COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

OFFICE OF ALTERNATIVE DISPUTE RESOLUTION

In the Matter of Mike Facchini, Bridgestone Development, Inc.	OADR Docket No. WET-2022-025 MassDEP SE-File 126-0646 Carver, MA

REBUTTAL TESTIMONY OF GARY D. JAMES

I, Gary D. James being duly sworn, do say and testify under oath as follows:

I have reviewed the Pre-filed Direct and Rebuttal Testimony of Bradley C. McKenzie and the Pre-filed Direct Testimony of Maissoun Reda and in rebuttal, offer the following.

1. I have carefully read the "Pre-filed Direct and Rebuttal Testimony of Bradley C. McKenzie" ("McKenzie PFDT") and the Pre-filed Direct Testimony of Maissoun E. Reda ("Reda PFDT") filed in this matter (collectively, "the Rebuttals"). I must conclude that the neither addresses the issues relative to my Pre-filed Direct Testimony of February 26, 2024 ("James PFDT") and Issue I for Adjudication in this matter. Neither establishes that stormwater design complies with 310 CMR 10.05(6)(k) through (q). My PFDT establishes that the project violates the Stormwater Standards. The McKenzie and Reda PFDT fail to address the noncompliance of the development with the Standards[1] as noted in my direct testimony and will in fact have an impact on the abutting resource areas

[1] The abbreviated terms used in my Rebuttal Testimony have the same meaning as set forth in the James PFDT.

which include Ricketts Pond. This establishes that the interests of the Act are not adequately protected by the Department's SOC.

Reason 1 Rebuttal (James PFDT ¶ 26-32; McKenzie PFDT ¶ 17-21; Reda PFDT ¶ 1, 310 CMR 10.05(k)(20: Stormwater Standard 2, Peak Flow Rate Attenuation.

2. **Petitioner's Reason No.** The design violates Standard 2: Peak Flow Rate Attenuation based upon the fact that the design overstates the existing conditions analysis. The Rebuttals fail to address the critical point in my PFDT that the Applicants' existing conditions analysis overstates the peak flow rates and volumes for comparison with the proposed conditions analysis to document compliance with Stormwater Standard 2, Peak Flow Attenuation.

3. As I state in my PFDT ¶ 26-32, the Applicants' design used an inflated CN Value to determine the existing conditions flow rates and volumes for comparison with the post development conditions. The McKenzie PFDT ¶ 19 rebuttal even concurred with my testimony by noting that "an approximate 15% portion of the watershed was modeled as gravel and fallow/bare soil." The McKenzie PFDT tries to justify using the "fallow/bare soil" instead of a forested site by stating that there was "significant historical alteration [that had occurred prior to 2019." Id. The engineer does not get to pick an arbitrary date, after "historical alteration" when land has been cleared and earth removal conducted, as the "pre-development" condition. Yet that is what the Applicant and McKenzie do in the stormwater report. Before RPBP owned the RPBP site Brad Holmes, Environmental Consulting & Restoration, LLC its consultant delineated the wetlands on February 6, 2018. McKenzie PFDT ¶ 8, Applicants' Exhibit 5, Section II, Wetland Delineation Report. RPBP purchased the RPBP site eight months later, on October 23, 2018. Applicant's Exhibit 1. The Stormwater Report uses the date of January 10, 2019, almost a year after RPBP was conducting activities on the site, including a wetlands delineation on February 10, 2018, eight months before it took title to the site. The Applicant gives no explanation for the "historical alteration" that occurred before the January 10, 2019 Stormwater Report it conveniently relies for the "15% portion of the site modeled as gravel and fallow/bare soil." There is no explanation of how the "fallow/bare soil" condition was created.

4. The Rebuttals confirm the error documented in my PFDT. The PFDT of McKenzie states "Per the 2019 Stormwater Report, McKenzie Engineering modeled the pre-development discharge rates based on a predominantly wooded parcel of land. App.Ex.7. Only a small fraction of the total area of the parcel was modeled based on bare or fallow land, which accurately reflected existing conditions at that time."
5. In accordance with my PFDT, using runoff volumes after the land clearing and earth removal, instead of using a forested condition, resulted in an erroneous calculation of the volume and rates of runoff in the Pre-Development Condition (Appendix A of the Stormwater Report). The post-earth removal condition is not the Pre-Development permanent ground cover, but that is what the development of the existing conditions peak flow rates and volumes in the report are based upon. Thus, the Curve Number (CN) values used in the hydrologic analysis of the site should be representative of the forested conditions. The CN value is a key parameter used in hydrology to estimate direct runoff or precipitation runoff (the volume of water that is not absorbed into the ground). The 2022 Stormwater Report used the wrong CN value. By using the higher CN value associated with the bare earth (post-earth removal) condition, the 2022 Stormwater Report reduced the design requirements for the proposed stormwater BMPs to meet Standard 2, Peak Flow Rate Attenuation. By using these higher CN Values, the designer essentially minimized the design requirements necessary to comply with Standard 2.
6. As correctly noted by the McKenzie PFDT ¶ 20, based upon the calculations, the entirety of the runoff from the proposed development is proposed to be stored within the basins even up to a 100-year storm without spillway discharge. As shown in the 2022 Stormwater Report, values developed for the existing conditions (pre-development/pre-earth removal) analysis for each of the four design points in the analysis are shown in the table below, and in my PFDT ¶ 32. These design points are watershed areas where runoff is flowing off the site to a specified location.

Design Point	Weighted CN Value	Peak flow rates			
		2 year	10 year	25 year	100 year

DP-1 To Ricketts Pond	45	0.06	1.31	3.06	7.03
DP-2 Spring Street	31	0.00	0.00	0.03	0.13
DP-3 Route 44/West Property	30	0.00	0.00	0.02	0.11
DP-4 Northeast Property Line	30	0.00	0.00	0.00	0.01

7. Thus, regardless of the fraction identified in the Rebuttals, the CN value used in the Applicants' stormwater analysis, which was based upon the bare ground associated with the gravel removal operations. This resulted in a significantly higher weighted CN value and correspondingly, far greater peak flow rates and volumes of the existing condition for comparison with the proposed conditions.
8. As a comparison, the areas to be disturbed at the rear of the lots adjacent to Ricketts Pond under proposed conditions have all been assumed as CN 32 in the calculations. Even though the forested areas will all be disturbed, and the trees removed, the stormwater designer has used a CN Value which assumes that the forest will regenerate on site.
9. The McKenzie PFDT fails to address the primary concern presented in my PFDT Reason 1. That is, the landowner, RPBP and is associated company, SLT Construction, was actively modifying the site conditions in conjunction with a gravel removal operation. A gravel removal operation is a construction activity and should not be used as a design point for a determination of compliance with the standards. By accepting this analysis, the Department is in fact encouraging the continued manipulation of sites across the Commonwealth prior to filing a Notice of Intent with conservation commissions to reduce the overall size of the stormwater SCM required to meet the design requirements. [what is an SMC?]

   Reason 2 Rebuttal (James PFDT ¶33-40; McKenzie PFDT ¶ 22-28; Reda PFDT) 310 CMR 10.05(5)(k)(3) Eliminate or minimize loss of annual recharge to groundwater

10. **Petitioners' Reason No. 2.** Once again, the Rebuttals fail to address the substance of the testimony I have provided in my PFDT. The Rebuttals misconstrue my testimony by asserting that the volume of recharge is the issue: it is not. The issue is the location of the recharge.

11. As stated in Volume 1, Chapter 1 of the Stormwater Handbook,

> *"At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type."*

The Applicants claim this standard is met simply by ensuring that the Stormwater Standards set a "floor not a ceiling" for recharge rates as if the volume is the sole factor. McKenzie PFTD ¶ 25. It is not. The issue raised relative to the Applicants' stormwater design is not the amount of recharge, rather it is the location of the proposed infiltration SCMs as they relate to Ricketts Pond. Specifically, all the runoff from the impervious surfaces on RPBP site will be directed to the northeast corner of the site and enter the pond through the wetlands at the far edge of the pond. By concentrating all the runoff in this one location it will change the groundwater hydrology surrounding the pond and potentially impact the bordering vegetated wetlands.

The Rebuttals argue that the post development recharge rate shall approximate the predevelopment recharge rate. I agree with this statement. However, the Applicant misses the point that the location of the recharge of the water back into the groundwater aquifer is just as critical as the volume of water to be recharged. The location of the post-development annual recharge "shall approximate the annual recharge from pre-development" at approximately the same locations. This is necessary to ensure that the adjacent Resource Areas are not impacted by the change in hydrology associated with the creation of a new point source of stormwater discharge.

12. The McKenzie PFPT ¶ 23 states

> 23. *The Petitioners focus on property other than Lot 3, arguing that land use alterations on other portions of the land contiguous and unrelated to the*

subdivision will change the overall runoff pattern towards Ricketts Pond and further, that the 2022 Stormwater Report does not update the calculations to account for topographical changes at the Marob Trust Property (i.e., a separate property located at Carver Assessors Map 32-4 owned by Marob Trust).

The McKenzie PFDT argues that the property is outside of the scope of the matters that can be considered in this Appeal. However, as previously noted, the calculations associated with the Lot 3 development have not been separated from the overall subdivision design. Thus, to determine compliance with the stormwater standards for each of the parts, we are compelled to review the design for the whole subdivision.

13. By disregarding the development on the Marob Lot, the applicant is essentially fragmenting the design and does not show that the development as a whole will meet the standards. The argument presented in the rebuttal states.

"Nevertheless, the Petitioners' assertion that the stormwater management design for Lot 3 does not account for topographical changes to the adjacent Marob Trust Property is misplaced. This is because the proposed grades for the Marob Trust Property would result in runoff being directed from a portion of the Marob Trust Property towards a small portion of Lot 4, and then in an easterly direction towards Rickett Pond. "

The rebuttal that this parcel and the activity is separate from the Marob Trust Property development is in direct conflict with the following facts:

i. The activity on the Marob Trust Property is being conducted by the same individual who is developing the subdivision and Lot 3. Opachinski PFDT; Exhibit 4.

ii. The permit for the gravel removal on the Marob Trust site was obtained by the same individual, Peter Opachinski, member and manager of RPBP, LLC and President and Secretary of SLT Construction Corporation. PFDT of Peter J. Opachinski, ¶ 1.

iii. All the activity on the Marob Trust is being accessed from the RPBP subdivision roadway.

iv. The McKenzie PFDT ¶ 23 shows he is aware of the final grades on this parcel Marob Trust Property. He states, "...the proposed grades for the Marob Trust Property would result in runoff being directed from a portion of the Marob Trust Property towards a small portion of Lot 4, and then in an easterly direction toward Ricketts Pond. Therefore, the grading activities on the Marob Trust Property will not impact the watershed area contributing flows to the subdivision stormwater management system. He can assert that it will not impact the stormwater features in the subdivision and this is an indication that he is involved in the design of the Marob Trust Property contiguous to RPBT. It is important to note that the SLT Construction activity on the Marob Trust Property is not merely "grading activities" but the leveling of an extensive area by about 50 feet by removing vegetation and sand and gravel. James PFDT ¶ 50.

v. The proposed final grades of the Marob Trust Property are shown on the RPBP subdivision plans.

vi. The McKenzie PFPT ¶ 23 makes the open admission that in fact no stormwater improvements are proposed for the Marob Trust Parcel and that runoff from this development will flow unchecked into Ricketts Pond. When a Notice of Intent is filed in conjunction with this Marob Trust Property parcel in the future, the bare earth condition will again be the starting point for the existing conditions analysis based upon the precedent established by the Department's position in the subdivision analysis in this case. The Department's position is contrary to the purpose, intent and requirements of the Stormwater Regulations and the Handbook.

vii. The gravel removal associated with the Marob Trust parcel is occurring concurrently with the RPBP subdivision, as can be seen in **Exhibit A** hereto. The area to the right of the end of the subdivision road cul de sac is the area of the Marob Trust Property earth removal. The date of the Exhibit A photograph is March 27, 2023. In addition, the photograph shows that the 2 infiltration basins are holding water and are being used as temporary sediment traps during the construction phase of the project.

This practice is in direct violation of the standards Volume 2, Chater 2, page 91 which states "*Never use infiltration basins as temporary sediment traps for construction activities."* By using these basins as sediment traps their infiltrative capability has been compromised as evidenced by the standing water shown in the aerial imagery. Since the infiltrative capabilities of the soils are critical to compliance with Standards 2, 3, & 4, the ability of the system as designed to meet these standards is now in question.

14. The Regulations 310 CMR 10.05(n) and the Handbook, Vol. 1, c. 1, p. 3 state:

"For phased projects, the determination of whether the Stormwater Management Standards apply is made on the entire project as a whole including all phases. When proposing a development or redevelopment project subject to the Stormwater Management Standards, proponents shall consider environmentally sensitive site design that incorporates low impact development techniques in addition to stormwater best management practices."

15. This required the 2022 Stormwater Report, and the 2019 Stormwater Report that it is based upon, to consider the development of the entire area.
16. As shown on Drawing No. WS-2, "Post Development Watershed Plan", the runoff from the entire site RPBP development will be directed to infiltration basins adjacent to the wetlands at the southeast corner of Ricketts Pond. Overall impervious surfaces will cover 54% of this watershed. This area will no longer contribute to groundwater flow towards the pond along the west shoreline. Instead, it will all be diverted to the southerly wetlands adjacent to the pond, which could potentially impact the resource areas along each of these shorelines adjacent to the pond. The existing conditions analysis of Design Point 1 should be broken into two (2) separate design points, the pond, and the wetlands to the south. The second design point should be established at the inlet into the pond at wetland flag WF-B44.
17. Based upon the above, the issue was not the use of LID techniques, rather it was that the proper design of the stormwater system would have provided other infiltration SCMs in the areas at the rear of the lots which would have approximated the current

groundwater flow towards the pond. This would ensure that the groundwater flow towards the pond remains consistent with existing conditions and that the RPBP Subdivision, including Lot 3, does not divert the flow into one concentrated discharge point at the southeast end of Ricketts Pond.

18. The McKenzie PFDT states

> *"As a matter of fact, the stormwater management design is modeled after natural hydrologic features and reduces impervious surfaces and minimizes disturbance while at the same time maximizing open space, protecting natural features/process, and enhancing wildlife habitat."*

Based on the facts this is not a true statement. The design manipulates the grades on the site to maximize the soil removal on site. All the previous watershed area which originally flowed north has now been redirected to the southerly basins. The existing localized depressions along the northerly property line which would have captured and infiltrated all the runoff were disregarded. The argument that the proposed use does not maximize the use to the full potential allowed by Zoning is without merit since future users could easily expand the use. Further, the McKenzie PFDT ¶ 28 makes the statement that the "design exemplifies the environmentally sensitive site design and low impact development techniques in the Massachusetts Stormwater Handbook." This statement of environmental sensitivity is in direct contrast to **Exhibit A**, an aerial view of the site showing over 20 acres of the RRPB land plus the Marob Trust Property with the natural topography leveled by 50 to 100 feet and entirely denuded of vegetation and stripped down to bare sand except for the mandated vegetated buffer around Ricketts Pond.

19. MassMapper GIS data shows that there are two public water drinking water wells located west of the RBPB Subdivision. The groundwater flow direction is toward these public drinking water wells. The 2022 Stormwater Report contains no information about how the changes in surface water flow from the RPBP development being implemented as part of the development's stormwater management plan would impact groundwater levels, flow directions, or primary recharge areas for these public drinking water wells and private wells in the area.

20. **Petitioners' Reason No. 3:** Infiltration Basins 1 and 2 do not have emergency dewatering capabilities or wells. In accordance with Volume 2, Chapter 2, page 91 of the Stormwater Handbook, the two proposed Infiltration basins along the southerly edge of the RBPB Subdivision should each have emergency dewatering capabilities. This is not shown in the 2022 Stormwater Report and plans. Also, Infiltration Basin 1, nearest Ricketts' Pond, should have a minimum of three monitoring wells. Infiltration Basin 2 should have a minimum of two monitoring wells. These are not shown in the 2022 Stormwater Report.
21. The rebuttal suggests that this argument is ***misdirected***. However, as noted each of these requirements are noted in the Stormwater Handbook, Volume 2, Chapter 2, page 91. I am not aware that the designer has the option to pick and choose which parts of the handbook he deems is applicable and which ones he can disregard.
22. Once again, the Basin 1 design is critical to the Lot 3 design. Since Basin 2 is tributary to Basin 1, and will impact its ability to perform in accordance with the Standards, it is important that the basin design conform to the requirements of the Standards.
23. McKenzie ¶ 20 refers to a July 25, 2023 letter to the Carver Planning Board from Andrew Glines PE of Fuss & O'Neill. This 4 page letter contains no reference to the Wetlands Protetion Act, the regulations at 310 CMR 10.00, the Stormwater Standards under the Regulations or the Stormwater Handbook. The Glines letter does not establish that the Lot 3 project or the RPBP subdivision complies with the Act, Regulations or Stormwater Handbook.
24. **Petitioner's Reason No. 4:** Infiltration Basin 1 fails to meet the minimum setback of fifty feet from Resource Areas**.** The Infiltration Basin 1, the basin nearest Ricketts' Pond, fails to meet the minimum setback of fifty feet from "Waters of the Commonwealth" as defined by 310 CMR 10.04. Waters of the Commonwealth as defined include wetlands. The Stormwater Management Standards, Volume 1, Chapter 1, page 8, mandates a fifty-foot set back from Waters of the Commonwealth. Based upon the 2022 Stormwater Report, Site Plan for Lot 3 and the RPBP Subdivision plans, the measured setback from Infiltration Basin 1 to the flagged limit of the wetlands is only 33± feet, not fifty feet.

25. *The rebuttal argues that this is not accurate.* However, the question is how the Department measures the setback. During recent peer reviews, BETA was informed by a local Conservation Commission agent that DEP interprets the setback from a basin to the wetlands to be measured from the toe of the downgradient slope of the basin level with the bottom of the basin. This was confirmed by DEP staff.
26. Based on this requirement, the setback is only 16.5' from the edge of the wetlands and directly violates the required minimum setback of 50' from the *Waters of the Commonwealth* dictated by the Standards (Exhibit B).
27. **Petitioners' Reason No. 5:** The Design of Catch Basin 17 does not comply with the Design Requirements for Structural BMPs. to Lot 3."
28. The Applicant claims Catch Basin 17 has an approximate watershed area of 0.24 acres (impervious and non-impervious coverage) as documented in the Rational Method spreadsheet.
29. A sketch of the plan utilized to determine the watershed area and impervious coverage tributary to this catch basin is included as **Exhibit C**.
30. As noted, this does occur in several areas of the subdivision based upon the Rational Method Worksheet referenced by designer. See **Exhibit D**.
31. As shown on the sketch, the impervious surface area tributary to the catch basin is approximately 11,965 square feet (0.275 acres).
32. Thus the design of this catch basin has been rendered in violation of Volume 2, Chapter 2 for a deep sump catch basin.
33. **Petitioners' Reason No. 6:** The rebuttal is correct. A review of sheet C-2 does reveal that in fact the connection of the roof drains with the drainage piping along the rear of the lot is shown. No further comments.
34. **Petitioners' Reason No. 7:** The removal calculations for Total Suspended Solids (TSS) are incorrect (Standard 4-Water Quality). 310 CMR 10.05(k)(4) states "Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS)." It specifies that this standard is met when three criteria are established.
35. The Rebuttal argues that this is a non-issue. We agree that providing the Infiltration SCM at the tail end of the treatment train will result in an 80% TSS Removal rate in

compliance with the standards if the pretreatment requirements are met. (See Reason No. 5 above) This a housekeeping issue where the designer should be correct in his assessment of the overall treatment provided for the development and not over exaggerate the capabilities of the design.

36. **Petitioners' Reason No. 8:** The Rebuttals argue **"**The fact that the stormwater management design inadvertently used a 6.7 inches per 24-hour rainfall model for a 100-year storm event is not significant and does not constitute a material deviation from any applicable requirements. In this regard, the Petitioners have not supplied any calculation to suggest that the stormwater management design would somehow run afoul of applicable peak flow limitations when adjusted for a 7 inch per 24-hour model. A recalculation accounting for 7 inches per 24 hours confirms that, just like the 6.7 inch per 24-hour calculation, the post-development peak rates of runoff are less than the pre-development rates of runoff at DP-1."
37. Hydro-CAD printouts with the revised rainfall rates are attached for comparison with the results presented in Exhibit E (Pre-Development Conditions) and F (Post-Development Conditions). In the calculations, several of the assumptions and base data used by the Applicant were revised to reflect good engineering practices. Specifically,
    - In the existing conditions analysis, the CN values used for bare earth were removed from the weighted CN calculations.
    - The flow path conditions for the Tc calculations for both existing and proposed conditions were modified to reflect actual conditions rather than utilizing a generic unpaved description. This assumption favors the proposed conditions since the woodland velocities will be far less than the landscaped or lawn conditions associated with the proposed conditions.
    - In the proposed conditions, for the sheet flow analysis, which is the first 50' of the travel path, none of the Tc calculations assumed a woodland condition in the proposed condition. Especially since all these areas have already been cleared of all vegetation, excavated, and regraded to a smooth condition. This assumption also benefited the proposed conditions.
    - In the proposed conditions, the CN values for the areas that are proposed to be cleared to be used in conjunction with the proposed earth removal will be

based on a landscaped condition not a forested condition as assumed in the calculations which was to the benefit of the proposed conditions also. For the purposes of this analysis, it was assumed that only 80,000 square feet of the Woods-Grass combination HSG A in Watershed 5S would be maintained. The remaining area will be considered as landscaped.

- The CN value for the basins were changed to reflect an impermeable water surface which would modify the CN value from 39 to 98. This is because the exfiltration rate accounts for the infiltrative loss through the soil. By using the 39 value the Applicant is double counting the exfiltration through the bottom of the basin.
- The storage capacity in Infiltrations Basin 1 and 2 was adjusted to reflect the change in the forebay sizing. Above Elevation 35.0, the storage volume will continue to be used since it is above the crest elevation of the check dam at the forebays.

  The exfiltration rate of Basin 1 was modified also to reflect the area outside the limits of the forebays. The calculations submitted did not reflect the change in the sediment forebay sizing based on the increased impervious surface area associated with the Proposed Lot 3 development. The increase in the size of the Basin 1 forebay is part of the Work covered by the SOC and show in the 2022 Stormwater Plan.

38. By correcting the base data in the calculations, the results varied. The calculations now show the following for the 100-year storm.

Design Point	Pre-Development	Post-Development	Difference
DP-1 Ricketts Pond	1.12 cfs	1.98 cfs	+176.8 %
DP-4 Northeast	0.01 cfs	0.69 cfs	+690.0%

39. As shown above, by eliminating the bare earth condition from the existing conditions analysis, the peak flow rate dropped from the 7.12 cfs peak flow rate reported by the

designer to 1.12 cfs. Thus, even with an increased total rainfall of 7.0" in 24 hours. the corrected CN values still resulted in an 84.3% reduction in the peak flow rate. As stated, the Applicants design rate overstates the existing conditions.

40. For the basin design, by correcting the Tc calculations, the CN values for the ponding areas and rainfall totals, the flows **into** Basin 1 are as follows.

Basin (1S)	Peak Q in	Peak Q out	Max. Water Surface Elev.	Storage Volume
Design	37.87 cfs	0.94 cfs	138.01	89,383 c.f.
Revised	40.81 cfs	1.58 cfs	138.69	107,323 c.f.

41. The corrections also impacted Basin 2 as follows.

Basin 2	Peak Qin	Peak Q out	Max. Water surface Elev.	Peak Volume
Design	19.48 cfs	0.57 cfs	138.75	44,814 c.f.
Revised	21.65 cfs	0.95 cfs	138.84	46,683 c.f.

42. The impact of the corrections to the calculations documented the sensitivity of the results to these minor corrections. Neither basin will contain the 100-year storm. There will be spillway discharge from Basin 1 which will be greater than the existing peak flow rates into Ricketts Pond. The emergency spillway from Basin 1 goes into the Buffer Zone covered by the SOC.
43. By accounting for all the ***minor*** corrections, the calculations show that the design flow rates have now increased such that RPBP, including its Lot 3, are no longer in compliance with Stormwater Standard 2. 310 CMR 10.05(k)(2).
44. **Petitioners' Reason No. 9:** The 2022 Stormwater Report does not address all "phases" of the development of RPBP and associated land, which includes the Lot 3 Project. The development phases include the entire RPBP subdivision and the Marob Trust Property. The stormwater system design does not address all phases including the subdivision and the Marob Trust Property and therefore does not comply with 310 CMR 10.05(n).

See Petitioners' 2/26/24 Brief, pp.13-14; James Testimony, ¶¶ 49-50. The Applicant and the Department claim "Lot 3 is not a phased project at all." They claim even if Lot 3 is considered as part of the overall RPPB subdivision, McKenzie properly accounted for the build out in designing the entire subdivision stormwater system.

45. The Rebuttals once again fails to address the issue that the stormwater system does not comply with the requirements of the Stormwater Standards and fails to account for the entirety of the development, including the Marob Trust Property.

46. Since the intent of the design was to eliminate any on-site stormwater features for the lot development, good engineering practices would have dictated that the designer design the stormwater facilities based upon a full build out in compliance with zoning. This would be especially true where the lots are not constrained by the wetland setbacks. However, that was not the case. As reported the vacant parcel which is being mined by the owner\applicant of the subdivision was not accounted for neither were the two lots adjacent to the cul-de sac.

47. It is important to note that in the 2018 calculations, the total impervious surface area tributary to the two basins was 400,547 square feet. Based upon the 2022 calculations this total was reduced to 358,890 square feet a reduction of nearly 10.4%. It is obvious from the 2022 Stormwater Report prepared by the designer that the impervious surface capacity on the entirety of the parcel is greater than the totals used in the design. Based on the revised hydrologic/hydraulic calculations, there is no additional capacity in the system to accommodate any further development. Thus, any change in the proposed development outside the limits of the buffer would not come through the Commission for review to determine compliance with the stormwater standards.

B. ISSUE NO. 2: WHETHER THE PROPOSED PROJECT COMPLIES WITH THE STANDARDS CONCERNING PROJECTS WITHIN THE BUFFER ZONE TO A JURISDICTIONAL WETLAND PURSUANT TO 310 C.M.R. 10.02(2)(B).

48. As stated in the original testimony, there are no separate standards for Buffer Zone activity. Regardless of the location of the proposed activity, in accordance with Volume 1, Chapter 1, page 2 of the Handbook,

> *"Except as expressly provided herein, stormwater runoff from all industrial, commercial, institutional, office, residential and transportation projects including*

site preparation, construction and redevelopment, and all point source stormwater discharges from said projects shall be managed according to the Stormwater Management Standards."

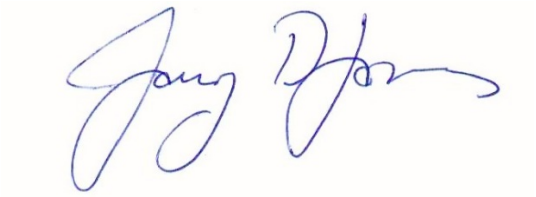
49. Accordingly, the entirety of the RPBP development regardless of its location relative to the resource area is subject to the Standards. In addition, for phased projects, Volume 1, Chapter 1, page 3 states that, "For phased projects, the determination of whether the Stormwater Management Standards apply is made on the entire project as a whole including all phases."
50. The Rebuttals argue that based upon its position relative to the wetland resources that somehow the RPBP subdivision is no longer subject to the stormwater standards or that the applicability of the standards is somehow reduced based upon the location of the stormwater structures outside resource areas. This position is without merit and misinterprets the Standards and the Handbook. The Handbook is clear as noted above.

CONCLUSION

51. Based on my professional experience, education, and following my review of supporting documents, it is my opinion the Department erred in issuing the Superseding Order of Conditions because the Project does not comply with the Stormwater Standards. The most serious error is the erroneous calculation of the runoff volume and velocity based upon the temporary use of the parcel in conjunction with the gravel removal. The 2022 hydrologic calculations have several issues with the calculations where assumptions made by the Designer specifically resulted in a reduced standard. They specifically manipulated the calculations to the benefit of the proposed conditions analysis to document compliance with Standard 2. As shown in the calculations submitted (prepared by Mr. James), this resulted in a stormwater system that is under designed and will not attenuate peak flow rates to ensure that the pre-development and post development runoff from the Project remain the same as required under 310 CMR 10.05(k)(2). In addition, the basin as designed has no further capacity to handle any additional runoff volume. The 2022 Stormwater Report used the wrong CN values for both existing and proposed conditions, an incorrect 100-year rainfall total and manipulated the Time of Concentration calculations.

52. Each of these minor changes were specifically to the sole benefit of the proposed conditions analysis. The revised Hydro-CAD analysis demonstrated that the combination of all these minor changes resulted in a design that does not meet the requirements of Standard 2 for peak flow rate attenuation. In addition, and more important, the Infiltration Basin No. 1 does not meet the minimum setback from the wetlands as required by the Standards. The inability of the individuals who conducted the prior review does not negate the requirement to comply with the Standards. Thus, the issuance of the SOC does not protect the interests of the Act as it conflicts with the MassDEP wetland regulations and stormwater requirements. As such, the SOC should be vacated and the project redesigned. The rebuttal has presented no further data or information that would deter my interpretation of the stormwater standards or the potential impact of the development on the abutting wetland resources.

Signed under the pains and penalties of perjury this 2nd day of May 2024.



Gary D. James