Final Environmental Impact Report

ADM Tihonet Mixed Use Development
EEA No. 13940

Wareham, Carver and Plymouth, Massachusetts

Prepared for:
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Submitted in Compliance with the Massachusetts Environmental Policy Act

January 31, 2022

1833116ER001

BEALS + THOMAS

January 31, 2022

Secretary Kathleen A. Theoharides
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Via: Email to *MEPA@mass.gov*

Reference: Final Environmental Impact Report
EEA No. 13940
ADM Tihonet Mixed Use Development
Wareham, Carver and Plymouth, Massachusetts
B+T Project No. 1833.116

Dear Secretary Theoharides:

On behalf of the Project Proponent, ADM Development Services LLC (ADM or Proponent), and in accordance with the Certificate of the Secretary of Environmental Affairs Establishing a Special Review Procedure dated January 29, 2007 (the SRP Certificate), Beals and Thomas, Inc. (B+T) respectfully submits the enclosed Final Environmental Impact Report (FEIR) for the ADM Tihonet Mixed Use Development (TMUD or the Project).

This FEIR is intended to represent the final MEPA filing for the ADM TMUD to: 1) update the development program to reflect what has actually been undertaken to date; 2) document both completed and outstanding mitigation commitments based on the current development program; and 3) close-out the SRP. No new projects are proposed as part of this filing. The Project Proponent attended a pre-filing meeting with MEPA Office staff on December 17, 2021 to discuss the scope of the FEIR.

Over the course of the development, the Proponent significantly reduced Project impacts from what was originally contemplated and reviewed by MEPA, resulting in notable conservation outcomes. Please refer to the below sections for additional details:

Key Environmental Impact	Reduction from Original		
	Phase A[1]	*Phase B*	*Phase C*
Vehicle Trips (adt)	-450	-2,836	-24,570
Water Use (gpd)	-3,023	-4,461	-425,991.7
Wastewater Generation (gpd)	-5,496	-7,725	-772,712.5
Wetland Resource Area[2] (sf)	0	-14,000	-32,000 or more[3]

Impacts to mapped and unmapped but recognized rare species habitat areas are also significantly reduced from what would have occurred under the original Master Plan; however, those potential impacts were not previously calculated. Furthermore, the elimination of developed areas from the Master Plan results in significant reduction in impervious area, building square footage and land alteration.

The information provided within this FEIR demonstrates that the Project avoids, minimizes, and mitigates Damage to the Environment. The Proponent respectfully requests that the MEPA Office find that the ADM TMUD Project adequately and properly complies with MEPA, and close out the SRP Certificate.

Should you have any questions regarding this matter or require additional information, please contact us at (508) 366-0560. We thank you for your consideration of this FEIR.
Very truly yours,

BEALS AND THOMAS, INC.

Stacy H. Minihane

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Enclosures

cc: James Kane, ADM Development Services LLC (via email and 1 copy via U.S. Mail)
Jeffrey S. Dirk P.E., PTOE, FITE, Vanasse & Associates Inc (via email)
Circulation List (as noted in Section 5.0)

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[1] Reduction in Phase A impacts includes the elimination of Tihonet Technology Park, which was replaced with lower-impact ground-mounted solar arrays
[2] Impacts to wetland resource areas include the sum of resource areas jurisdictional under Wetlands Protection Act
[3] Reduction in Phase C Impacts to wetland resource areas includes the elimination of off-site transportation improvements, which were not required as a result of the elimination of commercial and residential development. On-site impacts associated with the eliminated development were also avoided, although they are unquantified.

TABLE OF CONTENTS

Section 1.0
Project Description and Permitting

1.0 PROJECT DESCRIPTION AND PERMITTING

1.1 Introduction and Background

The ADM TMUD Project consists of the phased development of a mixed-use village community within a 5,630±-acre parcel located in the towns of Wareham, Carver and Plymouth. The Project as originally contemplated was to have been developed in a Parcel of approximately ±6,074 acres, but the Parcel size has been reduced through land transfers to the Commonwealth or others with a corresponding reduction in impacts. The Project focused from the outset on incorporating principles of smart-growth, low-impact development, open space preservation, and preservation of environmental resources, and changes over the course of the Project have only improved the application of those principles.

This FEIR is intended to represent the final MEPA filing for the ADM TMUD and to: 1) memorialize the final development program to reflect what has actually been undertaken to date; 2) document both completed and outstanding mitigation commitments based on the final development program; and 3) close-out the SRP. Since issuance of the Secretary's Certificate establishing the SRP in 2007, the overall goals and development program for the TMUD have been significantly modified to incorporate the Commonwealth's renewable energy goals and 2050 Net Zero emissions target. Changes in market conditions and infrastructure constraints also influenced the final build-out. As such, the conditions of the SRP, which were intended to address a large-scale village-style mixed-use development, are no longer appropriate. To the extent applicable, the Proponent will pursue development opportunities within the TMUD on an individual project basis moving forward (discussed in more detail later herein). No new projects are proposed as part of this filing. Accordingly, the FEIR is based on the TMUD buildout to-date.

With respect to the SRP, if a state permit was needed for a particular project, a filing with MEPA was made, and the state permit obtained. Consistent with that commitment, the Proponent has always brought before MEPA issues and work that fall within the agency's jurisdiction, irrespective of whether any particular work, when considered alone, would have exceeded agency review thresholds. That said, the Proponent has also always understood that the SRP was never intended to create jurisdiction where it did not exist. As such, the Proponent conducted, without MEPA review, certain agricultural projects within the boundaries of the TMUD that did not require state action within the meaning of the MEPA regulations. Such agricultural work included, for example renovations of existing cranberry bogs, sand extraction to support cranberry bog operations, and construction and expansion of agricultural reservoirs. Such activities were undertaken in accordance with agricultural use rights and exemptions and consistent with local bylaws. Moreover, the Proponent has undertaken certain work

which required only local permitting and approval (and no state action) without prior review by MEPA.

Reduction in Environmental Impacts

As noted briefly above, the TMUD Project was significantly reimagined, redesigned and developed in ways that dramatically reduced impacts and comport with Commonwealth priorities (e.g., consider the Commonwealth's renewable energy goals). These Project changes have been presented and explained in each MEPA filing subsequent to the originally established Master Plan.

For instance, most residential and commercial uses originally contemplated have been replaced with lower impact uses, such as solar development, or eliminated entirely. As documented further herein, the approved development resulted in far fewer impacts to the environment than the originally presented and reviewed development program. Among the reduced impacts, please consider the following:

- The Phase A development program was originally planned to include the construction of an 80,000± gross square feet (gsf) mixed-use building within the ±60-acre Tihonet Technology Park (TTP) located off Farm-to-Market Road in Wareham, with an additional 35,000± gsf of commercial use to be developed in the TTP in Phase C. These originally proposed commercial and industrial development projects were subsequently eliminated entirely and replaced with renewable energy resources – i.e. solar arrays – in the cleared area associated with the TTP.

- The Phase B development program originally contemplated the construction of 103,000 gsf mixed use (office and medical office) project at Rosebrook Business Park off Route 28 in Wareham. This development work was also eliminated in its entirety.

- The Phase C development program originally included 437 single-family homes in Plymouth; 405 single-family homes in Wareham; and 524 single-family homes, 380 condominium/town house units, and 110 apartment units in Carver. This work, too, all 1,856 residential units was fully eliminated from the Phase C program and was replaced with agricultural and renewable energy uses and open space. The original residential program would have resulted in the following environmental impacts as reported in the 2008 Notice of Project Change/Phase B Draft EIR:

- 369,100± gpd average day water demand
- 671,100± gpd wastewater flow and significant Nitrogen outputs
- 14,900± new average weekday daily vehicle trips, exclusive of construction-period traffic

Instead, the replacement of the residential program with agricultural and renewable energy uses and open space results in the elimination of water and wastewater impacts and minor on-going vehicle trips as depicted in Table 2-1. While traffic impacts for the soil blending facility are reported to be consistent with those represented in prior MEPA filings, the actual operation of the facility results in far fewer trips than even those reported.

The table below provides a comparison of the Phase C environmental impacts listed above. Phase C projects result in only 7± acres of impervious area, which is considerably less than what would have been required for the residential program when considering the roadway infrastructure and residential structures and drives. Approximately 650 acres of land alteration have been approved within the former residential areas in Phase C. Even conservative assumptions of land alteration associated with the former 1,856 residential units would result in significantly more land alteration than that which has occurred to date. Further, the solar uses in particular result in a generally passive field/meadow land use consistent with the Commonwealth's renewable energy goals and 2050 Net Zero emissions target, rather than the planting of residential lawns, which are often subject to notable fertilizer and pesticide use, and the paving of significant miles of roadways.

It is worth noting that the elimination of the residential development in favor of the approved solar and agricultural uses reduces Phase C wastewater generation and commensurate nutrient loading from sewage disposal systems, as well as other environmental impacts associated with traffic, roadways and other impervious areas. Please refer to the impact reduction summary previously provided. Analyses prepared in association with prior MEPA filings documented that the solar projects will result in significant net benefit in GHG emissions reductions over the project lifespans.

Furthermore, various commercial and industrial development originally planned for the Business Development Overlay District (BDOD) have been eliminated as of this submission[4]. In addition to significant reduction in proposed impervious area, elimination of the total of 1,070,000 gsf of commercial and industrial uses have resulted in the elimination of following environmental impacts:

- 57,000± gpd average day water demand
- 51,800± gpd wastewater flow
- 11,900 vehicle trips/day

Therefore, with the final elimination of residential and commercial, environmental impacts have been reduced as follows:

Table 1-1: Phase C Status

Environmental Impact	Final Phase C Program	Eliminated Phase C Residential Program	Eliminated Phase C BDOD Commercial/Industrial Program	Net Change
Vehicle Trips/Day	230±	12,900±	11,900±	-24,570
Water Use (gpd)	108.3±	369,100±	57,000±	-425,991.7
Wastewater Generation (gpd)	187.5	671,100±	51,800±	-772,712.5

Please refer to Table 2-1 for comprehensive updated impact estimates for the Project.

Conservation Outcome

Beyond the notable reduction in environmental impacts from those associated with the originally envisioned Project, the as-built Project also results in a significant conservation outcome. Specifically, ADM and the Natural Heritage and Endangered Species Program (NHESP) have coordinated for over a decade to ensure that a net benefit to various state-listed species known to occur within portions of the TMUD is realized. This coordination has resulted in mitigation for projects within both formally mapped and informally designated habitat.

[4] Portions of the former BDOD on Charlotte Furnace Road have been sold to private landowners and developed. Such development is not included in the impact calculations, as the order of magnitude of development does not approach the 1,070,000 gsf originally reviewed

The TMUD is anticipated to result in a total of 479.57 acres of impact of the original ±6,074-acre (now ±5,630 acres) Parcel, within mapped and identified state-listed species habitat. To date, approximately 274.2 acres of permitted impact within the original TMUD area has been undertaken.

To mitigate the TMUD permitted impacts, approximately 911 acres of lands adjacent to Myles Standish State Forest in Plymouth and Wareham will be placed in conservation. Indeed, 436.84 acres of this land have already been formally placed under enforceable Conservation Restriction (CR) and transferred to the Commonwealth of Massachusetts. Moreover, ADM is currently advancing the placement of an additional nearly 400 acres of these lands into CR, expanding west from the state forest and previously placed CRs.

In addition to these areas, ADM anticipates that further land will be conserved in coordination with NHESP, either informally through avoidance of development, or formally through placement of Conservation Restrictions. When combined, the end result will be the conservation of approximately 1,500 acres of privately-held land containing important pine barrens habitat, which should be considered along with and in addition to significant habitat funding that has also been provided in association with project permitting with NHESP.

Because these conserved acres are adjacent to the ±12,400-acre Myles Standish State Forest, the conservation benefit is compounded beyond the overall net benefit that would have been realized by conservation of the mitigation acres in isolation.

Updated Mitigation Commitments

Beyond the conservation benefits outlined above, additional mitigation has been previously identified for impacts associated with approved projects as described in the individual MEPA filings for each project. Due to the dramatic reduction in impacts from those originally contemplated under the originally-reviewed developments, the Proponent has provided updated mitigation commitments within Section 3.0 of this FEIR.

Additional mitigation commitments associated with the approved development include various transportation improvement measures. As documented by the Transportation Impact Assessment included in Section 6.0, the elements of the transportation improvement program that were required for Phase A and Phase B have been completed or are no longer required given the actual development undertaken.

1.1.1 MEPA Review to Date

The Project has been subject to extensive MEPA review over the past fifteen years. A summary of MEPA review is provided below:

WINTER 2007	Certificate Establishing SRP
FALL 2008	Certificate on Expanded Environmental Notification Form (EENF) and Draft Record of Decision (DROD) on Phase A, received Final Record of Decision (FROD) on Phase A
FALL 2009	Certificate on Notice of Project Change (NPC) and Draft Amended Record of Decision on Phase A, received Final Amended Record of Decision on Phase A
WINTER 2010	Certificates on NPC/Phase B Draft Environmental Impact Report (DEIR) and Phase C1 EENF
WINTER 2013	Certificate on EENF, DROD, and FROD on Phase C2
FALL 2013	Advisory Opinion requiring no ENF for Tihonet West (Phase C3) and Federal Road Solar (Phase C4)
SPRING 2014	Certificate on Phase C5 ENF
WINTER 2016	Certificate on Phase C6 ENF
SPRING 2019	Certificate on Phase C7 – C9 ENF
SPRING 2021	Certificate on Phase C10 – C12 EENF

1.1.2 Phase C Master Plan Evolution

As reported in prior MEPA filings, the evolving Master Plan is notably different from what was originally contemplated. The Master Plan in its final form as presented in this FEIR is consistent with the Master Plan as most recently presented to MEPA in the EENF for Phase C10 27 Charge Pond Road PV+ES, Phase C11 140 Tihonet Road PV+ES, and Phase C12 150 Tihonet Road PV+ES.

The original TMUD was identified in the EENF for Phase A as a 6,074± acre parcel. As documented in subsequent MEPA filings, portions of the TMUD area have been sold or transferred and the boundary has been refined, reducing the total development area to approximately 5,630± acres, 4,910± acres of which is Phase C. Land removed from the TMUD has included 436.84 acres of conservation land, as well as parcels sold to private landowners along Charlotte Furnace Road and at the Rosebrook Business Park, among other acreage

Historically, when the ADM TMUD was initially proposed, renewable resource generation was not contemplated. However, the landowner's plans for the TMUD was revised to incorporate solar when the Commonwealth established policy initiatives to encourage alternative energy sources. At that time, the landowner explored small-scale hydropower and wind energy, in addition to ground-mounted solar. However, hydropower and wind did not prove feasible.

The TMUD Project is currently in Phase C, with twelve sub-phases (Phases C1 through C12) previously reviewed by MEPA, consisting of ground-mounted solar projects and agricultural uses including a soil blending facility, cranberry bogs, and an agricultural canal. These uses have replaced the original development plan for Phase C, reviewed by MEPA in 2010, which included 372 single-family homes in Plymouth; 405 single family homes and 1,509,800 sf of various commercial and industrial uses in Wareham; and 524 single-family homes, 380 condominium/town house units, and 110 apartment units in Carver.

The Phase C program has been reduced with each subsequent MEPA filing. Most recently, the revised and updated Phase C Conceptual Plan presented in the EENF for Phases C10 through C12 eliminated the remaining residential uses previously contemplated as part of the Phase C Master Plan; however, various commercial and industrial development were still reflected within the Business Development Overlay District (BDOD) in Wareham. Such commercial and industrial uses were not contemplated to be constructed within Phase C in the next 25 years. New small- to mid-scale renewable energy projects may come to fruition in the future in the Phase C BDOD and elsewhere in Phase C.

With this FEIR, the commercial and industrial development proposed within the BDOD is hereby eliminated.

The Proponent anticipates continuing to explore the highest and best value use of its landholdings. In some instances, the highest and best use may well include natural resource conservation. In other instances the Proponent will pursue uses that are consistent with local need, such as a cell tower project that is currently being permitted in the Town of Carver and does not require state agency action. While it is possible that ADM will consider other potential projects within the TMUD at some point in the future, such projects are not part of any present planning and may simply never occur. For that reason, such possibilities are not included in this FEIR. Should the Proponent decide to pursue any new jurisdictional projects in the TMUD at any point following closure of the SRP, the Proponent will coordinate with MEPA. Closure of the SRP will not preclude options to avoid, minimize or mitigate environmental impacts associated with

future projects proposed by ADM, given the Proponent's significant retained landholdings and the extensive amount of development that was previously contemplated for the TMUD but has now been eliminated, as previously described.

1.2 Project Status

The table below provides the status of the various TMUD projects. As these projects have been previously reviewed by MEPA, only brief summaries of the projects are provided in the subsequent subsections.

Table 1-2: Project Status

Phase	Project Name	Status
A1/C	77 Farm-to-Market Road Wareham PV+ES (fka Phase A and C)	Operational
A2	Rosebrook Business Park	Complete and occupied
A3	Hogan-Fisher Cranberry Bog	Complete
B	Rosebrook Place	Complete and occupied
B	Rosebrook Business Park	35,000 gsf general office building and 68,000 medical office building eliminated
B	Charlotte Furnace Solar	Operational
B	Rosebrook Solar Energy	Operational
C1	Wankinco Cranberry Bog Expansion	Under construction
C2	Cranberry Bogs/Infrastructure	Under construction
C3	Tihonet West Solar	Operational
C4	Federal Road Solar	Operational
C5	Tihonet East Solar Phase 1 and Tihonet East Solar Phase 2 (aka 160 Tihonet Road Wareham PV+ES)	Operational
C6	59 Federal Road Carver PV+ES (fka Federal Road West, aka Golden Field Solar)	Operational
C7	276 Federal Road Carver PV+ES	Operational
C8	0 Hammond Street Carver PV+ES	Operational
C9	299 Farm-to-Market Road) PV+ES	Operational
C10	27 Charge Pond Road PV+ES	Construction not commenced
C11	140 Tihonet Road PV+ES	Construction not commenced
C12	150 Tihonet Road PV+ES	Construction not commenced

1.2.1 Phase A

In its final form, the Phase A project ("Phase A") has been significantly scaled back from the original plan. It is located on approximately 46± acres in the town of Wareham (the "Phase A project site"), and includes construction of a new 5± acre cranberry bog, and a medical office building at the Rosebrook Business Park.

1.2.1.1 Phase A1/C – 77 Farm-to-Market Road Wareham PV+ES (fka Phase A and C)

Phase A1, located within the Tihonet Technology Park (TTP), was originally proposed to include the development of an 80,000± gsf two-story mixed use building (i.e., office and light manufacturing space), along with associated subdivision roadway, parking, stormwater management facilities, and Title 5 wastewater disposal facilities. The TTP area was subsequently reduced and replaced by solar uses. The Phase A1 area currently contains the Phase A1/C – 77 Farm-to-Market Road Wareham PV+ES project, which is located within the southerly portion of TTP (fka Phase A1/C in-parcel). This 5.72± megawatt (MW) solar project is complete and awaiting interconnection with the electrical grid.

1.2.1.2 Phase A2

Phase A2, located off a subdivision roadway extension of Lou Avenue within the Rosebrook Business Park, consisted of the development of a 68,750± gsf medical office building with associated parking, stormwater management facilities, and connection to the municipal sewer system. The Rosebrook Business Park medical office building is constructed and occupied. A 5,000± gsf unoccupied gatehouse was also originally proposed off Lou Avenue proximate to its intersection with Route 28 but will not be constructed.

1.2.1.3 Phase A3

Phase A3, located between Tihonet Road and Charlotte Furnace Road adjacent to existing bogs, consisted of the construction of a 4.9± acre cranberry bog. The work associated with this phase has been completed and expands the previously existing Hogan Fisher cranberry bog complex.

1.2.2 Phase B

In its final form, the Phase B project ("Phase B") is located on approximately 337 acres in the town of Wareham (the "Phase B project site"), and includes four projects: Rosebrook Place; Rosebrook Business Park; Charlotte Furnace Solar Energy; and Rosebrook Solar Energy.

1.2.2.1 Rosebrook Place

Rosebrook Place includes a mixed-use Development Program, which consists of the following:

- 92,000 sf of residential space (apartments)
- a 57,000-sf hotel and conference center
- 3,000 sf of retail space
- 6,000 sf of restaurant space
- a 7,000-sf free-standing restaurant
- 4,000-sf of bank
- 8,000 sf of general and miscellaneous office.

In addition to the mixed-use development detailed above, the Rosebrook Place Development Area includes 508 parking spaces including those constructed with porous pavement. The work associated with this phase has been completed and the buildings are occupied.

1.2.2.2 Rosebrook Business Park

Rosebrook Business Park was originally proposed to be located entirely within the BDOD established under the Town of Wareham zoning regulations. Rosebrook Business Park was proposed be accessed by two driveways from the Lou Avenue extension cul-de-sac (aka Rosebrook Way). This project has been eliminated from the TMUD program and will not be constructed.

The Rosebrook Business Park was proposed to contain a mix of office and medical office uses. The development program for Rosebrook Business Park included 103,000 gsf, consisting of a 68,000 gsf 3-floor medical office building and a 35,000 gsf 3-floor general office building. Rosebrook Business Park would have included 401 parking spaces including those constructed with porous pavement. A portion of Rosebrook Business Park (±4.28 acres) was sold to a separate entity, which developed an Assisted Living Facility. The 68,000 gsf medical office and 35,000 gsf general office buildings are not anticipated to be constructed due to wastewater constraints as well as market viability.

1.2.2.3 Charlotte Furnace Solar

The Charlotte Furnace Solar project consists of a 7.2 MW ground-mounted solar array constructed in two phases. A connection to the existing electrical transmission lines directly south of the Development Area will transmit the electrical energy generated into the power grid. The project is now operational.

1.2.2.4 Rosebrook Solar Energy

The Rosebrook Solar Energy project consists of a 0.5± MW ground-mounted solar array. The Rosebrook Solar Energy project is operational and provides energy to the Phase A2 medical office building.

1.2.3 Phase C

Phase C consists of the remaining portions of the TMUD (±4,910 acres), outside of Phases A and B. Phase C was originally envisioned to consist of agricultural, mixed use residential, village scale retail, commercial and industrial uses, and conservation in Wareham, Carver, and Plymouth; however, as described in Section 1.1.2 herein, the Phase C program has been reduced with each MEPA filing. In its final form, Phase C includes twelve sub-phases, consisting of ground-mounted solar projects, a soil blending facility, and agricultural uses including cranberry bogs and an agricultural bypass canal, rather than the much more extensive and impactful 1,856 residential units and 1,070,000 gsf of commercial and industrial uses as originally contemplated and reviewed.

A brief summary of each Phase C project is provided below. All of the projects listed below were previously reviewed by MEPA.

1.2.3.1 Phase C1 – Wankinco Cranberry Bog Expansion

Phase C1 consists of the creation of a 16.5±-acre cranberry bog, the construction of a 2.5±-acre reservoir and tailwater recovery pond as ancillary components to the operation of the bog, and 13± acres of bog roads and grading areas, representing an expansion of the existing 152± acres of adjacent cranberry bogs. The Phase C1 Wankinco Cranberry Bog expansion area has been cleared and that the cranberry bog system will be built in accordance with the Best Management Practice (BMP) recommendations of the University of Massachusetts (UMass) Cranberry Experiment Station.

1.2.3.2 Phase C2 – Cranberry Bogs/Infrastructure

The Phase C2 project consists of three components:

1. The construction of a soil blending facility in Carver;
2. The creation of new cranberry bog and associated improvements in Plymouth; and
3. The creation of an agricultural bypass canal in Plymouth and Wareham.

Soil Blending Facility

In its current configuration, the soil blending facility consists of four storage buildings of a temporary nature, totaling 9,700 sf, with approximately 1.3 ac of impervious area to the southeast of the existing Ocean Spray facility. The soil blending facility was built within existing disturbed areas proximate to the Ocean Spray facility and existing bogs.

The soil blending facility was originally proposed to include an office and workspace building and associated parking, a covered bin and pallet storage area with an adjacent concrete pad mixing area, a finished material storage building and associated covered areas for blending and storage, a dry-sand storage structure and associated concrete pad for drying sand and a scale. Although the soil blending facility is currently operational, the previously proposed full build-out, which included several buildings totaling 34,450 sf, as well as a 67,140 sf open canopy roof system, has not been undertaken.

Cranberry Bogs

The Phase C2 cranberry bogs will consist of a 140-acre cranberry bog system, and 77 acres of ancillary areas (sand track agricultural access

roads, dikes, pump stations, drainage canals, and water delivery systems) and grading areas located within approximately 217 acres of land in the Plymouth portion of the ADM landholdings. The new cranberry bogs will result in significant water conservation over the old-style bogs. Specifically, the efficient bog configuration, laser-leveling during construction, step down relationship between bog sections, water-tight flumes, efficient irrigation systems, and incorporation of tailwater recovery represent major water conservation techniques that will be incorporated into the Phase C2 bog project. Water supply will be derived from existing water sources such as ponds and cranberry beds to be abandoned. The cranberry bog system will be built in accordance with the BMP recommendations of the UMass Cranberry Experiment Station. Included in the improvements associated with the cranberry bogs is the conversion of existing cranberry bog areas in active agricultural use to three tailwater recovery ponds. Since these tailwater recovery ponds will occur in areas that are already in active agriculture and will be conducted as the normal improvement of land in agricultural use as defined in 310 CMR 10.04 Agriculture (c), these tailwater recovery ponds were not included as separate new impacts in the Phase C2 MEPA filing. The new cranberry bog system will replace existing old-style run-of-river bogs to be abandoned. Construction has commenced on the cranberry bog systems.

Bypass Canal

The bypass canal will be located in Plymouth and Wareham and will consist of 4,900± linear feet of new channel (an 11-acre Development Area) with water control structures east of an existing bog system located south of the proposed Phase C2 cranberry bogs. The proposed bypass canal is intended to temporarily divert stream flow around existing flow-through cranberry bog during specific agricultural practices, in order to improve water quality flowing from Frogfoot Reservoir to Tihonet Pond and downstream resources. Construction of the bypass canal has not begun, but will be undertaken upon the retirement of currently-operating run-of-the-river bogs and operation of new bogs in the C2 area.

1.2.3.3 Phase C3 – Tihonet West Solar

Tihonet West Solar was constructed within a previously- disturbed area originally reviewed by MEPA as the Tihonet Technology Park (TTP) in Phase A1. As further described in Section 1.2.1.1, the Phase

A1 area was subsequently reduced and partially replaced by Phase C3 Tihonet West Solar in the northerly portion of the TTP. Tihonet West Solar is a 1.38± MW ground-mounted solar array . The project is operational.

1.2.3.4 Phase C4 – Federal Road Solar

Federal Road Solar is a 6± MW ground-mounted solar array located off Federal Road in Carver, south of and adjacent to an existing landfill. The project is operational.

1.2.3.5 Phase C5 – Tihonet East Solar Phase 1 and Tihonet East Solar Phase 2 (aka 160 Tihonet Road Wareham PV+ES)

Tihonet East Solar is a 9.83± MW ground-mounted solar array located in the northeastern portion of the TMUD Parcel in Wareham, immediately south of the Plymouth town line. The project consisted of two phases, the second of which is also referred to as 160 Tihonet Road Wareham PV+ES and includes energy storage.

Access to the site is via an unimproved agricultural access road off of Tihonet Road. The project is operational.

1.2.3.6 Phase C6 – 59 Federal Road Carver PV+ES (fka Federal Road West, aka Golden Field Solar)

The 59 Federal Road Carver PV+ES (fka Federal Road West, aka Golden Field Solar) project is situated west of Federal Road in Carver, directly across the road from the Ocean Spray Cranberry facility in the northwestern portion of the TMUD Parcel. The 59 Federal Road Carver PV+ES project consists of a 11.94± MW solar energy and battery storage facility. Access to the site will be via Federal Road. The project is operational.

1.2.3.7 Phase C7 – 276 Federal Road Carver PV+ES

The 276 Federal Road Carver PV+ES project represents the second phase of the Federal Road Solar project proposed in Phase C4, located to the east of Federal Road and to the north of the Carver/Wareham town boundary, south of the existing CMW landfill. The project consists of a 7.12± MW ground-mounted solar array and energy storage facility. A tree evaluation conducted by a Massachusetts Licensed Forester determined that the health of the trees in the site area, specifically red pine, was in decline and many trees had died. Access to the site is via Federal Road. The project is operational.

1.2.3.8 Phase C8 – 0 Hammond Street Carver PV+ES

The 0 Hammond Street Carver PV+ES project is located off of Hammond Street, bounded to northeast by Hammond Street and to the east by Federal Road. The project consists of a 12.5 MW ground-mounted solar array and energy storage facility. A tree evaluation conducted by a Massachusetts Licensed Forester determined that the health of the trees in the site area, specifically red pine, was in decline and many trees had died. The project is operational.

1.2.3.9 Phase C9 –299 Farm-to-Market Road PV+ES

The 299 Farm-to-Market Road PV+ES project is located west of Farm-to-Market Road and south of the Carver/Wareham town boundary. The project consists of a 3.69 MW ground-mounted solar array and was largely undertaken within an existing disturbed/cleared area adjacent to existing cranberry bogs; the only wooded area that was present lay in the eastern portion of the site, along Farm-to-Market Road. The project is operational.

1.2.3.10 Phase C10 – 27 Charge Pond Road PV+ES

The 27 Charge Pond Road PV+ES project is located to the east of Parker Mills Pond and is accessed via Charge Pond Road. The site is generally forested and undeveloped, although a 1.8± acre previously cleared/disturbed area is located in the northeastern portion of the site. The project consists of an approximately ±11.6 MW ground-mounted solar array and energy storage facility on the site. Applicable state and local regulatory authorities have approved the project.

1.2.3.11 Phase C11 – 140 Tihonet Road PV+ES

The 140 Tihonet Road PV+ES project is located south of an existing electric utility easement, and east of Tihonet Pond and Tihonet Road. The site is accessed via Tihonet Road, an existing sand track agricultural road. The project consists of an approximately ±15.5 MW ground-mounted solar array and energy storage facility. Applicable state and local regulatory authorities have approved the project.

1.2.3.12 Phase C12 – 150 Tihonet Road PV+ES

The 150 Tihonet Road PV+ES project is located north of an existing electric utility easement, and east of Tihonet Pond and Tihonet Road. The site is accessed via Tihonet Road, an existing sand track agricultural road. The project consists of an approximately ±19.3 MW ground-mounted solar array and energy storage facility. Applicable state and local regulatory authorities have approved the project or indicated that approval will be forthcoming.

1.3 Statutory and Regulatory Standards and Requirements

1.3.1 MEPA Review Thresholds

In the original Master Plan, it was anticipated that individual subphases of the TMUD would exceed the following thresholds; those thresholds that are no longer exceeded due to the project development scope reductions noted herein have been struck through.

1.3.1.1 EIR Thresholds

- Direct alteration of 50 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices (301 CMR 11.03(1)(a)1.)
- ~~Creation of ten or more acres of impervious area (301 CMR 11.03(1)(a)2.)~~
- ~~Unless the Project consists solely of an internal or on-site roadway or is located entirely on the site of a non-roadway Project…construction of a New roadway two or more miles in length (301 CMR 11.03(6)(a)1.a.)~~
- Generation of 3,000 or more New average daily trips (adt) on roadways providing access to a single location (301 CMR 11.03(6)(a)6.)
- ~~Construction of 1,000 or more New parking spaces at a single location (301 CMR 11.03(6)(a)7.)~~

1.3.1.2 ENF Thresholds

- Direct alteration of 25 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices (301 CMR 11.03(1)(b)1.)
- Creation of five or more acres of impervious area (301 CMR 11.03(1)(b)2.)
- Greater than two acres of disturbance of designated priority habitat, as defined in 321 CMR 10.02, that results in a take of a state-listed endangered or threatened species or species of special concern (301 CMR 11.03(2)(b)2)
- ~~Provided that a Permit is required…alteration of 500 or more linear feet of bank along a fish run or inland bank (301 CMR (11.03(3)(b)1.b.)~~
- Provided that a Permit is required…alteration of 5,000 or more sf of bordering or isolated vegetated wetlands (301 CMR (11.03(3)(b)1.d.)[5]
- Provided that a Permit is required… alteration of ½ or more acres of any other wetlands (301 CMR (11.03(3)(b)1.f.) [6]
- ~~Construction of a New wastewater treatment and/or disposal facility with a Capacity of 100,000 or more gpd (301 CMR 11.03(5)(b)1.)~~
- ~~Construction of one or more New sewer mains…five or more miles in length (301 CMR 11.03(5)(b)3.b.)~~
- ~~Construction of one or more New sewer mains…½ mile or more miles in length provided the sewer mains are not located in the right of way of existing roadways (301 CMR 11.03(5)(b)3.c.)~~
- ~~New discharge or Expansion in discharge…to groundwater of…50,000 or more gpd of sewage within any other area (301 CMR 11.03(5)(b)4.c.ii.)~~
- Generation of 2,000 or more New adt on roadways providing access to a single location (301 CMR 11.03(6)(b)13.)
- Generation of 1,000 or more New adt on roadways providing access to a single location and construction of 150 or more New parking spaces at a single location (301 CMR 11.03(6)(b)14.)
- Construction of 300 or more New parking spaces at a single location (301 CMR 11.03(6)(b)15.)

[5] This threshold is exceeded by wetland restoration proposed in association with the 27 Charge Pond Road Wareham PV+ES Project

[6] RFA impacts associated with Phase C8

1.3.2 Permitting Status

The TMUD Project has received multiple permits for individual subphases. A summary of permits by phase is provided below. All Agency Actions for the TMUD Project have been taken, with the exception of a Conservation and Management Permit for the Phase C11 – 140 Tihonet Road PV+ES project.

In addition to the State Permits outlined below, an overall archaeological sensitivity assessment was undertaken for the TMUD at the outset of the Project. Subsequently, individual phases within moderate or highly sensitive areas were subject to intensive locational archaeological surveys. Coordination with MHC was undertaken as applicable, and MHC concurrence was received.

As outlined in the most recent EENF Certificate, *"Previous MEPA Certificates indicated that the Proponent of the TMUD Project has applied for Financial Assistance from the Commonwealth, including grants from the Massachusetts Technology Collaborative (MTC), and is likely to apply for additional funding such as financial assistance from the Massachusetts Opportunity Relocation and Expansion (MORE) Program. However, according to the Proponent, none of the previously reviewed projects has received State Financial Assistance nor is any anticipated for any future phases. Therefore, MEPA jurisdiction is limited to those aspects of the project that are within the subject matter of any required or potentially required Agency Actions and that may cause Damage to the Environment, as defined in the MEPA regulations.*"

State and federal land use permits associated with each phase are listed below.

1.3.2.1 Phase A Permits

- NPDES Stormwater Permit for Construction Activities (Environmental Protection Agency)
- Department of the Army General Permit for the Commonwealth of Massachusetts (Army Corps of Engineers)
- State Highway Access Permit (Massachusetts Highway Department)
- Conservation and Management Permit (NHESP)

1.3.2.2 Phase B Permits

- NPDES Stormwater Permit for Construction Activities (Environmental Protection Agency)
- Conservation and Management Permit (NHESP)
- State Highway Access Permit (Massachusetts Highway Department)
- Traffic Signal Permit (Massachusetts Highway Department)

1.3.2.3 Phase C Permits

- NPDES Stormwater Permit for Construction Activities (Environmental Protection Agency)
- Conservation and Management Permit (NHESP)
- Superseding Order of Conditions (MassDEP)

Section 2.0
Cumulative Impact Assessment

2.0 CUMULATIVE IMPACT ASSESSMENT

As previously described, the TMUD Parcel is divided into three geographical phases:

- Phase A (consisting of three sub-phases: Phase A1 first component of Tihonet Technology Park now replaced by Phase A1/C – 77 Farm-to-Market Road Wareham PV+ES, Phase A2 medical office building in Rosebrook Business Park, and Phase A3 cranberry bog)
- Phase B (consisting of four sub phases: the remainder of Rosebrook Business Park (now eliminated), Rosebrook Place, Rosebrook Solar Energy, and Charlotte Furnace Solar Energy)
- Phase C (consisting of twelve sub-phases: C1 Wankinco Cranberry Bog Expansion, C2 Cranberry Bogs/Infrastructure, C3 Tihonet West Solar, C4 Federal Road Solar, C5 Tihonet East Solar Phase 1 and Tihonet East Solar Phase 2 (aka160 Tihonet Road Wareham PV+ES), C6 59 Federal Road Carver PV+ES (fka Federal Road West aka Golden Field Solar), C7 276 Federal Road Carver PV+ES, C8 0 Hammond Street Carver PV+ES, C9 299 Farm-to-Market Road PV+ES, C10 27 Charge Pond Road PV+ES, C11 140 Tihonet Road PV+ES, and C12 150 Tihonet Road PV+ES)

2.1 Comparison of Impacts

Due to the previously described significant reduction in project scope from what was originally contemplated, and as requested by MEPA, the Proponent has prepared an updated cumulative impact summary. Where projects have been completed or are currently in progress, impacts have been estimated using a combination of as-built surveys, GPS field data, and aerial imagery, as feasible. Where projects have not yet commenced, impacts have been estimated using available design plans.

In addition to the previously-reported impact categories, the EENF Certificate issued for Phase C10 - C12 on June 9, 2021 requested, "*…to the extent development activity in Phase C is nearing completion, a final "close out" filing as contemplated in the SRP, to disclose the nature and extent of past sand excavation activities to the extent they can be deemed related to previously reviewed projects or otherwise subject to the SRP procedures*." However, earth removal conducted in the TMUD was undertaken for agricultural purposes only; accordingly, records of these activities were not maintained as they did not involve commercial earth removal. Earth removal conducted at MEPA-reviewed project sites minimized overall land disturbances by obtaining necessary earth materials for cranberry bog operations from proposed development locations as opposed to from virgin/treed areas as is allowable pursuant to agricultural exemptions.

Actual cumulative impacts associated with Phase A, B, and C are summarized in Table 2-1.

Table 2-1: Cumulative Impact Summary, Projects Reviewed to Date

Impacts		Phase A[7,9]	Phase B[9]	Phase C1[8]	Phase C2[8]			Phase C3[9]	Phase C4[9]	Phase C5[9]	Phase C6[9]	Phase C7[9]	Phase C8[9]	Phase C9[9]	Phase C10[10]	Phase C11[10]	Phase C12[10]	Total
					Cranberry Bog[8]	*Bypass Canal*[10]	*Soil Blending Facility*[8]											
Land																		
Total site area (ac)		45.7±	334.01±	56±	217±	11±	24.5±	16±	66±	49.5±	49.5±	36.0±	45.0±	13.0±	42.1±[11]	66.2±	49.2±	
Land altered (ac)		46.8±	68.4±	39.4±	217±	11±	0±[12]	14.4±	47±	42.5±	48.8±	33.7±	48.5±	0.5±	40.1±	65.3±	49.2±	786.76±
Impervious area (ac)		6.2±	7.9±	0	0.17±	0[13]	1.37±	0.005±	0.28±	0.06	0.08±	0.04±	0.12±	0.04±	0.07±	0.16±	0.15±	55.90±
BVW alteration (sf)		1,790±[14]	0	0	4,404±	0	0	0	0	0	0	0	0	0	6,500±	0	0	12,694±
Other wetland alteration	Bank (lf)	175±[14]	0	0	198±	0	0	0	0	0	0	0	0	0	0	0	0	373±
	BLSF (sf)	40,040±[14]	0	0	5,609±[15]	0	0	0	0	0	0	0	20,000±	0	0	0	0	65,649±
	RFA (sf)	58,370±[14]	0	0	0	0	0	0	0	0	0	0	29,300±	0	0	0	0	87,670±
	LUWW (sf)	175±[14]	0	0	250±	0	0	0	0	0	0	0	0	0	0	0	0	425±
	IVW (sf)	0[14]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alteration to NHESP Habitat[16] (ac)		29±	52±	31±	217±	0	0	23.3±	0±	44.6±	0	0	0	0	0	0	31.17±	428.08±
Structures																		
Gross square footage		68,750±	177,000±	196±	800±	0	9,700±	0	0	0	0	0	0	0	0	0	0	256,446±
Number of housing units		0	65±	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65±
Maximum height (ft)		42±	60±	NA	NA	NA	40±	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Transportation																		
Vehicle trips per day		2,478±	3,614 ±	10±[17]	10±	0	230± [18]	20±[19]	20±[19]	20±[19]	50±[19]	50±[19]	50±[19]	50±[19]	50±[19]	50±[19]	50±[19]	
Parking spaces		300±	508±	0	0	0	20±	0	0	0	0	0	0	0	0	0	0	808±
Water/Wastewater																		
Water use (gpd)		4,939±	45,420±	0[20]	0[20]	0	0	0	0	0	0	0	0	0	0	0	0	50,359±
Wastewater generation (gpd)		4,939±	45,420±	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50,359±
Length of water mains (mi)		0.96±	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.96±
Length of sewer mains (mi)		0.4±	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4±

[7] For the purposes of this filing, Phase A is reported as Phase A2 Rosebrook Business Park, Phase A3 Cranberry Bog, and the 77 Farm-to-Market Road Wareham PV+ES Project.
[8] Project construction is currently underway; impacts are consistent with those previously reported based on latest permitting plans
[9] Project construction has been substantially completed, such that no further expansion to the limit of work is necessary.
[10] Project construction has not yet commenced; impacts are reported consistent with prior MEPA filings
[11] Excludes area of wetland restoration
[12] The Phase C2 soil blending facility Development Area is located entirely within a previously disturbed area.
[13] Excludes water control structures.
[14] Impacts as previously reported to MEPA; as-built plans not readily available
[15] Work will result in increased flood storage capacity.
[16] Habitat includes mapped and unmapped but identified habitat. All reported alteration except Phase C12 includes both mapped and unmapped habitat; Phase C12 consisted solely of unmapped habitat.
[17] Trips are temporary in association with cranberry bog construction
[18] Practical use from 0 – 50 given that office/garage complex associated with original concept not constructed
[19] Trips are temporary in association with construction
[20] Water use/withdrawals occur within the capacity of existing permits and registrations

Section 3.0
Mitigation Measures

3.0 MITIGATION MEASURES

3.1 Summary of Mitigation Measures

This section generally summarizes mitigation measures taken for actual impacts associated with portions of the TMUD that have been constructed, are under construction, or have not been eliminated. Mitigation commitments associated with individual projects are more specifically outlined in the applicable MEPA filing for such projects.

In addition to the mitigation described below, mitigation for the various solar projects approved in Phase B and Phase C generally consists of (i) minimizing land disturbance to that necessary to accommodate the arrays, (ii) installation of stormwater management systems to mitigate the projects in accordance with state and local requirements, and (iii) maintenance of significant wooded buffers from roadways and nearest residences wherever possible in order to mitigate potential visual and noise impacts.

3.1.1 Rare Species and Wildlife Habitat

As described more fully in Section 1.1, the Proponent has committed to formally designating approximately 911 acres of conservation lands, with additional lands to be formally or informally conserved, totaling approximately 1,500 acres. Furthermore, the conservation benefit is magnified due to their adjacency to Myles Standish State Forest.

3.1.2 Wetlands and Water Resources

Wetland resource area mitigation was undertaken/is proposed to be undertaken in association with two TMUD projects.

Impacts to wetlands associated with the Phase A2 Rosebrook Business Park development included crossing an intermittent stream (man-made ditch) and associated Bordering Vegetated Wetland and Bank. The impact area associated with this crossing is approximately ±1,682 sf. Portions of the medical office building work (parking, stormwater facilities, and roadway) were located within the 200-foot Riverfront Area associated with Rose Brook, as well as within the 100-foot Buffer Zone to Isolated and Bordering Vegetated Wetlands and Bank associated with cranberry bog irrigation canals. In accordance with the Massachusetts Wetlands Protection Act and Town of Wareham Wetlands Protection Bylaw, mitigation was provided through the creation of a vegetated wetland system.

For the Phase C10 – 27 Charge Pond Road PV+ES project, at the request of the Wareham Conservation Commission, the Proponent has committed to restoring an area of historic fill/debris/dumping area within a portion of the Bordering Vegetated Wetland and buffer zone. The proposed restoration is intended to remove anthropogenic fill and debris within the buffer zone and wetland, such that original grades are generally restored and the debris is no longer present.

3.1.3 Transportation

As further outlined in the Transportation Impact Assessment (TIA) included in Section 6.0, the elements of the transportation improvement program that were required for Phase A and Phase B as identified in the MassDOT Section 61 Findings for the respective phases have been completed or are no longer required given that these phases of the Project are complete and that the development programs that have been constructed for both phases represent a significant reduction in traffic on both a daily and peak-hour basis. Please refer to Section 6.0 for additional information.

In addition to the transportation mitigation measures referenced in Section 6.0, although not explicitly a MassDOT requirement, at one time a bypass road from Route 28 to Tihonet Road was contemplated. However, this road is not needed given the elimination of the housing and commercial developments previously contemplated for the mid and northern portions of the TMUD.

3.1.4 Greenhouse Gas

The TMUD Project is subject to the Greenhouse Gas (GHG) Policy. As described in detail in the applicable past MEPA filings, TMUD projects have included the following GHG mitigation measures:

Stationary source GHG mitigation measures for siting of buildings and site design for Phase A and B focused on the preservation of open space, conservation of resources, and support for alternative forms of transportation. Where appropriate, the proposed building design and operation mitigation measures incorporated low-impact and energy efficient design features. Examples of these measures include adding additional insulation and climate controls to reduce the energy requirements of the buildings, as well as making use of lower GHG-emitting fuels available in this area (e.g., natural gas instead of fuel oil to power boilers).

Additional TMUD projects, such as agricultural and solar developments, will not generate GHG impacts outside of the construction period. Notably, it is our understanding that the Phase C10 through C12 solar projects were among the first, if not the first, projects for which MEPA requested a detailed GHG evaluation for tree clearing as well as soil disturbances, in large part because a methodology has not yet been formally established by the EEA. A specialized consultant was engaged in order to address MEPA's request that a detailed GHG evaluation for those three projects be provided. Significant research and analysis was undertaken to develop an appropriate methodology to evaluate tree clearing emissions impacts and respond to MEPA's inquiries regarding soil disturbance. This analysis documented that the solar projects will result in significant net benefit in GHG emissions reductions over the 20-30 year project lifespans. Specifically, the combined net benefit (emission savings accounting for land use conversion) of the latest three solar projects (C10 – C12) over a 20-year period is 550,572 metric tons CO_2.

3.1.5 Miscellaneous Mitigation

In addition to the above mitigation, the estimated economic benefit that will result from the tree clearing for the Phase C10 through C12 solar projects will be provided to the Town of Wareham for its use in undertaking its preferred mitigation project(s). This equates to the following mitigation funding for each project:

- $21,320 for Phase C10 – 27 Charge Pond Road PV+ES
- $22,255 for Phase C11 – 140 Tihonet Road PV+ES
- $36,500 for Phase C12 – 150 Tihonet Road PV+ES

3.2 Proposed Section 61 Findings

3.2.1 Massachusetts Department of Transportation

An updated draft MassDOT "Letter of Commitment" requesting the issuance of an amended Section 61 Finding is included in Section 6.0.

Section 4.0
Public Outreach

4.0 PUBLIC OUTREACH

To date, forty-nine public meetings have been held regarding the TMUD. The Proponent continued to hold quarterly public outreach meetings until the governor's state of emergency declaration related to COVID-19, on March 10, 2020. Subsequent to this date, the Proponent held pre-filing meetings where MEPA submissions were forthcoming. A pre-filing meeting for this FEIR was held on January 26, 2022 prior to filing of this FEIR. Meeting notes are attached.

MEETING DATE:	January 26, 2022
ISSUE DATE:	January 31, 2022
REFERENCE:	ADM Tihonet Mixed-Use Development Quarterly Update and Pre-Filing Meeting EEA No. 13940 Wareham, Carver and Plymouth, Massachusetts B+T Project No. 1833.116
PRESENT:	See attached sign-in sheet
PREPARED BY:	Beals and Thomas, Inc. and ADM Development Services LLC
COPIES TO:	MEPA

PURPOSE:
This meeting represented the forty-ninth quarterly update meeting regarding the ADM Tihonet Mixed-Use Development Project. This meeting was also held as a pre-filing meeting for an upcoming Final Environmental Impact Report filing with MEPA to close out the TMUD.

DISCUSSION ITEMS:

1. MEPA filing: Final Environmental Impact Report
    a. Anticipated to be noticed in February 9, 2022 Environmental Monitor
    b. Public comment period ends March 11, 2022
2. Overview of reduction in environmental impacts
3. Summary of conservation outcome
4. Questions from public; responses noted after each
    a. Status of areas in Phase C not developed for solar
        i. Such areas will not be developed as part of TMUD, portions will be placed in CR. If future projects occur that require MEPA review filings will be made.
    b. Site visits to previously reviewed sites
        i. Site visits not currently scheduled but previously held in association with the applicable MEPA filing, virtual consultation session with MEPA to be scheduled subsequent to submission of FEIR.
    c. Water quality monitoring of aquifer given sand removal
        i. Not monitored specifically, but monitoring for cranberry bogs indicates no change in quality of water for bogs
    d. Status of C10, C11, and C12 projects

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e. Cranberry bog development plans
    i. Implementing bog renovations
    ii. Agricultural reservoir
f. Status of SRP
    i. Quarterly update meetings not held when no projects were forthcoming
    ii. Future projects that require Agency Actions and exceed thresholds will go through MEPA process
g. Meeting format
    i. Meeting held in person consistent with current state of the Commonwealth with regard to pandemic. MEPA consultation session anticipated to have remote participation

These minutes are accepted as accurate and complete unless corrections and/or additions are received within one week of issue.

MKS/shm/1833116MT002

Sign In Sheet

ADM Tihonet Mixed Use Development

January 26, 2022 Quarterly Update & Pre-Filing Meeting (Carver)

NAME	ORGANIZATION	CONTACT INFORMATION
KATHY PAPPALARDO	PRIVATE CITIZEN	
Michelle Tricarico	" "	
Kathryn Gallerani	Gemini Media - Carver	

Section 5.0
Circulation List

5.0 CIRCULATION LIST

Circulation list notified via U.S. Mail unless otherwise noted

* Hard Copy
**Compact Disc/Flash Drive
***Email (file share site posting with email notification)

***Secretary of Energy & Env. Affairs, Executive Office of Energy and Environmental Affairs, Attn: MEPA Office MEPA@mass.gov	
*Town of Carver Board of Selectmen	***Town of Plymouth Conservation Commission rvacca@plymouth-ma.gov
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*Massachusetts Historical Commission, Attn: Brona Simon	***Old Colony Planning Council kmowatt@ocpcrpa.org
***Southeastern Regional Planning & Economic Development District bnap@srpedd.org	***Massachusetts Coastal Zone Management, Attn: Project Review Coordinator robert.boeri@mass.gov patrice.bordonaro@mass.gov

**Mr. Andrew Cunningham, Superintendent, Wareham Fire District	***Natural Heritage and End. Spec. Prog., Division of Fisheries and Wildlife melany.cheeseman@mass.gov emily.holt@mass.gov
**Town of Wareham, Board of Health	***Div. of Marine Fisheries (South Shore), Attn: Environmental Reviewer DMF.EnvReview-South@mass.gov
***Dept. of Agricultural Resources, Attn: MEPA Coordinator barbara.hopson@mass.gov	***Massachusetts Bay Transit Authority, Attn: MEPA Coordinator MEPAcoordinator@mbta.com
***Ms. Sarah Hewins	**Plymouth Area Chamber of Commerce
**Wareham Land Trust	**Ms. E. Heidi Ricci, Senior Policy Analyst, Mass Audubon
**Mr. Mark Rasmussen, Executive Director, Coalition for Buzzards Bay	**Ms. Korrin N. Petersen, Advocacy Director, Coalition for Buzzards Bay
**Ms. Marie Oliva, Cape Cod Canal Reg., Chamber of Commerce	*Plymouth Public Library
**Mr. David Belluche	**Plymouth Carver Aquifer Advisory Committee
**Mr. Robert Wilber, Director of Land Protection, Mass Audubon	*Wareham Free Library
*Carver Public Library	***Mr. Jim Dugan
***Ms. Debbie Norcross	**Chief Craig Weston, Carver Fire Department
**Ms. Sally Durrell	**Ms. Lisa Bindas and Ms. Jaci Barnett
***Ms. Marina Choubina	***Mr. Simon Price
**Ms. Helen Hapgood	***Ms. Margit Price
**Mr. Bob O'Connor, Division of Conservation Services, Exec. Office of Energy & Environ. Affairs	**Mr. Bill Lockwood, Lockwood Architects
*Mr. David Gould, Env. Resources Mgr., Town of Plymouth dgould@townhall.plymouth.ma.us	**Ms. Sandy Slavin, Wareham Open Space and Cons Comm.
*Mr. Jonathan Hobill, MA DEP Southeast Regional Office	***Mr. Dmitri Boukine
***Ms. Jane Winn	***Ms. Mia Berger
***Mr. Steven Berger	** The Nature Conservancy
***Mr. Leighton Price, Six Ponds Improvement Association	**Mr. Dave Walton
***Ms. Mary Calore and Mr. Frank Calore	**Mr. David Keddell, Regulatory Office, New England District, U.S. Army Corps of Engineers
**Mr. Joe Costa, Buzzards Bay National Estuary Program, Massachusetts Coastal Zone Management	***Mr. Sean Bogart
**Mr. Joe and Mrs. Lois Constantino	***Ms. Eileen Ormond
**Mr. Edward Pacewicz	*** Phillip and Terri Biancucci
** Wareham Zoning Board of Appeals	***Ms. Jen Bogart

** Mr. Lee Hartmann, Acting Town Mgr., Town of Plymouth	***Mr. Alan Slavin, Town of Wareham, Board of Selectmen
**Mr. Derek Sullivan, Wareham Interim Town Administrator	**Mr. Doug Sanford and Ms. Kathy Messenger
**Mr. Nathaniel Tipton, MEPA Review Coordinator/Resource Mgmt. Planner, MA Dept of Conservation and Recreation	***Mr. Stan Allgor
**Mr. Steven Lydon	***Mr. Robert Belbin
***Mr. Walter Cruz	**Mr. Robert Fennessy, Carver Interim Town Administrator
**Mr. Brian Wick, Executive Director, Cape Cod Cranberry Growers' Association	**Editor, Wareham Courier
***Ms. Kathy Gallerani	**Massachusetts Aeronautics Comm. Attn: MEPA
**Executive Office of Transportation Attn: Environmental Reviewer	**Mr. Jed Cornock Old Colony Planning Council
**Mr. David Gould, Env. Res. Mgr. Town of Plymouth	**Ms. Jen Viveiros MA DEP Southeast Regional Office
**Ms. Andrea Coates MA DOT, District 5	**Ms. Judith Judson Department of Energy Resources
**Mr. Dave Janik Massachusetts Coastal Zone Management	**Mr. Frank Mezzacappa MA DEP Southeast Regional Office
***Ms. Patrice Bordonaro Exec. Office of Energy & Environ. Affairs Massachusetts Coastal Zone Management	**Mr. Robert Gregory MA DOT, District 5
***Save the Pine Barens	
***Ms. Annie Hayes	***Elise Leduc – Flemming, Executive Director Wareham Land Trust
*** Joan Pierce, Mass Dept. of Fish and Game	***Barry Cosgrove
***Mr. Bill Napolitano S.E. Regional Planning & Econ. Dev. District	

Section 6.0
Transportation

Final Environmental Impact Report Transportation Impact Assessment, prepared by Vanasse & Associates, Inc.

Draft MassDOT Letter of Commitment

Transportation Technical Appendix

BEALS+THOMAS

Final Environmental Impact Report

Transportation Impact Assessment

ADM Tihonet Mixed-Use Development
Wareham, Carver and Plymouth, Massachusetts
EEA No. 13940

Prepared for:

ADM Development Services LLC

Wareham, Massachusetts

January 2022

Prepared by:

Vanasse & Associates inc
Transportation Engineers & Planners

35 New England Business Center Drive
Suite 140
Andover, MA 01810

CONTENTS

TABLES

INTRODUCTION

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in support of this Final Environmental Impact Report (FEIR) in order to provide an updated assessment of the traffic characteristics and associated impacts on the transportation infrastructure resulting from the phased build-out of the ADM Tihonet Mixed-Use Development that is located in Wareham, Carver and Plymouth, Massachusetts (EEA No. 13940, hereafter referred to as the "Project"). The Project has been the subject of a detailed review under the Massachusetts Environmental Policy Act (MEPA) that is based on a Special Review Procedure established on January 29, 2007 by the Secretary of Energy and Environmental Affairs (EEA). Since that time, the Project proponent received a Phase 1 Waiver to advance Phase A of the Project (which was to include Tihonet Technology Park, Rosebrook Business Park, and a 4.9-acre cranberry bog) and filed a Final Environmental Impact Report (FEIR) for Phase B (which was to include Rosebrook Place, additional development at Rosebrook Business Park, Charlotte Furnace Solar, and Rosebrook Solar) for which a Certificate was issued by the Secretary of EEA (the "Secretary") on March 18, 2011. Phase C of the Project has also been the subject of several Environmental Notification Forms (ENFs), Environmental Impact Reports (EIRs), and Requests for Advisory Opinion (RAOs) that have documented the construction of agricultural-related and solar energy projects as a part of Phase C.

This assessment has been prepared to document the status of development of Phase A and Phase B, and the associated transportation infrastructure improvements that were the subject of the Section 61 Findings issued by the Massachusetts Department of Transportation (MassDOT) on August 24, 2010, for Phase A and on May 27, 2011, for Phase B. The commercial and industrial build-out that was originally contemplated as a part of Phase C and was to include the construction of up to 1.07 million square feet (sf) of retail, manufacturing, warehouse, office, medical office, light industrial and research and development space, as well as residential programming originally contemplated in Phase C, has been eliminated. As such and with specific regard to the impacts on the transportation infrastructure, the build-out of the Project is complete, with the approved Phase C development consisting of agricultural-related and solar energy projects, none of which will result in a material increase in traffic that would necessitate improvements to the existing transportation infrastructure.

As more fully documented herein, ***the modifications to the development programs that were originally envisioned for Phase A and Phase B of the Project have resulted in a significant reduction (up to 40 percent) in both daily and peak-hour traffic volumes, and now represent the completion of these phases of the Project. As such, elements of the transportation improvement***

program that were defined for Phase A and Phase B to support the continued build-out of these phases are no longer necessary. An updated draft MassDOT "Letter of Commitment" requesting the issuance of an amended Section 61 Finding is included as a part of this FEIR.

PROJECT DESCRIPTION

The Project entailed the phased construction of a mixed-use development on approximately 5,630± acres (the Parcel, acreage updated since SRP to reflect areas transferred to the Commonwealth or private entities) of land located in the Towns of Wareham, Carver and Plymouth. Three general phases (Phases A, B and C) were defined for the Project and were initially assessed in the July 11, 2008 *Expanded Environmental Notification Form/Request for Single Review Document for Phase A1 and A2/Request to Amend the Special Review Procedure* prepared for the Project (the "2008 Expanded ENF"). The following summarizes the development program for each phase of the Project and the current status of development.

- **Phase A** – Phase A of the Project as defined in the July 15, 2009 *Notice of Project Change/Request for Amended Phase A Waiver* (the "2009 NPC") was defined to consist of the following elements: 80,000 square feet (sf) of office and light manufacturing space to be located within the Tihonet Technology Park and off Farm-to-Market Road (Phase A1); a 65,850 sf medical office building to be located within Rosebrook Business Park (Phase A2); and the construction of a 4.9-acre cranberry bog (Phase A3).

Status: The Rosebrook Business Park medical office building and the cranberry bog have been constructed and are in operation. The commercial and light industrial building at Tihonet Technology Park has been eliminated and replaced with a solar energy project.

- **Phase B** – Phase B of the Project was defined in the 2008 Expanded ENF to consist of the development of approximately 1.7 million sf of commercial space including retail, manufacturing, warehouse, medical office and research and development space, and a 225-room hotel. As detailed in the 2010 Draft EIR and the subsequent 2011 FEIR, the development program for Phase B as defined in the 2008 Expanded ENF was refined to consist of four primary components: additional development at Rosebrook Business Park, Rosebrook Place and two solar energy projects - Charlotte Furnace and Rosebrook Solar. The balance of the overall Phase B project was allocated to Phase C of the Project.

  Rosebrook Business Park – The portion of Rosebrook Business Park proposed in Phase B was defined to consist of the development of 68,000 sf of medical-office space and 35,000 sf of general office space to be located off Rosebrook Way (formerly "Lou Avenue" and "Gateway Boulevard"). Access to Rosebrook Business Park is provided by way of the driveways that serve the Phase A2 medical office building that have been constructed.

Status: A portion of the Rosebrook Business Park area was sold to a private entity, which constructed a 62,000± sf, 112 bed assisting living facility in-lieu of the medical office and general office space.

Rosebrook Place – Rosebrook Place was defined to consist of a mixed-use development encompassing 42,000 sf of retail space; a 4,800 sf, 120-seat restaurant; a

4,000 sf bank with a two-lane drive through teller facility; a 100-room hotel; 34 residential apartment units; a 7,000 sf health club; and a 2,500 sf gatehouse (office space); to be located off Rosebrook Way (formerly "Lou Avenue") and Rosebrook Place (formerly "Garage Street") and generally situated in the northeast quadrant of the Route 28/I-195 interchange.

Status: The build-out of Rosebrook Place is complete, with the final build-out including 92,000 sf of residential space (65 units), a 57,000 sf (85 rooms/keys) hotel and conference center, 3,000 sf of retail space, 6,000 sf of restaurant space, a 7,000 sf free-standing restaurant, a 4,000 sf of bank with drive-through teller facility, and 8,000 sf of general and miscellaneous office space. The health club (7,000 sf) and gatehouse (2,500 sf of office space) components were not advanced.

- **Phase C** – Phase C of the Project was conceptually defined in the 2008 Expanded ENF to include the development of up to 1,856 residential units consisting of single-family homes, condominiums and apartments. As detailed in the 2010 Draft EIR and the subsequent 2011 FEIR, approximately 1.07 million sf of commercial space that was originally envisioned to be developed as a part of Phase B was reallocated to Phase C.

Status – The Phase C development program has been advanced to include solar energy and agricultural projects; the balance of the Phase C development program, including the construction of up to 1.07 million sf of commercial space and the 1,856 residential units, has been eliminated and will no longer be advanced as a part of the Project.

In summary, the build-out of the Project is complete as described in the preceding section and represents a significant reduction in the originally identified development program with regard to the amount and intensity of the land uses and the associated traffic volumes as more fully detailed herein.

IMPACTS TO THE TRANSPORTATION INFRASTRUCTURE

As described previously, the development program that has been advanced for the Project has changed significantly since the filing of the 2008 Expanded ENF, an eventuality that was acknowledged in the 2008 Expanded ENF and affirmed by the Secretary's granting of a Special Review Procedure for Phase C. These changes include a dramatic reduction in the amount of commercial space associated with the Project, including the elimination of 80,000 ± commercial and light industrial building at Tihonet Technology Park as a part of Phase A and the 1.07 million sf of commercial space and 1,856 residential units that were to be associated with Phase C, as well as an overall reduction in the intensity of the development that is associated with Phase B through the replacement of the office and medical office space that was to be constructed in the Rosebrook Business Park with an assisted living facility developed by others.

As a result of these changes, the traffic volume increases and the associated impacts to the transportation infrastructure that were identified for the Project have also been reduced from the conditions that were assessed in the 2010 Draft EIR and the subsequent 2011 FEIR, the documents that form the basis of the transportation improvement program that was developed for the Project and that were codified in the August 24, 2010, Section 61 Finding that was issued by MassDOT for Phase A of the Project and the subsequent May 27, 2011, Section 61 Finding that was issued by MassDOT for Phase B.

Table 1 summarizes and compares the development programs for Phase A and Phase B as considered in the 2008 Expanded ENF and the subsequent 2010 Draft EIR and 2011 FEIR, to the development program that has been constructed and is now considered to represent the full build-out of these phases.

Table 1
ADM TIHONET MIXED-USE DEVELOPMENT
PHASE A AND B DEVELOPMENT PROGRAM SUMMARY

	(A) Approved		(B) Constructed		(A-B) Change	
Land Use	**Phase A**	**Phase B**	**Phase A**	**Phase B**	**Phase A**	**Phase B**
Light Manufacturing	72,000 sf	--	0	--	-72,000 sf	--
Multifamily Residential	--	34 units	--	65 units	--	+31 units
Hotel	--	100 rooms	--	85 rooms	--	-15 rooms
Assisted Living (land sold and developed by others)	--	--	--	112 beds	--	+112 beds
Office	8,000 sf	37,500 sf	0	8,000	-8,000	-29,500 sf
Medical Office	65,850 sf	68,000 sf	65,850 sf	0	NC	-65,850
Fitness Center	--	7,000 sf	--	0	--	-7,000 sf
Retail	--	42,000 sf	--	3,000 sf	--	-39,000 sf
Restaurant	--	4,800 sf/ 120 seats	--	13,000 sf/ 325 seats	--	+8,200 sf/ +205 seats
Bank	--	4,000 sf	--	4,000 sf	--	NC

NC = no change

As can be seen in Table 1, the approved development program for Phase A was reduced by 80,000 sf (72,000 sf of light manufacturing and 8,000 sf of office space). Similarly, the Phase B development program was refined resulting in a reduction of 15 hotel rooms, 29,500 sf of office space, 65,850 sf of medical office space, 39,000 sf of retail space and the elimination of the 7,000 sf fitness center, with an increase in the number of multifamily residential units (31 additional units) and in the amount of restaurant space (8,200 sf of additional space or an additional 205 restaurant seats).

Table 2 compares the traffic volumes associated with the development programs for Phase A as assessed in the 2009 NPC and for Phase B as assessed in the 2010 Draft EIR and in the subsequent 2011 Final EIR, to the development programs that have been constructed and that represent the completion of each phase, using trip-generation data obtained from the Institute of Transportation Engineers (ITE)[1] for the specific land uses. The detailed trip-generation calculations for each phase are included in the Transportation Technical Appendix.

[1] *Trip Generation*, 8th Edition; Institute of Transportation Engineers; Washington, DC; 2008. The 8th Edition was used to establish the traffic characteristics of Phase A and Phase B in the 2009 NPC and in the 2010 Draft EIR, respectively, and was used as a part of this assessment to establish the traffic volumes associated with the constructed portions of each phase for consistency and to allow for a comparative assessment of traffic volumes between the approved and constructed development programs.

Table 2
ADM TIHONET MIXED-USE DEVELOPMENT – PHASE A AND PHASE B
TRIP-GENERATION SUMMARY AND COMPARISON[a]

	Vehicle Trips					
	(A) Approved		(B)[2] Constructed		(A-B) Change	
Tome Period/Direction	Phase A[b]	Phase B[c]	Phase A	Phase B[a]	Phase A	Phase B[a]
Average Weekday Daily:	2,928	7,180	2,478	4,294	-450	-2,886
Weekday Morning Peak-Hour:						
Entering	192	294	129	168	-63	-126
Exiting	49	141	34	139	-15	-2
Total	241	435	163	307	-78	-128
Weekday Evening Peak-Hour:						
Entering	77	270	58	204	-19	-66
Exiting	206	386	156	200	-50	-186
Total	283	656	214	404	-69	-252
Saturday:	718	5,180	590	4,706	-128	-474
Weekday Evening Peak-Hour:						
Entering	147	399	136	252	-11	-147
Exiting	115	332	103	222	-12	-110
Total	262	731	239	474	-23	-257

[a]Includes pass-by trips.
[b]Obtained from Table 3.11.8.4 of the Transportation component of the 2009 NPC.
[c]Obtained from Table 3.12.4 of the Transportation component of the 2010 Draft EIR.

As can be seen in Table 2, as constructed, the Phase A development program generates 450 *fewer* vehicle trips on an average weekday and 128 *fewer* vehicle trips on a Saturday when compared to the approved Phase A development program (a 15 to 18 percent reduction), with 78 *fewer* vehicle trips during the weekday morning peak-hour (a 32 percent reduction), 69 *fewer* vehicle trips during the weekday evening peak-hour (a 24 percent reduction) and 23 *fewer* vehicle trips during the Saturday midday peak-hour (a 9 percent reduction).

As constructed, the Phase B development program plus the separate assisted living facility by others generates 2,886 *fewer* vehicle trips on an average weekday and 474 *fewer* vehicle trips on a Saturday when compared to the approved Phase B development program (a 9 to 40 percent reduction), with 128 *fewer* vehicle trips during the weekday morning peak-hour (a 29 percent reduction), 252 *fewer* vehicle trips during the weekday evening peak-hour (a 38 percent reduction) and 257 *fewer* vehicle trips during the Saturday midday peak-hour (a 35 percent reduction).

It is clear that constructed development programs for both Phase A and Phase B are significantly less impactful on both a daily and peak-hour basis when compared to the development programs that were originally envisioned and for which the elements of the transportation improvement programs that were identified in the August 24, 2010, Section 61 Finding that was issued by MassDOT for Phase A of the Project and the subsequent May 27, 2011, Section 61 Finding that was issued by MassDOT for Phase B were structured.

[2] Includes assisted living facility constructed by others on a portion of the Rosebrook Business Park sold to a separate entity and no longer comprising part of the TMUD.

TRANSPORTATION IMPROVEMENT PROGRAM

A comprehensive transportation improvement project was developed for Phase A and Phase B of the Project that included both physical improvements to roadways and intersections, and trip-reduction measures to be implemented as a part of a Transportation Demand Management (TDM) program. The elements of the transportation improvement program for Phase A and Phase B were defined in the 2008 Expanded ENF and was refined in the subsequent 2009 NPC, the 2010 Draft EIR and the 2011 Final EIR, and were codified in the Section 61 Finding that was issued by MassDOT on August 24, 2010, for Phase A and on May 27, 2011, for Phase B. Table 3 summarizes the elements of the transportation improvement program as required in the Section 61 Findings, and the current status of implementation.

Table 3
ADM TIHONET MIXED-USE DEVELOPMENT TRANSPORTATION IMPROVEMENT PROGRAM SUMMARY

Intersection/ Roadway	Improvement Measure	Responsible Party	Schedule for Implementation	Status
Phase B Driveways	• Driveways will be a minimum of 24-feet in width and accommodate two-way travel • Exiting vehicles will be under STOP-sign control with illumination provided • Adequate sight lines will be provided and maintained • Centerline markings will consist of a double-yellow line • All signs and markings will conform to the MUTCD	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 28/ Charge Pond Rd.	• Install traffic signal • Widen Route 28 eastbound to provide a left-turn lane • Install associated signs and pavement markings	Proponent	Prior to the completion of Phase B	**No Longer Required to support the Project**
Rte. 28/ Tihonet Rd.	• Install STOP-line on the Tihonet Road southbound approach • Review/upgrade/replace signs and pavement markings • Trim/maintain vegetation	Proponent	Complete	**Complete**
Rte. 28/ Lou Ave.[1]	• Reconstruct Lou Avenue to provide three (3) exiting travel lanes and two (2) entering travel lanes separated by a raised median • Widen Route 28 northwestbound to provide two general-purpose travel lanes • Extend the Route 28 southeastbound left-turn lane • Implement an optimal traffic signal timing, phasing and coordination plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**

[1]Lou Avenue was renamed Rosebrook Way.

Table 3 (Continued)
ADM TIHONET MIXED-USE DEVELOPMENT TRANSPORTATION IMPROVEMENT PROGRAM SUMMARY

Intersection/ Roadway	Improvement Measure	Responsible Party	Schedule for Implementation	Status
Rte. 28/I-195 East and Westbound Ramps	• Implement an optimal traffic signal timing, phasing and coordination plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 28/ Wareham Crossing/ Kendrick Rd.	• Implement an optimal traffic signal timing, phasing and coordination plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 28/Tobey Rd./ Tow Rd.	• Implement an optimal traffic signal timing, phasing and coordination plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 28/ Charlotte Furnace Rd.	• Install traffic signal • Install associated signs and pavement markings	Proponent	Prior to the completion of Phase B	**No Longer Required to support the Project**
Cranberry Rd./ Federal Rd.	• Review/upgrade/replace signs and pavement markings • Trim/maintain vegetation	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 58/I-495 North and Southbound Ramps	• Monitor traffic volumes and operating conditions	Proponent	As each subsequent development phase is advanced	**Complete**

Table 3 (Continued)
ADM TIHONET MIXED-USE DEVELOPMENT TRANSPORTATION IMPROVEMENT PROGRAM SUMMARY

Intersection/ Roadway	Improvement Measure	Responsible Party	Schedule for Implementation	Status
Rte. 28/Rte. 58/ County Rd.	• Implement an optimal traffic signal timing and phasing plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
TDM Program	• Implement a comprehensive TDM Program for the Project inclusive of the following major elements: – Pedestrian improvements including sidewalks, crosswalks, lighting, wheelchair ramps, traffic signal timing/phasing, and sign and pavement marking installation – Bicycle accommodations consisting of bicycle rack installation, roadway/intersection construction to include bicycle accommodations, and sign and pavement marking installation – Assignment of a transportation coordinator – On-site amenities such as microwaves and refrigerators for employees and an ATM machine – Car/vanpool matching and parking – ZipCar accommodations – Funding of GATRA bus service and installation of bus stops within project – Encouragement of tenants to provide public transportation subsidies and implement flextime schedules	Proponent	Initial implementation as a part of Phase A and continuing thereafter	**On-Going**

As can be seen in Table 3, the elements of the transportation improvement program that were required for Phase A and Phase B as identified in the MassDOT Section 61 Findings for the respective phases have been completed or are no longer required given that these phases of the Project are complete and that the development programs that have been constructed for both phases represent a significant reduction in traffic on both a daily and peak-hour basis. The specific improvement measures that were previously identified as being required to support the full build-out of the approved Phase A and Phase B development programs and that are no longer required are as follows:

- ***Route 28/Charge Pond Road*** **–** Design and install a traffic control signal with accompanying signs and pavement markings

- ***Route 28/Charlotte Furnace Road*** **–** Design and install a traffic control signal with accompanying signs and pavement markings

These improvements were required prior to the completion of the approved Phase B development program. As indicated in Table 3, the TDM program for the Project is an on-going commitment for the Project, the elements of which have been advanced and will continue as an integral part of the overall operation and management of the Project.

SUMMARY

SUMMARY

VAI has conducted a TIA in support of this FEIR in order to provide an update on the development program and the associated impacts on the transportation infrastructure resulting from the phased build-out of the ADM Tihonet Mixed-Use Development that is located in Wareham, Carver and Plymouth, Massachusetts. As documented as a part of this assessment, the changes to the original development program that was envisioned and defined in the 2008 Expanded ENF, the 2009 NPC and the subsequent 2010 Draft EIR and 2011 FEIR, have resulted in a reduction in the volume of traffic that is associated with the Project and a corresponding reduction in the impacts to the transportation infrastructure that were identified in the aforementioned documents. As it relates to future development beyond the current build-out of the Project, the constructed portions of Phase A and Phase B represent the completion of these phases of the Project and the Phase C development program has been advanced to include solar energy and agricultural projects, and the balance of the Phase C development program, including the construction of up to 1.07 million sf of commercial space and the 1,856 residential units, has been eliminated and will no longer be advanced as a part of the Project.

The elements of the transportation improvement program that was defined in the August 24, 2010, Section 61 Finding issued by MassDOT for Phase A of the Project and on May 27, 2011, for Phase B that relate to the constructed portions of the Project have been completed, with the TDM program remaining as an on-going commitment. Given that the balance of the originally contemplated Project will no longer be advanced, the balance of the transportation improvement program that was allocated to further build-out of Phase B and that was defined for Phase C is no longer necessary since these portions of the Project have been eliminated. These measures include the installation of traffic control signals at the Route 28/Charge Pond Road and Route 28/Charlotte Furnace Road intersections. An updated draft MassDOT "Letter of Commitment" requesting the issuance of an amended Section 61 Finding is included as a part of this FEIR.

TRANSPORTATION TECHNICAL APPENDIX

PHASE A TRIP-GENERATION CALCULATIONS
PHASE B TRIP-GENERATION CALCULATIONS

PHASE A TRIP-GENERATION CALCULATIONS

TABLE 3.11.8.4 (2009 NPC)
ADM MIXED USE DEVELOPMENT PHASE A TRIP-GENERATION SUMMARY
(AS APPROVED PER THE 2009 NPC)

	Phase A1			Phase A2	
Time Period/Direction	Office Component (8,000 sf)[a]	Light Manufacturing Component (72,000 sf)[b]	Phase A1 Total	Medical Office Building (65,850 sf)[c]	Phase A Total
Average Weekday Daily:	192	258	450	2,478	2,928
Weekday Morning Peak Hour:					
Entering	22	41	63	129	192
Exiting	3	12	15	34	49
Total	25	53	78	163	241
Weekday Evening Peak Hour:					
Entering	4	15	19	58	77
Exiting	22	28	50	156	206
Total	26	43	69	214	283

[a]Based on ITE LUC 710 – General Office Building
[b]Based on ITE LUC 140 – Manufacturing
[c]Based on ITE LUC 720 – Medical-Dental Office Building

TABLE 1A
ADM MIXED USE DEVELOPMENT
PHASE A TRIP-GENERATION SUMMARY
(AS CONSTRUCTED)

Time Period/Direction	Medical Office Building (65,850 sf)[a]
Average Weekday Daily:	2,478
Weekday Morning Peak Hour:	
Entering	129
Exiting	34
Total	163
Weekday Evening Peak Hour:	
Entering	58
Exiting	156
Total	214

[a]Based on ITE LUC 720 – Medical-Dental Office Building

PHASE B TRIP-GENERATION CALCULATIONS

Table 3.12.4 (2010 Draft EIR)
TRIP-GENERATION SUMMARY – PHASE B FULL BUILD (AS APPROVED PER THE 2010 DRAFT EIR)

	Rosebrook Business Park			Rosebrook Place												Total Phase B
Time Period/Direction	(A) Medical Office (68,000 sf)[a]	(B) General Office (35,000 sf)[b]	(C = A+B) Total	(D) Retail (42,000 sf)[c]	(E) Restaurant (120 seats)[d]	(F) Bank (4,000 sf)[e]	(G) Hotel (100 rooms)[f]	(H) Apartments (34 units)[g]	(I) Health Club (7,000 sf)[h]	(J) Gatehouse (2,500 sf)[i]	(K = D+E+ F+G+H+I+J) Total	(L) Internal Trips[j]	(M=K-L) External Trips	(N) Pass-By Trips[k]	(O = M-N) New Trips	(P=C+O) New Trips
Average Weekday Daily:																
Entering	1,283	193	1,476	902	290	297	446	113	116	14	2,178	64	2,114	365	1,749	3,225
Exiting	1,283	193	1,476	902	290	297	446	113	116	14	2,178	64	2,114	365	1,749	3,225
Total	2,566	386	2,952	1,804	580	594	892	226	232	28	4,356	128	4,228	730	3,498	6,450
Weekday Morning Peak Hour:																
Entering	123	48	171	26	29	27	39	3	5	4	133	10	123	17	106	277
Exiting	33	6	39	16	27	22	28	14	5	0	112	10	102	17	85	124
Total	156	54	210	42	56	49	67	17	10	4	245	20	225	34	191	401
Weekday Evening Peak Hour:																
Entering	54	9	63	77	28	52	34	14	15	1	221	14	207	37	170	233
Exiting	147	43	190	80	21	51	36	7	12	3	210	14	196	37	159	349
Total	201	52	253	157	49	103	70	21	27	4	431	28	403	74	329	582
Saturday Daily:																
Entering	305	42	347	1,050	373	173	525	109	73	3	2,306	63	2,243	392	1,851	2,198
Exiting	305	42	347	1,050	373	173	525	109	73	3	2,306	63	2,243	392	1,851	2,198
Total	610	84	694	2,100	746	346	1,050	218	146	6	4,612	126	4,486	784	3,702	4,396
Saturday Midday Peak Hour:																
Entering	141	8	149	107	34	55	49	10	9	1	265	15	250	45	205	354
Exiting	106	6	112	98	30	51	38	8	10	0	235	15	220	45	175	287
Total	247	14	261	205	64	106	87	18	19	1	500	30	470	90	380	641

[a]Based on ITE LUC 720 – Medical-Dental Office Building.
[b]Based on ITE LUC 710 – General Office Building.
[c]Based on ITE LUC 820 – Shopping Center.
[d]Based on ITE LUC 932 – High-Turnover (Sit-Down) Restaurant.
[e]Based on ITE LUC 912 – Drive-In Bank.
[f]Based on ITE LUC 310 – Hotel.
[g]Based on ITE LUC 220 – Apartment.
[h]Based on ITE LUC 492 –Health/Fitness Club.
[i]Based on ITE LUC 710 – General Office Building.
[j]Five (5) Percent of total trips on an average weekday and Saturday and 10 percent of total trips during the peak hours for the bank, restaurant, hotel, apartments, health club and gate house components.
[k]Pass-by trips applied to the retail, restaurant and bank components. Note that internal trips were removed from the restaurant and bank trip projections before applying the pass-by trip reduction.

Table 2B
TRIP-GENERATION SUMMARY – PHASE B REVISED BUILDOUT (AS CONSTRUCTED)

Time Period/Direction	Rosebrook Business Park	Rosebrook Place											
	(A) Assisted Living Facility (112 beds)[a]	(B) Retail (3,000 sf)[b]	(C) Restaurant (325 seats)[c]	(D) Bank (4,000 sf)[d]	(E) Hotel (85 rooms)[e]	(F) Apartments (65 units)[f]	(G) Office Space (8,000 sf)[g]	(H = B+C+ D+E+F+G) Total	(I) Internal Trips[h]	(J=H_I) External Trips	(K) Pass-By Trips (25%)[i]	(L=J-K) New Trips	(M=A+L) New Trips
Average Weekday Daily:													
Entering	132	348	785	297	379	216	96	2,121	106	2,015	340	1,675	1,807
Exiting	132	348	785	297	379	216	96	2,121	106	2,015	340	1,675	1,807
Total	264	696	1,570	594	758	432	192	4,242	212	4,030	680	3,350	3,614
Weekday Morning Peak Hour:													
Entering	13	2	80	27	33	7	22	171	16	155	23	132	145
Exiting	6	1	73	22	24	26	3	149	16	133	23	110	116
Total	19	3	153	49	57	33	25	320	32	288	46	242	261
Weekday Evening Peak Hour:													
Entering	8	30	76	52	29	26	4	217	21	196	34	162	170
Exiting	17	31	57	51	31	14	20	204	21	183	34	149	166
Total	25	61	133	103	60	40	24	421	42	379	68	311	336
Saturday Daily:													
Entering	118	507	1,009	173	446	208	10	2,353	118	2,235	380	1,855	1,973
Exiting	118	507	1,009	173	446	208	10	2,353	118	2,235	380	1,855	1,973
Total	236	1,014	2,018	346	892	416	20	4,706	236	4,470	760	3,710	3,946
Saturday Midday Peak Hour:													
Entering	23	46	91	55	41	18	2	253	24	229	41	188	211
Exiting	22	42	81	51	33	16	1	224	24	200	41	159	181
Total	45	88	172	106	74	34	3	477	48	429	82	347	392

[a]Based on ITE LUC 720 – Medical-Dental Office Building.
[b]Based on ITE LUC 820 – Shopping Center.
[c]Based on ITE LUC 932 – High-Turnover (Sit-Down) Restaurant.
[d]Based on ITE LUC 912 – Drive-In Bank.
[e]Based on ITE LUC 310 – Hotel.
[f]Based on ITE LUC 220 – Apartment.
[g]Based on ITE LUC 710 – General Office Building.
[h]Five (5) Percent of total trips on an average weekday and Saturday and 10 percent of total trips during the peak hours for the bank, restaurant, hotel, apartments, health club and gate house components.
[i]Pass-by trips applied to the retail, restaurant and bank components. Note that internal trips were removed from the restaurant and bank trip projections before applying the pass-by trip reduction.

PHASE B - AS CONSTRUCTED

Institute of Transportation Engineers (ITE)
Trip Generation, 8 th Edition
Land Use Code (LUC) 620 - Nursing Home

Average Vehicle Trips Ends vs: Beds
Independent Variable (X): 112

AVERAGE WEEKDAY DAILY

T = 2.3 * (X) + 6.07
T = 2.30 * 112 + (6.07)
T = 263.67
T = 264 vehicle trips
with 50% (132 vpd) entering and 50% (132 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.17 * (X)
T = 0.17 * 112
T = 19.04
T = 19 vehicle trips
with 69% (13 vph) entering and 31% (6 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.22 * (X)
T = 0.22 * 112
T = 24.64
T = 25 vehicle trips
with 33% (8 vph) entering and 67% (17 vph) exiting.

SATURDAY DAILY

T = 2.11 * (X)
T = 2.11 * 112
T = 236.32
T = 236 vehicle trips
with 50% (118 vpd) entering and 50% (118 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.40 * (X)
T = 0.40 * 112
T = 44.80
T = 45 vehicle trips
with 50% (23 vph) entering and 50% (22 vph) exiting.

Institute of Transportation Engineers (ITE)
*Trip Generation, 8*th Edition
Land Use Code (LUC) 820 - Shopping Center

Average Vehicle Trips Ends vs: 1,000 Square Feet Gross Leasable Area
Independent Variable (X): 3.000

AVERAGE WEEKDAY DAILY

Ln T = 0.65 Ln (X) + 5.83
Ln T = 0.65 Ln 3.000 + (5.83)
Ln T = 6.54
T = 695.13
T = 696 vehicle trips
with 50% (348 vpd) entering and 50% (348 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 1.00 * (X)
T = 1.00 * 3.000
T = 3.00
T = 3 vehicle trips
with 61% (2 vph) entering and 39% (1 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln T = 0.67 Ln (X) + 3.37
Ln T = 0.67 Ln 3.000 + (3.37)
Ln T = 4.11
T = 60.71
T = 61 vehicle trips
with 49% (30 vph) entering and 51% (31 vph) exiting.

SATURDAY DAILY

Ln T = 0.63 Ln (X) + 6.23
Ln T = 0.63 Ln 3.000 + (6.23)
Ln T = 6.92
T = 1014.47
T = 1,014 vehicle trips
with 50% (507 vpd) entering and 50% (507 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

Ln T = 0.65 Ln (X) + 3.76
Ln T = 0.65 Ln 3.000 + (3.76)
Ln T = 4.47
T = 87.72
T = 88 vehicle trips
with 52% (46 vph) entering and 48% (42 vph) exiting.

Institute of Transportation Engineers (ITE)
*Trip Generation, 8*th Edition
Land Use Code (LUC) 932 - High-Turnover (Sit-Down) Restaurant

Average Vehicle Trips Ends vs: Seats
Independent Variable (X): 325

AVERAGE WEEKDAY DAILY

T = 4.83 * (X)
T = 4.83 * 325
T = 1569.75
T = 1,570 vehicle trips
with 50% (785 vpd) entering and 50% (785 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.47 * (X)
T = 0.47 * 325
T = 152.75
T = 153 vehicle trips
with 52% (80 vph) entering and 48% (73 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.41 * (X)
T = 0.41 * 325
T = 133.25
T = 133 vehicle trips
with 57% (76 vph) entering and 43% (57 vph) exiting.

SATURDAY DAILY

T = 6.21 * (X)
T = 6.21 * 325
T = 2018.25
T = 2,018 vehicle trips
with 50% (1,009 vpd) entering and 50% (1,009 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.53 * (X)
T = 0.53 * 325
T = 172.25
T = 172 vehicle trips
with 53% (91 vph) entering and 47% (81 vph) exiting.

Institute of Transportation Engineers (ITE)
Trip Generation, 8 th Edition
Land Use Code (LUC) 912 - Drive-In Bank

Average Vehicle Trips Ends vs: 1,000 Square Feet Gross Floor Area
Independent Variable (X): 4.000

AVERAGE WEEKDAY DAILY

T = 148.15 * (X)
T = 148.15 * 4.00
T = 592.60
T = 594 vehicle trips
with 50% (297 vpd) entering and 50% (297 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 12.35 * (X)
T = 12.35 * 4.00
T = 49.40
T = 49 vehicle trips
with 56% (27 vph) entering and 44% (22 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 25.82 * (X)
T = 25.82 * 4.00
T = 103.28
T = 103 vehicle trips
with 50% (52 vph) entering and 50% (51 vph) exiting.

SATURDAY DAILY

T = 86.32 * (X)
T = 86.32 * 4.00
T = 345.28
T = 346 vehicle trips
with 50% (173 vpd) entering and 50% (173 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 26.53 * (X)
T = 26.53 * 4.00
T = 106.12
T = 106 vehicle trips
with 52% (55 vph) entering and 48% (51 vph) exiting.

Institute of Transportation Engineers (ITE)
Trip Generation, 8th Edition
Land Use Code (LUC) 310 - Hotel

Average Vehicle Trips Ends vs: Occupied Rooms
Independent Variable (X): 85

AVERAGE WEEKDAY DAILY

T = 8.92 * (X)
T = 8.92 * 85
T = 758.20
T = 758 vehicle trips
with 50% (379 vpd) entering and 50% (379 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.67 * (X)
T = 0.67 * 85
T = 56.95
T = 57 vehicle trips
with 58% (33 vph) entering and 42% (24 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.70 * (X)
T = 0.70 * 85
T = 59.50
T = 60 vehicle trips
with 49% (29 vph) entering and 51% (31 vph) exiting.

SATURDAY DAILY

T = 10.50 * (X)
T = 10.50 * 85
T = 892.50
T = 892 vehicle trips
with 50% (446 vpd) entering and 50% (446 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.87 * (X)
T = 0.87 * 85
T = 73.95
T = 74 vehicle trips
with 56% (41 vph) entering and 46% (33 vph) exiting.

SUNDAY DAILY

T = 8.48 * (X)
T = 8348 * 85
T = 720.80
T = 720 vehicle trips
with 50% (360 vpd) entering and 50% (360 vpd) exiting.

SUNDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.75 * (X)
T = 0.75 * 85
T = 63.75
T = 64 vehicle trips
with 46% (29 vph) entering and 54% (35 vph) exiting.

Institute of Transportation Engineers (ITE)
*Trip Generation, 8*th Edition
Land Use Code (LUC) 220 - Apartment

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 65

AVERAGE WEEKDAY DAILY

T = 6.65 * (X)
T = 6.65 * 65
T = 432.25
T = 432 vehicle trips
with 50% (216 vpd) entering and 50% (216 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.51 * (X)
T = 0.51 * 65
T = 33.15
T = 33 vehicle trips
with 20% (7 vph) entering and 80% (26 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.62 * (X)
T = 0.62 * 65
T = 40.30
T = 40 vehicle trips
with 65% (26 vph) entering and 35% (14 vph) exiting.

SATURDAY DAILY

T = 6.39 * (X)
T = 6.39 * 65
T = 415.35
T = 416 vehicle trips
with 50% (208 vpd) entering and 50% (208 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.52 * (X)
T = 0.52 * 65
T = 33.80
T = 34 vehicle trips
with 53% (18 vph) entering and 47% (16 vph) exiting.

(same distribution split as ITE LUC 210 during the Saturday midday peak hour of generator)

Institute of Transportation Engineers (ITE)
*Trip Generation, 8*th Edition
Land Use Code (LUC) 710 - General Office Building

Average Vehicle Trips Ends vs: 1,000 Square Feet Gross Floor Area
Independent Variable (X): 8.00

AVERAGE WEEKDAY DAILY

Ln T = 0.77 Ln (X) + 3.65
Ln T = 0.77 Ln 8 + (3.65)
Ln T = 5.25
T = 190.79
T = 192 vehicle trips
with 50% (96 vpd) entering and 50% (96 vpd) exiting.

WEEKDAY MORNING PEAK HOUR

Ln T = 0.80 Ln (X) + 1.55
Ln T = 0.80 Ln 8 + (1.55)
Ln T = 3.21
T = 24.87
T = 25 vehicle trips
with 88% (22 vph) entering and 12% (3 vph) exiting.

WEEKDAY EVENING PEAK HOUR

$$\frac{\text{ITE LUC 710 Weekday Morning Eqn Trip Rate}}{\text{ITE LUC 710 Weekday Morning Ave Trip Rate}} = \frac{\text{ITE LUC 710 Weekday Evening Eqn Trip Rate}}{\text{ITE LUC 710 Weekday Evening Ave Trip Rate}}$$

$$\frac{3.13}{1.55} = \frac{(Y)}{1.49} \qquad Y = 3.004032$$

T = Y * 8.000
T = 24
T = 24 vehicle trips
with 17% (4 vph) entering and 83% (20 vph) exiting.

SATURDAY DAILY

T = 2.37 * (X)
T = 2.37 * 8
T = 18.96
T = 20 vehicle trips
with 50% (10 vpd) entering and 50% (10 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.41 * (X)
T = 0.41 * 8.00
T = 3.28
T = 3 vehicle trips
with 54% (2 vpd) entering and 46% (1 vpd) exiting.

Vanasse & Associates inc
Transportation Engineers & Planners

35 New England Business Center Drive
Suite 140
Andover, MA 01810

Ref: 9027

March __, 2022

Mr. Lionel J. Lucien, P.E.
Manager, Public/Private Development Unit
MassDOT Highway Division
Office of Transportation Planning
10 Park Plaza, Room 4150
Boston MA 02116

Re: ADM Tihonet Mixed-Use Development (EEA No. 13940)
Wareham, Carver and Plymouth, Massachusetts

Dear Mr. Lucien:

In order to assist you in the preparation of an amended Section 61 Finding for the ADM Tihonet Mixed-Use Development located in Wareham, Carver and Plymouth, Massachusetts (EEA No. 13940, and hereafter referred to as the "Project"), Vanasse & Associates, Inc. (VAI), on behalf of ADM Development Services, LLC (the "Proponent"), has prepared a summary of the mitigation commitments as required in the August 24, 2010 MassDOT Section 61 Finding for Phase A of the Project and in the subsequent Mat 27, 2011, Section 61 Finding for Phase B, and their current status, which were also presented in the _____, 2022 Final Environmental Impact Report (the "Final EIR") for the Project and in the subsequent _____, 2022 Certificate of the Secretary of Energy and Environmental Affairs issued on the Final EIR, a copy of which is attached

I. Project Description

The Project entailed the phased construction of a mixed-use development on approximately 5,630± acres (the Parcel, acreage updated since Special Review Procedure (SRP) to reflect areas transferred to the Commonwealth or private entities) of land located in the Towns of Wareham, Carver and Plymouth. Three general phases (Phases A, B and C) were defined for the Project and were initially assessed in the July 11, 2008 *Expanded Environmental Notification Form/Request for Single Review Document for Phase A1 and A2/Request to Amend the Special Review Procedure* prepared for the Project (the "2008 Expanded ENF"). The following summarizes the development program for each phase of the Project and the current status of development.

- **Phase A** – Phase A of the Project as defined in the July 15, 2009 *Notice of Project Change/Request for Amended Phase A Waiver* (the "2009 NPC") was defined to consist of the following elements: 80,000 square feet (sf) of office and light manufacturing space to be located within the Tihonet Technology Park and off Farm-to-Market Road (Phase A1); a 65,850 sf medical office building to be located within Rosebrook Business Park (Phase A2); and the construction of a 4.9-acre cranberry bog (Phase A3).

Status: The Rosebrook Business Park medical office building and the cranberry bog have been constructed and are in operation. The commercial and light industrial building at Tihonet Technology Park has been eliminated and replaced with a solar energy project.

- **Phase B** – Phase B of the Project was defined in the 2008 Expanded ENF to consist of the development of approximately 1.7 million sf of commercial space including retail, manufacturing, warehouse, medical office and research and development space, and a 225-room hotel. As detailed in the 2010 Draft EIR and the subsequent 2011 FEIR, the development program for Phase B as defined in the 2008 Expanded ENF was refined to consist of four primary components: additional development at Rosebrook Business Park, Rosebrook Place and two solar energy projects - Charlotte Furnace and Rosebrook Solar. The balance of the overall Phase B project was allocated to Phase C of the Project.

  Rosebrook Business Park – The portion of Rosebrook Business Park proposed in Phase B was defined to consist of the development of 68,000 sf of medical-office space and 35,000 sf of general office space to be located off Rosebrook Way (formerly "Lou Avenue" and "Gateway Boulevard"). Access to Rosebrook Business Park is provided by way of the driveways that serve the Phase A2 medical office building that have been constructed.

Status: A portion of the Rosebrook Business Park area was sold to a private entity, which constructed a 62,000± sf, 112 bed assisting living facility in-lieu of the medical office and general office space.

Rosebrook Place – Rosebrook Place was defined to consist of a mixed-use development encompassing 42,000 sf of retail space; a 4,800 sf, 120-seat restaurant; a 4,000 sf bank with a two-lane drive through teller facility; a 100-room hotel; 34 residential apartment units; a 7,000 sf health club; and a 2,500 sf gatehouse (office space); to be located off Rosebrook Way (formerly "Lou Avenue") and Rosebrook Place (formerly "Garage Street") and generally situated in the northeast quadrant of the Route 28/I-195 interchange.

Status: The build-out of Rosebrook Place is complete, with the final build-out including 92,000 sf of residential space (65 units), a 57,000 sf (85 rooms/keys) hotel and conference center, 3,000 sf of retail space, 6,000 sf of restaurant space, a 7,000 sf free-standing restaurant, a 4,000 sf of bank with drive-through teller facility, and 8,000 sf of general and miscellaneous office space. The health club (7,000 sf) and gatehouse (2,500 sf of office space) components were not advanced.

- **Phase C** – Phase C of the Project was conceptually defined in the 2008 Expanded ENF to include the development of up to 1,856 residential units consisting of single-family homes, condominiums and apartments. As detailed in the 2010 Draft EIR and the subsequent 2011 FEIR, approximately 1.07 million sf of commercial space that was originally envisioned to be developed as a part of Phase B was reallocated to Phase C.

Status – The Phase C development program has been advanced to include solar energy and agricultural projects; the balance of the Phase C development program, including the construction of up to 1.07 million sf of commercial space and the 1,856 residential units, has been eliminated and will no longer be advanced as a part of the Project.

In summary, the build-out of the Project is complete as described in the preceding section and represents a significant reduction in the originally identified development program with regard to the amount and intensity of the land uses and the associated traffic volumes.

II. MEPA History

The Project is subject to a Special Review Procedure (SRP) issued by the Secretary of Energy and Environmental Affairs (the "Secretary") on January 29, 2007. In accordance with the SRP, the Proponent prepared and submitted, pursuant to M.G.L. c. 30, § 61 and 62A-H of MEPA and its implementing regulations (301 CMR 11.00), an *Expanded Environmental Notification Form/Request for Single Review Document for Phase A1 and A2/Request to Amend the Special Review Procedure* for the Project on July 23, 2008[1] (the "2008 Expanded ENF"). On September 12, 2008, the Secretary" issued a Certificate on the 2008 Expanded ENF establishing a Draft Record of Decision (DROD) concerning the Phase One Waiver request for the then defined Phase A of the Project. A Final Record of Decision for the then defined Phase A was issued on October 15, 2008. Subsequently, the Proponent submitted a *Notice of Project Change/Request for Amended Phase A Waiver* for the Project (the "July 2009 NPC") modifying the Phase A development program. On October 2, 2009, the Secretary issued a Certificate on the 2009 NPC and a DROD on the amendment to the Phase One Waiver. On October 28, 2009, a Final Amended Record of Decision was issued for the revised Phase A development program.

A *Draft Environmental Impact Report* (the "2010 Draft EIR") was prepared for Phase B of the Project as defined herein on September 22, 2010. On November 12, 2010, the Secretary issued a Certificate on the 2010 Draft EIR indicating that the document adequately and properly complied with MEPA and its implementing regulations and requiring that a document be prepared containing Responses to Comments and Proposed Section 61 Findings for the Phase B of the Project which would be filed, circulated and reviewed as a Final EIR. On January 26, 2011, a *Final Environmental Impact Report* (the "2011 Final EIR") was filed for Phase B of the Project. On March 18, 2011, the Secretary issued a Certificate on the 2011 Final EIR indicating that the document adequately and properly complied with MEPA and its implementing regulations, and allowing Phase B of the Project to proceed with state agency permitting.

On February __, 2022, the Proponent filed a Final EIR (the "2022 Final EIR") to update and close-out the development program for the Project. As documented therein, the development programs that were identified for Phase A and Phase B of the Project are completed and advanced in a manner that resulted in a significant reduction in buildable area and intensity of land use that also resulted in a corresponding reduction in traffic. Further, the commercial and industrial build-out that was originally contemplated as a part of Phase C and was to include the construction of up to 1.07 million square feet (sf) of retail, manufacturing, warehouse, office, medical office, light industrial and research and development space, as well as residential programming originally contemplated in Phase C, has been eliminated. On March __, 2022, the Secretary issued a Certificate on the 2022 Final EIR indicating that the document adequately and properly complied with MEPA and its implementing regulations.

[1]Dates referenced refer to when notice of availability for public review was published in The Environmental Monitor for the respective environmental disclosure documents.

III. Traffic Characteristics

Using trip-generation statistics published by the Institute of Transportation Engineers (ITE)[2] for the appropriate land uses and without reduction to account for pass-by trips, the following traffic characteristics were defined for constructed Phase A and Phase B development programs:

- ***Phase A:*** 2,478 vehicle trips on an average weekday and 590 vehicle trips on a Saturday (both two-way, 24-hour volumes), with 163 vehicle trips generated during the weekday morning peak-hour (129 vehicles entering and 34 exiting), 214 vehicle trips generated during the weekday evening peak-hour (58 vehicles entering and 156 exiting) and 239 vehicle trips generated during the Saturday midday peak-hour (136 vehicles entering and 103 exiting).

  As constructed, the Phase A development program generates 450 *fewer* vehicle trips on an average weekday and 128 *fewer* vehicle trips on a Saturday when compared to the approved Phase A development program (a 15 to 18 percent reduction), with 78 *fewer* vehicle trips during the weekday morning peak-hour (a 32 percent reduction), 69 *fewer* vehicle trips during the weekday evening peak-hour (a 24 percent reduction) and 23 *fewer* vehicle trips during the Saturday midday peak-hour (a 9 percent reduction).

- ***Phase B and the Assisted Living Facility by Others:*** 4,294 vehicle trips on an average weekday and 4,705 vehicle trips on a Saturday (both two-way, 24-hour volumes), with 307 vehicle trips generated during the weekday morning peak-hour (168 vehicles entering and 139 exiting), 404 vehicle trips generated during the weekday evening peak-hour (204 vehicles entering and 200 exiting) and 474 vehicle trips generated during the Saturday midday peak-hour (252 vehicles entering and 222 exiting).

  As constructed, the Phase B development program plus the separate assisted living facility by others generates 2,886 *fewer* vehicle trips on an average weekday and 474 *fewer* vehicle trips on a Saturday when compared to the approved Phase B development program (a 9 to 40 percent reduction), with 128 *fewer* vehicle trips during the weekday morning peak-hour (a 29 percent reduction), 252 *fewer* vehicle trips during the weekday evening peak-hour (a 38 percent reduction) and 257 *fewer* vehicle trips during the Saturday midday peak-hour (a 35 percent reduction).

IV. Specific Project Mitigation Measures

The Proponent is committed to the implementation of a comprehensive transportation improvement program that is designed to reduce the impact of the planned development on the transportation infrastructure. The major elements of the improvement program can be separated into four primary categories: i) Project site access accommodations; ii) Transportation Demand Management (TDM) measures; iii) Traffic and Construction Management; and iv) Traffic Monitoring. The elements of the planned transportation improvement program as defined in the August 24, 2010, Section 61 Finding that was issued for Phase A and in the May 27, 2011, for Phase B are summarized in Table 1, along with their current status. Where indicated, the Proponent is requesting that a specific mitigation measure be eliminated as the measure is no longer applicable to the Project as constructed.

[2]*Trip Generation*, Eighth Edition; Institute of Transportation Engineers; Washington, D.C.; 2008.

We trust that this information is of assistance. If you have any questions or require additional information in order to issue the Amended Section 61 Finding for the Project, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.

Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

Professional Engineer in CT, MA, ME, NH, RI and VA

JSD/jsd

Attachments

Table 1
ADM TIHONET MIXED-USE DEVELOPMENT TRANSPORTATION IMPROVEMENT PROGRAM SUMMARY

Intersection/ Roadway	Improvement Measure	Responsible Party	Schedule for Implementation	Status
Phase B Driveways	• Driveways will be a minimum of 24-feet in width and accommodate two-way travel • Exiting vehicles will be under STOP-sign control with illumination provided • Adequate sight lines will be provided and maintained • Centerline markings will consist of a double-yellow line • All signs and markings will conform to the MUTCD	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 28/ Charge Pond Rd.	• Install traffic signal • Widen Route 28 eastbound to provide a left-turn lane • Install associated signs and pavement markings	Proponent	Prior to the completion of Phase B	**No Longer Required to support the Project**
Rte. 28/ Tihonet Rd.	• Install STOP-line on the Tihonet Road southbound approach • Review/upgrade/replace signs and pavement markings • Trim/maintain vegetation	Proponent	Complete	**Complete**
Rte. 28/ Lou Ave.[1]	• Reconstruct Lou Avenue to provide three (3) exiting travel lanes and two (2) entering travel lanes separated by a raised median • Widen Route 28 northwestbound to provide two general-purpose travel lanes • Extend the Route 28 southeastbound left-turn lane • Implement an optimal traffic signal timing, phasing and coordination plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**

[1]Lou Avenue was renamed Rosebrook Way.

Table 1 (Continued)
ADM TIHONET MIXED-USE DEVELOPMENT TRANSPORTATION IMPROVEMENT PROGRAM SUMMARY

Intersection/ Roadway	Improvement Measure	Responsible Party	Schedule for Implementation	Status
Rte. 28/I-195 East and Westbound Ramps	• Implement an optimal traffic signal timing, phasing and coordination plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 28/ Wareham Crossing/ Kendrick Rd.	• Implement an optimal traffic signal timing, phasing and coordination plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 28/Tobey Rd./ Tow Rd.	• Implement an optimal traffic signal timing, phasing and coordination plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 28/ Charlotte Furnace Rd.	• Install traffic signal • Install associated signs and pavement markings	Proponent	Prior to the completion of Phase B	**No Longer Required to support the Project**
Cranberry Rd./ Federal Rd.	• Review/upgrade/replace signs and pavement markings • Trim/maintain vegetation	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
Rte. 58/I-495 North and Southbound Ramps	• Monitor traffic volumes and operating conditions	Proponent	As each subsequent development phase is advanced	**Complete**

Table 1 (Continued)
ADM TIHONET MIXED-USE DEVELOPMENT TRANSPORTATION IMPROVEMENT PROGRAM SUMMARY

Intersection/ Roadway	Improvement Measure	Responsible Party	Schedule for Implementation	Status
Rte. 28/Rte. 58/ County Rd.	• Implement an optimal traffic signal timing and phasing plan	Proponent	Prior to issuance of First Certificate of Occupancy for Phase B	**Complete**
TDM Program	• Implement a comprehensive TDM Program for the Project inclusive of the following major elements: – Pedestrian improvements including sidewalks, crosswalks, lighting, wheelchair ramps, traffic signal timing/phasing, and sign and pavement marking installation – Bicycle accommodations consisting of bicycle rack installation, roadway/intersection construction to include bicycle accommodations, and sign and pavement marking installation – Assignment of a transportation coordinator – On-site amenities such as microwaves and refrigerators for employees and an ATM machine – Car/vanpool matching and parking – ZipCar accommodations – Funding of GATRA bus service and installation of bus stops within project – Encouragement of tenants to provide public transportation subsidies and implement flextime schedules	Proponent	Initial implementation as a part of Phase A and continuing thereafter	**On-Going**