*	*40.46 cfs*
DMH 13 – DMH 3	*36"*	*10.63 cfs*

BETA recommends that the designer review this analysis and correct the issues.

HEI4: Highpoint has reviewed the pipe sizing spreadsheet previously submitted to BETA and notes the decrease in flow rate in the pipes at the DMH8-DMH13 and DMH13-DMH3 pipe segments. The model has been reviewed and the two pipe segments reanalyzed to determine if the variation can be attributed to incorrect model settings, inaccurate preset inflow peak rate from the hydrology model, or if it is a function of the system design in general. Minor adjustments were made to DMH-13 inverts in an attempt to better balance the flows between each segment. The noted pipe segments were also removed and remodeled to determine if the variation is a model anomaly. After considerable review, Highpoint was unable to identify any significant factors in the model that results in the variation. We therefore attribute the variation to the following:

1. A reduction in pipe slope between DMH8-DMH13 (s=0.90 ft/ft) and DMH13-DMH3

(s=0.52 ft/ft) is expected to reduce pipe flow capacity and design flow rate.

2. An increase in pipe barrel length between DMH8-DMH13 (L=56') and DMH13-DMH3 (L=191.50) is expected to increase velocity head due to friction losses attributed to the longer pipe barrel, increasing total dynamic head and reducing design flow rate.

3. Residual tailwater effects may reduce design flow rate at downstream pipe segments located closer to the discharge to the pond. The model applies a constant tailwater El. = 245.71 at the pond associated with the pond's 25-yr flood elevation based upon the hydrology model. There is no surcharge at these pipe segments.

BETA5: BETA analyzed the system using the Hydro-CAD analysis with the stormwater structures installed to determine if there was an impact associated with the backwater effect from the fire pond. The results indicate that there is a minor impact from the backwater effect however, water surface elevations remain contained within each of the infiltration structures. In addition, peak flow rates at the fire pond remain consistent with the report. No further comments.

RECHARGE TO GROUNDWATER (STANDARD NUMBER 3): *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable.* NRCS soil maps indicate the soils at the site are Merrimac-Urban Land, Udorthents, sandy, Hinckley loamy sand, and Merrimac fine sandy loam, all rated in Hydrologic Soil Group (HSG) A (high infiltration potential).

A Geotechnical Report prepared by McArdle Gannon Associates, Inc., has been included in the submission. Geotechnical analysis included eight test pits conducted throughout the Site. Underlying soil in the area of proposed infiltration was generally identified as Sand or Sandy Loam and groundwater was identified between 4.6' to 9' below grade.

The project design has been revised and now proposes two rain gardens and four subsurface infiltration systems to provide groundwater recharge. The project is anticipated to provide a recharge volume in excess of what is required. Calculations have been provided indicating that all BMPs will drawdown within 72 hours.

SW24. Conduct test pits in the area of Rain Garden #1, SWM-1, SWM-2, SWM-4, and SWM-7.

HEI RESPONSE: *As explained at the first Planning Board hearing, the current tenant's lease requirements limited the locations that test pits could be excavated and witnessed due to sensitivity with their operations. The Applicant agrees that additional test pits should be witnessed within these areas prior to construction to verify soil and groundwater conditions. The test pit logs will be reviewed with the Peer Reviewer to demonstrate compliance with the design requirements and assumptions prior to construction.*

BETA: *BETA recommends that a condition that additional test pits be conducted at each proposed stormwater infiltration structure in accordance with the standards at the time of construction.*

HEI2: *Highpoint will coordinate excavation and witnessing of additional test pits to verify the stormwater design assumptions at time of construction and review with BETA for design conformance.*

BETA2: *Comment addressed; condition of approval has been accepted.*

TOTAL SUSPENDED SOLIDS (STANDARD NUMBER 4): *For new development, stormwater management systems must be designed to remove 80% (90% per Town Bylaw) of the annual load of Total Suspended Solids (TSS)*. The project proposes treatment trains generally consisting of deep sump catch basins, water quality units, and subsurface infiltration systems or rain gardens. The project is anticipated to provide TSS removal in excess of what is required.

The project proposes to provide the 1.0-inch water quality volume via four new infiltration BMPs and 2 exfiltrating rain gardens. However, the provided volume is less than what is required.

As a project which discharges to a critical area (See Standard 6), the project is required to provide 44% pretreatment prior to discharge to all infiltration BMPs. Pretreatment is generally provided via deep sump catch basins and water quality units but has not been achieved for the proposed rain gardens.

HIGHER POTENTIAL POLLUTANT LOADS (STANDARD NUMBER 5): *Stormwater discharges from Land Uses with Higher Potential Pollutant Loads (LUHPPLs) require the use of specific stormwater management BMPs.* The project includes a parking lot with a high-intensity use (1,000 vehicle trips per day or more) which is considered a LUHPPL. The project is required to conform to this section. Deep sump catch basins, proprietary separators, rain gardens, and subsurface structures are considered recommended BMPs for LUHPPLs. A Spill Prevention, Containment, and Countermeasure Plan has been included with the Stormwater Report.

CRITICAL AREAS (STANDARD NUMBER 6): *Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas.* The project includes stormwater discharges to a Zone II Wellhead protection area which is a critical area. Deep sump catch basins, proprietary separators, rain gardens, and subsurface structures are considered recommended BMPs for this type of critical area. The project has been designed to provide 44% pretreatment and the 1.0-inch water quality volume, except as noted under the Standard 4 section above. The report page 12 incorrectly notes that the site is not in a critical area, however, the site has been designed appropriately to meet this standard.

REDEVELOPMENT (STANDARD NUMBER 7): *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.* The project will result in an increase in impervious surfaces on site thus it will not meet the definition of a redevelopment. However, it is a combination of redevelopment and new development – The applicant has considered the site as new development and has not reviewed the development under redevelopment criteria.

EROSION AND SEDIMENT CONTROLS (STANDARD NUMBER 8): *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.* As the project proposes to disturb greater than one acre of land, it will be required to file a Notice of Intent with EPA and develop a Stormwater Pollution Prevention Plan (SWPPP). Erosion control measures are depicted on the plans include straw wattle, inlet protection, and stabilized construction entrance. A Construction-Period Operation and Maintenance Plan is included in the Stormwater Report including waste disposal, dust monitoring, spill prevention, and monitoring.

OPERATIONS/MAINTENANCE PLAN (STANDARD NUMBER 9): *A Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure that stormwater management systems function as designed.* A Stormwater Operation and Maintenance Manual was provided with the Stormwater Management Report.

SW47. Indicate how future property owners will be notified of the presence of the stormwater management system and the need for maintenance.

HEI RESPONSE: *The Applicant will include a summary of the existing stormwater management components and locations identified on a BMP location map in future tenant lease documents. The lease documents will refer to the future property owners and tenants being required to execute and manage the Operation and Maintenance Plan.*

BETA: *BETA will defer this issue to the Board, however we recommend that this be included as a condition of approval*

HEI2: *Highpoint defers to the Planning Board regarding this recommendation.*

BETA2: *No further comments.*

ILLICIT DISCHARGES (STANDARD NUMBER 10): *All illicit discharges to the stormwater management system are prohibited.* An Illicit Discharge Compliance Statement has not been provided.

WETLANDS PROTECTION

The Project proposes work within Areas Subject to Protection and Jurisdiction of the Franklin Conservation Commission, including the 100-foot Buffer Zones to a vegetated wetland. The Applicant has submitted an NOI to the Town of Franklin Conservation Commission and must obtain an Order of Conditions to complete the proposed work.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,

BETA Group, Inc.

Gary D. James, P.E.
Senior Project Engineer

cc: Amy Love, Town Planner

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DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

DATE: **October 31, 2023**

TO: **Franklin Planning Board**

FROM: **Department of Planning and Community Development**

RE: **100-200 Financial Way**
Site Plan Modification

The DPCD has reviewed the above referenced Site Plan Modification application for the Monday, November 6, 2023 Planning Board meeting and offers the following commentary:

General:

1. The site is located at 100-200 Financial Way, and located in the Industrial Zoning District.
2. The proposed project includes the construction of a 220,000 sq/ft warehouse and a 65,000 sq/ft warehouse.
3. Letters include BETA and MDM response for traffic.
4. BETA has completed and is satisfied with all stormwater management issues.

Waiver:

1. Parking waiver to reduce from the required 413 spaces to 262 spaces.

Suggested Conditions:

1. All conditions apply as written in a letter from Douglas Harnett, Highpoint engineering dated October 26, 2023, as listed on page two (2).
2. The proponent is committed to with the Town to provide Transportation monitoring for two periods; within 6 months of initial occupancy and with 6 months of full occupancy of the project to include traffic data collection to identify potential traffic signal timing adjustments. Monitoring shall include:
    a. Weekday morning (7:00am – 9:00 am) and weekday evening (3:00 pm – 6:00 pm) peak hour turning movement counts at the King Street and Washington Street Intersection
    b. A crash data analysis will be included in both traffic studies as mentioned above.

    The proponent will submit the results of these monitoring studies to the Department of Planning and community Development and Town Engineer. If applicable, the Proponent will design and implement an optimized traffic signal timing plan.
3. The applicant will add the following signage at the exit of the property:
    a. No idling on Washington Street
    b. No Trucks allowed on Ivy Lane